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MEXICO

TRANSFORMING URBAN POLICY AND HOUSING FINANCE









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OECD Urban Policy Reviews: Mexico

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TRANSFORMING URBAN POLICY AND HOUSING FINANCE



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Foreword

Urban issues have emerged as key features on national policy agendas. The importance of cities and their corresponding metropolitan areas to the national economy makes them critical players in the international marketplace. This in turn leads governments to renew their support to cities. At a time of increasing globalisation and international competition for investment, urban regions have become the focus of a wide range of public interventions. Throughout OECD member countries, these policies encompass plans to solve traditional urban problems – urban sprawl, abandoned districts and poverty – and newer issues such as competitiveness strategies, city marketing, environmental sustainability and innovation.

The series on National Urban Policy Reviews responds to a demand from OECD member countries voiced at meetings of the Territorial Development Policy Committee and aims to analyse the role of urban areas in regional development and national performance. National reviews are a leading feature of the OECD's mandate to examine macroeconomic, educational, industrial, tax, environmental and regional development policies, in addition to other areas of interest to the Organisation. The OECD National Urban Policy Reviews seek to provide a comparative synthesis of urban policies in OECD countries, focusing on the role of central governments.

A National Urban Policy Review provides a comprehensive assessment of a country's urban policies as seen through multiple lenses, including economic, social and environmental. First, the reviews focus on the policies designed and introduced by the central government that directly address urban development and regional development policies with an urban development focus. Second, the reviews analyse how national spatial planning for urban regions, along with specific sectoral policies, impact urban development, directly and indirectly. Often, public policies are designed to target sectoral objectives with little or no regard for their profound impact on urban areas, and the means available to implement policies at the local level. Third, the reviews address issues of governance, including intergovernmental fiscal relationships and the various institutional, fiscal and policy tools aimed at fostering co-ordinated urban development among different levels of government and different administrations at the central level. For example, reducing the fragmentation among urban governance structures can help enhance effectiveness and outcomes in public service delivery and other policy areas. From country to country, the OECD National Urban Policy Reviews follow a consistent methodology that features cross-national comparisons and recommendations on the integration of sectoral policies into urban development policy, planning and management.

This review of Mexico places particular emphasis on housing due to the importance of housing policy in shaping the country's urban environment in recent decades.

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Acronyms and abbreviations

AALMAC	Association of Local Authorities of Mexico *Asociación de Autoridades Locales de México, A.C.*
AFOREs	Retirement funds administrators *Administradores de Fondos para el Retiro*
AMIMP	Mexican Association of Municipal Planning Institutes *Asociación Mexicana de Institutos Municipales de Planeación*
ANAC	National Association of Mayors *Asociación Nacional de Alcaldes*
AUM	Assets under management
BANOBRAS	National Bank of Public Works and Services *Banco Nacional de Obras y Servicios Públicos*
BANXICO	Central Bank of Mexico *Banco de México*
BRICS	Brazil, Russian Federation, India, China and South Africa
BRT	Bus rapid transit
CANADEVI	National Chamber of the Industry for the Development and Promotion of Housing *Cámara Nacional de la Industria de Desarrollo y Promoción de Vivienda*
CEDEM	Metropolitan Development Centre of Monterrey *Centro de Desarrollo Metropolitano de Monterrey*
CFE	Federal Electricity Commission *Comisión Federal de Electricidad*
CONACYT	National Council for Science and Technology *Consejo Nacional de Ciencia y Tecnología*
CONAGO	National Conference of Governors *Conferencia Nacional de Gobernadores*
CONAGUA	National Water Commission *Comisión Nacional del Agua*
CONAMM	National Conference of Municipalities of Mexico *Conferencia Nacional de Municipios de México*
CONAPO	National Population Council *Consejo Nacional de Población*
CONAVI	National Housing Commission *Comisión Nacional de Vivienda*

CONOCER	National Council for Normalisation and Certification of Competencies *Consejo Nacional de Normalización y Certificación de Competencias Laborales*
CONOREVI	National Council of State Housing Organisms *Consejo Nacional de Organismos Estatales de Vivienda, A.C.*
CONSAR	National Commission of Retirement Savings *Comisión Nacional del Sistema de Ahorro para el Retiro*
COPARMEX	Employers' Confederation of the Mexican Republic *Confederación Patronal de la República Mexicana*
CORETT	Commission for the Regularisation of Land Tenure *Comisión para la Regularización de la Tenencia de la Tierra*
DC	Defined contribution (pension account)
DUIS	Integrated Sustainable Urban Developments *Desarrollos Urbanos Integrales Sustentables*
ENLACE	National Assessment of Academic Achievement in Schools *Examen Nacional de Logro Académico en Centros Escolares*
FAR	Floor area ratio
FENAMM	National Federation of Municipalities of Mexico *Federación Nacional de Municipios de México, A.C.*
FIFONAFE	Trust for the National Fund for Ejido Support *Fideicomiso Fondo Nacional de Fomento Ejidal*
FONADIN	National Infrastructure Fund *Fondo Nacional de Infraestructura*
FONDEN	Natural Disaster Relief Fund *Fondo Nacional para el Desarrollo Nacional*
FONHAPO	National Trust Fund for Social Housing *Fideicomiso Fondo Nacional de Habitaciones Populares*
FOVISSSTE	Housing Fund of the Social Security and Services Institute for State Workers *Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*
FUA	Functional urban area
GDP	Gross domestic product
HPF	Housing provident fund
IEP	State professionalisation institutes *Institutos estatales de profesionalización*
IMCO	Mexican Institute for Competiveness *Instituto Méxicano para la Competitividad*
IMPLAN	Municipal planning institute *Instituto Municipal de Planeación*
IMSS	Mexican Institute for Social Security *Instituto Mexicano del Seguro Social*
INAFED	National Institute for Federalism and Municipal Development *Instituto Nacional para el Federalismo y el Desarrollo Municipal*

INEGI	National Institute of Statistics and Geography *Instituto Nacional de Estadística Geografía e Informática*
INFONAVIT	National Workers' Housing Fund Institute *Instituto del Fondo Nacional de la Vivienda para los Trabajadores*
ISSSTE	State's Employees' Social Security and Social Services Institute *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*
ITF	International Transport Forum
MBS	Mortgage-backed securities
MINVU	Ministry of Housing and Urban Development (Chile) *Ministerio de Vivienda y Urbanismo*
MoU	Memorandum of Understanding
NAFTA	North American Free Trade Agreement
NPL	Non-performing loan
NSRF	National Strategic Reference Framework
OREVIS	State housing organisms *Organismos estatales de vivienda*
PA	Agrarian Attorney *Procuraduría Agraria*
PENSIONISSSTE	National Pension Fund for State Workers *Fondo Nacional de Pensiones de los Trabajadores al Servicio del Estado*
PND	National Development Plan *Plan Nacional de Desarrollo 2013-2018*
PNDU	National Urban Development Programme *Programa Nacional de Desarrollo Urbano 2014-2018*
PNV	National Housing Programme *Programa Nacional de Vivienda 2014-2018*
PW	Phased withdrawal
RAN	National Agrarian Registry *Registro Agrario Nacional*
RCV	Retirement sub-account *Subcuenta de Retiro, Cesantía en Edad Avanzada y Vejez*
RUSP	Civil Servant Registry of the Federal Government *Registro de Servidores Públicos del Gobierno Federal*
RUV	National Housing Registry *Registro Único de Vivienda*
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food *Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación*
SAR	Retirement Savings System *Sistema de Ahorro para el Retiro*

SCT	Ministry of Communications and Transport *Secretaría de Comunicaciones y Transportes*
SCV	Housing sub-account *Seguro de Crédito a la Vivienda*
SECTUR	Ministry of Tourism *Secretaría de Turismo*
SEDATU	Ministry of Agrarian, Territorial and Urban Development *Secretaría de Desarrollo Agrario, Territorial y Urbano*
SEDESOL	Ministry of Social Development *Secretaría de Desarrollo Social*
SEGOB	Ministry of Interior *Secretaría de Gobernación*
SENER	Ministry of Energy *Secretaría de Energía*
SEP	Ministry of Public Education *Secretaría de Educación Pública*
SEMARNAT	Ministry of Environment and Natural Resources *Secretaría de Medio Ambiente y Recursos Naturales*
SEZ	Special economic zone
SFP	Ministry of Public Administration *Secretaría de la Función Pública*
SHCP	Ministry of Finance and Public Credit *Secretaría de Hacienda y Crédito Público*
SHF	Federal Mortgage Corporation *Sociedad Hipotecaria Federal*
SIAP	Inter-municipal System of Drinking Water and Sewage *Sistema Intermunicipal de Agua Potable y Alcantarillado*
SIEFOR	Investment company specialised in retirement funds *Sociedad de Inversión Especializa de Fondos para el Retiro*
SOFOLES	Limited-purpose financial companies *Sociedades Financieras de Objeto Limitado*
SPC	Professional Career Service of the Federal Public Administration *Servicio Profesional de Carrera de la Administración Pública Federal*
TIF	Tax increment financing
TOD	Transit-oriented development
VIVE	Sale and Brokerage of Affordable Housing programme *Venta e Intermediación de Vivienda Económica*

Executive summary

Mexico has undertaken ambitious housing and urban policy reforms in parallel to its adoption of a series of structural reforms emerging from the *Pacto por Mexico*. Responding to the country's rapid urbanisation in the second half of the 20th century, previous housing policies were successful in reducing the country's quantitative housing deficit and making home ownership increasingly accessible to all income levels. The rapid expansion of housing finance, led by INFONAVIT – the country's largest provident housing fund – and facilitated by public policies aiming to expand access to housing, made formal housing a reality for an ever larger share of the population. By early 2013, INFONAVIT had assisted more than 7 million workers acquire decent housing, and today roughly one in four homes in Mexico is financed by INFONAVIT.

However, the previous housing model came with high costs for the country's urban development. Federal policies – federal housing finance in particular – facilitated the development of mass-produced homes throughout Mexico on inexpensive, peri-urban land far from job opportunities, city centres and urban services. Many of the urban challenges facing policy makers today are in part a legacy of past housing policy: urban sprawl, as cities continue to spread into peripheral zones and lose population in their centres; new housing developments that are insufficiently connected to transport and infrastructure networks; a rising share of vacant homes – totalling 4.9 million, or one-seventh of the housing stock; and socio-economic segregation.

INFONAVIT's contribution to better housing policy for Mexico

Given the role of housing finance in shaping Mexican cities over the past four decades, changing the way cities are developed will require changes to the housing finance system. Reforms to INFONAVIT's practices could include:

- redesign the allocation criteria through a better screening of mortgage applicants or consider a system that rewards the most reliable borrowers
- allow affiliates more flexibility and more choice about their housing options
- contribute to better links between housing and infrastructure development
- improve the quality of information offered to INFONAVIT affiliates with respect to housing and pensions.

Five strategies to get Mexican cities right

Five priorities for urban policy could have a significant impact on the competitiveness and sustainability of Mexican cities. They will require support from a range of actors in the housing and urban development process and should be viewed as a complement to the suggested reforms to the housing finance system. These include:

- overcome the barriers to infill development
- link housing and transport planning and investment
- tackle the vacancy problem
- remove the barriers to the development of the rental housing market
- improve institutional capacity for urban planning and development.

Strengthening Mexico's urban governance to overcome fragmentation and capacity gaps

The sheer number of actors involved in housing and urban policy in addition to capacity gaps, especially at municipal level where many urban development decisions are taken, are obstacles to better housing and urban outcomes. Institutional reforms to help overcome these challenges include:

- overcome policy fragmentation at federal level
- strengthen collaboration for urban planning and development across levels of government
- modernise the municipal administration through the creation of city managers to run day-to-day operations; continue to develop metropolitan governance arrangements where appropriate
- develop incentives for local governments to ensure sufficient financial resources for urban development
- professionalise the public workforce to build capacity for housing and urban policy.

INFONAVIT's contribution to resolving the country's pension shortfall

Despite improvements to the country's pensions system over the past decades, Mexico faces a serious, long-term challenge in ensuring that its citizens have adequate income for retirement. With its dual mandate for housing finance and pensions, INFONAVIT may have an opportunity to contribute to better retirement prospects for its affiliates. In light of pending social security reforms, INFONAVIT finds itself at a crossroads in its history with an opportunity to determine how the institute might respond to a changing social security landscape. One option could be to focus exclusively on housing finance in the future, albeit with fewer resources at its disposal. An alternative could be for INFONAVIT to continue its housing and pensions activities by splitting into two separate, but related, administrative bodies, as the pending reform currently proposes. To do so, INFONAVIT could decide to compete against the existing privately managed pension funds in the market by offering a full range of investment options and becoming a leader in low fees and investor education.

Build cities – not just houses

Together, the recommendations proposed in this review can help the Mexican authorities implement their ambitious policy agenda for cities. This paradigm shift transitions from an emphasis on housing construction toward a focus on developing more competitive, sustainable, inclusive cities for the future.

Assessment and recommendations

A reform agenda for Mexico, with unprecedented attention to housing and urban policy

Since the signing of the "Pact for Mexico" (*Pacto por México*) in December 2012, Mexico has undertaken an ambitious, cross-cutting structural reform agenda – encompassing labour, fiscal, financial, energy, education and telecommunications reforms – that is aimed at boosting the country's competitiveness and economic growth. Housing and urban policy is considered a priority within this reform agenda. The authorities seek to reduce the housing deficit that affects roughly 31% of Mexican households and to correct the inefficient development patterns of recent decades. This new approach to housing and urban policy differs from those of the recent past by shifting from quantitative objectives for housing to a more qualitative focus on housing and the urban environment. These objectives are made explicit in the National Housing Programme for 2014-18, which aims to: *i)* provide decent housing for Mexicans; *ii)* responsibly address the housing gap; *iii)* transition toward a smarter, more sustainable urban development model; and *iv)* improve inter-institutional co-ordination. The National Urban Development Programme (*Programa Nacional de Desarrollo Urbano 2014-2018*, PNDU), released in parallel, includes objectives to control urban sprawl, promote well-being and sustainable mobility, and avoid the development of irregular and informal settlements, among others.

Mexico's rapid urbanisation has increased opportunities for city dwellers

Mexico urbanised more rapidly than most OECD countries over the second half of the 20th century, and by 2010 roughly 78% of the population lived in cities. Medium-sized metro areas have grown the most over the last two decades (by 60% on average); the population in metro areas close to the US border – Tijuana, Mexicali, Juarez, Piedras-Negras, Reynosa-Rio Bravo and Matamoros – grew by 50% following the adoption of the North American Free Trade Agreement (NAFTA) in 1992, but have grown more slowly since the early 2000s. The country's rapid urbanisation has contributed to increased opportunities for city dwellers, including higher incomes, increased educational opportunities and expanded access to formal housing for formal-sector, salaried workers. Housing quality, based on indicators relating to the durability of construction materials, access to basic services and overcrowding, has also improved dramatically. By 2010, 93% of homes were built with durable walls and 85% with durable roofs, up from 78% and 64%, respectively, in 1990. In this respect, Mexico's experience parallels that of Chile, which managed over several decades to reduce dramatically the quantitative housing shortage and to address significant quality gaps.

These changes have been in large measure driven by the activities of two publicly backed housing agencies tasked with providing finance for formal housing, the National Workers' Housing Fund Institute (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT) for private-sector workers and the Housing Fund of the Social Security and Services Institute for State Workers (*Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE) for federal workers. The activities of these two institutions, funded through a compulsory 5% payroll tax, include both housing finance and complementary retirement income (see Box 0.1 which provides a special policy focus on pensions). The rapid expansion of housing finance, led by INFONAVIT and facilitated by public policies aiming to expand access to formal housing, enabled the country's transition from informal to formal housing on a grand scale. By 2012, INFONAVIT granted about 73% of all housing loans in Mexico, for a total value of MXN 98 billion (USD 7.2 billion).

Yet cities fail to capture agglomeration benefits fully

Although urbanisation has brought undoubted benefits for tens of millions of citizens, Mexican cities have not generated the kind of productivity gains that often accompany agglomeration processes and tend to underperform their OECD peers in many domains. Mexico's labour productivity has stagnated over the past decades, while countries that in the past had similar levels of labour productivity (Korea and Turkey in the 1990s; Chile, Estonia, Hungary and Poland in 2000) have made steady improvements. Labour productivity actually fell in all but three Mexican metropolitan areas between 2005 and 2010, primarily as a result of the global crisis. Given the contribution of urban areas to national growth across the OECD, the performance of Mexican cities relative to their OECD peers is a drag on national growth performance. Even the most productive Mexican functional urban areas register labour productivity levels below the average for OECD metropolitan areas and below the top performers among metros with a similar population size.

Cities fail to connect residents to job centres and urban infrastructure

Why haven't Mexican cities realised their growth potential? Structural obstacles, such as a persistently large share of informal labour, institutional barriers to doing business, and lagging levels of education, innovation and public investment, are critical obstacles to growth and all targets of the government's ambitious reform package. Yet Mexican cities also underperform relative to their international peers because they fail to provide an environment that connects inhabitants to economic opportunity and to social and urban infrastructure, and that allows firms to reap agglomeration benefits. In other words, they are not meeting the conditions needed in order for urbanisation to translate into economic development. Rather, in many cases, urban development patterns in Mexican cities have moved the population away from jobs and services, resulting in increased congestion and sprawl, productivity losses and lower well-being.

In the past decade, Mexico had the third-highest rate of urban sprawl in the OECD

Urban expansion in Mexican metropolitan areas has been both inefficient and costly, leading to a hollowing out of city centres, and in some cases has contributed to social segregation. In the last decade, urban development occurred at ever greater distances from the centre city and became increasingly spatially dispersed (rather than clustered), two characteristics associated with urban sprawl. Among OECD countries, only Chile, France and Greece registered urban development patterns showing greater spatial dispersion and/or decentralisation. Mexico's urban growth has over the past decade occurred largely on the periphery of metro zones at the expense of depopulating (or de-densifying) centre-city locations. Between 2000 and 2010, across metro zones with at least 500 000 inhabitants, the centre-city area registered an average 7.5% fall in population density; in contrast, population densities in areas located more than 10 kilometres from the city centre increased by 6.8% on average.

Urban sprawl is the result of multiple factors. Mortgage lending and housing subsidies have made important contributions to sprawl and the hollowing out of city centres by facilitating the construction of new formal housing on the periphery of cities. Between 2006 and 2013, in 46 of Mexico's 59 metropolitan zones, more than 70% of homes registered in the new National Housing Registry (RUV) were built either at the outskirts or the periphery. Moreover, roughly 90% of the housing stock consists of individual homes (rather than denser, multi-family residences), and individual homes continue to make up the majority of all new development. Yet many other factors played roles: rising income levels and lower transport costs; a fiscal and regulatory bias toward single-family, owner-occupied homes; the prevalence of irregular settlements, hampering effective urban growth management; weak municipal capacity and local land-use controls for urban development; and a high level of municipal fragmentation within metropolitan areas, making co-ordinated land-use and transport planning across neighbouring jurisdictions a challenge.

Poor municipal planning and permitting have led to development in risk zones and segregation

Poor land-use planning and permitting result in the location of many settlements in risk-prone areas, such as river banks and unstable hills, with devastating social and economic costs when disaster strikes. This is all the more troubling, given that Mexico is one of the areas in the world with the most frequent occurrence of severe earthquakes and tropical storms. There has been a fourfold increase over the past 40 years in the average annual occurrence of disasters. In late 2013, for instance, Hurricane Manuel left over 10 000 households in severe crisis in Acapulco, where many developments had been approved by local governments in flood zones. Socio-economic segregation – in terms of income and education levels as well as access to basic services like electricity, water and drainage – is also present, albeit different, across metro zones. In some cities, low-income groups tend to be located on the outskirts, a trend that is fostered by housing subsidies and lower land prices in peripheral areas. In other cases, there is a clear geographical divide (north/south; east/west) within the metro zone.

Increasing rates of car ownership and inadequate public transport are major urban challenges

At the same time, urban sprawl has significant consequences for mobility, contributing to rising rates of car ownership and making the provision of efficient, quality public transport alternatives more challenging and costly. Mexico's motorisation rate doubled over the past decade, reaching 20 vehicles per 100 people, and in 2011 over 70% of the country's 22.4 million cars were registered in metropolitan zones. The two primary externalities of rising motorisation – congestion and pollution – generate important economic costs and reduce the quality of life for residents. One estimate of the total costs of pollution, congestion, accidents and noise in Mexico's five biggest metro zones – which together account for around 40% of the country's urban population and private vehicle fleet – amounted to MXN 173 billion in 2009, about 4% of the gross domestic product (GDP) of these metropolitan zones. Moreover, public transport service, consisting primarily of buses, can be unreliable, expensive and time-consuming, and the fleet is often of poor quality. The development of bus rapid transit (BRT) networks in some cities is promising, yet too often remains divorced from broader urban planning efforts.

One-seventh of the housing stock is uninhabited – one of the highest shares across the OECD

The Mexican authorities have made impressive progress in addressing the country's quantitative housing gap, but until recently less attention has been paid to the quality of housing and its surrounding urban environment. The quantitative focus of housing development is one of several factors that have contributed to Mexico having one of the highest vacancy rates in the OECD (14.2%), even surpassing those of countries that have recently emerged from a major housing bubble, such as Ireland (13.8%), Spain (13.7%) and Portugal (12.5%). Indeed, Mexico's housing vacancy problem appears to be more structural than cyclical. In addition to the suboptimal location of much new housing development, migration, insecurity and the global crisis have also been important contributors to this high vacancy rate. Approximately 4.9 million homes are uninhabited in Mexico, equivalent to one-seventh of the total housing stock. Three million of these are located in cities, although there is considerable variation in the location of vacant housing within metropolitan areas. High vacancy rates can be found in both peripheral and centre-city locations. This is related to the phenomenon of uninhabited homes developed for INFONAVIT affiliates in peri-urban areas.

Most of the housing stock is owner-occupied, an obstacle to greater labour mobility

Home ownership is by far the dominant form of tenure in Mexico, with 76.4% of housing owner-occupied. This has contributed to urban expansion in peripheral areas (allowing for individual homes to be built where land is cheaper) and limits labour mobility. As elsewhere in Latin America, Mexico's rental housing market remains shallow and underdeveloped relative to many OECD countries. Mexico's share of formal rental housing (14%) is just behind Poland (15%) and Chile (17%), surpassing only a handful of OECD countries. However, to the official estimates of the formal rental housing stock should be added the informal rental stock, which brings the share of rental housing closer to 23% for 2012, comparable to Norway and Turkey. Policies encouraging home ownership and discouraging rental (for both tenants and property owners) have played an important role in limiting the rental supply and demand. The policy bias in favour of home ownership has had two important consequences: first, it has helped to

facilitate the development of a low-income housing model in distant areas disconnected from employment opportunities and services. Second, it may unintentionally constrain residents' economic opportunities: home owners are typically less mobile than renters, even after taking into account household characteristics such as age, income and marital, migrant and employment status.

Insecurity in some areas, air pollution, severe water stress reduce city dwellers' well-being

Many Mexican metropolitan areas are characterised by high levels of insecurity, air pollution, severe water stress and inadequate wastewater treatment. These security and environmental issues add to the economic costs of inefficient urbanisation and directly affect the quality of life in cities. Mexico has the poorest outcomes in the OECD with respect to several indicators related to insecurity, and it ranks among the bottom five with respect to the environmental indicators of water quality and air pollution included in the OECD's Better Life Index. Despite important progress in reducing air pollution levels across metro zones in recent years, about 14 000 deaths were attributable to air pollution in Mexico in 2008 and pollution levels continue to exceed World Health Organisation (WHO) guidelines. Moreover, Mexico is currently under severe water stress: over the past 60 years, the amount of water available for each person has declined drastically due to population growth. Only 68% of Mexicans surveyed are satisfied with water quality, well below an OECD average of 84%.

Hitherto, the lack of a national policy framework has impeded effective urban management

Despite its rapid urbanisation and current high urbanisation levels, Mexico has until very recently lacked a clear urban policy to guide urban development. This is now changing. The creation in 2013 of a single ministry tasked with housing and urban policy (the Ministry of Agrarian, Territorial and Urban Development, SEDATU) signalled an important step toward a more co-ordinated response to the country's urban challenges. The magnitude of SEDATU's task should not be under-estimated: in recent decades, the sheer number of actors involved in the development process has impeded effective, co-ordinated responses to the country's urban challenges. There are various ministries and agencies involved in housing, transport and urban-related services at federal level, as well as across the different levels of government. Not only are participating actors numerous, they also are extremely heterogeneous in terms of both their ability to influence policy and practice, and their technical, fiscal and human capacities. The unprecedented focus on housing and urban policy in the current reform agenda is thus a welcome development.

Investing in cities and housing can contribute to better living conditions over the long term

Just as policy makers must contend with a legacy of complex urban challenges, they must also keep an eye on impending demographic changes, such as an ageing population, which will have important implications for Mexico's labour force and productivity levels, the adequacy of its social security regime and its investment choices. As the country continues to urbanise (albeit at a slower pace) through 2050, urban planning and

infrastructure investment decisions taken today can improve the living conditions of a large share of its population over the long term. By getting housing and cities right, Mexico has an important opportunity to improve the well-being of a large and ever-increasing share of the population. The reform agenda undertaken by the federal government is a critical step toward these ambitions.

INFONAVIT's role in improving housing policy for Mexico

Reform of the housing finance system is needed to change urbanisation patterns

Given the role of housing finance in shaping Mexican cities over the past four decades, changing the way cities are developed will require fundamental changes to the housing finance system. Federal policies – federal housing finance in particular – have facilitated the development of higher quality houses, yet have often failed to contribute to the development of better cities. Reforms to INFONAVIT's practices thus form the basis upon which a more competitive, sustainable housing and urban development model can be built.

Policy makers must tackle the many peculiarities of housing trends and past policies

Housing trends and previous housing policies in Mexico are unusual in several respects compared to many other OECD countries. First, like many Latin American countries, Mexico has a long history of informal or irregular housing development, and a large share of the housing stock continues to be self-built, lacking legal titles or constructed outside the formal development process. Nearly one-quarter of urban households live in informal settlements. Secondly, land tenure arrangements and the urbanisation of agricultural or collectively-owned land (*ejido*) have left a complex legacy for modern-day housing and urban development. Thirdly, Mexico has managed to address, to a large extent and with remarkable speed, the country's quantitative housing gap and transition to more permanent housing for an increasing share of the population. Such a rapid expansion of the housing stock has been seen in only a few OECD countries. Fourthly, while public policy in other OECD countries has also tended, to varying extents, to favour home ownership in recent decades, Mexico, along with Italy and Spain, is unusual in focusing its social housing policies on home ownership. Finally, Mexico is now beginning to transition out of a long period in which housing policy has been set by an implementing body (INFONAVIT); housing and urban policy is now in the hands of an explicit policy-making body, SEDATU.

Mexico's transition from primarily informal to formal housing addressed the quantitative housing gap

Prior to the creation of INFONAVIT, most homes were built through an incremental, informal process using household resources to acquire the land and construct the house. By 2005, however, a majority of Mexican households bought homes built by private developers with mortgages financed – for the majority, and at least in part – by government agencies, with tight restrictions on both the borrower and the type of housing eligible to receive financing. Mexico's housing transition also hinged on the complete

transformation of the country's construction industry: prior to the 1990s, most construction companies were small-scale operations, but by 2004, nine of the country's largest developers controlled a quarter of the market share. INFONAVIT, for its part, played a pivotal role in the country's housing transition, thanks to its market dominance in mortgage lending and, in the early years, a close relationship with large-scale developers.

The legacies of the previous development model include sprawl, inadequate infrastructure and high vacancies

Several features of INFONAVIT's past lending practices have contributed to the challenges facing cities. By concentrating lending on lower income segments of the formally employed population, favouring home ownership over other housing alternatives and relying on a business model of formal, mass-produced homes, INFONAVIT financed homes that were often developed where land was least expensive: in large land reserves far from city centres and disconnected from urban services and infrastructure. In the most egregious cases, contractual obligations with developers to build water pipelines and other services were never fulfilled, while promised transport infrastructure connecting the developments to urban centres was never built. A large share of uninhabited homes – difficult to quantify, but estimated at somewhere between 390 000 and 487 000 in 2011 for the stock of INFONAVIT homes financed between 2006 and 2010 alone – has resulted in part from the suboptimal location of many INFONAVIT-financed homes and a lending model that provides its affiliates with strong incentives to take out a loan. INFONAVIT has in recent years made important efforts to change its model by expanding housing options for affiliates (to include used [existing] homes, as well as rental housing) and by encouraging the development of more multi-family, centrally located housing.

Policy makers are working towards a more sustainable housing policy for Mexico

A more sustainable housing model in Mexico is unlikely to occur without reforms to INFONAVIT, which continues to drive the flow of funding for housing development. To improve housing and urban development outcomes, INFONAVIT could consider strategies to develop the right incentives for both INFONAVIT affiliates to exercise a wider range of housing solutions and for developers to transition toward a housing model of multi-family, centrally located development. These opportunities include: *i)* redesigning the allocation criteria through a better screening of mortgage applicants or a system that rewards the most reliable borrowers; these efforts could help ensure a higher level of creditworthiness of prospective borrowers and a greater probability that affiliates could continue to afford mortgage payments over the medium to long term; *ii)* allowing affiliates more flexibility and choice about their housing options; *iii)* contributing to better links between housing and infrastructure development; and *iv)* improving the quality of information offered to INFONAVIT affiliates about housing and pensions.

Getting Mexican cities right: Urban policies for more competitive, sustainable cities

Reforms to housing finance are fundamental – but insufficient

Nevertheless, reforms to the housing finance system will not be sufficient. Moreover, their success will depend to a great extent on the ability of other public and private actors (especially home builders) to adapt their practices and implement other fundamental reforms involving taxation, regulation, land-use policies and property rights, to name but a few. As such, Mexico is rapidly moving towards a more encompassing understanding of urban policy, a shift that is in line with an increasingly transversal conception of urban policy across some OECD countries. The National Urban Development Programme 2014-2018 (PNDU) outlines six core objectives for urban policy: controlling urban sprawl, boosting well-being and sustainability, promoting sustainable mobility, avoiding irregular settlements and development in risk zones, boosting local economic development, and developing instruments to improve land management.

Policy makers could focus on five strategies to "get Mexican cities right"

Building on the proposals of the PNDU, this report identifies five strategies to help "get cities right" – that is, five priorities for urban policy that could have a significant impact on the competitiveness and sustainability of cities. These include: *i)* overcoming the barriers to infill development; *ii)* linking housing and transport planning and investment; *iii)* tackling the vacancy problem; *iv)* removing the barriers to the development of the rental housing market; and *v)* improving institutional capacity for urban planning and development. These strategies should be viewed as complements to the suggested reforms to the housing finance system.

Strategy 1: Overcome the barriers to infill development

Tackling urban sprawl will require policy tools that promote more intensive use of land within the existing boundaries of a city (infill development). Generally speaking, this can be achieved by encouraging within-city development activity and/or discouraging construction outside the existing city limits. To that end, policy makers could make infill and redevelopment cheaper by reducing regulations and streamlining permits and other administrative procedures. These impose higher relative costs on smaller projects (they are pretty much the same regardless of project size) and thus encourage developers to favour big greenfield sites over smaller infill locations. Possible tools include: expedited review for projects that meet certain sustainability criteria, removal or reduction of parking requirements (which can limit urban densities and be a major barrier to redevelopment), land value capture initiatives or the establishment of priority funding areas. It may also be worthwhile to make land assembly easier through land assembly districts, graduated density zoning or partial plans. Indeed, it is often not the higher cost of land within central parts of cities that limits the attractiveness of urban redevelopment but the challenge of assembling a parcel of land large enough to develop large projects and reap economies of scale. Finally, policy makers can also make urban expansion more difficult, particularly through the creation of urban growth boundaries and greenbelts. These measures are not without their limitations, however, which should be well

understood before their adoption. The impact of growth boundaries and the like also depends on how they interact with other strands of policy affecting urban growth.

Strategy 2: Link housing and transport planning and investment

Ensuring sustainable, accessible modes of urban transport is a core objective of the PNDU. A governance mismatch makes it difficult to link urban and infrastructure investments, as housing development (typically financed at federal or state level by one set of agencies and/or administrations, and approved at municipal level) is by and large disconnected from strategies for urban transport (typically planned and financed at federal or state level by another set of agencies and/or administrations, often without the involvement of local government). In particular, greater co-operation is needed between SEDATU and BANOBRAS, the National Bank of Public Works and Services, in investment decisions for urban mobility. In this respect, reforms to the functioning of the National Infrastructure Fund (*Fondo Nacional de Infraestructura*, FONADIN), the primary vehicle for federal funding for urban transport, would be welcome. The share of funding for sustainable urban transport projects (e.g. mass transit, pedestrian and cyclist improvements) could be increased. Yet it is also clear that local governments are in need of more than just financing to transition toward more sustainable urban mobility: they also need to build institutional capacity to plan, design and implement successful projects. Federal support in this regard will be essential. In addition, the federal Metropolitan Fund (*Fondo Metropolitano*) provides another potential avenue of support for sustainable mobility projects, but the financing should be better linked to clear metropolitan investment plans and involve local actors in the decision-making process. A broader range of actors (BANOBRAS, state land banks and municipal planning institutes, where they exist, in addition to states and municipalities) should be included in the planning of urban mobility projects. Finally, in their efforts to develop tools to link the costs and benefits of transport investment, policy makers could put greater emphasis on accessibility and performance measures.

Strategy 3: Tackle the vacancy problem

In addition to the strategies that could be considered by INFONAVIT to tackle the issue of vacant homes within its own housing stock, efforts from other institutional actors are needed to address the broader challenge of vacant housing. Three general strategies could help: *i)* address the issue of absentee owners and underutilised property; *ii)* invest in distressed neighbourhoods; and *iii)* further develop land banks to deal with existing vacant homes. Among the possible avenues for intervention, property tax reform should be a priority. Low property tax rates and low collection are not only problems for local fiscal health, they also contribute to property vacancy and the under-utilisation of space. Two alternative reforms could be considered – a land value tax, which taxes only the land (not the structures), or a two-rate (or split-rate) tax system, which imposes a higher tax rate on the land than on the structures. A land-value tax may be a preferred option in many cities due to its potentially simpler implementation. Finally, publicly operated land banks have in some OECD countries proven to be an effective strategy to deal with vacant houses, especially for properties that have been foreclosed. There is variation across states in their institutional structure, but those that have been more successful have clear statutory authority to acquire property, reliable revenue sources (often through bond issuance), and clear guidelines in terms of the property that they can acquire and the uses to which they can convert it.

Strategy 4: Remove the barriers to development of the rental housing market

While there are a number of possible strategies to boost the rental housing market, it will be important for Mexico to begin with broad measures targeting the fiscal, regulatory and legal framework to ensure more balanced treatment between rental housing and home ownership. These efforts should be prioritised in a coherent national policy for rental housing in Mexico. The development of a more robust rental market will be more effectively achieved through coherent policy, rather than disparate programmes; this is the risk associated with the nascent rental housing programmes initiated recently. A piecemeal, programmatic approach to rental housing – rather than viewing rental housing as an integral part of a broader housing agenda – has been seen as a limit to greater expansion of the rental supply in many countries. Reforms to the legal and regulatory framework for rental housing should ensure that both owners of rental properties and tenants are treated fairly and that rental housing meets certain quality standards. In terms of the fiscal framework, the Mexican authorities – the Ministry of Finance and Public Credit in particular – could aim to ensure a greater balance between rental and owner-occupied housing by reducing the tax burden on rental properties, thereby encouraging owners to put vacant properties in the formal rental market. There will still be a place for rental assistance programmes for individuals – such as INFONAVIT's Arrendavit and the National Housing Commission's (*Comisión Nacional de Vivienda*, CONAVI) rental subsidy programmes. Yet these types of targeted initiatives will be most successful once broader fiscal, legislative and regulatory reforms are in place.

Strategy 5: Improve institutional capacity for urban planning and development

While many of Mexico's urban challenges are well understood by policy makers, capacity gaps – particularly at municipal level – have nevertheless made them difficult to overcome. While municipalities retain significant and critical control over urban development, the capacities of many local administrations tend not to be commensurate with their responsibilities. A majority of municipalities lack a professional workforce in charge of urban planning, property registration, valuation, cadastre management, risk management and other related fields. Efforts to address these challenges are compounded by the policy discontinuities that result from a change in most municipal administrations every three years at the election of a new mayor, though recent federal legislation enables states to determine whether or not to allow for re-election in the future. Boosting the institutional capacity for planning at municipal level and, increasingly, in some areas, at metropolitan level, will be critical to more sustainable urban outcomes. Specifically, the authorities could consider: *i)* leveraging planning institutes to strengthen capacity for urban planning; and *ii)* strengthening data collection and policy making at metropolitan scale.

Reforming urban governance for better housing and urban development outcomes

For the housing and urban policy agenda to succeed, it will be necessary to reform the urban governance structure and improve the management of urban areas. For one, the country requires a long-term urban development agenda discussed with all political forces and with the participation of civil society. Additionally, it will be important to improve capacity for conducting and implementing urban planning by professionalising the public-sector workforce: too often, urban development projects have been characterised

by an improvised, trial-and-error approach that responds to short-term political priorities rather than the national long-term interests.

Policy fragmentation for housing and urban policy at federal level must be reduced

While the establishment of SEDATU is an important step towards better inter-institutional co-ordination, current institutional arrangements for housing and urban development remain fragmented. Such fragmentation results in policy incoherence, a lack of systemic co-ordination among actors, and duplicity in functions across federal and sub-national actors. The large number of actors reflects the importance of the housing sector for the national economy on the one hand; yet it is also the source of considerable duplication of functions and resources. First, to help overcome policy fragmentation for housing and urban development, SEDATU should be consolidated as the centre for decision making on these issues at national level. Secondly, Mexican authorities could also consider strategies for streamlining the institutional landscape of the housing sector. The paradox of the Mexican institutional structure is the existence of a large number of housing organisms, which serve specific geographies (urban *vs*. rural) or segments of the population but which, taken together, still do not adequately reach the entire population. Some institutional mergers could be considered over the longer term. Thirdly, authorities could look to strengthen urban development through better cross-sectoral planning: establishing network-based arrangements for urban development or a national co-ordination council for urban development could be considered.

Collaboration for urban planning and development should be strengthened across levels of government

Urban planning and development are by their nature transversal with respect to both sectoral policies and the actors implicated in the development process. To strengthen collaboration for urban planning and development across levels of government, a more concentrated effort in strategic planning could help the Mexican authorities identify and maintain focus on priorities and global outcomes. Additionally, while it may be difficult to establish a clear-cut allocation of competencies across levels of government (as many policy areas require shared interventions from different levels of government), co-ordination mechanisms should aim to reduce transaction costs and information asymmetries across levels of government. By extension, co-financing and conditionality mechanisms could be useful tools to bolster fiscal relations across levels of government. Finally, there are opportunities to give a more strategic role for the existing fora for sharing information, good practices and analysis on urban challenges in Mexico; SEDATU could follow up on the outcomes of these discussions.

Modernising the municipal administration could improve urban planning and development

Mexican municipalities are short-term institutions with long-term responsibilities. Modernising the municipal administration and, where appropriate, developing metropolitan governance arrangements, will be central to better urban planning and management. Reforms to municipal administration are all the more important in Mexico in light of the short duration of municipal presidents' terms and, in some cases, the

technical complexity of the services provided. Measures could include enabling municipal re-election and/or longer terms in office for mayors (recent federal legislation has already paved the way for this change, to be determined at state level), in addition to creating incentives for urban planning and introducing city managers (professional civil servants to guide the day-to-day administration within municipal administrations). Reforms could also build on past efforts toward metropolitan governance in different metro zones; success has been challenging, though León and Guadalajara may be considered leaders. Such structures may be tasked with co-ordinating public service delivery (transport, water, waste management) and/or urban planning. Experience in Mexico and across the OECD suggests that involvement from federal and state governments can be instrumental in fostering more formalised co-operation among municipalities. The government of the state of Jalisco, for instance, has had a very active role in metropolitan reforms in Guadalajara.

Cities need incentives to ensure sufficient financial resources for urban development

Although federal countries tend to have larger revenue decentralisation than unitary countries, Mexico is the exception, as sub-central governments represent only 9% of total government revenues (less than 1% of GDP). States and municipal governments in particular are highly dependent on transfers, and their debt levels are soaring. Moreover, intergovernmental fiscal relations are not fully fit to allow a healthy development of metropolitan areas. Mexican urban areas struggle to finance new and growing expenditure needs and to deliver services in a cost-effective way. Reforms to fiscal relations across governments could help ensure the availability of resources to pay for public service delivery. Strategies to bolster municipal finances include: expand own-source revenues of sub-national governments (particularly through property tax reform and user fees), improve the equity of the transfer system, control sub-national government borrowing and municipal spending, and engage in public-private partnerships.

Professionalising the public workforce can help build capacity for housing and urban policy

In Mexico, a major constraint for the implementation of investment projects, and a reason for the weak efficiency and low quality of public service delivery, is the inadequacy of the civil service system. The current system accords sub-national government officials a lower status (in particular, municipal public servants), including lower salaries and fewer chances for advancement. Recommendations to strengthen the technical and human capacities at municipal level include: *i)* taking the legislative and strategic steps to professionalise the local public workforce (such as, for instance, through strategic workforce planning, a greater focus on merit, the introduction of a certification of competencies, more training, the possibility to make a career in municipal public administration, and measures to improve ethical conduct); and *ii)* institutionalising collaboration for professionalisation across levels of government.

Box 0.1. *Special policy focus:* The role of INFONAVIT in contributing to an adequate retirement income

INFONAVIT must be part of the solution to the country's pension challenge

In 1992, a retirement savings function was added to INFONAVIT's mandate. For a long period, it remained very much a secondary activity, but its salience is rising and INFONAVIT has in recent years begun to devote increasing attention to its development. The task is an especially pressing one at present, as Mexico faces a serious long-term challenge in assuring that its citizens will have adequate income during their retirement. The pension shortfall will manifest itself most critically over the medium to long term. While the present pension system represents a significant improvement over the previous model, the narrow range of coverage and the low level of expected pension income will leave most Mexicans with insufficient resources for retirement. INFONAVIT cannot resolve these problems by itself, but it is clearly well positioned to improve workers' prospects for retirement income. Most importantly, INFONAVIT has an established relationship with formal-sector workers through the mandatory 5% employer contribution that is held in individual accounts that currently can be used to finance the purchase of a home and to supplement pension income.

The pending Social Security Law would have profound effects on INFONAVIT

As of this writing, the Mexican Senate is considering approval of major changes to the Social Security Law, which would imply a significant realignment of the functions of INFONAVIT. The proposed changes include: *i)* the introduction of both a universal pension for those who fail to qualify for a recognised pension and unemployment insurance (Mexico is the only country in the OECD that currently has no national system of unemployment insurance); *ii)* measures to increase competition among suppliers of pension services; and *iii)* additional provisions that will significantly affect the role of INFONAVIT in providing pensions and give the institute new functions in the country's unemployment insurance regime. The proposed new system could have a significant impact on INFONAVIT's accounts. Under the new scheme, the present 5% employer contribution to the individual housing account managed by INFONAVIT would be divided into two parts: *i)* a housing account, which would continue to function as under the present system, but with the amount of contribution reduced from 5% to 2% of earnings; and *ii)* a new mixed account, in which the remaining 3% of the employer contribution would be placed; this mixed account could be used for unemployment benefits, mortgage down payments and/or retirement income.

Most of the changes envisaged in the Social Security Law governing the pension management regime are designed to make the regime more flexible and competitive while enhancing protection of the affiliates of the Institute for Social Security (*Instituto Mexicano del Seguro Social*, IMSS) through greater transparency and more competition. Most importantly, this new measure should help alleviate the country's pension gap. Those who would like to increase their future retirement income can either leave the funds in their accounts with INFONAVIT or obtain better returns elsewhere.

What future for INFONAVIT?

The changes in the Social Security Law that are currently under consideration would have a profound impact on the organisational structure of INFONAVIT and thus constitute an important opportunity for INFONAVIT to reassess its options for the future. The most significant result of projected changes in the law is that INFONAVIT, which previously functioned as a housing bank with privileged access to funding, would be split along functional lines: *i)* a housing finance function with somewhat reduced access to low-cost funding through the individual housing accounts, which will be responsible for satisfying the demands for low-cost housing finance while retaining the double mandate for housing and pensions; and *ii)* an asset management function with responsibilities for helping its affiliates use their new mixed accounts for housing and pensions, with the additional responsibility for unemployment insurance. Each of these functions would be carried out by a separate corporate entity, although there would be some linkages between the two.

Box 0.1. ***Special policy focus:***
The role of INFONAVIT in contributing to an adequate retirement income (*cont.*)

Under the new scheme, INFONAVIT could consider different opportunities to adapt to its new role under the revised Social Security Law as a provider of housing finance and an asset management institution. As a provider of housing finance, the two most promising ways in which INFONAVIT can remain active as a supplier of low-income housing finance in the face of reduced access to low-cost funds would be to focus on lowering targets for prudential ratios and to increase the use of alternative finance techniques (e.g. through the capital and private markets, etc.). As an asset management institution, the changes in the law that are now under consideration would oblige INFONAVIT to reconsider its role in the entire Mexican social safety net and the financial system. Given this fundamental change in the institutional and regulatory framework, INFONAVIT could follow one of two approaches: *i)* focus narrowly on the management of the mixed funds and support INFONAVIT's housing finance activities; or *ii)* seek to become a bigger player in the market for asset management by competing throughout the range of savings instruments. To that end, possible strategies worth considering include providing high-quality financial education to workers and, in a second phase, individual counselling; developing a full range of savings investment products throughout the life cycle of the worker; and, finally, competing with other asset managers to become a market leader with respect to costs.

An opportunity to change the future of housing, urban development and pensions in Mexico

Unlocking the potential of Mexican urban areas could help boost the country's productivity and, ultimately, its overall competitiveness. To this end, reforms to housing and urban policy could be instrumental in making cities more attractive to skilled workers and firms, more healthy and liveable for residents, and more inclusive for all segments of the population. This will require reforms to the fiscal, regulatory and legal frameworks that govern housing, transport and urban development. These broad measures should meanwhile be supported by changes to the housing finance system – to offer more flexibility and more choice with respect to housing – and further bolstered by reforms to the governance frameworks for transport and urban development. Building better cities throughout Mexico will ultimately require efforts from all levels of government and across multiple policy domains. INFONAVIT, in close partnership with SEDATU, the Ministry of Finance and Public Credit and other federal bodies, as well as states, municipalities, private developers and other key actors in the development process, can play a leading role in "getting cities right".

Chapter 1

Cities, housing and pensions in Mexico: An opportunity to bolster growth and well-being*

This chapter analyses the main trends and challenges for urban areas in Mexico, with particular emphasis on housing, and their implications on the country's economic, social and environmental outcomes (e.g. urban sprawl, congestion and social segregation). Specifically, this chapter addresses: i) *the diverse factors contributing to Mexico's economic under-performance relative to other OECD countries;* ii) *the country's rapid urbanisation rate, which has increased opportunities for city dwellers but meanwhile has not translated into expected productivity gains; and* iii) *the range of policy challenges facing cities.*

* The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

A reform agenda for Mexico, with unprecedented attention to housing and urban policy

Although the Mexican economy experienced a strong recovery from the global economic crisis between 2010 and 2012, with an annual average growth rate of 4.3%, growth slowed in 2013 to 1.1%. The drop in 2013 is likely due to weak external demand, especially from the United States; weak investment, partly resulting from fiscal policy changes; and the significant contraction of the construction sector, attributable in part to the failure of the country's housing model as well as an uncertain policy environment due to changes in housing policy of recent administrations. Its quick recovery from the crisis can be attributed to stable macroeconomic conditions resulting from cautious fiscal and monetary policies put in place over the last years, as well as strict financial regulation and oversight. Beyond economic growth, these policies also created an environment of moderate inflation, balanced external accounts and low levels of public debt as a share of gross domestic product (GDP). Even though the public net debt-to-GDP ratio was rising, from 36.3% in 2010 to 42.2% in 2013 (IMF, 2014), it is below that of 13 OECD countries where the debt-to-GDP ratio exceeds 60% (IMF, 2014) and well below that of most European countries (the average of the European Union in 2013 was 68.9%; IMF, 2014). Mexico's stable macroeconomic environment has also been reinforced by a floating exchange rate regime and an international reserve accumulation policy aiming to mitigate the vulnerability of the economy and the domestic financial system to external shocks. Recent projections forecast a recovery of economic growth for 2014 and 2015, which is attributed to an increasing export demand expected to accompany the strengthening of the US economy as well as the normalisation of public expenditure.

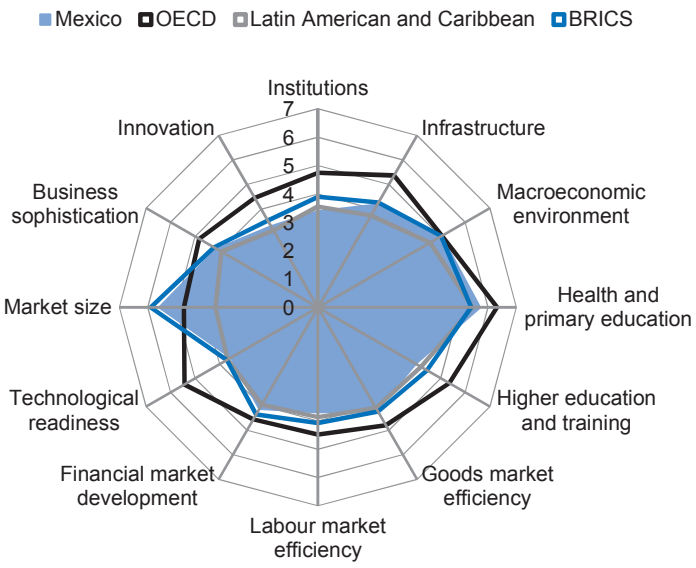
While Mexico still ranks well behind the world's top performers in terms of competitiveness, it is well positioned relative to most middle-income economies. According to the Global Competitiveness Index 2014-2015 prepared by the World Economic Forum (Sala-i-Martin and Schwab, 2014), Mexico is ranked 61st out of 144 countries (Table 1.1 and Figure 1.1).[1] Within the group of OECD countries, Mexico ranks in the bottom five, just slightly ahead of Slovenia, the Slovak Republic and Greece. Nevertheless, Mexico's position was similar to or even better than other Latin American countries but in the bottom two within the group of BRICS countries (Brazil, Russian Federation, India, China and South Africa), where Mexico outperforms only India. Among the Latin American and Caribbean countries and territories, Mexico ranks 7th, after Puerto Rico, Chile, Panama, Barbados, Costa Rica and Brazil. Mexico's macroeconomic environment is attractive for domestic and foreign investments relative to other emerging markets, fortified by the credit rating upgrade to A3 by Moody's Investors Service in February 2014 following the approval of structural reforms and in light of stronger public finances and increased government savings. Mexico, as well as the BRICS countries, is characterised by a comparably strong performance with respect to its market size (10th overall, 6th in the OECD and 2nd in Latin America), which is closely related to natural resources like oil. Mexico fares particularly poorly in terms of efficiency enhancers, such as higher education training (87th overall, 34th in the OECD and 15th in Latin America) and labour market efficiency (121st overall, 32nd in the OECD and 18th in Latin America). Several factors, which will be discussed later in this chapter, contribute to Mexico's underperformance (Box 1.1).

Table 1.1. **Global Competitiveness Index ranking, 2014-15**

	Rank overall (out of 144)	Rank among OECD countries (out of 34)	Rank among Latin America and Caribbean (out of 24)	Rank among BRICS countries (out of 6)
Basic requirements	69	32	8	3
Institutions	102	32	13	6
Infrastructure	65	34	8	4
Macroeconomic environment	53	19	7	3
Health and primary education	71	33	7	3
Efficiency enhancers	60	32	7	5
Higher education and training	87	34	15	5
Goods market efficiency	86	34	12	3
Labour market efficiency	121	32	18	6
Financial market development	63	26	11	5
Technological readiness	79	34	12	4
Market size	10	6	2	5
Innovation and sophistication factors	59	30	8	5
Business sophistication	58	29	9	5
Innovation	61	31	8	4
Total	61	31	7	5

Source: Own calculations based on Sala-i-Martin, X. and K. Schwab (2014), *Global Competitiveness Index 2014-2015*, World Economic Forum, Geneva, available at: www3.weforum.org/docs/GCR2014-15/GCI_Dataset_2014-15.xlsx (accessed September 2014).

Figure 1.1. **Global Competitiveness Index 2014-2015**



Notes: Average numbers for OECD, Latin America and Caribbean and BRICS countries are based on own calculations with data from Sala-i-Martin and Schwab (2014).

Source: Sala-i-Martin, X. and K. Schwab (2014), *Global Competitiveness Index 2014-2015*, World Economic Forum, Geneva, available at: www3.weforum.org/docs/GCR2014-15/GCI_Dataset_2014-15.xlsx (accessed September 2014).

Box 1.1. **Factors hindering Mexico's competitiveness**

Despite strong performance in terms of a large market size and a strong macroeconomic environment, Mexico lacks competitiveness in several areas that are considered to have an effect on overall performance: basic requirements, efficiency enhancers, innovation and business sophistication. Recent reforms in education and the labour market are a first step to increase the quality of educational systems and to liberate the labour legislation. To increase its competitiveness and economic growth even further, Mexico has to strengthen the functioning of its institutions, fight against corruption, increase the levels of security and remove government inefficiencies.

- Obstacles to doing business. The most significant barriers for doing business in Mexico relate to institutions. According to the World Economic Forum (Sala-i-Martin and Schwab, 2014), business executives ranked corruption, tax regulation and inefficient government bureaucracy as the top three factors that are most problematic for doing business. Furthermore, insecurity and theft, access to financing and inadequate supply of infrastructure were identified as additional hurdles. The findings are consistent with Mexico's performance relative to OECD countries, where it ranks in the bottom five or six at best. Restrictive labour regulations, as well as a workforce with low levels of educational attainment are also among the top ten factors that complicate doing business in Mexico.

- Rising, yet still comparatively low, education levels. The educational level of Mexico's population has continuously improved over time, but is still comparatively low relative to OECD countries. Between 2000 and 2011, the share of 25-64-year-olds with upper secondary or post-secondary non-tertiary education increased from 14% to 19%; the share of 25-64-year-olds with tertiary education increased in the same period by 2 percentage points, from 15% to 17%. These numbers are significantly lower than the OECD average of 44% of the adult population with an upper secondary or post-secondary non-tertiary education and 32% with a tertiary education in 2011. The difference also remains when comparing the educational attainment of the younger subset of the economically active population (25-34-year-olds). In Mexico, 21% of that age cohort has finished an upper secondary or post-secondary non-tertiary education, compared to an OECD average of 44%. The share of graduates with a tertiary education in the age group of 25-34-year-olds has risen over the years to 23%, which is still 16 percentage points below the OECD average of 39% (OECD, 2013a).

  While educational levels are rising, the quality of education lags behind that of OECD countries and several Latin American countries. According to the Global Competitiveness Index, the quality of primary education in Mexico ranks last among OECD countries and 17th among Latin American and Caribbean countries. Compared to the BRICS countries, Mexico outperforms Brazil and South Africa. The findings are similar with respect to the quality of higher education and training, the quality of educational systems and the quality of math and science education.

- Low levels of public investment. Mexico is characterised by low levels of public investment. Public investment is an important factor in addressing social inequalities, fostering growth and enhancing well-being. In the absence of an efficient tax scheme and rising public debt, Mexico's public budget depends to a great extent on oil revenues (OECD, 2013b), resulting in public investment levels that are influenced by developments in the oil market and can be subject to external shocks. Total public investments increased, from 16.6% of GDP in 2007 to 20.6% of GDP in 2013 (Ministry of Finance, 2014). Most public investment is allocated to social development, including education, healthcare, social security, housing development, social assistance, drinking water and sanitation. Social investments increased from 9.7% in 2007 to 11.7% in 2013. Public investments targeting economic development increased from 4.8% in 2007 to 7.04% in 2013, with the remaining investment attributed to government functions and stabilisation funds. OECD estimates for 2012 suggest that Mexico's public social expenditure is rather low compared to other OECD member countries. On average, social expenditure across OECD countries is estimated at 21.8% of GDP, whereas Mexico's expenditure was estimated at 7.4%, comparable to Korea (9.3%) and Chile (10.2%) at the lower end of the distribution (OECD, 2014a).

Box 1.1. **Factors hindering Mexico's competitiveness** (*cont.*)

- Persistently high rate of informality. Mexico's labour market is characterised by a substantial presence of informality, with important consequences for economic productivity and social inequality. The extent of Mexico's informal economy is the largest among OECD and BRICS countries, and also above average within Latin America. Not only is a large extent of informality an outcome of limited economic development and low labour productivity, it also reinforces low productivity growth and can therefore lead to a vicious cycle (Brandt, 2011). Further, a high level of informality implies that a large share of the population is excluded from the social protection net and is thus vulnerable to economic shocks, such as loss of employment. Given that the informally employed tend to be concentrated at the lower end of the income distribution and often only have limited skills (see, for instance, Levy, 2008), they are more likely to experience income shocks resulting in increased poverty levels, as their access to financial services and assistance is limited. Moreover, as will be explored later in this chapter, social policies targeting low-income groups may fail to reach their aim of decreasing inequality, as the lowest income segment is excluded from many social programmes (which target only formal-sector workers), thereby increasing overall inequality (Box 1.5).

A cross-cutting reform agenda, in which cities and housing play a key role

Well aware of these challenges, the Mexican authorities committed to a cross-cutting structural reform agenda in early 2013, including labour, fiscal, financial, energy, education and telecommunications reforms. Further structural reforms, as well as the implementation of second-round legislation, are scheduled to proceed until the end of 2014, and are expected to increase the competitiveness in key strategic sectors like energy, telecommunications and finance. As these reforms are building on a stable macroeconomic environment and a sound banking system, they are expected to increase Mexico's competitiveness and economic growth.

Housing and urban policy are considered a priority within the reform agenda, which aims to reduce the housing deficit that affects 31% of Mexican households (INEGI, 2012a; INFONAVIT, 2013) and address the inefficient development patterns resulting from past policies. These reforms are also expected to benefit the construction sector, which has been closely linked to public housing projects in recent decades, but is currently struggling due to lower investments after the crisis, particularly in housing construction (Bank of Mexico, 2013). The construction sector contributed 7.8% to the national GDP in 2012, of which more than 50% resulted from residential buildings until 2008. After the crisis of 2008, this share decreased to 48% in 2012, resulting from both a decrease in the housing construction and an increase in non-housing construction (INEGI, 2014a). The new housing policy, which will be further assessed in Chapter 2, aims to stimulate the market through governmental credits and subsidies that reorient urban growth in city centres, rather than peripheral locations.

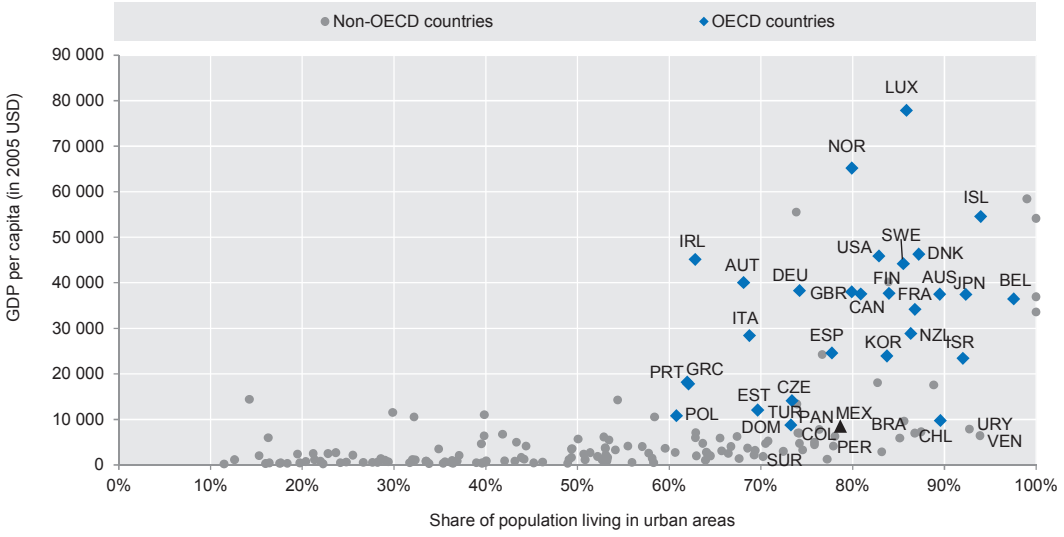
This chapter will first describe Mexico's housing and urban transition. On the one hand, the country's rapid urbanisation over the second half of the 20th century contributed to increased opportunities for city-dwellers. On the other hand, however, Mexico has not progressed as could be expected, in terms of economic growth and productivity, given its highly urbanised structure: stalled labour productivity, especially in urban areas; a persistently large share of informal labour; and preliminary evidence of a brain drain are examined in the subsequent section. The final section will examine the range of policy challenges facing Mexican cities – inefficient housing and urban development patterns, spatial segregation, increasing motorisation, pollution, exhaustion of natural resources and fragmented governance arrangements – which hinder the

development of more productive, sustainable and inclusive cities. Unlocking the potential of Mexican urban areas could ultimately help boost the country's overall competitiveness.

Mexico's housing and urban transition

According to Henderson (2010), while development does not happen without urbanisation, urbanisation *per se* is an opportunity – not a guarantee – for economic development to occur. Typically, the urbanisation process begins with advances in technologies that allow the shifting of resources from agriculture to urban regions. Thus, labour-saving improvements release labour from the agricultural sector so that it can work more productively in manufacturing and service sectors. As these sectors benefit from agglomeration benefits (see Box 1.3), production should be located in high-density locations (Henderson, 2010). Figure 1.2 shows the relationship between economic development and urbanisation. While there is an overall positive correlation between the two, countries that rapidly urbanised over the last decades do not appear to have fully captured the economic benefits of urbanisation. This is the case for many countries in Latin America, like Brazil, Chile or Venezuela, which all have a larger share of the population living in urban areas than Mexico, but comparable rates of GDP per capita. As will be discussed in this chapter, although Mexico's urbanisation process has not yet generated the level of expected economic benefits, it has nonetheless led to critical and significant progress in terms of income, education levels and access to formal housing.

Figure 1.2. **Urbanisation and economic development, 2013**



Notes: Urban areas as defined by national statistical offices. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

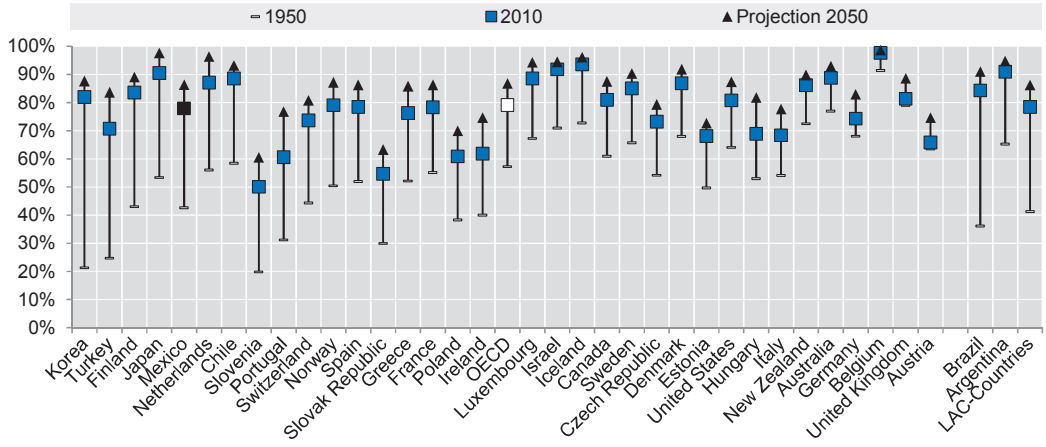
Source: World Bank (2014), World Development Indicators, The World Bank, Washington, DC.

Mexico urbanised faster than most OECD countries

Mexico's urbanisation rate over the past half century has overtaken that of many OECD countries. From 1950 to 2010, the population living in urban areas within OECD countries increased on average by 22 percentage points, from 57% to 79% (Figure 1.3)

(United Nations, 2014). By 2050, it is expected that this share will increase to about 87%. Mexico's urbanisation rate between 1950 and 2010 rose by 35 percentage points (from 43% to roughly 78%). By 2050, approximately 86% of the Mexican population is expected to live in urban areas (United Nations, 2014). Only four OECD countries – Korea, Turkey, Finland and Japan – in addition to Brazil, registered a higher increase in the share of urban population than Mexico between 1950 and 2010. Managing increasing urbanisation has been difficult for many cities across the OECD and, in light of global urbanisation projections, will remain both a challenge and an opportunity in the future (see, e.g. Dobbs et al., 2012; UN-Habitat, 2013).

Figure 1.3. **Share of the population living in urban areas across the OECD, 1950, 2010 and 2050 (forecast)**



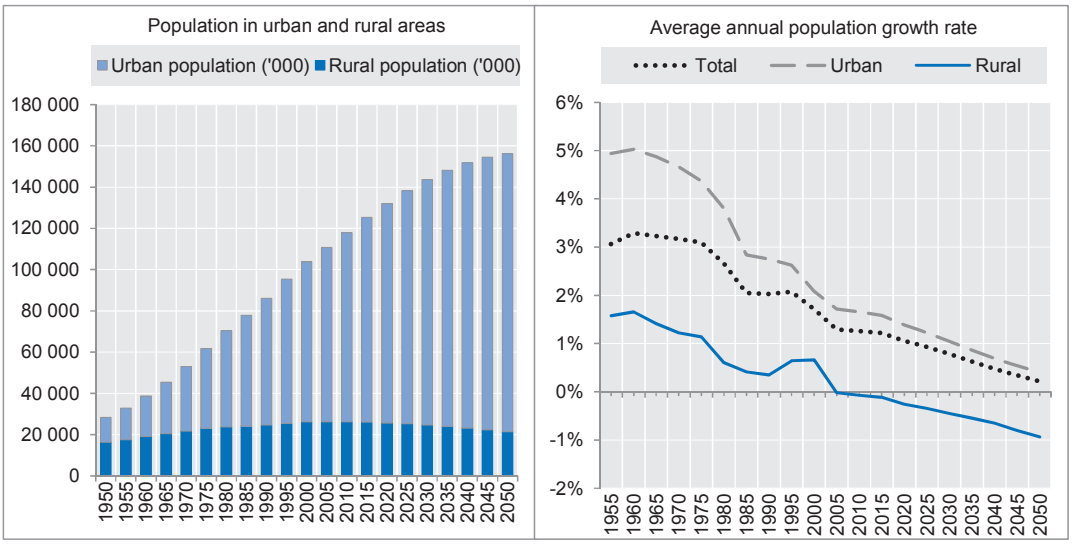
Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: United Nations (2014), *World Population Prospects: The 2012 Revision*, United Nations, New York, available at: http://esa.un.org/wpp (accessed February 2014).

Between 1950 and 1970, Mexico's urban population more than doubled, and by 2010 it had grown by a factor of six since 1950 (Figure 1.4). Nevertheless, urban growth has been occurring at a diminishing rate. In just the past decade, the average annual growth rate of Mexico's population living in urban areas decreased from about 2% in 2000 to 1.7% in 2010. In rural areas, population growth has been negative since 2005. In urban areas, population growth remains positive until the end of the forecast period of 2050, but at a decreasing rate. Urbanisation is thus expected to continue through 2050, but at a slower pace.

Rapid urbanisation poses several challenges for cities, and Mexican cities are no exception. While slowly urbanising countries can develop and adapt to changes over time, rapid urbanisation requires massive investments in local and inter-city infrastructures and modern social structures in a short time (see e.g. Glaeser, 2013 and Henderson, 2010). Between 1990 and 2010, all metropolitan zones grew with respect to their population (Table 1.2, Figures 1.5 and 1.6). During this period, medium-sized metropolitan zones (450 000 to 1 million inhabitants) grew the most (60%), while the population of small metropolitan zones increased by 46%. Metropolitan zones located

Figure 1.4. **The growth of Mexico's urban population: Historic and projected trends, 1950-2050**



Source: United Nations (2014), *World Population Prospects: The 2012 Revision*, United Nations, New York, available at: http://esa.un.org/wpp (accessed February 2014).

Box 1.2. **Defining Mexican metropolitan areas**

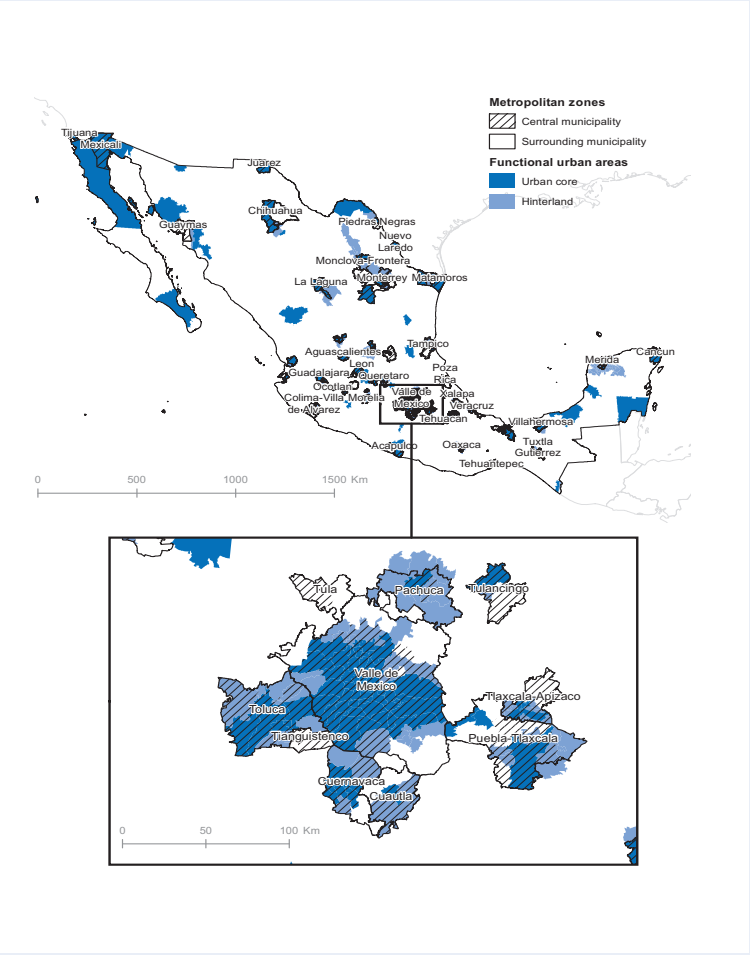
Two definitions of Mexican "cities" will be used throughout this report: metropolitan zones (*zonas metropolitanas*) and OECD functional urban areas (FUA). Both definitions have in common that urban agglomerations are not limited to the administrative boundaries of a city and thus allow a consistent analysis of urban dynamics, growth patterns and economic interconnections with surrounding areas over time.

- Comparisons among Mexican cities and urban areas will, in most cases, be based on the metropolitan zone definition, which corresponds to a functional definition jointly developed by three federal institutions in Mexico (Ministry of Social Development [*Secretaría de Desarrollo Social*], SEDESOL); the National Institute of Statistics and Geography [*Instituto Nacional de Estadística Geografía e Informática*], INEGI; and the National Population Council [*Consejo Nacional de Población*], CONAPO) (CONAPO/INEGI/SEDESOL, 2012). This method defines a metropolitan zone as a group of two or more municipalities that together form a city of 50 000 or more inhabitants, whose urban area functions and activities extend beyond the limit of each municipality, incorporating other adjacent predominantly urban municipalities with which they share a high degree of economic integration. Also defined as metropolitan zones are those municipalities with 1 million or more inhabitants, as well as municipalities of 250 000 or more inhabitants which form urban agglomerations with cities in the United States. Further, municipalities that have urban centres with a population greater than 50 000 and that show a degree of physical integration with neighbouring municipalities are defined as a central municipality. Together with the neighbouring municipalities they form a metropolitan zone if the surrounding municipalities meet the following criteria: first, the distance to the borders of the central municipality does not exceed 10 kilometres and is connected by a two-lane paved road; second, at least 15% of its employed residents or 10% and more of the working population work in the central municipalities; third, the share of population working in the secondary and tertiary sector must be at least 7%; and fourth, the average urban density must be at least 2 000 inhabitants/km^2. If the second to fourth criteria are met, a given metropolitan zone can also incorporate municipalities with specific characteristics that are relevant to planning and urban policies.

Box 1.2. **Defining Mexican metropolitan areas** (*cont.*)

- Cross-country comparison of metropolitan areas in OECD countries will be based on the FUA definition, developed by the OECD in co-operation with the European Commission and applied consistently across OECD metropolitan areas. This method takes into account population density and commuting between urban areas in order to define the boundaries of cities that correspond to functional entities rather than administrative ones (see OECD, 2012a). An urban core consists of a high-density cluster of contiguous grid cells of 1 km^2 with a density of at least 1 500 inhabitants/km^2. A lower threshold of 1 000 inhabitants/km^2 is applied to Canada and the United States, where several metropolitan areas develop in a less compact manner. In Mexico, as well as Japan and Korea, small clusters that host less than 100 000 people are dropped, whereas in Europe, Canada, Chile and the United States small clusters are defined as hosting less than 50 000 people. A municipality is defined as being part of an urban core if at least 50% of the population of the municipality lives within the urban cluster. Two urban cores are considered integrated, and thus part of the same polycentric metropolitan area, if more than 15% of the residence population of any of the cores commutes to work in the other core. Urban hinterlands are defined as all municipalities with at least 15% of their employed residents working in a certain urban core. Municipalities surrounded by a single FUA are included and non-contiguous municipalities are dropped.

Comparing OECD functional urban areas and Mexican metropolitan zones



Note: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Box 1.2. **Defining Mexican metropolitan areas** (*cont.*)

In total, there are 77 FUAs and 59 metropolitan zones (see figure above). In many cases, the definition of a given FUA and metropolitan zone overlaps with respect to the core/central municipalities. Variations can be related to differences in the hinterland and surrounding municipalities. There are also a number of FUAs that do not overlap with any metropolitan zone, including La Paz (Baja California Sur), Acuña (Coahuila de Zaragoza), Durango (Durango), and Carmen (Campeche), among others. These are mainly single (core) municipalities with between 100 000 and 1 million inhabitants and are therefore not captured by the metropolitan zone definition as they lack the economic integration with neighbouring municipalities. The opposite case is also existent, metropolitan zones that do not overlap with a FUA, such as Guaymas (Sonora), Rioverde-Ciudad Fernandez (San Luis Potosi) and La Piedad Penjamo (Michoacan/Guanajuato). These metropolitan zones have either fewer than 100 000 inhabitants or a population density less than 1 500 persons/km^2 and are therefore dropped from the set of FUAs.

Source: CONAPO/INEGI/SEDESOL (2012), *Delimitación de las Zonas Metropolitanas de México 2010*, CONAPO/INEGI/SEDESOL, Mexico City, available at: www.conapo.gob.mx/es/CONAPO/Delimitacion_zonas_metropolitanas_2010_Capitulos_I_a_IV (accessed February 2014); OECD (2012a), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264174108-en.

close to the US border – namely Tijuana, Mexicali, Juarez, Piedras-Negras, Reynosa-Rio Bravo and Matamoros – experienced rapid growth after the North American Free Trade Agreement (NAFTA) was signed in 1992. On average, these border metropolitan zones increased their populations by 50% between 1990 and 2000, and then grew moderately between 2000 and 2010. The increasing urbanisation in Mexico is not only described by a growing urban population, but also by decreasing density as urban footprints are growing at a higher rate than population. This phenomenon of urban sprawl and the accompanying challenges are explored later in this chapter.

Table 1.2. **Average population growth, 1990-2010**

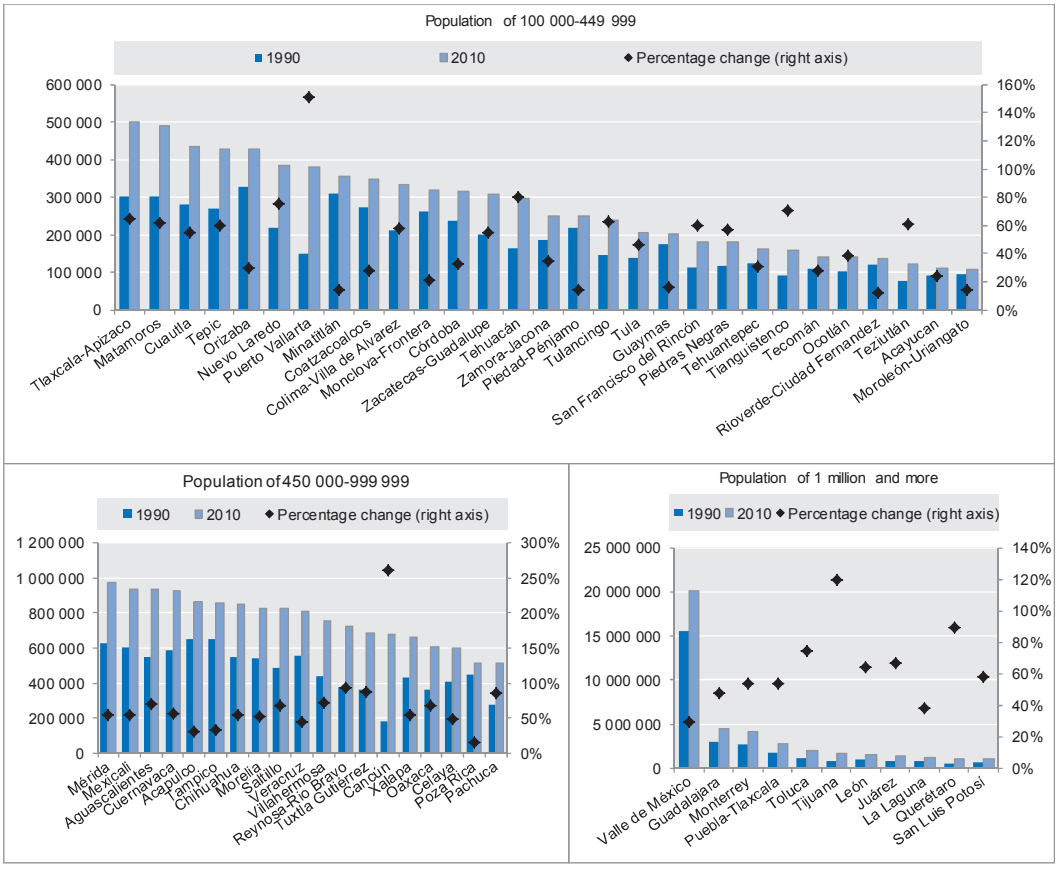
By size of metropolitan zone

Inhabitants	1990	2010	Percentage change
1 million and more	28 823 839	41 369 040	44%
450 000-999 999	9 094 952	14 553 379	60%
100 000-449 999	5 421 739	7 914 360	46%

Source: CONAPO/INEGI/SEDESOL (2012), *Delimitaciones de las Zonas Metropolitanas de México 2010*, CONAPO/INEGI/SEDESOL, Mexico City, available at: www.conapo.gob.mx/es/CONAPO/Delimitacion_zonas_metropolitanas_2010_Capitulos_I_a_IV (accessed February 2014).

The positive trend of increased urbanisation is not only evident in Mexico, but also in several OECD countries. More than half of Mexico's population (51%) lived in functional urban areas, as defined by the OECD (Box 1.2), with a population of at least 500 000. This is the fifth-highest among OECD countries, after Korea (72%), Japan (68%), Canada (56%) and the United States (53%), and just ahead of Chile (48%) (Figure 1.7). Moreover, among OECD countries in which roughly the majority of the population has urbanised, only Mexico, Canada and the United Kingdom registered significant growth rates between 2000 and 2010, at 6%, 5% and 5%, respectively; others, including Korea, Japan and the United States, recorded much lower population growth rates (OECD, 2014b).

Figure 1.5. **Population growth in Mexican metropolitan zones, 1990-2010**



Note: Metropolitan size categories refer to population in 2010.

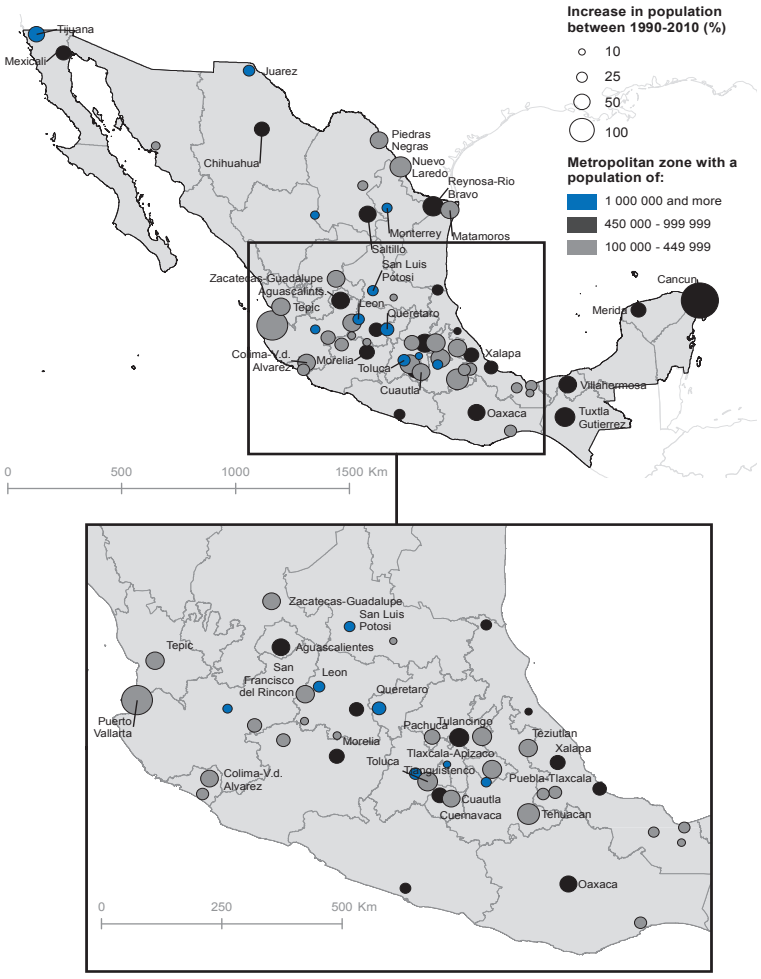
Source: CONAPO/INEGI/SEDESOL (2012), *Delimitaciones de las Zonas Metropolitanas de México 2010*, CONAPO/INEGI/SEDESOL, Mexico City, available at: www.conapo.gob.mx/es/CONAPO/Delimitacion_zonas_metropolitanas_2010_Capitulos_I_a_IV (accessed February 2014).

Large metropolitan areas concentrate population and economic growth

More than half of the population lives in the country's 33 largest FUAs, and this share is expected to continue to grow, representing an important opportunity for Mexico to capitalise on its growth potential. Since 2005, the share of the Mexican population living in metropolitan areas with at least 500 000 inhabitants increased by 1 percentage point, from 49.8% to 50.8%. Only Canada and Korea showed a higher increase in the share of population living in large metropolitan areas, by 1.6 and 2 percentage points, respectively. The economic importance of urban agglomerations is depicted in Figure 1.7 (left panel). Even though the economic crisis slowed growth rates – and in some cases even resulted in negative economic growth – across the OECD, the share of GDP originating in countries' largest metropolitan areas has remained fairly stable. While Mexico's 33 largest metropolitan areas have not fully recovered their 2005 levels, the share of GDP originating within these metropolitan areas during the crisis year (2009) was 67.0% – and thus higher than in the pre-crisis years (65.8%), suggesting they have been less affected by the global economic crisis than smaller and non-metropolitan areas. By 2010, other Mexican areas had slowly caught up, and the share of the country's GDP produced by the FUAs with at least 500 000 inhabitants decreased by 0.2% compared to 2009 (OECD, 2014b).

Figure 1.6. **Population growth in metropolitan zones**

1990-2010



Notes: Metropolitan size categories refer to population in 2010. Metropolitan zones that saw an increase in population size by more than 50% are labelled. This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

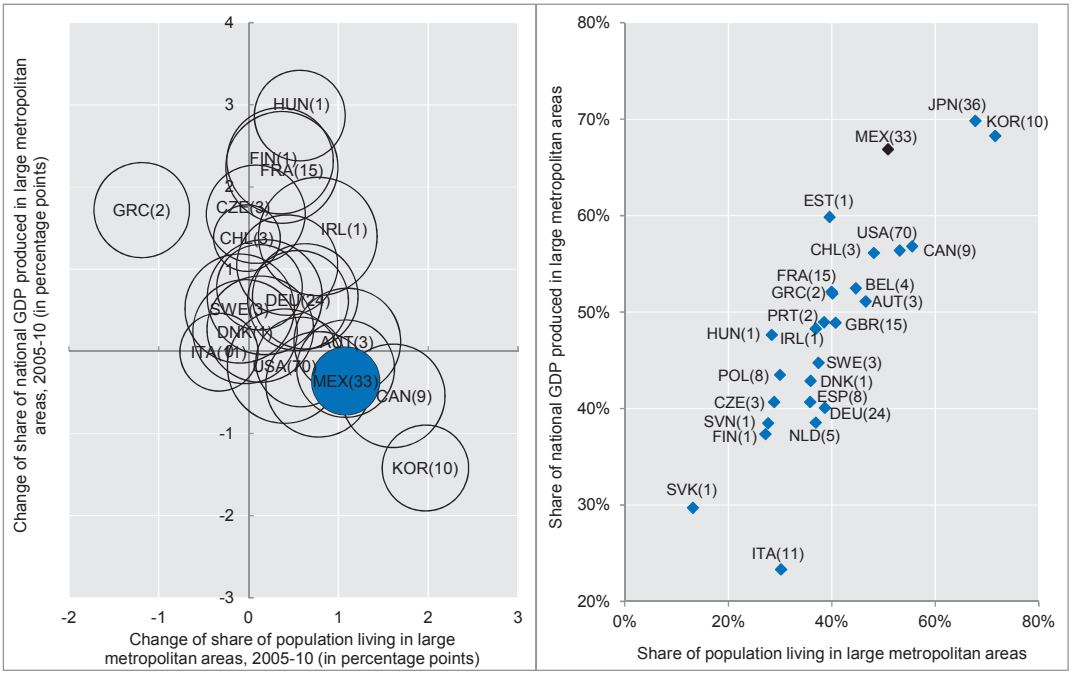
Source: CONAPO/INEGI/SEDESOL (2012), *Delimitaciones de las Zonas Metropolitanas de México 2010*, CONAPO/INEGI/SEDESOL, Mexico City, available at: www.conapo.gob.mx/es/CONAPO/Delimitacion_zonas_metropolitanas_2010_Capitulos_I_a_IV (accessed February 2014).

Mexican cities are also an important factor in the country's overall national economic performance and constitute a critical – and, as will be seen, underutilised – asset in bolstering the country's competitiveness, boosting economic growth and increasing citizens' well-being. In 2010, FUAs with more than 500 000 inhabitants accounted for more than two-thirds (66.9%) of the country's GDP, the third largest share across OECD

countries (Figure 1.7 [right panel]). Only Japan and Korea surpassed Mexico in this respect. As the centre of economic activity, urban agglomerations should thus be the starting point to improve competiveness and well-being, and ultimately economic growth.

Figure 1.7. **Population and GDP in large metropolitan areas across the OECD, 2005-10**

Share and change



Note: The size of the circles indicates total GDP per capita of metropolitan areas with at least 500 000 inhabitants in 2010.

Source: OECD (2013i), "Metropolitan areas", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00531-en (accessed 2 April 2014).

Increased opportunities for city dwellers

As centres of economic activity, urban agglomerations can provide better employment and income prospects, as well as better education and consumption opportunities. Cities that perform well can provide an environment that encourages economic growth by attracting firms and skilled workers, and facilitating knowledge spillovers and agglomeration benefits. Rising incomes and increased educational opportunities represent significant benefits resulting from the country's urbanisation process (Box 1.3).

Box 1.3. **Agglomeration economies: Costs and benefits**

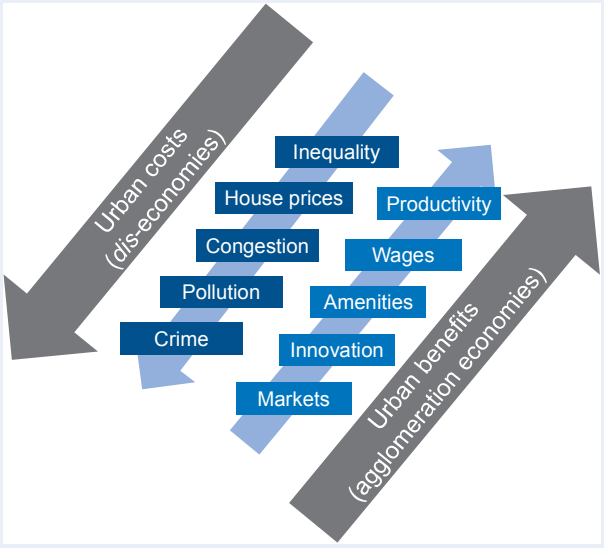
Metropolitan areas and dynamic medium-sized cities have enormous potential for job creation and innovation, as they are hubs and gateways for global networks such as trade or transport. In many OECD countries, labour productivity (measured in terms of GDP per worker) and wages can be observed to increase with city size.

Stronger productivity levels are a reflection of a bonus intrinsic to being in a city, known as the agglomeration benefit. On average, a worker's wage increases with the size of the city where he/she works, even after controlling for worker attributes such as education level. OECD estimates suggest that the agglomeration benefit in the form of a wage premium rises by 2-5% for a doubling of population size (Ahrend et al., 2014a), which is in line with comparable studies for individual countries (Combes et al., 2012). However, agglomeration benefits do not accrue homogeneously across cities, and they show sizeable variations within countries.

Higher productivity is due in part to the quality of the workforce and the industrial mix. Larger cities on average have a more educated population, with the shares of both very high-skilled and low-skilled workers increasing with city size. A 10 percentage-point increase in the share of university-educated workers in a city raises the productivity of other workers in that city by 3-4% (Ahrend et al., 2014a). Larger cities typically have a higher proportion of sectors with higher productivity, such as consulting, legal or financial services, etc. They are also more likely to be hubs or service centres through which trade flows and financial and other flows are channelled. These flows typically require the provision of high value-added services.

Living in large cities does provide benefits, but it also has disadvantages (see figure below). While productivity, wages and the availability of many amenities generally increase with city size, so do what are generally referred to as agglomeration costs. Some agglomeration costs are financial: for example, housing prices/rents and, more generally, price levels are typically higher in larger cities. In addition, a number of non-pecuniary costs, such as pollution, congestion, inequality and crime, typically also increase with city size, while trust and similar measures of social capital often decline. Survey data from European cities confirm that citizens in larger cities – despite valuing the increased amenities – are generally less satisfied with the other aspects mentioned, notably air pollution.

Agglomeration costs and benefits



Box 1.3. **Agglomeration economies: Costs and benefits** (*cont.*)

To some extent, city size is the outcome of a trade-off between these benefits and costs. Mobility across and within cities implies that – at least in the medium to long term – wage levels, commuting costs and other urban (dis)amenities are reflected in land prices, and more generally in a city's cost of living. This is supported by findings suggesting that for increasing population size, these agglomeration benefits and costs go up at a broadly comparable pace (see Combes et al. [2012], for evidence on France, and Gibbons et al. [2011], for the United Kingdom). A similar picture emerges when looking directly at cities' productivity and price levels. Evidence from Germany shows that, on average, increases in a city's productivity, and hence wages, are matched by similar increases in local price levels.

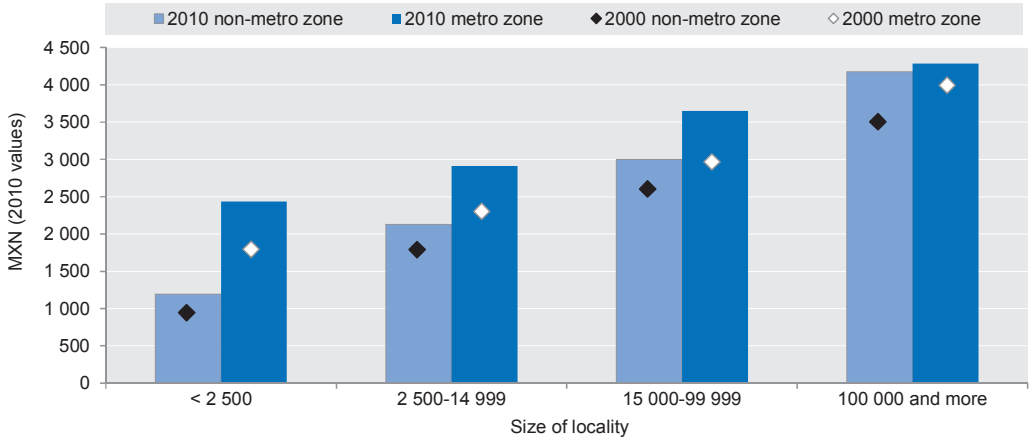
Sources: OECD (2014b), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en; Ahrend, R. et al. (2014a), "What makes cities more productive? Evidence on the role of urban governance from five OECD countries", *OECD Regional Development Working Papers*, No. 2014/05, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jz432cf2d8p-en; Combes, P.-P., G. Duranton and L. Gobillon (2012), "The costs of agglomeration: Land prices in French cities", *CEPR Discussion Papers*, No. 9 240, Centre for Economic Policy Research, London; Gibbons, S., H.G. Overman and G. Resende (2011), "Real earnings disparities in Britain", *Spatial Economics Research Centre Discussion Papers*, No. 0065, London School of Economics and Political Science, London.

Rising incomes

Consistent with economic theory, incomes are on average higher in more urbanised areas in Mexico. Comparing the average monthly income by the size and location for the working-aged population over time yields several interesting patterns (Figure 1.8). First, average incomes increased between the years 2000 and 2010, and they increased to a higher degree for localities within metropolitan zones. Second, incomes increased with the size of locality. Third, the location seems to matter, as a small locality within a metropolitan zone appears to be better off than a slightly larger locality outside a metropolitan zone. The income gap between metropolitan and non-metropolitan zones can be attributed to agglomeration benefits, as well as higher skilled individuals selecting themselves into areas with a higher economic density.

Figure 1.8. **Average monthly income in Mexican localities, 2000 and 2010**

By size of locality



Note: Size of locality indicates the population of the locality in Mexico in which the household was registered.

Source: Mexican Census data for the years 2000 and 2010 from INEGI provided via Minnesota Population Center (2013), accessed April 2014; own calculations based on working-aged population of 15-65-year-olds.

An increasingly educated workforce, particularly in cities

Between 2000 and 2010, overall educational attainment increased (Table 1.3), yet it remains very low relative to OECD countries. The share of the population that has completed at least primary education increased from 2000 to 2010, on average from 70% to 79% among 25-64-year-olds, and from 84% to 89% among 25-34-year-olds. This development among the younger subset can be attributed in large part to a higher completion rate of primary education (compared to no education) within this group, and is reinforced by older workers who drop out of the workforce and are replaced by younger, better educated workers. Despite significant progress in educational attainment in recent years, Mexico still lags behind other OECD countries. In 2010, the share of 25-64-year-olds who completed at least upper secondary education was 36% in Mexico, compared to an OECD average of 74%. The share of 25-64-year-olds who completed tertiary education was 17%, well below the OECD average of 31% (OECD, 2012b).

Table 1.3. **Educational attainment in Mexican localities, 2000 and 2010**

By size of locality, 25-64-year-olds, in percentage

Size (inhabitants)	Primary		Secondary		University	
	2000	2010	2000	2010	2000	2010
Locality is outside a metropolitan zone						
<2 500	33.9	47.3	3.1	5.8	1.4	1.8
	53.9	61.2	5.2	9.5	1.8	2.7
2 500-15 000	42.3	49.1	9.3	13.3	5.3	6.2
	55.4	55.3	14.1	18.6	6.2	8.4
15 000-100 000	46.6	48.3	14.9	19.7	9.0	11.0
	54.3	50.5	20.6	24.7	10.0	13.8
≥100 000	47.0	45.4	19.0	24.0	14.8	18.6
	51.6	44.4	24.3	27.5	16.0	22.9
Average	40.2	47.7	9.1	13.4	5.7	7.5
	54.0	54.9	13.1	17.6	6.5	9.6
Locality is within a metropolitan zone						
<2 500	43.6	54.8	5.9	10.9	2.9	5.1
	60.9	63.9	8.6	15.2	3.4	6.0
2 500-15 000	52.3	54.9	11.2	17.2	5.3	8.9
	62.6	57.6	15.9	22.4	6.1	10.7
150 00-100 000	51.5	51.4	15.5	21.1	8.8	13.1
	57.9	51.6	20.7	25.3	10.0	16.0
≥100 000	49.3	47.0	19.9	24.4	15.0	18.7
	52.6	45.4	24.4	28.2	16.0	21.9
Average	49.4	48.6	18.1	22.5	13.0	16.4
	54.3	48.5	22.5	26.4	14.0	19.1

Note: The excluding category are individuals with less than primary education. Non-responses are excluded.

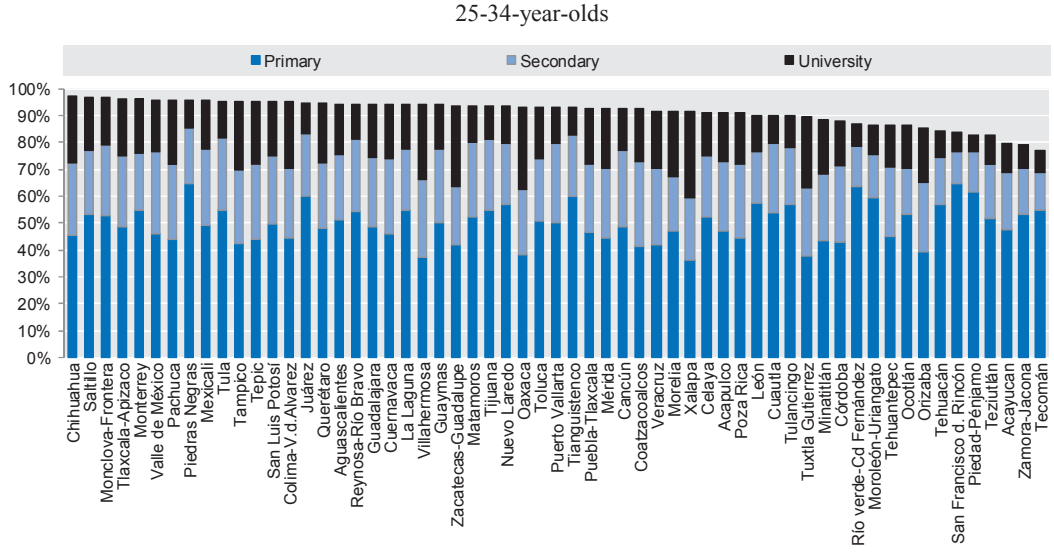
Source: Mexican Census data for the years 2000 and 2010 from INEGI provided via Minnesota Population Center (2013), accessed April 2014; own calculations, based on the population aged 25-64 and 25-34.

While progress has been made in both rural and urban areas, urban areas record higher overall levels of educational attainment. In rural locations with fewer than 2 500 inhabitants, higher education attainment in the past decade is mainly driven by an increase in the share of the population that has completed primary education as their highest educational level. In larger areas, the share of the population with a primary

education as the highest degree remained stable or decreased, resulting from a higher share of individuals with at least a secondary education. While the share of population with a secondary education as the highest educational level increased in localities of all sizes, the share of population with a university degree increased to a greater extent in large areas. The increase in the share of the population that has completed university education was even higher in areas located within metropolitan zones.

Moreover, the average educational level is higher in urban areas located within a metropolitan zone. In 2010, about 22% of 25-64-year-olds living in a locality with over 100 000 inhabitants within a metropolitan zone had graduated from university, compared to only 6% living in a rural area within a metropolitan zone and only 3% in a rural locality outside a metropolitan zone. Yet this average masks wide variation across metropolitan zones (Figure 1.9). The number of university graduates varies from 26% in the metropolitan zone of Zacatecas-Guadalupe to only 7% in Tecomán. Recent political reforms aim to stimulate this progress even further: a reform passed in 2012 makes upper secondary education compulsory, with the objective of attaining universal coverage by 2022 (OECD, 2013c). Nevertheless, these shares remain well below the OECD average of 38% of university graduates in the age group of 25-34-year-olds in 2010 (OECD, 2012b). As will be explored later in this chapter, migration, especially of high-skilled persons, may be one reason for comparable low numbers of university graduates.

Figure 1.9. **Wide variation of educational level across Mexican metro zones, 2010**



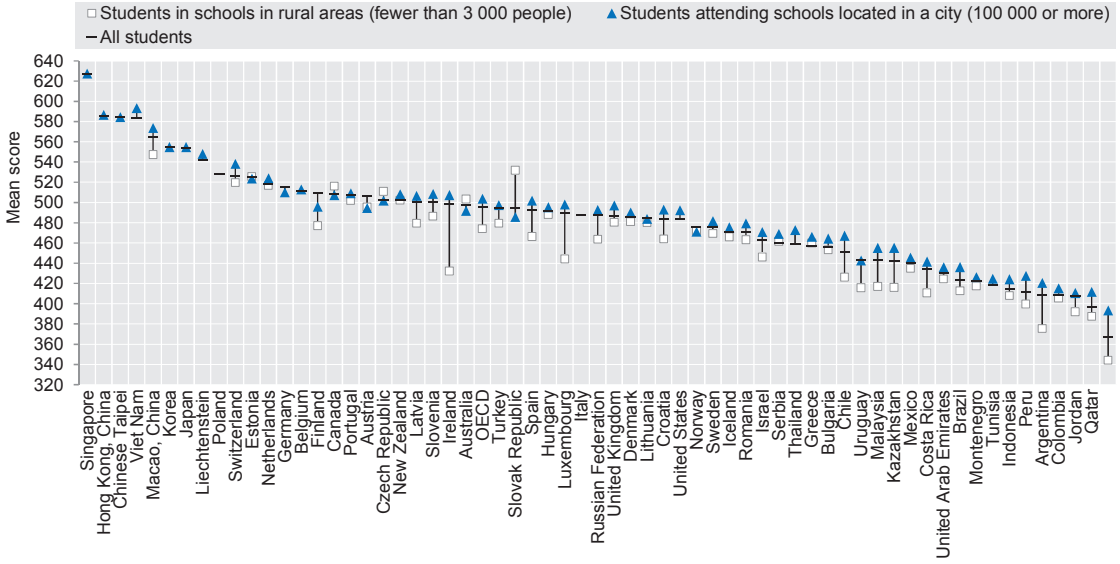
Source: Mexican Census data 2010 from INEGI provided via Minnesota Population Center (2013), accessed April 2014; own calculations.

There is also evidence of an "urban advantage" that is particularly strong in Mexico, by which students living in cities of 100 000 or more inhabitants perform better than those in rural areas (Figure 1.10). This performance gap can be attributed to a number of factors. According to the Census of the Mexican education system, schools in rural areas more often lack basic infrastructure like electricity and access to sewerage. Furthermore, schools in urban areas are on average better equipped with libraries and computer rooms. Thus, almost 60% of schools in urban areas have a library compared to 17% in rural areas

(SEP, 2013). In addition, schools in urban centres are generally larger and more autonomous and might therefore be better able to allocate resources and retain qualified administrative and teaching staff (OECD, 2013d).

Figure 1.10. **The "urban advantage": Students living in urban areas tend to perform better in school**

2012 PISA results: Mean mathematics performance, by school location, after accounting for socio-economic status



Notes: Based on reports by students and school principals. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013d), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201132-en.

The rise of formal housing development: Mexico's housing transition

Mexico's urbanisation was both a cause and a consequence of the expansion of formal housing development through targeted housing finance programmes. Prior to the 1970s, the process of rapid urbanisation led to an important increase in housing development in cities, much of which, during this first phase, was largely built informally and incrementally (Monkkonen, 2012). The inflow of population from rural areas into cities led to a 450% increase in the number of dwellings between 1950 and 2010 (INEGI, 2011a). Informal settlements attracted mainly low-income groups with no access to housing in the formal market. Local governments first tended to tolerate these unserved and illegal developments because they relieved the insufficient supply of accommodation for low-income groups (Gilbert, 1998); later, however, there were efforts to formalise informal settlements by providing basic urban services (such as electricity, sewage and drinking water) and property titles. Even so, formalising informal settlements is costly: by some estimates, between three to eight times higher than in planned developments (Blanco et al., 2014).

The creation of INFONAVIT and FOVISSSTE in 1972

In 1972, the introduction of two publicly backed housing agencies tasked with providing finance for formal housing would radically change the face of housing development in Mexico (Chapter 2). The two primary housing agencies, the National

Workers' Housing Fund Institute (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT) and the Housing Fund of the Social Security and Services Institute for State Workers (*Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE), offered housing finance for private[2] and federally employed public-sector workers, respectively. Since their introduction, the number and the value of loans granted increased steadily (Figure 1.11). In 1973, of approximately 51 000 houses financed by loans (for a total value of MXN 21.7 billion [2010 prices]), 33% were approved by INFONAVIT. By 2012, INFONAVIT granted about 73% of all loans for the acquisition of housing in Mexico, for a total value of MXN 98 billion (2010 prices). Much of this growth in lending activities occurred after 2000: between 2000 and 2012, around 5 million loans were granted by INFONAVIT, for a total value of MXN 1.2 trillion (2010 prices). Financing for home improvements did not make up a significant share of INFONAVIT lending (in terms of number of loans) until 2010, when INFONAVIT greatly expanded its lending portfolio for home improvements. However, lending for home improvements still makes up a small share of the total value of the institute's lending.

The effects of economic shocks on housing are visible in historic lending patterns for housing development, reflecting the close link between the construction sector and macroeconomic trends (Figure 1.11). In 1991, the liberalisation of banks resulted in an expansion of housing finance, which reached its peak in 1993 with an overall number of approximately 409 000 loans. Following the economic crisis in 1994, the number of approved loans dropped to about 340 000. In 1998, the number and value of loans began to increase for the first time since the crash, and until 2008, the number and value of loans continued to rise. The global crisis in 2008 led to a major slow-down in investment, and the construction sector contracted significantly (see, e.g. Bank of Mexico, 2012), resulting in a drop in both the volume and value of loans, by approximately 23.5% in number and 21.9% in value in 2012 compared to 2008.

INFONAVIT's role in shaping Mexico's urban development patterns

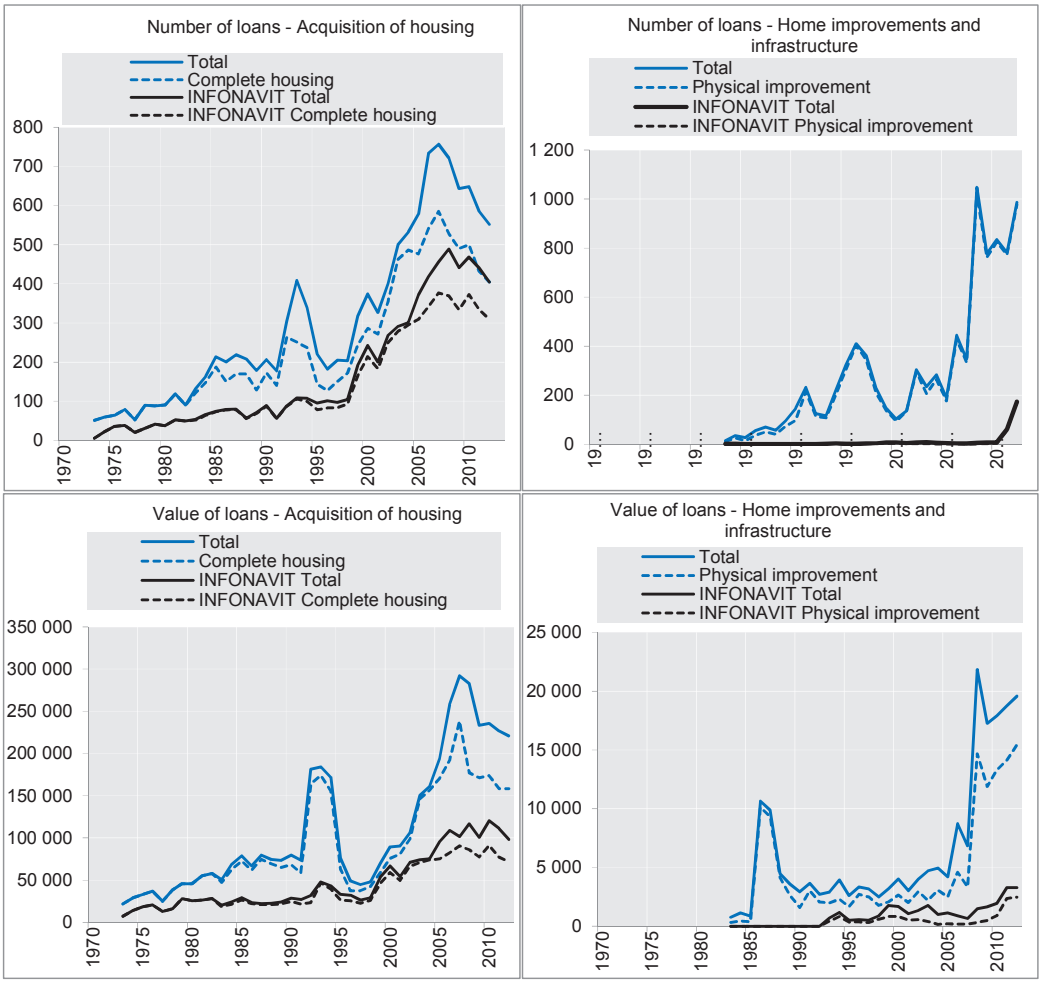
Since its inception, INFONAVIT has undertaken significant reforms to improve its business model, lending practices and governance. These reforms have ultimately improved the institute's financial situation and increased the opportunities available to borrowers. In the first 20 years, INFONAVIT, in addition to serving as a mortgage lender, played a significant role in the housing construction process, deciding how much and where housing would be built. As a result, INFONAVIT heavily influenced the shape of the country's urban footprint. With a series of reforms in the early 1990s, INFONAVIT withdrew its role in housing construction and focused on providing access to housing finance, especially for lower income households. In 1997, INFONAVIT overhauled its lending policies and made loans more flexible, thereby significantly increasing its lending (Monkkonen, 2011).[3] Further reforms to strengthen the institute's financial position followed in 2001. Around this time, INFONAVIT also benefited from a highly favourable political environment, with the federal government providing a major quantitative push to housing development. Until 2008, the number and the value of loans increased steadily, followed by a slight decrease of about 16% in 2012, relative to 2008, in the aftermath of the global crisis.

INFONAVIT has diversified its lending products over time, offering increasing housing alternatives to households (Figure 1.12). In particular, the evolution of co-financing, which allows workers to access higher value homes than they would otherwise be able to, is notable. The initial upward trend in the years after the "tequila

crisis" in the early 1990s lasted until 2004, when private lending ceased altogether. Co-financing rebounded thereafter, until 2008, when the drop in co-financing can be attributed to some extent to the global crisis and resulting lower levels of investment in housing. However, the decline in loans from INFONAVIT, as well as from FOVISSSTE, can also be attributed to new lending alternatives that have been made available to prospective home owners. The development of co-financing over the last five years is reflected in its increasing share in the composition of INFONAVIT's lending structure. Since 2010, a decline in loans for social housing is observable, while the loans for higher quality housing categories have remained stable (BBVA, 2014). This trend might be reinforced by limited supply-side flexibility of social housing developments to adapt to new consumers' requirements, such as better location of housing and improved access to services and economic centres.

Figure 1.11. **Development of housing loans (volume and value), 1973-2012**

Number (in thousands), value MXN millions (2010 values)

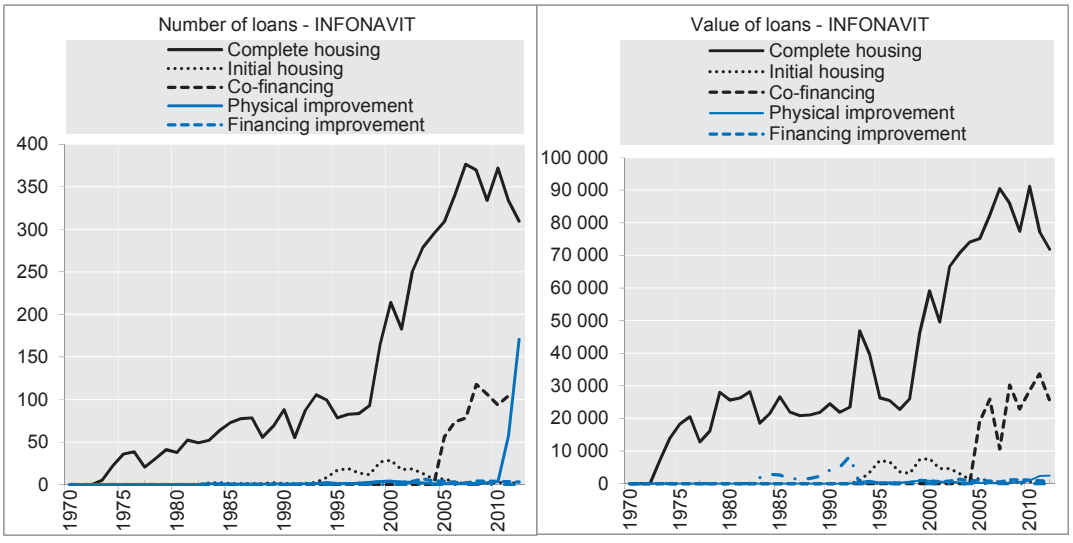


Note: Numbers from CONAVI are adjusted for inflation and change in currency in 1990. Loans for complete housing are exercised as one continuous and single process for new or used housing.

Source: CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014).

Figure 1.12. **Evolution of INFONAVIT loans, 1973-2012**

By programme



Notes: Loans for complete housing are exercised as one continuous and single process for new or used housing. Loans for initial housing are used for homes purchased that are subject to gradual developments/improvements that are carried out in stages based on the borrowers' economic resources and needs. Loans for co-financing are complementary to loans granted by other institutions for the acquisition or construction of a dwelling. Loans for physical improvements provide funding for repair, renovation and expansion of the property owned by the recipient. Loans for financing improvements are for the case of interest rate/terms/index reference changes that may require adjustments to the benefit of the debtor with respect to the initial conditions of funding.

Source: CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014).

Lending targeting primarily lower income households…

Since its foundation, INFONAVIT has aimed to provide housing access to people who would not otherwise be able to afford a formal home. Between 2010 and 2012, the vast majority of lending, in terms of both number and value, was concentrated in the lower income segments of the population (Figure 1.13). Moreover, INFONAVIT issued the lion's share of loans for all income categories. The introduction of smaller loans for home and infrastructure improvements helps to meet the demands of home owners who prefer to improve their homes incrementally. That said, most lending for home and infrastructure improvements are supplied through state subsidies and are concentrated in the very low-income segment of the income spectrum. Interestingly, lending to different income levels was relatively equivalent whether the housing was located within or outside a metro zone. The main exception is the large share of lending outside metro zones to the lowest income households (in terms of value) for improvements, via state subsidies; this likely corresponds to programmes to improve housing in rural areas.

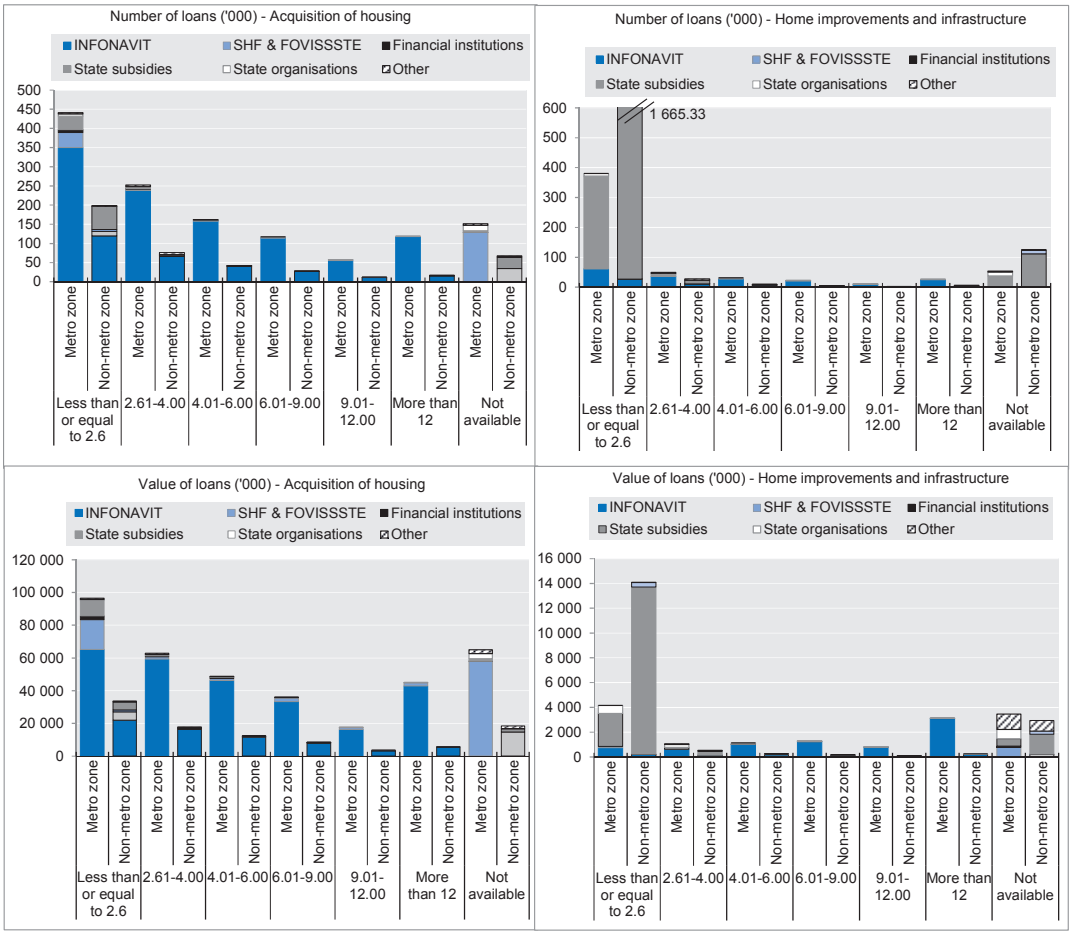
…and favouring home ownership over other housing alternatives

Moreover, most housing finance from INFONAVIT and other lenders has been directed toward the acquisition of housing – exclusively new housing in the early years, but over time, INFONAVIT came to offer finance for the acquisition of "used" (existing) homes, as well as plots of land upon which to construct homes (Figure 1.14). Interesting patterns emerge. Most INFONAVIT lending for housing acquisition, in terms of both

number and value, was concentrated in the "popular", "traditional", and "medium" housing categories between 2010 and 2012, in decreasing significance. The vast majority of housing assistance provided to the lowest income households was directed toward home and infrastructure improvements; this housing assistance was primarily provided via state subsidies and, to a great extent, favoured housing outside metro zones.

Figure 1.13. **Housing loans by income category, 2010-12**

Aggregate numbers



Notes: Income range in number of minimum wages. Aggregate numbers for the years 2010-12, loans without information regarding the municipality to which they were distributed are neglected, all values are 2010 prices.

Source: CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014).

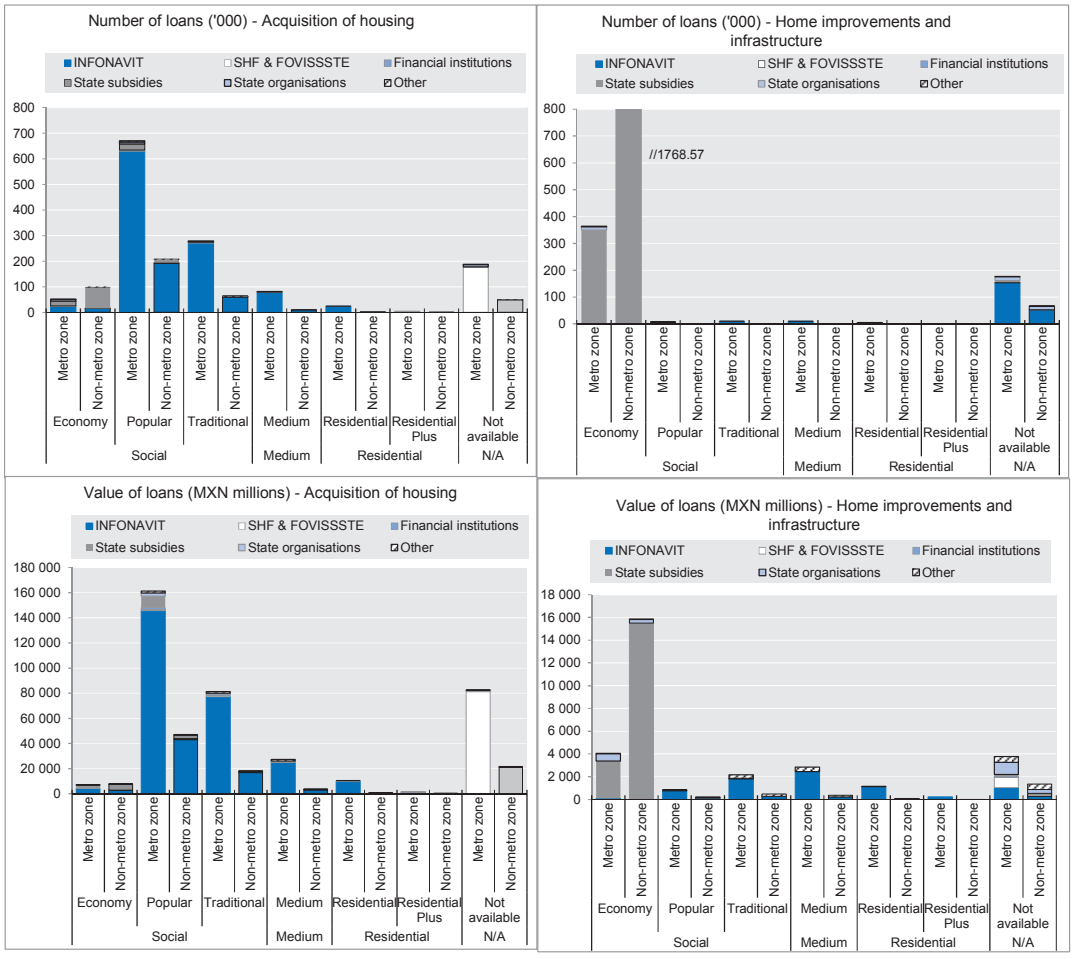
Lending as a regional development policy

Mexico's housing policies may have implicitly reinforced the country's regional development policy (Monkkonen, 2011). Access to housing finance is linked to whether or not a worker is in the formal or informal economy; individuals who are informally employed do not have access to housing finance via INFONAVIT or FOVISSSTE and therefore must turn to private lenders (banks, SOFOLES[4] or microfinance companies) or to other governmental subsidy programmes. INFONAVIT and FOVISSSTE, in addition to the majority of other (public) financial institutions and organisations, tend to provide

most housing finance in areas in which informality rates are low – typically in the northern areas bordering the United States, where manufacturing is strong (Figures 1.15 and 1.16) (Monkkonen, 2011). For instance, between 2010 and 2012, the northern metro zone of Chihuahua had an estimated low informality rate of 32%, compared to 83% in Tulancingo (Hidalgo). Not surprisingly, the number and the value of loans for houses financed via INFONAVIT (and others) are markedly higher in Chihuahua than in Tulancingo.

Figure 1.14. **Loans by housing category, 2010-12**

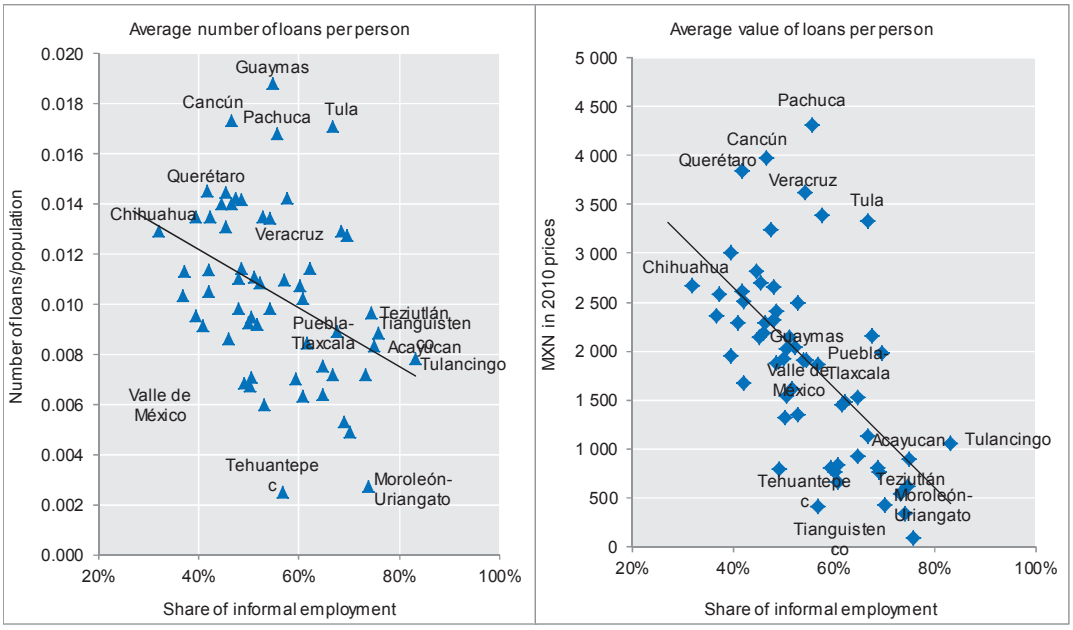
Aggregate numbers



Notes: Economy: up to 188 VSM (VSM, "*Veces Salario Mínimo*"), is calculated as multiples of the minimum wage in Mexico City, Popular: 118-200 VSM; Traditional: 200-350 VSM; Medium: 350-740 VSM; Residential: 750-1500 VSM; Residential Plus: more than 1 500 VSM. Aggregate numbers for the years 2010-12; loans without information with respect to the municipality to which they were allocated are neglected; all values are 2010 prices.

Source: CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014).

Figure 1.15. **Lower levels of informality in Mexican metro zones are associated with a higher number of loans, 2010-12**



Notes: Prices are in 2010 values. Informality rates are estimated average for 2010-12 based on ENOE data (INEGI, 2014b).

Source: CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014); and INEGI (2014b), *Encuesta Nacional de Ocupaciones y Empleo (ENOE)*, INEGI, various years, www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/enoe/default.aspx (accessed 3 March 2014) based on ENOE 2010-2012.

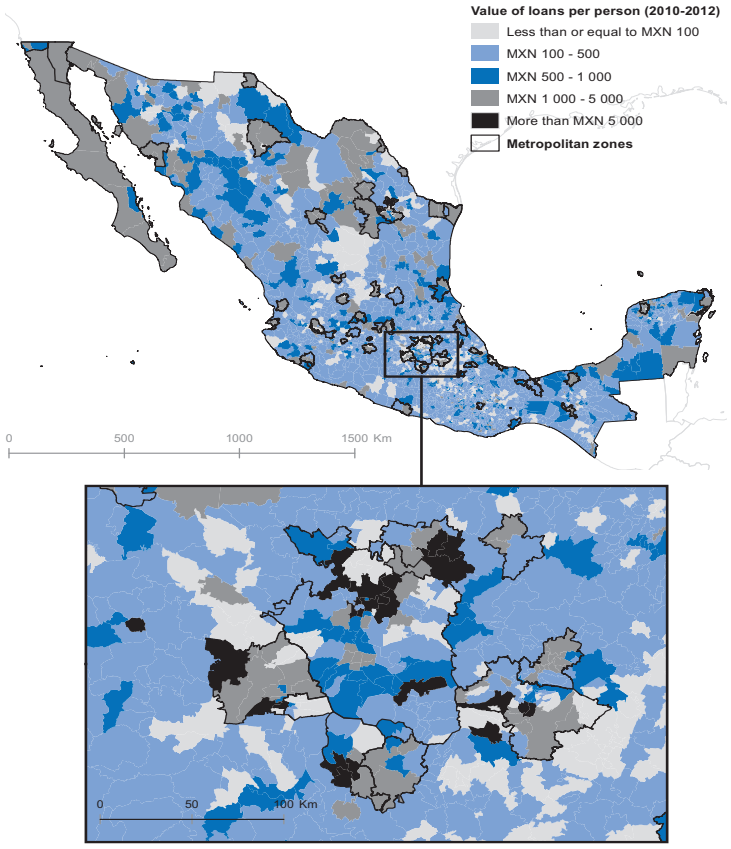
Improved housing quality

Housing quality has improved considerably over time. The increase in the quality of housing can be attributed, to some extent, to quality standards imposed by housing subsidies and loans by INFONAVIT and FOVISSSTE. Between 1950 and 2010, the average number of occupants per room steadily decreased, indicating that overcrowding is less an issue nowadays (Figure 1.17, left panel). Meanwhile, housing quality, measured in terms of the share of dwellings built of durable materials, increased between 1950 and 2010 (Figure 1.17, right panel). In 1950, just 14% of all dwellings had walls made from a durable material, whereas by 2010 this share had increased to 87%. Similar trends are observable for the share of dwellings built with floors and a roof of a durable material. The latter, however, still represents a challenge for housing quality in Mexico; in 2010, only 71% of dwellings had a roof built of a durable material.

Even if the quality of housing in all metropolitan zones has improved since 1990, there are still significant differences across metropolitan zones. On average, 63% of dwellings in metropolitan zones were equipped with a durable roof in 1990, increasing to 85% by 2010 (Figure 1.18). Yet there are still several metropolitan zones in which a large share of dwellings are built with non-durable roofs: in Mexicali and Acayucan, for instance, more than half of the dwellings have a roof made of non-durable materials.

Figure 1.16. **Value of loans per person, 2010-12**

Aggregate values from all public lenders

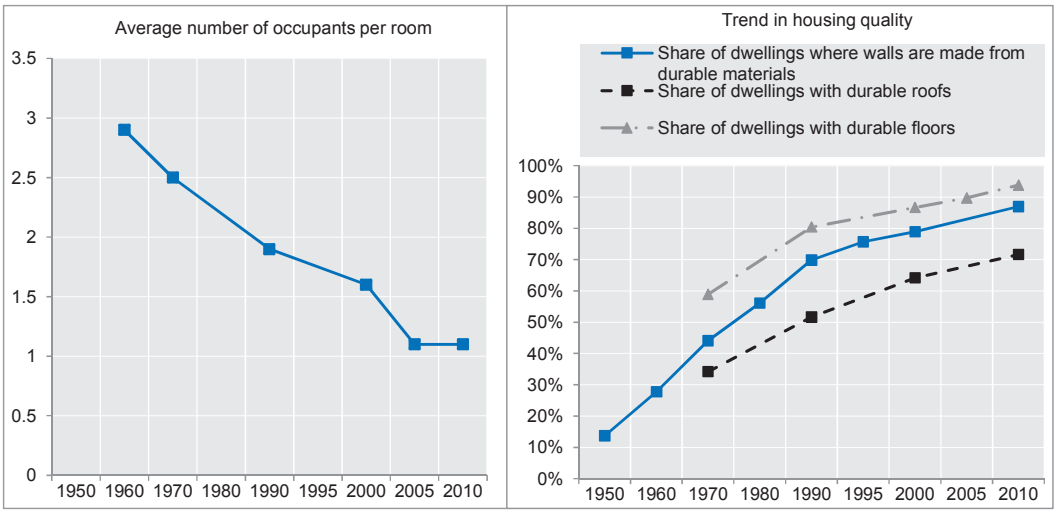


Note: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Source: Based on data from CONAVI (2014), *Historicos de Vivienda* (database), www.conavi.gob.mx/php/mapa_interactivo/busqueda_avanzada/historicos_viviendas/mapa_interactivo.php (accessed May 2014).

The picture is similar with respect to the share of dwellings with access to piped water inside the dwelling. The numbers range from 96% in Chihuahua, Colima-Villa de Alvarez and Aguascalientes to 33% in Acayucan (Figure 1.18, right panel). These lower quality dwellings in Acayucan may be explained by the larger share of dwellings in informal settlements in this metro zone relative to other metro zones – and particularly informal settlements that have not benefited from upgrading or regularisation efforts. Mexicali, by contrast, also has a large share of dwellings built without a durable roof, but with access to piped water inside the dwelling. This may indicate that once-informal settlements have over time been upgraded and urban services have been provided.

Figure 1.17. **Marked improvements in housing quality, 1950-2010**



Note: Durable materials are defined as the following: walls – brick, block, stone, quarry, cement or concrete; roof – concrete slab with slab or joists, brick and roof with beams; floors – soil, concrete, wood, tile and other coating. Category "not specified" is not included.

Source: INEGI (2011b), *Características de las Viviendas – Promedio de Ocupantes por Vivienda, 1950 a 2010*, INEGI; INEGI (2011c), *Características de las Viviendas – Porcentaje de Viviendas Particulares Habitadas con Materiales Durables en Paredes, 1950 a 2010*, INEGI; INEGI (2011d), *Características de las Viviendas – Porcentaje de Viviendas Particulares Habitadas con Materiales Durables en Techos, 1970 a 2010*, INEGI; INEGI (2011e), *Características de las Viviendas – Porcentaje de Viviendas Particulares Habitadas con Recubrimiento en los Pisos, 1970 a 2010*, INEGI; accessed 1. April 2014.

Despite considerable progress, Mexican cities still underperform

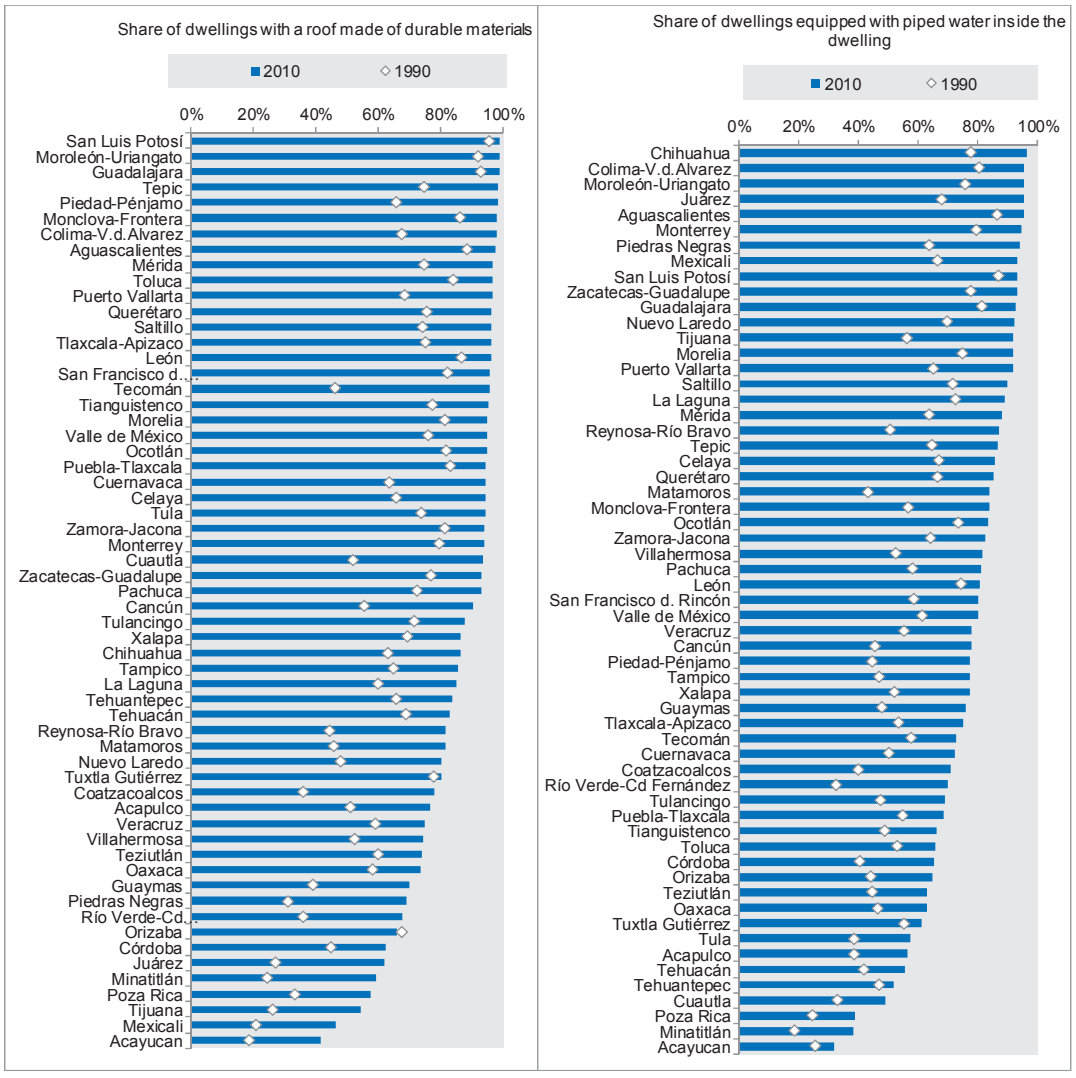
Despite the importance of urban areas to the country's overall economic performance, there are signs that the economic transition resulting from the country's rapid urbanisation and industrialisation has not translated into expected productivity gains. In other words, Mexican cities may not be sufficiently generating the kind of productivity gains that often accompany agglomeration processes (Box 1.4). Mexico's urbanisation was accompanied by an increase in GDP per capita. Between 1960 and 2013, Mexico's average annual increase in GDP per capita was about 1.8%, from USD 3 299 to USD 8 519 (in 2005 prices) (World Bank, 2014). Even though Mexico urbanised more rapidly than most OECD countries, its annual average economic growth remained below the OECD average of 2.2% during this period, from USD 9 719 to USD 30 928 per capita.

Stalled labour productivity, particularly in metropolitan areas

At national level, Mexico's labour productivity, already the lowest among OECD countries, has stagnated over the past decades (Figure 1.19). Mexico's labour productivity in 1970 was comparable to countries in southern Europe (e.g. Greece, Portugal or Spain), Asia (Japan, Singapore) and Latin America (Chile) (Conference Board Total Economy Database, 2014). Yet over the last 40 years, Mexico has hardly increased its labour productivity while the other countries have managed to double or triple the labour productivity of their workforces (see e.g. Arias et al., 2010). More recently, in 1991, Mexico's labour productivity levels were comparable to those of Korea and Turkey;

in 2000, Mexico rivalled Chile, Estonia, Hungary and Poland. While these countries have improved since, Mexico's labour productivity has stagnated and remained well below the OECD average of USD 39.7 in 2012.

Figure 1.18. **Housing quality across metropolitan zones, 1990 and 2010**



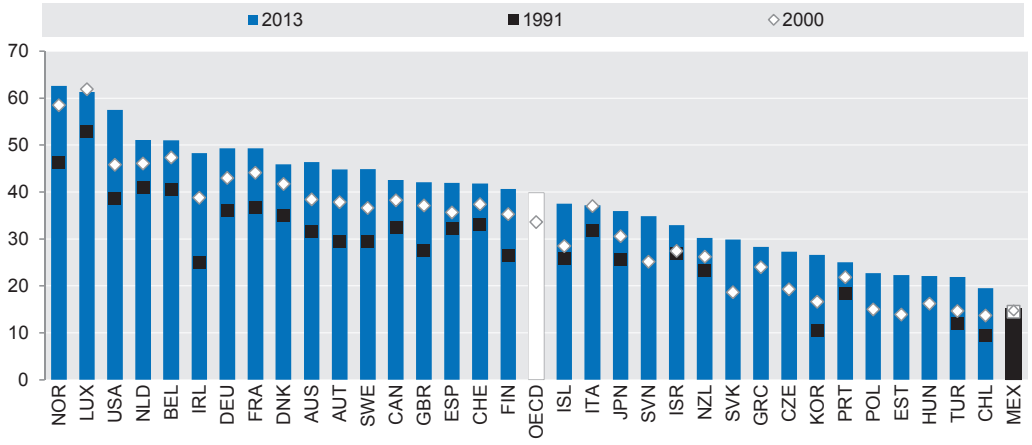
Notes: A roof is defined to be made out of durable materials if it is made of masonry, concrete, cement, tile or asbestos; a non-durable roof is made of sheet metal, wood, thatch, discarded or scrap material or cardboard.

Source: Mexican Census data for the years 1990 and 2010 from INEGI provided via Minnesota Population Center (2013), accessed April 2014; own calculations.

Mexico's economic growth in recent years has been driven by an increase in the size of the labour force. Figure 1.20 decomposes the labour productivity into two components: change in working hours and change in employment. Generally, if GDP increases while the size of the labour force remains constant, a decline in the average hours worked per employee indicates an increase in labour productivity. However, in Mexico's case, despite the growth in GDP, labour productivity remained fairly stable. Simply put, the growth in GDP is the result of more people working, rather than people working more productively.

Figure 1.19. **GDP per hour worked, 1991, 2000 and 2013**

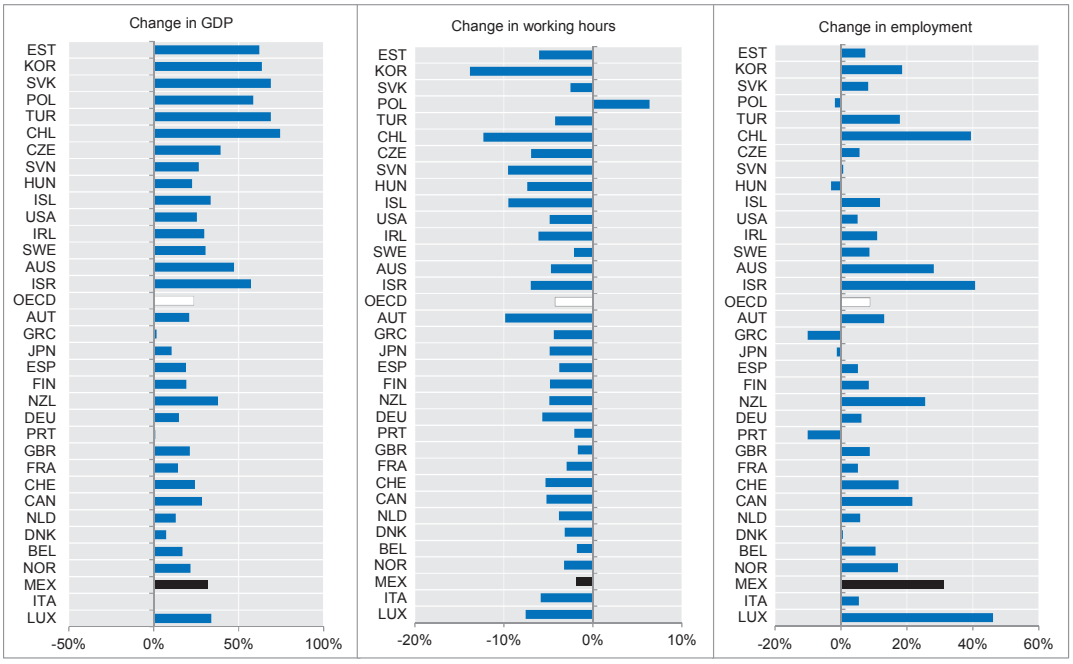
USD, constant prices, 2005 PPP



Notes: No data were available for 1991 for Austria, the Czech Republic, Estonia, Hungary, Poland and the Slovak Republic. Labour productivity is measured as GDP per hour worked. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2014c), "GDP per capita and productivity levels", *OECD Productivity Statistics* (database) (extracted on June 2014).

Figure 1.20. **Decomposition of changes in labour productivity across OECD countries, 2000-13**

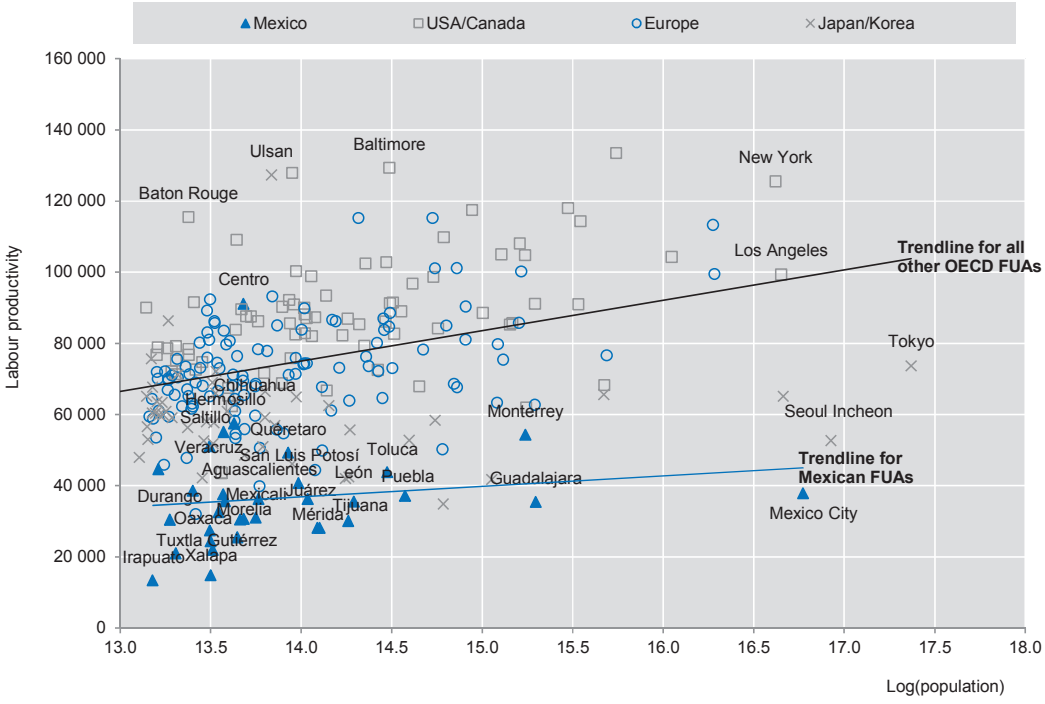


Note: Percentage change. Working hours are calculated as the average working hours per employed person. Labour productivity is measured as GDP per hour worked. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2014c), "GDP per capita and productivity levels", *OECD Productivity Statistics* (database) (extracted on June 2014).

Despite the potential for agglomeration benefits given the country's highly urban character, Mexican FUAs also fare poorly in terms of labour productivity relative to other OECD FUAs. Urban agglomerations tend to generate several benefits that should improve competitiveness, such as a larger and more skilled, specialised workforce; lower transport costs; and networking effects (see Rosenthal and Strange, 2004; Duranton and Puga, 2004; or Puga, 2010 for a literature overview). In the case of Mexico, however, agglomeration benefits appear to be weaker than in other OECD countries. While the productivity in OECD FUAs outside Mexico increases with population size (black trend line in Figure 1.21), much smaller productivity gains are generated in Mexican FUAs as city size increases (blue trend line in Figure 1.21). Moreover, among Mexican FUAs, there is a clear north-south divide. FUAs located in the northern part of Mexico exhibit higher productivity levels than FUAs in the southern part, which do not appear to have reaped productivity gains (Box 1.4). One positive exception is the FUA Centro, which is an important business centre for the Mexican oil industry.

Figure 1.21. **Labour productivity in OECD metropolitan areas, 2010**



Source: Ahrend, R. et al. (2014a), "What makes cities more productive? Evidence on the role of urban governance from five OECD countries", *OECD Regional Development Working Papers*, No. 2014/05, OECD Publishing, Paris, http://dx/doi.org/10.1787/5jz432cf2d8p-en, excluding Chile.

Between 2005 and 2010, labour productivity increased in only three Mexican FUAs – Centro (19%), Culiacán (7%) and Querétaro (0.7%) – while the remaining 30 FUAs experienced an average decline of 7.7% in labour productivity. This predominantly negative development is in part driven by the impact of the global economic crisis, which resulted in negative growth of Mexico's GDP in 2009. While the decrease in GDP was prevalent in all of Mexico, the intensity of the impact was different across FUAs. It is likely that Centro, Culiacán and Querétaro benefited from hosting headquarters of companies and major corporations of national importance. Querétaro has further

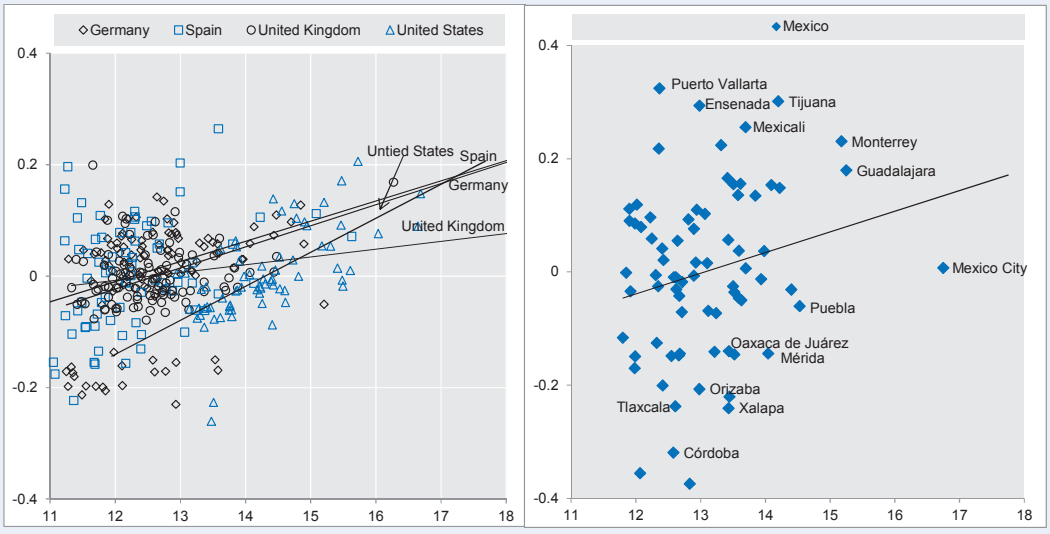
benefited from huge investment for the aerospace industry. On average, Mexico's 33 largest FUAs experienced a decrease in their labour productivity by 6.1%, compared to a national decrease by 3.7%, in the period 2005-10. Except for Centro and Culiacán, the positive change in employment did not translate into expected growth of GDP per capita (Figure 1.22).

Box 1.4. **Are Mexican cities failing to capture potential agglomeration benefits?**

Across the OECD, as countries continue to urbanise, urban agglomerations have become an increasingly important driver of labour productivity. In 2011, about half of the OECD population lived in metropolitan areas with more than 500 000 inhabitants, generating about 50% of total economic growth and job creation. Economies of scale and networking benefits attract firms as well as skilled labour, making cities even more productive than rural areas. Empirical evidence suggests that individual productivity is positively influenced by the size of the city. However, administrative fragmentation may hinder productivity in the form of inefficiencies.

A recent study by Ahrend et al. (2014a) analyses the agglomeration benefits of cities relative to city size in five OECD countries: Germany, Mexico, Spain, the United Kingdom and the United States. In each of these five countries, productivity increases with the size of the functional urban area. The estimated elasticity of population on productivity premium ranges between 0.016 for the United Kingdom and 0.063 for the United States. Mexico has the second highest elasticity with 0.042, thus a Mexican city with double the population of another comparable Mexican city is, on average, about 4.2% more productive.

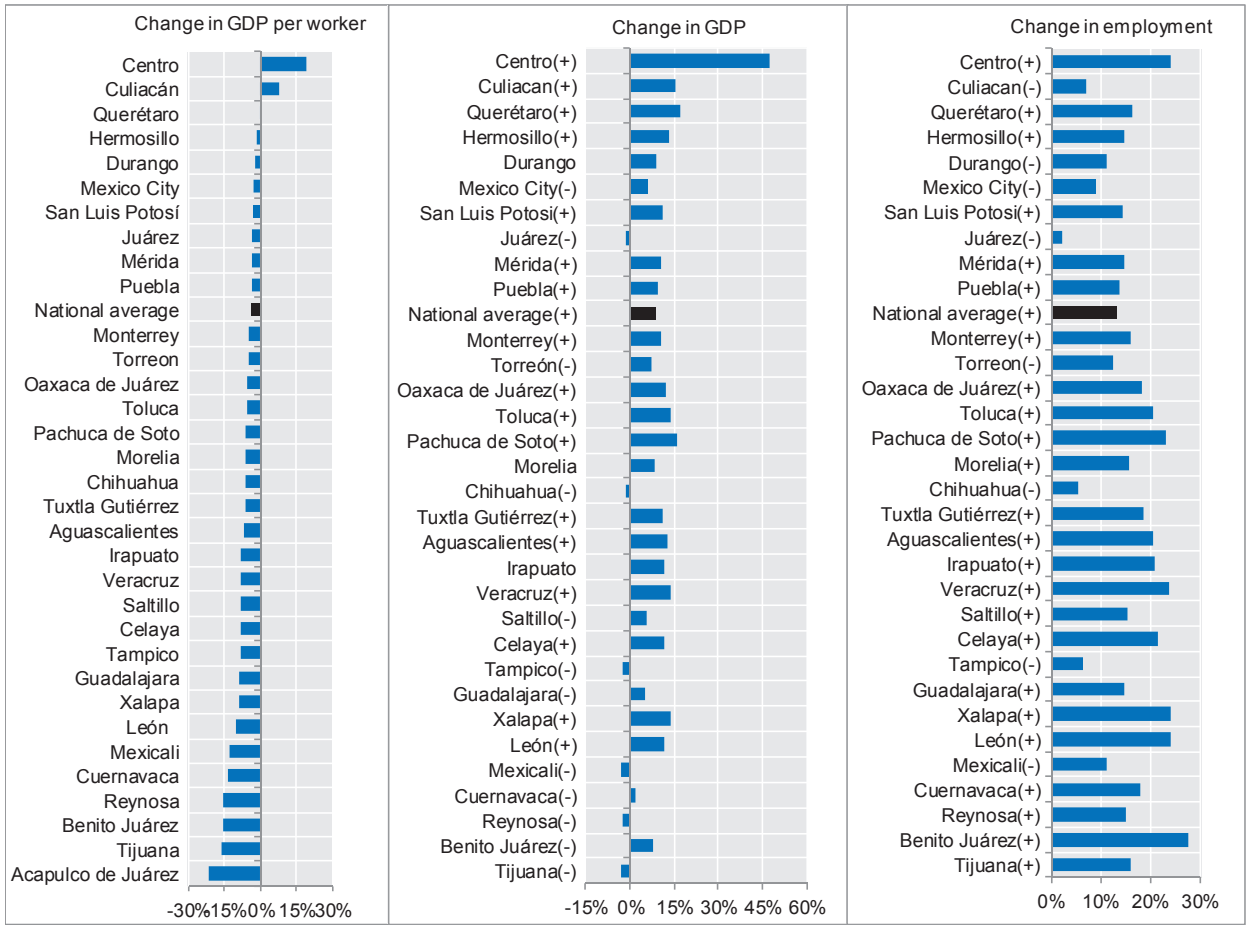
Population size and productivity by metropolitan area



Notes: City productivity is defined as a wage premium associated with each city once the characteristics of the city workforce are taken into account. Individual wage regressions are estimated with controls for the individual characteristics of the workforce, in order to account for sorting of individuals to cities. The city is defined at the functional urban area level, so that it allows comparison of meaningful spatial entities based on functional economic criteria rather than on administrative boundaries.

Source: Ahrend, R. et al. (2014a), "What makes cities more productive? Evidence on the role of urban governance from five OECD countries", *OECD Regional Development Working Papers*, No. 2014/05, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jz432cf2d8p-en.

Figure 1.22. **Changes in GDP per worker and its decomposition in Mexican functional urban areas, 2005-10**



Notes: A (+) besides the name indicates an increase in the national share of the respective variable, a (–) indicates a decrease in the national share of the respective variable. ( ) indicates that no change with respect to the national share occurred. Labour productivity is measured as GDP per working population.

Source: OECD (2013i), "Metropolitan areas", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00531-en (accessed in July 2014).

Nevertheless, even if Querétaro and Culiacán may have recovered more quickly from the crisis, they still register labour productivity levels below the average of OECD metropolitan areas (USD 70 000 per employee) and well below the top performers with a similar population size: New Orleans, United States (USD 127 901 per employee), Ulsan, Korea (USD 127 326 per employee) and Baton Rouge, United States (USD 115 510 per employee) (OECD, 2014b).

Absence of productivity gains, despite a shift toward more typically growth-inducing sectors

Moreover, higher productivity has not occurred in Mexican cities, despite a shift in the composition of employment sectors toward more typically growth-inducing sectors. The country's rapid urbanisation over the last 50 years has been accompanied by a change in the composition of employment sectors, shifting from agriculture and manufacturing towards commerce and services (Table 1.4). By the end of 2013, about

75% of the labour force in cities with at least 15 000 inhabitants worked in the commerce and service sector (INEGI, 2014b). Typically, this transition towards sectors requiring increased human capital or the adaption of capital- or technology-intensive production processes should translate into higher productivity levels (see, e.g. Henderson and Wang, 2005 for an overview). In Mexico, however, the shift did not translate into productivity gains and countries like Chile and Korea, which had comparable levels of labour productivity a couple of years ago, have since outpaced Mexico.

Table 1.4. **Change in sectorial composition, total employment and urban population, 1990 and 2011**

	1990	2011	Change in percentage points
Employment (% of total employment)			
Agriculture	22.6	13.4	-9.2
Industry	27.8	24.1	-3.7
Services	46.1	61.9	+15.8
Urban population (% of total population)			
Urban population	71.4	78.1	+6.7

Source: World Bank (2014), World Development Indicators, The World Bank, Washington, DC (accessed March 2014).

Brain drain?

There is also evidence to suggest that Mexico may be failing to retain its high-skilled population. Another potential reason why improvements in the population's educational attainment do not translate into higher labour productivity could relate to the emigration of high-skilled labour, the so-called "brain drain". According to Lowell and Findlay (2001), in 1990 Mexico was the world's third-largest exporter of college-educated migrants, with approximately 30% of its scientific and engineering graduates living abroad. The effect of emigration of high-skilled individuals does not have to be negative *per se*, as it can have positive feedbacks in form of remittances, creation of scientific and business networks or return migration with additional skills. Only if the social returns to education exceed the private returns, the overall effects on the sending country is negative (see, for instance, Miyagiwa, 1991; Wong and Yip, 1999). In a more recent study, Beine et al. (2008) analyse the impact of high-skilled emigration on the human capital composition of sending countries. A positive effect of high-skilled emigration occurs when migration prospects increase the expected returns to education and thus induce more people to invest in education in the home country. The study finds a positive effect of high-skilled emigration on the human capital composition of the source countries' labour market for several Latin American countries, such as Argentina, Brazil, Chile or Colombia. However, for Mexico, the negative effect of high-skilled emigration dominates, and the human capital composition in the Mexican labour force suffers from the losses of highly skilled workers.

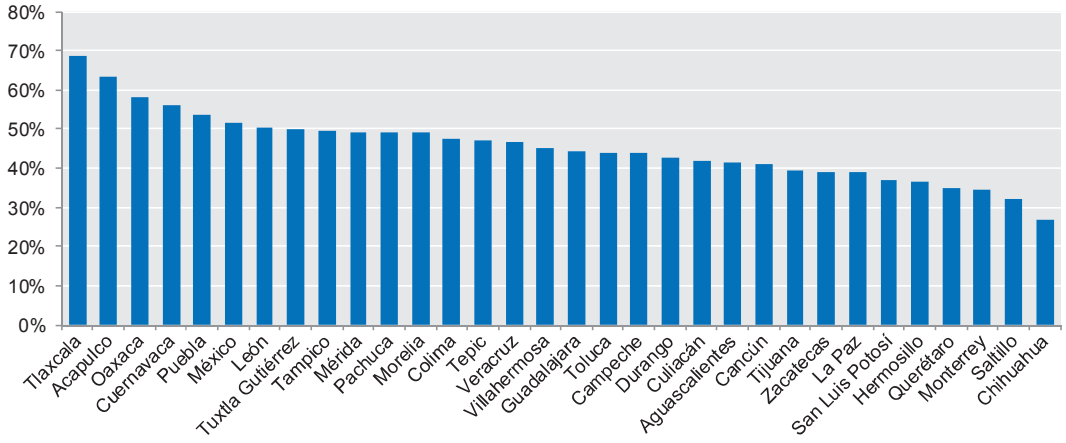
Informal labour: The implications for housing and social welfare

The share of informal labour varies considerably by region. While about 40-50% of labour is informal in the northern states of Mexico, it ranges between 70% and 80% in the southern states. This general trend can also be found when looking at informality rates across cities (Figure 1.23). Cities located in the north have considerably lower rates of informality (e.g. Chihuahua, with only 27% of informal workers, has less than half the

share of informal workers relative to Acapulco, with 67%). Moreover, the correlation between informal employment and the size of the construction and manufacturing sectors points towards a negative relationship. The manufacturing sector in the northern Mexico thus might explain lower informality rates to some degree. The size of the commerce and service sector is positively correlated with informal employment (Table 1.5).

Figure 1.23. **Wide variation in informal employment across large Mexican cities**

2nd trimester 2014



Notes: The informality rates refer to cities, as the *Encuesta Nacional de Ocupaciones y Empleo* (ENOE) dataset is only representative for the 32 biggest cities in Mexico, but not metropolitan zones.

Source: INEGI (2014b), *Encuesta Nacional de Ocupaciones y Empleo (ENOE)*, INEGI, various years, www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/enoe/default.aspx (accessed 3 March 2014) based on ENOE 2014; own calculations.

Table 1.5 **Correlation between size of sector and informal employment, 2005-13**

	Construction	Manufacturing	Commerce and services
National	-0.599	-0.609	0.420
Large urban areas: At least 100 000 inhabitants	-0.517	-0.483	0.568
Medium-sized urban areas: 15 000-99 999	-0.149	-0.520	0.327

Source: INEGI (2014b), *Encuesta Nacional de Ocupaciones y Empleo (ENOE)*, INEGI, various years, www.inegi.org.mx/est/contenidos/proyectos/encuestas/hogares/regulares/enoe/default.aspx (accessed 3 March 2014) based on ENOE, 2005-2013; own calculations.

A large share of informality is problematic for several reasons. Not only does it have implications for public service provision and labour productivity, it may also be responsible for an unequal distribution of social welfare and access to financial services (Box 1.5). First, informal firms as well as informally employed persons avoid paying taxes, resulting in forgone earnings for the government and, by extension, limited resources for social security and public services. In the absence of adequate tax revenues, the social security system has relied heavily on oil revenues and has thus been highly dependent on oil price developments. Second, firms that make up the informal sector also tend to be less productive, thus hindering economic growth: in 2008, formal firms were on average 84% more productive than informal ones (Busso et al., 2012).

What challenges for Mexican cities?

In addition to structural obstacles (e.g. informal labour, lagging education and innovation levels) Mexican cities also underperform relative to their international peers in part because they fail to provide an environment that connects inhabitants to economic opportunity and social and urban infrastructure, and that allows firms to reap agglomeration benefits. These are the conditions needed in order for urbanisation to translate into economic development. Urban agglomerations that are less dense and that move the population away from jobs and services are less attractive to both individuals and firms due to increased congestion and sprawl, productivity losses and lower well-being (Dobbs et al., 2012). In this case, a higher population density does not translate into a higher economic density, as agglomeration benefits are not captured to their full potential and individuals are spatially separated from economic activity. This section examines the spatial challenges facing Mexican cities, namely inefficient housing and development patterns, increasing motorisation rates, pressing environmental challenges and fragmented governance arrangements (OECD, 2009).

Box 1.5. **Do social policies ultimately reinforce spatial inequalities in Mexican cities?**

Heterogeneous informality rates across Mexican cities may affect the success of social policies, as informal workers are not covered by social protection and welfare plans. Policies aiming to improve the conditions of the most disadvantaged groups thus usually exclude the informally employed, who are more likely to be at the lower end of the income distribution and, in the absence of a social protection net, are more vulnerable to income shocks (Levy, 2008). Depending on the share of informal employment in a given city, between 30% (Chihuahua) and 68% (Tlaxcala) of the population could be excluded from social protection. As the formally employed who benefit from social protection and social policies tend to have higher incomes on average, the level of inequality between the lowest income (informal) and lower-middle income (formal) might increase due to social benefits for the latter group.

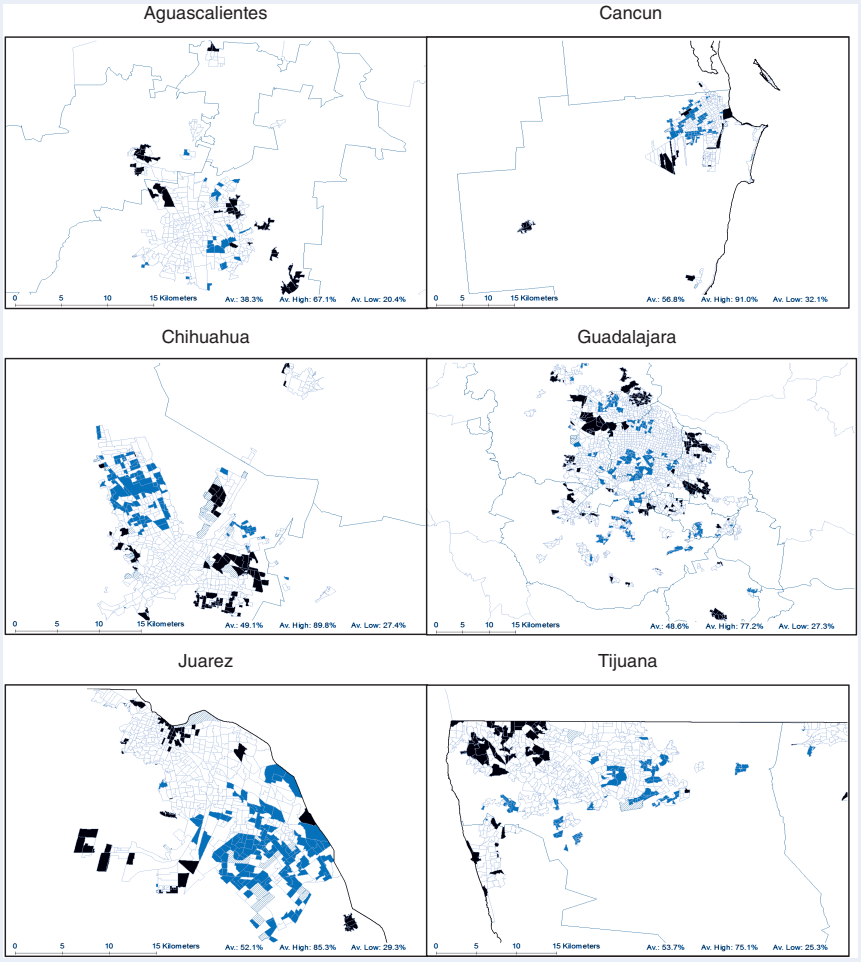
Social policies may ultimately increase inequality not only between but within metropolitan zones, if informal workers are clustered in certain areas of a zone. The following figure shows the spatial clustering of the population without healthcare provided via the Institute for Social Security (IMSS) or the State's Employees' Social Security and Social Services Institute (ISSSTE), which is available to all formally employed in the private or public sectors, respectively; areas shaded in black indicate neighbourhoods in which the share of informal workers is significantly higher than the average. All metropolitan zones are home to areas in which the likelihood of informally employed residents is significantly higher than in other parts of the metropolitan zone. Thus, social policies might not affect certain areas within a metropolitan zone and thus increase inequality and spatial segregation.

The Mexican government thus faces the challenge of providing the informally employed with some form of social protection, without reducing the incentives for individuals to work in formal employment. In 2002, the federal government introduced *Seguro Popular*, targeting individuals (and their families) who were not covered with a basic health insurance package. Since the formally employed have these benefits, *Seguro Popular* was mainly aimed at those employed informally. While theoretically contributions to this form of healthcare are adjusted to an individual's ability to pay, this is hardly ever implemented in reality (Arias et al., 2010). This raised the concern that incentives towards a decrease in labour supply or a shift from formal to informal employment were created (Levy, 2008). Earlier studies found that formal employment rates were not significantly affected by the introduction of *Seguro Popular* (Barros; 2009, Knox, 2008), thus the formally employed did not leave the formal sector to move to the informal one, despite possible monetary gains induced by this programme. More recent literature extends this scope of research and analyses the effect of *Seguro Popular* on the incentives of the informally employed (see, for example, Aterido and Hallward-Driemeier, 2011; Bosch and Campos-Vázquez, 2010). They find a significant effect on the disincentive to move from informal to formal employment. Thus, while *Seguro Popular* is a positive policy with respect to providing social protection for the informally employed, it may also be a counter-productive policy in terms of moving informally employed into the formal sector.

Box 1.5. **Do social policies ultimately reinforce spatial inequalities in Mexican cities?** (*cont.*)

Spatial clustering of population without healthcare (IMSS, ISSSTE)

AGEB, 2010



Notes: Black shading represents areas in which the share of the population without access to formal healthcare via the IMSS or the ISSSTE is significantly higher than the average within the respective metro zone; blue shading represents areas in which the share of the population without access to the IMSS or the ISSSTE is significantly lower than the average within the respective metropolitan zone. This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Source: Based on INEGI (2012b), Population and Housing Census 2010, INEGI.

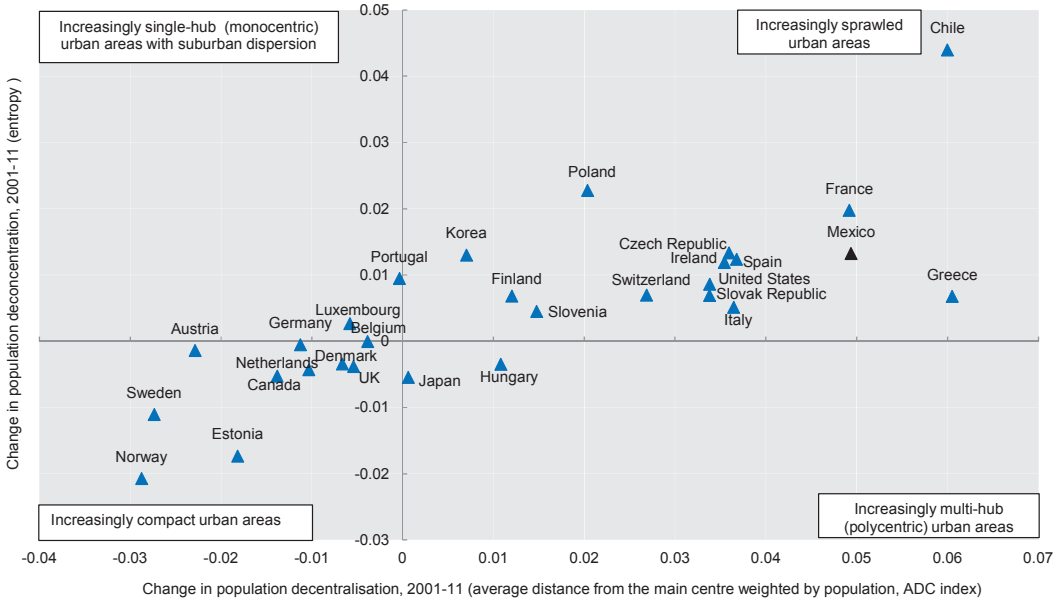
Sources: Levy, S. (2008), "Good intentions, bad outcomes: Social policy, informality, and economic growth in Mexico", Brookings Institution Press; Arias, J. et al. (2010), "Policies to promote growth and economic efficiency in Mexico", *NBER Working Papers*, No. 16 554, National Bureau of Economic Research, available at: www.nber.org/papers/w16554; Barros, R. (2009), "Wealthier but not much healthier: Effects of a major health insurance program for the poor in Mexico", Stanford University, Palo Alto; Knox, M. (2008), "Health insurance for all: An evaluation of Mexico's Seguro Popular program", unpublished manuscript, Department of Economics, University of California Berkley; Bosch, M. and R.M. Campos-Vázquez (2010), "The trade-offs of social assistance programs in the labor market: The case of the "Seguro Popular" program in Mexico", *Serie documentos de trabajo del Centro de Estudios Económicos 2010-12*, El Colegio de México, Centro de Estudios Económicos; Aterido, R. and M. Hallward-Driemeier (2011), "Does expanding health insurance beyond formal-sector workers encourage informality? Measuring the impact of Mexico's Seguro Popular", *Discussion Paper Series*, No. 5 996, Forschungsinstitut zur Zukunft der Arbeit, Bonn, Germany.

Suboptimal, costly urban development patterns

Urban sprawl

Cities in many OECD countries are sprawling – that is, the growth in the built-up area has outpaced the population growth, occurring at ever greater distances from the centre city and in increasingly dispersed (rather than clustered) patterns. Figure 1.24 classifies urban development trends across OECD countries between 2001 and 2011 into four categories: *i)* increasingly single-hub (monocentric) urban areas with suburban dispersion; *ii)* increasingly multi-hub (polycentric) urban areas; *iii)* increasingly compact urban areas; and *iv*) increasingly sprawled urban areas. The latter two development patterns are the most dominant. In several European countries, including Austria, Belgium, Denmark, Germany, the Netherlands, Norway, Sweden and the United Kingdom, the trend since 2001 has been towards more compact cities: the distance to the city centre thus decreased as the concentration of population increased, indicating a denser built structure. Increasingly sprawled cities represent the second most common development pattern across the OECD; Mexico belongs to this category. In the case of Mexico, urban development occurred at increasing distances from the centre city (x-axis) and, albeit to a lesser extent, was increasingly deconcentrated (y-axis) – or in other words, urban development was increasingly dispersed, rather than clustered, within urban areas.

Figure 1.24. **Urban development patterns across OECD countries, 2001-11**



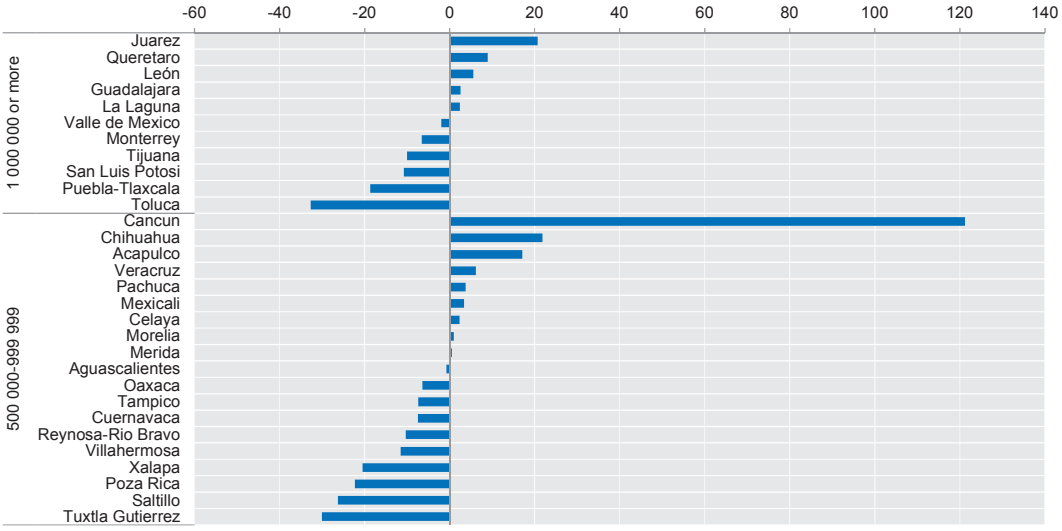
Notes: The vertical axis measures the average change in the degree of spatial de-concentration of population within functional urban areas. Spatial de-concentration is measured through an entropy index where higher values suggest a low degree of clustering (higher dispersion) of people in space. On the horizontal axis, the ADC index measures the extent to which population is located far from the main urban centre. Higher values indicate higher distances, on average, from the centre (higher decentralisation). Country values are obtained as averages of values for functional urban areas. See source for details.

Source: Veneri, P. (forthcoming), "Urban spatial structure in OECD cities. Is urban population decentralising or clustering?", *OECD Regional Development Working Papers*, OECD Publishing, Paris, forthcoming.

While urban sprawl is evident on a national scale for Mexico, different patterns emerge across the country's 30 largest metropolitan zones. In almost half of the metro zones, population growth outpaced the growth of the urban area – that is, overall density actually increased in these areas (Figure 1.25) Metropolitan zones that experienced relatively large urban expansion before 2000 (e.g. Valle de México) have experienced a period of densification since.

Figure 1.25. **Urban sprawl in the largest Mexican metropolitan zones, 2000-10**

Urban sprawl index across metropolitan zones with at least 500 000 inhabitants

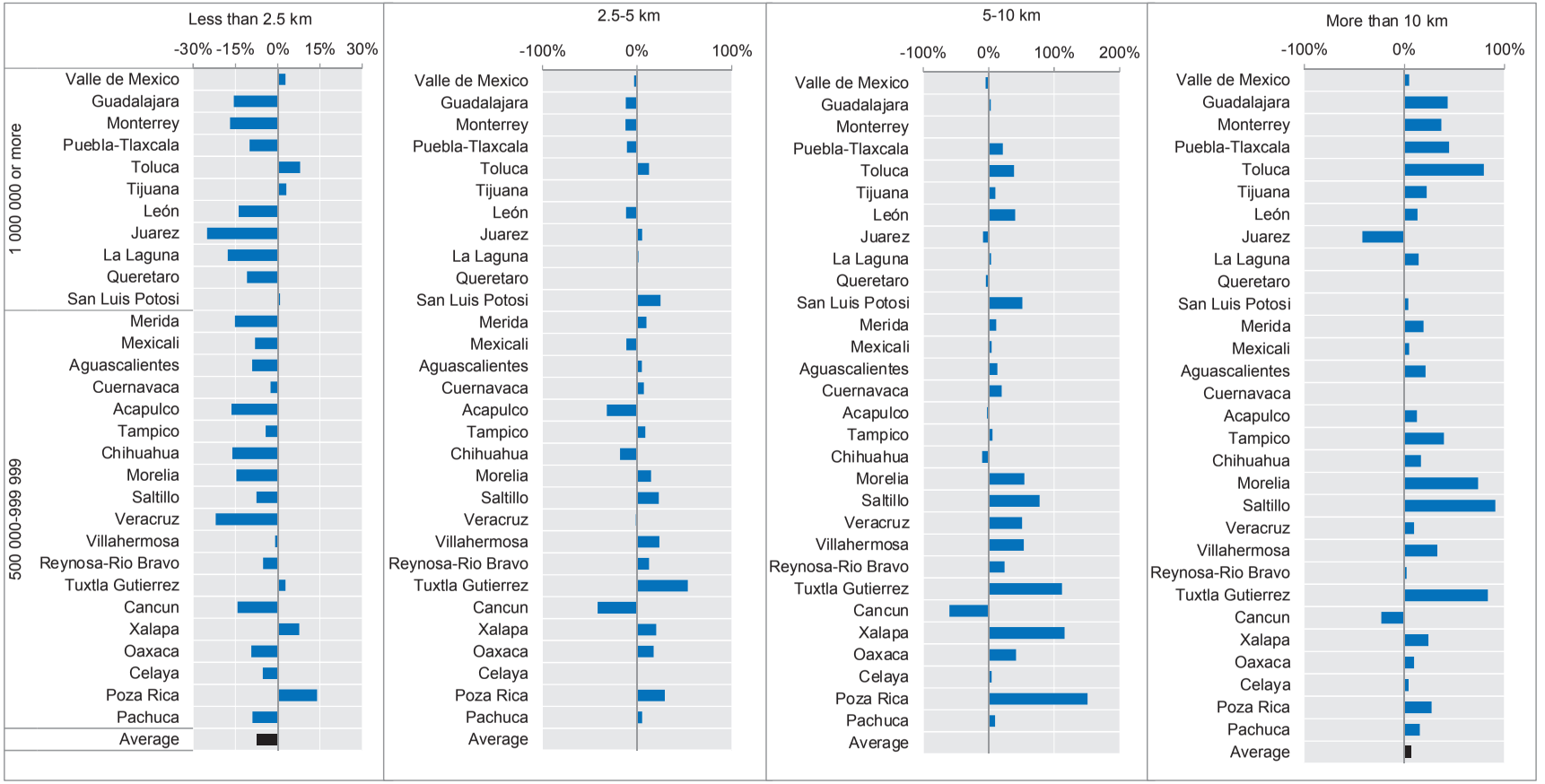


Note: A positive sprawl index indicates the occurrence of urban sprawl; a negative value indicates higher population growth than urban expansion and thus densification; and a value of zero indicates that population and the urban area grew at the same rate.

Source: Based on data from INEGI, Population Census 2000 and 2010.

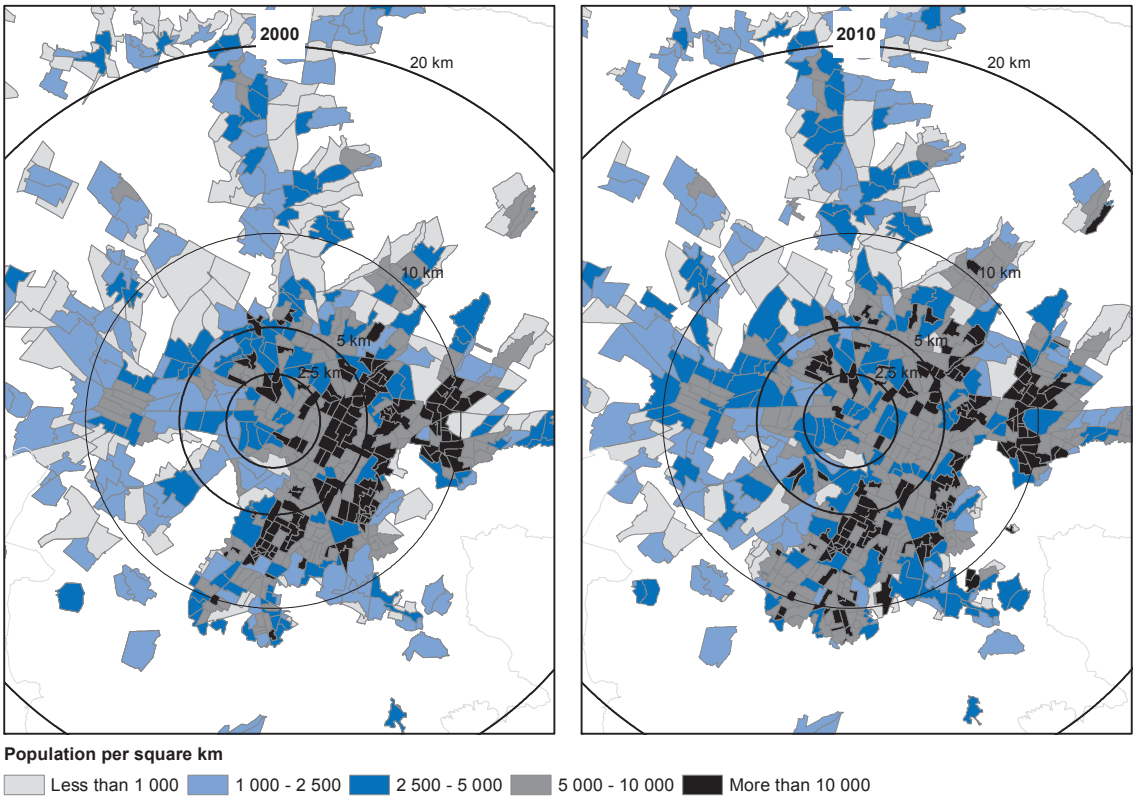
Yet the urban sprawl index only tells one side of the story. While the density of the overall metropolitan zone may have increased, the location and intensity of densification (or de-densification) within the metro zone varies. Figure 1.26 displays the change in urban population density within metropolitan zones between 2000 and 2010 based on distance to the city centre. In most cases, the central area located within 2.5 kilometres from the city centre experienced a fall in population density during this period; this drop, likely due to population loss and shrinking household size as one moves further from the city centre (INEGI, 2012b), was countered by an often much larger increase in population density in areas located more than 10 kilometres from the city centre. Areas located farther away from the centre are more likely to be home to new housing developments. Thus, higher population densities on the outskirts and lower population densities in the centre can also be explained by people moving from the centre into the outskirts. Figure 1.27 shows this development for the case of Puebla-Tlaxcala. While the overall urban sprawl index indicates a densification of this metropolitan zone, the population changes by distance to the centre reveal that this densification occurred in areas located more than 5 kilometres away from the centre, whereas population densities fell within 2.5 kilometres of the centre.

Figure 1.26. **Change in population density with respect to distance to the city centre**



Source: Based on data from INEGI, Population Census 2000 and 2010.

Figure 1.27. **Population density in Puebla-Tlaxcala, 2000 and 2010**



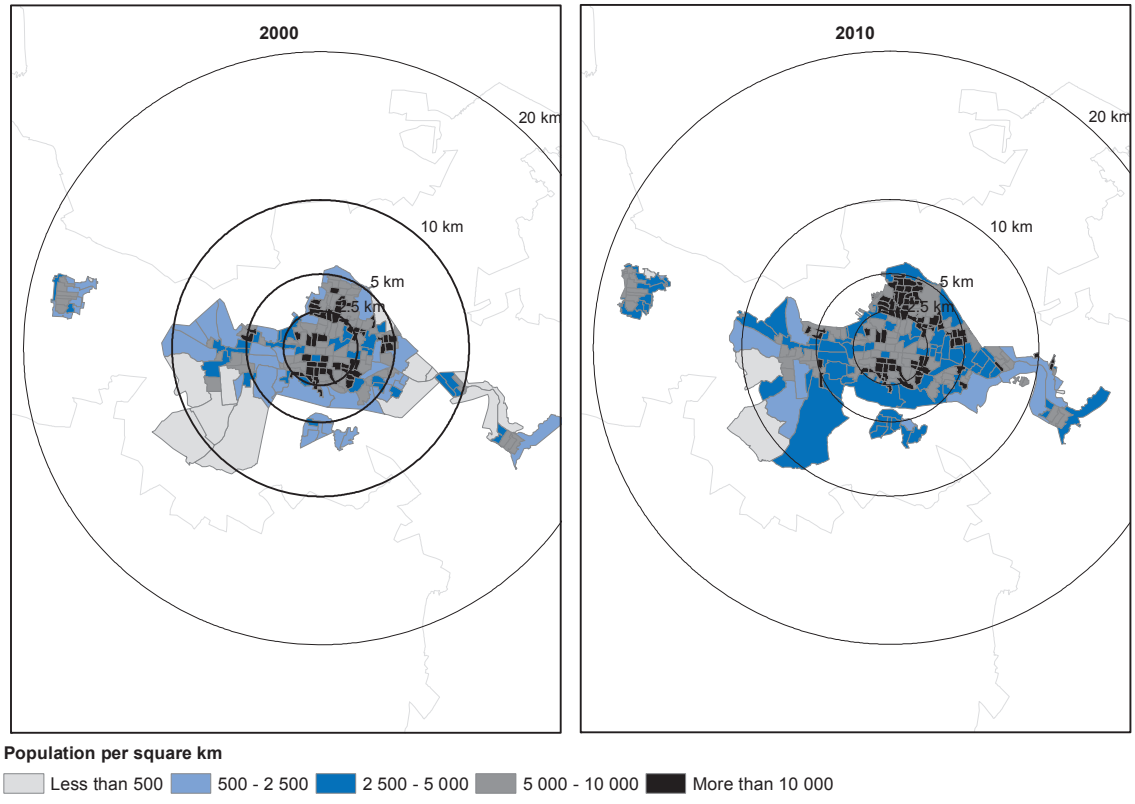
Source: Based on INEGI Population Census 2000 and 2010.

There are, however, a few exceptions, in which metropolitan zones experienced a densification regardless of the distance to the centre. Such is the case for Xalapa, Poza Rica, Toluca and Tuxtla Gutierrez. In Xalapa and Tuxtla-Gutierrez (Figure 1.28), for instance, the urban footprint remained fairly unchanged since 2000 and thus the process of densification appears to have been caused by an increase in population in that area. A comparatively low share of unemployment and a moderate share of informal employment may have further attracted individuals to this metropolitan zone. Xalapa and Tuxtla Gutierrez also have a relatively high share of university graduates (31% and 26% respectively). Other areas that are facing a less attractive environment (such as Juárez, which has higher unemployment rates and also higher rates of insecurity; Figure 1.41), experienced a loss in population density, regardless of the distance to the centre. In Juárez, for instance, the overall loss in population density is captured by a positive urban sprawl index.

Urban sprawl in Mexico was fostered by multiple causes, including the expansion of both informal and formal settlements, as well as the location and type of housing development. One could posit that, as access to subsidised housing loans is conditional on formal employment, sprawling metro zones with a large share of informal employment are more likely to sprawl due to informal settlements; by contrast, in areas with a low share of informal employment, urban sprawl is more likely to be related to the development of formal settlements for low-income groups (such as those financed by

INFONAVIT). Distinguishing between the different roots of sprawl is critical to determine the most appropriate policy responses, which will be discussed further in Chapters 2 and 3.

Figure 1.28. **Population density in Tuxtla Gutierrez, 2000 and 2010**



Source: Based on INEGI Population Census 2000 and 2010.

Both the location and type of housing have contributed to urban sprawl. In terms of formal housing development, many homes have been built on the periphery of Mexican cities, which combines both the ease and the profitability for developers to meet the housing needs of low-income households. According to data in the National Housing Registry (*Registro Único de Vivienda*, RUV),[5] most housing constructed after 2005 is located on the periphery or on the outskirts of metro zones (Figure 1.29). Only a small share of housing constructed since 2005 is located in the centre of the metropolitan zones. Although not all housing constructed after 2005 is captured in this registry, the findings still provide interesting insights as to the trend of the location of housing.

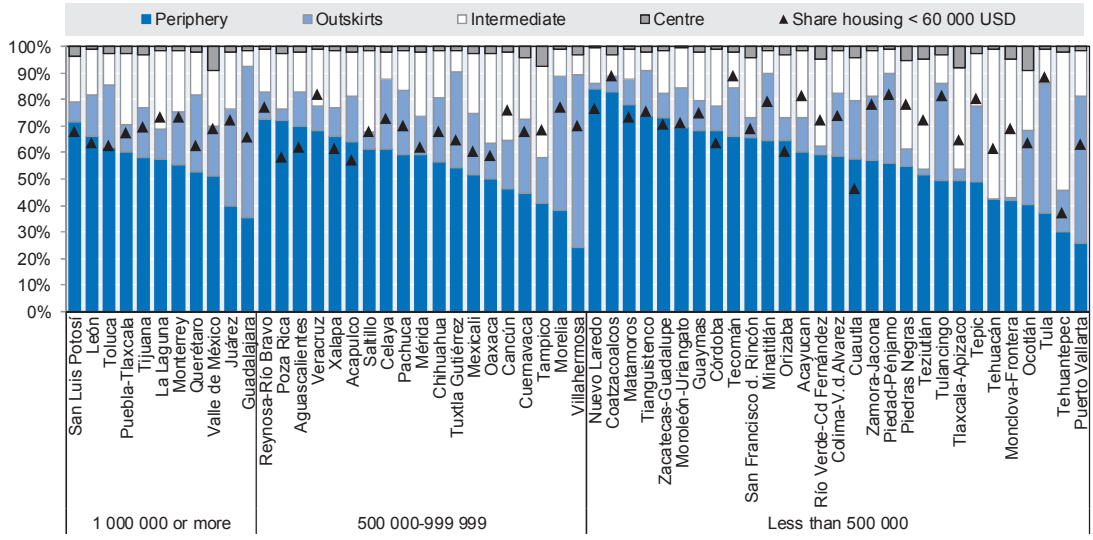
A housing supply dominated by individual houses and homeowners

Urban sprawl and the de-densification of urban areas are also fostered by the predominant type of housing in Mexico: the prevalence of individual homes. According to the 2010 Census, about 90% of Mexico's housing stock is comprised of individual homes (*casa independiente*) (INEGI, 2013). Although the share differs slightly according to the size of the urban area, even in the largest urban area with over 100 000 inhabitants, individual houses make up the vast majority of homes (84%). This share is substantially

higher than is found in many other OECD countries; for instance, detached/individual homes make up roughly 64% of the total housing stock in the United States (American Housing Survey, 2013), 62% in Canada (Statistics Canada, 2011), 62% in Germany (Statistisches Bundesamt, 2013) or 79% in Argentina (INDEC, 2010). However, the share of detached homes in Mexico differs slightly by the size of locality: in highly urbanised areas with more than 100 000 inhabitants, the share of detached homes is 84%, slightly lower than the national average but still significantly higher than the share in many other countries.

Figure 1.29. **Where have most formal homes been built since 2005?**

Location of housing completed or remodelled; aggregated years 2006-13 by size of metro zone

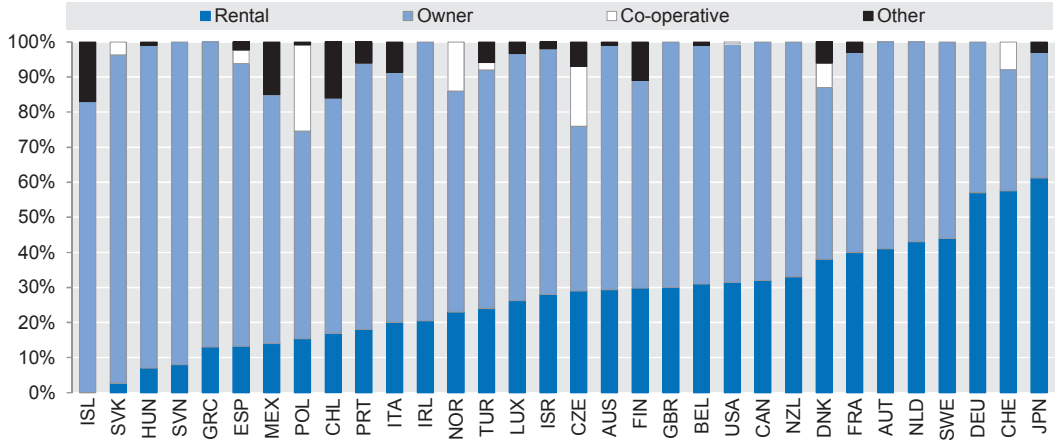


Source: SHF Housing Statistics (Data series: Total number of properties valued by year of completion of the work or remodelling), accessed April 2014.

Home ownership is by far the dominant form of tenure in Mexico, with 76.4% of housing owner-occupied (INEGI, 2010). As elsewhere in Latin America, Mexico's rental housing market generally remains shallow and underdeveloped relative to many OECD countries (see OECD 2013g; 2012c). According to Mexico's National Institute of Statistics and Geography (*Instituto Nacional de Estadística Geografía e Informática*, INEGI), approximately 16% of Mexicans were formal renters in 2012. In 2009, the most recent year for which comparative tenure data are available, Mexico's share of formal rental housing (14%) was just behind Poland (15.4%) and Chile (17%), surpassing only six OECD countries (Iceland, Slovak Republic, Hungary, Slovenia, Greece and Spain) (Figure 1.30). Nevertheless, Mexico's share of rental housing is underestimated in official statistics, as a large share of the rental stock is in the informal sector. Accordingly, the national share of rental housing was likely closer to 23% in 2012, by adding to the share of formal renters a portion of the 14% who reported living in "borrowed" housing (INFONAVIT, 2013). It is also important to point out that nearly all informal settlements – which house roughly a quarter of Mexican households – are considered owner-occupied (whether or not they have received official titles to their homes or land through the government's titling programmes). And, moreover, informal renting occurs widely throughout informal settlements and is widely underreported.

Figure 1.30. **Tenure structure across OECD countries**

Percentage of dwelling stock, 2009



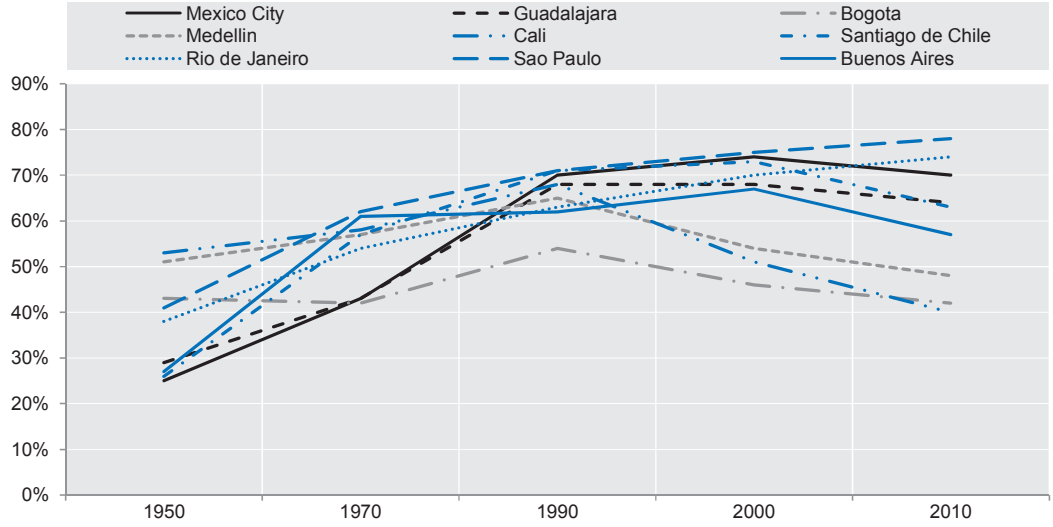
Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD Housing Market questionnaire, in: OECD (2012c), *OECD Economic Surveys: Chile 2012*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-chl-2012-en.

Despite its large share of the current housing stock, home ownership has not always been the housing tenure preference of Mexicans: home ownership rates in Mexico City, for instance, grew by 45% between 1950 and 1990. Mexico's general policy orientation towards home ownership is relatively consistent with trends throughout Latin America: the average rental tenure in Mexico was just above the Latin American and roughly comparable to the share of renter-occupied dwellings in Brazil, Chile, El Salvador, Guatemala and Uruguay in 2007 (Bouillon, 2012; Rojas and Medellín, 2011). Consistent with broader trends in Latin America, the share of rental housing in the overall urban housing stock dropped dramatically between the 1950s and 2000s (Figure 1.31). In Mexico City and Guadalajara, for instance, owner-occupied dwellings accounted for less than 30% of all housing in 1950, increasing to 43% in 1970 and to around 70% by 1990; after peaking in the 2000s (at 74% and 68%, respectively), homeownership rates fell slightly by 2010 (Blanco et al., 2014).

Moreover, rental housing in Mexico tends to be geographically concentrated in urban areas in the centre of the country. Nearly half (approximately 46%) of the rental housing stock is located in just five states: the Federal District, the state of Mexico, Jalisco, Veracruz and Puebla (Peppercorn and Taffin, 2013). The size of the metropolitan zone is not necessarily indicative of a large rental market: while some of Mexico's largest metropolitan zones record a high rate of rented dwellings, surpassing 30% in the Valle de México, Guadalajara and Tijuana, others have markedly lower rates (18% in Monterrey and 18% in La Laguna) (INEGI, 2010). In contrast, renter-occupied housing makes up around half of the total housing stock in some large OECD metropolitan areas. The national share of renter-occupied housing in the United States in 2011 was 35.4%, with rental rates in the most populous US metropolitan areas led by Los Angeles (50.8%) and New York (48.9%) (US Census Bureau, 2013). In France, renter-occupied housing represented just under half (49.3%) in the Paris-Ile-de-France region in 2010, edging out owner-occupied housing (47.6%) (INSEE, 2014).

Figure 1.31. **Evolution of home ownership in selected Latin American cities, 1950s-2010s**



Notes: Data for Rio de Janeiro, Sao Paulo and Buenos Aires correspond to centre city, not the metropolitan area.

Source: Adapted from Blanco, A.G. et al. (2014), *Rental Housing Wanted. Policy Options for Latin America and the Caribbean*, Inter-American Development Bank, available at: www10.iadb.org/intal/intalcdi/PE/2014/13900en.pdf. Data from Gilbert (2012); 2010s data for Colombia (Bogotà, Medellín, Cali) from MECOVI 2010 and for Chile (Santiago de Chile) from MECOVI 2011; 2010s data for Rio de Janeiro from IPUMS, 2013.

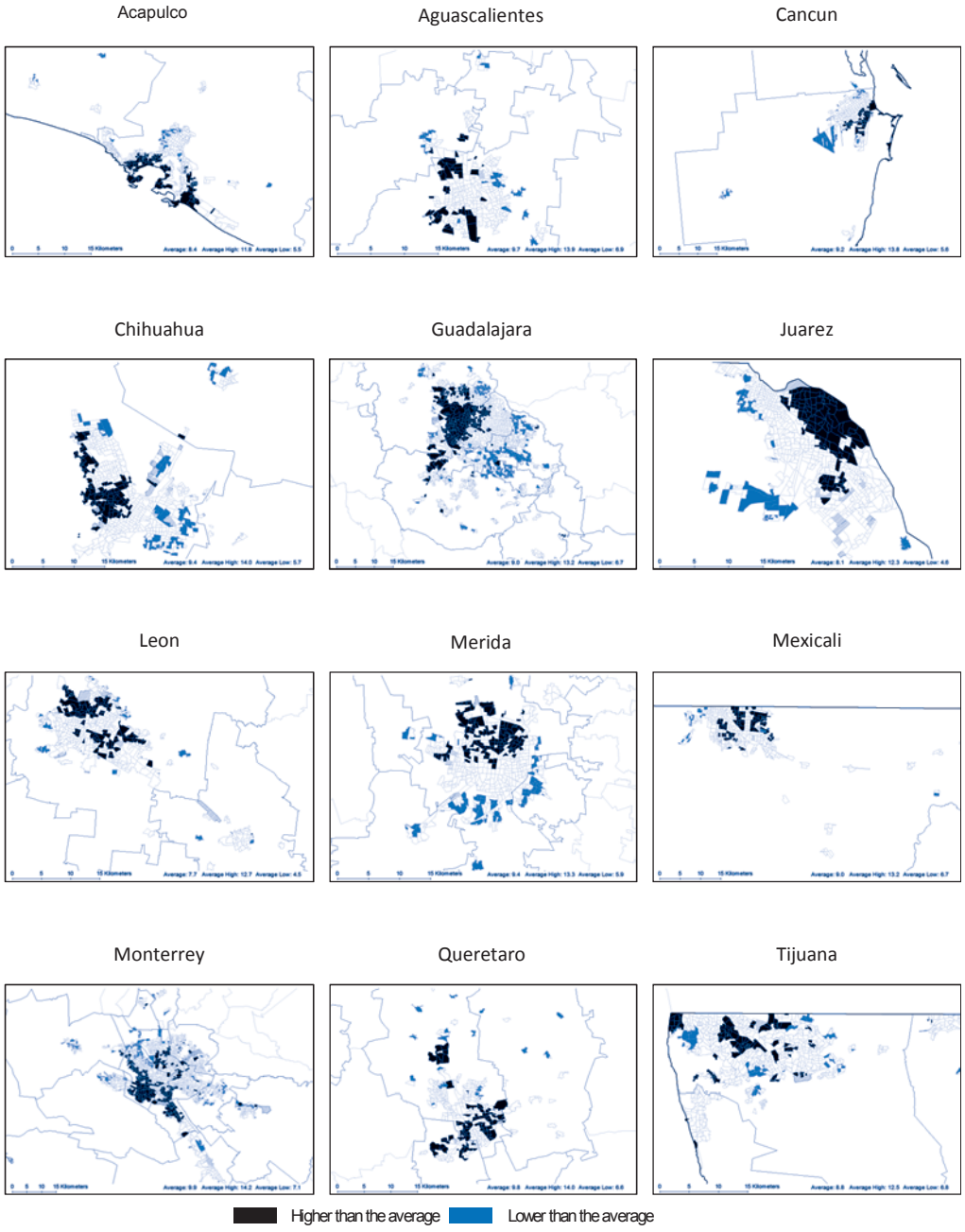
Spatial segregation, poor access to services

Low-income groups are more likely to be located on the outskirts and the periphery of a city, a trend that is fostered by housing subsidies and lower land prices outside the cities. Figure 1.32 displays the clustering of the average years of schooling within census (AGEB) tracts.[6] Black coloured fields indicate that the average years of schooling is significantly higher, blue fields indicate that average years of schooling are significantly lower than the average within the respective metropolitan zone. As more education is closely linked with higher income, these maps indicate whether spatial segregation might be a problem. In the metro zones mapped below, spatial clustering by educational level occurs to varying extents. Two different spatial patterns are visible: in several metropolitan zones, groups with lower educational attainment are clustered on the outskirts, away from the centre (e.g. Cancun, Juarez, Monterrey); in other metropolitan zones, there is a clear divide (e.g. north/south, east/west) through the metropolitan zone (e.g. Guadalajara and Merida). Moreover, in some metropolitan zones, spatial segregation can appear in the form of disadvantaged areas with poorer access to basic services, such as electricity, water and drainage.

Beyond access to basic services, the quality of services in a given area also matters. In Guadalajara and Monterrey, the average test scores per school that took part in ENLACE[7] in 2013 reveal spatial clustering of school/student performance. For one, areas that are characterised by low average educational attainment also exhibit poorer performance of schools. Second, schools on the outskirts tend to perform worse than the ones in the centre (Figure 1.33).

Figure 1.32. **Average years of schooling within selected metro zones, 2010**

By census tract (AGEB)



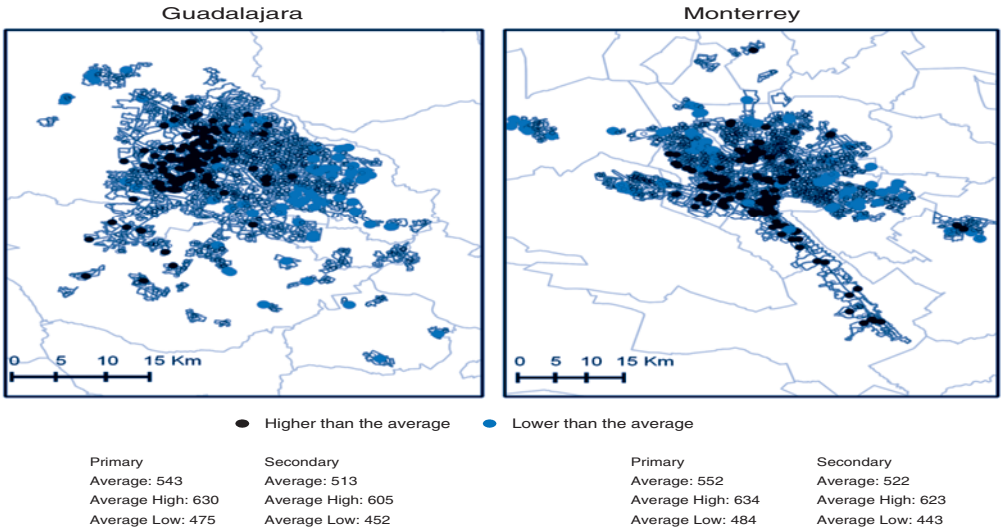
Source: Based on Population and Housing Census 2010, INEGI (2012), accessed March 2014.

Increasing motorisation and congestion, inadequate public transport

Increasing motorisation rates and their primary externalities (higher levels of congestion and pollution), coupled with the difficulties of providing efficient, quality public transport alternatives, constitute a critical policy challenge for urban areas globally. Mexican metropolitan zones are no exception.

Figure 1.33. **Clustering of school performance within Guadalajara and Monterrey**

ENLACE test scores, 2013



Note: Black dots reflect schools that scored higher than the average; blue dots reflect schools that scored lower than the average within the metropolitan zone.

Source: www.mejoratuescuela.org (accessed May 2014); own calculations.

Rising motorisation rates

Mexicans depend heavily on automobiles, and this dependence has only increased over time. Over the last decade, Mexico's car fleet has increased from 10.1 million in 2000 to 22.4 million cars in 2011 (INEGI, 2014c). Approximately 7.9 million vehicles in 2000 and 16.1 million in 2011 – more than 70% – were registered in metropolitan zones. Meanwhile, the motorisation rate doubled during this period, from 10 vehicles per 100 people in 2000 to 20 vehicles per 100 people in 2011. Figure 1.34 plots the number of automobiles per 1 000 inhabitants against population density across Mexican metro zones in 2010. For metropolitan zones with a population between 500 000 and 1 million inhabitants, there is a negative trend observable. In denser metropolitan zones, fewer cars are registered. This trend is, however, not obvious when looking at metropolitan zones that have more than 1 million inhabitants.

Increased motorisation rates may in part result from sprawling development patterns, which in the absence of adequate public transport render car travel a necessity in many areas. The trend is also reinforced by the rise of GDP per capita in Mexico: at the current level of income, IMF (2005) and Fouquet (2012) predict that Mexicans will demand more cars in the future. Mexico's fuel subsidies have kept the price of fuel among the lowest in the world: fuel prices in Mexico were around three times cheaper than in EU counties and more than 30% cheaper than in the United States in 2012. Moreover, the relative price of cars has decreased significantly, and it is relatively easy to obtain a loan to purchase a car. The trend is additionally fostered by directing public financial resources towards promoting car ownership rather than other means of transport.

Box 1.6. The Mexico City metropolitan zone: A divided city?

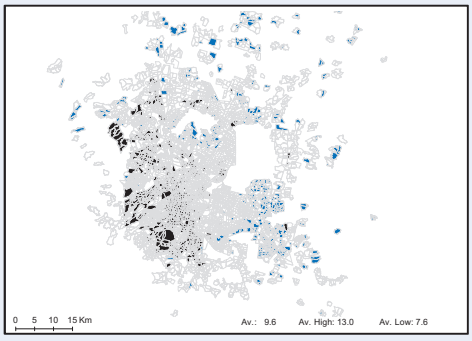
The Mexico City metropolitan zone (referred to as the Valle de México), with a population of more than 20 million and an area of 185 000 hectares, is by far the largest metropolitan zone in Mexico and the third largest metro area in the OECD, after Tokyo and Seoul-Incheon. In the case of the Valle de México, urban expansion, coupled with inadequate urban and land-use planning has led to a variety of problems, including disconnecting inhabitants from economic centres and increasing spatial segregation.

The following maps illustrate the clustering of certain characteristics within this metropolitan zone:

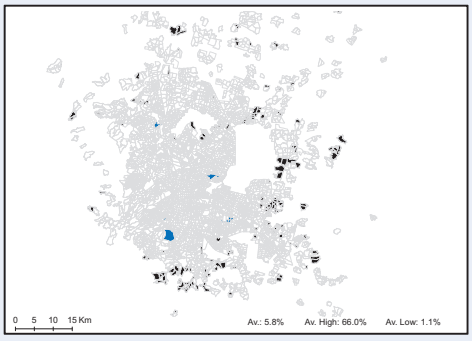
- Average years of schooling. The average years of schooling of inhabitants in the metro zone amounts to 9.85 years, yet there is wide variation among census tracts (AGEBs): the western area of the metro zone hosts a population with significantly higher educational attainment levels (13 years) relative to the eastern and northern areas of the metro zone (7 years).
- IMSS/ISSSTE health insurance coverage. To a considerable extent, the results with respect to average years of schooling are similar to the share of the population covered by a basic health insurance through their employer (IMSS or ISSSTE). This reflects that lower skilled individuals are more likely to be in informal employment (see, for instance, Levy, 2008).
- Access to basic services. Areas on the outskirts of the metropolitan zone have a higher probability of being disconnected from basic services, such as access to electricity, water and drainage.
- Share of vacant housing. In some areas, neighbourhoods characterised by poor access to services overlap with neighbourhoods with a large share of vacant housing. While not being the only source for vacant houses, ensuring basic services might help counteract the problem of housing vacancy.

Clustering of urban challenges in the Mexico City metro zone

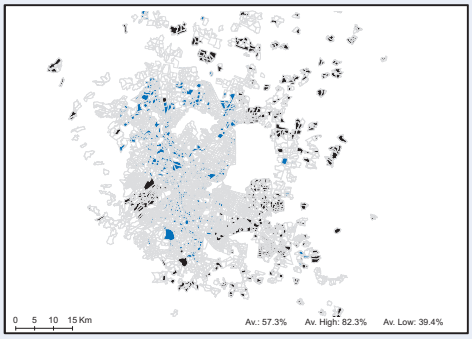
Average years of schooling



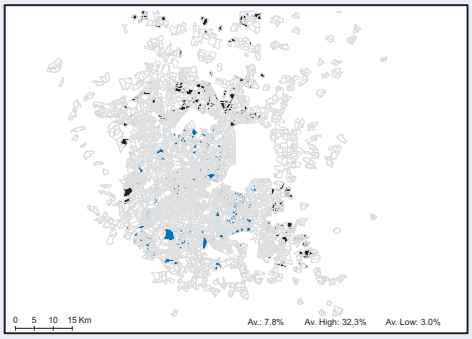
Share of dwellings with no services



Share of population without healthcare (IMSS/ISSSTE)



Share of vacant dwellings



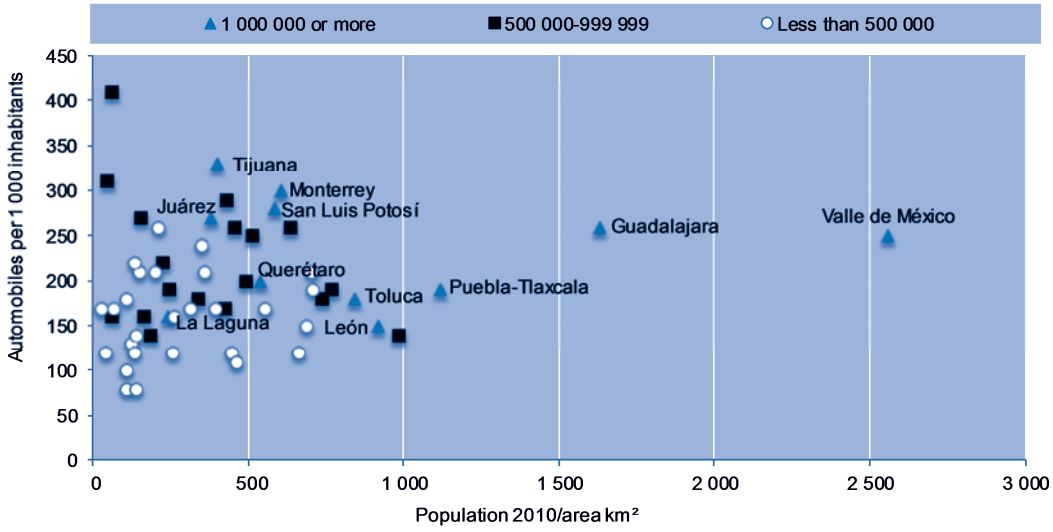
Higher than the average Lower than the average

Note: Housing for temporal use is not included in the number of vacant dwellings.

Source: Population and Housing Census 2010, INEGI (2012b), accessed March 2014.

Figure 1.34. **Car ownership rates and population density**

By metropolitan zone, 2010



Source: SEDOSOL (2012), *La Expansion de las Cuidades 1980-2010*. Population density based on CONAPO/INEGI/SEDESOL (2012), *Delimitaciones de las Zonas Metropolitanas de México 2010*, INEGI, Mexico City.

Congestion and other externalities of car ownership

Increasing motorisation rates generate negative externalities (e.g. pollution and congestion), which reduce the quality of life for all residents. According to the TomTom Americas Traffic Index (TomTom International, 2014), traffic congestion in Mexico City has improved since 2012, but still remains high. On average, in 2013, traffic congestion increased travel times by 54%, compared to 60% in 2012. The delay in travel time per driven hour in peak period amounts to 57 minutes. Thus, a person with a daily commute of 30 minutes accumulates about 107 hours of delay over the year.

The economic costs of congestion – which include related negative externalities associated with auto use, such as pollution, greenhouse gas emissions, auto accidents and noise – are significant across Mexican metro zones. The total estimated costs of negative externalities in the Valle de México, Monterrey, Guadalajara, Puebla-Tlaxcala and León, which represent about 42% of Mexico's urban population and 40% of the nation's private vehicle fleet, amounted to MXN 173 billion in 2009, equivalent to about 4% of GDP of these metropolitan zones (Table 1.6) (Medina, 2012a). The biggest metropolitan zone contributing to the estimated cost of all externalities is the Valle de México, where the total cost is estimated at MXN 122 billion, of which congestion alone accounts for about 67%. For all five metropolitan zones combined, the share of congestion within the total cost of externalities is approximately 61%, with the lowest share in León, where public transport has been successfully integrated (Medina, 2012b).

Public transport: A viable alternative to car use?

Public transport, an alternative to private auto use, is limited in most metropolitan zones. Public transport in the majority of metropolitan zones consists primarily of buses. Only Monterrey, Guadalajara and Mexico City have a metro or a light rail network. León, Puebla, Mexico City and a handful of other large metro zones have also implemented bus

rapid transit (BRT) networks. As buses are also affected by congestion, service can be unreliable and, according to IMCO (2011), they are often of very poor quality.

Table 1.6. **Estimation of the cost of externalities associated with car use**

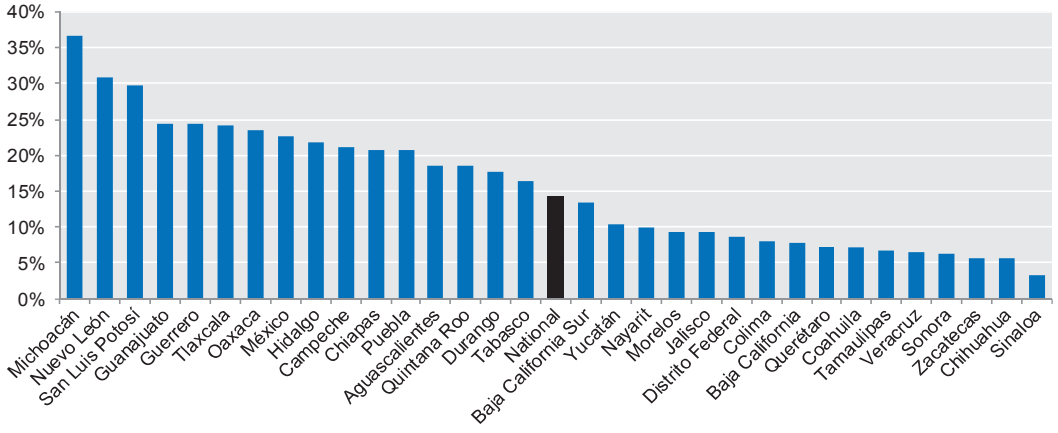
Selected metropolitan areas, 2009, MXN millions

Metropolitan zone	Local pollution	Greenhouse gas emissions	Auto accidents	Congestion	Noise	Total	% of GDP
Valle de México	14 396	6 718	10 332	82 163	8 320	121 930	4.6
Monterrey	2 282	1 065	5 843	11 485	1 319	21 994	2.8
Guadalajara	2 795	1 304	4 970	10 635	1 615	21 319	4.7
Puebla-Tlaxcala	996	465	1 317	1 894	575	5 247	1.8
León	506	236	1 250	321	293	2 606	1.6
Total	20 975	9 787	23 712	106 498	12 123	173 095	4.0

Source: From Medina (2012a and 2012b) based on ITDP, with data from INEGI and methodology adapted from Maibach, M. et al. (2007), *Handbook on Estimation of External Cost in the Transport Sector*, CE Delft, Delft.

Due to increasing distances between newer housing developments and city and job centres, especially for low-income groups, lower income households tend to pay for lower housing prices with higher transport costs. According to the Residential Satisfaction Survey (*Encuesta de Satisfaccion Residencial*) conducted by SHF (2014), new home owners spent on average 14% of their monthly income on transport in 2013. As the survey focuses on a sample of new home owners of entry level and/or low cost homes, states like Guanajuato, San Luis Potosí and Puebla, which host metropolitan zones in which these types of new housing developments are located predominantly on the outskirts and peripheral neighbourhoods (see Figure 1.29), transport costs are well above the average and amount to more than 20% of monthly income (Figure 1.35).

Figure 1.35. **Average share of transport expenditures of new home owners of entry-level or low-cost housing, as a share of monthly income, 2013**



Note: Numbers are based on respondents from the Residential Satisfaction Survey and therefore include mainly new home owners located on the outskirts/periphery of a city. About 80% of the homes in the sample were entry level or low cost, with the majority of loan holders being 30-44-years-old and with a monthly income less than MXN 10 000.

Source: SHF (2014), *Encuesta de Satisfaccion Residencial 2013* (Residential Satisfaction Survey), Sociedad Hipotecaria Federal, January.

In addition, car use in Mexico is indirectly subsidised through public policies in the form of gasoline subsidies, the lack of mandatory national third-party insurance policies and financial mortgage and automotive credit policies. Also, public funds are primarily directed toward infrastructure improvements that benefit private transport (e.g. roads), rather than public transport, thereby – from an individual perspective – rendering public transport comparatively more expensive than using a car (Medina, 2012a). In Puebla-Tlaxcala, for instance, between 2006 and 2009, the federally operated Metropolitan Fund (*Fondo Metropolitano*) supported a total of 30 projects, the majority of which were roads (78%) (OECD, 2013g).

Housing development divorced from transport planning and investment

Across Mexican urban areas, integrated land-use and infrastructure planning and financing has proven difficult, creating uncertainties and complications in the development process, working against long-range planning to accommodate new growth and making it difficult for government to regulate the creation of informal settlements and to improve those already in existence (Herbert et al., 2012). In part due to governance mismatches, housing development (typically financed at federal or state level by one set of agencies and/or administrations, and approved at municipal level) is disconnected from strategies for local transport and mobility (typically planned and financed at federal or state level by another set of agencies and/or administrations, often without the involvement of local government).

A recent survey found that the vast majority of urban municipalities do not consider the needs of mobility of the new inhabitants and the impact of new housing developments on the mobility of the municipality or the city as a whole (IMCO, 2011). Results revealed that only 6% of the 178 municipalities surveyed consider criteria such as the distance of new housing developments to employment centres and services, as well as the integration of housing development with the city in granting development permits. Further, only 17% of municipalities surveyed plan public transport routes and the integration of different transport modes serving new housing developments.

Development in risk zones

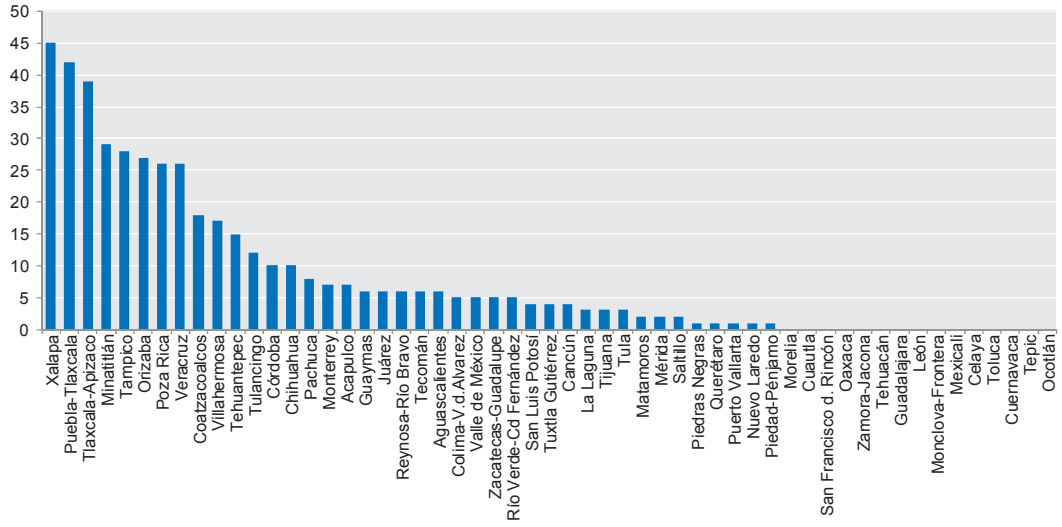
Mexico is one of the areas in the world with the most frequent occurrence of severe earthquakes and tropical storms. There has been a fourfold increase over the past 40 years in the average annual occurrence of disasters, more than double the OECD average increase (OECD, 2013h). About 25 million people in Mexico are located in areas that are prone to extreme droughts, heavy rainfalls, flooding rivers or hurricanes (IMCO, 2011), and approximately 200 cities with a population of more than 10 000 inhabitants are located in river basins with high flood risks (OECD, 2013e). Both informal and formal housing developments have occurred in the absence of adequate land-use planning, permitting or through corruption. As a result, some settlements are located in risk-prone areas, such as river banks, unstable hills and flood zones, with devastating social and economic costs when disaster strikes. In late 2013, for instance, Hurricane Manuel left over 10 000 households in severe crisis in Acapulco, where many developments had been approved in flood zones.

Figure 1.36 presents the number of times support was required from Mexico's Natural Disaster Relief Fund, FONDEN (*Fondo Nacional para el Desarrollo Nacional*), between 2008 and 2010. The metro zones located in the south-eastern region are most vulnerable to extreme weather conditions, reflected by the greater share of support required in these

areas. Moreover, given that informal employment rates often reach 50% in these areas (e.g. Xalapa, Veracruz, Tampico), a large share of the population is not only vulnerable to the natural risk, but also to the accompanying economic risk resulting from a natural disaster. For one, informal households have only limited access to financial sources, and thus insurance. This economic risk is reinforced by lower quality of housing for those individuals living in informal housing that does not comply with minimum quality standards.

Figure 1.36. **Vulnerability to natural risk across metro zones**

Number of times support was required from Mexico's Natural Disaster Relief Fund (FONDEN), 2008-10



Source: IMCO Urban Competitiveness Index 2012, http://porciudad.comparadondevives.org/archivos/gral/ind_cds_2012.xlsx (accessed March 2014).

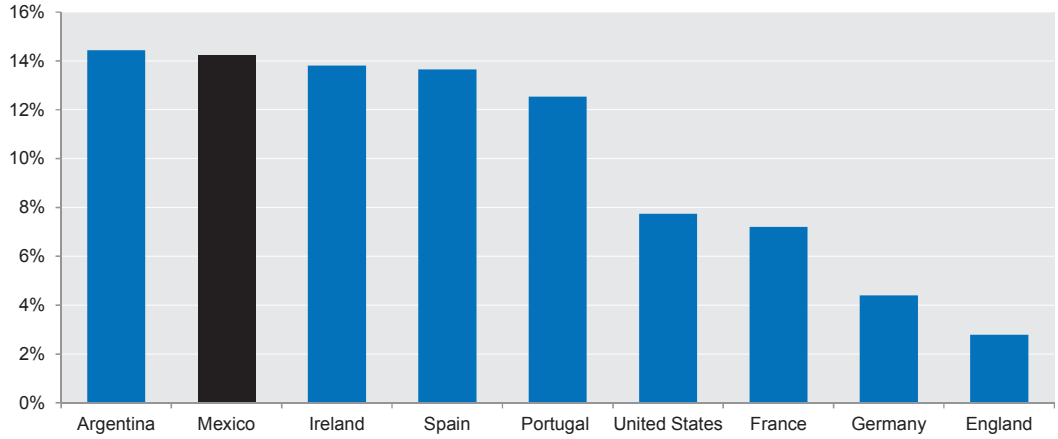
A large share of vacant housing

Despite the housing deficit in Mexico, approximately 14% of Mexico's housing stock is vacant (see Box 2.8 in Chapter 2 on the definition of vacant housing). Surpassed only by Argentina (14.4%) among countries surveyed, Mexico registers a national vacancy rate that is comparable to Ireland (13.8%), Spain (13.7%) and Portugal (12.5%) (Figure 1.37). Nevertheless, there are important differences among countries with respect to the location of vacant homes. Vacancy rates in Portugal and Spain, for example, are considerably lower in economically dense areas (e.g. in the Madrid metropolitan area, where the share of vacant housing – 9% – is below the national average). This pattern is even more striking in countries that are characterised by a large rental housing market, like France and Germany. In the latter, vacant housing is below 2% in the country's largest metropolitan areas; higher vacancy rates are to be found in rural and less economically dense areas. In Mexico, however, large metropolitan zones can have very high vacancy rates: vacancy rates are especially high in the northern, border areas that experienced a decrease in population density over the last decade (Figure 1.37). Thus, more than 20% of the housing stock in the metropolitan zones of Juárez (24%), Reynosa (24%), Nuevo Laredo (21%) or Mexicali (20%). But vacant housing is not only a phenomenon that occurs in the northern part of Mexico: between 16% and 20% of the housing stock is vacant in the metropolitan zones of Cancún, Morelia, Veracruz, Acapulco, Colima or Pachuca. As will be discussed in Chapters 2 and 3, the high share of

vacant housing is a complex issue, due to multiple factors. It may reflect limited mobility in the face of economic shocks: since most homes in Mexico are owner-occupied (discussed below), homeowners may opt to simply abandon their home in search of better labour market opportunities elsewhere should they have trouble selling it.

Figure 1.37. **Vacant housing units in selected countries, 2010**

As a share of total housing stock



Notes: Data for Argentina and Mexico correspond to 2010; data for Germany, Ireland, Portugal and Spain correspond to 2011; data for France corresponds to 2012; data for England corresponds to 2013; data for the United States correspond to 2014 (Q1 for vacant housing statistics). A vacant home is defined as dwelling that is offered for sale or rent, rented or sold awaiting occupancy, or held off market for other reasons. Additionally, numbers for Argentina exclude vacancy due to commercial use, use for holiday, weekend or other temporal home. Numbers for Mexico exclude housing for temporal use. Numbers for Portugal and Spain exclude secondary homes. For Ireland, numbers exclude vacant holiday homes, England defines empty homes as those dwellings that are unoccupied and substantially unfurnished. Numbers for Germany exclude vacant holiday homes, commercially used homes, homes inhabited by diplomats or foreign armed forces.

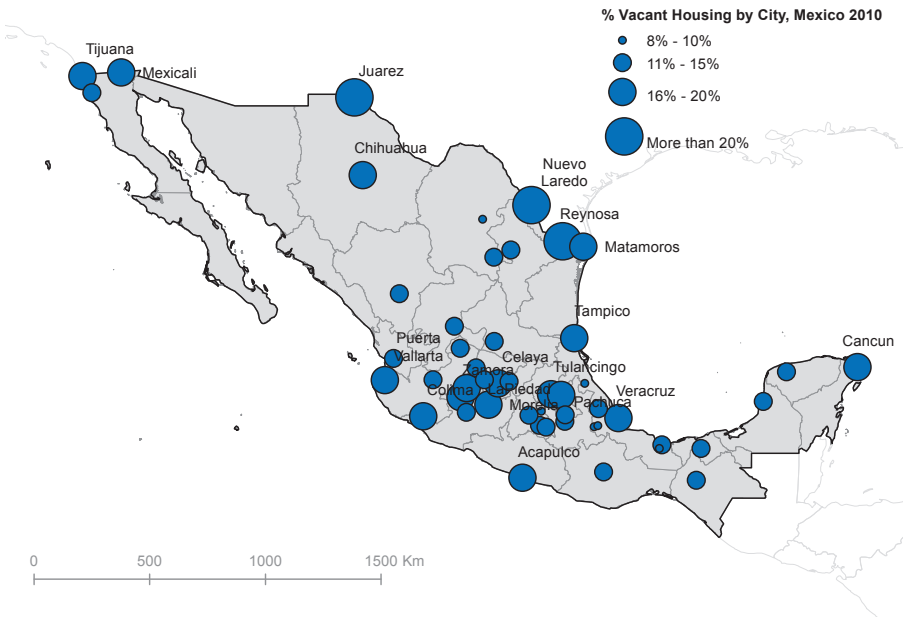
Source: Housing data from LEA collated by the Empty Houses Campaign (England); 2011 Census (Germany, Ireland, Portugal, Spain); INSEE Government Research Bureau (France); INEGI 2010 Population and Housing Census, Mexico; INE 2010 Population and Housing Census, Argentina.

High vacancy rates are an increasingly worrisome problem for Mexican policy makers. As will be discussed in Chapters 2 and 3, both centre-city and peri-urban/peripheral areas are subject to high vacancy rates; and the roots of the problem are multiple. In the case of peri-urban housing development, the high cost of transport to reach job centres, the disconnection from urban services, as well as dissatisfaction with the quality of housing (e.g. incomplete urban infrastructure) has in recent years led to a widespread problem of housing abandonment.[8] The causes of the high vacancy rate in centre-city areas are distinct, however. Figure 1.38 illustrates the extent of housing vacancy across Mexican urban areas in 2010.

Challenges to well-being

City dwellers in Mexico also face critical challenges to their overall well-being. Mexico has the poorest outcomes in the OECD with respect to indicators related to insecurity, and is also rated poorly in terms of key environmental indicators, such as air and water quality.

Figure 1.38. **Share of vacancy rates across Mexican urban areas, 2010**



Note: Metropolitan zones with more than 16% of vacant housing or more are labelled. This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

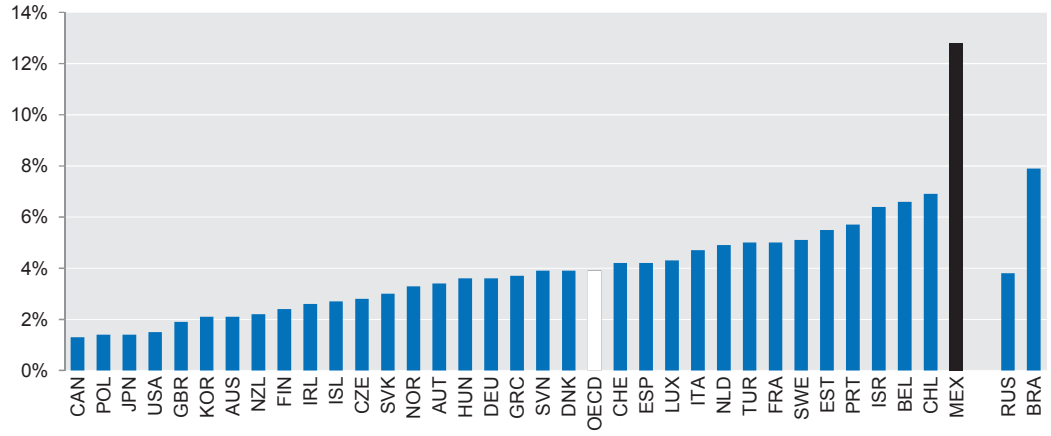
Source: Based on data from INEGI (2012b), *Censo de Población y Vivienda 2010 – Sistema para la Consulta de Información Censal (SCINCE Versión 05/2012)*, INEGI, Aguascalientes, Mexico.

Insecurity is a major challenge in some areas

Mexico registers one of the highest rates of insecurity across the OECD. According to the OECD *Better Life Index* (OECD, 2014d), more than 12% of respondents aged 15 and over stated that they were assaulted in 2013 (Figure 1.39). This is the highest rate across OECD countries and well above the OECD average (4%). In terms of homicide rates (see Figure 1.40), Mexico has the highest share of homicides per 100 000 inhabitants (23.4) compared to the OECD average (4.1). With respect to the information available for BRICS countries, Mexico has the highest rankings across multiple safety-related indicators – with the exception of the homicide rate, where Brazil surpasses Mexico with 25.5 homicides per 100 000 inhabitants.

In this context, issues such as spatial segregation and housing abandonment pose the risk of both attracting crime and exacerbating insecurity problems in urban neighbourhoods, leading to a vicious cycle. Perceived security rates are negatively correlated with homicide rates; that is, in metropolitan zones with higher homicide rates, residents perceive a lower level of security. However, perceived security relates to a broad spectrum of crime and not only to homicide rates. Thus, while the number of homicides per 100 inhabitants is highest in Juárez, perceived security ranks even worse in Tijuana, Chihuahua and Mexicali, which are also located in areas with high drug cartel activities (UNODC, 2010). The estimated cost of crime capturing a combination of factors, including physical damage, lost productivity, medical and disability care, the cost of preventive security measures and disinvestment in Mexico, amounted in 2012 to MXN 215 billion, about 1.3% of GDP (INEGI, 2013b).

Figure 1.39. **Assault rate across OECD countries, Brazil and the Russian Federation, 2010**

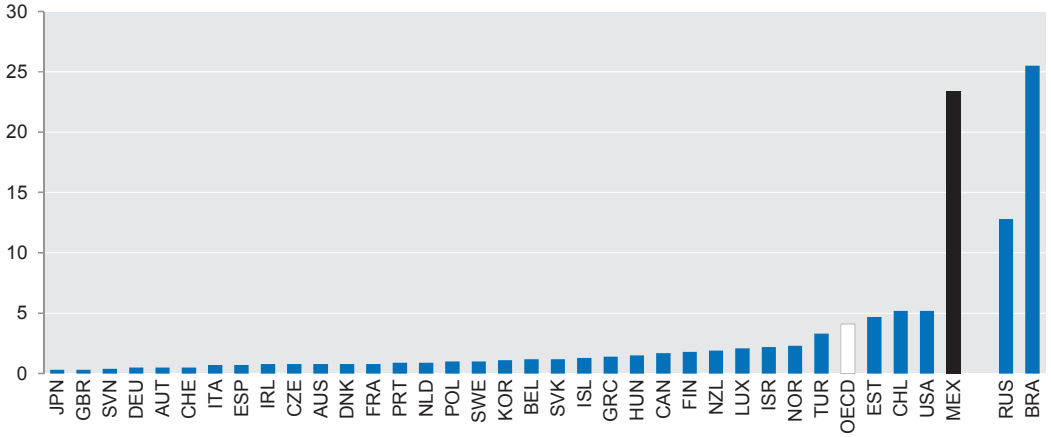


Notes: The reference year is 2010 with the exception of 2013 for Brazil, Mexico, the Russian federation; 2012 for Chile; 2009 for Estonia, Switzerland; 2008 for Iceland, Norway. The indicator is based on the question: "Within the past 12 months: have you been assaulted or mugged?" and it considers people declaring having been assaulted or mugged, based on the population aged 15 and older. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2014d), *Better Life Index 2013*, http://dx.doi.org/10.1787/bli-data-en (accessed September 2014).

Figure 1.40. **Homicide rate across OECD countries, Brazil and the Russian Federation**

Per 100 000 inhabitants, 2010

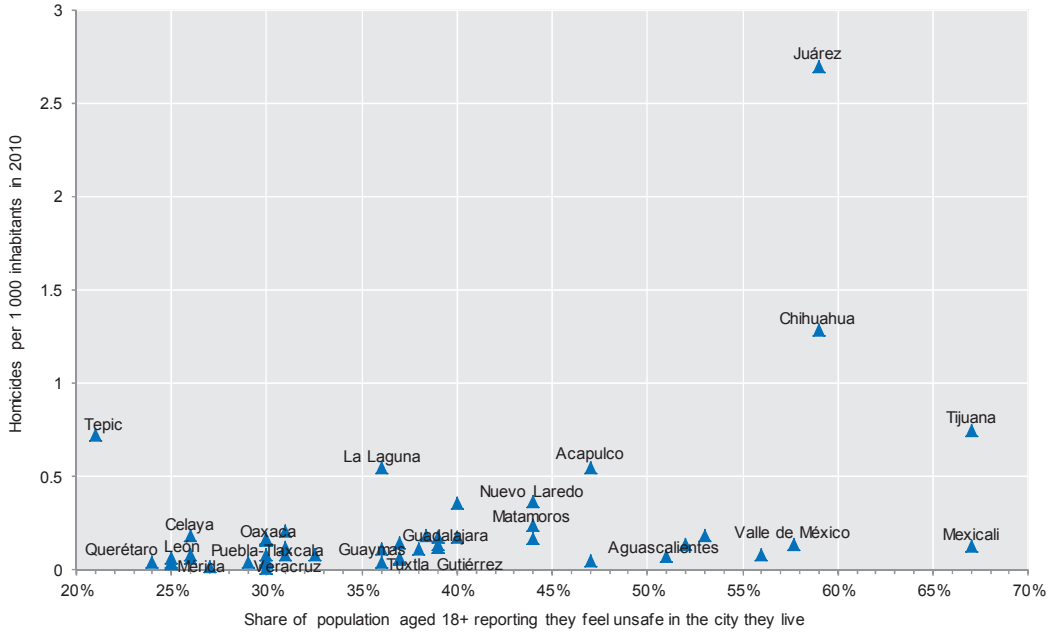


Notes: The reference year is 2011 with the exception of 2010 for Brazil, Greece, Ireland, Israel, Italy, Luxembourg, Mexico, the Russian Federation, the Slovak Republic, Slovenia, Sweden, Switzerland, the United Kingdom, the United States; 2009 for Belgium, Canada, Chile, France, New Zealand; 2004 for Iceland. Age-standardised rate per 100 000 people; *OECD Health Database*, death due to assault. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2014d), *Better Life Index 2013*, http://dx.doi.org/10.1787/bli-data-en (accessed September 2014).

Figure 1.41. **Perceived security and homicide rates**

By metropolitan zone, 2010



Source: Data on perceived security 2010 from IMCO (2012); and homicide rates 2010 from INEGI (2014d), "Defunciones accidentales y violentas. Homicidio", *Sistemas Estatal y Municipal de Bases de Datos* (SIMBAD).

Pressing environmental challenges: Air, water and waste

Often occurring in the absence of urban planning and in a context of weak municipalities (in terms of fiscal, technical and human capacity), the extension of Mexican urban areas has in many places been accompanied by poor access to public transport and other critical urban services, like water and waste management. The lower access to services has not only a direct effect on the individual's well-being and labour productivity, but can also have an indirect effect on health. According to the OECD *Better Life Index* (OECD, 2014d), Mexico ranks in the bottom five with respect to environmental indicators capturing water quality and air pollution (Figure 1.42).

Air quality

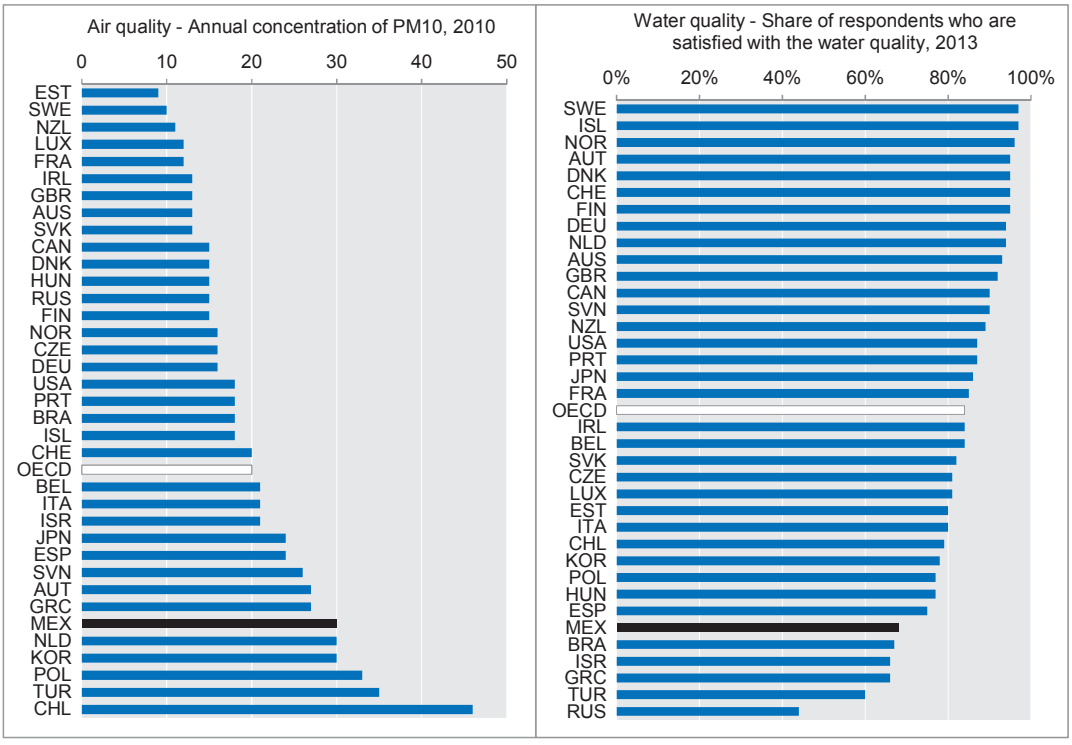
Air quality remains a top policy challenge for Mexico. According to the Clean Air Institute (2013), in 2008, about 14 000 deaths were attributable to air pollution in Mexico. Only Brazil, with about 25 000 deaths, performed more poorly. Some of the most widespread air pollutants include ozone and particulate matter, which can have severe health effects.[9,10] Mexico's average annual concentration of PM_{10} was reported to be 29.8µg/m³, above the OECD average (20.1µg/m³) and the annual World Health Organization (WHO) guideline (20µg/m³) (WHO, 2014a).

Air pollution tends to be more severe in urban areas. According to the Ministry of Environment and Natural Resources (SEMARNAT, 2014), motorised vehicles are responsible for 60% of particulate matter. On the one hand, poor urban planning that results in limited access to public transport networks and exacerbates the need to travel by

vehicle intensifies traffic and thus air pollution. In addition, other key sources for air pollutants, including the industrial and manufacturing sector as well as domestic fuel use for heating/cooling and cooking, are also more dominant in urban areas. According to WHO (2014b), the average annual exposure of PM_{10} in Mexican urban areas[11] was 79µg/m³ in 2011: the highest in Latin America, ahead of the next worst performers, Chile (64 µg/m³) and Peru (63 µg/m³). Brazil and Argentina rank even better, with annual averages of 41µg/m³ and 30µg/m³, respectively. WHO (2014a) estimates that decreasing the level from PM_{10} from 70µg/m³ to the recommended upper level of 20µg/m³ could reduce air pollution-related deaths by around 15%.

Figure 1.42. **OECD Better Life Index: Environmental indicators**

Annual concentration of PM_{10}, 2010



Notes: Air quality: The indicator is urban population weighted average of annual concentrations of particulate matters less than 10 microns in diameter (PM_{10}) in the air in residential areas of cities with more than 100 000 residents. Water quality: The reference year is 2013 for all countries with the exception of 2012 for Chile, Israel, Norway, Switzerland, the United States; 2011 for Japan, Korea. The indicator captures people's subjective appreciation of the environment where they live, in particular the quality of the water. It is based on the question: "In the city or area where you live, are you satisfied or dissatisfied with the quality of water?" and it considers people who responded they are satisfied. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

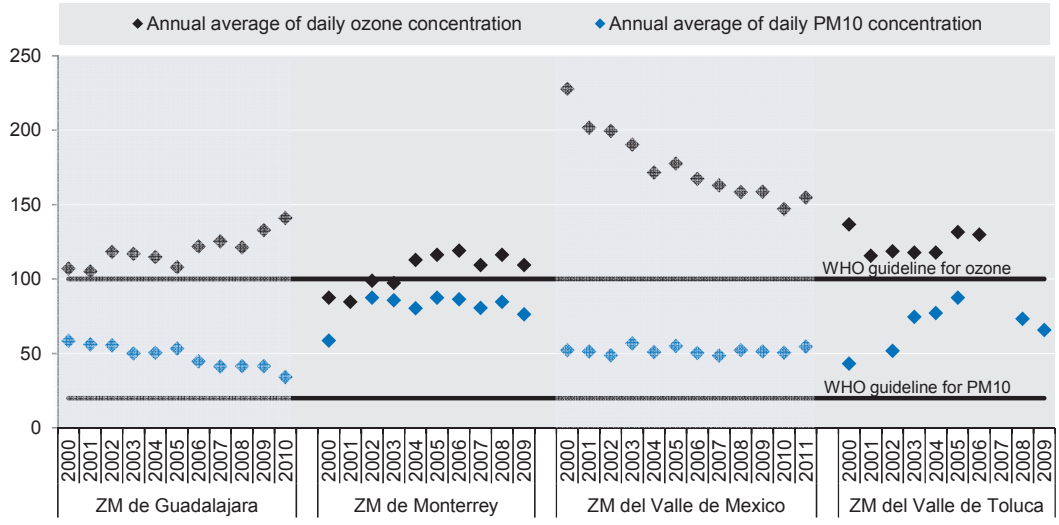
Source: OECD (2014d), *Better Life Index 2013*, http://dx.doi.org/10.1787/bli-data-en (accessed September 2014).

Progress is, however, being made in reducing air pollution levels across metro zones, but they still exceed the WHO guidelines. Between 2000 and 2011, WHO guidelines for PM_{10} and ozone were exceeded by a substantial degree in all four metropolitan zones

surveyed (Figure 1.43). One exception is the period between 2000 and 2003, during which the WHO guideline for ozone is met in Monterrey. In all four metropolitan zones, the WHO guidelines for PM_{10} were exceeded in all of the years. Between 2000 and 2010, the annual averages for PM_{10} follow different trends across metropolitan zones. While the average annual concentration of PM_{10} was continuously decreasing in the metropolitan zone of Guadalajara, it remained fairly stable in the Valle de México. In the metropolitan zones of Monterrey and the Valley of Toluca, the annual average increased in the earlier years, followed by a slight decrease over the last couple of years. While ozone levels are increasing in the metropolitan zones of Guadalajara, Monterrey and Valle de Toluca, they still remain below the annual average of the metropolitan zone of the Valle de México. In the Valle de México the ozone levels almost halved between 2000 and 2010, and decreased from 228µg/m³ to 155µg/m³. Still the levels are considerably above the WHO guideline. In 2011, on 260 days the ozone concentration was above the recommended value of 100µg/m³, and on 57 out of these 260 days, concentrations above 196µg/m³ were measured.

Figure 1.43. **Air quality in selected metropolitan zones**

Annual average of daily concentration of PM_{10} and ozone



Source: Secretaria de Medio Ambiente y Recursos Naturales, Instituto Nacional de Ecologia, Direccion General de Investigation sobre la Contaminacion Urbana y Regional. May 2012. Accessed via SEMARNAT 2012 in April 2014.

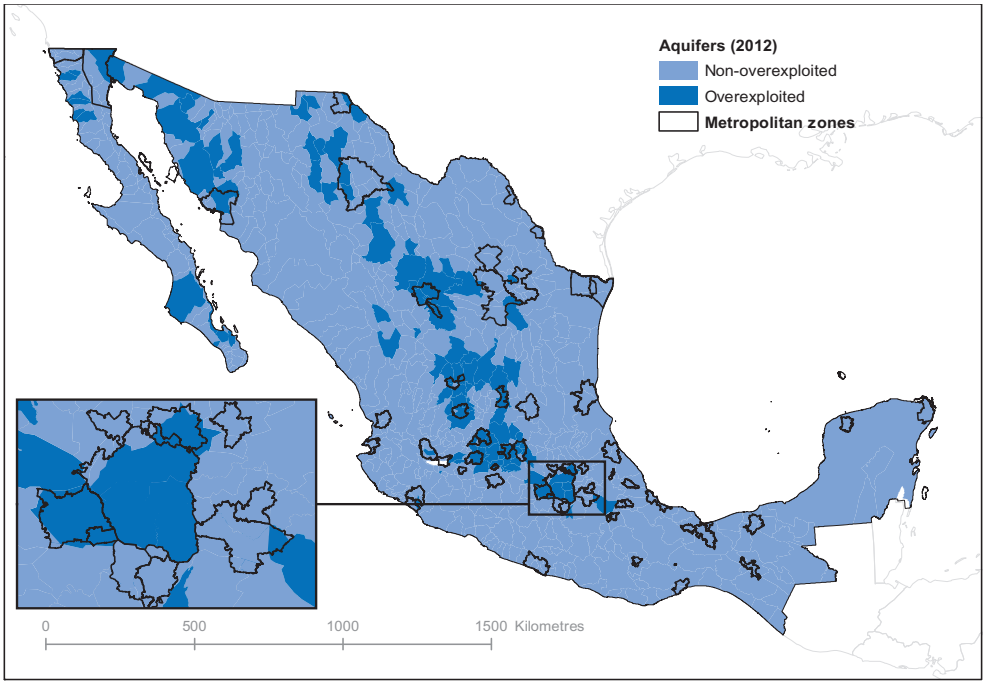
The decreasing trend in ozone levels in the metropolitan zone of the Valle de México can be attributed to a significant degree to the air quality improvement programme, ProAire, a cross-cutting policy initiative first launched in 1990. Policies have ranged from checking and imposing penalties on industrial emissions to closing cities' most polluting industries. To reduce pollution levels emitted by motorised vehicles, policies also aimed to remove lead from gasoline, reduce the emissions of vehicles by enforcing a "No driving day" (*Hoy no Circula*), as well as improving public transport with the introduction of the metro bus system in 2005. Over time, the number of cities and metropolitan zones that have adapted ProAire programmes has increased to 15. Currently, air quality improvement programmes are in place in the Valle de México, Jalisco, Toluca, Tijuana, Tecate and Playas Rosarito, Mexicali, Salamanca, Celaya and Irapuato, Puebla

(state), Durango and Comarca Lagunera (SEMARNAT, 2014). ProAire programmes also encourage the integration of land-use planning, transport and air quality management policies, local (state and municipal) capacity building as well as the development of air quality monitoring systems (OECD, 2013h).

Water supply and water quality

Mexico is currently under severe water stress. Over the past 60 years, the amount of water available for each person has declined drastically due to population growth (OECD, 2013f). Currently, 86% of the urban population has access to drinking water (IMCO, 2011). Providing clean water has become a challenge in several urban areas, as the number of overexploited aquifers has markedly increased from 32 in 1975 to 102 in 2011, representing about 15.6% of the aquifers available. Overexploitation obliges population centres to acquire water from more remote locations and, in some areas, leads to groundwater depletion, increasing the risk of contamination. Increasing urbanisation also reduces the permeability of the soil in groundwater recharge areas. Metropolitan zones in central, central west and north-western Mexico are the regions most affected by overexploited aquifers (Figure 1.44). More than three-quarters of the population live in regions with little water (OECD, 2013f). This development is partly due to geographical reasons like low rainfall, but also caused by water mismanagement (see, for example, OECD, 2013f). During the next two decades, it is estimated that an additional 36 million inhabitants will need to be provided with drinking water services and 40 million inhabitants with sanitation services.

Figure 1.44. **Overexploitation of aquifers across Mexican metro zones, 2012**



Note: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Source: CONAGUA (2012), *Atlas Digital del Agua México 2012*, *Comisión Nacional del Agua*, available at: www.conagua.gob.mx/atlas/ciclo21.html (accessed April 2014).

Beyond access to water, water quality is an additional problem. The OECD *Better Life Index* (OECD, 2014d) reports that only 68% of Mexicans surveyed are satisfied with water quality, below an OECD average of 84% (see Figure 1.42). Poor water quality in urban areas can result from solid waste deposits across river banks, as well as the untreated discharge of industrial effluents and municipal wastewater into rivers and lakes: only 35% of Mexico's wastewater is treated (IMCO, 2011). One positive exception is the metropolitan zone of Monterrey, where 100% of wastewater is treated and reintegrated into the water system (IMCO, 2011).

Waste management

Moreover, the opportunity to generate economic value from municipal waste is underutilised. Although currently 92% of urban households have garbage collection, only 24 municipalities have achieved 100% coverage in this service. By contrast, in four municipalities – Navojoa (Sonora), San Juan Bautista (Oaxaca), Huimanguillo (Tabasco) and Escárcega (Campeche) – waste collection covers less than half the population (IMCO, 2011). While in many OECD cities it is common to generate economic value from waste (by recycling or generating biogas, for instance), the majority of Mexican cities do not consider these options as a potential source of revenue. The exceptions are: Monterrey, Aguascalientes, Ciudad Juárez, Durango, Cuernavaca and Mérida, which generate biogas from residential waste that can be used to generate energy and therefore has an economic value.

A fragmented governance structure, compounded by significant capacity gaps

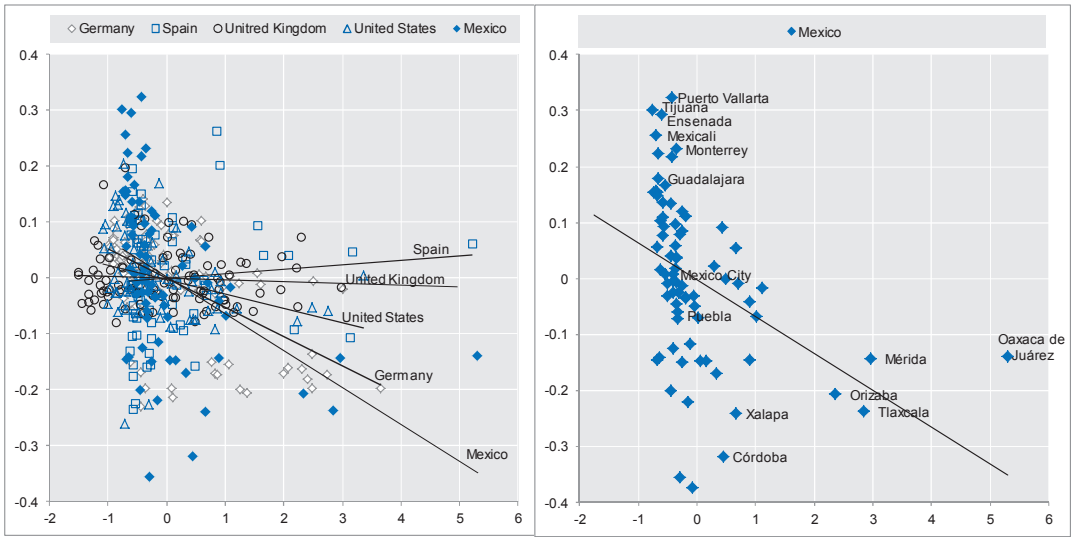
Effective urban management is a challenge across Mexican metro areas for multiple reasons. In terms of housing development, a key factor in Mexico's urbanisation, the sheer number of actors involved in the development process complicates a co-ordinated response to urban challenges across the different ministries and agencies involved in housing, transport and urban-related services at federal level, as well as across the different levels of government with responsibilities in these domains. Not only are participating actors numerous, they also are extremely heterogeneous in terms of both their "muscle" in the political realm to influence policy and practice, and their technical, fiscal and human capacity to carry out their tasks.

Recent OECD work has found that that the productivity of an urban agglomeration is linked to the functioning of its governance. While an increasing size of an urban agglomeration is usually associated with higher productivity, this process is often accompanied by a higher governmental fragmentation that increases the complexity of co-ordination that can mitigate the agglomeration benefits. Ahrend et al. (2014a) analyse the impact of fragmented governance structures on productivity in Germany, Mexico, Spain, the United Kingdom and the United States, finding that urban agglomerations with fragmented governance structures exhibit lower levels of productivity. Across the five countries, this effect seems to be strongest for Mexico (Figure 1.45). After accounting for the sorting of more productive individuals into urban agglomerations, the study finds that among two cities of the same size within the same country, a city with twice the number of municipalities within its functional boundaries is on average about 3.4% less productive. The significance of the estimated coefficient is highly influenced by fragmentation in Mexico. The authors also point to the short-term municipal administrations (mayors are typically elected for a three-year term and may not run for immediate re-election),[12] accompanied by the departure of up to 100% of municipal civil

servants with each election cycle. These factors complicate the establishment of lasting co-operations across municipalities.

Figure 1.45. **Administrative fragmentation can lead to lower productivity**

Germany, Mexico, Spain, United Kingdom and United States



Source: Ahrend, R. et al. (2014a), "What makes cities more productive? Evidence on the role of urban governance from five OECD countries", *OECD Regional Development Working Papers*, No. 2014/05, OECD Publishing, Paris, http://dx.doi.org/10.1787/5jz432cf2d8p-en.

Interestingly, the negative effect of fragmentation on productivity is mitigated by almost half when a governance body at the metropolitan level exists. In fact, the larger a city gets, the more likely it is to address fragmentation by setting up a metropolitan governance body: a 10% increase in population is associated with a 0.8% increase in the likelihood of having a metropolitan governance body (Ahrend et al., 2014b). Even so, the development of effective metropolitan institutions still remains difficult in Mexico. While authorities have made important progress in identifying the functional relationships within urban areas through their definition of metropolitan zones (see Box 1.2), they have been markedly less successful in facilitating the development of effective mechanisms to encourage municipalities to co-operate across administrative borders to address shared problems. In short, consistent with OECD (2013g), Mexican metropolitan areas face metropolitan challenges in need of metropolitan solutions. Governance challenges, and strategies for addressing them, will be explored in depth in Chapter 4.

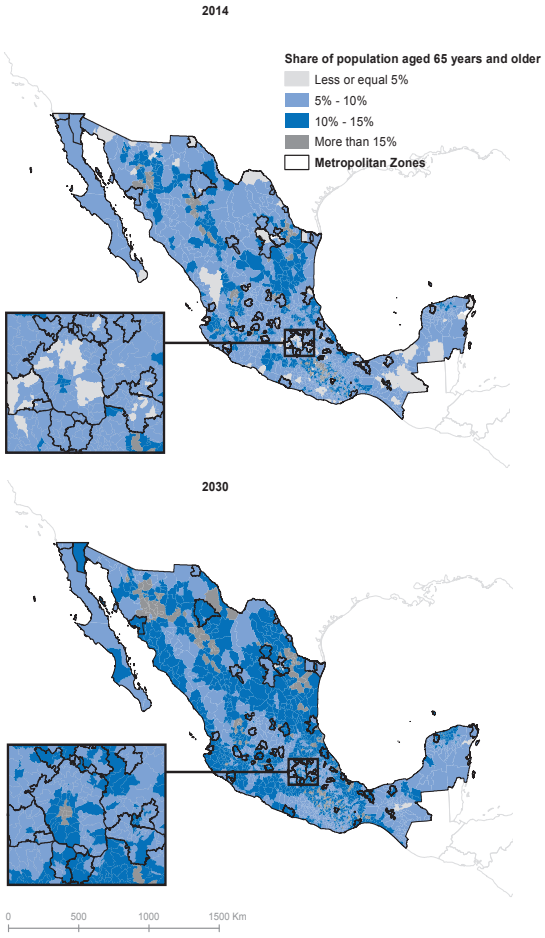
Looking ahead: Adapting policies to an ageing society

Most of the challenges mentioned in this chapter can be expected to become more pressing in the near future: Like most OECD countries, Mexico is undergoing an important demographic shift. Increasing life expectancy and lower fertility rates are leading to an ageing society, which will result in a need for the rising costs related to pensions and medical expenses to be shouldered by fewer members of the workforce (Chapter 5). According to the National Population Council (*Consejo Nacional de Población*, CONAPO) projections (CONAPO, 2012a), 2 out of 10 people will be elderly in 2035, double the share in 2014; by 2050, almost 3 out of 10 citizens will be elderly. Nationally, the share of persons aged 65 and older is expected to grow from 9% to 11%

by 2030, yet the growth of the elderly population in metropolitan zones will be even bigger, from 6% to 10% (Figure 1.46).

Figure 1.46. **An ageing population**

Share of population aged 65 years and older, 2014 and 2030



Notes: This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Source: Based on data from CONAPO (2010), www.conapo.gob.mx/es/CONAPO/Proyecciones_Datos (accessed May 2014).

This demographic transition has important implications for Mexico's labour force and productivity levels, the adequacy of its social security regime as well as its investment choices. Given the country's demographic transition, the overall education level of the workforce will increase naturally as the older population retires and younger generations, who are more likely to have completed primary and secondary education, make up a

larger share of the workforce. A more educated workforce and thus more productive workers could help counteract the economic challenges posed by an ageing society (Barr, 2004). Further, as Mexico continues to urbanise, urban planning and infrastructure investment choices made today can improve the living conditions of a large share of its population over the long term. Current problems like sprawl, spatial segregation and environmental issues could be amplified if they are not addressed *ex ante*. Housing and urban policies should not only focus on current challenges, but also consider long-term developments in their investment and planning decisions to ensure the development of attractive, competitive cities that attract firms and skilled workers.

Unlocking the potential of Mexican cities: What role for housing and urban policy?

This chapter has provided the context for the housing and urban policy reforms recently introduced by federal authorities, which aim to transition toward a smarter, more sustainable housing and urban development model. Despite reaping many of the benefits typically associated with urbanisation – higher income levels, rising education levels and expanded access to formal housing – Mexican cities have not managed to capture expected productivity gains and still tend to underperform their OECD peers in many domains. Housing and urban policy has an important role to play in making cities more attractive to skilled workers and firms, more healthy and liveable for residents, and more inclusive for all segments of the population. As will be discussed in Chapter 3, by "getting cities right", Mexico has an important opportunity to improve the well-being of a large and ever-increasing share of the population.

The remaining chapters in this review will explore how housing, urban policy – and, by extension, the social security regime – could be improved, with better outcomes for urban development, economic growth, environmental quality and overall citizen well-being. The four following chapters are organised as follows:

- Chapter 2 explores housing policy, focusing on the role of INFONAVIT in the country's housing transition that has taken place over the past four decades and the ways in which INFONAVIT can support the new federal objectives toward more sustainable housing and urban development. The chapter: *i)* examines the peculiarities of housing in Mexico from a comparative perspective; *ii)* discusses the costs and benefits of the past housing model; and *iii)* explores the country's transition to a new housing model and the role for INFONAVIT in contributing to its realisation. While INFONAVIT cannot act in isolation in the pursuit of more sustainable housing and urban development, neither will it be possible to shift toward a more sustainable model without INFONAVIT.
- Chapter 3 examines Mexico's urban policy within a broader context and makes recommendations for a range of actors – including SEDATU, the SHCP, BANOBRAS, as well as states and municipalities – to contribute to the development of more competitive, sustainable cities. The chapter discusses the country's "accidental" urban policy of the past as a background for the new directions for urban development currently underway. Strategies for "getting Mexican cities right" – that is, developing a more strategic, integrated approach to urban development – are proposed, along with concrete tools to achieve better urban outcomes.
- Chapter 4 focuses on the governance of housing and urban development. The chapter assesses the bottlenecks that currently impede better co-ordination among ministries and across levels of government and proposes strategies for enhancing

co-operation and collaboration. It also addresses capacity gaps – fiscal, technical and human – at all levels of government for housing and urban policies, with a particular focus on strategies for strengthening some of the sector's most important actors: INFONAVIT, SEDATU and municipalities. The chapter concludes with proposals to transition toward a more strategic framework for housing and planning.

- Chapter 5 chapter discusses the ways in which INFONAVIT can help to resolve the country's pension shortfall, proposing strategies to strengthen the institute's financial position and improve outcomes for affiliates in light of the proposed reforms to the Social Security Law. The chapter: *i)* assesses the roots of inadequate retirement income in Mexico; *ii)* reviews the financial history of INFONAVIT, focusing on the challenges associated with the much later introduction of the pensions mandate as a core part of the institute's activities (relative to its housing mandate); and *iii)* examines the potential impacts of the pending changes to the Social Security Law, considering how INFONAVIT might position itself in a new landscape for housing finance, unemployment insurance and pensions income.

Notes

1. Mexico's relative position remains about the same when comparing the competitiveness indices prepared by the Mexican Institute for Competiveness (IMCO), which ranks Mexico 32nd out of 46 countries, and the World Bank's *Doing Business Report 2014*, in which Mexico ranks 53rd out of 189 countries.
2. As will be developed in Chapter 2, all formally employed, salaried workers affiliated with Mexico's social security regime, the IMSS, automatically have rights with INFONAVIT. For every affiliate of IMSS/INFONAVIT, employers make a 5% monthly contribution to an individual's account, which the affiliate can use: *i)* to take out a mortgage at below-market interest rates, once he or she has accumulated enough points (based on an individual's age, savings and period of contribution); and *ii)* as supplemental retirement income once the individual reaches retirement age. Chapter 5 examines the pension function of INFONAVIT in greater detail.
3. Until 1997, INFONAVIT affiliates could not save more than the mandatory contribution or withdraw savings from their INFONAVIT account, houses purchased with INFONAVIT could not be sold to non- INFONAVIT affiliates and funds in the INFONAVIT account could not be combined with loans from other financial organisations (see Monkkonen, 2011).
4. SOFOLES (*Sociedades Financieras de Objeto Limitado*) were financial institutions authorised by the Ministry of Finance and Public Credit, regulated by the Bank of Mexico and monitored by the National Banking and Security Commission. They aimed to provide credit to sectors that do not have access to traditional financial intermediaries (i.e. banks).

5. The RUV obtains information from the construction companies on new housing in planning and follows the property through the construction process, capturing information such as location, size and price of the home.

6. Spatial clustering is measured with Local Morans' I, see Annex 1.A.1 for details.

7. To evaluate and assess education across the country, Mexico has developed the National Assessment of Academic Achievement in Schools (*Examen Nacional de Logro Académico en Centros Escolares*, ENLACE) in primary and secondary schools; the test is a national full-cohort external assessment.

8. Indeed, the results of the SHF's Residential Satisfaction Survey suggest that over the period 2006-11, resident satisfaction with respect to urbanisation and services decreased (SHF, 2012).

9. Ozone (O3) is one major constituent of photochemical smog and is formed by the reaction with sunlight of pollutants such as nitrogen oxides from vehicle and industry emissions and volatile organic compounds (VOC). Excessive ozone can cause breathing problems, trigger asthma, reduce lung function and cause lung diseases (WHO, www.who.int/mediacentre/factsheets/fs313/en, accessed May 2014).

10. Particulate matter, PM10 and PM2.5, are tiny particulates that are small enough to penetrate and lodge deep inside the lungs. Exposure to particulate matter thus increases the risk for respiratory and cardiovascular diseases, as well as lung cancer. Sources of particular matter are typically emissions from vehicles, industry and energy generation (WHO, www.who.int/mediacentre/factsheets/fs313/en, accessed May 2014).

11. Based on more than 24 stations in 9 cities.

12. Recent political reforms now enable re-election of local and state-level offices, though these have yet to be implemented by many states.

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Annex 1.A.1
Spatial autocorrelation

Observations at different locations may not be independent, e.g. the share of abandoned houses or educational attainment of a population may be more similar in areas that are closer together than at locations that are further apart. This dependence across space is called spatial autocorrelation, which is positive if similar values are near to each other, negative if dissimilar values are near to each other and zero if the distribution across space is random. The spatial autocorrelation shown in Chapter 1 is tested using Anselin Local Moran's I (Anselin, 1995), which allows displaying local clusters (regions with similar values) and spatial outliers (regions where adjacent areas are distinct from each other).

The Local Moran's I statistic is defined as:

$$I_i = \frac{x_i - \bar{X}}{S_i^2} \sum_{j=1, j \neq i}^{N} w_{i,j}\left(x_j - \bar{X}\right)$$

Where x_i is a variable at location *i*, $\bar{X}$ is the mean of the corresponding variable, $w_{i,j}$ is the spatial weight between location *i* and *j*, and:

$$S_i^2 = \frac{\sum_{j=1, j \neq i}^{N} w_{i,j}}{N-1} - \bar{X}^2$$

with *N* being the total number of locations.

To measure the statistically significance, z-scores, which is based on randomization null hypothesis computation, can then be computed as:

$$z_{I_i} = \frac{I_i - E[I_i]}{\sqrt{V[I_i]}}$$

where

$$E[I_i] = -\frac{\sum_{j=1, j \neq i}^{N} w_{i,j}}{N-1}$$
$$V[I_i] = E\left[I_i^2\right] - E[I_i]^2$$

For the spatial autocorrelation (cluster) maps in Chapter 1, the weight matrix is defined as proportional to the inverse distance squared. Locations are census tracks (AGEBs), and the area of analysis is the respective metropolitan zone.

Source: Anselin, L. (1995), "Local indicators of spatial association – LISA", *Geographical Analysis*, Vol. 27, No. 2, pp. 93-115.

Chapter 2

Better housing policy for Mexico: What role for INFONAVIT?

This chapter explores housing policy, focusing on the role of INFONAVIT in the housing transition that has taken place in Mexico over the past four decades and the ways in which INFONAVIT can support the federal government's objectives toward more sustainable housing and urban development. The chapter: i) *examines the peculiarities of housing in Mexico from a comparative perspective;* ii) *discusses the costs and benefits of the past housing model; and* iii) *explores the country's transition to a new housing model and the role for INFONAVIT in contributing to its realisation. While INFONAVIT cannot act in isolation in the pursuit of more sustainable housing and urban development, neither will it be possible to shift toward a more sustainable model without INFONAVIT.*

In 2013, the federal authorities outlined an ambitious policy shift aiming to foster more to sustainable housing and urban development in Mexico. The shift stems from increasing concern over the high costs of the previous urban growth model, which had positioned Mexico as one of the most rapidly sprawling countries in the OECD (Chapter 1). Federal policies – federal housing finance in particular – in recent decades have both facilitated and encouraged the development of mass-produced homes throughout Mexico on inexpensive, peri-urban land far from job opportunities, city centres and urban services. The limitations of this model are evident in the country's rapid urban expansion, the share of homes without adequate access to urban services and infrastructure, and the increasing number of uninhabited homes, some of which have been financed by the National Workers' Housing Fund Institute (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT), the Housing Fund of the Social Security and Services Institute for State Workers (*Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE) and other para-public lenders.[1]

Housing policies of previous administrations had been relatively successful in facilitating housing access for an ever-increasing share of the population. Yet these policies – largely driven by quantitative objectives – came with high qualitative costs for the country's urban development. Housing development had been identified as an integral component of the country's development in previous National Development Plans (2001-2006; 2007-2012)[2] and conceived as a question of ensuring housing in sufficient quantity at a minimum level of quality, particularly for populations in poverty and with lower incomes. Federal housing finance programmes, including subsidies for low-income populations offered by the National Housing Commission (*Comisión Nacional de Vivienda*, CONAVI), the National Trust Fund for Popular Housing (*Fondo Nacional de Habitaciones Populares*, FONHAPO) and the Ministry of Social Development (*Secretaría de Desarrollo Social*, SEDESOL) and publicly backed mortgages offered by INFONAVIT, FOVISSSTE and others, have been integral in supporting the push to expand housing access. While the federal government began to incorporate housing quality and liveability concerns in its policies and programmes prior to 2013 – notably in terms of improved construction materials, the elaboration of a Certified Development initiative (*Desarrollos Certificados*; formerly *Desarrollos Urbanos Integrales Sustentables* [DUIS]), and incentives for green building – housing policy objectives meanwhile remained quantitative and focused on furnishing individual houses with basic equipment (e.g. piped water, drainage). As will be seen, programmes like DUIS (and now *Desarrollos Certificados*) in many cases paid insufficient attention to housing location and access to urban services and infrastructure (see Box 2.6).

The country's past housing policies paid insufficient attention to their impacts on the urban environment, but this shortcoming is hardly unique to Mexico. In a review of housing policies in Latin America focusing on the experiences of Argentina, Chile, Colombia and Mexico, Rojas (2014) finds that housing policies throughout the region have lacked a place-based approach and have been poorly co-ordinated with other policy domains affecting urban development (e.g. economic development, transport, etc.). Rather, Latin American housing programmes tend to be based on individual entitlements to households for the purchase (and in some cases, construction) of an individual home. Few initiatives have conceived of housing development within a broader urban development context linking housing to employment opportunities, infrastructure development, and the provision of public services, public spaces and open space. The result is an approach that has focused on building houses, rather than building cities – all

the more problematic when one considers that most of the benefits associated with housing actually have less to do with the actual structure than with the surrounding urban environment (Box 2.1). Accordingly, housing policies in many Latin American countries have resulted in similar challenges for cities across the region: urban sprawl, congestion, infrastructure gaps and a high rate of vacant homes.

Box 2.1. **Housing policies across Latin America: The housing services model**

Reviewing housing policies in 17 Latin American countries, Rojas (2014) proposes a "housing services" model to help understand the link between housing policy and urban development outcomes. Rojas argues that of the 19 services provided by a house, only 5 are provided by the structure itself; all others are provided at a larger scale: the sub-division, the neighbourhood, the city or national government (see table below).

Services provided by a house

Source	Housing services
House	Access to a plot of land
	Protection from the weather
	Bathroom and kitchen facilities
	Privacy
	Sufficient living space
Sub-division	Access roads
	Drainage
	Public lighting
	Community parks
Neighbourhood	Piped water
	Sewerage
	Waste collection
	Health services
	Education services
	Recreation facilities
	Neighbourhood parks
City	Citizen security
National government	Secure tenure
	Land title

Source: Rojas, E. (2014), "Housing policies, quality of housing and urban development. Lessons from the Latin American experience 1960-2101", paper presented to the 9th Annual Land Policy Conference, Lincoln Institute of Land Policy, Cambridge, Massachusetts, 2-3 June 2014.

Mexico's new approach to housing and urban policy differs from those of the recent past in shifting from quantitative objectives for housing to a more explicit qualitative focus on both housing and the urban environment. The National Development Plan 2013-2018 (*Plan Nacional de Desarrollo 2013-2018*, PND) aims to "provide a suitable environment for the development of a decent life" (objective 2.5), with a strategy to "transition toward a smart, sustainable development model to ensure decent housing for Mexicans" (strategy 2.5.1). The subsequently released National Housing Programme 2014-2018 (*Programa Nacional de Vivienda 2014-2018*, PNV) is articulated around four axes: *i)* providing decent housing for Mexicans; *ii)* responsibly addressing the housing gap; *iii)* transitioning toward a smarter, more sustainable urban development model; and *iv)* improving inter-institutional co-ordination (Government of Mexico, 2013).

To carry out the new federal policies for housing within this broader context, institutional reforms were also undertaken. Accordingly, housing, urban and rural policy were consolidated into a single ministry, the Ministry of Agrarian, Territorial and Urban Development (*Secretaría de Desarrollo Agrario, Territorial y Urbano*, SEDATU), tasked with implementing the new policy directions and co-ordinating actors involved in housing and urban development. This change signalled a critical step toward better co-ordination in a historically crowded, fragmented institutional landscape (Chapter 4).

Given the role of housing finance in shaping Mexican cities over the past four decades, changing the way cities are developed will rely on reforms to the housing finance system. This chapter explores housing policy, focusing on the role of INFONAVIT, Mexico's largest provident lender, in the country's housing transition that has taken place over the past four decades and the ways in which INFONAVIT can support the new federal objectives toward more sustainable housing and urban development. This chapter will focus on the actions that INFONAVIT may consider to improve urban development outcomes in Mexico; Chapter 5 will explore the ways in which INFONAVIT may continue to strengthen its financial positioning, particularly in light of pending reforms to Mexico's social security regime.

This chapter will begin by outlining the peculiarities of housing in Mexico that help frame the particular complexities facing policy makers. It will then explore both the costs and benefits of the past housing model that has been successful to a large extent in addressing the country's quantitative housing gap through the expansion of housing finance yet with suboptimal outcomes for the urban environment and residents' quality of life. Finally, it will outline Mexico's new approach to housing policy and explore how INFONAVIT can contribute to the realisation of more sustainable housing and urban development. It is clear that INFONAVIT cannot act in isolation to achieve better urban outcomes. Yet neither will it be possible to shift toward a more sustainable housing model that better matches housing supply and demand without INFONAVIT. To this end, it will be critical for INFONAVIT to reposition itself within the broader federal housing policy framework led by SEDATU and to consider strategies to:

- Redesign the mortgage allocation criteria through a better screening system to determine affiliates' eligibility for credit and/or a system that rewards the most reliable borrowers, and to introduce programmes to incentivise saving – not just borrowing – which could ultimately help affiliates access a higher quality, better located home than they would otherwise be able to afford.
- Allow affiliates more flexibility and more choice about their housing options by expanding the institute's highly successful programmes that enable affiliates to take out a loan for the purchase of a "used" (existing) home, for home expansions or improvements and, most recently, to rent a home.
- Contribute to better links between housing and infrastructure development by introducing an infrastructure needs assessment, expanding the *Hipoteca con servicios* programme in an interim period in parallel to efforts to strengthen municipal capacity for service provision, and improving systems to share data across agencies and levels of government.
- Improve the quality of information offered to INFONAVIT affiliates with respect to housing and pensions by improvements to the *Saber para decidir* tool and, potentially over the longer term, offering more tailored advice to affiliates regarding different investment options over their life cycle.

In sum, reforms to INFONAVIT's practices form the basis upon which a more competitive, sustainable housing and urban development model can be built in Mexico. Nevertheless, reforms to the housing finance system will not be sufficient, and their success will depend to a great extent on the ability of other actors – in the public sector, at federal, state and municipal levels, as well as private actors, especially homebuilders – to adapt their practices and implement other fundamental reforms involving taxation, regulation, land policies and property rights, to name but a few. Opportunities for SEDATU and other ministries and administrations to foster more sustainable urban development are discussed in Chapters 3 (urban policies) and 4 (governance). A stronger SEDATU, with more instruments at its disposal, working alongside the ministries responsible for transport and infrastructure and with the involvement of the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP), will be crucial to moving beyond Mexico's traditional housing-centred approach to urban policy.

It is important to mention that this chapter – and more generally, this report – does not make explicit recommendations for addressing the prevalence of informal and/or irregular housing development, which continues to constitute a significant share of housing in many Mexican cities. The public policies that facilitated the quantitative success of the INFONAVIT housing model described below have partly contributed to the expansion of informal settlements, in that policies have historically only targeted a subsection of the population: those with formal employment. As a result, roughly half of the population does not have access to a mortgage, and even fewer to a commercial bank loan, and thus relies on their own resources to meet their housing needs, in some cases in the form of informal or irregular housing. Yet as will be discussed in the next section, there are many other factors that have contributed to this phenomenon as well, notably the inability of public authorities more generally to manage the country's rapid urbanisation process.

Thus, while INFONAVIT's lending practices may have had an indirect role in the expansion of informal settlements, it is not the appropriate institution to resolve the issue. There may nonetheless be scope for INFONAVIT to serve an increasingly broader share of the population and indirectly help to reduce the prevalence of informal settlements. First, authorities anticipate that many of the country's significant structural reforms could succeed in gradually inducing a larger share of informal workers to the formal sector, thereby broadening the coverage of the Mexican Institute for Social Security (*Instituto Mexicano del Seguro Social*, IMSS) social welfare regime and, by extension, the share of the population eligible for INFONAVIT services. Second, discussions are underway to introduce mandatory enrolment in the IMSS to all self-employed workers, whose participation is presently voluntary; meanwhile, INFONAVIT also intends to broaden its coverage to additional categories of workers, including state and municipal employees, who are presently covered by state programmes if any are in place. Efforts such as these would ultimately allow a larger share of the population to access INFONAVIT services in the formal housing market and could, by extension, help reduce the expansion of informal housing development. Finally, many of the strategies proposed to improve urban policy could have a mitigating impact on informal settlement development and will be discussed further in Chapter 3.

Challenges for housing policy in Mexico

This section first describes the particular challenges of housing development and housing policy in Mexico. It then outlines the factors that have contributed to the transformation of the country's housing production system in order to meet the significant quantitative objectives for housing construction and the driving role of INFONAVIT in

this process. The section concludes with an assessment of the consequences of Mexico's housing transition for urban development: rapid urban expansion, public service deficiencies (e.g. water, transport) and a large share of uninhabited housing.

The peculiarities of housing in Mexico

Compared to many other OECD countries, housing trends and past housing policy in Mexico are unusual in several respects. Some characteristics, such as a large share of informal housing development, a small rental market due in part to public policy preferences for home ownership, are consistent with trends across Latin America. The speed of Mexico's housing transition over the second half of the 20th century, while unusual among OECD countries, is not unique in the OECD (Ireland, Japan, Portugal and Spain, among others, have all experienced rapid housing production in the past several decades). Finally, the central policy role of a largely implementing body (INFONAVIT) would appear to be relatively specific to the Mexican context. Together these elements are important in understanding the complexities underpinning the recent housing policy reforms, as well as the challenges that remain in the implementation of these reforms.

The speed of the housing transition

Mexico has managed to address, to a significant extent, the country's quantitative housing gap and transition to more permanent housing for an increasing share of the population with remarkable speed. This is true for households of all income levels and consistent with a general trend in recent decades across Latin America (see Rojas and Medellín, 2011). Between 1960 and 2010, the total number of dwellings in urban areas increased nearly 9 times, from 3.1 million to 27.5 million, outpacing the growth of the urban population, which more than doubled during the same period, from 10.9 million to 27.5 million (Table 2.1) (INEGI, 1960; 2010). Between 1960 and 1980, the growth of housing in urban areas was roughly on par with that of the urban population (increasing by 163% and 150%, respectively); however, between 1990 and 2010, urban housing development dramatically outpaced urban population growth, increasing by 234% and 95%, respectively. This difference during the latter period is likely attributed to a reduction of the housing backlog from previous decades, as well as decreasing household sizes and changing household composition. Since 1990, single-parent and single-person households have been on the rise, making up an increasing share of all Mexican households (Figure 2.1); accordingly, the average household size in urban areas (over 2 500 inhabitants) has dropped from 5.8 in 1970 to 3.8 in 2010.

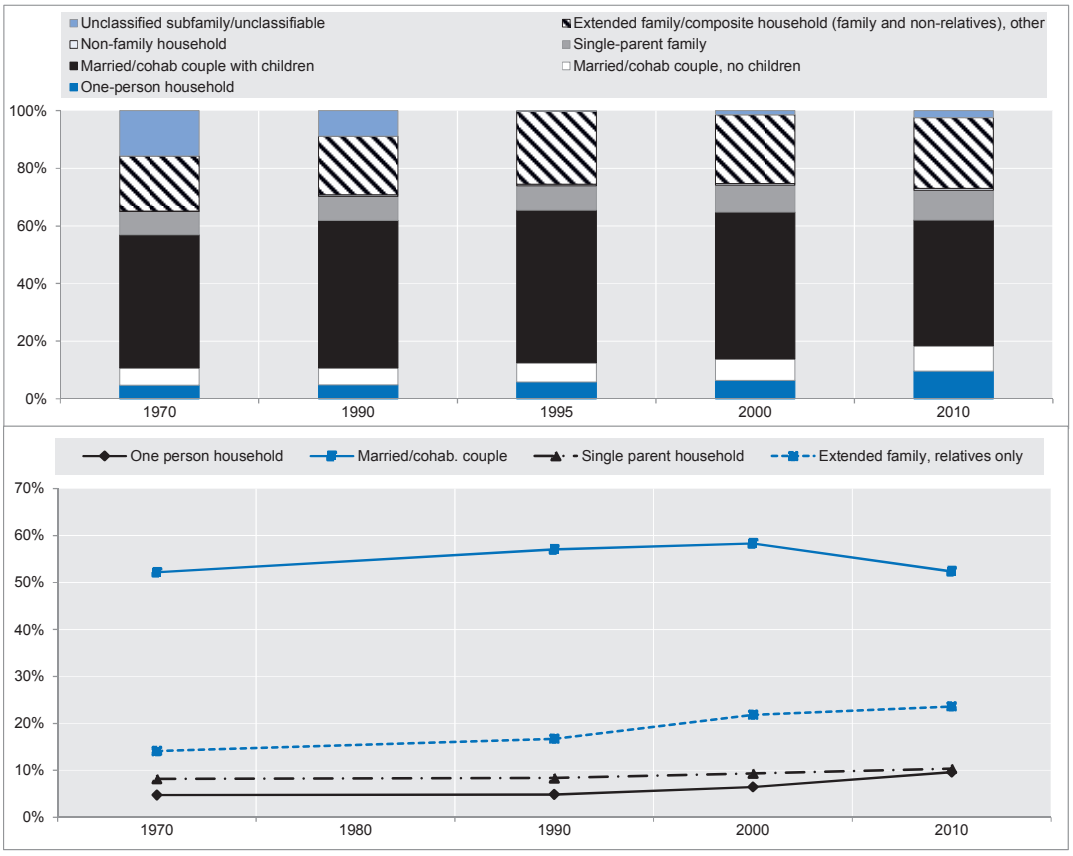
Table 2.1. **Growth in urban population and housing development, 1950-2010**

Year	Population			Dwellings		
	Total	In urban areas	Change from previous decade	Total	In urban areas	Change from previous decade
1950	25 791 017	10 983 483		5 259 208	..	
1960	34 923 129	17 705 118	61%	6 409 096	3 123 598	
1970	48 225 238	24 178 684	37%	8 286 369	4 864 160	56%
1980	66 846 833	44 299 729	83%	12 142 555	8 223 399	69%
1990	81 249 645	57 959 682	31%	16 197 802	11 870 422	44%
2000	97 483 412	72 759 771	26%	21 954 733	16 794 841	41%
2010	112 336 538	86 286 769	19%	35 617 724	27 475 298	64%

Note: ..: Missing value.

Source: INEGI (various years), Population Census: 1950, 1960, 1970, 1980, 1990, 2000, 2010.

Figure 2.1. **Changing household characteristics in urban areas, 1990-2010**



Note: Urban areas, as defined by INEGI, are those with more than 2 500 inhabitants.

Sources: INEGI (1990, 2000, 2010), *Censo de Población y Vivienda*; INEGI (1995), *Conteo de Población y Vivienda.*

Mexico's rapid expansion of the housing stock is paralleled in several other OECD countries (Figure 2.2). Between 1980 and 2010, the annual growth of housing supply, measured as the number of dwellings per 1 000 residents, increased dramatically in a handful of countries across the OECD: Portugal (100%), Mexico (73%), Ireland (64%) and the Slovak Republic (59%). In both years, Mexico registers fewer dwellings per 1 000 residents than all other OECD countries, in part due to the larger average household size. The growth of Mexico's housing stock after 2005 is especially significant: between 2005 and 2010, Mexico's housing stock increased by 33% in just 5 years – equivalent to the growth in the housing stock of the previous 25 years. This is not surprising, given the significant expansion of INFONAVIT housing loans after 2001 (Chapter 1).

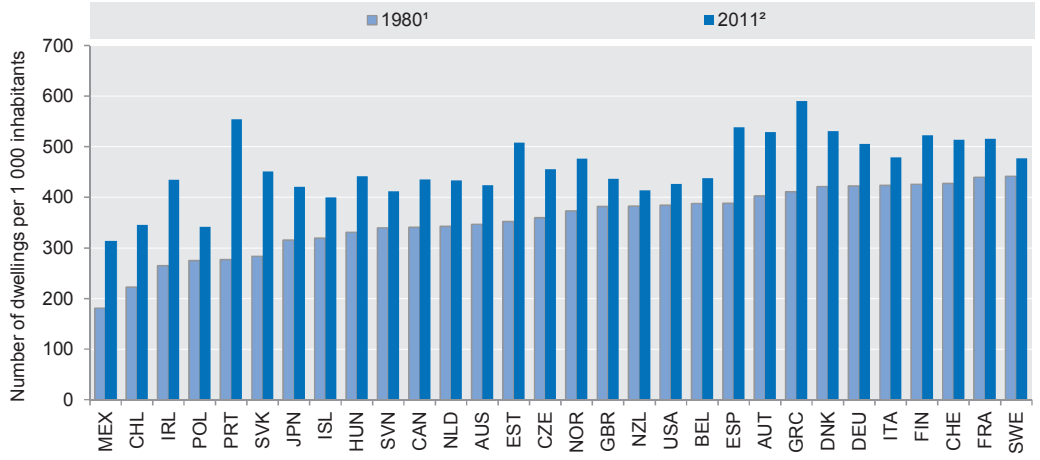
A large and persistent share of informal housing

As is the case in many Latin American countries, Mexico has a long history of informal or irregular housing development, and a large share of the housing stock continues to be self-built, lacking legal titles or constructed outside the formal development process. Nearly one-quarter of urban households in Mexico (approximately 4 million households) live in informal settlements (IMCO, 2011; UN-Habitat, 2011). Yet estimating the extent of informal settlements remains nevertheless a challenge, because the line between "formal" and "informal" housing is often blurry (Bouillon, 2012; Herbert et al., 2012) and the definition of informal is both "imprecise and

multidimensional" (Fernandes, 2011). For instance, some deficiencies typically associated with informal housing may also be found in formal housing (e.g. inadequate supply of urban services and infrastructure, predominance of low-income residents). Self-built housing, which accounts for approximately one-third of all existing housing, is sometimes used as a proxy for informal housing, yet it is an imperfect one (INEGI, 2012). While many self-built homes may be constructed without land titles or construction permits and thus outside the formal development process, others are built on land for which the owner has a title and is in possession of the required development permits. Throughout this report, housing is identified as informal if it fulfils one or more of the conditions outlined in Table 2.2.

Figure 2.2. **Housing stock in OECD countries, 1980 and 2011**

Number of dwellings per 1 000 inhabitants



Notes: 1. 1981 for Australia; 1982 for France; 1986 for Germany; 1988 for Finland; 1989 for Portugal and 1990 for Italy. 2. 2008 for Japan; 2010 for Finland, Germany, Mexico, Switzerland and the United States; 2012 for Chile; 2013 for France, New Zealand and Sweden.

Sources: Andrews, D., A. Caldera Sánchez and Å. Johansson (2011), "Housing markets and structural policies in OECD countries", *OECD Economics Department Working Papers*, No. 836, OECD Publishing, Paris, http://dx.doi.org/10.1787/5kgk8t2k9vf3-en; INEGI (1980), *Censo General de Población y Vivienda 1980*; INEGI (2010), *Censo General de Población y Vivienda 2010*. For 2010 data from OECD countries: Chile: OECD (2013a), *OECD Urban Policy Reviews: Chile 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264191808-en; Central Statistics Office Ireland (2011), "Census 2011"; Central Statistical Office of Poland (2011), *Census Results*; Instituto Nacional de Estatística (2011), *XV Recenseamento geral da população. V Recenseamento geral da habitação*; United Nations National Statistics Office (2014), "Dwellings per 1 000 people"; available at: www.helgilibrary.com/indicators/index/dwellings-per-1000-people (for Italy, Japan, Slovak Republic); Hungarian Central Statistical Office (2011), *Population Census 2011*; Statistical Office of the Republic of Slovenia (2013), *Population Census 2011*; Statistics Canada (2011), *Census*; Statistics Netherlands (2011), "Changes in the dwelling stock: 1995-2011"; Australian Bureau of Statistics (2011), *Census*; Statistics Estonia (2012), *Population and Housing Census in 2011*; Czech Statistical Office (2011), *Census Results*; Statistics Norway (2011), *StatBank Norway*; Office for National Statistics (2011), *2011 Census*; Statistics New Zealand (2013), *2013 Census*; United States Census Bureau (2010), *Census of Population and Housing*; Statistics Belgium (2011), *Population and Housing Census*; Instituto Nacional de Estadística (2011), *Censos de Población y Viviendas 2011*; Statistics Austria (2011), *Census 2011*; Hellenic Statistical Authority (2011), *2011 Population and Housing Census*; Statistics Denmark (2011), *StatBank Denmark*; Federal Statistics Office (Germany) (2010), *Microcensus 2010 – Construction and Housing*; Official Statistics of Finland (2010), *Dwellings and Housing Conditions*; Statistique Suisse (2010), *Stat-Tab*; INSEE (2013b), "Logement", available at: www.insee.fr/fr/themes/document.asp?reg_id=0&id=4222; Statistics Sweden (2013), *Statistical Database*.

Table 2.2. **Characteristics of informal settlements in Latin America**

Legal status	Existence of one or more forms of illegality, including violations of land ownership rights (e.g. through land invasions or illegal subdivisions), regulations and standards, or tax regulations
Development form	Irregular or illegal urban development, including self-constructed homes built on illegally occupied or subdivided land, urbanised rural land, public spaces (e.g. streets, pavement, viaducts) or environmentally protected or vulnerable areas
Urban infrastructure	Precariousness or absence of urban infrastructure, public services and/or collective equipment
Living conditions	Substandard living conditions, in the form of poor construction materials, inadequate sanitary conditions, health and safety hazards, pollution, environmental degradation
Demographics	Predominance of poor residents – though not always the case

Sources: Adapted from Fernandes, E. (2011), *Regularization of Informal Settlements in Latin America*, Policy Focus Report, Lincoln Institute of Land Policy, Cambridge, Massachusetts, available at: www.lincolninst.edu/pubs/dl/1906_1225_Regularization%20PFR%20Rev%202012.pdf (accessed 17 July 2014); Blanco, A.G., V. Fretes Cibils and A.F. Munoz (2014), "Rental housing wanted. Policy options for Latin America and the Caribbean", Inter-American Development Bank, Washington, DC, available at: www10.iadb.org/intal/intalcdi/PE/2014/13900en.pdf.

The extent of informal settlements in Mexican urban areas can be attributed to multiple factors:

Several decades of rapid urbanisation and industrialisation. The number of urban dwellers increased from 3.9 million in 1940 to 44.3 million in 1980, generating a dramatic increase in housing demand that cities were ill-equipped to meet (INFONAVIT, 2013a). A shortage of affordable housing in urban areas resulted in the development of many informal settlements populated by lower income groups in peripheral areas during this period, as in the case of some of Mexico's largest cities. Between 1950 and 1980, informal development accounted for approximately 65% of all housing produced in the Mexico City metro area (Dowall and Wilk, 1989), such that it made up 14% of the housing stock in 1952 and around 60% by 1990 (Blanco et al., 2014). More than half of the urbanised land in the city of Tijuana was developed irregularly (Monkkonen, 2011a).

Housing assistance in insufficient quantity targeting only a portion of the population: those with salaried, formal employment. Even if INFONAVIT and FOVISSSTE together provide eight out of ten mortgages in Mexico, conventional housing finance offered through these and other para-public entities is largely outside the reach of at least half of the Mexican population working in the informal sector (Eibenschultz Hartman and Benlliure, 2009; INFONAVIT, 2013a; Fernandes, 2011). As Herbert et al. (2012) point out, there is a very large share of low-wage workers who cannot afford a formal new home and have been underserved by Mexico's federal housing loans and credits. Further, not all of those eligible for housing assistance receive it. In the case of housing subsidies for very low-income and poverty-stricken households offered by SEDESOL and FONHAPO, the waiting list is extremely long. In the case of INFONAVIT, 75% of the institute's affiliates never receive a housing credit (INFONAVIT, 2013c). Informal housing, by contrast, can cost between five and eight times less than formal housing, and tends to provide low-income households with larger lots, and potentially in more central locations than they would otherwise be able to afford.

A "structural inability" of public administrations in Mexico to ensure adequate supply of serviced urban lands. This reflects a broader challenge across Latin America in meeting increasing demands for housing and urban infrastructure in the face of rapid urbanisation (Fernandes, 2011; INFONAVIT, 2013a; see also Smolka and Larangeira, 2008). As will be discussed in greater detail in Chapter 4, governance gaps at all levels of

government contribute to the problem. At national level, planning and investment for housing and infrastructure have largely been divorced from each other. At local level, the limited human, technical and fiscal capacity of many municipalities means that, despite significant authority over land use and urban development, municipal administrations are not always equipped to carry out these functions. Efforts to address these challenges are compounded by policy discontinuities that result from a change in the majority of the municipal administrations every three years.[3] In short, barriers to effective urban growth management exist at all levels of government.

Outdated, weak and/or unrealistic urban planning. Urban planning, primarily in the hands of municipal governments, remains a key weakness in the urban development process in Mexico, due to a lack of technical, financial and human capacity in many local governments.[4] In many Mexican metropolitan areas, numerous small and medium-sized municipalities continue to operate with land-use plans approved over 25 years ago, when municipalities were a fraction of their current size. This does little to guide more sustainable development patterns (OECD, 2013b). Moreover, some newer development plans are based on overly ambitious, unrealistic demographic projections, which lead to inefficiencies in the housing market. The master plan for a major development project outside Tijuana, the *Valle de las Palmas*, was based on planners' projections of a 150% population increase (2 million new residents) between 2000 and 2025; after 14 years, the area population has increased by less than 900 000 (IMPLAN de Tijuana, 2008; CONAPO, 2014).

Burdensome regulatory requirements for formal land development, which increase transaction costs and create disincentives to formal housing development. This is particularly a problem for development on *ejido* land, which is held in a form of communal tenure that accounts for much of the land surrounding Mexico's urban areas, for which the costs can be much higher (see Fernandes, 2011; López-Silva et al., 2011).

The absence of clear, consistent judicial rulings on informal settlements has complicated the response of public administrations to the formation and proliferation of informal settlements, in some cases rendering them loath to intervene (INFONAVIT, 2013a; Fernandes, 2011). Azuela (2009) characterises the Mexican judiciary as a historically "erratic legislator" when ruling on property rights, in "a legal culture that emphasises social justice in a rural society and maintains private property rights in cities in an ambiguous place".

The political economy of irregular development and regularisation policies. Informal settlements have been the target of "long-standing political manipulation" and political clientelism which in turn perpetuate their continued existence and development (Fernandes, 2011). Providing false land titles, making electoral promises for land regularisation or otherwise benefiting politically and financially from irregular developments has been characteristic of some municipal politicians.

Informal development may, on the one hand, provide an affordable housing solution to populations otherwise unable to secure housing in urban areas, yet it comes at a high cost to both the inhabitants of informal settlements as well as public administrations (see Fernandes, 2011; Blanco et al., 2014). Inhabitants of informal developments often face insecurity of tenure and a heightened vulnerability to expropriations and evictions. In many cases, they lack access to adequate public services and infrastructure. Housing may be located in areas inappropriate or unsafe for development (e.g. areas highly exposed to natural risks, pollution or otherwise characterised by unhygienic or unsafe conditions). The costs to the public sector of managing inefficient or unplanned development are

significant in terms of providing services to informal settlements and regularising them after they have developed. The provision of infrastructure to established informal settlements "revert[s] the technical sequence of urban development" (Blanco et al., 2014) and can cost between three to eight times more than infrastructure provision to a planned development (Aristizabal and Ortiz, 2002; Abiko et al., 2007). Further, informal settlements seldom generate property tax revenue; in cases in which property taxes are paid, municipalities face the high cost of providing services to neighbourhoods that are often difficult to access.

The prevalence and continuing formation of informal settlements in Mexico's urban areas are also a testament to the ultimately limited scope of public policies for housing. Roughly half of the Mexican population – those without formal, salaried employment – cannot access publicly backed mortgages or federal subsidies for housing. While strategies to address informal housing, namely titling and regularisation through programmes managed by SEDESOL, SEDATU and the Commission for the Regularisation of Land Tenure (*Comisión para la Regularización de la Tenencia de la Tierra*, CORETT), have been implemented, most housing policy and investment has been oriented towards formal housing. Moreover, regularisation programmes tend to be expensive and do not address the root causes of informal settlements.

Complex land tenure arrangements

Land tenure arrangements and the process by which agricultural land is converted to urbanised land in Mexico have left a complex legacy for modern-day housing and urban development. Three types of property exist in Mexico: private property, which accounts for around one-third of the country's land area; social property, which makes up more than half of the country's territory; and public/federal property, approximately 10% of the total, which includes national parks and waterways (López-Silva et al., 2011). Social property is comprised of both *ejidos* (around 90% of all social property) and *comunidades agrarias* (the remaining 10%) (SEDATU, 2013; López-Silva et al., 2011). *Ejidal* land tenure, established following the Mexican Revolution, granted peasants perpetual rights to land for agricultural purposes without the possibility of selling, renting or mortgaging the land. A 1992 legislative reform modifying Article 27 of the Mexican Constitution altered the tenure status of *ejido* land. The reform authorised community landowners (*ejidatarios*) to sell, rent or mortgage the land, including to non-*ejidal* members, and to establish joint-venture contracts with private companies, essentially allowing for the privatisation of *ejidal* land (Jones and Ward, 1998; Eibenschultz Hartman and Benlliure, 2009). One of the ambitions of the reform was to give greater legal certainty to *ejidatarios* and to establish a legal framework that could result in increased land supply available for formal housing. Approximately 3 million households benefited from land regularisation following the 1992 *ejido* reform.

Nevertheless, the 1992 reform seems to have been drafted "largely in ignorance of its potential urban impacts" (Jones and Ward, 1998). Moreover, the reform was drafted in a broader context of decentralisation that transferred increasing competences to municipalities, yet without a strong federal counterweight to guide policies aimed at incorporating *ejidal* land into urban areas. With *ejidal* land comprising just over 40% of all land in Mexico, most land available for urbanisation continues to be comprised of *ejidal* land on the urban periphery and beyond. Yet the process to privatise and, by extension, urbanise *ejidal* land is cumbersome, requiring: *i)* the measurement and allocation of parcels to each *ejidatario*; *ii)* the conversion of parcel rights into private property rights, requiring the approval of a majority of the *ejidatarios*; *iii)* confirmation

that nobody with a legal right of preference (e.g. family member of an *ejidatario*) objects to the transfer or wishes to purchase the land; and *iv)* sale of land (López-Silva et al., 2011). Given the extent of *ejido* land in Mexico, the complexities of its urbanisation process represent a significant obstacle to legal and well-planned private development, encouraging circumvention of the law; these complexities have also made the process vulnerable to corruption (Jones and Ward, 1998; López-Silva et al., 2011).

A policy bias in favour of home ownership, especially for social housing

Until very recently, social housing – defined here as housing made affordable to low-income populations through non-market mechanisms, such as below-market rents or targeted allocation procedures – in Mexico has been wholly oriented toward home ownership. Mexico's two most important federal housing subsidy programmes, CONAVI's *Ésta es tu casa* programme for low-income households, and FONHAPO's *Vivienda Digna* programme (formerly, *Tu Casa*) for households in poverty, together account for MXN 13.6 billion in 2014 (MXN 12.0 billion and MXN 1.6 billion, respectively), just slightly over half of SEDATU's 2014 operating budget. Both programmes grant subsidies to acquire land, construct a home (auto-construction), purchase a completed home, or finance home improvements or expansion. Not until August 2014 did CONAVI introduce a pilot subsidy for rental housing in four Mexican states: the Federal District, Quintana Roo, Nuevo León and Guanajuato. In terms of federal mortgage lending, INFONAVIT had no programmes designed to assist households with rental housing until 2013, when it introduced a pilot rental programme, Arrendavit. Previously, all housing credits were granted for owner-occupied dwellings, either for new construction, the purchase of a used home, or to finance home improvements or expansions. Arrendavit aims to facilitate access to rental housing for 2 000 households in 2014 and increase to approximately 20 000 credits per year in the next decade (INFONAVIT, 2013b). However, as will be discussed later in this chapter, take-up of the rental product mid-way through 2014 was much lower than expected.[5]

While Mexico is not unique in favouring owner-occupied social housing policies, it is, along with Italy and Spain, in the minority of OECD countries. By contrast, social housing makes up almost half (45%) of all rental housing in France (OECD, 2011a) and accounts for the majority of the rental housing stock in Austria, the Czech Republic, Denmark, Ireland, the Netherlands, Norway, Poland, Sweden and the United Kingdom (Andrews et al., 2011; OECD, 2011b). In some countries with a large social rental housing stock – Denmark, the Netherlands, Norway, Sweden and the United Kingdom – urban development became increasingly compact between 2001 and 2011 (see Figure 1.24 in Chapter 1). Meanwhile, urban development patterns in both Italy and Spain, countries similar to Mexico in their preferences for owner-occupied social housing, have become increasingly decentralised in recent years, though less so than in Mexico. However, development patterns have also decentralised to a similar degree in countries with a higher share of social rental housing (e.g. the Czech Republic and Ireland), suggesting that the links between sprawling development and housing tenure are complex. A large share of rental housing may be correlated with increasingly compact urban development, though it is not always the case, and other factors affect the shape of urban development. Mexico's policy preference for home ownership for social housing is nevertheless consistent with trends across Latin America. Latin American countries have, for the most part, "ignored rental housing as a vehicle to provide adequate housing solutions for low- and moderate-income families," and most countries in the region have "negligible or [non-]existent" rental programmes and policies (Pomeroy and Godbout, 2011).

Moreover, Mexico's policy orientation toward owner-occupied social housing occurs within a broader policy framework that favours home ownership over rental housing for households of all income levels. Mexico is not alone in this respect; public policy in other OECD countries has tended, to varying extents, to favour home ownership in recent decades, resulting in a trend toward higher levels of home ownership (Figure 1.30 in Chapter 1) (Andrews et al., 2011; OECD, 2013a). As Peppercorn and Taffin (2013) argue, it has been uncommon for rental housing to be considered part of a country's national housing strategy. Landis and McClure (2010) assess rental programmes in the United States, concluding that the government has never articulated a clear policy for rental housing; rather its piecemeal approach has favoured the operation of a number of poorly co-ordinated rental programmes (Chapter 3). In a number of OECD countries, home ownership rates increased between 1990 and 2004, particularly for lower income populations. This strategy has nonetheless revealed its limitations since the inception of the financial crisis in 2008 (Box 2.2). OECD analysis attributes some of the growth in home ownership to changes in household characteristics, such as population ageing, but public policy has also played an important role (Andrews et al., 2011).

A well-functioning rental market is critical to labour mobility (Box 2.3) (Henley et al., 1994). Homeowners are typically less mobile than renters, even after taking into account household characteristics such as age, income, and marital, migrant and employment status. This is likely due to higher transaction costs associated with moving for owners (OECD, 2011b). Indeed, Mexico's lagging productivity levels (Chapter 1) may in part be attributed to limited labour mobility due to the prevalence of home ownership and social housing. Moreover, the considerable research devoted to the spillovers associated with home ownership, including wealth accumulation, child outcomes, social capital (e.g. community engagement and voting behaviour) and labour mobility, suggest that the benefits of home ownership are not unequivocal (see Andrews and Caldera Sánchez, 2011). Peppercorn and Taffin (2013) also point out that the absence of public policy for rental housing has been shown to have a range of consequences in different countries, including limited security of tenure for renters and fewer property rights, as has been the case in Eastern Europe and Central Asia; and forcing households into (or to remain in) substandard housing or slums.

What is more, the policy emphasis on home ownership and corresponding low rental supply exist despite the fact that, in many states, it may be more financially advantageous to rent, rather than purchase, a home based on the average time required for a home owner to recover his or her investment. The house price-to-rent ratio developed by the Federal Mortgage Corporation (*Sociedad Hipotecaria Federal*, SHF) (2012) to determine whether it is more favourable to buy or rent a home, indicates a national average of 23.1, meaning that it would require approximately 23 years to recover the housing investment in the rental market (the shorter the time to recover the housing investment, the more favourable it is to buy a house; the longer the time period, the more it makes economic sense to rent a home and invest in something else) (SHF, 2012). In just one state (Nuevo León), the house price-to-rent ratio indicates a clear advantage for buying a home. In 21 states, the price-to-rent ratio suggests that renting a home is the better option (Figure 2.3). Nevertheless, price-to-rent ratios do not appear to have a significant effect on home ownership rates, suggesting possible information asymmetries, namely, a public that is not well-informed about the relative costs and benefits of different housing options.

Box 2.2. The role and pitfalls of public policy in the growth in home ownership rates across OECD countries

In many OECD countries, home ownership rates in recent decades have significantly increased. While this growth can in part be explained by changing household characteristics, public policy has also played a role in increasing home ownership rates. In a number of OECD countries, a public policy push for home ownership for all segments of the population, and especially among credit-constrained households, has shown its limitations in the years since the crisis that began in 2008. Leading up to the crisis, lower income households were encouraged, via the relaxation of down-payment constraints, among other incentives, to take on mortgages to purchase a home.

Macro studies across countries or regions suggest that high homeownership is associated with low residential mobility and high unemployment (see Oswald, 1996; 1997). Micro-data, on the other hand, tend to indicate that owning a home makes people more likely to be employed than when renting, thereby pointing at a positive effect at the individual level. Recent research highlights the role of negative externalities in explaining these contradicting findings (Isebaert et al., 2013; Laamanen, 2013), but further research is needed to identify the channels and their relative importance.

Some have argued that the housing market downturn may have led to labour-matching problems by constraining the mobility of home owners, who are unable to relocate to where there are job openings or higher wages because they have negative home equity, or because they anticipate serious difficulties in selling their current home (Chan, 2001; Karahan and Ree, 2011). Given the severe contraction in the housing market, the potential magnitude of this problem is significant. Estimates from Corelogic indicate that roughly a quarter of the 50 million residential mortgages in the United States are currently "under water", meaning that the amount owed exceeds the value of the home.

Sources: Andrews, D. and A. Caldera Sánchez (2011), "The evolution of home ownership rates in selected OECD countries: Demographic and public policy influences", *OECD Journal: Economic Studies*, Vol. 2011/1, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_studies-2011-5kg0vswqpmg2; Peppercorn, I.G. and C. Taffin (2013), *Rental Housing: Lessons from International Experience and Policies for Emerging Markets, Directions in Development*, The World Bank, Washington, DC, http://dx.doi.org/10.1596/978-0-8213-9655-1; OECD (2012), *OECD Economic Surveys: United States 2012*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-usa-2012-en; OECD (forthcoming *b*), *OECD Economic Surveys: Belgium 2014*, OECD Publishing, Paris; Isebaert, D., F. Heylen and C. Smolders (2013), "Houses and/or jobs: Ownership and the labour market in Belgian districts", *Working Papers of Faculty of Economics and Business Administration*, No. 10/695, Ghent University, Ghent, Belgium; Laamanen, J.P. (2013), "Home-ownership and the labour market: Evidence from rental housing market deregulation", *Tampere Economic Working Papers*, No. 89, University of Tampere, Tampere, Finland; Oswald, A.J. (1997), "Thoughts on Nairu", *Journal of Economic Perspectives*, Vol. 11, No. 4, American Economic Association; Oswald, A.J. (1996), "A conjecture on the explanation for high unemployment in the industrialized nations: Part 1", *Warwick Economic Research Papers*, No. 475, University of Warwick, Coventry, United Kingdom; Chan, S. (2001), "Spatial lock-in: Do falling house prices constrain residential mobility?", *Journal of Urban Economics*, Vol. 49, No. 1; Karahan, F. and S. Rhee (2011), "Geographical reallocation and unemployment during the Great Recession: The role of the housing bust", *University of Pennsylvania Working Paper*.

Housing policy set by an implementing body, within a fragmented administrative landscape

Finally, Mexico is now beginning to transition out of a long period in which housing policy and the shape and pace of urban expansion have been set by an implementing body (INFONAVIT). Since its creation in 1972, INFONAVIT has become the primary vehicle through which federal housing policy has expanded access to home ownership and reduced the country's quantitative housing gap (Box 2.4). As the largest mortgage originator in Mexico by far (originating 74% of all housing loans in Mexico in 2013, including loans co-financed with commercial banks [CONAVI, 2013]) INFONAVIT has until recently been the *de facto* policy maker for housing and urban development in Mexico.[6] Throughout its history, the institute has interpreted its primary mission as one of providing low-cost housing, with the support of retirement income receiving a growing, albeit lesser, priority (part of this is explained by the much more recent acquisition of the

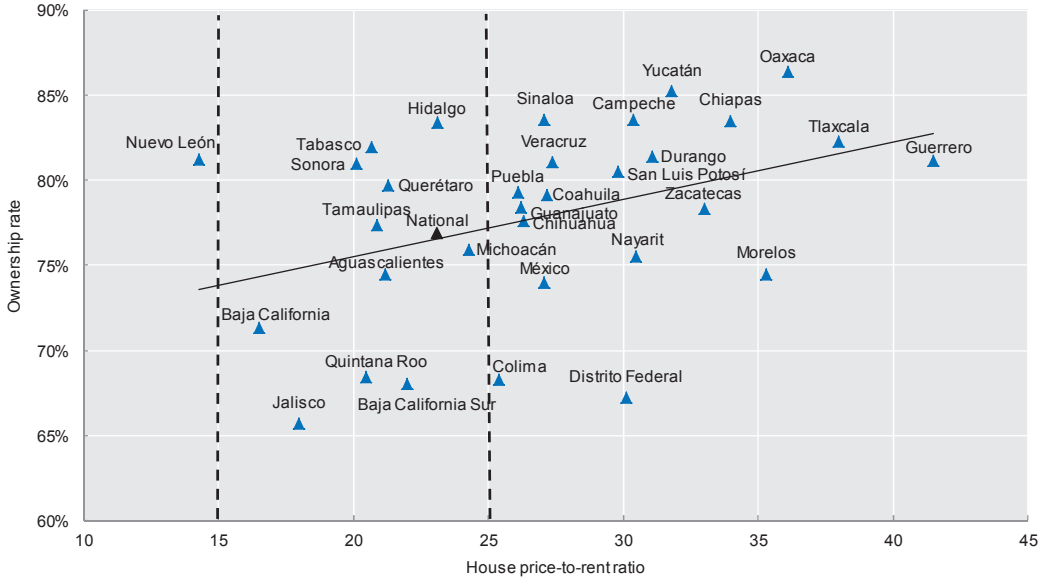
pension mandate, which was only voted by INFONAVIT's General Assembly in 2006). To a considerable degree, this is understandable since INFONAVIT was explicitly established to provide low-cost housing to workers, and the governance structure of the institution was initially designed to reflect this vision. INFONAVIT's role in the expansion of housing finance and the transformation of the housing development process in Mexico will be discussed in detail in the next section.

Box 2.3. **The importance of residential mobility for the labour market**

Residential and geographical mobility contribute to the efficient matching of jobs and the allocation of human resources within the labour market (Henley et al., 1994), especially in the event of permanent shocks requiring a reallocation of production factors – such as sector and structural changes related to globalisation or technological progress (Janiak and Wasmer, 2008). For instance, studies have shown that in the United States adjustment to shocks largely occurs through migration between regions (e.g. Decressin and Fatas, 1995; Blanchard and Katz, 1992). Indeed, there is a positive correlation across countries between residential mobility and reallocation of workers. Policy interventions in housing markets may affect geographical and, in turn, labour mobility and could give rise to mismatches and other inefficiencies in these markets (e.g. Van der Vilst et al., 2003).

Source: Andrews, D. and A. Caldera Sánchez (2011), "The evolution of home ownership rates in selected OECD countries: Demographic and public policy influences", *OECD Journal: Economic Studies*, Vol. 2011/1, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_studies-2011-5kg0vswqpmg2; Henley, A., R. Disney and A. Carruth (1994), "Job tenure and asset holdings", *Economic Journal*, Vol. 104; Janiak, A. and E. Wasmer (2008), "Mobility in Europe – Why it is low, the bottlenecks and policy solutions", European Economy, *Economic Papers*, No. 340, Directorate-General for Economic and Financial Affairs, European Commission, Brussels, September, available at: http://ec.europa.eu/economy_finance/publications/publication13173_en.pdf; Decressin, J. and A. Fatas (1995), "Regional labor market dynamics in Europe", *European Economic Review*, Vol. 39; Blanchard, O. and L.F. Katz (1992), "Regional evolutions", *Brookings Papers on Economic Activity*, No. 1; Van der Vlist, A. et al. (2003), "Residential mobility and local housing market differences", *Tinbergen Institute Discussion Paper*, TI 2002-003/3.

Figure 2.3. **Ownership rates compared to SHF's house price-to-rent ratio in Mexican states, 2010**



Notes: Values above 25 indicate that renting a home is advisable; below 15 buying a home is the better option and in between 15-25 years there is no clear advice.

Source: INEGI (2012b), *Population Census*, INEGI; own calculations.

Box 2.4. **What is INFONAVIT?**

The National Workers' Housing Fund Institute (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores*, INFONAVIT) is a housing provident fund established in 1972 when amendments to the Constitution were adopted, *i)* establishing a right to adequate housing (Article 5); and *ii)* stipulating that employers would have to contribute to a national housing fund and that a financing mechanism should be set up to enable workers to purchase affordable housing (Article 123). Subsequently, the Labour Law was amended to set mandatory payments by employers at 5% of workers' wages.

The institute presently operates with a dual mission of providing housing finance and pensions to salaried, formal-sector workers who contribute a 5% payroll tax to an individual account managed by INFONAVIT (referred to as INFONAVIT "affiliates" throughout this report). Accounting for 70% of the Mexican mortgage market, INFONAVIT has over time become one of the most important actors in housing development in Mexico: one in four Mexicans lives in a house financed by the institute. INFONAVIT manages the assets of approximately 18.1 million currently active affiliates. An additional 31.3 million workers have an account with INFONAVIT to which they are not actively contributing, likely because presently they are not formally employed.

Since its creation, INFONAVIT has operated with a high degree of autonomy. The Assembly, its highest governing body, which is comprised of representatives of the federal government, trade unions and the private sector, appoints the Director General upon the recommendation of the Mexican President. Since it does not receive general budget funding, INFONAVIT does not require periodic appropriations from federal ministries or Congress. While subject to some oversight by the Ministry of Finance and Public Credit, INFONAVIT has considerable flexibility in setting its own priorities.

INFONAVIT has historically acted as a government-sponsored mortgage bank, providing loans for the purchase of housing which remain on its own balance sheet. For the first 30 years of its existence, virtually the only source of funding for these operations was the funds in housing accounts. INFONAVIT's funding situation is much more favourable than those of most mortgage banks, since it obtains its funds from a mandatory contribution by employers on behalf of their workers. Thus, historically it has had no obligation to pay competitive returns on housing accounts to obtain its funds or to maintain the confidence of those supplying funds, for, unlike depositors in a mortgage banks, the holders of housing accounts have no right to withdraw their funds.

Mexico's rapid housing transition addressed the quantitative housing gap…

The transformation of Mexico's housing production system occurred over several decades. Prior to reforms to INFONAVIT in the 1990s, homes were for the most part self-built through an incremental, largely informal, process without permits, using household resources to acquire the land and construct the house. By 2005, however, a majority of households bought a home built by a private developer with a mortgage financed – for the majority, and at least in part – by government agencies with tight restrictions on both the borrower and the type of housing eligible to receive financing (Monkkonen, 2009). Mexico's housing transition also hinged on the complete transformation of the country's construction industry: prior to the 1990s, most construction companies were small-scale operations, but by 2004, nine of the country's largest developers controlled 25% of the market share (Monkkonen, 2009).

INFONAVIT's role in the country's housing transition

INFONAVIT has played a pivotal role in the country's housing transition due to its market dominance in the formal housing production process, which has been facilitated by several factors. First, federal policies aiming to expand access to housing for more and more people through an acceleration of new housing development provided INFONAVIT with a highly favourable political environment to build and expand its operations. Second, INFONAVIT has been able to take on a leading role in Mexico's housing production process in large part because the public actors involved in housing policy and production are both numerous (at federal, state and municipal level) and fragmented, creating a disjointed institutional landscape (Chapter 4). A federal body tasked specifically with directing Mexico's housing policy was not created until 2000 (CONAFOVI, later CONAVI), well after INFONAVIT had built its model and expanded its market share. Third, the institute has enjoyed privileged access to a captive market, through a legally mandated 5% payroll tax collected through the employers of all formally employed, salaried workers in Mexico.[7]

Several additional factors help to explain the rise of INFONAVIT and its role in Mexico's housing transition:

- Absence of a market-driven approach, with a mortgage supply dominated by government-backed lenders. Access to housing finance in Mexico has been driven by political and administrative processes, rather than by the market, leaving Mexican consumers "with little choice whatsoever" (Clifford and Renaud, 2001). INFONAVIT assumed an even more prominent position in housing finance when commercial lending ceased in 1995. Between 1995 and 2004, INFONAVIT's share of total housing finance (in terms of peso value) increased from 26% to 57%, while commercial banks' market share dropped from 73% to 21% (CONAVI, 2013).[8] During this period, INFONAVIT's mortgage portfolio expanded rapidly, originating nearly 6 million credits in just a decade (CONAVI, 2013). Since 2005, INFONAVIT has considerably increased co-financing opportunities with private banks (Chapter 1), with co-financing targeted primarily at higher income affiliates and to finance home improvements.

- A system that induces affiliates to take out a mortgage – and penalises those who do not. Not only are IMSS-affiliated workers granted access to INFONAVIT loans, they are also induced to take out a loan. This occurs for two reasons. On the one hand, INFONAVIT operates a cross-subsidy model in two respects: *i)* affiliates' 5% contribution helps to fund both mortgages for affiliates who take out a housing loan as well as a supplemental retirement fund for all affiliates (thus, in effect, savers cross-subsidise borrowers); and *ii)* the larger value of contributions from higher income affiliates allows lower income affiliates to receive lower interest rates (thus, higher income affiliates cross-subsidise those with a lower income: in effect, lower income affiliates pay interest rates closer to 4% [e.g. for those earning a monthly salary between MXN 1 967 and MXN 3 150], compared to interest rates close or equivalent to 10% for higher income affiliates [e.g. for those earning more than MXN 19 688]). The problem with the model is evident when one considers that: *i)* only one-quarter of INFONAVIT affiliates have taken out a housing loan (INFONAVIT, 2013b); and *ii)* returns on INFONAVIT pensions have underperformed relative to those offered by retirement funds administrators (*Administradores de Fondos para el Retiro*, AFOREs) in the wider market (Chapter 5). This suggests that the vast

majority of INFONAVIT affiliates who never take out a housing loan are ultimately penalised in the form of poor returns on pensions (this issue is further discussed in Chapter 5). In short, the current INFONAVIT model effectively rewards borrowers and penalises savers.

- A housing assistance framework based on employment status, with less attention to housing needs. As reported in OECD (forthcoming *a*), in a broad sense, housing policies have been based on allocating resources to households on the basis of employment status, with less attention to actual housing needs. The quantity and amounts of housing loans made by INFONAVIT are positively associated with formality rates across metro zones (Chapter 1). Associating housing programmes to employment status has not helped to target resources or to guarantee their effectiveness in improving housing conditions.
- Restrictions on the eligibility of borrowers who can receive INFONAVIT loans, with a growing focus on low-income households. Only salaried, formal employees with an IMSS account can access INFONAVIT lending options, which are financed through the 5% payroll tax. Over time, INFONAVIT lending has become increasingly targeted to eligible lower income populations, as the institute further developed its cross-subsidy lending model. Between 2007 and 2012, new lending products were developed to meet the needs of lower income affiliates, including the introduction of subsidy programmes for low-income families to purchase a house (*Ésta es tu casa*, operated by CONAVI) (INFONAVIT, 2013b), and the number of low-income households receiving financing through federally supported programmes increased from about 50 000 in 2000 to nearly 400 000 in 2010 (CONAVI, 2013). Between 2010 and 2012, households earning less than four times the minimum wage made up the vast majority of INFONAVIT lending for the acquisition of new homes (CONAVI, 2013).
- Restrictions on the eligibility of the types of housing that can be financed with INFONAVIT loans. In the early years, mortgages were available only for new homes in large developments. However, these restrictions were relaxed somewhat in 1997 to allow affiliates greater flexibility in: *i)* supplementing the mandatory 5% contribution and removing funds from their account; *ii)* re-selling INFONAVIT-financed homes to non-INFONAVIT affiliates; and *iii)* combining INFONAVIT financing with other sources of financing – namely, from private banks (see Monkkonen, 2009). Since then, INFONAVIT has continued to expand its offer of housing solutions to include lending for "used" (existing) housing, home improvements and expansions, and rental housing.

However, even today, most housing finance continues to be oriented toward the construction of new homes. Acquisition of housing made up 70% of the total volume of INFONAVIT lending in 2012 and 98% of total value (CONAVI, 2013). This nevertheless represents a slight deduction since 2010, when loans for housing acquisition accounted for over 98% of all INFONAVIT lending in terms of both volume and value (CONAVI, 2013). Meanwhile, between 2008 and 2013, the share of INFONAVIT credits for the purchase of existing ("used") homes increased from 19% to 35% of all housing credits originated (INFONAVIT, 2014).

The limited potential borrowers of INFONAVIT loans (and the increasingly focused socio-economic sub-sector targeted by its loans) and the focus on home ownership, have important consequences for urban development. First, restricting lending to IMSS-affiliated workers implies that roughly half of the economically active population

in Mexico employed in the informal sector are without public housing support. This may be a factor contributing to the continuing prevalence of informal housing settlements throughout Mexican urban areas. Second, the ever-increasing focus on providing home ownership opportunities for low-income households has necessitated a housing model based on mass-produced housing developments built on distant, inexpensive peri-urban land in order to meet this need efficiently. According to INFONAVIT's Financial Plan 2011-2015, the National Housing Survey indicated that the majority of affiliates who had not yet used their INFONAVIT housing credit were already living in a well-located house with access to services and transport; however, they were not yet homeowners (INFONAVIT, 2011). Thus, to satisfy the demands of affiliates for home ownership, INFONAVIT housing credits may have inadvertently resulted in moving households from centrally located areas to more distant neighbourhoods. This topic is discussed in greater detail later in the next section.

While INFONAVIT has changed its lending practices over time, the significance of its role in the formal housing development process cannot be understated, particularly in the earlier years, and in later periods when private banks ceased lending in the face of economic shocks. Box 2.5 describes INFONAVIT's evolution over time in the context of other structural changes in the economy and the housing market.

Increasing housing quality, yet qualitative gaps remain

There is no denying that housing quality has improved in recent decades, thanks in part to higher construction standards imposed by INFONAVIT. Between 1990 and 2010, the share of the population lacking basic housing services decreased overall across metropolitan zones and with respect to several different indicators of housing quality. By 2010, 93% of homes in metropolitan zones were built with durable walls and 85% with durable roofs, up from 78% and 64%, respectively, in 1990 (Table 2.3) (INEGI, 1990; 2010). Access to basic urban services and infrastructure, such as piped water, drainage and electricity, has also improved over the past two decades. Most homes in Mexican urban areas are of higher construction quality and better equipped with basic services than in previous decades. Mexico's experience can, in some respects, be paralleled to that of Chile, which managed over several decades to dramatically reduce the quantitative housing shortage and address significant quality gaps relating to overcrowding (see Micco et al., 2012).

Table 2.3. **Evolution of housing quality in Mexican urban areas**

Average across Mexican metropolitan zones, 1990-2010

	1990	2000	2010
With walls made of durable materials	78%	86%	93%
With roofs made of durable materials	64%	72%	85%
Connected to sewerage network	71%	83%	94%
Connected to piped water	58%	67%	78%

Source: INEGI (1990, 2000, 2010), *Population Census*.

Box 2.5. The evolution of INFONAVIT and its lending practices: 1970s to the present

While external factors – such as significant economic shocks in the mid-1990s and again in 2008, both affecting the state of private banks and commercial lending; a favourable political environment that encouraged rapid and substantial housing production; generally weak capacity at municipal level, despite important competencies in urban development – helped to facilitate the rise of INFONAVIT, over the decades the institute became one of the most important actors in housing and urban development in Mexico.

The early years: 1970s-1980s

In the 1970s and 1980s, INFONAVIT essentially determined the rules of the game in the formal housing development process as it sought, above all, to reduce the housing shortage. Until the 1990s, INFONAVIT acted as both a contractor and a mortgage lender (INFONAVIT, 2013b), focusing its activities on promoting housing construction for targeted social groups. INFONAVIT's lending increased steadily between 1973 and 1990. The volume of housing credits grew from just over 5 000 in 1973 to nearly 90 000 in 1990, while the total value of loans rose from MXN 1.5 million to MXN 3.4 billion, respectively (CONAVI, 2013). However, a significant share of housing developed in the early years of INFONAVIT consisted of multi-story, multi-unit developments, many of which were poorly located and poorly maintained, ultimately subject to rapid degradation (Fuentes López and Campos, 2007). Its housing model during this period relied principally on "massive and non-flexible" solutions and offered affiliates a limited return on their housing account fund (INFONAVIT, 2013b). Moreover, poor internal practices (including lending with interest rates far below market-rate and an excessive rate of non-performing loans, with essentially little recourse for loan collection; see Chapter 5) had rendered INFONAVIT nearly bankrupt. Accordingly, INFONAVIT significantly reduced construction and lending activities (Pardo and Sánchez, 2011).

Major changes in a volatile political and economic landscape: 1990s-2000s

The volatile economic, industrial and political context of the 1990s facilitated the continued rise of INFONAVIT and the transformation of housing development process in Mexico. The "tequila crisis" hit Mexico in 1995, causing many commercial banks to cease lending for housing and thus resulting in a contraction of lending for both Mexican home-buyers and private developers. Many people stopped paying their mortgage, resulting in an oversupply of housing. As a result, in the late 1990s, Mexico's housing model changed decisively to offer home ownership opportunities to low-income households, a segment of the market that had been heretofore underserved, including by public lenders.

The close integration between government lenders and private developers was formalised in 1998 through an agreement between INFONAVIT and the Mexican Construction Industry Association: with the Housing Commitment (*Compromiso por la Vivienda*), INFONAVIT agreed to: *i)* provide more information on the housing demand (volume and type of housing) in Mexican metropolitan areas; *ii)* streamline loan approval processes; *iii)* pressure state and municipal governments to relax permitting processes; and *iv)* purchase units directly from developers once they were more than 65% complete (Monkkonen, 2009). As Monkkonen (2009) summarises for the period of the late 1990s and early 2000s: "The large-scale homebuilding companies in Mexico operate as a sort of speculative builder, but with a guaranteed market. INFONAVIT assures developers loans for units before they are built and the assignation of financing means that INFONAVIT members are [channelled] into buying them." During this period, the rise of limited-purpose financial companies (*Sociedades Financieras de Objeto Limitado*, SOFOLES) helped to expand housing after 1995 – when private banks ceased mortgage lending – up through the global crisis in 1998.

Box 2.5. The evolution of INFONAVIT and its lending practices: 1970s to the present (*cont.*)

A strong political commitment to housing production in the early 2000s

From the early 2000s, INFONAVIT's lending was further expanded within the context of an extremely favourable political environment, with a strong public commitment from the federal government to increase investment in housing (Malkin, 2001; CONAVI, 2005). The administration set a target of increasing the number of houses sold from 476 000 in 2000 to 750 000 by 2006. Given the weak state of private banks at the time (commercial banks' market share had dropped from 73% in 1995 to 21% in 2006), reaching the target would require heavy reliance on the public financial institutions. INFONAVIT would be expected to provide half of that target, which implied a 50% increase in lending (INFONAVIT, 2001). In fact, the number of credits granted by INFONAVIT rose from 250 000 in 2000 to more than 450 000 in 2006 (INFONAVIT, 2013b). During this period, the government also developed several institutions to support the expansion of federal lending: a development bank, *Sociedad Hipotecaria Federal* (SHF), designed to develop a secondary mortgage market, and the National Commission for the Promotion of Housing (CONAFOVI, now CONAVI), intended as the co-ordinating agency between the different housing actors.

At the same time, internal reforms within INFONAVIT continued to improve the financial position of the institute and, by some measures, of affiliates, who began to benefit from a higher return rate on savings after 2004 – though returns have declined since then (Chapter 5). Overall, the period 2001-06 was one of rapid expansion of housing lending with substantial managerial reforms, which led to a marked improvement of the financial profile of the institution. However, some weaknesses in the model were becoming evident: INFONAVIT-financed homes were not well suited to the needs of INFONAVIT affiliates, and the problem of abandoned housing started to attract attention (see Fuentes López and Campos, 2007; Herbert et al., 2012; INFONAVIT, 2013b).

The global financial crisis of 2008 and its aftermath

In 2008, the global financial crisis resulted in a contraction of housing finance once again, which, despite marked improvements since the height of the crisis, has yet to recover to its pre-crisis levels. The crisis resulted in a significant drop in both housing demand and housing and construction financing by commercial and para-public entities. On the one hand, private lending shrunk and many of the country's largest publicly traded developers faced significant financial difficulties (for more details on this period, see Box 2.9).

A new strategy for INFONAVIT: 2012 and beyond

In the past several years, INFONAVIT has taken important steps to address many of the shortcomings of its past lending activities and has shifted its focus toward a more sustainable housing model. It has expanded the range of credit products available to affiliates beyond the acquisition of a new home to include financing to purchase a "used" (existing) home; build, expand or improve a home; or, most recently, to rent. In addition, there is an increased focus on developing appropriate solutions throughout workers' life cycle – for both housing and retirement – and including efforts to improve returns. This renewed strategic orientation for INFONAVIT aims to increase workers' overall net worth and quality of life.

Sources: INFONAVIT (2013b), *Financial Plan 2014-2018* (*Plan Financiero 2014-2018*), available at: http://portal.infonavit.org.mx/wps/wcm/connect/eb3b5c33-9cf5-4b08-9c8c-eb50f7f6537e/Plan+financiero+2014+VERDE.pdf?MOD=AJPERES (accessed 17 July 2013); CONAVI (2013), *Financiamientos de Vivienda por ONAVIS*, Entidad y Modalidad database, Comisión Nacional de Vivienda; Fuentes López, M. and P. Campos (2007), "Scale without growth: INFONAVIT's expansion in the Mexican mortgage market", Case Program CR 16-07-1863.0, Harvard Kennedy School, Cambridge, Massachusetts, available at: www.case.hks.harvard.edu/casetitle.asp?caseNo=1863.0; Pardo, M. and E. Sánchez (2011), *El Proceso de Modernización en el INFONAVIT 2001-2009, Estrategia, Redes y Liderazgo*, COLMEX, Mexico City; Malkin, E. (2001), "Can Fox make Mexico a nation of homeowners?", *Business Week*, 15 January; CONAVI (2005), *Vivienda: Evidencia del Cambio*, Colección Editorial del Gobierno del Cambio, Comisión Nacional de Fomento a la Vivienda, Mexico City; INFONAVIT (2001), "Informe del C. Director General al H. Consejo de Administración", INFONAVIT, March, available at: www.infonavit.org.mx/inf_general/noticias/informes/598_marzo.shtml; Herbert, C.E., E.S. Belsky and N. DuBroff (2012), *The State of Mexico's Housing – Recent Progress and Continued Challenges*, Joint Center for Housing Studies, Harvard University, Cambridge, Massachusetts, December, available at: www.jchs.harvard.edu/research/publications/state-mexico%E2%80%99s-housing-%E2%80%93-recent-progress-and-continued-challenges.

Even so, around 9.8 million households – 18% of which (1.8 million households) are INFONAVIT affiliates – continue to be affected by a qualitative housing shortage[9] (INFONAVIT, 2013b). Of the total, INFONAVIT affiliates account for the following share of the overall qualitative housing gap:

- 19% of households (0.4 million of 2.1 million households) facing overcrowding[10]
- 18% of households (1.3 million out of 7.4 million households) living in homes that are of deteriorated quality or have been constructed with substandard materials[11] to a degree that residents' health or safety may be compromised
- 13% of households (0.5 million out of 4.0 million households) living in homes that lack connections to basic services, such as water, drainage and electricity[12]
- 11% of households (0.4 million out of 3.7 million households) that are affected by more than one of these deficiencies in housing quality.

The qualitative housing deficit is particularly a problem for INFONAVIT affiliates in the states of Tabasco, Chiapas, Guerrero, Oaxaca and Veracruz, where in 2012 between 38% (Veracruz) and 60% (Tabasco) of INFONAVIT-affiliated households faced a qualitative housing deficit. Moreover, among these five states, in all but Tabasco, the share grew between 2010 and 2012. Most of the housing deficit in these states can be attributed to deteriorated quality or substandard construction materials. INFONAVIT affiliates were least affected by a qualitative housing deficit in Jalisco, the Federal District and Aguascalientes: in these states, only 5-7% of affiliates had substandard housing (INFONAVIT, 2013b).

Rojas and Medellín (2011) find that Mexico – along with other higher per capita income Latin American peers such as Argentina, Brazil and Panama – has a larger share of dwellings lacking basic infrastructure than would be expected, in light of per capita income levels. Costlier urban infrastructure provision to distant developments is a problem: the rise in urban sprawl has increased the cost of developing transport infrastructure, water and electricity distribution systems, and wastewater treatment plants (Herbert et al., 2012).

…yet the expansion of housing finance has left a legacy of urban challenges

The quantitative focus of Mexican housing finance in recent years has resulted in inefficient urban development and suboptimal housing outcomes with important economic, social and environmental costs, including:

- a rapidly expanding urban footprint, at the expense of depopulating city centres
- housing developments located far from employment opportunities and services, and poorly served by infrastructure (especially transport)
- a large share of vacant homes
- social segregation and lower well-being.

It is important to emphasise that neither Mexico's housing finance system broadly, nor INFONAVIT lending practices more specifically, have been wholly responsible for urban sprawl, suboptimal housing quality, inadequate infrastructure provision or the high rate of uninhabited housing in Mexico. Indeed, each of these issues is complex and will require reforms to public policies at all levels of government and from a range of actors and institutions; the challenges facing Mexican urban development within this broader

context will be discussed in Chapter 3. The discussion below focuses on urban challenges insofar as INFONAVIT lending practices: *i)* have played a contributing role; and *ii)* could be reformed in order to mitigate these impacts in the future.

Rapid urban expansion at the expense of depopulating city centres

As reported in Chapter 1, between 2001 and 2011 Mexico's urban development occurred at increasing distances from the centre city and was increasingly deconcentrated, two characteristics associated with urban sprawl (Figure 1.24 in Chapter 1). Among OECD countries, only Chile and France registered urban development patterns of greater deconcentration and decentralisation. Indeed, Mexico's urban growth has, in recent decades, occurred largely in peripheral areas of metro zones, at the expense of depopulating (or de-densifying) centre-city locations. Between 2000 and 2010, across Mexican metro zones with at least 500 000 inhabitants, the centre-city area (the zone within 2.5 kilometres of the city centre) registered an average 7.5% decrease in population density; in contrast, across Mexican metro zones with at least 500 000 inhabitants, population density increased on average by 6.8% in areas located more than 10 kilometres from the city centre (Figure 1.26 in Chapter 1).

Urban sprawl is the result of multiple factors: rising income levels and lower transport costs; a fiscal and regulatory bias toward single family, owner-occupied homes; the prevalence of irregular settlements, hampering effective urban growth management; weak municipal capacity and local land-use controls for urban development; and a high level of municipal fragmentation within Mexican metropolitan areas, making co-ordinated land-use and transport planning across neighbouring jurisdictions a challenge.

In addition, mortgage lending and housing subsidies have made important contributions to sprawl and the hollowing out of city centres by facilitating the construction of new formal housing on the periphery of cities. Partly as a result of the strategy to expand housing access to lower income populations, INFONAVIT-financed housing was largely developed far from city centres and disconnected to urban services and infrastructure. Moreover, the INFONAVIT model of mass-produced homes for low-income households hinged on the availability of inexpensive, large land reserves, which are primarily located in the urban periphery. Between 2006 and 2013, in 46 of Mexico's 59 metropolitan zones, more than 70% of homes registered in the new National Housing Registry (*Registro Único de Vivienda*, RUV) were built either on the outskirts or the periphery (see Figure 1.26 in Chapter 1). Further, in a 2012 survey of 309 INFONAVIT affiliates in 6 cities[13] (INFONAVIT, 2012), a primary reason many households had left vacant their INFONAVIT-financed home was due to poor housing location, situated far from work, the city centre and/or schools (discussed below).

Thus, based on INEGI (2000, 2010), even though between 2000 and 2010 average densities increased in many large metro zones (those with at least 500 000 inhabitants), this increase: *i)* appears to have resulted from the development of "pockets" (increasingly deconcentrated nodes) of new, dense developments in more distant (decentralised) parts of metro zones; and *ii)* was accompanied by a decrease in the population density of central areas. This "hollowing out" of many Mexican cities has important, far-reaching implications. While the general trend toward increasing density is in many ways a positive development, the challenge is rather associated with the location of higher densities in more distant areas, the isolation of housing development from employment opportunities and the difficulties associated with providing adequate infrastructure to serve higher concentrations of inhabitants. Indeed, as will be discussed in the next

section, a primary challenge with the construction of dense developments in peripheral areas is that many of them were built with inadequate access to services (transport, water, etc.).

Housing development inadequately served by urban infrastructure

Increasing attention has been given to deficiencies associated with the location of INFONAVIT-financed homes, as the demographic, economic and spatial expansion of Mexican metro zones has not been accompanied by adequate development of urban infrastructure. The unequal provision of public goods and services is one of the primary costs of urban sprawl (Nechyba and Walsh, 2004).

The location of INFONAVIT-financed developments in distant peri-urban locations has led to increased transport and congestion costs, while single-use residential development obliges residents to travel greater distances for jobs, shopping and other urban services (Monkkonen, 2009). Even programmes intended to spur a new sustainable housing model, like the inter-ministerial Certified Developments programme (formerly DUIS), initially paid insufficient attention to housing location, distance to employment opportunities and access to urban services and infrastructure; the case of Tijuana's San Pedro development is emblematic in this respect. Recent examples of Certified Developments, such as Las Misiones (Cajeme, Sonora) and San Marcos (Mérida, Yucatán), have been more successful examples of the implementation of integrated urban planning principles (Box 2.6).

Integrated housing and infrastructure planning and financing has proven extremely difficult in Mexico, creating uncertainties and complications in the development process and working against long-range planning to accommodate new growth (Herbert et al., 2012; OECD, 2013b). This gap between housing development and infrastructure provision is one of the most critical challenges in Mexico's urban development (Chapter 3). In some cases, agreements with developers to build water pipelines and other services were never fulfilled, while promised transport infrastructure connecting the developments to urban centres never materialised.

The development the water infrastructure and transport networks needed to serve new housing developments is illustrative of this point. In many cases, the responsibilities to develop basic services, like water, have been transferred from public authorities to private housing developers. While this approach is intended to ensure that a minimum level of services reaches new developments, particularly those located in municipalities that lack the fiscal and technical capacity to provide the services themselves, it also results in the provision of a minimum level of services to serve the population of the immediate development, without taking into account any future growth expected in the area. Typically, once private developers have met the minimum requirements for infrastructure development as outlined in the development plan, they transfer these responsibilities to municipal authorities, who are then charged with providing and maintaining services. There are several problems with this approach. First, there are cases in which developers are ultimately unable to complete the promised infrastructure networks; this has particularly become a problem in recent years with the financial difficulties faced by some of Mexico's largest publicly traded housing developers. At the same time, municipal authorities are, in these cases, loath to take over these responsibilities from the developer, particularly in distant neighbourhoods for which the development of service access would be extremely costly. Second, even when developers are able to complete the

Box 2.6. **Mexico's sustainable development initiatives have had mixed success**

The Certified Development (*Desarrollos Certificados*) initiative (formerly Sustainable and Integrated Urban Developments, DUIS) was established in 2009 in response to unplanned urban development throughout the country, a result of accelerated housing construction. The initiative aims to facilitate the elaboration of master-planned, compact, sustainable developments which incorporate many of the best practices in international planning: mixed land uses, diverse housing options, proximity to employment and transport networks, access to urban services, in addition to measures relating to sustainable water and waste management, greenhouse gas emissions reduction and energy efficiency. Certification is granted by the Inter-ministerial Housing Commission (*Comisión Intersecretarial de Vivienda*), which is composed of representatives from 17 ministries and other agencies.[1]

There are currently 15 Certified Developments: 5 in northern Mexico (Baja California, Durango and Sonora), 4 in central Mexico (Guanajuato, Hidalgo, Jalisco and Morelos) and 6 in southern Mexico (Puebla, Quintana Roo, Tabasco and Yucatán).

Despite the aims of the initiative, results have thus far been mixed. The Valle San Pedro development in Tijuana, for instance, has faced numerous challenges, while others (Las Misiones in Cajeme [Sonora] and San Marcos in Mérida [Yucatán]) have been more successful.

Valle de San Pedro (Baja California)

The Valle de San Pedro development, a 5 859 ha located 40 kilometres from Tijuana's city centre, was initiated in 2003 by one of the country's largest developers (URBI), the state of Baja California and the municipality of Tijuana; it ultimately gained DUIS certification in 2009. Initially, it was anticipated that the development would host 10 000 housing units in 435 ha in the first stage and up to 160 000 housing units (640 000 inhabitants) at build out (25 years later). By late 2014, however, just 2 700 housing units had been built, with 7 000 inhabitants (INFONAVIT, 2014a; 2014b). Construction began in 2010 and was put on hold in 2013 due to the financial difficulties facing the developer. According to the housing units registered in the RUV, between 2009 and 2010, 90% of the registered units (2 712) had been sold, but not all are inhabited. Moreover, INFONAVIT (2014) estimates that approximately 7% of the once-inhabited housing stock has been abandoned or vandalised.

Valle de San Pedro and nearby Valle de las Palmas, built outside Tijuana (Baja California)



Source: © Isabel Carreras Baquer.

Box 2.6. **Mexico's sustainable development initiatives have had mixed success** (*cont.*)

The Valle de San Pedro has faced diverse challenges. The development still lacks complete basic infrastructure, functioning streetlights, green areas, and adequate public transport and roads to connect residents to regional employment hubs. Responsibility for basic services (e.g. water, waste) remains in the hands of the developer (URBI), which faces significant financial difficulties. The planned water pipe and electrical infrastructure connecting the distant development to existing networks have been only partially constructed; as a result, provisional water service is provided by water delivery trucks – a costly service for developers and a suboptimal service for residents. Moreover, investment attraction to the Valle de San Pedro's area of influence has had little success and there are few sources of employment in the immediate area. One of the only large employers in the area, Geo Alpha, a factory owned by Geo, ceased operations in 2013 (Gómez, 2014) as a result of the company's financial difficulties. One exception is the University of Baja California, which operates within the certified area.

Las Misiones (Sonora)

Las Misiones, certified in 2011, is located in the municipality of Cajeme (Sonora), within the Ciudad Obregón urban area. At build-out, it is expected to host 4 803 housing units with 20 000 residents on 103 ha. According to the developer (*Länder*), the development currently hosts roughly 23% of the projected housing and commercial units and an equivalent share of the projected population. Moreover, 40% of the expected facilities (cultural activities, day-care centres, etc.) have been constructed.

Unlike the Valle de San Pedro, Las Misiones is located 5 kilometres from the city centre, in proximity to two public transport lines that connect residents to public services and commercial activities in the downtown. In terms of employment, the development is contiguous to the Industrial Corridor of the Ciudad Obregón airport and less than 5 kilometres from another industrial park hosting several major corporations.

Note: 1. These include: the Ministry of Agrarian, Territorial and Urban Development (SEDATU); the Ministry of Finance and Public Credit (SHCP); the Ministry of Environment and Natural Resources (SEMARNAT); the Ministry of Energy (SENER); the Ministry of Economy (SE); the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA); the Ministry of Social Development (SEDESOL); the Ministry of Communications and Transport (SCT); the Ministry of Public Education (SEP); the Ministry of Labour and Social Welfare (STPS); the Ministry of Health (SS); the Federal Mortgage Corporation (SHF); INFONAVIT; FOVISSSTE; the National Bank of Public Works and Services (BANOBRAS); PROMEXICO; and the National Housing Commission (CONAVI).

Sources: INFONAVIT (2014a), *Ficha Técnica Valle de las Palmas*, INFONAVIT; INFONAVIT (2014b), *Ficha Técnica Lomas de San Pedro*, INFONAVIT; Government of Mexico (2010), *Desarrollos Urbanos Integrales Sustentables DUIS*, SHCP, SEDESOL, SEMARNAT, SENER, SE; Díaz, E.M. (2010), "Desarrollos urbanos integrales sustentables. Identificación de la necesidad del sitio", unpublished Master Thesis, UNAM; interviews with Arq. Daniel Rubio Diaz de la Vega, Executive General Director, IMPLAN Tijuana; Arq. Rodolfo Argote Gutierrez, Territorial Planning Director, IMPLAN Tijuana; Dr. Tito Alejandro Alegria Olazábal, Professor at El Colegio de la Frontera Norte; Mtro. Alejandro Arregui Ibarra, Baja California Regional Delegate, INFONAVIT; M. Arq. Armando Diaz Hoeflich, Technical and Sustainability Manager, Baja California XV Delegation, INFONAVIT; Registro Único de Vivienda, RUV (2014); information provided by to OECD by SHF in October 2014.

required infrastructure, municipalities have little incentive to sign off on the transfer of responsibilities for service provision and maintenance, again given the high costs involved and especially in more distant neighbourhoods. The development of urban transport infrastructure can face similar challenges, though often involving additional levels of government (see Chapter 3). In both cases, the result is that residents are often left with incomplete, provisional services (in the case of water) or must find alternate, more costly and potentially time-consuming modes of travel. These challenges to some degree fall beyond the direct scope of INFONAVIT, which is a housing finance institution; INFONAVIT can, however, contribute to possible solutions (to be discussed later in this chapter).

A large share of vacant housing, including a share of homes financed by INFONAVIT

The growing number of vacant homes in Mexico has become a worrisome trend for Mexican policy makers. INEGI estimates that there are approximately 4.9 million uninhabited homes in Mexico, equivalent to one-seventh (14.2%) of the total housing stock (INEGI, 2010). Three million of these homes are located in urban areas. The share of vacant homes among the total Mexican housing stock has remained constant at 14% since 2005; however, the distribution of vacant homes within Mexican states changed considerably between 2005 and 2010 (Sánchez and Salazar, 2011). By comparison, Mexico's overall vacancy rate is comparable to that of Argentina (14.4%), Ireland (13.8%), Spain (13.7%) and, to a lesser extent, Portugal (12.5%), though considerably higher than that of the United States (7.5%), France (7.2%) and Germany (4.4%) (Figure 1.37 in Chapter 1).[14] Vacancy in itself is not a problem, as every housing market has some level of vacancy; excessive vacancy is, however, problematic (Box 2.7).

Box 2.7. **Why is vacant housing a problem?**

Every housing market, even those that are very active, has a share of housing sitting vacant at any given point in time for primarily two reasons. The first is construction and upgrading. Newly built housing is not occupied immediately and owners often do not live in housing units that are being remodelled or upgraded. The second cause is the process of buying, selling and renting. Sellers of houses often move out during the sale process and/or before new owners move in, rental properties sit vacant after a tenant moves out and the owner searches for a new one, and sometimes property is purchased solely as an investment.

Thus, vacancy in itself is not a problem; rather, it is vacancy that is in excess of the structural vacancy rate, the share of housing that is necessarily vacant in a healthy housing market (Rosen and Smith, 1983). Excess vacancy is a problem for a number of reasons: reducing the economic productivity of urban areas, wasted investment in consumption rather than productive sectors, and the negative environmental impacts associated with urban sprawl. Chinese scholars have argued that the negative environmental impacts of excess housing construction overwhelm any mitigating efforts of sustainable building regulations (Sun et al., 2011), which have also been an emphasis of Mexican housing policy.

Sources: Rosen, K. and L. Smith (1983), "The price-adjustment process for rental housing and the natural vacancy rate". *The American Economic Review*, Vol. 73, No. 4, pp. 779-786; Sun, W.H., S.C. Xu and L.S. Li (2011), "Reducing vacant houses is more important than the implementation of green buildings", *Advanced Materials Research*, Vol. 280, pp. 250-254, http://dx.doi.org/10.4028/www.scientific.net/AMR.280.250.

In Mexico, the phenomenon of vacant housing is complex: there are multiple types of vacant housing, as well as multiple causes of the high levels of vacancy. Moreover, there have been different approaches to defining and measuring vacancy levels in Mexico (Box 2.8), creating additional challenges and possibly hindering efforts to address the problem. Vacant homes are prevalent both in older, inner-city neighbourhoods as well as in newer developments in the urban periphery. Chapter 3 will explore the issue of vacant housing in greater detail and within a broader context, assessing the potential roles for different actors in the housing sector. This section focuses on the critical role that INFONAVIT lending practices have played in contributing to this problem. Because less academic attention has been afforded to this issue, more time will be spent on its analysis here.

Box 2.8. **Defining and measuring vacant housing in Mexico**

With high rates of vacant housing in Mexico and other OECD countries – particularly in the aftermath of the global crisis, which resulted, in some countries, in significant foreclosures – both the definition of vacant housing and its measurement have received increasing attention by policy makers. In Mexico, INEGI and INFONAVIT have developed different approaches to the definition and methodology for measuring vacant housing.

INEGI

INEGI defines "uninhabited housing" (*vivienda deshabitada*) as individual homes that are fully constructed and immediately inhabitable, but in which no one is living at the time of the Census, nor using for commercial activities or as a secondary home. "Uninhabited homes" includes housing that has previously been inhabited as well as housing that has never been inhabited. INEGI distinguishes "uninhabited housing" from "housing for seasonal, recreational or occasional use" (*vivienda de uso temporal*); "seasonal homes" are defined as those that are fully constructed and immediately inhabitable but that at the time of the Census are used for holiday or recreational use for several days, weeks or months (in other words, they are not used as a residence year-round).

The process by which INEGI determines whether housing is inhabited, uninhabited or for seasonal, recreational or occasional use is described in detail in INEGI (2010b). In summary: municipal census analysts made a preliminary classification of inhabited, uninhabited or seasonal use homes. Subsequently, for the 2010 Census, a specialised operational unit was created and trained to verify the initial findings of the municipal analysts. For homes judged to be uninhabited or for seasonal use, members of the specialised unit were required to confirm the occupation status of the home with at least six neighbours.

INFONAVIT

INFONAVIT defines "uninhabited housing" (*vivienda deshabitada*) as individual homes that are unfurnished and well-maintained (e.g. clean, without graffiti or with no damaged doors/windows) in which no-one is currently residing. It has also developed two separate, additional categories to classify vacant homes that are not presently inhabitable: "abandoned housing" (*vivienda abandonada*) is housing that is uninhabited, unfurnished and unmaintained, with some damages (e.g. broken windows); "vandalised housing" (*vivienda vandalizada*) is housing that is uninhabited, unfurnished and unmaintained, with relevant damages in the structure (no doors, no windows, no toilets, graffiti).

It is worth mentioning that unlike INEGI, INFONAVIT does not undertake a regular survey or Census to review the conditions of the homes financed after they have been sold. Rather, when there is a payment problem of the borrower, INFONAVIT, through its mortgage collection efforts, can verify the housing condition during a home visit. By these means, as of June 2014, 107 000 units were recorded as vacant (*abandonadas, deshabitadas* and/or *vandalizadas*). As there is no recurrent review of the physical condition of these houses, the current status of homes visited in June 2014 is unknown.

In 2010, INFONAVIT commissioned a series of internal studies to assess the extent and causes of uninhabited housing that had been financed by INFONAVIT and propose possible remedies. In the first phase of the survey (INFONAVIT, 2010), approximately 2 700 homes were observed in 6 Mexican regions; all homes surveyed had been financed by INFONAVIT between 2006 and February 2010. The initial survey found that just over a quarter (26.0%) of observed homes were uninhabited; 7.5% were used for "weekend use"; 66.4% were inhabited; and 0.1% for other uses. Of the uninhabited homes, approximately 34.5% were observed to be without maintenance while 6.1% were observed to be vandalised. In the second phase of the survey, 309 interviews were conducted with INFONAVIT affiliates in 6 cities[1] who confirmed that they were not living in the home that had been financed by INFONAVIT (INFONAVIT, 2012). It is nevertheless important to emphasise that this sample of homes financed by INFONAVIT is not representative of the entire housing stock of INFONAVIT-financed homes, which stretches much earlier than 2006.

Box 2.8. **Defining and measuring vacant housing in Mexico** (*cont.*)

Challenges associated with measuring vacant housing

Estimating the extent of vacant housing is nonetheless difficult, given the numerous challenges associated with both defining and measuring vacant housing. Aside from the challenges associated with agreeing on a harmonised definition (within but also across countries), measuring vacant housing is associated with high costs. Unlike housing characteristics of inhabited housing that can easily be collected within a survey, measuring vacant housing (that is not registered elsewhere) requires individuals visiting possibly vacant homes to assess the current status. In order to determine that the property is indeed vacant, several site visits at different dates and times are necessary. Getting information on vacant homes at a national scale is thus not only very time consuming, but also comes at a high cost. Moreover, as mentioned previously, the different definitions and measurement methods used by the Mexican authorities pose an additional challenge to a clear understanding of the extent, causes and potential solutions for excessive vacancies.

Note: 1. Cities and metro zones surveyed include: Ciudad Juárez, ZM Guadalajara, ZM Laguna, ZM Puebla, ZM Tijuana and ZM Valle de México.

Sources: INEGI (2010b), *Resultados de la Encuesta de Verificación de Viviendas desHabitadas y de Uso Temporal del Censo de Población y Vivienda 2010*, available at: (accessed 25 November 2014) ; INFONAVIT (2011), Financial Plan 2011-2015 (*Plan Financiero 2011-2015*); available at: http://infonavitpublica.org.mx/2012/?q=node/90 (accessed 6 October 2014); INFONAVIT (2010), "Estudio sobre el estado y uso de las viviendas INFONAVIT", internal INFONAVIT document shared with the OECD; INFONAVIT (2012b), "Estudio nacional de vivienda deshabitada, fase II: Causas de deshabitación", internal INFONAVIT document shared with the OECD.

An analysis conducted by Monkkonen (2014) assesses the spatial variation in vacant housing in census tracts (AGEBs) both within and across the 100 largest urban areas in Mexico,[15] measuring for each urban area the extent of vacant housing: *i)* city-wide; *ii)* in the centre city; and *iii)* on the periphery. Among the other most relevant findings of the analysis with respect to INFONAVIT (these are described in greater detail in Chapter 3):

- Average vacancy rates are higher in peripheral areas[16] (16.3%) than in inner-city areas[17] (12.8%). However, on average, the share of a city's vacant housing is much larger in inner-city areas (32.8%) compared to the share located in peri-urban areas (19.8%), likely due to the fact that there are more houses in the central parts of cities and these census tracts have a higher housing unit density.
- There is greater variation in the peri-urban vacancy rates than those in central cities. Although the supposition that the vacant housing phenomenon is predominately a problem in the urban periphery is in some ways correct, this is not true everywhere. In 64 of the 100 largest cities in Mexico, vacancy rates are higher in the peripheral areas of the city than they are in the city overall, although in 10 of these 64 cities the difference is relatively small (less than 10%).
- Housing vacancies are more concentrated in neighbourhoods in the urban periphery than they are in inner-city areas. This finding might explain some of the focus on vacant housing in peripheral areas, in spite of the fact that there are actually fewer vacant units there.

INFONAVIT lending practices appear to have contributed to Mexico's high housing vacancy rates both directly and indirectly. However, surprisingly, housing finance is strongly associated with high central city vacancy rates but not significantly associated with peri-urban vacancy rates. How can this be when the vast majority of houses

purchased with finance are located in the urban periphery? On the one hand, concentrating housing finance in peri-urban areas has directly resulted in some level of housing vacancies in peripheral areas as households move out to be closer to jobs and services. As discussed previously, housing developers have tended to take advantage of the expansion of INFONAVIT to build subdivisions that might not have services or retail stores until years after they are completed, making their habitation a challenge (Monkkonen, 2011b). INFONAVIT (2013b) reported that for housing financed by the institute prior to 2013, only 11% of affiliates based their housing choice on proximity (principally to jobs). On the other hand, housing finance has also contributed indirectly to the high vacancy rates in inner-city areas, as the large amount of peri-urban housing construction facilitates households moving out of central-city housing in the first place, and the much less active market for used housing does not fill these vacancies when they move out.

It is important to point out that the suboptimal location of some homes financed by INFONAVIT and other lenders is not the only factor that may have contributed to high rates of vacant homes and foreclosure. INFONAVIT (2012b) reports that many homes are vacant because individuals took loans simply because they were available to them, not because they had any intention to move into the houses immediately. As has been discussed previously in this chapter, INFONAVIT affiliates, until recently, had a strong incentive to take out a loan and purchase a house, even if they did not intend to move, because the main way to benefit from their contributions to the fund was to obtain a loan. Furthermore, loans from INFONAVIT are issued with below-market interest rates. For this reason, it is common for members to purchase a house as an investment, perhaps without fully considering the financial implications.

Despite evidence of the contribution of INFONAVIT lending practices to high vacancy rates in Mexican urban areas, its impact on the overall vacancy rate is nevertheless difficult to quantify. The share of households that have left vacant an INFONAVIT-financed home (provisionally, permanently or simply part-time, during the work-week for instance) is not known. INFONAVIT reported that between 16% and 20% of INFONAVIT credits originated between 2006 and 2010 were for homes that were ultimately uninhabited (INFONAVIT, 2011); based on the 2.3 million loans originated by INFONAVIT for complete housing during this period, this would suggest that between 390 000 and 487 000 homes were ultimately vacant in 2011. Nevertheless, INFONAVIT does not conduct an annual survey of vacant homes, and the full extent of vacant homes within its stock is unknown. In June 2014, through its mortgage collection efforts, the institute conducted home visits for a subset of homes with loan payment problems to verify the housing condition. By these means, as of June 2014, 107 000 units were recorded as vacant.

Excessive vacancies are not only a problem for cities and neighbourhoods (see Box 2.7), they are also a costly problem for housing finance institutions like INFONAVIT. INFONAVIT estimates that each abandoned home costs the institute MXN 265 000 (roughly USD 19 000).[18] The institute estimates a 5% default rate on its mortgages.[19] Demographic and labour mobility issues are other causes contributing to this phenomenon.

INFONAVIT has proposed two areas of reform: one set to prevent the continuation and increase in housing abandonment, and the other to deal with the vacant housing that is already part of its portfolio. To prevent growing housing abandonment, several mechanisms are proposed: improved access to information for members about purchasing

to help them take the right decision, a more diverse set of options for members who are eligible to borrow money, and improved criteria for developers to build housing that meets the needs of members. All three proposals are important and will be discussed in greater detail in the last section of this chapter. To ensure that the urban environments of newly purchased houses do not deteriorate and to motivate families to move into currently vacant houses, INFONAVIT has introduced several programmes. One example is an insurance policy that guarantees the maintenance of various aspects of services and infrastructure in the local environment. During the second half of 2013, INFONAVIT introduced a pilot programme to rehabilitate 20 000 abandoned homes. The Sale and Brokerage of Affordable Housing programme (or VIVE) facilitates the rehabilitation and sale of vacant houses to INFONAVIT members at a discounted price. Private-sector operators carry out the rehabilitation and marketing to resell houses, whereas INFONAVIT appraises the houses before and after the work.

Social segregation, lower well-being and the broader implications of INFONAVIT lending

Some evidence also suggests that housing finance policies have contributed to increasing socio-economic geographical segregation (Sánchez Peña, 2012; see also OECD, forthcoming *a* and Chapter 1 for evidence of socio-economic segregation). Socio-economic segregation can, in turn, have negative effects on the well-being of the disadvantaged by affecting their health, educational achievements, work-life balance and personal security (Leigh and Wolfers, 2001).

Further, the implications of Mexico's housing transition extend well beyond housing. Clifford and Renaud (2001) contend that the creation of INFONAVIT "effectively disenfranchised" millions of unaffiliated Mexicans (those without formal, salaried employment) from housing finance and created the policy bias toward newly constructed, finished housing, to the detriment of home improvements, rental housing or "used" (existing) housing. By extension, in light of the restricted access to housing finance, Monkkonen (2009) demonstrates how the publicly backed mortgage system functioned as a regional development policy that channelled more development to manufacturing centres in northern states than to tourism- or agricultural-dependent southern states, where the share of salaried employees is smaller. The entire construction industry changed as well, with the emergence of large construction companies to the extent that by 2004, nine developers came to control one-quarter of the country's housing market (CIDOC/SHF, 2006), before facing significant financial challenges when the housing model began to show signs of weakness. There is also evidence that the new housing finance system may have contributed to increased socio-economic segregation (Monkkonen, 2009) and housing markets of limited liquidity, particularly those located in poor neighbourhoods. Finally, the dual mandate of INFONAVIT – as housing lender and pension provider – reflects an inherent conflict of interest, which has ultimately resulted in a system that heavily incentivises affiliates' housing access over retirement savings. Indeed, by most measures, few Mexicans are sufficiently saving for retirement (Chapter 5).

Some of the suboptimal outcomes of Mexico's housing finance system are in part due to the fact that INFONAVIT has operated within a complex, and in many cases inefficient and underdeveloped fiscal, financial, legal and institutional landscape (Chapter 4). Thus, in some cases, while the housing finance system did not on its own create some of the key challenges facing Mexico's housing supply (e.g. low rental penetration, high vacancy rates, prevalence of irregular settlements), it has nevertheless reinforced them.

A more sustainable housing model for Mexico

There is little doubt among public and private actors involved in Mexico's housing sector that reforms are needed to address the costly shortcomings of the previous housing model. Previous administrations recognised some of these challenges, yet the current administration is the first to introduce a clear paradigm shift toward a more sustainable housing model and to implement important institutional reforms to achieve it.

Mexico's new approach to housing policy

In December 2013, the Mexican government approved the Sectoral Programme for Rural, Territorial and Urban Development 2013-2018 (*Programa Sectorial de Desarrollo Agrario, Territorial y Urbano 2013-2018*) to guide the programme of work of the Ministry of Agrarian, Territorial and Urban Development (SEDATU). Subsequent programmes for housing (the National Housing Programme 2014-2018) and urban development (the National Programme for Urban Development 2014-2018)[20] were approved in April 2014, in accordance with the objectives outlined in the Sectoral Programme. Together these signify an important step toward the broader, qualitative shift in Mexican housing policy, one which frames housing development within the larger urban environment and in connection to urban service networks (Chapter 3). The six objectives of the National Housing Programme are:

1. control urban expansion through housing policy
2. improve rural and urban quality of life, while addressing the housing deficit
3. diversify the offer of quality housing solutions in a way that efficiently addresses the different needs of the population
4. generate optimal credit and subsidy schemes for housing
5. strengthen inter-institutional co-ordination in an effort to ensure the co-responsibility of the three levels of government toward the National Housing Policy
6. generate quality and timely information to support evidence-based policy making.

Realising these objectives will require a complete "rethinking of policy instruments" (Government of Mexico, 2014); it will also require significant reforms to the numerous institutional actors involved in housing and urban policy in Mexico (Chapters 3 and 4). Success will also hinge on the ability of private developers to adapt effectively to the new housing model (Box 2.9). Like the other entities involved in housing and urban development, INFONAVIT will need to ensure not only that its orientations, actions and ambitions support the new federal housing policy overall, but also that they complement the actions of its partner institutions. The critical role of INFONAVIT in contributing to the realisation of these objectives is the subject of the remainder of this chapter.

Reforming Mexico's housing finance system for more sustainable housing and urban outcomes

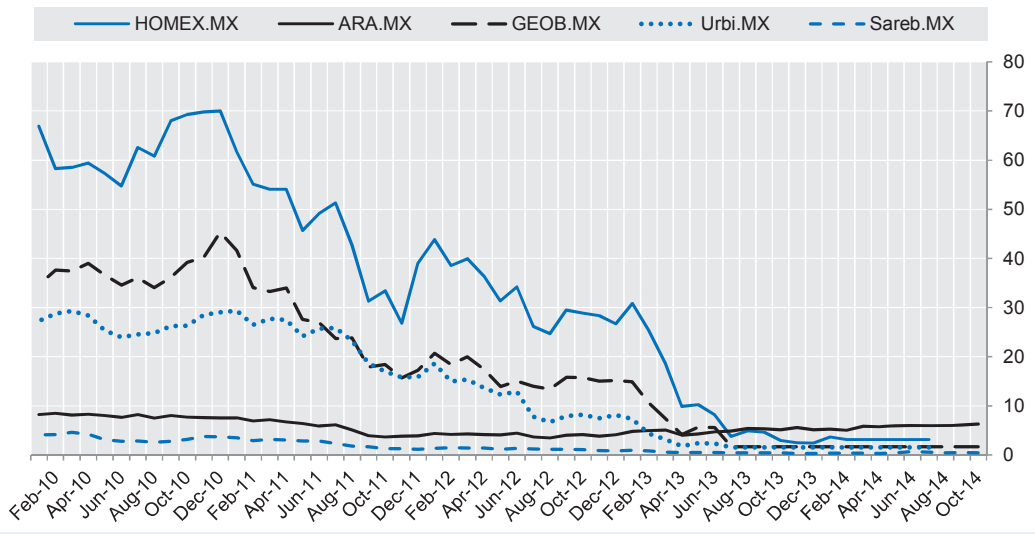
A more sustainable housing model in Mexico will not be possible without reforms to the flow of funding for housing development in Mexico. Even though the role of policy leadership and co-ordination is assigned to SEDATU, INFONAVIT still drives the majority of the country's housing finance system and thus may hold the key to more sustainable housing development in Mexico.

Box 2.9. **Reforming a construction industry in transition**

The recent shift in federal policy has proven challenging for some of Mexico's largest construction companies, which had relied on a mass-produced, high-volume housing model, facilitated by strengthened partnerships between INFONAVIT and large, private construction firms. In April 2013, two months after the announcement of the government's new housing policy, quarterly reports from three of Mexico's largest publicly traded companies – Casas GEO, Homex and Urbi – recorded an annual sales loss ranging from 38% (Casas GEO) to 85% (Urbi) (Torres, 2013). Around this time, both Urbi and Casas GEO announced restructuring plans, and in subsequent months, both companies announced their inability to meet interest payments for their bonds issued in a foreign currency (Torres, 2013). Share prices for Casas GEO, Homex and Urbi dropped below USD 50 in 2013, their lowest point in nearly a decade, after peaking in 2007 at around USD 300 (Ocampo, 2013). Between 2009 and mid-2013, ratings for their bonds had dropped from "elevated vulnerability to default risk" to "exceptionally high" credit risk, with default appearing "imminent or inevitable" or, in the case of Urbi, already underway (Torres, 2013).

Yet even before the announcement of the new federal policy in 2013, there were already signs of significant weaknesses in what proved to be a rather inflexible housing model of Mexico's largest builders. By many respects, the announcement of the reforms simply accelerated the financial difficulties of some of Mexico's largest national construction firms (see figure below). The global financial crisis in 2009 resulted in a significant drop in both housing demand and housing and construction financing by commercial and para-public entities. In the wake of these difficulties, while other companies moved to greater diversification of their portfolios, Mexico's largest builders moved to focus more on the low-value subsidised housing market (Torres, 2013) – a strategy that has in hindsight proven markedly less successful. In 2011, share prices of Mexican homebuilders fell by more than 50%, considerably more than the drop in the Mexican Stock Exchange overall (Torres et al., 2012). Some analysts have suggested that the large-scale, mass-produced housing model was unable to adapt a growing housing demand for small and medium-sized developments (Torrres, 2013).

Share prices drop among Mexico's largest publicly traded construction companies, 2010-14



Source: Finance.yahoo.com; historical prices (accessed 9 October 2014).

Box 2.9. **Reforming a construction industry in transition** (*cont.*)

Policy shifts in the previous administration may also have played a role: as early as 2010, the government increased the criteria for measuring housing quality and modified operating rules for housing subsidies to encourage higher densities, environmental quality and, later, better locations (Torres, 2013). Another important change was a move to diversify housing financing solutions beyond home ownership. INFONAVIT, for instance, introduced a very successful pilot project facilitating home remodelling loans, which two years later accounted for approximately 25% of all loans originated (Torres, 2013). A change in financial accounting regulations in 2012 also affected the industry, as companies were no longer permitted to report construction underway as "sales", which had generated incentives to maintain an accelerated pace in construction but meanwhile an excess in inventory and land (Torres, 2013).

There is no doubt that the 2013 federal housing reforms implied significant operational changes for both builders and public entities. However, it is also clear that many of the largest builders – as well as public bodies – failed to respond adequately to early warning signs of weaknesses in the housing sector (such as a large share of vacant, recently developed homes) and to changes in the economic, political and regulatory landscape as early as 2009. In many cases, "business as usual" continued, with housing continuing to be built in peripheral areas with an already high rate of vacant homes (Torres, 2013). It is precisely during this post-2008 period that many of the INFONAVIT-financed homes now vacant were constructed.

In 2013, SEDATU created the National Land Bank Registry (*Registro Nacional de Reservas Territoriales*, RENARET]), encouraging developers to register the extent and location of land they had already purchased for housing development. In its first phase, 495 firms voluntarily registered over 110 000 hectares in the RENARET, enough to accommodate more than 6 million new homes in the coming years[1] – many more than would be necessary, given prevailing demographic trends, existing vacant land and opportunities to increase density in city centres. According to SEDATU officials, such information reinforces that many home-building firms failed to foresee the limits of the expansive development business model.

Meanwhile, it is also important to emphasise that the difficulties of Mexico's largest, publicly traded developers are not uniform across the housing sector. Many small and medium-sized builders have performed relatively well, even in the years following the global crisis. Vinte is one such example.

Note: 1. Based on a conservative estimate of residential density of 60 housing units per hectare.

Sources: Torres, E. (2013), "Public housing companies: An early ending?", *Economic Watch, Mexico*, BBVA Research, 14 August 2013, available at: www.bbvaresearch.com/KETD/fbin/mult/130814_ObsInmobiliarioMexico_23_eng_tcm348-399184.pdf?ts=2652014 (accessed 30 October 2014); Torres, E., S. Vazquez and F. Balbuena (2012), "What do analysts think of housing construction companies?", *BBVA Real Estate Watch, Mexico*, 2 February 2012, available at: www.bbvaresearch.com/KETD/fbin/mult/120202_ObsInmobiliarioMexico_21_eng_tcm348-285645.pdf?ts=2652014 (accessed 30 October 2014).

Over the last several decades, INFONAVIT has encouraged developers to build housing with a price point as the main guiding criteria and provided those developers an almost guaranteed client base. While this practice may have offered a larger share of the population access to housing, it meanwhile led to the construction of thousands of houses for which there was very limited demand in subdivisions far from city centres, job opportunities, and in some cases without adequate infrastructure. This problem would not have been as severe in a more market-based system in which developers that built unwanted houses would have gone out of business quickly; given the close ties that were established between INFONAVIT and a handful of large homebuilding firms in the late 1990s and formalised through the Housing Commitment in 1998, the housing finance

system continued to support an ultimately suboptimal housing model that had important implications for the country's urban development outcomes.

On the one hand, the primary problem with the INFONAVIT model is the built-in incentives to take out a housing loan, particularly for lower income affiliates: with only a quarter of affiliates ultimately taking out a mortgage, 75% of affiliates who do not use their housing credit effectively subsidise a more favourable loan package for the 25% who do take out a loan (in the form of below-market rate interest rates, facilitated access to a new home) and in return making below-market rate returns on their own retirement savings. Moreover, as part of the institute's socially minded mission, higher income INFONAVIT affiliates are subject to higher interest rates on their housing loans than lower income affiliates (ranging from 4% for those earning a monthly salary between MXN 1 967 and MXN 3 150 to 10% for those earning more than MXN 19 688), even though affiliates at all income levels make the same share of contribution (5% of their monthly salary) to their individual fund. Thus, while the model enables low-income households the opportunity to acquire homes that they may otherwise be unable to afford, it does so implicitly at the expense of the "savers" – those affiliates who never take out a housing loan. Thus, reforms could be undertaken to redesign the mortgage allocation criteria, incentivise savings and improve the quality of information offered to affiliates as regards their housing (and pension) options.

On the other hand, as long as housing finance continues to implicitly push developers into peri-urban areas, many of the other necessary reforms to Mexico's housing and urban development system – changes in regulations, improved planning efforts, and modernised cadastres and property registries – will have a limited impact on development activity. Many initiatives will require efforts from entities beyond INFONAVIT – SEDATU, the SHCP, BANOBRAS, state and municipal governments – though INFONAVIT can contribute by continuing to diversify housing solutions beyond the purchase of a new home and being part of the solution to improve the links between housing and infrastructure development.

The remainder of this chapter will focus on strategies that INFONAVIT might consider in order to improve housing and urban development outcomes in Mexico, focusing on how INFONAVIT can develop the right incentives for both INFONAVIT affiliates to exercise a wider range of housing solutions and for developers to transition toward a housing model of more compact, centrally located development. There are a number of opportunities for INFONAVIT to fulfil its social mission to expand access to housing solutions for Mexicans of different income levels, whilst maintaining particular attention to low-income households, in a way that: *i)* reduces the spillovers and negative externalities resulting from its lending practices (e.g. inefficient urban development patterns, high vacancy rates); and, by extension *ii)* ensures greater balance between its housing and pensions outcomes (Chapter 5). These opportunities include:

- Redesign the mortgage allocation criteria through a better screening system to determine affiliates' eligibility for credit, or a system that rewards the most reliable borrowers. These efforts could help to ensure a higher level of creditworthiness of prospective borrowers and a greater probability that affiliates' could continue to afford mortgage payments over the medium to long term. Further, programmes could be introduced to encourage saving, not just borrowing, which could help affiliates ultimately access a higher quality, better located home (closer to jobs, schools and services) than they would otherwise be

able to afford; improved savings could also help to account for any adjustment to the interest rates resulting from tightened credit standards.

- Allow affiliates more flexibility and more choice about their housing options. INFONAVIT could continue to expand its highly successful programmes that enable affiliates to take out a loan for the purchase of a "used" (existing) home, home expansions or improvements and, most recently, rental housing. INFONAVIT could look to make these alternative housing solutions – particularly rental housing – more attractive, including through additional incentives.
- Contribute to better links between housing and infrastructure development by introducing an infrastructure needs assessment – with a particular focus on transport – as part of the development approval process, expanding the *Hipoteca con servicios* programme as an interim solution to strengthen municipal capacity for service provision, and improving systems to share data across agencies and levels of government.
- Improve the quality of information offered to INFONAVIT affiliates with respect to housing and pensions by improvements to the *Saber para decidir* tool and, potentially over the longer term, more tailored advice to affiliates regarding different investment options over their life cycle.

In sum, reforming the flow of funding for housing development (e.g. INFONAVIT's lending processes) can contribute to better outcomes in multiple domains, including urban development (e.g. more centrally developed housing, a slower rate of urban sprawl), housing (e.g. fewer vacancies), social welfare (e.g. improved savings for affiliates, housing solutions that match their needs and creditworthiness), retirement income (e.g. better returns) and INFONAVIT's internal balance sheet (e.g. fewer non-performing homes, fewer abandoned homes).

Redesign the mortgage allocation criteria, without compromising INFONAVIT's social mission

INFONAVIT analysis relating to the current and projected default rate on housing loans – both of which remain relatively high – suggest that there may be scope to boost the systems in place that measure the creditworthiness of prospective borrowers. INFONAVIT reports that most of the difficulties in the collection of loan payments (i.e. defaults) occur when workers lose their job and find themselves without formal employment: the default rate on those without formal employment is approximately 25%, compared to just 0.5% for those with formal employment. Moreover, the institute projects a continuing default rate of roughly 30% among the borrowers who are currently receiving INFONAVIT mortgages.[21] To address this challenge, INFONAVIT could consider reforms that would: *i)* enable the institute to better match the risk associated with individual affiliates and different housing solutions; *ii)* ensure a higher level of creditworthiness among prospective borrowers; and *iii)* incentivise savings, not just borrowing. These measures could help ensure that prospective borrowers will be able to afford mortgage payments, even during a change in their employment status for brief periods.

Possible strategies to ensure a higher level of creditworthiness among buyers by tightening credit standards, while still maintaining the social mission of the institute, could include:

- Introducing differentiated point thresholds for housing solutions. The existing point system that determines an affiliate's eligibility for an INFONAVIT loan could be refined. Under the current system, affiliates are eligible to take out a housing loan once they have accumulated at least 116 points (out of 171 possible points).[22] An alternative to this system could be to establish a series of "steps" that would trigger eligibility for different housing solutions at different point thresholds. For instance, housing solutions carrying a lower risk potential (e.g. rental housing, home improvements or expansions) could be an option once a minimum number of points are accumulated; more costly, higher risk solutions (e.g. purchase of a new or used home) could be possible once affiliates have reached a higher point threshold. It should, nevertheless, be mentioned that in order for rental housing to become more attractive – and indeed less risky than home ownership options *vis-à-vis* INFONAVIT's lending options – a number of legal and fiscal reforms to Mexico's rental housing regime will be necessary; these are discussed in Chapter 3.

- A rewards system for the most reliable borrowers. INFONAVIT could, for instance, consider a slight increase of interest rates within each sub-category of income level, with a subsequent reduction in interest rates within those sub-categories for borrowers who demonstrate strong reimbursement patterns. This strategy would have the benefit of: *i)* offering reduced interest rates for affiliates across the income spectrum as an incentive to develop good credit histories with the institute; and *ii)* maintaining INFONAVIT's social mandate to offer lower interest rates to lower income borrowers. Another strategy would be to encourage affiliates with a lower initial level of creditworthiness to build up a credit history by renting a home through INFONAVIT's Arrendavit programme in a first phase, and in a second phase have access to lower interest rates to purchase a home (this option is discussed further below, with respect to the development of contractual saving schemes for housing).

  It is worth repeating, however, that these measures should be undertaken in such a way as to ensure that INFONAVIT can continue to fulfil its social mission in addressing the housing needs of low-income households. To that end, measures to continue to diversify the types of housing solutions eligible for INFONAVIT financing could be more appropriate and are discussed below.

- Encourage saving, not just borrowing. Another, related strategy INFONAVIT might consider is to work with affiliates to further incentivise savings, rather than borrowing. Chapter 5 discusses how the pending reforms to Mexico's Social Security Law could be an opportunity for INFONAVIT to develop savings/housing plans. A form of contractual savings schemes for housing, which was introduced in Mexico in the 1980s in the form of *Autofinanciamentos* and has been developed in many OECD countries and emerging markets, could be adapted by INFONAVIT, particularly for lower income borrowers. The aim of these savings schemes is both to: *i)* increase the equity buffer available for mortgage lenders in case of default; and *ii)* establish the creditworthiness of the borrower, filtering out borrowers with a low ability to pay before they take out a loan and giving borrowers with greater creditworthiness the opportunity to demonstrate their ability to pay (Chiquier and Lea, 2009). These plans could enable affiliates to obtain credit from INFONAVIT on favourable terms, provided they save specified amounts for specified periods. A number of OECD countries

have implemented programmes designed to help low-income households accrue the savings needed to purchase a home (Box 2.10).

Box. 2.10. **Initiatives designed to assist households accrue savings to buy a home**

France: Housing Savings Plan (*Plan/Compte épargne logement*)

This programme is a contract-savings scheme, accounting for an annual EUR 4.4 billion (USD 5.5 billion), 23% of which is for new housing. It offers tax-free savings plans as well as state subsidies to encourage individuals to accrue savings for home ownership. Individuals may freely deposit and withdrawal from their account. Several options are possible: *i)* after 18 months, account holders may obtain a loan that includes a "bonus" from the national government; or *ii)* after 4 years, individuals may qualify for a "bonus" as well as a below-market rate loan, which depends on the rate of interest accrued during the period of savings. Due to the deposit and loan limits (EUR 90 000), this programme is often used in complement with other types of loans.

United Kingdom: Help to buy equity loans

The United Kingdom introduced the "Help to buy" scheme in October 2013 with the aim of widening access to the housing market for lower income households. The scheme offers first-time home buyers subsidised means-tested loans to purchase newly built homes, with the state providing a partial guarantee on high loan-to-value mortgages. Given the affordability challenges of the UK housing market on the supply side, critics of the programme raised concerns, however, that the scheme could result in boosting demand for home ownership, without boosting the supply – effectively inflating house prices even further and making home ownership even more difficult for renters (O'Connor and Plimmer, 2013). By October 2014, roughly 50 000 people – many of whom live outside London and the South East – had benefited from the programme (Kahn and Spence, 2014). While the programme does not yet appear to have led to another housing bubble, its geographic reach thus far suggests that it has still not significantly helped households living in areas of the country that are most affected by limited housing affordability.

Thailand: Programmes to underwrite loans to lower income households

The Government Housing Bank (GHB) of Thailand developed a number of innovative ways to underwrite loans to lower income households (Prachuabmoh, 2004). These include both: *i)* leasing a home for three to five years prior to taking out a mortgage, upon record of regular monthly instalment payments; and *ii)* regular payment incentives, by which borrowers that save regularly prior to obtaining a mortgage benefit from a lower interest rate. The GHB spearheaded the creation of a credit bureau to share the credit histories of its 700 000 borrowers, 90% of which are low to moderate income (loans below USD 25 000).

*Source*s: Moody's (2014), "Rating action: Moody's affirms all of Government Housing Bank's ratings", 1 April, available at: www.moodys.com/research/Moodys-affirms-all-of-Government-Housing-Banks-ratings--PR_296012; Chiquier, L. and M. Lea (eds.) (2009), *Housing Finance Policy in Emerging Markets*, International Bank for Reconstruction and Development/The World Bank, Washington, DC, available at: http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/HousingFinanceforEMs_Ebook.pdf; Prachuabmoh, K. (2005), "Setting the context: Thailand", *Housing Finance International*, September, available at: www.housingfinance.org/uploads/Publicationsmanager/0509_Tha.pdf; Prachuabmoh, K. (2004), "The current housing finance situation in Thailand", available at: www.eubv2004.com/DE/programm/3_04_Prachuabmoh_Speech.pdf; Kritayanavaj, Kritayanavaj, B. (n.d.), "Global housing finance after the crisis: An example of a real estate market observatory: Thailand", Government Housing Bank Thailand, available at: http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Session2-BallobhKritayanavaj.pdf.

Allow affiliates more flexibility and more choice about their housing options

As discussed, Mexico is one of the few OECD countries to serve the housing needs of all income levels – and especially low-income households – almost exclusively through programmes that facilitate home ownership. INFONAVIT, along with CONAVI and other housing actors in Mexico, have gradually expanded the types of housing eligible to receive financing and/or subsidies beyond the purchase of new housing to include the purchase of used (existing) housing, home expansions and improvements and, most recently, rental housing. Financing for home expansions and improvements, which was made possible in the early 1980s, made up approximately 30% of total INFONAVIT lending in terms of volume in 2012 (though, logically, a much smaller share in terms of value); the volume of financing to acquire used housing reached 35% of all lending by May 2013.

Diversifying the types of housing eligible for public housing finance can have multiple benefits:

- First, it can provide an opportunity to better match the diverse profiles of potential borrowers (in terms of age, career trajectory, creditworthiness, family status, etc.) to a more diverse range of housing options. The issue of uninhabited housing financed with INFONAVIT mortgages, along with other factors, suggests that the purchase of a home may not be the optimal housing solution for all borrowers; particularly in the case of those who may be less creditworthy, other housing options (e.g. rental) may be more appropriate.
- Second, a more diversified housing offer can help limit Mexico's rapid urban expansion. Expanded use of financing for used homes may offer the potential for first-time borrowers to purchase and upgrade some of the existing vacant homes throughout Mexico – potentially those located in central areas (as discussed in Chapter 3, not all vacancies are located in undesirable peri-urban areas disconnected from infrastructure; many are indeed located in centre cities). Moreover, Blanco et al. (2014) report that rental housing is often more centrally located and of higher density than privately owned homes. By extension, this could help to address the large share of abandoned homes in INFONAVIT's portfolio by encouraging some of INFONAVIT's more desirably located vacant homes to be purchased or rented by other INFONAVIT affiliates, as is presently being pursued through the institute's VIVE programme.
- Third, a more diversified housing offer, especially through rental housing, can help to facilitate greater labour market mobility, as homeowners are typically less mobile than renters (see Henley et al., 1994; Andrews et al., 2011). Some recent measures have moved in this direction. In 2011, the legal mandate for INFONAVIT mortgages was relaxed to allow for portable mortgages, allowing borrowers to transfer their mortgage balance to a new property with the same lender without penalties. Previous operating rules had made it impossible to do so, thereby constituting an important barrier to greater labour mobility.
- Finally, in a context of pending reforms to the Social Security Law that would potentially reduce inflows to INFONAVIT's housing finance portfolio from the current 5% contribution to 2% (Chapter 5), increasing the share of loans for home improvements, expansions and infrastructure upgrades – which constitute a much smaller share of lending in terms of total value but have nevertheless grown over

the years in terms of volume – could help to alleviate any possible shortages resulting from this reform.

To that end, INFONAVIT should continue its efforts to allow its affiliates greater choice in their housing solutions, beyond the purchase of new homes, by strengthening incentives for used homes, home expansions or improvements. First, as discussed, lower point thresholds could be established to access some of these alternative housing solutions, based on the creditworthiness of the potential borrower and the risk associated with a given housing product. Second, there may be scope to further expand the VIVE programme to match first-time borrowers with presently vacant homes in INFONAVIT's portfolio. Chile's *Recuperación de Condominios Sociales* can be an interesting model for the expansion of the initiative in Mexico (Box 2.11).

Box 2.11. **Chile's programmes to recover and improve its social housing stock**

Social Housing Recovery Programme

Nearly 55 000 apartments in social housing complexes in Chile are in poor condition due to poor construction quality, insufficient floor area, high density, lack of green areas, peripheral location or poor connectivity. For cases in which it is impossible to improve or repair the buildings, Chile developed the Social Housing Recovery Programme (*Programa de Recuperacion de Condominios Sociales*), which allows the owners of damaged housing complexes to transfer voluntarily their houses to the Housing and Urbanisation Service (SERVIU) in exchange for a new housing subsidy. The new subsidy enables residents to purchase a house that better corresponds to their interests and that complies with the current standards and regulations relating to quality, size and equipment. At the same time, this programme is aimed at recovering the land used by these damaged housing complexes and developing urban renewal projects.

Social Housing Improvement Programme

The Social Housing Improvement Programme (*Programa de Mejoramiento de Condominios Sociales*) is aimed at improving the quality of the common property in damaged or vulnerable social housing complexes. This programme works by improving common areas and strengthening the community organisation. The eligible complexes are selected from the social housing complexes in the Family Heritage Protection Programme (*Programa de Protección al Patrimonio Familiar*).

According to the land registry carried out in 2013 by the Ministry of Housing and Urban Development and the Catholic University of Chile, 280 000 out of 344 000 families living in social housing are eligible to benefit from the programme. Besides it is considered that their deteriorating conditions such as the complexes' bad constructive quality, the lack of maintenance and natural deterioration are still "recoverable".

In order to reverse the deteriorating conditions, the programme aims to develop projects for physical improvement (roofs, facades, circulation areas, green areas, parking lots and equipment in common areas) and to improve neighbourhood organisation on the basis of the law on co-ownership. Eligibility criteria include the deteriorating conditions of the co-property, the kind of project, the degree of vulnerability, the level of neighbourhood cohesion and the length of time of the social housing complex.

The programme offers from 80 UF[1] (approximately USD 3 450), with each applicant household contributing 1 UF (approximately USD 45). This means that projects can receive total funding of 81 UF (USD 3 495) for each household. Moreover, projects relating to energy efficiency, serious deterioration, structural risk, disease control and asbestos removal can access additional funding.

Note: 1. UF is the abbreviation of *Unidad de Fomento*, a national economic indicator that is adjustable according to inflation; in April 2014, 1 UF was equivalent to CLP 23 733 (approximately USD 43).

Source: Peer reviewer report: Angela Prado, Ministry of Housing and Urban Development, Chile.

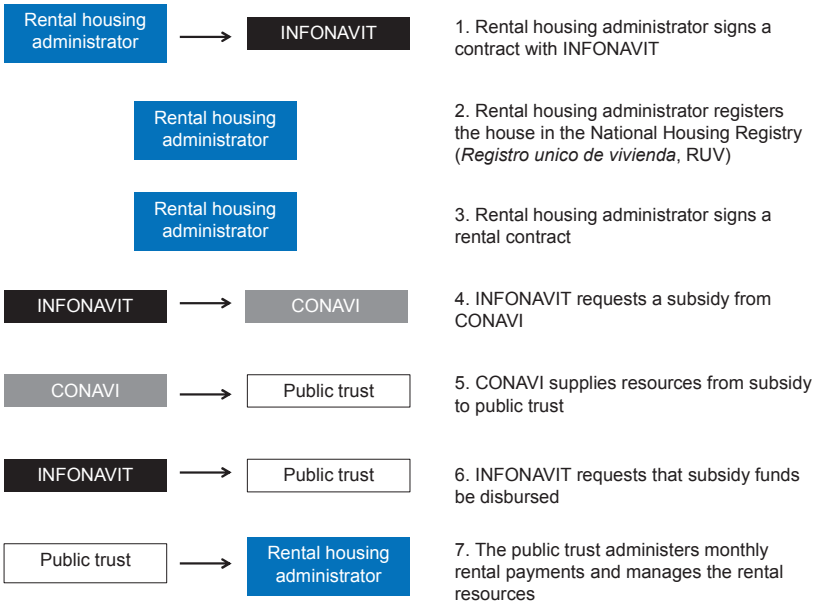
Additionally, there is also potential for INFONAVIT to strengthen its rental housing pilot programme, Arrendavit. Arrendavit enables affiliates to use the balance in their individual housing sub-account (*Seguro de Crédito a la Vivienda*, SCV) as a guarantee to access a quality rental property; monthly rent payments are automatically deducted from the renter's monthly salary and may not be superior to 25% of that amount. At the same time, Arrendavit aims to make renting a property more attractive to property owners by providing a rental guarantee (including for a period of six months in the event that the renter should lose his or her job) and helping to remove some of the uncertainty should the renter ultimately fail to pay.

As of late 2014, the Arrendavit programme is off to a disappointing start. The programme was created with the modest target of registering 2 000 affiliates by the end of 2014 and reaching 20 000 annual credits over the next decade (INFONAVIT, 2013b). Current take-up, however, is significantly lower than expected, with challenges arising on both the supply and the demand side. In terms of supply, INFONAVIT has had difficulty in attracting prospective property owners to the programme, namely because it is much less costly to rent informally (in terms of transaction costs and eventual taxation on rental income) than it is to do so formally through Arrendavit. In terms of demand, few affiliates have registered for the programme, which is due to the broader fiscal, regulatory and legislative barriers to rental housing in Mexico (and Latin American more generally) and the general policy bias toward home ownership. However, Arrendavit's challenges are also likely a result of inadequate communication on the part of INFONAVIT employees as regards the potential impacts of renting. It should also be mentioned that previous rental schemes – such as the SHF's Rent with Option to Buy (*Renta con Opción a Compra*), operated between 2007 and 2012 – were ultimately disastrous, leading to lawsuits against the SHF and partly contributing to the financial difficulties of developers like Urbi (Alcántara, 2014). Arrendavit aims to address one of the primary problems of the now defunct rental programme – renters refusing to pay rent – by offering rental guarantees for up to six months, using the individual renter's housing account as a guarantee.

One of the main challenges facing formal rental programmes like Arrendavit is that renting informally – a market estimated to account for slightly less than half of the total rental stock in Mexico – remains significantly less burdensome. The incentives for renters remain minimal, particularly when one considers that renters generally in Mexico have typically benefited from relatively lax enforcement when they default on rental payments (as experienced even with formal rental programmes of the past, such as the SHF's Rent with Option to Buy programme). The additional incentive offered by a supplemental subsidy for rental housing through CONAVI may help boost Arrendavit's take-up. CONAVI's rental subsidy, which can be combined by INFONAVIT affiliates with the Arrendavit programme, offers low-income households a subsidy that can cover up to 40% of the monthly rent. The challenge remains, however, that the process is complex and institutionally burdensome: renters must sign contracts with the different institutions involved (INFONAVIT, CONAVI, the rental housing administrator and the public trust), and multiple transactions are required among the various institutions (Figure 2.4). Moreover, CONAVI's rental subsidy requires that eligible rental homes must be located in the two most central urban growth boundaries (U1 or U2; see Chapter 3) and must meet specific eligibility criteria. The complexity of the process and the restrictions on the location and type of eligible housing is understandable to a certain extent, given the difficulties associated with past rental schemes and housing development more generally;

however, in Mexico's limited formal rental market, this complexity may ultimately deter potential participants.

Figure 2.4. **Process to acquire CONAVI's rental housing subsidy**



Source: Adapted from SEDATU/CONAVI (2014), "Mercado de Vivienda en Renta: Subsidio a la demanda para el Mercado de Vivienda en Renta", documents shared with OECD by INFONAVIT.

For Arrendavit to be successful over the longer term, it will be critical for a number of broad measures to be taken by other actors – namely, the SHCP, SEDATU and CONAVI – in order to remove some of the fiscal and legal barriers to rental housing (Chapter 3). Without such reforms, rental programmes will have little chance of succeeding on a broader scale. It will be critical, however, to proceed carefully, so as not to create a rental housing bubble. To this end, INFONAVIT should work with the Ministry of Finance and Public Credit, SEDATU, CONAVI and others to: *i)* identify strategies for eliminating the fiscal and legislative barriers to rental housing as well as the policy bias toward home ownership; *ii)* simplify the formal rental housing process; *iii)* offer clear incentives to both property owners and renters; and *iv)* develop a clear, coherent national strategy for rental housing.

To stimulate demand for rental housing among INFONAVIT affiliates, the institute could consider the following strategies, while keeping the broader framework conditions mentioned above in mind:

- Simplify the formal rental process. It will be necessary to reduce transaction costs while maintaining sufficient assurances to property owners in the case of non-payment. Renting an apartment or home should be a straightforward option that allows affiliates to have greater flexibility and choice in their housing options.
- Provide stronger incentives for renting. As discussed earlier, rental housing could be envisaged as a means of developing a strong credit history with the institute, which could later be used to acquire a higher quality home from INFONAVIT. The "riskiest" potential borrowers within INFONAVIT's portfolio could perhaps

be encouraged to rent prior to purchasing a home. The process by which affiliates can complement Arrendavit with a rental subsidy from CONAVI should be simplified.

- Target the Arrendavit product toward populations most likely to be interested in rental housing. Arrendavit could benefit from increased targeting to specific populations (e.g. young professionals; young couples; Chile's *Chao Suegra* initiative, which explicitly targets young Chileans looking to move out of the family nest [Box 2.12]) or geographic locations (e.g. cities with a university or college employees; seasonal workers, such as those in Mexico's primary tourism centres) identified as more susceptible to renting.
- Educate affiliates, as well as direct and indirect INFONAVIT employees, about the potential benefits of renting. As a first step, rental housing should be incorporated in the institute's law and integrated more generally into INFONAVIT marketing materials. However, greater efforts will be required to integrate rental housing as a legitimate, attractive component of INFONAVIT's increasingly diversified housing offer. Since its creation, INFONAVIT has become synonymous in Mexico with owning a home. Authorities at INFONAVIT report that rental housing is a difficult product to "sell" to affiliates because, on the one hand, it represents a clear departure from the institute's historic activities, and, on the other hand, INFONAVIT's own sales representatives remain sceptical as to the potential – though to be fair, relatively untested – benefits of renting in Mexico. INFONAVIT can make an important contribution to addressing both challenges.

  Promotional materials for Arrendavit fail to emphasise the potential benefits of rental housing: the informational flyer for Arrendavit indicates that the programme provides the possibility to rent a home for those workers who have "not yet decided where they want to live" or who many require a temporary housing solution "because their work activities require that they change residence". The possibility of renting with an option to buy could be further communicated, as well as using a period of rental housing as a means of building up a stronger credit history in order to purchase a higher quality home in the future.

  Moreover, a critical step toward better educating affiliates about renting housing will be to incorporate the option in the institute's primary tool aimed at assisting affiliates in their lending options, the *Saber para decidir* workshop. Presently, rental housing is not mentioned at all. A specific tool designed to educate affiliates about the relative benefits between renting and owning could be developed for the workshop among the existing tools presented to assist affiliates in determining whether a given property meets their individual needs. The workshop could develop tools for affiliates to calculate the costs of different housing options – and the benefits of renting. Additional efforts will also be needed to educate INFONAVIT employees – and particularly its sales force – about the potential benefits of rental housing.
- Finally, to ensure that a more diversified housing offer is effectively targeted to the local contexts of different Mexican states and metropolitan zones, INFONAVIT could aim to build capacity within its state delegations for finer market analysis. INFONAVIT lending could be improved through more granular research on housing supply and demand throughout Mexican metropolitan zones,

allowing for products to be more effectively targeted to specific geographic areas and/or populations. It may also prove beneficial to strengthen the technical capacities of regional delegations in light of the increasing focus on housing location as a determining factor in receiving federal subsidies. Increased training could also enable INFONAVIT, over the long term, to increase the flexibility of regional delegations to identify and implement more tailored housing solutions for a given metropolitan zone or state. In the long run, regional delegations should be granted greater flexibility in determining appropriate approaches to fit local contexts. Presently, much of the analysis and determinations regarding housing demand and financing targets are carried out in INFONAVIT's central offices, with limited efforts at the regional level. (Additional strategies for strengthening the role and capacity of INFONAVIT's regional delegations will be explored in Chapter 4.)

Box 2.12. **Good-bye mother-in-law: Chile's *Chao Suegra* initiative to boost demand for rental housing**

This subsidy programme for rental housing, which began in January 2014 with a quota for 5 000 applicants, was a significant step for the Ministry of Housing and Urban Development (MINVU), which had traditionally focused on programmes to support housing acquisition, rather than rental. Through a series of studies carried out by the MINVU and the OECD, it was found that the more vulnerable the conditions of the Chilean families, the lower the share of rental housing and the higher the level of informality. At the same time, the rental subsidy programme aimed to respond to the mobility aspirations of a younger segment of the population, access to better labour market opportunities, and changes in family size and structure.

Against this background, the new programme subsidised part of the cost of the rental housing. The launch of the subsidy – *Chao Suegra* ("Good-bye mother-in-law") – benefited from a smart marketing campaign directed at the target audience: eligible applicants must be a head of household between 18 and 30 years old and present a certain degree of vulnerability (up to the third quintile).

The subsidy offers rental assistance of up to CLP 200 000 (approximately USD 360) for a 5-year period, with a higher monthly subsidy offered during the first 3 years.[0] The objective of the subsidy is to allow young families to improve their savings' capacity during the time that they are beneficiaries. The programme also allows them to have a transitional housing solution in well-located neighbourhoods and facilitate further access to housing benefits for higher value homes. In this way, the programme aims to address deficiencies related to housing mobility and improves the quality of life for thousands of families renting or currently living with relatives.

The main characteristics of the first applicants were households with an average size of 2.6 members, an average age of 26, and an average rental payment of CLP 304 000 (approximately USD 550). Approximately 82% of applicants were women.

Note: 1. During the first three years, a monthly amount equivalent to 3 UF is delivered, which decreases to 2.5 UF for the final two years (UF is the abbreviation of *Unidad de Fomento*, a national economic indicator that is adjustable according to inflation; in April 2014, 1 UF was equivalent to CLP 23 733 (approximately USD 43).

For further information, see www.minvu.cl/opensite_20140910120437.aspx.

Contribute to better links between housing and infrastructure development

One of the most glaring challenges facing housing and urban development in Mexico is the complete disconnect between housing and infrastructure development. Even though infrastructure development is not the function of INFONAVIT, its inability to: *i)* anticipate the service delivery challenges that were likely to result from its housing

model of mass-produced housing developments in peripheral locations; and to *ii)* better co-ordinate housing development with relevant federal (e.g. SHCP, BANOBRAS), state and local authorities responsible for infrastructure provision reflect a critical shortcoming in INFONAVIT's housing development model. The present administration at INFONAVIT is working to put a much greater emphasis on housing location. Meanwhile, Mexico's new housing policy seeks, on the one hand, to provide incentives for the development of more centrally located housing by offering larger federal subsidies to homes that meet a certain location criteria. These initiatives will require efforts from a number of actors involved in housing and urban policy, namely SEDATU, CONAVI, the SHCP, BANOBRAS, FONHAPO and state and municipal authorities, if they are to succeed (Chapter 3). On the other hand, INFONAVIT can do more to anticipate the infrastructure needs of the housing it finances; to strengthen municipal capacity for urban service provision; and contribute to a more co-ordinated data collection and analysis effort across agencies involved in housing, urban development and transport.

- Introduce an infrastructure needs assessment as part of the development approval process. INFONAVIT could require that developers prepare an infrastructure needs assessment in order to be eligible for INFONAVIT mortgages. Expand the *Hipoteca con servicios* programme to strengthen municipal capacity for service provision. By the end of 2014, INFONAVIT expects to have entered into agreements with almost 100 of the country's largest municipalities under which INFONAVIT agrees to collect property taxes of its affiliates as part of their monthly mortgage payments. Expanding this programme to additional municipalities could help build the fiscal capacity of municipalities. However, this ought to be seen as an interim solution addressing an existing capacity gap, and efforts to scale up the programme should be linked to efforts to close that gap (which in any case should be undertaken by the federal authorities, not INFONAVIT).
- Expand and share housing, urban and transport data across agencies and levels of government. A number of public entities – SEDATU, CORETT, CONAVI, INFONAVIT, states, municipalities – in addition to universities, think tanks and other research organisations, are in the process of collecting and processing a wealth of data relating to housing, transport and urban development in Mexico. However, these efforts remain largely un-coordinated, leading to duplication of efforts and, ultimately, the ineffective mobilisation and integration of data from different sources. One example is the National Housing Registry (RUV), financed by the ONAVIs (INFONAVIT, the SHF and FOVISSSTE), which aims to be an increasingly complete database collecting information from Mexican homebuilders on the characteristics of the housing supply in Mexico. France's National Observatory for Sensitive Urban Zones (*Observatoire Nationale des Zones Urbaines Sensibles*, ONZUS) maintains an updated database of the existing housing supply and detailed information on housing demand in the area, based on a series of economic and social indicators.

Another example of particular relevance for INFONAVIT is the collection of fine-grained data at the local and state level relating to risk zones (e.g. flooding, earthquakes, etc.). Currently, this information exists in isolation from data on the housing demand in Mexican metro areas, which, to be meaningful in assisting public authorities and private developers to avoid siting housing and other urban development in risk-prone areas will require the improved co-ordination in a range of public-sector entities. It will thus be critical to ensure that these databases are cross-referenced in order to ensure that

housing subsidies – and in the case of INFONAVIT, mortgages – are not allocated in areas at risk for flooding, earthquakes, etc. For the time being, SEDATU would be an appropriate portal for this type of information.

Improve the quality of information offered to INFONAVIT affiliates as regards housing and pensions

A central problem with INFONAVIT's model is that it incentivises housing finance over retirement savings. While it will be necessary to remove the built-in incentives that make taking out a loan more financially advantageous for an individual affiliate in the long run than building retirement savings, INFONAVIT could also do more to improve the quality of information supplied to its affiliates with respect to their housing and pensions options. As mentioned earlier, incentivising members to take out loans has led many households to purchase a house they did not intend to occupy immediately. A 2012 INFONAVIT study found that 13% of affiliates who purchased a house through INFONAVIT reported doing so because they did not want to lose their opportunity to get a loan, and 18% reported having purchased a home as an investment (INFONAVIT, 2012b). With respect to retirement income, as reported in Chapter 5, recent analyses by the National Commission of Retirement Savings (*Comisión Nacional del Sistema de Ahorro para el Retiro*, CONSAR) show that there is a clear disconnect between the capacity of the current pension system and the expectations of the Mexican public, and that the majority of workers lack of basic information about the operations of the retirement system and their options in retirement planning (CONSAR, 2012). In short, even though Mexican pension reform has effectively transferred responsibility for pension income to the individual worker, most workers are ill equipped to shoulder that responsibility. There is thus ample scope for INFONAVIT, in its present configuration,[23] to equip affiliates with a better basic understanding of the trade-offs between the housing and pensions functions of their individual accounts.

While INFONAVIT has sought to improve the quality of information to affiliates over the years, notably through the introduction of the *Saber para decidir* workshop, several additional strategies could be envisaged in order to ensure that affiliates understand: *i)* the dual functions of their individual INFONAVIT account (SCV); and *ii)* the relative advantages of their different options for housing and pensions. This could be done in several phases:

- Refining the *Saber para decidir* workshop, or developing a similar tool, to improve affiliates' understanding of how their decision to take out a housing loan might affect their retirement savings. The existing workshop, required for all affiliates wishing to take out a loan, does not include any mention of an affiliate's retirement savings or information on how an affiliate's long-term financial situation, including retirement savings, might be affected should he or she take out a loan. For instance, the workshop could include discussion on the limited appreciation opportunities for poorly located housing (beyond the existing indications that housing located far from an affiliate's job and children's school is not an optimal investment). An alternative would be to develop a separate, short workshop focused on the housing/pensions funds, which would also be required before an affiliate was permitted to take out a loan.
- Toward more tailored investment advice over the long term? Over the longer term, INFONAVIT could consider building on its Personalised Assessor service (*Asesoría Personalizada* INFONAVIT [API]) to offer more tailored advice to

affiliates regarding different investment options over their life cycle; the possible reforms to INFONAVIT under the pending amendments to the Social Security Law could provide an appropriate opportunity to broaden this programme (Chapter 5).

Notes

1. INFONAVIT, founded in 1972, is a government-sponsored mortgage bank. By far the largest provider of housing finance in Mexico, INFONAVIT collects and manages 5% mandatory contributions from all private formal-sector workers. FOVISSSTE, founded in 1959, is the second largest supplier of housing finance in the country. It fulfils a function for federal civil servants similar to that of INFONAVIT for private formal-sector workers. For more on INFONAVIT and its evolution over time, see Boxes 2.4 and 2.5.

2. For instance, the National Development Plan 2001-2006 included three explicit housing-related objectives, identifying housing as a key factor to boost citizen well-being (objective 5.3.1.1) as well as to national competitiveness through the creation of a financial institution to promote social housing and the development of the construction sector (objectives 6.3.1.1 and 6.3.1.2). The subsequent National Development Plan 2007-2012 encouraged the expansion of access to housing finance to disadvantaged households as a means of tackling poverty and the need to ensure that development projects support orderly and sustainable human settlements (objective 2.13); in addition to a strategy aimed at ensuring decent housing for Mexicans in poverty (objective 3.1).

3. In 2013, the Mexican Congress removed the legal barrier to re-election of municipal presidents (mayors); each state will now be permitted to determine whether re-election can be permitted.

4. This topic will be discussed in greater detail in Chapter 4.

5. Based on conversations with INFONAVIT officials in July 2014.

6. Prior to the creation of SEDESOL, urban development competencies were the responsibility of the Secretariat for Urban Development and Ecology (SEDUE); in 2013, these competencies were transferred from SEDESOL to SEDATU. Previous efforts to develop a national urban development plan include the National Urban Development Plan (1978), the National Urban and Housing Programme (1984-1988), the National Urban Development Plan (1990-1994) and the *100 Ciudades* (100 Cities) programme (1992).

7. Several categories of formally employed workers are not affiliated with INFONAVIT, including federal employees, who are served by a separate, similar institution (FOVISSSTE) (5% of the economically active population), as well as employees of the state-owned oil company (PEMEX), the state electrical company (CFE) and others (covering 2% of the economically active population) (see Chapter 5).

8. The differences between the sum of banks and INFONAVIT and 100% mainly reflect the activities of FOVISSSTE.

9. The measures of housing quality take into consideration the methodology (currently being updated) established by the Specialised Technical Committee on Housing, headed by CONAVI and INEGI, to calculate the housing deficit. INFONAVIT measures the "housing deficit" based on measures relating to overcrowding, construction materials and access to services.

10. "Overcrowding" is defined by INFONAVIT as more than 2.5 people per bedroom (INFONAVIT, 2013b).

11. The housing materials deficit refers to homes built with inefficient construction materials. This includes dirt floors; walls made from waste materials, cardboard, asbestos sheet or metal, reeds, bamboo, palm, mud or wood; ceilings made from waste materials, cardboard, sheet metal or asbestos (INFONAVIT, 2013b).

12. Homes facing a service deficiency are defined as those that do not have water available within the structure or on the surrounding property (regardless of the water source [e.g. piped water, well, river, lake, etc.]; those without a sewage system (regardless of the type of sewage system); or those without electricity (regardless of the source of electricity [e.g. public network, auto-generated, solar panels, etc.]).

13. The survey consisted of interviews in six cities (Ciudad Juárez, Guadalajara, Laguna, Puebla-Tlaxcala, Tijuana and the Valle de Mexico) with 309 INFONAVIT affiliates who were no longer living in their INFONAVIT-financed homes.

14. Years are 2013 for France; 2011 for Germany, Ireland, Portugal and Spain; 2010 for Argentina and Mexico; see Chapter 1.

15. The sample includes all 59 metropolitan zones, as defined by CONAPO/INEGI/SEDESOL (2012), in addition to 19 conurbations and 20 urban centres.

16. The 25% of census tracts furthest from the city centre are classified as peri-urban.

17. The 25% of census tracts closest to the centre of the city are classified as inner-city.

18. Based on OECD interviews with INFONAVIT Sustainability and Technical Sub-director, January-February 2014.

19. Based on information provided to the OECD by INFONAVIT.

20. The National Programme for Urban Development 2014-2018 will be discussed in detail in Chapter 3, which focuses on urban policy.

21. Based on OECD interviews with INFONAVIT officials in Mexico City, held in January-February 2014.

22. The cut-off point for loan eligibility is 116 points, with a minimum of 24 points and a maximum of 171 points. The credit score reflects variables correlated with the ability to repay loans, such as the applicant's age, income, the current balance in the individual housing account, the length of continuous employment and the length of continuous employment with the current employer.

23. The pending reforms to Mexico's Social Security Law propose a significant change to INFONAVIT's structure, proposing effectively to split the institute into two separate entities: one dedicated to housing finance and the other to manage a mixed account

for housing finance, unemployment insurance and retirement savings. The possible functions of such an entity – including an enhanced emphasis on investor education – are explored in Chapter 5.

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Chapter 3

Urban policy for more competitive, sustainable Mexican Cities

This chapter examines Mexico's urban policy within a broader context and makes recommendations for a range of actors – including the Ministry of Agrarian, Territorial and Urban Development (SEDATU), the Ministry of Finance and Public Credit (SHCP), the National Bank of Public Works and Services (BANOBRAS), as well as states and municipalities – to contribute to the development of more competitive, sustainable cities. The chapter discusses the country's "accidental" urban policy of the past as a background for the new directions for urban development currently underway. Strategies for "getting Mexican cities right" – that is, developing a more strategic, integrated approach to urban development – are proposed, along with concrete tools to achieve better urban outcomes.

The consequences of Mexico's "accidental" urban policy of the past

Urban policy, according to one observer of Mexican development, is what happened by accident through housing policy. In previous decades, national-level policies primarily responded to the country's rapid urbanisation through efforts to address the country's quantitative housing deficit. In the absence of an explicit national urban policy, urban development was driven by housing policy – and more accurately, housing finance – in a context of relatively weak public institutions and a strong private sector (Chapter 2). Mexican cities have, in essence, been shaped by the housing finance system that emerged with the creation in 1972 of INFONAVIT, a housing provident fund that is now one of the largest mortgage lenders worldwide. INFONAVIT significantly transformed the housing development process, advancing the country's transition from informal to formal housing on a grand scale.

Certainly, housing finance was not the only factor that shaped Mexican cities, although it was undoubtedly a significant one. In a few decades, the dominant process by which new housing development occurred in Mexico consisted of housing financed through publicly backed mortgages and built by private developers. Previously, most housing had been informally and incrementally built over time by the owners with their own resources (Monkkonen, 2011a). Informal housing development continues in many urban and rural areas throughout the country, particularly for low-income households without access to formal housing finance assistance. However, the scale of the formal housing finance sector is undeniable: around 60% of the roughly 1 million homes added to the housing stock annually are acquired through financing. In just two decades, INFONAVIT alone originated over 6 million mortgages. As described in Chapter 2, the quantitative success of the housing model had important qualitative shortcomings: housing located far from jobs and urban centres, often lacking public transport connections and basic infrastructure, within a broader context of cities that are sprawling, highly polluted, socially segregated and economically underperforming. In sum, Mexican cities have been far from fulfilling their potential as engines of productivity growth (Chapter 1).

To address these challenges, Mexico is rapidly moving towards a more encompassing understanding of urban policy, shifting the emphasis from building houses to building cities. While attempts to improve urban development outcomes had been made by previous administrations (e.g. the *100 Ciudades* programme), these efforts had little success in changing the way cities developed, in large part because the urban spillovers resulting from the housing finance system were much stronger. The shift undertaken by the current administration in Mexico is in line with an increasingly transversal conception of urban policy across a growing number of OECD countries (Box 3.1). Key for the Mexican authorities will be to develop a coherent national urban policy that takes into account the broader impacts of housing development on the urban environment and people's well-being.

This chapter extends the analysis and recommendations for housing policy from Chapter 2 to an assessment of urban policy more broadly. While Chapter 2 focused on the role of INFONAVIT in contributing to both the challenges and solutions for housing and urban policy, this chapter proposes strategies that could be considered by other critical actors in the housing and urban development process, such as federal ministries relevant to urban, transport, infrastructure and fiscal policy (the Ministry of Agrarian, Territorial and Urban Development [*Secretaría de Desarrollo Agrario, Territorial y Urbano*, SEDATU]), the Ministry of Communications and Transport [*Secretaría de*

Comunicaciones y Transportes, SCT], the National Bank of Public Works and Services [*Banco Nacional de Obras y Servicios Públicos*, BANOBRAS], the Ministry of Finance and Public Credit [*Secretaría de Hacienda y Crédito Público*, SHCP]); state and municipal governments; and public planning institutes. The first part of this chapter will discuss Mexico's new vision for a more integrated urban policy approach and suggest possible prioritisation of the numerous strategies proposed in Mexico's National Urban Development Programme. The second part of this chapter will propose five strategies to "get Mexican cities right" – that is, five priority areas that, if successful, could foster the development of more sustainable, competitive, inclusive cities. These include:

- overcoming the barriers to infill development
- linking urban development and infrastructure
- tackling the vacancy problem
- expanding the supply and demand of rental housing
- improving institutional capacity for urban planning and development.

Box 3.1. **National urban policies across the OECD**

A growing number of OECD countries are adopting national frameworks, visions or strategies for cities. This reflects increasing awareness of the need for policy co-ordination for cities. While 18 OECD countries still had no overall framework in place in mid-2013, a number were in preparation and urban policy in a number of other countries was encompassed in broader regional or spatial development strategies. Others were in the process of creating new co-ordination mechanisms for urban policy, such as the urban mandate being assigned to the new Observatory of Territorial Development created under Portugal's Directorate-General of Territorial Development. Moreover, many of the national-level co-ordinating bodies referred to above have been created in the last few years, a further indication of governments' desire for a more integrated, coherent approach to urban policies.

The breadth of these national initiatives varies widely: many focus heavily on social policy, but a growing number are increasingly transversal in scope. Australia, for example, has adopted a policy framework that encompasses productivity, sustainability, liveability and governance and touches on a wide range of domestic policy issues, including human capital formation, infrastructure provision, housing, environmental quality and social cohesion (Australian Government, 2011). Chile's National Urban Development Policy was approved in 2013, with the overarching objective of developing sustainable cities and improving urban quality of life. Its five thematic areas include social integration, economic development, environmental balance, cultural heritage and governance (Ministry of Housing and Urban Planning, 2013). Colombia and Mexico have also been working on the design of evidence-based transversal strategies for cities to guide national-level actions in a range of policy sectors. Colombia's strategy places particular emphasis on connective infrastructure, while Mexico's focuses on housing policies, as these are seen, respectively, as the central challenges facing those two countries, but both strategies encompass a far wider range of policy issues and instruments (Perfetti, 2013; OECD, 2014).

Source: OECD (2014), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

Toward a broader, more integrated urban policy for Mexico

Mexico's new vision for cities comes at a time when many OECD countries are revisiting their approach to urban policy. To help guide these efforts to "get cities right", the OECD has developed a framework for governments in their design of national urban

policies (Box 3.2). This section begins by outlining Mexico's new approach to urban policy. Then, given the encompassing nature of the policy actions proposed by the government, it makes recommendations for how the government might prioritise the various strategies.

Box 3.2. **Getting cities right: The OECD approach to urban policy**

Cities are the economic engines of national economies and, thanks to global urbanisation trends, the places in which most people across the world live. By getting cities right (see the table below), governments can serve a greater share of the population and economy. Accordingly, cities have become increasingly important policy targets for national governments.

Getting cities right: The OECD perspective

Moving from:	Towards:
An administrative logic, where cities are seen as administrative entities, solving problems within boundaries, even if the impact extends beyond	A functional logic, where cities are seen as functional economic areas, and solutions need to be adapted to the area of impact
Problem-driven, with a focus on issues such as air pollution, congestion, poor economic performance, failing neighbourhoods	Strategic, with a focus on opportunities (e.g. how cities of all sizes can grow and contribute to national policy objectives)
A narrowly defined urban agenda (e.g. national urban policies limited to one or two urban issues, such as infrastructure provision or revitalising distressed neighbourhoods)	A holistic approach (with national government awareness of the full range of policies that can profoundly shape urban development)
A silo approach, with sectoral, fragmented responses to specific challenges (e.g. transport, land use, water, waste, economic development)	Integrated approaches to cross-cutting urban challenges, based on co-ordinating economic, social and environmental policies (e.g. improving the quality of life and citizens' well-being, and green growth strategies)

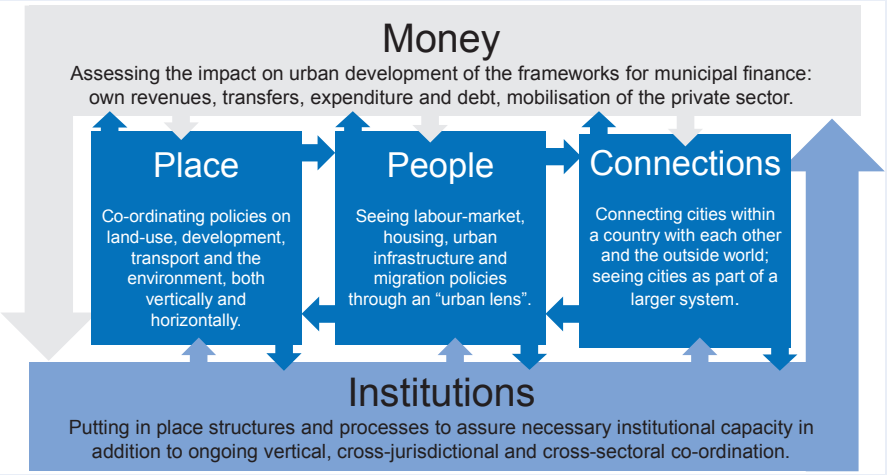
Source: OECD (2014), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

Yet many policies with major implications for cities are never really seen through an "urban lens", and even though a wide range of national policies can have a profound effect on urban development, most national governments have rarely reviewed this impact systematically. This is changing, however, and a growing number of governments are expanding their vision of urban policy and seeking to improve the co-ordination of different strands of policy that have significant urban impacts. Achieving policy coherence for urban development often requires governments not only to enhance communication among those charged with explicitly "urban" dossiers, but also to consider a wider range of sectorial policies than they have tended to see as "urban". This should facilitate better co-ordination across national sectorial policies and contribute to better alignment of national- and city-level initiatives, thereby strengthening the impact of both.

To assist national governments in assessing the scope and coherence of national urban policies, the OECD has developed a diagnostic framework outlined in the following figure. These five major areas of policy – money, place, people, connections and institutions – are not always thought of as "urban policy", but they each deeply affect urban development. These areas should be considered as a system, rather than as policy "silos" to be managed in isolation. The diagnostic tool is designed to help governments assess the degree to which their current institutional and policy settings are coherent with their overall policy objectives, as well as the extent to which the approaches adopted in the five domains are coherent with one another.

Box 3.2. **Getting cities right: The OECD approach to urban policy** (*cont.*)

Five broad issues for assessing urban policy



Source: OECD (2014), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201415-en.

Mexico's new vision for housing and urban policy

In 2013, the government advanced a new vision for urban policy and has since further defined the details of this new approach. The National Development Plan 2013-2018 (*Plan Nacional de Desarrollo 2013-2018*, PND) indicated as a key objective to "provide a suitable environment for the development of a decent life" (objective 2.5), with a strategy to "transition toward a smart, sustainable development model to ensure decent housing for Mexicans" (strategy 2.5.1). The National Urban Development Programme 2014-2018 (*Programa Nacional de Desarrollo Urbano*, PNDU), released in April 2014, outlines six core objectives for urban policy (Figure 3.1).

Figure 3.1. **The six objectives of Mexico's National Urban Development Programme, 2014-18**



On the whole, these objectives represent many of the best practices in international urban development and planning and are a clear step in the right direction. Nonetheless, several additional points are worth mentioning:

- Unclear budget allocation. The PNDU outlines an ambitious, comprehensive policy agenda to help the country transition toward more sustainable urban development patterns. However, the programme does not offer any indication of policy priorities, nor does it supply information on budget allocation to various elements of the programme. In this sense, it is difficult to understand which items will be prioritised or whether different programmes will have adequate funding to be effective. Moreover, the 2014 federal budget does not appear to reflect the priorities of the government in terms of urban policy: although there is a MXN 339 billion allocation to the Sustainable Rural Development Programme, no such counterpart exists for urban development (Cámara de Diputados del H. Congreso de la Unión, 2013). In fact, the rural budget far exceeds SEDATU's entire operating budget for 2014 (MXN 26.6 billion).[1]

  The allocation of roughly a quarter (MXN 1.9 billion) of the five-year investment budget for the 2014-18 National Infrastructure Programme (*Programa Nacional de Infrastructura*) to urban planning and housing is the first time such issues have been included in an investment programme. The promised investment could help invigorate the flagging real estate sector, but some analysts warn that the expectations may be overly ambitious. Over the 5-year period, roughly 46% more would need to be invested in housing and urban planning than has been invested in the past 14 years – in a context of increasing demand for existing housing and refurbishment, and decreasing demand for new homes (Serrano et al., 2014).

- A need to expand the policy toolbox beyond housing subsidies. For the moment, the government continues to rely heavily on changes in housing policy to facilitate this policy shift. One of the core strategies for curbing urban sprawl, for instance, is the introduction of urban containment perimeters (discussed later in this chapter), which are being used as the basis to allocate housing subsidies for developers, with larger subsidies offered to centrally located development. While it is essential to redesign housing policy instruments in light of the role of housing and housing finance in shaping Mexican cities to-date, Mexican authorities will need to rely on a broader range of instruments (e.g. fiscal, regulatory, normative) to achieve their policy objective of competitive, smart, sustainable cities. For instance, in addition to subsidies for centrally located new housing, of critical importance will be the degree to which effective fiscal incentives can be designed to spur redevelopment and the recovery/re-use of vacant properties, encourage different types of development (e.g. rental housing), and link urban development and infrastructure (all discussed in this chapter). There may also be scope to expand the contractual approach to federal investment in local infrastructure. Moreover, a stronger regulatory framework for urban planning and development, bolstered by more robust enforcement, will also be an important component; currently, SEDATU is undertaking a comprehensive review of legislation relating to urban development at all levels of government (Chapter 4).

- Enable SEDATU to lead a crowded institutional field. Given the highly fragmented institutional landscape of actors involved in housing and urban policy (Chapter 4), the 2013 consolidation of housing and urban policy into a new ministry, SEDATU, is a significant institutional step in the right direction. Yet it

will be important to ensure that SEDATU is equipped with: *i)* a budget that is both adequate and aligned with the government's policy objectives; *ii)* the necessary instruments at its disposal; *iii)* the "teeth" to set and enforce the rules of the game for relevant actors involved in urban policy; and *iv)* the capacity to implement policy at all levels of government and particularly within the state delegations. In sum, a stronger SEDATU, with more instruments at its disposal, working alongside the ministries responsible for transport and infrastructure, with the involvement of the SHCP, BANOBRAS and others, will be crucial.

Prioritising the strategies proposed by the administration

While the encompassing nature of the National Urban Development Programme is to be welcomed, there is nonetheless a risk that it may be difficult to maintain focus and prioritisation, given the sheer number of objectives, strategies and lines of actions (each of the 6 objectives is followed by a series of strategies – 30 in total – which are further broken down into 207 lines of action). Four possible categories of strategies could help in the prioritisation of investment: *i)* strategies that may have the greatest impact; *ii)* strategies with high potential for impact but many challenges in implementation; *iii)* strategies that are important but will take time; and *iv)* strategies that are less likely to alter urban development without significant resource expenditure.

Strategies that may have the greatest impact: follow the money. Efforts to direct public investment in urban infrastructure and housing finance to central parts of cities, as well as strategies to redirect housing loans from the purchase of new housing units to used housing units are likely to have significant impact on urban development (discussed at length in Chapter 2). First, it will be critical to ensure that urban infrastructure investment is aligned with the broader objectives for urban policy (e.g. densification, vertical development) and that investments are co-ordinated across policy domains, such as housing and transport.

Second, much of the urban expansion in recent decades has been the result of housing finance policy that promotes the construction of housing below a certain price (Monkkonen, 2011a). This has directed development to the urban periphery because of simple economies of scale: land assembly is the greatest challenge of residential development as developers that can acquire large parcels can build large developments and earn higher profits per unit. There will always be a trade-off between affordability and location and thus it is crucial to assess the level of incentives necessary to get developers to build in central parts of cities, and the affordability of the housing produced there. Acquiring parcels of land large enough to build low-cost housing inside urban areas will be a challenge for developers without government assistance of the sort documented later in this chapter.

Third, reforms to the fiscal framework for housing and urban development could be instrumental in encouraging a more diversified housing stock (rental, multi-family homes, etc.). These issues are discussed in greater detail in the second section of this chapter.

Strategies with high potential for impact but challenging: irregular housing and vacant inner-city land. Two proposed policy directions that may require greater political and financial resources than their benefits merit. The first is the standardisation of rules and the creation of new sanctions for irregular land development. While various levels of government in Mexico have been trying for decades to control the extra-legal development of land, they have also been streamlining the regularisation of irregularly

developed land. Much progress has been made in this area; for example, the PASPRAH programme is a laudable attempt to target assistance in land regularisation to lower income households. In the year 2009, 35 000 houses across Mexico were aided in their regularisation by the PASPRAH programme, as the case of Tijuana demonstrates (Box 3.3) (Monkkonen, 2012). However, as much as half of the housing in Mexico is irregular, thus efforts to subsidise regularisation at the current rate would take several decades. Moreover, federal programmes have in many cases had limited impact on regularisation due to the weak efforts of sub-national government toward regularisation. It will require a major investment to regularise all irregular housing and in many cases, the costs of subsidising the regularisation process might outweigh the benefits[2] to the household, especially if a house is sold informally after regularisation as is sometimes the case. Regularisation also reduces the disincentives to irregular development: people have little incentive to pay the price of formal housing in the short run if the government may regularise *ex post facto* the development at its own expense – which may provide land titles, urban services, etc.

Box 3.3. **Land regularisation in Tijuana, Baja California**

Data carefully collected by Alegría and Ordoñez (2005) from the various public agencies involved in land regularisation in Tijuana found that over half of the dwellings in the city were developed in an irregular manner. In spite of decades of efforts to regularise dwellings, less than two-thirds of irregular lots had started the regularisation process and of those that have been contracted, less than two-thirds had successfully completed it. Monkkonen (2012) analysed the determinants of rates of regularisation across different neighbourhoods of the city and found, among other factors, that neighbourhoods with more valuable land had lower rates of regularisation and titling. This raises the issue of competing goals in regularisation programmes; land market efficiency versus the social and economic benefits of integrating lower income neighbourhoods into the formal sector. Land value reflects demand for space at a given place in the city, and in order to promote compact, efficient cities it is important to bring valuable land into the formal sector so that it might be redeveloped. Recent regularisation practice in Mexico – and the PASPRAH programme – focuses more on the social benefits that accrue to low-income households when their house is regularised, which is important, but will not necessarily benefit cities' spatial structure. This has the potential to change with the broader competencies proposed for the National Institute for Sustainable Land (INSUS), which may replace CORETT.

Sources: Alegría, T. and G. Ordoñez (2005), *Legalizando la Ciudad* [Legalizing the City], El Colegio de la Frontera Norte, Tijuana, Mexico; Monkkonen, P. (2012), "The demand for land regularization: Theory and evidence from Tijuana, Mexico", *Urban Studies*, Vol. 49, No. 2, pp. 270-287.

A perhaps more fruitful direction is the goal of offering incentives for development on vacant and underdeveloped parcels, or disincentives for holding empty land vacant. The challenge is that the level of subsidy needed to push land owners to develop well-located unused parcels is unknown. Experiments could be attempted in different cities to test the elasticity of demand for development; land owners that register could be offered different sized incentives upon completion of projects before a certain date, for example. This would stimulate the development of shovel-ready projects and provide data for the federal government on the cost of stimulating development in locations deemed important for a compact urban form. Strategies to tackle the vacancy problem in Mexican cities are considered in detail in the second half of this chapter.

An alternate approach is to increase property taxes for vacant or underused land, a strategy that has been implemented by different levels of government across OECD countries. Property taxes have been shown to be an effective tool to push land owners

into a more intensive use of land and create more compact cities (described in greater detail in the section on vacant housing). This strategy has been used with some success in France, for instance, where an annual vacancy tax (*taxe annuelle sur les logements vacants*) was instituted in 1999 in nine urban agglomerations. The measure was strengthened in 2013, extending the applicability of the tax to 29 of the country's largest urban agglomerations experiencing a housing shortage and triggering the tax after one year of vacancy, rather than two (*Decret n° 2013-392 du 10 mai 2013*). Between 2000 and 2012, the tax helped reduce the number of total residential vacancies from 146 000 to 87 000 (Fondation Abbé Pierre, 2014).

The National Urban Development Programme 2014-2018 mentions the importance of property taxes, yet the topic merits further consideration in the specific programmes to be implemented by SEDATU. As Chapter 4 will discuss in detail, property tax rates in Mexico are low by international standards and are also constrained by very low collection. This is an area that is politically unpopular but extremely important for local government fiscal health. The intervention of higher levels of government can enable local politicians to save face and not suffer fallout from forcing politically powerful land owners to pay their taxes. Higher levels of government could collect taxes themselves for the municipalities, or could incentivise local governments with carrots or sticks, as has been done successfully in the State of Mexico. A carrot in this case would be additional transfers for collecting a higher percentage of taxes due. In terms of sticks, in 19 states, the magnitude of federal transfers to municipal governments varies to some extent based on the amount of property tax raised.

Strategies that are important, but that will take time: information and modernisation of institutions. Many of the proposed strategies to strengthen information systems and institutions will be necessary in order to implement some of the other key policy objectives (e.g. updating cadastres, identifying intra-urban land available for development, improving the location of housing finance and government subsidies), but are unlikely to have a transformative impact on urban development patterns in the short run or if implemented in isolation. Although some cities have high-quality data including geo-statistical data, in others policy makers are hampered by a lack of information. Numerous empirical analyses by academics or think tanks could improve policy decisions, but are not necessarily considered by policy makers. Additionally, and perhaps more importantly, efforts to modernise the institutional infrastructure of urban management and housing markets, such as cadastres, public registries of property, and credit bureaus and other financial information, will greatly assist planners and policy makers. Electronic and standardised systems of land management will not only facilitate planning activities and data collection, but also the transfer of ownership of property. Reducing transaction costs of existing property will encourage greater activity in the used property market and potentially redevelopment.

Strategies with a high cost for a limited benefit: federal involvement in urban planning decisions. Several strategies proposed by SEDATU seek to increase the role of the national government in urban planning operations. In some areas this should be effective, such as monitoring urban growth and aggregating information at the national level. In terms of actual planning practice, national-level agencies have advantages in terms of capacity and technical capabilities over municipalities, but emphasising their incorporation to local practices has risks. First, Mexico's large number of municipalities will make co-ordinating their participation and cross communication expensive. Second, national agencies' employees will likely not be familiar with most localities, which will limit the effectiveness of their decisions. Third, there is a risk of wasting resources in

planning efforts as numerous local actors frequently modify plans in Mexico, leading to development that does not match the original plan.

Rather than getting directly involved with municipalities in the details of particular decisions, an alternate approach is to consider the incentives of local governments and propose a system of rewards and penalties based on desired outcomes. One opportunity could be to create fiscal incentives for municipalities based on indicators measuring the number of finished buildings in central parts of the city, kilometres of streetscape improvements or houses with access to plumbing. This would strongly encourage local actors to achieve these outcomes and encourage them to improve property tax collections in order to undertake these activities. Some existing programmes operated by SEDATU, such as the Hábitat programme and the Recovery of Public Spaces programme (*Rescate de Espacios Públicos*) are using conditional investment resources to encourage municipalities to align their projects with national priorities. In many urban governance systems, such as that of the United States or the People's Republic of China, there are strong incentives built in to the political system – re-election or promotion to higher office for the most part – for local actors to foster economic development and oversee building projects. This "market-preserving federalism" (Qian and Weingast, 1997) has been contrasted with, for example, with the incentives of local government officials in the Russian Federation, which is seen to have a "market-hampering federalism" (Zhuravskaya, 2000).

Additionally, national government can help build capacity for urban planning at lower levels of government (discussed in this chapter and in Chapter 4) and be instrumental in fostering inter-municipal or metropolitan solutions to challenges that are shared across neighbouring jurisdictions. OECD (2014) has shown that the way cities are governed has a direct and important impact on their economic performance and on citizens' quality of life. The actions of households and firms, as well as the interactions among different strands of public policy, typically have larger positive or negative spill-over effects in cities than in less dense places. This implies a greater need for co-ordination of policy across sectors, jurisdictions and levels of government – yet such co-ordination is often lacking, and Mexico is no exception (see OECD, 2013b). Across OECD countries, national, and in some cases state and regional, governments, often have an important role to play in fostering the emergence of metropolitan governance solutions. The obstacles to collective action are frequently substantial, and municipalities may require support from higher levels of government to ensure the capacity and the incentives to build co-operative frameworks and solutions. National involvement is not always required; however, governance at metropolitan scale in the Rotterdam-The Hague metropolitan region was created from the bottom up by the 24 local authorities involved, rather than being imposed from above or created at the instigation of some senior level of government.

Five strategies to get Mexican cities right

The remainder of this chapter builds on the proposals outlined in the PNDU 2014-2018 and explores in-depth five strategies to "get Mexican cities right." Five areas that could have a significant impact on the competitiveness and sustainability of urban areas include: *i)* overcoming the barriers to infill development; *ii)* linking housing and transport planning and investment; *iii)* tackling the vacancy problem; *iv)* removing barriers to the development of the rental housing market; and *v)* improving institutional capacity for urban planning and development.

Overcome the barriers to infill development

Having identified urban sprawl as one of the country's most pressing urban challenges (*cf.* Objective 1 of the National Urban Development Programme), Mexican authorities are seeking to encourage more infill development. Two strategies can be envisaged to promote more intensive use of land within the existing boundaries of a city: *i)* encouraging within-city development activity; and/or *ii)* discouraging construction outside the existing city limits. The main challenge of the former strategy is that it can require extensive subsidies in order to be effective, whereas the risk with the latter is that it can negatively impact housing affordability and urban productivity. Policies to encourage infill development can be grouped into three "thrusts" of policy; the first two – making redevelopment cheaper by reducing regulations and making land assembly easier – are both part of the focus on encouraging development within existing city boundaries, but are different enough that they should be considered separately. The third group of policies – making urban expansion more difficult – is often a politically attractive and potentially effective approach, but has greater risks of negative side effects.

Make infill and redevelopment cheaper by "reducing" regulations

A sweeping regulatory review is underway in Mexico as part of the structural reform process. SEDATU, for its part, is undertaking a comprehensive review of legislation relating to urban development at all levels of government (Chapter 4). States and municipal regulatory reforms have also been undertaken over the past several years, resulting in significant progress – though sizeable gaps remain between the best- and worst-performing states: for instance, 7 procedures are required of builders in Culiacán (Sinaloa) to obtain a construction permit, compared to 17 in Ciudad Juárez (Chihuahua) (World Bank Group, 2014). Burdensome regulations impose higher relative costs on smaller projects (as regulations are similar regardless of project size) and thus encourage developers to favour large greenfield sites over smaller infill locations.

The regulatory review is very welcomed: the World Bank, which ranks Mexico in 40th position (out of 189) for dealing with construction permits, shows that the procedures linked to construction permits are more streamlined in Mexico than in much of Latin America and compare favourably with the OECD average in terms of time and complexity, but they are far more expensive than the OECD or Latin American averages (World Bank Group, 2014). Reducing the regulatory burden and streamlining permits and other administrative procedures can be one relatively inexpensive way to promote infill. Other options include providing density bonuses or other subsidies in these areas or investing in public infrastructure. These strategies can be particularly effective when targeted at locations near transit or on transport corridors where redevelopment is more likely to succeed.

Expedited and simplified review for redevelopment projects

One of the simplest and potentially least expensive approaches to encouraging infill development or redevelopment is to alter regulations in priority areas to make redevelopment projects less costly relative to projects on greenfield land. This is not a call for large-scale deregulation, as concerns about environmental conditions on brownfield sites formerly used for industry are important. Yet city governments can promote redevelopment in a number of ways, beginning with a "fast track" type of streamlined and simplified permitting system for projects on brownfield land as a minimal intervention approach. Expedited and simplified review was implemented in Germany due to concerns

over urban sprawl in the 1990s. A number of initiatives were instituted to promote a higher intensity of land use including a simplified set of planning rules for infill development as part of the Research for the Reduction of Land Consumption and for Sustainable Land Management (REFINA) initiative, which began in the mid-2000s.[3]

In Latin America, Buenos Aires has been noted for a number of redevelopment projects in the central part of the city, which have been abetted by an expedited review process for redevelopment. More intervention – and stimulus – can be provided to redevelopment projects by reducing requirements for developers or reducing tax rates in specific parts of cities. The approach of reduced tax rates and regulations in a targeted area, often known as enterprise zones, has been a common redevelopment strategy in the United Kingdom and United States to attract business to central areas of cities for decades (Hall, 1982). There is debate among experts about the effectiveness of these minimal intervention strategies, and they tend to be successful only in combination with other approaches (Box 3.4). Moreover, introducing spatial distortions at increasingly smaller scales can ultimately do more harm than good (see Mayer et al., 2012).

Box 3.4. **Special economic zones and enterprise zones: The good, the bad and the ugly**

Special economic zones (SEZ) are generally understood as territorially bounded areas within a jurisdiction in which the regulatory, tax and other institutional conditions are more favourable than in the wider economy. A subset of SEZ is the enterprise zones approach, which offers tax incentives for business to move into certain neighbourhoods, and which has been a common urban redevelopment strategy in many countries. The state of California (United States) has created dozens of enterprise zones in urban areas with the goal of attracting business activity to certain, often lower income and disinvested parts of an urban area. Although enterprise zones are not an explicit infill strategy, they are often thought to have the secondary benefit of investment in real estate in the zone to accommodate the business activity. Businesses moving their operations into the designated area receive various benefits, including income tax credits for capital investments in the zone and for a share of the salaries paid on low-skilled jobs in the zone, and accelerated depreciation for certain types of property. Neumark and Kolko (2010), in a careful analysis of the impacts of designation of an enterprise zone in California, found that there was no increase in employment in the zones nor was there a shift towards the low-wage employment they sought to promote. They also argue that the tax benefits of the enterprise zone are capitalised into the value of land, which thereby effectively reduces the benefits for a business to move into the zone.

However, studies of enterprise zones in other states and countries often find that they have no impact (Hirasuna and Michael, 2005) or at best, mixed success; for these reasons, this strategy should be carefully considered by Mexican authorities prior to implementation. One of the most significant challenges has been that while some zones have managed to generate investment and job creation, they have nevertheless remained enclaves with few linkages to the larger economy.

Source: Adapted from OECD (2013b), *OECD Territorial Reviews: Ukraine 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264204836-en.

Remove or reduce parking requirements

Onsite parking construction is generally required of any new development or redevelopment. Parking requirements, when binding, can be a major barrier to redevelopment or reuse of older buildings and place limitations on housing unit density for new buildings. They are especially problematic for older buildings if requirements were less stringent in prior decades and where digging underground parking is extremely costly. This has two major effects: one, it drives up the price of housing by bundling the high costs of automobile infrastructure into development projects; and two, it often

prohibits the adaptive reuse of older buildings because they do not have the required lot space. Onsite parking is expensive, and this cost decreases the amount of housing that can be developed. Decreasing or deregulating parking requirements in areas located within walking distance from a public transport station cuts the cost for infill development and can have several important benefits, including more housing development, reuse of old buildings and greater use of underutilised parking nearby (Manville and Shoup, 2010). This strategy is especially relevant for larger cities and those locations with a well-developed transit infrastructure that can serve residents who opt not to have an automobile.

The reduction or removal of parking requirements has been experimented with in several cities, including Chennai in India, Mexico City and Portland, Oregon in the United States. Los Angeles, California, provides a useful case study. In 1999, the city instituted an Adaptive Reuse Ordinance (ARO), which encouraged the conversion of old vacant buildings into housing (Manville and Shoup, 2010). The ordinance provided three incentives; first, developers were able to convert buildings from industrial/commercial to residential use; second, they could use an alternative regulatory code for fire and other standard building safety features; and third, they were exempted from adding new parking. This regulatory change had a major impact: "between 1999 and 2008, developers used the ARO to convert almost 70 vacant buildings into over 6 000 units of new housing – more than had been built in downtown Los Angeles than in the previous 30 years combined" (Manville and Shoup, 2010). Moreover, developers consistently provided less than the standard parking requirements would have mandated, and located parking offsite. For such a policy initiative to be successful, however, it is critical that a viable alternative to car use be available, namely adequate access to quality public transport.

Make land assembly easier

It is often not the higher cost of land within central parts of cities that limits the attractiveness of urban redevelopment. Rather, it is the challenge of assembling a large enough parcel of land to do a large development and reap economies of scale. Central parts of cities often contain smaller and many-times subdivided lots and thus face an anti-commons problem, also known as holdouts. Although land owners could increase the value of their land dramatically if they co-ordinated its redevelopment, transaction costs are high because obtaining consensus across multiple owners is difficult. Holdouts are common especially for the last parcels assembled, if owners are aware of future development potential (Zhu, 2012).

Eminent domain, or expropriation, is the traditional policy intervention to promote land assembly. This consists of the government forcing the sale of properties at a fair price. It is a highly contentious, unpopular, costly and often discriminatory practice (Heller and Hills, 2008). In Mexico, its use is increasingly limited due to a combination of changes in the political system, social resistance and judicial activism (Azuela, 2009). Moreover, the power to use eminent domain rests with state and federal government, not municipalities. Colombia has been successful in developing instruments and incentives (both positive and negative) for developers before proceeding to expropriation. Therefore, strategies that can stimulate the voluntary sale of parcels hold the promise of achieving the same goals while providing greater benefits and more decision-making power to land owners. Three alternatives are discussed: land assembly districts, graduated density zoning and partial plans.

Land assembly districts

Land assembly districts are special districts authorised by the state or local government. Within the districts, a majority vote by land owners can "authorise the sale of the neighbourhood to a developer or municipality seeking to consolidate the land into a single parcel" (Heller and Hills, 2008). This allows land owners to overcome barriers to collective action as potential holdout land owners are forced to sell, but not by the state. Moreover, by bargaining collectively with developers, land owners can gain a greater share of the neighbourhood's increase in value after land is assembled into a single parcel. As individual sellers to a developer aggregating parcels, for example, they tap into this greater assembled value in an uneven manner, with those selling later generally obtaining higher prices for land. The specifics of the majority required can be altered; in some cases it is 80%, in others 90%. Alternately, in a similar manner as a business improvement district, all land owners can be required to participate (Chakrabati and Keenan, 2012). It is possible to design the districts so that individual land owners can opt out if they dislike the deal; and they would receive the amount prescribed in an eminent domain process (Heller and Hills, 2008).

Although land assembly districts are a relatively new innovation – and represent a break from traditional property rights law – a similar system has been used successfully in the redevelopment of multi-owner buildings in many places. Hong Kong, China and Singapore, for example, require the agreement of only 80% or 90% of owners in a multi-owner building for its redevelopment, and these percentages have been changed over time and for different types of buildings (Li, 2014). The land assembly district model is part of Mumbai's well-known slum redevelopment policy (Mukhija, 2003). One of the largest slums in the world, Dharavi, is located on very expensive land in central Mumbai. In order to spur the improvement of the slum, the city created a mechanism whereby residents could form an association and negotiate a redevelopment deal with a developer. In general, these deals replace existing housing units with much higher quality housing, at a higher vertical density, which enables a large number of new units to be built and sold at market rates. The policy is attractive because there is less displacement and political risk than eminent domain and it puts less strain on public budgets, but has had mixed success – one drawback being that it generally takes a long time to put this kind of deal together (Mukhija, 2003).

There are additional concerns with respect to land assembly districts (see Kelly, 2008). First, they may result in the approval of socially undesirable land assemblies and block socially desirable ones, due to the requirement of majority approval among existing residents. Second, the negotiation process can lead to increased costs for developers and, by extension, may ultimately reduce the affordability of development constructed within the district. Finally, this mechanism may overly rely on judicial expertise to determine the cases in which it can be applied; this could be especially problematic in Mexico given the existing challenges associated with the quality of the judicial system (see OECD, 2013c).

Graduated density zoning

Graduated density zoning is a voluntary form of land assembly, which provides incentives for land owners to act collectively to secure higher land values for sale (Shoup, 2008). If larger parcels are assembled, they can be redeveloped at a higher density. For example, if a developer is not able to assemble more than an acre of land, then the existing zoning remains. But if they are able to assemble more than an acre, floor area ratio (FAR) is increased. This provides neighbouring land owners the incentive to sell

their properties because they will reap a higher price from more lots being sold, and land owners can do better together than if they bargain alone. The policy also creates incentives for the developer, as the value of what they can build goes up as well. This strategy does not eliminate the incentive to hold out, but the fear of missing out on a lucrative deal can reduce the threat (Shoup, 2008).

To date, graduated density zoning has been applied primarily in Southern California. Simi Valley, a suburb of Los Angeles, implemented the policy in a residential neighbourhood. The city provided density bonuses according to different amounts of land assembled. Within a year of adoption of the policy, a developer successfully assembled 18 parcels into a 31-acre site, resulting in a density bonus of 7 units per acre rather than the 3 allowed under the base zoning regulations. The city of Glendale, also in Los Angeles County, has used the policy as well. Small bonuses are provided for land assembly in any multi-family residential zone. These examples highlight the flexibility of the policy in practice – it can be tailored to encourage development only where the city desires it (Shoup, 2008). The city of Rialto, California, has provided bonuses in its specific plan for a large-scale development. The incentive programme only applies to non-residential zones. Increased FAR and a reduction in parking requirements are provided in trade for desirable features such as shared parking, lot consolidation and public plazas.

Although this strategy might appear to be especially relevant for larger or wealthier cities with a more technically sophisticated planning agency, it can likely be implemented in almost any city. The important feature of the approach is the flexibility of the design of incentives. In different parts of the city, different density incentives can be given for different parcel sizes in order to provide more encouragement where more density is desired. That being said, its success does depend to some extent on whether municipal development plans are binding and easily modified, and whether existing FAR and other regulations are enforced.

Partial plans

Derived from land readjustment laws in Spain, partial plans are subsets of comprehensive municipal development plans that target specific urban districts. Revenues from land value appreciation – generated by large-scale redevelopment projects – are captured and put towards the provision of public amenities (Maldonado Copello and Smolka, 2003). The stipulations outlined by partial plans are negotiated by local stakeholders, which may include land owners, investors and developers (Ortiz, 2012). Stakeholders negotiate three elements of the plans: *i)* the distribution of costs/benefits from land value increases; *ii)* urban design and public space; and *iii)* land assembly processes (Ortiz, 2011). Because land owners benefit financially from redevelopment, they have a greater incentive to support land assembly and larger scale infill projects.

Partial plans have been used in various forms across Latin America – but Colombia has the most prominent examples. Partial plans in Colombia were established via the 1997 Law 388, "which prescribes that the revenues generated from land value increments are to be used for social investments" (Maldonado Copello and Smolka, 2003). The plans have since been used in Bogotà, Pereira and Medellín. In Pereira, the mayor's office advocated for the establishment of a partial plan for the redevelopment of the historic central market area. The results were mixed; redevelopment projects were carried out, but the city resorted to eviction and displacement of low-income residents (Ortiz, 2011). Partial plans only recognise the bargaining rights of land owners. In Colombian cities,

where formal and informal uses coexist, partial plans as a strategy for land assembly inevitably marginalise a portion of local stakeholders. An exception is in Medellín, whereby neighbourhood residents in the Sagrado Corazón de Jesús district organised and successfully negotiated for the establishment of a partial plan which gave greater recognition to the coexistence of formal and informal uses. The district was slated for redevelopment by the city without a partial plan; through the seven-year negotiation process, local residents were able to secure themselves a measure of bargaining power and a switch from redevelopment focused purely on new uses to redevelopment that considered existing uses.

Priority funding areas

Priority funding areas share characteristics with several other urban growth policy tools, including tax increment finance zones, urban growth boundaries, urban service areas (that seek to orient the location of new development by defining areas where new infrastructure can and cannot be built) and enterprise zones. This policy directs public investment to areas delineated by local governments and reviewed by the state government. In theory, local governments designate existing urbanised areas to receive priority funding, which encourages growth within the area and discourages it in less intensely developed areas (Manville and Shoup, 2010).

Although Maryland's 1997 Smart Growth Areas Act pioneered the use of priority funding areas, the policy had limited success in concentrating growth within the designated priority areas. The main challenges occurred with respect to the designation of the priority funding areas, which varied widely with local implementation. Some counties targeted built up areas, but others designated the whole county to receive priority funding. Lot sizes within designated areas increased, while decreasing outside the priority funding areas. However, during the period following implementation, the number of parcels developed for housing outside priority funding areas increased, while the share of parcels developed for housing decreased within the designated areas (Manville and Shoup, 2010). Moreover, some parcels outside priority funding areas now experience the greatest market pressures for development within the state (Hanlon et al., 2012). As both Hanlon et al. (2012) and Lewis et al. (2009) report, the policy holds promise, yet falls short of expectations due to poorly defined parametres, ineffective review by state agencies, and the failure to link transport and land-use planning. For these reasons, this type of strategy may face implementation difficulties in Mexico; these limits should also be kept in mind as the Mexican authorities proceed with its own form of priority funding areas, the graduated urban growth perimeters (*perímetros de contención urbana*).

In the 2014 operating rules for federal housing subsidies,[4] Mexican authorities have devised a series of graduated urban growth perimeters as one of the central tools to limit sprawl and encourage infill development. Three graduated urban perimeters – U1, U2 and U3 – have been drawn by the federal government in the 340 cities within the National Urban System and are defined as follows: U1 areas are consolidated urban zones with high employment to resident ratios; U2 zones are those in the process of urban consolidation but with high (at least 75%) coverage of basic services; and U3 zones are buffers contiguous to the urban area. Housing subsidies are allocated based on a scoring system, in which location grants up to 400 out of 1 000 possible points. Developments approved within U1 areas are likely to receive the largest subsidies, with successively smaller subsidies for developments in U2 and U3 areas. Housing units outside the perimeters are not eligible for federal housing, except for projects that have been certified as Certified Developments (*Desarrollos Certificados*) and other specific cases.

There are several potential challenges with these urban growth perimeters, however. At present, the perimeters are primarily used by the National Housing Commission (*Comisión Nacional de Vivienda*, CONAVI) as a key component of the housing subsidy allocation criteria, though little by little, other federal funding decisions have begun to take them into account. Second, the perimeters are intended as ideally one of multiple layers of information upon which to base development decisions; other location criteria could include, for instance, the location of natural risk zones within the urban area or existing infrastructure capacity, whereby additional development could aggravate existing service challenges in some areas should additional development be approved without the provision of necessary infrastructure. However, thus far the integration of these different layers of geostatistical information has proven difficult, resulting in suboptimal subsidy allocation decisions. In addition, there have already been anecdotal reports of developers lobbying on a case-by-case basis to have their land classified into a specific category in order to have greater opportunities for development. Moreover, the subsidy differences between each polygon (U1, U2 or U3) do not appear large enough to spur development within the more centrally located zones. Finally, these urban growth rings, which in essence introduce a new distortion into the land market, may not be highly effective in limiting sprawl if the existing market distortions are not addressed.

Make urban expansion more difficult

Excessive urban expansion – especially when it occurs in the form of leapfrog development or very low density residential development – can lead to wasteful commuting and reduce urban productivity. The primary strategy to make the urbanisation of peri-urban land more difficult is some sort of urban growth boundary, but cities can also use other, less rigid policies, such as increased impact fees for conversion of rural land to urban uses or growth caps on the number of hectares that can be urbanised per year. It is important to note that strategies undertaken by individual municipalities can be ineffective without regional or metropolitan co-ordination, as, for example, cities that draw growth boundaries can push development to nearby towns. This was the case with the Bando 2 initiative in the Federal District, whereby housing construction was restricted in 12 of the 16 delegations with the aim of redensifying the centre city; however, a lack of co-ordination across jurisdictions pushed lower income residents further into peripheral areas where restrictions were not present. A partial solution is to adopt state or countrywide land-use planning with integrated boundaries for growth (even application of restrictions). Examples are Switzerland and Oregon (United States), although neither case is an unmitigated success.

Urban growth boundaries and greenbelts

Urban growth boundaries delineate land at the periphery of cities where urban-scale development may occur and keep zoning for land outside this area as rural. They are similar to greenbelts, which differ in that they designate a ring of open space around a city where development is strictly prohibited. International experience suggests that these boundaries should not be static, and should typically be adjusted every 10-20 years (Gennaio et al., 2009) – and with even greater frequency in fast-growing cities. If the right amount of land is allotted for projected growth during a specified time period, planners can strike a balance between regulated development and urban growth (Aoki, 2005). Over the past 50 years, growth boundaries have become a popular urban growth management tool, but there are some concerns about the risk of unintended negative side effects; primarily the potential to artificially inflate housing prices on the one hand, and

on the other, to push development into nearby areas outside the growth boundary thus leading to worse outcomes in terms of urban compactness.

Since their inception in 1958 in Kentucky (United States), urban growth boundaries have been applied in over 100 cities and counties across the United States, as well as internationally, such as in Seoul or Brasilia (Jun, 2004). Growth boundaries were integrated into the national Land Use Plan in Switzerland in 1970. Since then, most development there has been successfully restricted to building zones; density has gone up inside growth boundaries and gone down elsewhere (Gennaio et al., 2009). The effectiveness of urban growth boundaries used in Portland, Oregon, on the other hand, has been heavily debated (Aoki, 2005). The central cities of metropolitan regions in Oregon struggled to maintain a viable tax base because of the outward expansion of development to suburban cities. The urban growth boundary in Portland attempts to counter this effect by subsidising infill development. Jun (2004), however, found that instead of stimulating housing construction within the boundary, there was a spillover effect that pushed new development from Oregon counties to neighbouring Cook County in Washington state.

To the degree that urban growth boundaries have successfully curbed sprawl and promoted infill development has been largely contingent on the regional influence of the policies. Without a consistent application of the regulation at the metropolitan scale, new development will easily move to neighbouring cities without boundaries, and even at a regional scale it is often challenging to limit leapfrog development. In Mexico, without existing governmental bodies at the metropolitan scale, this will be a challenge, as the Bando 2 case illustrates well.

An additional, but significant, drawback with the urban growth boundary or urban containment approach is that these policies are theorised to increase the price of land and housing within the boundary area. The basic monocentric model of urban land markets shows that if the supply of land is decreased within an urban area, housing unit densities will tend to increase – but so will the price of land and housing (Quigley and Swoboda, 2007). Empirically, the house price impacts are most clearly evidenced in the case of the United Kingdom (White and Allmendinger, 2003), but other, international surveys of the phenomenon also find price impacts (Dawkins and Nelson, 2002). Notably, the comparative research by Dawkins and Nelson (2002) also finds that growth boundaries do not always lead to increased densities. Policy makers in Mexico would be well served by examining the experience in measuring spatial planning strategies of urban containment in Germany and the United Kingdom, as these two countries focus on different aspects of the phenomenon; the former monitors the absolute growth and the latter measures new dwellings built on brownfield land (Box 3.5; more detail can be found in Andreas, 2010). The indicators proposed by SEDATU cover both these areas to some extent and thus if the data are reliable, are fairly comprehensive. Identifying housing built on brownfield sites seems to be more challenging in the Mexican case, and as Andreas (2010) notes, none of these measurement efforts consider the location of development relative to jobs or other types of activities.

Finally, there is also a more general problem with urban containment strategies, particularly in fast-growing urban areas. Angel et al. (2011) argue against rigid containment strategies in fast-urbanising areas, instead making the case for an approach to managing urban expansion based on “making room” for future growth. While the containment measures may be appropriate for cities with low population densities or those experiencing population decline, it is not feasible for fast-growing, high-density

Box 3.5. **Urban containment in the United Kingdom and Germany**

The United Kingdom and Germany are examples of different approaches to measurement and policy efforts to contain urban expansion, with the former country focusing on growth boundaries and preventing urban land use encroaching into rural areas and the latter focusing on reducing the overall area of urbanisation. Schulze Baing (2010) shows that the system of the United Kingdom has been more successful than that of Germany, with more than 60% of new housing being built on previously developed land. He attributes this success to the more centralised planning system of the United Kingdom that makes extensive use of greenbelts and the relatively heterogeneous application of planning controls across Germany.

It should be noted, however, that there are trade-offs to the containment strategy. Germany has not seen the same sharp increases in housing prices as has the United Kingdom, where housing affordability is a major public concern. Low housing supply elasticities due to restrictive land use have been argued to be one of the major reasons for decreasing affordability of housing, especially in economically vibrant areas of the United Kingdom (White and Allmendinger, 2003). Moreover, there are additional challenges to urban containment strategies. It can be difficult to manage the increased congestion generated by higher density development. Constrained urban areas may also be less economically efficient. They may also generate environmentally undesirable commuting patterns (due to leapfrog development, for instance).

Sources: Schulze Baing, A. (2010), "Containing urban sprawl? Comparing brownfield reuse policies in England and Germany", *International Planning Studies*, Vol. 15, No. 1, pp. 25-35; White, M. and P. Allmendinger (2003), "Land use planning and the housing market: A comparative review of the US and the UK", *Urban Studies*, Vol. 40, No. 5, pp. 953-972.

urban areas. Understanding that urban expansion is, to some extent, inevitable in fast-growing cities, the "making room" paradigm advocates that policy makers should plan for sustainable growth and urban expansion. This approach is based on four elements: *i)* realistic projections for urban land demand; *ii)* generous metropolitan limits; *iii)* selective protection of open space; and *iv)* an arterial grid of roads to support public transit. The "making room" paradigm can indeed be a useful framework for planning for future growth in Mexican cities, which are expected to continue to grow (Chapter 1).

Link housing and transport planning and investment

Ensuring sustainable, accessible modes of urban transport is a challenge in many countries, and Mexico is no exception. The extent to which the built environment can affect urban travel is a heavily researched topic, summarised in Ewing and Cervero (2010). As described in Chapter 1, Mexicans are increasingly reliant on automobiles, a trend that has contributed to higher levels of congestion and pollution in many urban areas. The total number of vehicles has more than doubled in the last ten years (INEGI, 2014), far exceeding the population growth rate. Moreover, more than half of the 17.8 million vehicles added to the total stock in Mexico over the past decade are imported from the United States and are over ten years old, with lower environmental and energy performance (Islas Rivera et al., 2011). Buses, both formally and informally operated, are the predominant form of urban transport in most metro areas, although a few of the largest cities have metro systems. León, Puebla, Mexico City and a handful of other large metro zones have also implemented bus rapid transit (BRT) networks. There is a very high reliance on microbuses in most cities. On the one hand, these tend to be unsafe and highly polluting. Also, due to the multiple fares required for passengers who must link microbus trips with other microbuses or with other forms of transport, they can ultimately

be more expensive than other modes. On the other hand, microbus routes often reach areas not served by other forms of public transport. As most buses are also affected by congestion, service can be unreliable and, according to IMCO (2011), they are often of very poor quality. Poor access to transport can have significant costs, restricting labour markets, trade markets and communication channels, and can reinforce socio-economic inequalities and reduce overall well-being (Cervero, 2011).

Improving urban mobility is one of the six core objectives of the PNDU 2014-2018: objective 4 is to "promote a sustainable mobility policy that increases the quality, availability and accessibility of urban travel". Five strategies are identified: *i)* strengthening the institutional and normative framework at federal level to facilitate the implementation of sustainable urban mobility policies; *ii)* strengthening and expanding the technical capacities of local administrations for the planning, management and execution of sustainable mobility projects; *iii)* promoting a culture of sustainable urban mobility; *iv)* promoting inter-sectoral co-ordination to spur urban mobility investment; and *v)* generating useful information and indicators to assist decision making related to mobility.

Close the governance gap in urban and transport planning and investment

A governance mismatch is one of the core difficulties in linking urban and transport planning and investment. Traditionally, housing development is divorced from transport planning and investment. Housing development (typically financed at federal or state level by one set of agencies and/or administrations, and approved at municipal level) is by and large disconnected from strategies for local transport and mobility (typically planned and financed at federal or state level by another set of agencies and/or administrations, often without the involvement of local government).

In terms of urban transport, different levels of government have distinct, often un-coordinated, roles in urban transport provision. The federal government may provide funding and infrastructure and impose regulations, while state governments are directly responsible for the planning, design, operation and control of transport systems. In most cities, state governments formulate policy on urban mobility, with a few exceptions. Meanwhile, municipal governments' activities are restricted to traffic control, public security and maintenance of the local road network (Islas Rivera et al., 2011). Municipalities are often not even part of the consultation process for federal funding for infrastructure. The significant authority of municipalities in land-use decisions contrasts with their limited role in decision making for very large urban transport projects (such as inter-urban trains, metros and BRTs, for instance), ultimately making integrated land-use/transport planning difficult. Indeed, a 2011 report by the International Transport Forum (ITF) identified an outdated institutional framework as the main obstacle to urban transport policy in Mexico (Islas Rivera et al., 2011). For instance, transport systems in Mexico City can stretch across as many as 50 municipalities, led by mayors with potentially differing political agendas; in addition, most infrastructure development takes place over long periods, while politicians' mandates are limited (ITF, 2014).

Moreover, a recent survey found that the vast majority of urban municipalities do not consider the needs of mobility of the new inhabitants and the impact of new housing developments on the mobility of the municipality or the city as a whole (IMCO, 2011). Only 6% of the 178 municipalities surveyed consider criteria such as the distance of new housing developments to employment centres and services, as well as the integration of housing development with the city in granting development permits. Further, only 17% of

municipalities surveyed plan public transport routes and the integration of different transport modes serving new housing developments.

There is scope for greater co-operation between BANOBRAS and SEDATU in investment decisions for urban mobility. Plans for co-operation agreements between the two institutions, building on existing agreements between BANOBRAS with the SCT and the National Water Commission (*Comisión Nacional del Agua*, CONAGUA), were underway in early 2014 to improve urban mobility. SEDATU could help to improve the co-ordination between housing subsidies and infrastructure development. For instance, SEDATU was not part of the approval committee for the 14 projects for mass transport in Mexico currently underway. Revisiting the project evaluation process and criteria of BANOBRAS for urban mobility proposals could be a good first step. SEDATU should have a seat at the table and urban development considerations – defined by SEDATU – should be part of the criteria for project approval. Mexican authorities could look to the Partnership for Sustainable Communities initiative in the United States, a joint effort of three federal bodies (the Department of Housing and Urban Development, the Department of Transportation and the Environmental Protection Agency) created in 2009, that aims to co-ordinate federal housing, transport, water and other infrastructure investments (Box 3.6).

Moreover, there is scope to improve the functioning of the National Infrastructure Fund (*Fondo Nacional de Infraestructura*, FONADIN), the primary vehicle for federal funding for urban transport. On the one hand, the share of funding for sustainable urban transport projects (e.g. mass transit, pedestrian and cyclist improvements) could be increased. FONADIN, operated by BANOBRAS, provides local governments with funds to improve mobility and accessibility in urban areas. Although limited, the funds are nevertheless a main source of financing for otherwise fiscally constrained local governments to finance mobility improvements. However, most federal funds targeting mobility have financed road infrastructure improvements. In 2012, just one-third of the MXN 13 billion allocated to mobility was used for sustainable urban mobility or public space improvements; it should be mentioned, however, that more than 95% of the financing for public transport in 2012 was allocated to the construction of a metro line in the Federal District, with all other metro zones combined receiving roughly 1% of the total for public transport (ITDP, 2013). On the other hand, it is also clear that local governments are in need of more than just financing to transition toward more sustainable urban mobility: they also need to build institutional capacity to plan, design and implement successful projects. Federal support in this regard will be essential.

Prioritise the metropolitan scale in planning and financing for housing and transport

An important step toward more sustainable Mexican cities will be to design a transport system at the metropolitan scale that is linked to existing and strategically planned urban development. The metropolitan scale is seen as increasingly important for planning and investment decisions in Mexico, yet further improvements could be made (Box 3.7). Copenhagen's "Five Finger Plan" is one well-known example of a plan integrating transport and land use. To be successful, it will be important to conceive of the accessibility of the metropolitan transport system at multiple scales: at the regional scale (as a network linking areas of interest), as well as at the smaller, route and station-level.

Box 3.6. **Better co-ordination of housing, transport and infrastructure investment: The Partnership for Sustainable Communities in the United States**

The Partnership for Sustainable Communities was created through a joint effort of three federal bodies (the Department of Housing and Urban Development, the Department of Transportation and the Environmental Protection Agency) in 2009. The aim of the partnership is to help communities nationwide improve access to affordable housing, increase transport options and lower transport costs while protecting the environment. To realise this aim, the partnership works to co-ordinate federal housing, transport, water and other infrastructure investments to make neighbourhoods more prosperous, allow people to live closer to jobs, save households time and money, and reduce pollution.

The partnership agencies jointly identified and incorporate six principles of livability into federal funding programmes, policies and future legislative proposals. These include:

- Providing more transport choices. Develop safe, reliable and economical transport choices to decrease household transport costs, reduce the nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.
- Promote equitable, affordable housing. Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities to increase mobility and lower the combined cost of housing and transport.
- Enhance economic competitiveness. Improve economic competitiveness through reliable and timely access to employment centres, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.
- Support existing communities. Target federal funding toward existing communities – through strategies like transit-oriented, mixed-use development and land recycling – to increase community revitalisation and the efficiency of public works investments and safeguard rural landscapes.
- Co-ordinate and leverage federal policies and investment. Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices, such as locally generated renewable energy.
- Value communities and neighbourhoods. Enhance the unique characteristics of all communities by investing in healthy, safe and walkable neighbourhoods – rural, urban or suburban.

Among the achievements of the partnership since its creation in 2009 is the development of tools for data and analysis, such as the *Smart Location Database* (discussed below) and the Sustainable Communities Census HotReport, which provides a quick and easy way to determine how well a community is performing on a variety of sustainability indicators.

Source: www.sustainablecommunities.gov/mission/about-us.

Reforms to the federal Metropolitan Fund (*Fondo Metropolitano*) are needed. The Metropolitan Fund could be a much stronger asset to promote metropolitan co-ordination in the provision of services, and SEDATU could have an important role in doing so. An important step will be to promote a territorially integrated approach to improve the ability of metro zones to support competitive economic activities and a high quality of life for residents. According to Iracheta Cenecorta (2010), important revisions to current operations, which may require some reform at federal level but also depend on sub-national actors, should include provisions to:

- Promote a long-term and integrated view of the development of the territory requiring that all investment proposals submitted to the fund be grounded in a shared long-term vision of the future of the metropolitan zone and fully compliant

with metropolitan development and structural plans. SEDATU could potentially have a voice in the evaluation process.

Box 3.7. **Investment at the metropolitan scale: Progress made, yet improvement needed**

Reflecting an understanding of the increasing size and significance of metropolitan areas in Mexico, in 2004, a federal initiative jointly undertaken by SEDESOL, the National Population Council (*Consejo Nacional de Población*, CONAPO) and INEGI resulted in the establishment of the first definition and delimitation of metropolitan zones (*zonas metropolitanas*) in Mexico, based on Census data from 2000. The results were updated in 2007 to reflect the 2005 Census, and again in 2012 following the 2010 Census. In 2008, the federal government established the Metropolitan Fund (*Fondo Metropolitano*) to fund projects of a metropolitan scope – primarily related to infrastructure – in the newly designated metropolitan zones. The fund, intended as a leverage fund to complement state resources, was created to facilitate co-ordination across multiple jurisdictions around metropolitan solutions (SHCP, 2012). Since the creation of SEDATU and the transfer of SEDESOL's urban policy portfolio, SEDATU is now responsible for functions relating to the Metropolitan Fund.

Despite its intent, the Metropolitan Fund has not yet succeeded in improving metropolitan co-ordination and performance across Mexican metropolitan zones. An evaluation of the fund for 2006-09 (Iracheta Cenecorta, 2010) found that the projects financed by the fund fail to strengthen long-term metropolitan planning and co-ordination as they respond mostly to sector initiatives focused on resolving short-term problems that are close to the interests of the elected officials but not necessarily of metropolitan priority. In the case of Puebla-Tlaxcala, for instance, there is little to no co-ordination between the two states in the design and implementation of the projects. The states split the annual allocation of funds based on population: approximately 74% of the 2011 budget (MXN 270-300 million) was distributed to Puebla; the other 26% to Tlaxcala, equivalent to less than 1% of the state of Tlaxcala's general budget. The rules governing the fund do not authorise carrying funds from one fiscal year to the next, and any unused resources must be returned to the federal government. As a result, project sponsors tend to split large integrated projects into pieces whose cost fits the availability of funds. This practice creates significant implementation problems for the contracting of the works as well as uncertainties about the timely completion of large projects (Iracheta Cenecorta, 2010).

Between 2006 and 2009, the fund supported a total of 30 projects in the Puebla-Tlaxcala metropolitan zone, the majority of which were roads (78%) and water (13%) projects. Many of the projects (particularly on the Puebla side) are devoted to roads that may not be in the best long-term interests of the metropolis (Iracheta Cenecorta, 2010). Further, the fund does not provide for the operation and maintenance of infrastructures or services, which is left to state and municipal budgets and often postponed to give priority to new investments. The social impact of the projects is further constrained by the absence of a "bigger picture" to guide metropolitan investment, as Puebla-Tlaxcala is without a metropolitan vision or any sort of prioritisation mechanism upon which the allocation of funds could be based. Moreover, even though critical issues affecting the development of Puebla-Tlaxcala are under the control of municipalities, municipalities have little, if any, involvement in the identification, selection or implementation of projects funded by the Metropolitan Fund, which are determined by the state-led commission.

Sources: Ministry of Finance and Public Credit (2012), "Reglas de operación del Fondo Metropolitano", Secretaría de Hacienda y Crédito Público, Government of Mexico, Mexico City; Iracheta Cenecorta, A. (2010), "Consultoría para realizer evaluaciones de los Fondos Metropolitanos y FONREGIÖN", Secretaría de Hacienda y Crédito Público, Inter-American Development Bank, Contract BID-SBCC-002-2010, Mexico City.

- Invest resources from the fund in accordance with a well-defined metropolitan investment plan, with clear project priorities and coherence to other metropolitan projects, and within a metropolitan environmental management framework to ensure that projects are sustainable.
- Allow for multi-annual programming and financing of investments, thus promoting a longer term approach to the development of the metropolitan area and eliminating the current practice of splitting large projects into pieces to fit the annual allocations of the fund but which create complex implementation problems. One option would be for the Metropolitan Fund to adopt the form of a block grant allocated annually to metro zones by the federal government (possibly SEDATU) on the basis of a transparent formula and a long-term commitment that would allow long-term planning on the part of the institutions managing the fund.

In addition, to co-ordinate transport and land-use planning at the metropolitan scale, it would be necessary to involve a broader range of actors at all levels of government in the planning of urban mobility projects. Because land-use decisions are in the hands of municipalities, state and federal transport authorities would do well to involve municipal land-use planning authorities, representatives from municipal planning departments and/or municipal planning institutes (IMPLANs, discussed later in this chapter and in Chapter 4), as well as representatives from the state land banks (*bancos estatales de tierra*), where they exist. Additionally, it will be important to involve non-governmental actors, including the private sector and citizens. In the United States, metropolitan areas such as Baltimore, Philadelphia, San Francisco-Oakland and Denver have formed inter-agency working groups and committees to co-ordinate decision making over transport-oriented development (Transportation Research Board, 2004).

Land value capture to link land use and transport infrastructure

Land value capture techniques – a policy that recuperates some of the increased land value from private land owners after improvements are made – can be used to link urban development and (particularly transport) infrastructure in cities. These strategies can be combined with other transit-oriented development (TOD) efforts, such as increasing allowable FAR and reducing required onsite parking near new transit stations.

Policies that funded public investment through land value capture are some of the most successful urban redevelopment strategies around the world. Tax increment financing (TIF), which places an additional increment on the property taxes of properties near sites of public investment, is the most common strategy for urban improvement in US cities (Briffault, 2010). However, this strategy in particular has come under criticism[5] and depends on an effective property taxation system, making it potentially less relevant for a country like Mexico. Hong Kong, China is notable for its high rate of urban productivity and economic growth, which is connected to its continuous urban redevelopment (Box 3.8). Land value capture is integral to its urban development strategy, as Cervero and Murakami (2009) discuss this occurs principally through its public transit provider, which is able to expand underground metro operations through property development at stations. This form of land value capture occurs within a private company and thus does not depend on collection through property taxes.

In Latin America, Brazilian cities such as Sao Paulo have used land value capture to fund public investment in its programme *Operaciones Urbanas*, which is similar to TIF interventions. The programme, which was strengthened by the law of *Estatuto de la Ciudad* of 2001, gives municipalities the power to make strategic investments in priority

areas and fund them through land value capture (Biderman et al., 2006). There are concerns of negative impacts, as interventions are sometimes argued to unduly benefit private developers and potentially displace low-income residents of intervention areas. Protections for tenants and property tax relief for owners in target areas should be considered to mitigate the potential for displacement. There are additional challenges associated with TIFs (Box 3.9).

Box 3.8. **Rail and property development in Hong Kong, China**

Hong Kong, China is a unique, high-density and high-rise city that has benefited greatly from its unique place in China's economic growth over recent decades, thus there are always questions about the transferability of the urban policy innovations observed there. Nonetheless, the research by Cervero and Murakami (2009) on the business model and role in urban development of the MTR corporation – the city's primary rail transit provider – provides a clear case of best practice in land value capture and transit-oriented development. The MTR corporation is a rail transit operator but the vast majority of their revenues actually come from its real estate development portfolio. The Rail + Property approach refers to the planning, supervising, implementation and management of development around the station. The MTR takes advantage of the high foot traffic and locational advantage of metro stations to develop shopping centres and residential units directly above stations, in a diverse way depending on the context of a specific station. This concentration of activity around stations is both profitable and contributes to place-making and overall urban compactness.

Source: Cervero, R. and J. Murakami (2009), "Rail and property development in Hong Kong: Experiences and extensions", *Urban Studies*, Vol. 46, No. 10, pp. 2 019-2 043.

Develop tools to link costs and benefits of housing and transport

Authorities could put greater emphasis on accessibility and performance measures in the evaluation of major transport investments. Accessibility captures both the temporal and spatial dimensions of urban travel (Cervero, 2011), both of which are critical to ensuring better links between urban and transport development. Ewing and Cervero (2010) find that greater urban transport access is strongly associated with public transport use; in other words, living near a bus stop or a metro station appears to encourage travel via public transport. Incorporating cost-effectiveness measures into economic appraisals of transport projects can be desirable in countries where reliable data may be limited and outcomes are difficult to measure. A possible metric could be the number of additional jobs that can be reached within one-half hour of travel time per million dollar expenditure.

Developing tools to assist residents in taking more informed decisions about housing location is also critical. The United States has developed a series of tools to help households calculate the mobility costs of different metro areas with its Smart Location Mapping.[6] The *Smart Location Database* is a nationwide geographic data resource for measuring location efficiency and includes over 90 attributes (e.g. housing density, diversity of land use, neighbourhood design, destination accessibility, transit service, employment and demographics). The tool can be used, for instance, to visualise the variation in public transport service within a metropolitan area. A related tool, the Access to Jobs and Workers via Transit tool, is a web mapping tool comparing the accessibility of neighbourhoods via public transport. It is possible with this tool to calculate the share of all jobs in a given metro area that are accessible by public transport.

Box 3.9. Financing urban development via tax-incremental financing

Tax increment financing (TIF) is a method used to subsidise redevelopment, infrastructure and other community-improvement projects in many countries. TIF creates funding for public or private projects by borrowing against the future increase in these property tax revenues. The Canadian city of Kitchener, for example, has in recent years attracted CAD 1.5 billion into the redevelopment of old chemical factories. Distressed sites within a TIF district are typically offered for tender by the municipality, with a view to addressing economic challenges, environmental hazards and land-use conflicts.

That said, TIF should be approached with caution, as it is open to abuse:

- Additionality is hard to assure. TIF districts may be drawn up where development would occur even without TIF, particularly where TIF districts are drawn too large. The result will be public subsidy for activities which would have occurred anyway ("deadweight losses") and which yield little additional public benefit. Moreover, increases in property values that would have occurred in any case (e.g. as a result of overall price inflation) can be captured by private developers under poorly prepared TIF arrangements.
- The designation of urban areas in need of clean-up or redevelopment can be politically manipulated and has in some countries led to court battles over the exercise of the authorities' right of eminent domain to redevelop areas where no environmental clean-up was required.
- The TIF process can also be manipulated to favour politically connected developers and others involved in the process.
- Capturing the full tax increment and directing it to repay the development bonds is arguably excessive compensation, since the incremental increase in property value is also likely to be associated with an increase in the provision of public services to the TIF district.
- TIF works best in jurisdictions with a relatively sophisticated and well-administered property tax, linked to market values.

Empirical analysis of TIFs in the US state of Illinois suggests that the non-TIF areas of municipalities that use TIF do not grow faster (and may even grow more slowly) than similar municipalities that do not use TIF (Dye and Merriman, 2006). This runs counter to the claim that stimulating development in TIF districts generates benefits for the surrounding areas as well; in some cases, it may simply lead to displacement of activity from other places to the TIF district. TIF also appears to have different impacts when land use is considered. For example, commercial TIF districts tend to reduce commercial development in the non-TIF portion of the municipality. This makes intuitive sense: most retail trade needs to be located close to its customers. Subsidising a store in one location is thus likely to reduce demand for a store in a nearby location. Industrial land use, though, is different. Since industrial goods are mostly exported and sold outside the local area, a local offset is not expected, and the evidence presented in Dye and Merriman (2006) is consistent with this prediction.

This does not mean that there is no place for TIF in urban development, but it clearly should be approached with caution. It is one economic development tool among many. However, it does not alter the opportunities for development or the skills of those doing the development planning. The evidence suggests it may be best deployed in respect of industrial uses or where considerations other than aggregate growth of the city (such as environmental clean-up, a desire to curb sprawl, etc.) come into play. Even then, it is essential to ensure that TIF districts and tax arrangements are carefully defined, and that tenders, etc., are conducted openly and impartially.

Source: Dye, R. and D. Merriman (2006), "Tax increment financing: A tool for local economic development", *Land Lines*, Vol. 18, no. 1, pp. 2-7.

Tackle the vacancy problem

Nearly 5 million homes in Mexico are currently uninhabited, equivalent to one-seventh (14%) of the total housing stock (INEGI, 2010). This share is higher than most other OECD countries and comparable to the vacancy rate in Ireland (13.8%), Spain (13.7%) and Portugal (12.5%) (Chapter 1). With 3 million vacant homes located in Mexico's urban areas, the phenomenon appears to be distinct from the location of vacant housing in a sample of OECD countries with a high vacancy rate; in France, Germany, Portugal and Spain, for instance, vacancy rates in many economically dense areas (e.g. cities and metro areas) remain well below the respective national average.

The problem is complex, as vacant homes can be prevalent in both older, inner-city neighbourhoods as well as in newer developments in the urban periphery. Excessive vacancy can reduce the economic productivity of urban areas, waste investment in consumption rather than productive sectors and generate negative environmental impacts due to excess housing construction for which there is no demand (Box 2.7 in Chapter 2). The case of Zumpango, located in the state of Mexico within the Valle de México metropolitan zone, is especially salient (Box 3.10).

Box 3.10. **The case of Zumpango, a bicentennial city**

Zumpango de Ocampo is located approximately 55 kilometres north of Mexico City and 120 kilometres from the state capital Toluca within the State of Mexico. Before 2000, Zumpango's 100 000 residents were mainly farmers. Between 2005 and 2011, the state government planned bicentennial cities (*Ciudades del Bicentenario*), an urban development strategy that concentrated infrastructure development in strategic population centres. Six cities – Zumpango among them – were selected for their location and growth potential (see table below). The bicentennial cities were designed to be master-planned model cities, with roads and transport systems to link the residential districts with the productive areas, and highly competitive with high-tech industries. The broad vision for the project intended to make the State of Mexico a bridge between the ports of Veracruz and Tuxpan in the Gulf of Mexico, and Manzanillo and Lázaro Cárdenas on the Pacific coast. Despite these intentions, in most cases only some of the planned housing units were ultimately built, as is the case in Zumpango.

Projected growth of the bicentennial cities: 2010-2020

	Potential jobs in the secondary sector	Urbanised area	2010		2020	
			Houses	Population	Houses	Population
Almoloya de Juárez	69 700	4 518 ha	37 800	162 700	58 600	252 000
Atlacomulco	15 300	2 788 ha	24 200	104 000	38 400	165 300
Jilotepec	39 100	3 161 ha	20 200	87 100	26 600	114 600
Huehuetoca	61 600	4 203 ha	30 800	132 000	104 100	447 700
Zumpango	72 400	7 832 ha	47 500	204 600	111 000	477 400
Tecámac	52 300	6 095 ha	87 700	377 000	155 300	668 000

Source: Government of the State of Mexico (2007), *Ciudades del Bicentenario,* Comisión Coordinadora para el Impulso a la Competitividad del Estado de México, IV Sesión Ordinaria de la Comisión Ejecutiva; http://ciudadanosenred.com.mx/htm/areas/6/economia_9.pdf.

Challenges facing residents of Zumpango

In 2005-06, the state government implemented a housing programme for low-income households, and private developers began buying large amounts of land in the region. The New Zumpango Plan projected 100 000 houses by 2011. Three of the sub-developments in Zumpango – La Trinidad, Paseos de San Juan and Las Plazas – each face different challenges:

Box 3.10. **The case of Zumpango, a bicentennial city** (*cont.*)

- La Trinidad was the first area developed by private developers with houses intended to be for low-income populations at very low prices. However, significant challenges are evident. Since La Trinidad used to be a lake, during the rainy season the area is prone to flooding, a problem that has not yet been resolved. Of the 8 000 one-bedroom dwellings in the area, 53% are abandoned.
- Paseos de San Juan was the second area developed. Residents pay private companies to maintain communal areas (e.g. parks), as the municipality does not have the resources to do so. There are better commercial services than in La Trinidad, but the streets have fences revealing a security problem. The level of abandonment is lower, at 30%.
- Las Plazas area was developed in 2013. At the beginning, residents had to produce their own electricity as the service was not provided. Electricity has begun to be provided, but at a very slow pace. Although the level of abandonment is lower than in previously developed areas, the number of houses sold is also much less. La Noria is an area currently under construction, and is supposed to be an example of an Integral and Sustainable Urban Development (*Desarrollos Urbanos Integrales Sustentables*, DUIS), but work is stalled due to the financial problems of the private developers.

Moreover, residents of Zumpango face a serious connectivity problem. Houses were sold with the promise of a 20-30 minute commute to Mexico City by suburban train, but the train has not yet been built. As a result, residents must commute 2.5 hours each way to Mexico City, at high cost. While BANOBRAS remains interested in financing the construction of the train line, local authorities have not shown interest. The main road that is supposed to link the New Zumpango area with Mexico City is not completed, and it is necessary to take alternate routes, further increasing commuting time. Moreover, the developed areas within Zumpango are not connected to each other, creating a series of isolated communities within the development. Long travel times have caused some residents to opt for working and living in Mexico City during the work week, and returning to Zumpango on weekends. In many cases, families have abandoned their homes to move to areas closer to schools and work.

Source: OECD field visit to Zumpango, February 2014.

Although the issue of vacant housing is absent from the PNDU (it is mentioned several times in the National Housing Programme (*Programa Nacional de Vivienda 2014-2018*, PNV): strategies 1.1.5, 3.4.2 and 5.1.2), it should be considered as both a challenge and opportunity for housing and urban policy. Chapter 2 analysed the issue from a housing policy perspective, focusing on the role of INFONAVIT in contributing to both the current problem and possible solutions. Yet INFONAVIT lending practices are not the only cause of vacant housing in Mexico, and, while INFONAVIT should be able to contribute to the solution, efforts from other institutional actors are needed. Some of the causes of vacant homes in Mexico stem from a lack of urban services and amenities, notably urban transport connections. In this respect, SEDATU, CONAVI, states and municipalities, in addition to the SHCP, BANOBRAS and other public and private actors, are currently collaborating through the Inter-ministerial Housing Commission (*Comisión Intersecretarial de Vivienda*) and co-operation agreements to ensure better links between urban and infrastructure development. Moreover, if unaddressed, clusters of vacant housing in inner cities and peri-urban areas can lead to bigger urban problems resulting from neighbourhood effects (see Box 3.11), including underinvestment, blight, insecurity and property devaluation.

Building on the work of Sánchez and Salazar (2011),[7] Monkkonen (2014) analyses vacant homes in the 100 largest Mexican cities and metro zones,[8] yielding the results summarised in Box 3.11. Roughly 21 million of the 35 million housing units in Mexico in 2010 were located in the 100 cities surveyed.

Box 3.11. **Vacant housing in Mexico: Results of a new analysis**

Monkkonen (2014) analyses 2010 vacancy rates within and across the 100 largest urban areas in Mexico using the year 2010 Census of Population and Housing in order to: *i)* measure the kinds of cities that have high vacancy rates overall, in their urban periphery and in their centre; and *ii)* test a number of hypotheses about the determinants of high vacancy rates and the relative importance of various factors.

Which Mexican urban areas registered the highest vacancy rates in 2010?

Urban areas with the highest and lowest vacancy rates are identified in the tables and figure below. Across the entire urban area, eight metros register vacancy rates of at least 20%. The proximity to the US border appears to be a shared characteristic of most metro zones with the highest rates of overall housing vacancies: Juárez, Reynosa, Carmen and Nuevo Laredo register vacancy rates of over 20%; Matamoros, Pachuca and Mexicali are not far behind, recording a rate of 20%.

In peri-urban areas, vacancy rates range between 24% and 34% among all metros in the "top ten." In central areas, the range of vacancy rates is less dramatic (from 16% to 24%), although in absolute terms centre-city vacancies account for more overall vacant units in absolute terms than vacancies in peri-urban areas. Vacancy rates in the metros with the lowest rates (ranging between 7% and 10%) are still high, relative to other international metros.

Ten Mexican metros with the highest vacancy rates, 2010

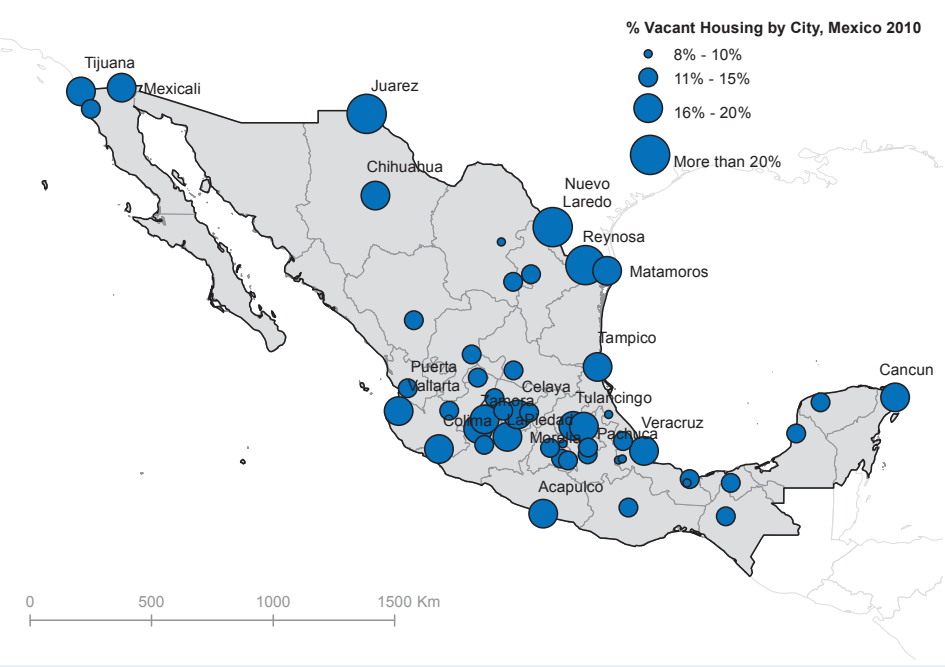
Whole city		Peri-urban		Centre city	
%	City/metro zone	%	City/metro zone	%	City/metro zone
24	Juárez	34	Morelia	24	Reynosa
24	Reynosa	33	Juárez	23	Juárez
21	Carmen	30	Guadalajara	21	Acuña
21	Nuevo Laredo	30	Dolores Hidalgo	20	Nuevo Laredo
20	Matamoros	28	Veracruz	19	Apizaco
20	Pachuca	28	Nuevo Laredo	17	Tula
20	Mexicali	26	Linares	17	Matamoros
19	Acuña	26	Monterrey	17	Moroleón-Uriangato
19	Allende	26	Pachuca	17	Tijuana
19	Puerto Vallarta	25	Carmen	17	Carmen
19	La Laguna	24	Mexicali	16	Allende

Ten Mexican metros with the lowest vacancy rates, 2010

Whole city		Peri-urban		Centre city	
%	City/metro zone	%	City/metro zone	%	City/metro zone
8	Poza Rica	7	Minatitlán	7	Poza Rica
8	Monclova-Frontera	7	Toluca	7	Juchitán de Zaragoza
9	Juchitán de Zaragoza	8	Poza Rica	8	Monclova-Frontera
9	Ixtlahuaca	8	San Pedro	8	Ixtlahuaca
10	Minatitlán	8	Guanajuato	9	Tuxtla Gutiérrez
10	Acámbaro	8	Acayucan	9	San Cristóbal de las Casas
10	Orizaba	9	Tuxtla Gutiérrez	9	Cuauhtémoc
10	Mexico	9	Nuevo Casas Grandes	9	Tepatitlán de Morelos
10	Lázaro Cárdenas	9	Tula	9	Mexico
10	Córdoba	9	Villahermosa	10	Salamanca

Box 3.11. **Vacant housing in Mexico: Results of a new analysis** (*cont.*)

Vacancy rates across Mexican urban areas, 2010



Source: Based on data from INEGI (2010), *Population Census*, INEGI.

Where are most vacant homes located within urban areas?

Although vacant houses in new peri-urban developments are the most notorious type of housing abandonment in Mexico, they are not the only type or even the most prevalent. The phenomenon of inner-city housing vacancy was previously hinted at by Ward (2001), who argues that there is a great dearth of attention to the problems generated by irregular urbanisation from decades prior and a lack of attention to the redevelopment and upgrading of these inner suburbs. The deteriorated urban environment contributes to the vacancy problem, as it lowers the demand for real estate in neighbourhoods in relatively central parts of the city.

- Mexico's 100 largest urban areas record an average vacancy rate of 16.3% in peri-urban areas,[1] compared to 12.8% in inner-city areas.[2] However, on average, the share of a city's vacant housing is much larger in inner-city areas (32.8%) compared to the share located in peri-urban areas (19.8%) (see table below), likely due to the fact that there are more houses in the central parts of cities and census tracts have a higher housing unit density.

Vacancy rates in Mexico's 100 largest cities and metro zones

	Vacancy rate		Share of city's vacant housing	
Variable	Inner-city[0]	Peri-urban[0]	Inner-city[0]	Peri-urban[0]
Percentage	12.8	16.3	32.8	19.8
Standard deviation	3.0	6.0	7.7	7.6

Notes: 1. The 25% of census tracts closest to the centre of the city are classified as inner city. 2. The 25% of census tracts furthest from the city centre are classified as peri-urban.

Source: Monkkonen, P. (2014), "The role of housing finance in Mexico's vacancy crisis", *Ziman Center Working Paper*, No. 22, UCLA Ziman Center for Real Estate, available at: www.anderson.ucla.edu/Documents/areas/ctr/ziman/2014-22WP.pdf.

Box 3.11. **Vacant housing in Mexico: Results of a new analysis** (*cont.*)

- There is greater variation in the peri-urban vacancy rates than those in central cities, as seen in the standard deviations reported in the table above. In 64 of the 100 largest cities in Mexico, vacancy rates are higher in the peri-urban parts of the city than they are in the city overall, although in 10 of the 64 the difference is relatively small (less than 10%). On average, in cities where peri-urban vacancy rates are higher than the city's overall vacancy rate, they are 30% higher.
- Clustering of vacant homes appears to be much more significant in peri-urban areas than in inner-city neighbourhoods. Clustering, which can generate neighbourhood effects, including problems with physical infrastructure, public services or concentrations of poverty, can be a problem if a certain threshold is exceeded (see Galster, 2012). On average, a much greater share of tracts are high vacancy in the peri-urban areas of cities (40%) as compared to the inner city (17%). The fact that vacancy is more concentrated in neighbourhoods in the urban periphery might explain some of the focus on this particular type of vacancy, even though there are actually fewer vacant units there in absolute terms.

What are the determinants of high vacancy rates?

As discussed in Chapter 2, mechanisms by which the housing finance system in Mexico would lead to high vacancy rates exist on the demand side and supply side. Yet, in addition to the housing finance system and the lack of demand for space in certain places, there are causes of vacancy on the supply side. Absentee owners and speculation in real estate are common reasons given anecdotally for vacant housing, reasons which stem from a combination of low holding costs, limited investment opportunities and difficulties in renting on the other.

Real estate exists in two types of markets: the market for assets and the market for physical space (DiPasquale and Wheaton, 1996). In the former, it competes with stocks, bonds and other investment vehicles and is national or even global in scope, whereas in the latter it is extremely local as the demand for physical space in a city depends principally on that city's labour market. Additional possible causes include housing belonging to or being saved for families working outside the country, and, in rural or other low-demand areas, some units are held for use as storage or have simply been withdrawn from the housing stock, because of a lack of demand for space in that area (Struyk, 1988).

Following Sánchez and Salazar (2011), four variables were tested as determinants of high vacancy rates: i) the economic recession that began in 2008; ii) migration to the United States; iii) insecurity; and iv) the housing finance policy of INFONAVIT. The findings are summarised below:

- The prevalence of international migration from a city, measured by a proxy variable from the population Census, is the most consistently significant variable across the three regressions, and has the strongest relationship with high vacancy rates in the urban periphery. There is more migration from poorer, smaller cities but once these factors are controlled for, it is migration that stands out as more closely associated with vacancy. This is likely due both to families abandoning houses as well as houses being built for or kept empty for the eventual return of those working abroad.
- Insecurity/homicide rates in Mexico – a measure of narco-violence – are positively associated with overall vacancy rates. There are a large number of anecdotal reports of houses in peripheral areas being used for activities related to the cartels and this would greatly reduce the attractiveness of a neighbourhood to most families.
- The prevalence of housing finance from public agencies is, among four variables tested, the variable with the strongest relationship to high vacancy rates both city-wide and within central areas. Surprisingly, housing finance is strongly associated with high central city vacancy rates but not significantly associated with peri-urban vacancy rates. How can this be when the vast majority of houses purchased with finance are located in the urban periphery? A likely explanation is that the large amount of peri-urban housing construction facilitates families moving out of central city housing, and the much less active market for used housing does not fill vacancies when they move out. This is a pattern somewhat akin to the suburbanisation process in the United States in the second half of the 20th century.

Box 3.11. **Vacant housing in Mexico: Results of a new analysis** (*cont.*)

- The economic recession is not significantly associated with variation in vacancy rates at the city level. However, this does not mean that this hypothesis is rejected overall. The models tested the relationship between various factors and the variation in vacancy rates across cities. Since the recession hit the entire country, it might not explain any variation in vacancy across cities but may still be a contributing factor to vacancy nationally. Moreover, several factors that are significant, such as migration and violence, are closely related to economic conditions.

Notes: 1. The 25% of census tracts furthest from the city-centre are classified as peri-urban. 2. The 25% of census tracts closest to the centre of the city are classified as inner-city.

Sources: Monkkonen, P. (2014), "The role of housing finance in Mexico's vacancy crisis", *Ziman Center Working Paper*, No. 22, UCLA Ziman Center for Real Estate, available at: www.anderson.ucla.edu/Documents/areas/ctr/ziman/2014-22WP.pdf; Sánchez, L. and C. Salazar (2011), "Lo que dicen las viviendas deshabitadas sobre el censo de población 2010 [What does vacant housing tell us about the population Census of 2010]", *Coyuntura Demográfica*, Vol. 1, pp. 66-72; Ward, P.M. (2001), "The rehabilitation of consolidated irregular settlements in Latin American cities: Towards a third generation of public policy housing analysis and development", paper presented at the ESF/N-AERUS Workshop: "Coping with Informality and Illegality in Human Settlements in Developing Countries", Leuven and Brussels, May; Galster, G. (2012), "The mechanism(s) of neighbourhood effects: Theory, evidence, and policy implications", in: *Neighbourhood Effects Research: New Perspectives*, Springer, pp. 23-56; DiPasquale, D. and W. Wheaton (1996), *Urban Economics and Real Estate Markets*, Prentice Hall, New Jersey; Ministry of Finance and Public Credit (2012), "Reglas de operación del Fondo Metropolitano", Secretaría de Hacienda y Crédito Público, Government of Mexico, Mexico City.

Given that the vacancy rate in Mexico is higher than the structural rate for a country of its income level, efforts to reduce housing vacancy could yield benefits to all Mexicans in terms of increased access to housing, improved urban efficiency and greater economic productivity. Three general strategies could help to address the vacancy problem: *i)* address the issue of absentee owners and underutilised property; *ii)* invest in distressed neighbourhoods with high vacancy rates; and *iii)* further develop land banks to deal with existing vacant homes.

Address the issue of absentee owners and underused property

One of the major causes of housing vacancy and underutilised real estate assets in urban areas in all of Latin America is speculative investment. Investment in residential real estate is very common in developing countries due to relatively low holding costs (property taxes) and the often limited set of other investment opportunities. Additionally, because of limited financing, individuals often purchase land with the intention of building after saving for a number of years. Struyk (1988) analysed the high vacancy rate in Jordan and argued for a two-pronged set of policies; on the one hand, policies should lower the rate of return on empty real estate relative to other investments, and on the other hand they should make renting out investment property more attractive. The former can be accomplished primarily by increasing holding costs for real estate (i.e. property taxes). This is not only a good idea to encourage property owners to develop land to its highest and best use, it can also provide more funds to make investments in physical infrastructure and increase demand for space. The latter can be accomplished by policies that seek to stimulate the rental market, which will be discussed in the next section.

Reforms to property tax could be another strategy for encouraging vacant properties to be put to a higher and better use. The problems of low property tax rates and a dearth of collection are well-documented in Mexico and most of Latin America (Smolka and Furtado, 2001). Low property tax rates and low collection are a not only problems for local fiscal health; they also contribute to property vacancy and underutilisation of space.

Two alternative reforms could be considered – a land value tax, which taxes only the land (not the structures), or a two-rate (or split-rate) tax system, which imposes a higher tax rate on the land than on the structures. Both of these may raise revenue without distorting the incentives for owners to invest in and make use of their land (Dye and England, 2010). Feldstein (1977) argues that removing the tax on structures and exclusively taxing land values will increase investment in structures. Dye and England (2010) argue that it will also bring the timing of development forward, thereby limiting speculation in land by increasing holding costs. Brueckner and Kim (2003) also point out that an increased intensity of land use can lead to higher population densities and more compact cities and thus a land value tax would discourage urban sprawl. In the United States, there is evidence that split-rate taxation has led to a greater intensity of land use and higher densities (Banzhaf and Lavery, 2010), but in the cities of Baja California, which implemented a form of land value taxation in the early 1990s, the impacts are less clear (Monkkonen, 2013). It is difficult to identify impacts there because of low tax and collection rates (roughly 50%). Uncollected taxes will not give any actor incentives to change their behaviour.

A land value tax, rather than a two-rate property tax, may be a preferred option in many Mexican cities due to its potentially simpler implementation. Two-rate property taxes can be more administratively burdensome to implement and require regular and reliable assessments of land and improvements to be successful. Meanwhile, a two-rate system can encourage improvements on relatively small lots of land because such improvements are taxed at a lower rate than the land itself, potentially leading to increased economic development (Cohen and Coughlin, 2005). Dye and England (2010) suggest that it may be advisable to phase in land value taxation over several years and to offer tax credits to lower income owners who may own land with a high value yet with low-value buildings. Also of critical importance would be to build capacity among property tax assessors; there would be a role for the states and/or federal government in this regard.

Another related complication to vacant and underused property is absentee ownership and the litigation of property disputes. In Mexico, disputes over ownership can take many years to resolve and during that time greatly limit investment, and the rental market, in a particular property. This phenomenon is often compounded by absentee owners and incomplete property registries. The efforts to modernise cadastres and public registries of property will reduce some of the problems in this regard, but the property dispute resolution mechanisms should also be streamlined. Stimulating and formalising the rental sector (discussed in further detail in the next section) would make renting out investment property more attractive to land owners and reduce vacancy.

Invest in distressed neighbourhoods with high vacancy rates

Investment in distressed neighbourhoods that exhibit a large share of vacant homes can help improve neighbourhood quality for existing residents. In some cases, a high vacancy rate can be a crucial indicator of where to focus policy attention and public investment in a city; it can also be a signal, as is the case of developments in areas far from city centres, that these developments never should have occurred in the first place. Given the nature of urban economies and the difficulties with redevelopment, it is generally cheaper to improve newly built parts of urban areas, but greater benefit may potentially be obtained by reviving older, centrally located neighbourhoods. The latter are usually more proximate to jobs and services, and residents can benefit from this access.

Investment in physical infrastructure and public services in the inner city can be a catalyst for private investment in housing.

National policies for urban regeneration have been widely implemented, albeit in different forms, across the OECD: France (*Politique de la ville*, urban policy), England (National Strategy for Urban Renewal), the Netherlands (*Grote Steden Beleid*, Big City Policy, and *wijkaanpak*, the neighbourhood approach), Portugal (POLIS XXI), Sweden (*Storstadssatsningen*, Metropolitan Development Initiative), Denmark (*Kvarterløft,* urban regeneration); Germany (*Soziale Stadt*, Socially Integrated City), the United States (urban renewal, redevelopment, and others) (see Wassenberg and van Dijken, 2011; EUKN, 2011; Sutton, 2008). Redevelopment strategies (discussed earlier in the section on strategies to facilitate infill development) and land banks (discussed below) could be considered.

To determine whether rehabilitation makes sense, an assessment should be made about the long-term viability of some locations. In vibrant metropolitan areas, it is clear that policy should promote the rehabilitation of vacant housing; however, in regions where populations are not growing or in some peripheral neighbourhoods, the destruction of vacant housing should be considered. This is mostly an option if deteriorated and vacant housing stock is associated with problems related to insecurity, or if the provision of services to a dispersed population is excessively costly. In Eastern Germany, for example, vacant housing has been a problem during the decades since reunification. The government has undertaken a strategic consolidation of neighbourhoods and demolition, or "backwards-construction" of the least commercially viable and worst located housing stock (Glock and Häussermann, 2004). A similar strategy is currently being proposed in the US city of Detroit, which has lost a large share of its population over the last several decades. After a long public consultation and an inventory of the city's buildings, roughly 70 000 vacant houses and other types of buildings are slated to be destroyed and converted into open space, while at the same time public investment will be concentrated in the more vibrant and populated parts of the city.[9] These strategies, however, should be considered very carefully, as housing vacancy on the outskirts of most urban areas in Mexico may eventually be occupied as the urban population continues to grow.

Further develop land banks to deal with existing vacant houses

Municipal or state land banks have proven to be an effective strategy to deal with vacant houses, especially for properties that have been foreclosed. Broadly, land banks are public agencies that acquire and prepare real estate for development or redevelopment, yet their actual function can vary a great deal (Box 3.12). They have been employed in some form in North America, China, France, the Netherlands, Switzerland and the United Kingdom. The aim of land banks in North America has been to acquire tax delinquent, vacant properties in order to limit their negative externalities, stabilise property values and assemble parcels for redevelopment (Alexander, 2008; Sage Computing Inc., 2009). In the United Kingdom, for instance, where roughly three-quarters of investment for urban regeneration comes from private sources, land banks are designed to leverage private investment to underutilised or blighted areas (Torres et al., 2012). There is variation across states in their institutional structure, but those that have been more successful have clear statutory authority to acquire property, reliable revenue sources (often through bond issuance), and clear guidelines in terms of property they can acquire and the uses to which they can convert it.

Box 3.12. **The functions of land banks**

Land banks can be powerful actors in metropolitan land policy by specialising in bridging access from private markets to land. Their functions can include:

- Engaging in asset banking by acquiring inventories of property from tax delinquencies and foreclosures, as well as nuisance abatement lien enforcement – two of the most common inventories. Other possibilities include property acquisition from excess residential real estate foreclosures, direct market purchases and deposits by third parties of properties to be held pending redevelopment. Another potential inventory source is property for which there is no present market capacity or demand, but could be strategic for future development or preservation.
- Carrying out market stabilisation by intervening in property transactions in order to address the contraction and expansion of property liquidity relative to demand.
- Maintaining capital reserves that can respond to future strategic needs of the community, such as affordable housing, green spaces or other community needs.
- Serving a bank regulatory function, required to exercise its authority consistent with the public good. Accordingly, all property transactions of land banking programmes should be consistent with clearly identified purposes and priorities for land use.

Source: Adapted from Alexander, F. (2008), "Land banking as metropolitan policy", Brookings Metropolitan Policy Program, The Brookings Institute, Washington, DC, www.brookings.edu/~/media/research/files/papers/2008/10/28%20mortgage%20crisis%20alexander/1028_mortgage_crisis_alexander.pdf (accessed 24 October 2014).

Land banks with a broader set of goals and functions have been employed with less clearly successful results in countries like Colombia and India. In both cases, the purpose of the land bank was to assemble land for large-scale development of affordable housing. In case of India, the Delhi Development Authority underperformed in terms of the time it took to develop land for housing, the overall number of housing units it enabled to be built and the share of units sold to low-income households, which was a much smaller (20%) than originally intended (50%) (Prassad Acharya, 1987). The case of Bogotá's *Metrovivienda* land bank, which prepared large land parcels for development of housing and commercial activities in the urban periphery, is generally considered successful. However, there are concerns about the metropolitan impact of the activities of *Metrovivienda*, and whether the development it spurred would have been undertaken by the private sector in the absence of government intervention (Rodriguez Vitta, 2012). In general, quasi-independent public agencies that get involved in real estate matters should have very specific, limited mandates. A global survey found that places with more public intervention in land management tended to have higher housing prices (Rajack, 2009).

Land banks have been developed in some Mexican states thus far (Aguascalientes, Puebla, for instance), but their functions have remained rather conservative in most cases. Torres et al. (2012) state that land banks have tended to focus on the financial management of land reserves, rather than opt for a more comprehensive approach to land banking as has been done in other OECD countries; moreover, the tools of financial intermediaries and commercial banks would also need to evolve in order to expand the potential functional scope of land banks.

Remove barriers to the development of the rental housing market

Mexico's rental supply, consistent with Latin American trends, is "varied, private and small-scale" (Blanco et al., 2014). The bias toward home ownership is hardly unique to

Mexico. In the United States, Landis and McClure (2010) estimated that 75% of federal housing assistance in 2008 supported home ownership. However, Mexico is unusual among OECD countries in (until very recently) offering assistance exclusively for home ownership, rather than rental, social housing and/or housing for low-income households (Chapter 2). The trend toward home ownership is, however, relatively recent, and is associated with specific public policies (Chapter 1). Rent controls, introduced throughout Latin America in the 1940s and 1950s to control inflation and prevent social discontent, reduced the supply of rental housing. In subsequent decades, the public provision of housing as well as housing subsidies and assistance, were offered exclusively for owner-occupied dwellings. A limited supply of rental housing limits labour mobility, due to higher transaction costs associated with moving when new economic opportunities arise (Box 2.3 in Chapter 2). The origins of Mexico's limited rental supply are multiple (Box 3.13).

Removing the barriers to rental housing can be an important step toward offering housing that is more affordable to low-income households (and at lower financial risk), and increasing labour mobility for all segments of the population. Demographic changes in Mexico are likely to support greater demand for rental housing (e.g. a higher divorce rate, more single-person households, smaller households, etc.). In addition, Blanco et al. (2014) argue that rental housing may be a highly efficient, cost-effective way to reduce the housing deficit and help curb urban sprawl, as rental housing is often more densely developed and located in centre cities.

Box 3.13. **Origins of the limited supply of rental housing in Mexico**

Several factors contribute to the country's limited rental housing supply:

- A housing finance system favouring home ownership over rental occupancy. As reported in Chapter 2, neither of Mexico's two most important housing subsidy programmes – CONAVI's *Esta es tu casa* and FONHAPO's *Vivienda Digna*, together accounting for MXN 13.6 billion in 2014 – have traditionally offered subsidies for rental housing. In August 2014, CONAVI introduced its first pilot rental programme in four states. In 2013, INFONAVIT introduced its own pilot programme, Arrendavit, to assist affiliates with rental housing, although take-up has thus far been much lower than expected. Blanco et al. (2014) report that on average in Latin America, one in five households is a renter (the rate is slightly lower in Mexico), meaning that until 2013, around 20% of the population was not eligible to benefit from public housing assistance. The policy emphasis on home ownership and corresponding low rental supply exist despite the fact that in many states it may be more financially advantageous to rent, rather than purchase, a home (see Figure 2.3 in Chapter 2 and associated discussion).
- A large share of informal settlements. The public policies – and policy void – that helped to facilitate the proliferation of informal settlements throughout Mexican urban areas also *de facto* supported higher levels of home ownership among low-income households, as informal settlements are typically owned by the dweller. There is, nonetheless, some evidence of a significant, informal rental market within informal settlements (Ward, 2011; Blanco et al., 2014).
- Strong tenant protections and high taxation of rental income (discussed further below).
- A complex, burdensome regulatory framework and a judicial system that tend to favour the rights of tenants over those of landlords (also discussed further below).

Box 3.13. **Origins of the limited supply of rental housing in Mexico** *(cont.)*

- Underdeveloped credit markets, which limit access to long-term financing for landlords and developers.
- A cultural preference for home ownership? Many officials interviewed in the context of this review cited a cultural preference for owning a home. Historical trends in housing tenure suggest, however, that public policies have likely played a significant role. As mentioned in Chapter 1, owner-occupied dwellings accounted for less than 30% of all housing in Mexico City and Guadalajara in 1950, peaking in the 2000s at 74% and 68%, respectively. The initial downward trend in rental rates after 1950 was sparked in part by the introduction of rent controls and regulations regarding housing quality and overcrowding, which may have increased prices, making rental development less feasible (Blanco et al., 2014).

Sources: Ward, P.M. (2011), "A patrimony for children: Low-income homeownership and housing (im)mobility in Latin American cities", *Annals of the Association of American Geographers*, Vol. 102, Issue 6, http://dx.doi.org/10.1080/00045608.2011.628260; Blanco, A.G., V. Fretes Cibils and A. Muñoz Miranda (2014), *Rental Housing Wanted. Policy Options for Latin America and the Caribbean*, Inter-American Development Bank, Washington, DC, available at: www10.iadb.org/intal/intalcdi/PE/2014/13900en.pdf.

Toward a national rental housing policy

While there are a number of possible strategies to boost the rental housing market, it will be important for Mexico to begin with broad measures targeting the fiscal, regulatory and legal framework to ensure more balanced treatment between rental housing and home ownership. These efforts should be prioritised in a coherent national policy for rental housing in Mexico. The PNV identifies expansion of rental housing as an important objective, but does not provide many details. Mexico's approach to rental housing until now is not unusual: few countries consider rental housing to be part of their broader housing agenda, focusing most efforts on expanding access to home ownership whilst relying on disparate programmes to support rentals. Based on international experience, it is clear that the development of a more robust rental market will be more effectively achieved through coherent policy, rather than disparate programmes. Indeed, this is the risk of the nascent initiatives of INFONAVIT and CONAVI: while the overall direction is welcome, there is a danger of multiplying small, *ad hoc* programmes in the absence of an overarching strategy; the piecemeal, programmatic approach has also been identified as a core difficulty of rental housing in the United States (Landis and McClure, 2010). In a sense, Mexico has an opportunity to design its rental policy from the ground up, benefiting from the experiences of other OECD and Latin American countries.

However, it will be important that the authorities proceed with caution. Peppercorn and Taffin (2013) suggest that the introduction of a more robust rental policy component to housing policy should be properly sequenced: first, assessment; second, legal; third, tax; fourth, finance; and fifth, subsidies. For the moment, the Mexican authorities have implemented pilot programmes that address the latter two strategies, which largely reflect the tasks and instruments assigned to the implementation bodies that have taken the lead in rolling them out – chiefly, INFONAVIT and CONAVI. Opportunities for addressing the legal and fiscal frameworks, which must be addressed by the government itself, with SEDATU playing a key role, are discussed below. Proceeding slowly can help to avoid a bubble in "buy-to-rent" properties that could result from rolling out myriad un-coordinated strategies and rental programmes without first addressing broader legal, fiscal and regulatory hurdles.

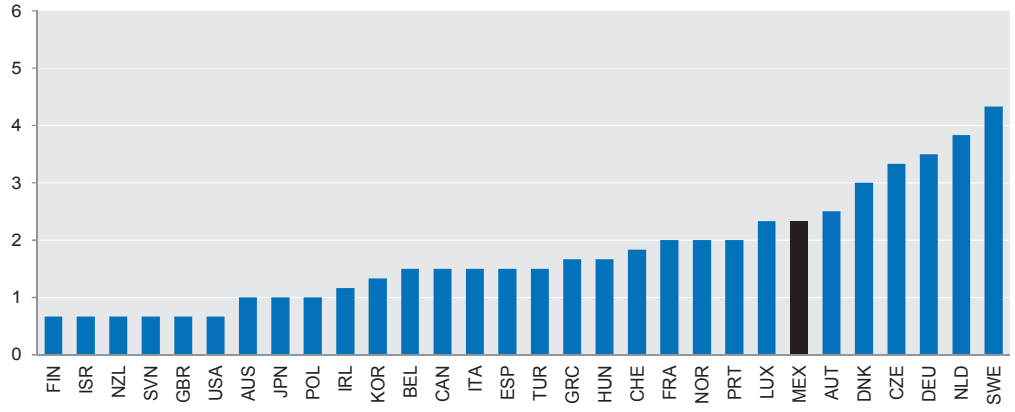
Once a rental housing policy approach has been defined, a number of strategies to expand the rental market could be considered. These include: *i)* reviewing the regulatory framework to ensure balanced treatment for both property owners and renters; and *ii)* reducing the tax burden on rental properties to ensure a greater balance between rental and owner-occupied housing.

Review the regulatory framework to ensure more balanced treatment for property owners and renters

A complex, burdensome regulatory framework and an unpredictable judicial system, which both tend to favour the rights of tenants over those of landlords, also hamper further development of the rental housing market. However, assessments differ as to the strength and stringency of these protections relative to other OECD and Latin American countries (see Bouillon, 2012; Blanco et al., 2014; Peppercorn and Taffin, 2013; Johansson, 2011). This is a particular problem in the case of evictions or foreclosures, for which the time until resolution, although it has decreased to just under a year (previously it took three or four years), still remains lengthy. Moreover, even once judicial rulings have been made, renters may still refuse to leave, because local authorities or the judiciary may not enforce the ruling. This deters potential investors and homeowners from opening up properties for the rental market (Casas-Arce and Saiz, 2006). Across OECD countries, Mexico also has some of the most stringent rent control regulations (Figure 3.2), though these apply only in the formal sector. As in the case of some labour-market regulations, they also constitute a barrier to formalising a good deal of existing rental activity.

Figure 3.2. **Rental regulations compared across selected OECD countries**

Rent control in the private rental market, 2009; Scale 0-6: Increasing in degree of control



Notes: This indicator is a composite indicator of the extent of controls of rents, how increases in rents are determined and the permitted cost pass-through onto rents in each country. Control of rent levels includes information on whether rent levels can be freely negotiated between the landlord and the tenant, coverage of controls on rent levels and the criteria for setting rent levels (market based, utility/cost based, negotiation based or income based). Controls of rent increases includes information on whether rent increases can be freely agreed by the landlord/tenant, whether rent increases are regularly indexed to some cost/price index or if increases are capped or determined through some other administrative procedure, including negotiation between tenant/landlord associations. The pass-through of costs onto rents includes information on whether landlords are allowed to pass on increases in costs onto rents (cost pass-through) and the extent of such pass-through i.e. the types of cost that can be passed on.

Sources: Johansson, Å. (2011), "Housing policies in OECD countries: Survey-based data and implications", *OECD Economics Department Working Papers*, in: OECD (2011), *Economic Policy Reforms 2011: Going for Growth*, OECD Publishing, Paris, http://dx.doi.org/10.1787/growth-2011-en.

The legal and regulatory framework for rental housing should ensure that both owners of rental properties and tenants are treated fairly and that rental housing meets certain quality standards. Specific recommendations include:

- Reconsidering rent control. Rent control, designed to maintain a certain level of affordability for tenants, tends to limit the development of rental housing. It may not be an appropriate policy for all types of properties and/or all rental markets.
- Developing standardised rental contracts. Peppercorn and Taffin (2013) recommend that contracts could include: the definition and description of the rental unit; the duration and termination of the contract; rent setting and rent increases; procedures for resolving conflicts; and adaptability of legal dispositions.
- Encouraging non-judicial conflict resolution mechanisms, such as mediation and arbitration, particularly in Mexico where judicial quality is not ranked highly. These have been successful in Canada, France, Morocco and the United States.
- Implementing rental assistance programmes for individuals will still be needed, though provided that reforms to the broader legal and fiscal frameworks for rental are addressed.

Reduce the tax burden on rental properties

An international survey of policies to stimulate the rental market points out that Mexico suffers from unfriendly taxation for rental properties (Peppercorn and Taffin, 2013). Investors in rental property pay income tax, with some deductions, as well as business tax. Property taxes are deductible but interest on loans to build rental housing is not. As a result, a very small share of rental income is actually reported and taxed. A 2006 study found that the rate of income tax evasion on rental units owned by individuals was 70-75% between 1998 and 2004 (ITAM, 2006). Other research concluded that taxation of Mexico's rental properties resulted in significantly lower returns for owners of rentable property (relative to, for instance, the rate of return for a government bond) (Peppercorn and Taffin, 2013). High tax rates on rental income have two consequences: in some cases, home owners decide to keep vacant, rentable properties out of the rental market to avoid the potential tax burden, while in the case of home owners who do rent out a property, less than 10% pay taxes on the income or provide receipts to their tenants for rental payments (Salazar Crus et al., 2012). In either case, high tax rates limit the expansion of the rental supply. Low property tax rates and poor collection – which have generated one of the lowest shares of property tax revenue in the OECD – are another incentive to own, rather than rent a home, as they effectively reduce the overall tax burden to home owners.

The authorities – the SHCP in particular – could aim to ensure a greater balance between rental and owner-occupied housing in the fiscal framework. OECD (2011) has previously recommended avoiding taxes that favour home ownership; a fiscal reform was subsequently proposed in 2013 aiming to reduce such incentives, but was not ultimately adopted. Reducing distortions between rental and ownership in the fiscal framework could encourage owners to put vacant properties in the formal rental market. In terms of treatment for home owners, tax credits – rather than tax deductions – are seen by some as a smarter approach to make housing more affordable to first-time, moderate-income home buyers. Landis and McClure (2010) argue that tax deductions are "hard to target and difficult to limit", citing the home owner mortgage interest deduction and the capital

gains exclusion. Tax credits, on the other hand, offer "a more direct, controllable and progressive method for affecting household and business behaviour". In terms of taxation on rental properties, Blanco et al. (2014) suggest that tax on rental properties should be levied only on the net income and allow deductions (e.g. for operating expenses, depreciation of assets, losses). Germany's fiscal framework, which is considered much more favourable toward rental property and small-scale owners of rental property, could be a model. According to Peppercorn and Taffin (2013: 66), the tax code should "ensure that rental real estate does not carry a higher tax burden than other real estate in such elements as allowable deductions and depreciation periods" in order to "ensure that the return, the risk, and the liquidity of the housing investment are comparable".

Implementing rental assistance programmes for individuals

In this context, there will still be a place for the types of rental assistance programmes that have recently been introduced by INFONAVIT and CONAVI. INFONAVIT introduced a pilot rental programme, Arrendavit, in 2013; in mid-2014, CONAVI began to offer a rental subsidy for low-income households that can cover up to 40% of the monthly rent (Chapter 2).

Improve institutional capacity for urban planning and development

While many of the urban challenges, such as urban sprawl, discussed in this and previous chapters, are generally well understood by policy makers in Mexico, it has nevertheless proven difficult to address them, due to weaknesses in urban planning. At the heart of the problem is the generally weak capacity at municipal level. Mexican municipalities have the responsibility for urban development, and part of their authority involves authorising housing construction. However, their capacities are at odds with their responsibilities. A large majority of municipalities lack a professional workforce in charge of urban planning, property registration, valuation, cadastre management, risk management and other related fields. Municipalities regularly authorise land subdivisions without updated master plans and without a metropolitan framework to gauge the long-term costs of sprawl. Moreover, they are often operating with outdated land-use plans – some approved over 25 years ago – which do little to guide more sustainable development patterns.

The limited human, technical and fiscal capacity of most municipalities means that despite significant authority over land use and urban development, municipal administrations are not always equipped to carry out these functions. Efforts to address these challenges are compounded by policy discontinuities that result from a change in the majority of the municipal administrations every three years due to the arrival of a new municipal president (mayor).[10] As will be discussed in Chapter 4, municipalities also depend to a large extent on federal and state transfers for most of their income (the national average is 70%), which is insufficient to conduct thorough, professional urban planning. The political environment also affects more organised urban development, as there is no long-term vision, and decisions rest on the short-term political priorities of elected authorities. Accountability mechanisms for urban planning are absent.

Many Mexican cities suffer from a host of metropolitan challenges yet lack adequate tools and incentive mechanisms to develop effective metropolitan solutions. OECD (2013a) found that in the case of Puebla-Tlaxcala, even though most of the region's 39 municipalities face similar obstacles, developing common solutions to shared

problems has proven difficult. Challenges to metropolitan governance in Puebla-Tlaxcala include:

- Administrative and institutional fragmentation of actors and policy mandates, which stands as a barrier to achieving economies of scale and greater policy coherence. As a result, there are few frameworks for co-ordinating service provision or distributing the costs and benefits among multiple entities in efficient and equitable terms. Moreover, while many of the challenges faced by municipalities within the region are inter-related, solutions tend to be conceived in isolation.
- Outdated, ineffective or partial frameworks, institutions and tools for urban and economic development and co-ordination at the metropolitan scale. Governance arrangements at the metropolitan level remain ambiguous in Mexico's legislative framework. Even the metropolitan tools that have been developed to facilitate greater urban and economic development policy coherence within the region – such as the federally established Metropolitan Council and Metropolitan Fund, the Puebla State Land Bank or the municipality of Puebla's municipal planning institute, IMPLAN – have significant limits.

Boosting the institutional capacity for planning at municipal level and, increasingly, at metropolitan level will be critical to more sustainable urban outcomes. Specifically, authorities could consider: *i)* leveraging planning institutes to strengthen capacity for urban planning; and *ii)* strengthening data collection at metropolitan scale.

Leverage planning institutes to strengthen capacity for urban planning

Increasing the capacity and accountability of urban planning within municipalities and metropolitan zones should be a priority. Municipalities with better technical capacities to formulate urban development plans have stronger basis for and are more attractive to local and foreign investors than institutionally weak municipalities. For example, some of the most economically developed municipalities in Mexico (e.g. San Pedro Garza García, Celaya, Benito Juárez [Cancún], Puebla, Tijuana, Los Cabos, Toluca, Guadalajara, León, Querétaro, Ciudad Juárez), have created municipal planning institutes (*Institutos Municipal de Planeación*, IMPLAN). All in all, these institutes work on a wide variety of topics increasing municipal capacity in issues such as housing, transport, urban planning and sustainable urban development. They also contribute to give continuity to long-term investment projects – going beyond the short municipal term. IMPLANs are also instrumental in professionalising the municipal workforce as they must be staffed with high-level personnel whose contracts do not coincide with those of the municipal and state elections. Existing IMPLANs have different characteristics; some are relatively autonomous from the municipal government such as IMPLAN León, while in others the municipal president appoints the head of the institute, such as IMPLAN Toluca. According to the Mexican Association of Municipal Planning Institutes (*Asociación Mexicana de Institutos Municipales de Planeación*, AMIMP) there are 50 such institutes in the country.[11] Interviews with Mexican officials suggest that the number of IMPLANs could now be around 70. However, the number is very low considering that the country has 2 456 municipalities.

For an IMPLAN to succeed, it is key to ensure its autonomy regarding the municipal administration, but also its proper means of funding, and its separation of political cycles. Other elements to consider are:

- representation of all municipalities of the metropolitan area in the government organs of the institute
- specific technical profiles for technical and management staff
- management periods with a duration different to those of municipal authorities
- long-term programme of work
- clear mechanisms to link technical studies with public works and private developments.[12]

IMPLANs have the potential not only to increase capacity for urban planning but also to hold public authorities accountable for undertaking urban planning and even asses the outcomes. They can also be a powerful tool for fostering cross-sectoral planning and intergovernmental co-ordination for urban development. If properly managed, these institutes could serve as a forum for analysis and debate of the municipalities' problems in a non-partisan and inclusive manner. Indeed, they could provide a voice to all stakeholders to express how they perceive the main challenges for well-being in the municipality and also for business opportunities. Moreover, they could assist municipal authorities in developing and agreeing on a long-term vision of the future and translate it into specific lines of action that could guide municipal planning. IMPLANs also have the potential to provide technical assistance and professional services to assist the different institutions involved in the management of the municipality or even metropolitan area.

While municipal planning institutes are growing across Mexico, metropolitan-scale planning institutes would be a potentially fruitful institutional evolution to consider. For example, IMPLAN Puebla is currently considering expanding into a Metropolitan Planning Institute with a larger role in terms of its geographical scope and its functions. In this sense, it would have the opportunity to apply a metropolitan lens to planning and assume additional responsibilities, such as data and information gathering and stimulating debate about metropolitan issues. The IMPLAN could potentially operate as a contractor to the state governments of Puebla and Tlaxcala for specific tasks that could include metropolitan planning, programme design, implementation and evaluation, and technical co-operation to institutionally weak municipalities (OECD, 2013a).

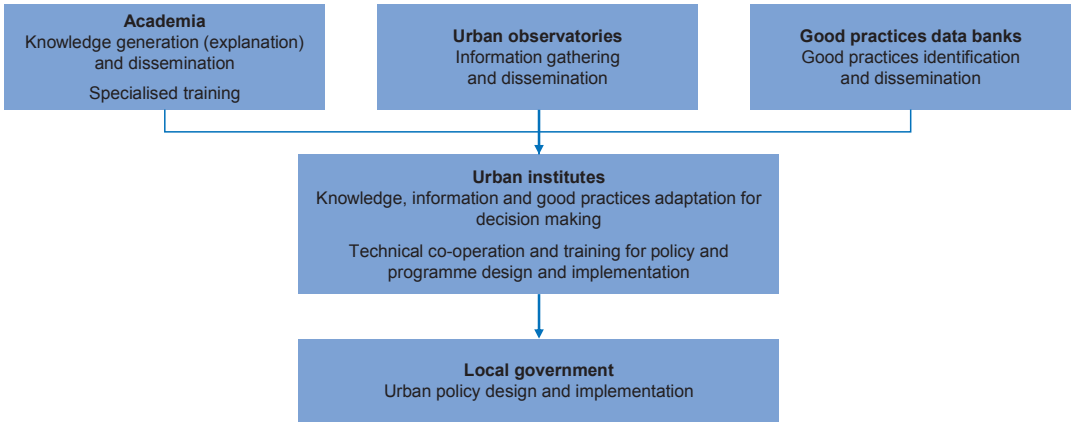
Another encouraging initiative is currently under development in the metropolitan area of Guadalajara (Jalisco). In 2011, the local congress enacted the Metropolitan Co-ordination Law (*Ley de Coordinación Metropolitana del Estado de Jalisco*) that encourages voluntary co-ordination in metropolitan matters (it is expected that in the future co-ordination will be compulsory). One of the main developments has been the creation of the Metropolitan Planning Institute of Guadalajara in 2013. This institute is decentralised and inter-municipal and has technical autonomy. Its co-ordination board consists of all municipal presidents of the metropolitan area and the state governor (it is expected that in the future it will be formed by citizens). If properly founded and managed and if it ensures political neutrality, the institute has the potential of being a key player in the development of the metropolitan area of Guadalajara. One of the main challenges for the success of the institute will be the political rivalries and jealousies among the municipalities in the area which could prevent effective collaboration. The state government should play a key role in strengthening the institute by showing political backing.

Leveraging IMPLANs could be done based on the experience of the urban institutes that have been created in Brazil, Canada, France and the United States. These can be both

public and private specialised institutions that provide intermediation services between the knowledge and information generated by academic institutions, urban observatories, national and international good practices banks and the local authorities (Figure 3.3). They analyse data for policy and programme decision making, gather knowledge from academia and use it to support policy design and evaluation and to train personnel of the urban authorities. They could also adapt international experience to local needs.

Urban institutes can be organised and managed under a variety of institutional arrangements (Rojas, 2012). The key aspects are the ownership of the institute and the sources of funding. Urban institutes can be owned by national/central, state or municipal governments; associations of governments; or private entities – which is the main difference with Mexico's IMPLANs. The potential sources of funding include the sale of services, transfers from parent institutions or proceeds from endowments specially established to finance the institution, or a combination of these sources. These institutes work on a wide variety of topics. For instance: research on urban challenges (urban land, housing, transport, sanitation, economic development, environment, energy, social issues), provide policy advice, urban planning in trans-sector issues (land use, strategic planning, environmental management) or sector development (housing, transport, economic development), project design, and provide a forum for debate and analysis of urban problems. This could be of special interest for Mexican metropolitan areas as having a metropolitan institute working on a wide variety of topics is of potential use to all local governments located in the metropolitan area. It would be necessary to ensure that these institutes, as well as the IMPLANs, are staffed with highly qualified professionals.

Figure 3.3. **The role of urban institutes in support of urban management**



Source: Rojas, E. (2012), "The contribution of urban institutes to the governance of urban areas: Challenges and opportunities in Antofagasta, Chile", report prepared for the *OECD Territorial Review of Antofagasta, Chile,* unpublished paper.

There are several examples of urban institutes for Mexico, including the Urban Research and Planning Institute of Curitiba in Brazil (IPPUC), whose quality outputs benefit from an integrated approach to the urban development process. There is public scrutiny into its actions due to the direct influence that it exerts on most areas of municipal action, from public works to environmental management and industrial policies. This latter characteristic has prevented the institute from becoming a mere planning advisory board and turned it into a powerful agency of municipal management. The experience of the *Institut d'aménagement et d'urbanisme de la Region Île-de-France*

(IAU) shows the importance of a long-term commitment on the part of the sponsors of this type of institution which results in steady funding. It also shows the importance of specialisation, as it is focused on a specific territory and a limited set of problems. The IAU has developed in-depth knowledge of the region and world-class capacity in land use, transport, environment and economic development planning (Rojas, 2012). In Mexico, one example is the Metropolitan Development Centre of Monterrey (*Centro de Desarrollo Metropolitano de Monterrey*, CEDEM). Its main characteristics are that is it based on a prestigious academic institution, the *Instituto Tecnológico y de Estudios Superiores de Monterrey* (ITESM), which allows it to benefit from the wealth of academic knowledge and expertise available in the institution to address all of the issues confronted by the metropolitan area of Monterrey. The CEDEM is a non-partisan institution providing a politically neutral platform for analysis, debate and technical advice on metropolitan matters. It is financed by contracts, which puts pressure on it to produce good quality outputs.

Strengthen and harmonise data collection efforts at metropolitan scale

Information gathering and analysis to improve the decision-making process for urban planning and management is another critical area for improvement. The availability of reliable data on economic and urban development, housing, environmental risks and pressures, land reserves, social marginalisation – to name a few – are critical to support evidence-based planning processes. The National Urban Development Programme includes strategies to improve the quality of and access to information about urbanisation patterns and the location of housing finance and government subsidies. Of equal importance will be to train technical staff at all levels of government in the use of information technologies, including geo-statistical data. Technical capacities are not uniform across Mexican metro areas: some cities have highly qualified staff and data while others are hampered by a lack of information. The regional monitoring initiative in the metropolitan region of Nuremburg (Germany) could be of interest to urban policy makers in Mexico (Box 3.14).

Box 3.14. **Regional monitoring in Nuremburg, Germany**

The European Metropolitan Region of Nuremberg is one of Germany's smaller metropolitan regions, with nearly 3.5 million inhabitants. It consists of 11 towns and 22 counties. The economic situation and demographic trends are highly heterogeneous throughout the region. The region is also home to a number of territorial inequalities.

As a first step toward establishing a baseline for monitoring various indicators in the region, the metropolitan region recently published a 120-page brochure of statistical data for each of the towns and counties. Topics include demographic trends, economic performance, the labour market, research and innovation, social challenges, land use and the housing market. The brochure provides maps and charts to visualise the empirical findings, illustrating both opportunities and challenges in each of the cities and counties. Scientists, politicians and business people within the region support the findings with policy proposals or regional development programmes. The brochure is a valuable resource, especially to those who are less familiar with statistics and maps. A glossary explains the statistical indicators used.

A final impact is worth mentioning: despite the territorial disparities, the process of developing the brochure has contributed to strengthening an overall sense of "regional identity" in Nuremburg.

Source: European Metropolitan Region of Nuremburg (2012), *Regional-Monitor 2012*, Metropolregion Nürnberg, Nurenburg, Germany, available at: www.nuernberg.de/imperia/md/statistik/dokumente/veroeffentlichungen/metropolregion/regional_monitor_2012.pdf.

In addition to more and higher quality data on housing, transport, natural risk zones and infrastructure needs, it will be critical to develop stronger methods for sharing this information across different institutions. Currently, separate databases are operated by the many actors involved in housing and urban development (e.g. SEDATU, CONAVI, INFONAVIT [via the RUV], National Institute for Sustainable Land, INEGI, public cadastres and property registries, to name a few). Yet there are currently no agreements to harmonise or share this information across institutions. To this end, the involvement of the SHCP could be useful.

Notes

1. The smaller allocation to the SEDATU operating budget may in part be explained by the path-dependent budget allocation: SEDATU was created in 2013, inheriting the organisational structure and budget of the former (and much smaller) Agrarian Ministry, as well as a small part of SEDESOL's budget that had been dedicated to urban policy.
2. Although there are clearly benefits to households of full property title, such as access to credit and tenure security (Deininger, 2003), in many cases households in irregular housing already have tenure security through informal means and are not able to take advantage of other potential benefits like credit because they do not have access to banks or do not want to offer their house as collateral (McKenchnie, 2005).
3. More information is available at: www.refina-info.de/en.
4. *Reglas de Operación del Programa de Esquemas de Financiamiento y Subsidio Federal para Vivienda, para el Ejercicio Fiscal 2014*, available at: www.dof.gob.mx/nota_detalle_popup.php?codigo=5304701.
5. There are often problems with the boundaries of TIF areas and the correspondence between the benefit of the public intervention and the subsequent tax payments. More importantly, perhaps, empirical research generally finds that TIF areas do not experience higher rates of economic growth than non-TIF areas and that, in some cases, non-TIF parts of the city grow faster than similar areas with TIF benefits (Dye and Merriman, 2006).
6. For more information, see: www.epa.gov/smartgrowth/smartlocationdatabase.htm.
7. Sánchez and Salazar (2011) find variation in vacancy rates across states – between 10% and 18% – and propose a number of possible hypotheses for this variation: economic recession, violence and insecurity, migration to the United States and abandonment of new housing due to the inability to make monthly mortgage payments.
8. The sample includes all 59 metropolitan zones, as defined in CONAPO/INEGI/SEDESOL (2012), in addition to 19 conurbations and 20 urban centres.
9. More information is available at: http://detroitfuturecity.com/framework.

10. Mayors are elected for a three-year, non-immediately renewable term, with the exception of mayors in some states that have allowed for a four-year term. Recent federal legislation has removed the obstacles to re-election, and it will be up to each state to determine whether or not to allow for re-election. This topic is discussed further in Chapter 4.

11. For further information, see: www.amimp.org.mx/index.php.

12. Based on: CIDE et al. (2012).

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Chapter 4

Renovating Mexico's urban governance structure*

This chapter focuses on the governance of housing and urban development. The chapter assesses the bottlenecks that currently impede better co-ordination among ministries and across levels of government and proposes strategies for enhancing co-operation and collaboration. It also addresses capacity gaps – fiscal, technical and human – at all levels of government for housing and urban policies, with a particular focus on strategies for strengthening some of the sector's most important actors: INFONAVIT, SEDATU and municipalities. The chapter concludes with proposals to transition toward a more strategic framework for housing and planning.

* The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

To make the most of the country's economic growth potential, Mexico needs to develop competitive, sustainable, inclusive cities and metropolitan areas. Previous chapters described the paradigm shift in Mexico's approach to housing and urban policy, emphasising a transition toward a smarter, more sustainable housing and urban development model. In order for this new housing and urban policy agenda to succeed, however, it will be necessary to reform the urban governance structure and improve the management of urban areas. For one, the country requires a long-term urban development agenda discussed with all political forces and with the participation of civil society. Additionally, Mexico needs to improve its capacity to conduct and implement urban planning as past urban development projects have too often been characterised by an improvised, trial-and-error approach responding to short-term political priorities rather than the national long-term interest.

This chapter will describe the governance challenges to better housing and urban development outcomes, focusing on both co-ordination and capacity gaps. A series of recommendations, drawing on the experience of OECD countries, is proposed to foster greater co-ordination across levels of government and boost the capacity of public actors to carry out the reform agenda for housing and urban policy:

- There is a need to overcome fragmented policy making by improving the co-ordination of federal actors involved in housing and urban development. To do so, it will be important to strengthen the sectoral leadership, promote cross-sectoral planning, and in the long term, streamline the housing and urban development sector.
- Mexican authorities should look to strengthen collaboration across levels of government to ensure a coherent and seamless policy implementation. To do so, it is critical to align local housing and urban development legal frameworks to national strategic objectives; reduce transaction costs for and asymmetries of information across levels of government; promote integrated urban development and management; and revamp metropolitan governance arrangements.
- The fiscal decentralisation process needs to ensure sound municipal finances to underpin urban development and expand the coverage and increase the quality of public services.
- Reforming municipal public administrations is paramount to enhance capacity for urban planning. Such reforms include: ensuring the professional management of city administration, strengthening municipal planning institutes, increasing citizen participation in planning and generalising metropolitan structures.
- Mexico requires developing the professional capacity for better housing and urban policy at all levels of government, particularly by strengthening and professionalising the sub-national public workforce.

Overcoming policy fragmentation for housing and urban policy at federal level

The design and implementation of urban development policies requires the participation of a number of actors from different domains and levels of government. Urban planning and development need to be thought of in line with other policy objectives to avoid contradictions, duplication and inefficiencies so as to ensure building synergies and complementarities. That is why urban planning and development represent constant co-ordination challenges for OECD countries. This section will discuss the challenges of institutional fragmentation that undermines better housing and urban

development policies in Mexico. It will provide some recommendations to reinforce central leadership at the housing and urban development sector, and some suggestions to streamline the housing sector.

Institutional fragmentation stymies better housing and urban outcomes

In January 2013, the Mexican authorities established the Ministry of Agrarian, Territorial and Urban Development (*Secretaría de Desarrollo Agrario, Territorial y Urbano*, SEDATU) to ensure an optimal use of the national territory that enhances the productivity, inclusiveness and sustainability of human settlements. SEDATU leads a crowded field of institutional actors involved in housing and urban policy at all three levels of government (Box 4.1). The creation of SEDATU is an important step towards better inter-institutional co-ordination in the sector. However, current institutional arrangements remain fragmented, resulting in policy incoherence, a lack of systemic co-ordination among actors, and duplicity in functions across federal and sub-national actors.

A new housing and urban approach for a crowded field of actors

Mexico's National Development Plan (*Plan Nacional de Desarrollo 2013-2018*, PND) provides the foundations for a new approach in housing and urban development that prioritises citizens' quality of life and well-being. For that purpose, the PND outlines the following strategies: *i)* adopt a sustainable and smart urban development model; *ii)* reduce, in a responsible manner, the housing deficit; and *iii)* enhance inter-institutional co-ordination among the three levels of government. In turn, the National Urban Development Programme (*Programa Nacional de Desarrollo Urbano 2014-2018*, PNDU) defines the strategic objectives in urban development and proposes a "sustainable and smart urban development model" that aims to control urban sprawl and make cities more productive. The National Housing Programme (*Programa Nacional de Vivienda 2014-2018*, PNV) aims to control urban sprawl, improve the quality and reduce the deficit of urban and rural housing, and diversify housing solutions so as to contribute to the strategic objectives of the PND.

Reaching the goals of the PND through the implementation of the PNDU and the PNV presents the challenge of co-ordinating a wide range of national-level actors in a sector that, until recently, lacked a unifying vision and a co-ordinating structure to guide their actions. This had led to contradictions, duplications and inefficiencies in the process of urban development whose effects will be perceived in the foreseeable future. SEDATU, as the head of the housing and urban development sector (Box 4.1), leads and co-ordinates the actions of a number of decentralised and diverse organisms, such as: the National Housing Commission (*Comisión Nacional de Vivienda*, CONAVI), the Trust for the National Fund for Ejido Support (*Fideicomiso Fondo Nacional de Fomento Ejidal*, FIFONAFE), the Commission for the Regularisation of Land Tenure (*Comisión para la Regularización de la Tenencia de la Tierra*, CORETT),[1] the Agrarian Attorney (*Procuraduría Agraria*, PA), the National Agrarian Registry (*Registro Agrario Nacional*, RAN), the National Trust Fund for Social Housing (*Fideicomiso Fondo Nacional de Habitaciones Populares*, FONHAPO) and others.

Other actors that have a direct or indirect impact in the housing and urban development fields are:

1. The Ministry of Environment and Natural Resources (*Secretaría de Medio Ambiente y Recursos Naturales*, SEMARNAT) is in charge, among other things, of issuing environment regulations for urban development and assessing the environmental impact of urban development projects.

2. The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (*Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación*, SAGARPA) is responsible for the definition and implementation of a general policy on rural development.
3. The Ministry of Social Development (*Secretaría de Desarrollo Social*, SEDESOL) is in charge of building infrastructure to enhance social development and inclusion in co-ordination with sub-national governments and the social and private sectors as well as the allocation of some housing assistance to low-income households.
4. The Ministry of Communications and Transport (*Secretaría de Comunicaciones y Transportes*, SCT) is responsible for transport infrastructure.[2]
5. The Ministry of Energy (*Secretaría de Energía*, SENER) and the Ministry of Tourism (*Secretaría de Turismo*, SECTUR) also have a role in the implementation of the PNDU.

Box 4.1. **SEDATU as the central body for urban development**

Until recently, Mexico lacked a central body in charge of formulating policy and co-ordinating its implementation on urban planning and housing. In 2012, the federal government expanded the functions of the Ministry of Agrarian Reform (*Secretaría de la Reforma Agraria*) to create the Ministry of Agrarian, Territorial and Urban Development (SEDATU). SEDATU assumed the functions of the former Ministry of Agrarian Reform, in addition to the urban development functions that had previously been under the purview of the Ministry of Social Development (SEDESOL). According to the Organic Law on the Federal Public Administration, SEDATU, in co-ordination with local and municipal authorities, is responsible for regularising land ownership, promoting an orderly and planned use of the territory, enhancing urban development, co-ordinating and financing regional and urban development, co-ordinating urban and metropolitan planning, promoting the construction of regional and urban infrastructure, and exercising the right of expropriation on the benefit of public interest.

SEDATU, as the leading body in the planning of urban centres, has a strategic role in housing policy formulation. As discussed in Chapter 2, these functions had hitherto been assumed *de facto* by the National Workers' Housing Fund Institute (*Instituto del Fondo Nacional de la Vivienda para los Trabajadores,* INFONAVIT), and in some cases by private housing developers, whose expertise has centred on housing finance and development, respectively, rather than urban development. Resulting in part from these gaps, Mexico faces enormous challenges toward more sustainable urban and territorial development (Chapters 2 and 3), and leadership from SEDATU will be instrumental in realising the transition toward more desirable urban outcomes.

As regards housing, a large number of actors across all three levels of government have responsibility for policy design and implementation (Box 4.2). Some organisms are part of the public administration, some are private and still others are quasi-public entities that are not part of the public administration (such as INFONAVIT). The large number of actors reflects the importance of the housing sector for the national economy on the one hand; yet it is also the source of considerable duplication of functions and resources, on the other.[3] In addition, at sub-national level there are approximately 44 housing organisms that operate housing programmes with their own resources. For example, there are state housing institutes and some municipalities, mainly in metropolitan areas, have a municipal housing institute. These generally focus on providing housing solutions to the

sector of the population not covered by INFONAVIT, the Housing Fund of the Social Security and Services Institute for State Workers (*Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, FOVISSSTE) and other national housing institutions.

Box 4.2. **Public and private actors with a role in housing development in Mexico**

Apart from the Ministry of Agrarian, Territorial and Urban Development (SEDATU), a number of other institutions have a key role in housing policy formulation and implementation:

- The National Housing Commission (CONAVI), created in 2001, co-ordinates, promotes and implements the national housing policy and the National Housing Programme of the federal government. Its aim is to guarantee the access to housing to Mexican families, and enhance the sustainable housing development. It provides subsidies to borrowers from the National Workers' Housing Fund Institute (INFONAVIT), the Housing Fund of the Social Security and Services Institute for State Workers (FOVISSSTE), the Federal Mortgage Corporation (*Sociedad Hipotecaria Federal*, SHF), development banks, etc.
- INFONAVIT, created in 1972, manages the resources of the National Housing Fund and operates a financing system to allow workers from the private sector to access cheap credits to buy, build, improve and even rent a property. All these activities should be integrated within a policy of housing and urban development.
- FOVISSSTE, created in 1972, is a deconcentrated organism of the State's Employees' Social Security and Social Services Institute (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, ISSSTE) that operates a financing system for the mortgage credits of federal public workers affiliated to the institute.
- The SHF, created in 2001, is a financing institution that belongs to the development banking system. Its aim is to promote primary and secondary housing credit markets through guarantees for the construction, acquisition and improvements to, in particular, social housing; the increment in the productive capacity and technological development related to housing; and the financing related to the equipment of housing complexes (*conjuntos habitacionales*).
- The National Trust Fund for Social Housing (FONHAPO), created in 1981 and co-ordinated by SEDATU, gives subsidies to families in a situation of "asset poverty" (*pobreza patrimonial*) to acquire, improve or enlarge a home. FONHAPO manages two programmes, *Vivienda Digna* and *Vivienda Rural*, in collaboration with state housing institutes and municipal governments to contribute to the improvements of housing patrimony of Mexican families.
- The Ministry for Social Development (SEDESOL), created in 1992, operates a programme for the development of priority zones in rural areas to improve housing quality.
- The National Bank of Public Works and Services (*Banco Nacional de Obras y Servicios Públicos*, BANOBRAS), created in 1933, is an institution of the development banking system that finances or re-finances public and private investment projects in infrastructure and public services. BANOBRAS has a key role in the financing of social basic infrastructure to improve the living conditions of the population, but also infrastructure aimed to raise competitiveness and development by financing projects of high rentability.

Box 4.2. **Public and private actors with a role in housing development in Mexico** (*cont.*)

- The Committee for the Regularisation of Land Tenure (CORETT), created in 1973, is tasked with creating territorial reserves and regularising land ownership.
- The National Council of State Housing Organisms (*Consejo Nacional de Organismos Estatales de Vivienda, A.C.*, CONOREVI) is an organisation that represents, co-ordinates and supports the state housing organisms (*organismos estatales de vivienda*, OREVIS) in their relation with the federal authorities which are responsible for the formulation of housing, urban development and territorial policies.
- The National Chamber of the Industry for the Development and Promotion of Housing (*Cámara Nacional de la Industria de Desarrollo y Promoción de Vivienda,* CANADEVI) represents 80% of the real estate developers in Mexico and works with the federal government in the promotion of housing development.

Source: Information provided to the OECD by INFONAVIT.

There is not only a large number of actors, but also of programmes with respect to housing: *Vivienda Rural*, *Vivienda Digna*, *Hábitat*, *Reordenamiento y Rescate de Unidades Habitacionales*, *Mejora tu Casa*, *Programmes for the Regularisation of Irregular Human Settlements*, etc. Many of these initiatives share similar objectives (e.g. improving housing conditions for marginalised or impoverished populations) and use similar instruments (e.g. subsidies), yet are operated by separate ministries and decentralised organisms. As a result, the Mexican population must navigate a complex, and to a certain extent, opaque and confusing system of public housing assistance. Efforts are nevertheless being made to homologate the housing system through the National Housing Registry (*Registro Único de Vivienda*, RUV). The RUV intends to, among other things, integrate a unique database on the new and used houses in the market. However, until now, the RUV only covers the new homes that are to be bought through INFONAVIT, FOVISSSTE or SHF financing, which is not enough to ensure a more co-ordinated policy making and its information is not public. To make this system work better it is essential, at the very least, that registration in the RUV be compulsory by law on the part of housing providers, and that the databases from CORETT and the RUV be combined or at least co-ordinated to have comparable information.

Fragmentation of authority, due to a lack of systemic co-ordination

Efficient and effective co-ordination and co-operation across the different national and local urban development and housing actors is difficult in such a crowded institutional landscape. Fragmentation may arise when ministries act within their area of expertise without co-ordinating with other ministries that share competences, and without consultation of sub-national needs. Such fragmentation can lead to policy incoherence, overlapping responsibilities and opacity in accountability. Many institutions pursue the same goal with limited co-ordination. Moreover, there is little evidence of organisations working together, sharing information and best practices in a systematic manner, basing their actions on common diagnostics or sharing the same vision.

The problem is exacerbated by the existence of separate legal frameworks for housing and urban development at all three levels of government, which do not share the same level of quality regulation, approach or technical detail.[4] Housing, for example, is at the

crossroads of several legal instruments and policy fields that have an impact on urban development such as environmental protection, water, waste management and risk prevention.

At federal level, fragmentation has led to a lack of systemic co-ordination for cross-cutting housing and urban development policy definition and implementation. For instance, SEDATU appears to be a relatively strong sectoral ministry but rather weak in co-ordination across ministries and even levels of government. Others, like INFONAVIT, seem to have relatively strong vertical inter-organisational co-ordination but limited cross-sectoral co-ordination capacity. Co-ordination of activities is based mostly on the "good will" of organisation heads, rather than structured communication and relationships across bodies. To date, co-ordination across administrations tends to be based on personal relations and/or political affiliation, and agreements for co-operation are widely used to formalise these relations. Although these agreements are legally binding and carry legal consequences in the case of non-compliance, it is not mandatory to enter into them. The General Law on Human Settlements (*Ley General de Asentamientos Humanos*, LGAH), for example, only makes reference to co-operation agreements and covenants (*acuerdos* and *convenios de coordinación*)[5] between national bodies and state and municipal governments (Article 10), but there is no indication of how co-ordination across the different national bodies should be organised.

In Mexico, as in many other OECD and non-OECD countries, institutional fragmentation is compounded by the lack of an overall urban programming system able to guide and to generate complementarities between the different actors involved in urban development. The sectoral logic of the different ministries and institutions at different levels of government, the co-ordination deficiencies among them and the lack of an urban governance framework at the "whole-of-city" level dictated by law, makes generating territorial coherence and synergies between the different policies and actors involved in urban-related policies extremely complex. Although the LGAH strongly encourages co-ordination across levels of government for the formulation and implementation of urban development plans and the delivery of basic public services, it does not make co-ordination across economic sectors obligatory. Similarly, at metropolitan level, urban problems are generally the result of the fragmented action of the municipal governments that are part of the metropolitan zone (Alarcón, 2012). This has led to the lack of co-ordination to address urban sprawl (Chapter 3), the shared provision of public services when economies of scale could be achieved, differences in regulation, etc. As a consequence, municipal governments have to face rising costs for public service delivery, mainly the smaller ones.[6] To boost the effectiveness of the housing sector and of urban development strategies, one of the priorities of both the PNDU and of the PNV is to bolster inter-institutional co-ordination for housing and urban development.

Duplicity of functions

The creation of SEDATU established a specialised body with national authority over housing and urban development issues. However, the reforms leading to its creation did not review the responsibilities of the different authorities in order to align their mandate to the new housing and urban approach nor was there an assessment of their relevance in the new institutional context. Consequently, there are duplicities in functions across different actors and this can have a negative effect on the use of financial resources, in the size of public employment levels and in the co-ordination for public policy implementation.

In Mexico there is a tendency to create new institutions to deal with the specific problems or demands of particular demographic groups, and reflecting the priorities of the administration in turn. Not surprisingly, there are some organisations performing similar functions but with different target groups in the same policy sector. For example, FOVISSSTE and INFONAVIT provide credits for housing acquisition, the former for federal public employees and the latter for private-sector employees. Each has different criteria and conditions to grant a credit. However, for all intents and purposes, both organisms conduct the same activities, the only difference being the target population. SEDATU and CONAVI are both involved in the housing sector where the former is the head of the sector and policy maker and the latter is also a policy maker as defined by the Housing Law but also has an executive role. FONHAPO and SEDESOL are both tasked *inter alia* with assisting marginalised populations in their housing needs: FONHAPO provides subsidies for housing improvements or construction to people in a situation of acute poverty while SEDESOL provides subsidies for housing improvements to people in marginalised areas. To a certain extent, these entities tend to compete rather than co-operate, resulting in a suboptimal use of public resources.[7] The paradox of having a large number of housing organisms is that they do not cover the entire population (Chapter 1).

The duplicity of functions blurs sectoral leadership and accountability. For example, in the housing sector, although SEDATU is recognised as the head of the housing and urban development sector, CONAVI appears to have a more active role in defining policy and programmes, and more financial and technical (experience) power to elaborate and co-ordinate housing policy implementation. It manages the MXN 12 billion housing subsidy programme, which accounts for 45% of SEDATU's operating budget in 2014, and is responsible for formulating, implementing, co-ordinating, evaluating and monitoring the National Housing Policy[8] and formulating the National Housing Programme[9] (*cf.* the Housing Law).[10] Nevertheless, SEDATU is responsible for promoting territorial planning and zoning through policies that harmonise urban development, housing planning and housing development as well as promoting and co-ordinating housing programmes[11] with the participation of sub-national governments (*cf.* the Organic Law of the Federal Public Administration). CONAVI is seen as the technical arm of SEDATU specialised in housing.[12] In short, the current division of responsibilities creates a context in which both the head of the sector (SEDATU) and the decentralised organism (CONAVI) have formal authority to define housing policy.

Limited experience in cross-sectoral planning at national level

Mexico's experience in urban planning is limited and any urban planning exercise focuses largely on housing in isolation from other sectors such as infrastructure planning. In Mexico, like in many OECD countries, coherence within policy areas is relatively easier to achieve than coherence across policy areas. The issue is that urban policy often intersects with other policies, making cross-sectoral co-ordination essential at the policy definition and implementation stages to improve efficiency and effectiveness of policies, to avoid contradiction and redundancy as well as to maximise budgetary resources. There are at least five reasons for the lack of cross-sectoral co-ordination in Mexico: the conflicting policy goals and competing interests of each sector; budgetary concerns; the lack of legal mechanisms for stakeholders' interaction; the lack of regulation; and the lack of an evaluation culture in government – since policy implementation is often not followed by policy evaluation, then co-ordination is often not sought as a way to improve policies.

Reinforcing urban and housing policies

In the view of the OECD Secretariat and based on the experience of OECD member countries, Mexico could consider strengthening the leadership in housing and urban development, promoting cross-sectoral planning, sharing processes and information among all stakeholders, and, in the long-term, analysing the appropriateness of streamlining the institutional landscape as a way to reinforce the housing and urban development sector. These actions may result in improved co-ordination, reduced fragmentation, and more value for money and policy effectiveness.

Strengthen the leadership of the housing and urban development sector

SEDATU is in its early stages of consolidation as head of the housing and urban development sector. Nevertheless, it must quickly produce concrete programmes to bring order into the way urban areas are planned and developed in the short-term. A strong co-ordinating ministry with a clear mission, vision and objectives is essential to give direction and to assess and propose changes to the action of all stakeholders in housing and urban development. Thus, at the very least, SEDATU must be involved in the decision-making process in all national housing institutions and reinforce its presence in the state governments to ensure that local policies are aligned with national directives. Yet to strengthen SEDATU even further, four steps are proposed:

- Revise SEDATU's organisational structure to reflect its mission, vision and objectives. SEDATU could consider making an organisational strategic plan to identify and maintain focus on priorities and global outcomes. The development of an organisational strategic plan may thus result in the need to reform SEDATU's structure. The division of responsibilities within the ministry should derive from the organisational structure and each area should have clear plans, goals and objectives. For instance, if SEDATU aims to enhance regional development, assist municipalities in urban planning with the participation of society, it may need to reflect that in its organisational structure. The creation of a unit on urban mobility would help to cover this policy area that has been neglected so far. It could also include a unit with special responsibility for intergovernmental relations with sub-national governments and inter-sectoral co-ordination regarding urban development as in Norway's Ministry of Local Government and Regional Development. To support its mission, SEDATU may consider setting up a unit of policy development and research as in the US Department of Housing and Urban Development; and a co-ordination unit for civil society in charge of fostering citizens' participation in urban planning as in Chile's Ministry of Housing and Urbanism. Setting up a unit for co-ordinating cross-sectoral planning may be required to strengthen co-ordination capacity.
- Strengthen SEDATU's technical capacities. It is critical to ensure that SEDATU has the necessary capacity and capability to fulfil its functions. One way of doing so is by strongly complying with the rules of the Professional Career Service of the Federal Public Administration (*Servicio Profesional de Carrera de la Administración Pública Federal*, SPC) in the management of SEDATU's professional staff and senior and middle managers. SEDATU, as part of the centralised federal public administration, is under the scope of the SPC and all efforts should be made to abide by the rules, avoid deviations from the process and excessive use of Article 34 of the SPC Law (OECD, 2011d). This would ensure not only recruiting the staff with the right skills and competencies but,

perhaps more importantly, providing them with career opportunities and continuity in the federal public administration in the urban development domain despite changes in administration. Over the medium to long term, it would create a culture that values accumulated knowledge and experience, as long as the rules of the SPC are respected (OECD, 2011d). As part of the strategies to enhance SEDATU's technical capability it would be critical to engage in strategic workforce planning to determine not only the skills and competencies needed to fulfil its mission but also the size and allocation of the workforce within the different units of the ministry.[13] It should also be necessary to ensure that SEDATU has at its disposal the financial resources required to fulfil its mission under a clear accountability framework.

- Enable SEDATU to impose sanctions on federal and sub-national organisms as well as private-sector actors that do not comply with the law. It is important to give SEDATU the possibility of establishing sanctions with respect to national or sub-national bodies and private actors that do not comply with the law and the national policies on housing and urban development. This is one of the main weaknesses of CONAVI as it has to use the threat of reducing or restricting subsidies as an instrument of pressure as it lacks other means to ensure compliance with the law. For example, one way of sanctioning private-sector actors that do not comply with the law would be to forbid them to obtain contracts from any state or municipal authority for a certain period of time. SEDATU must be able to oversee how other institutions implement and enforce the law and establish administrative sanctions against those organisms not complying with the regulations. This assessment and any possible sanction should be evidence-based and measurement-based for which a set of well-defined indicators and reliable and trusted data will be essential. The co-ordination covenants (*convenios marco de coordinación*) between SEDATU and some municipalities consider the definition of a scientific and technical assessment methodology to evaluate the level of municipal compliance with the covenant and this methodology could be the basis for assessing urban policies (Box 4.5). SEDATU may also be able to request the appropriate judiciary bodies to conduct investigations on alleged corruption and mismanagement cases not only within its structure but also against those organisms at different levels of government.
- SEDATU, as the policy maker, may need to assume an arbitration role when disputes between bodies at the same or different level of government (local and municipal, or among municipal governments) emerge on housing and urban development matters. Arbitration may be an easier method to resolve disputes rather than litigation because of its finality, enforceability and procedural flexibility. SEDATU should be prepared to render the terms and conditions of dispute resolution.

Promote cross-sectoral planning to strengthen urban development

In order to facilitate cross-sectoral planning, Mexican authorities need to ensure that each sector has a comprehensive understanding of the other sectors' roles, responsibilities, legal authorities, assets, etc. SEDATU, as the accountable lead body for housing and urban development, has a key role to play in order to ensure that different sectors are consulted when conducting urban planning. Although there is no best solution or right formula for co-ordination that can harmonise competing interests, overcome uncertainty and ambiguous government structures and make hard policy choices that

everyone will accept (Laegreid et al., 2013), the greatest likelihood for cross-sectoral co-ordination seems to occur when legal mechanisms are implemented to force policy sectors to address the interests of another sector (Dudek, 2005). The reason is that no sector is likely to be successful without a co-ordinated action with others. The experience of OECD countries suggests that for horizontal co-ordination to achieve results it must be carried out across the different levels of government by government itself. Thus, high-level committees, working groups and bilateral partnerships are established to deliver co-ordination. Thus, as a first action, Mexico could establish a framework for periodically convening senior representatives from different sectors to review and address urban development challenges. Mexico could draw inspiration from the experience of Finland in getting senior officials to understand the challenges ahead and the ways of managing them (Box 4.3). Different activities such as workshops, learning cafes, etc. were organised where officials from different ministries got together to discuss challenges and the way forward. What is important is to get something out of these activities, such as a common understanding and a shared vision of the future.

Box 4.3. **Finland: The Finwin Programme**

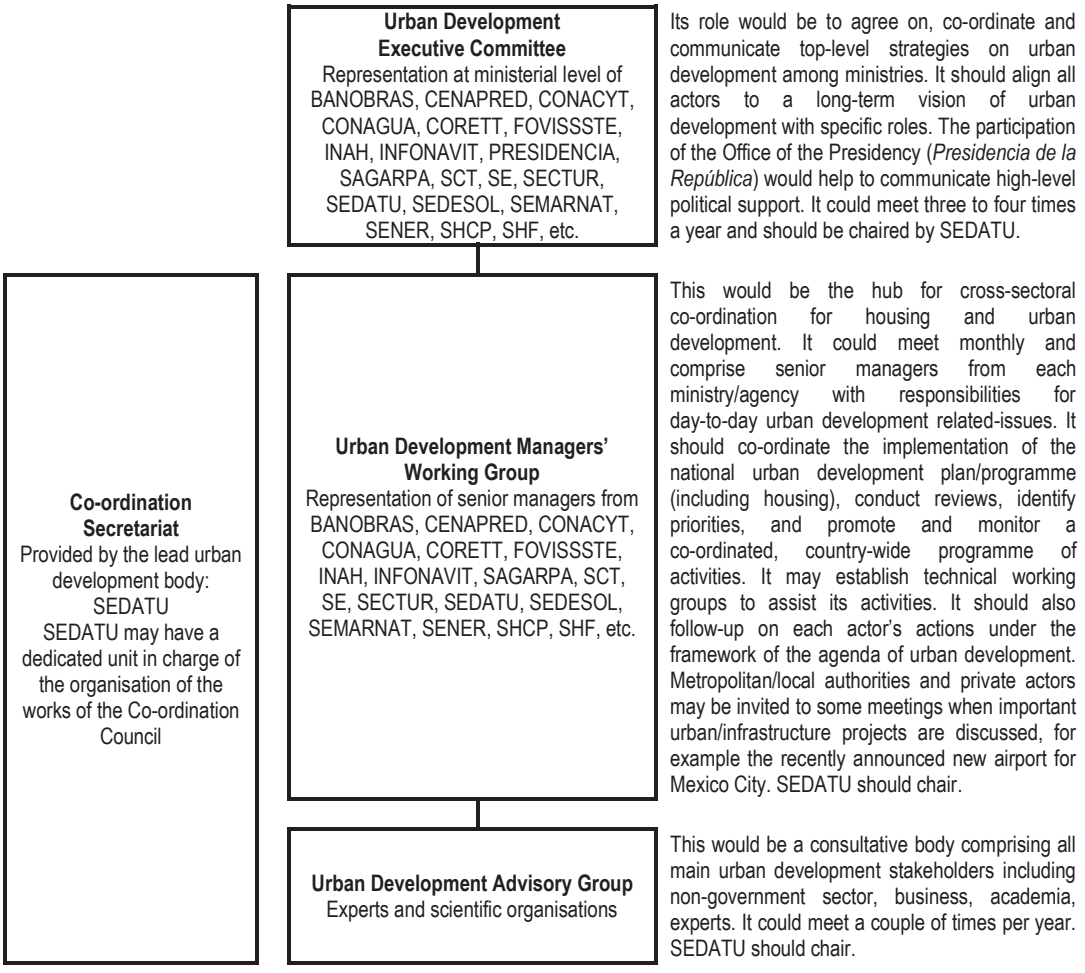
In December 2006, the Ministerial Committee for Economic Policy of Finland established the change management programme called Finwin: Towards a New Leadership. The aim of the programme was to bring about a shared understanding and vision concerning the future challenges and the way to manage them. Finwin facilitated horizontal dialogue among senior managers from different ministries and agencies through seminars for discussion. It intended to facilitate the implementation of change through the dissemination of information and the exchange of positive and negative lessons on reform programmes in different areas and levels of government. The programme was organised around seminars on topics like well-being at work, social innovations, functions of the state sector and regional administration reform. Managers had the opportunity to discuss a common vision on where they were going, what they wanted from the future, where they would be in ten years, and the desired level of quality to operate. The seminars gave them the opportunity to share experiences and fears regarding the future and the challenges ahead. One of the concrete results of Finwin was the elaboration of a five-point programme for better management.

Source: Huerta Melchor, O. (2008), "Managing change in OECD governments: An introductory framework", *OECD Working Papers on Public Governance*, No. 12, OECD Publishing, Paris, http://dx.doi.org/10.1787/227141782188.

Mexico could also invest in establishing network-based arrangements for urban development as a major co-ordination mechanism across policy sectors. It may be necessary to have a formal specification of the leadership and decision-making role of the co-ordinating body, SEDATU, in the legislation or in a Memorandum of Understanding (MoU). A MoU could be established with each participating agent in the network to encourage their delivery of concrete results, establish their accountability and work collectively to achieve shared objectives. The Mexican authorities may also consider establishing a National Urban Development Co-ordination Council that comprises a decision-making hierarchy and partnership for achieving better results in urban development through the development and implementation of a well-designed and co-ordinated urban strategy and targets that have been agreed across government. The Co-ordinating Council would replace the existing Housing Inter-Secretarial Committee (*Comité Intersecretarial de Vivienda*) as it would have a wider mandate and a different organisation. These national co-ordinating arrangements and structures would be an extension of the accountable lead body (SEDATU) that manages them and could be used

as platforms for agreeing and reviewing national urban development policies and programmes; mobilising resources, co-ordinating multi-sectoral partnerships and consulting with a wider group of stakeholders. The hierarchy would comprise three levels as shown in Table 4.1.[14]

Table 4.1. **Proposal for a National Urban Development Co-ordination Council for Mexico**



To strengthen cross-sectoral planning for urban development, it would be critical to identify gaps in existing legal authorities and tools for co-ordinated response to urban planning involving several sectors. It may also be necessary to develop communication plans involving agencies/organisations in different sectors. Building on all available co-ordination mechanisms for cross-sectoral planning is a good start for better planning.

At sub-national levels of government, Mexico will need to improve the currently inadequate financial and manpower provisions and incorporate cross-sectoral planning in the administrative structure of state and municipal governments. Through its work on urban green growth in Asia, OECD (2014c) has found, for example, that within sub-national governments, sectoral complementarities between green growth programmes, green growth policies and existing policy instruments are weakened due to limited public administration capacity (e.g. low human and financial resources, weak institutions, dependence on higher levels of government) and weak regulatory

frameworks do not facilitate cross-sectoral integration. This is also the case in Mexico where the lack of political continuity, the absence of procedural regulations and the insufficient political priority afforded to "planning" pose additional constraints. Local governments could replicate the decision-making hierarchy and partnership, and create a local Urban Development Co-ordination Council with the support of SEDATU. Moreover, if there is a planning institute (Chapter 3), Mexican municipalities may wish to broaden the limited areas of competence and responsibilities they have and make them co-ordinators of cross-sectoral planning and strengthen their powers to exert authority and take decisions. Finally, it may be necessary to ensure the accessibility and availability of information to be able to carry out realistic problem analysis, forecasts, detect areas of opportunity, and for the planning institutes to be a guiding body of cross-sectoral planning in the municipality.

Promote sharing processes and information among all housing and urban development actors

Given the large number of institutions involved in the housing and urban development sector, the federal authorities may consider taking steps towards greater horizontal integration by sharing processes and practices. There is enormous potential for quality improvement and savings through the horizontal integration of policy execution by way of, for instance, e-government projects based on common portals. There are examples of horizontal integration across OECD countries through the use of information and communication technologies (ICTs) that could be of inspiration to Mexican authorities. In the short term it may not be possible for Mexico to integrate federal institutions in the housing and urban sector through amalgamation of organisms as practiced in several OECD countries (i.e. Denmark, the Netherlands, Sweden). However, Mexico may consider following the Danish example of focusing more on virtual "seamless interaction" which leaves the institutional arrangement as is but guarantees easy communication across government bodies and easy access for citizens to government services (Box 4.4). In the housing sector, for instance, a revision of the portability (*portabilidad*) of savings from one institution to another, the homologation of conditions to access credits, the management of information and common databases among the two main national housing provident funds would be a first step towards a stronger horizontal integration.

Consider streamlining the housing and urban development sector over the long term

Mexican authorities could consider strategies for streamlining the institutional landscape of the housing and urban development sector. Arguments to support an amalgamation of institutions include that most institutions share the same policy objective, the same target population, the same processes and/or the same geographical target area. Across OECD member countries, the trend in recent years has been to merge agencies and/or share parts of the policy execution processes across government agencies.[15] The reasons for such initiatives are basically threefold:

- fiscal: to save money in light of increasing demand for funds
- a wish to increase the quality of services in light of citizens' expectations that the quality of governments' services match the private sector's
- a wish to increase the attractiveness of the public sector as an employer.

Box 4.4. **Horizontal integration initiatives in Denmark**

In 2007, Denmark introduced a reform focused on opportunities for process sharing among municipalities in the execution of government mandated tasks. Emphasis was made on the use of ICT tools for a seamless horizontal government. The document entitled *Towards Better Digital Service, Increased Efficiency and Stronger Collaboration* aimed at enabling the Danish public sector to maintain its capacity to exploit the technology to improve efficiency in its task handling and to satisfy the growing and changing citizens' needs. The strategy entails better and more binding co-operation and emphasises the implementation of specific digitisation measures to enable efficiency gains within the public administration. The strategy supported the long-term development towards cohesive, increased and more efficient digitisation of the public sector, whereby the digitisation is conceived as a natural part of the provision of government services throughout the public sector. The idea embedded in the strategy was that the public sector should deliver better, more cohesive and efficient digital services to citizens and businesses.

The reform was based on the principle that municipalities should be the entry point to services provided by the entire general government sector. The Ministry of Finance sets the ICT standards which allow easy communication between all government units (central and local). The use of common e-government components across the public sector or within selected domains has been of great utility, not only to ensure increased efficiency (in some cases also large savings potential), but also to establish a more integrated public sector as perceived by the citizens and businesses. The websites www.borger.dk and www.virk.dk give citizens and businesses a general overview of all public services available to them. The overview is provided both through the portals and through the individual authority's website by integrating content from www.borger.dk and www.virk.dk. This was intended to create cohesion in the public sector service delivery, requirements and options available to the individual citizen and business. During 2008-12, both www.borger.dk and www.virk.dk, involving a large number of authorities and institutions, formed the framework for a modified, personalised approach to the public sector for citizens and businesses. A strict condition for the development of e-government initiatives in Denmark is the proof of savings in the form of a positive business case. For example, the newest initiative is the Digital Mailbox, where each citizen has a digital mailbox for receiving government communications, shows an accumulated savings potential of EUR 65 million in 2016.

Sources: OECD (2012d), *Value for Money in Government: Denmark 2011*, Value for Money in Government, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264130746-en; OECD (2010h), "The impact of e-government on the public sector modernisation and efficiency efforts", in: *Denmark: Efficient e-Government for Smarter Public Service Delivery*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264087118-5-en.

For reasons of efficiency, effectiveness, quality, employee and citizen satisfaction, it makes sense to amalgamate some of the institutions/agencies that currently operate in the housing and urban development sector in Mexico. Conducting institutional mergers in the housing sector, for instance, would certainly be a challenge for Mexico as it would imply reforming a number of aspects, such as the normalisation of employment conditions between the public and private sectors (OECD, 2008a; 2011d), and reforming the Federal Work Law. Undoubtedly there would be important political and economic costs to merging institutions, which would need to be discussed and evaluated by all political forces, members of unions, the private sector and civil society organisations. The lesson for Mexico is that if it wishes to engage in institutional mergers to enhance efficiency and effectiveness in the urban and housing sector, it should undertake a thorough business case analysis to base its decisions.

In the short term, Mexico may consider a more logical division of responsibilities among the main policy-making and execution bodies. This could result in SEDATU being exclusively focused on policy development and CONAVI on housing policy execution. It would be advisable to avoid creating new institutions and agencies in the sector without first rationalising those that have limited participation in the domain. Over the longer term, Mexico may wish to analyse the convenience of continuing to resolve the housing shortages problem mainly through housing provident funds, or to focus on encouraging more active participation of private actors aiming to create a self-funded housing finance system capable of producing sizable amounts of new housing loans.

Revitalising multi-level governance arrangements for urban development

OECD (2013a) found that aligning public investment policy and implementation across levels of government requires co-ordination and co-operation throughout the process. This section will discuss Mexico's multi-level governance challenges and will offer some recommendations to foster collaboration across levels of government.

Challenges to vertical collaboration for urban development

Co-ordination and co-operation across administrations is all the more important in light of Mexico's institutional fragmentation. A number of factors inhibit better co-operation: *i)* blurred allocation of responsibilities among actors; *ii)* uneven levels of municipal development; *iii)* short-term political dynamics at municipal level; and *iv)* weak arrangements for metropolitan co-ordination.

A complex and overlapping allocation of responsibilities across levels of government

Housing is but one of the many policy domains in which by law all three levels of government have substantial – and at times overlapping – responsibilities. OECD (2013k) found that Mexico's public expenditure is characterised by shared responsibilities for implementation and finance across all three levels of government, which makes for a system of complex, overlapping competencies (Table 4.2). The federal government is responsible for matters relevant for the country, such as macroeconomic policy, defence and R&D policy; while the states are responsible for the delivery of education and health. However, states are also co-responsible, together with the federal government and municipalities, for poverty alleviation, water management and housing provision. Municipalities alone are responsible for local matters, such as water distribution, road maintenance and (sometimes) public lighting; with the federal and state government they are co-responsible for educational infrastructure and the implementation of social programmes. Municipalities are also the first responsible institution for civil protection and risk management through land-use planning, permits and building codes regulations (OECD, 2013k).

Even though federal transfers finance the bulk of sub-national expenditure, in particular in the areas of health and education, sub-national governments have few incentives to be fully accountable for the provision of services. There is also great scope for blame-shifting between the federal and sub-national governments, which has the potential to result in poorly managed public service provision in terms of both cost-efficiency and service quality. For instance, in the water sector, the mismatch between administrative boundaries of municipalities and states, and hydrological

Table 4.2. **Allocation of government responsibilities for key public services**

Public services	Central government	States	Municipalities
Health	Regulations, standards and quality controls. Negotiation of salaries and employment conditions.	Organisation and operation of healthcare services for non-insured population. Responsible for primary care for both rural and urban poor.	
	Financing of hospital infrastructure. Financing and operation of all hospitals belonging to the federal social security systems (IMSS, ISSSTE).	Administration and maintenance of hospitals of primary care that used to be operated by the federal Ministry of Health, as well as some state-owned hospitals (for all care levels).	
Education	Controls plans, programmes of study, assessment of education outcomes; training of teachers; determines teachers' salaries; teachers' training and evaluation; financing of education through transfers.	Operation of basic education (pre-school, primary and secondary levels), teachers' training colleges and indigenous and special education. Building new infrastructure. Set-up supervision systems.	Co-financing with other government levels and maintenance of primary schools and some construction concurrent with the state.
	Financing of university infrastructure.	Maintenance of universities.	
Anti-poverty programmes	Funding of social programmes.	Implementation of social programmes in co-ordination with SEDESOL.	Implementation of social programmes.
Water	Owner of water resources, with the right to transfer titles to other parties. Co-financing of water infrastructure. Sets norms for compulsory standards for technical and operational aspects.	Tariff setting (through state congress or water commission); co-financing of water infrastructure; set state-level regulation, including tariffs, design criteria for water infrastructure construction, environmental and health standards for water infrastructure. Planning and developing big water infrastructures.	Water distribution, drainage and sewerage system (also public lighting, garbage collection, public markets, public safety, cemeteries and public parks).
Infrastructure and transport	Road construction and maintenance are split between the three levels, with the construction mainly executed by federal and state governments, and maintenance mainly carried out by the state or municipalities. Parks and public transport are split with all levels of government providing services that correspond to their geographic area, with public transport only rarely being managed by municipalities.		
Housing	Define the National Housing Plan; conduct housing and development planning; promote and negotiate housing, urban development and metropolitan programmes with states and municipalities; promote financing mechanism for housing.	Formulate state housing programmes; establish medium- and long-term priorities for housing and urban development; co-ordinate housing actions with other levels of government; support municipalities in conducting planning, resource management and operation of programmes on land management and housing; incentivise the participation of social and private sectors on housing actions.	Define and implement municipal programmes on land and housing; conduct medium- and long-term urban development planning; define area for housing development; implement and follow-up the state housing programme (in co-ordination with the state); provide public services to lands subject to housing actions as a result of federal, state and municipal housing plans; co-ordinate housing actions with other municipalities.
Civil protection and disaster management	Manage the Plan for Aid and Civil Protection (DN-III Plan) and the National Programme for Civil Protection.	Issue legislation on risk atlases; manage states' civil protection schools, issue special protection plans for specific populations, co-ordinate federal support for disasters.	Land-use planning, construction permits, building codes regulations. Municipalities are the first responsible institution to assist the population in case of emergency.

Source: OECD (2013i), *OECD Economic Surveys: Mexico 2013*, OECD Publishing, Paris, http://dx.doi.org.10.1787/eco_surveys-mex-2013-en; Government of Mexico (2014c), Ley de Vivienda; Government of Mexico (2014d), Ley Orgánica de la Administración Pública Federal; OECD (2013k), *OECD Reviews of Risk Management Policies: Mexico 2013: Review of the Mexican National Civil Protection System*, OECD Publishing, Paris, http://dx.doi.org.10.1787/9789264192294-en.

imperatives (rivers and aquifers' boundaries) obstructs water policies and complicates the relationships between elected representatives, local authorities, water agencies, resource managers and end users (OECD, 2013j). On risk management issues, for example, the new responsibilities established by the General Law for Civil Protection (*Ley General de Protección Civil*) have created a gap between the federal and the current local legislation, creating new challenges for some states and municipalities related to land use, financial issues such as the allocation of funds at the state level for risk prevention purposes, or the development of risk transfer instruments (OECD, 2013k). Overlapping spending responsibilities also provide few incentives to exploit some of the benefits of greater decentralisation, such as innovation in management to suit local needs (OECD, 2013i).[16]

Lack of fruitful dialogue and information sharing across levels of government

In Mexico, a lack of information at the central level regarding existing sub-national projects/needs and the lack of information of sub-national actors on central government investment priorities are regarded as major challenges with respect to co-ordination of public investment between central and sub-national levels.[17] These problems reflect an absence of dialogue between national and sub-national authorities in order to have a better understanding of each other's priorities and strategies for urban development. There are different channels of communication and dialogue between and across levels of government such as:

- The National Conference of Governors (*Conferencia Nacional de Gobernadores*, CONAGO) is a forum for governors to define a common agenda, foster dialogue and strengthen the federal pact. It is also an instrument for governors to press their case for a greater share of fiscal resources and for widening taxation opportunities at local level. CONAGO has several commissions, for instance, the Metropolitan Development Commission that discusses topics on regional planning, urban development, housing, environment, infrastructure, mobility, connectivity, governance and the creation of institutes for research on metropolitan development.[18]
- The National Institute for Federalism and Municipal Development (*Instituto Nacional para el Federalismo y el Desarrollo Municipal*, INAFED), within the Ministry of Interior (*Secretaría de Gobernación*, SEGOB), aims to co-ordinate the actions of the three levels of government to design and implement public policies and programmes to strengthen intergovernmental relations, and contribute to the development of states and municipalities. It provides technical advice to local governments, training to local public employees and serves as a source of information on municipal finance.[19]
- The National Conference of Municipalities of Mexico (*Conferencia Nacional de Municipios de México*, CONAMM) groups the three main municipal associations in the country: *i*) the National Association of Mayors (*Asociación Nacional de Alcaldes*, ANAC);[20] *ii*) the National Federation of Municipalities of Mexico (*Federación Nacional de Municipios de México, A.C.*, FENAMM);[21] and *iii*) the Association of Local Authorities of Mexico (*Asociación de Autoridades Locales de México, A.C.*, AALMAC).[22] These organisations promote structural reforms to empower and modernise municipal governments in political, legislative and financial issues; widen the scope of sources of revenues for municipalities by giving municipal governments more taxing powers; and exchange experiences and reflexions on how to strengthen the management of local governments.

- The Annual Conference of Municipalities (*Conferencia Anual de Municipios*) is a national forum for dialogue among municipal presidents and other local authorities on the challenges and opportunities of municipal governments. The forum is a space for the exchange of experiences to be emulated in other municipalities across the country. The 2013 Annual Conference, for instance, had as one of its objectives to agree on a National Municipal Agenda for Mexico 2012-2018 to define national policies to strengthen the political, financial and institutional capacities of the municipal governments.[23]

These associations and annual conferences have raised awareness on the state of development of sub-national governments. However, it has not been possible to find any concrete outcome or result of these initiatives or evidence of a fruitful dialogue.

Other related challenges for co-ordination across levels of government refer to a lack of engagement by sub-national levels in the priority-setting process for public investment; lack of involvement of private-sector actors and firms; regulatory and administrative obstacles co-ordinate between central and sub-national levels; insufficient financial resources at sub-national level to co-finance investments; and the lack of capacities at the sub-national level to implement investment projects. Most of these challenges have as their origin the weak communication and consultation across levels of government for policy making and decision making.

Uneven levels of municipal development and diverse political objectives hinder co-ordination

Mexican municipalities are at very different levels of socio-economic development.[24] Martínez Pellégrini et al. (2008) show that in some municipalities, literacy rates are similar to those of Norway, whereas literacy rates in some rural and indigenous municipalities in the south of the country are comparable to those of the poorest countries in the world. There are also vast differences in the level of access to opportunities that people have to improve their well-being. All the more striking is that these differences can be found in neighbouring municipalities within the same metropolitan zone. For example, in Puebla-Tlaxcala, there is considerable heterogeneity within and among municipalities. Municipalities such as Puebla, San Andres Cholula, San Pedro Cholula and Cuautlancingo have affluent areas in their core and marginalised areas in the periphery. And among these cities, Puebla has levels of socio-economic development that are far higher than those in any of the municipalities in the surrounding metropolitan area (OECD, 2013c). Often, co-ordination for investment in critical urban projects is not as fruitful as it could be due to rivalries and jealousy across levels of government and among municipalities. For example, in the municipality of Tlajomulco, in the metropolitan zone of Guadalajara, a train is needed to connect the municipality with the centre of Guadalajara, but since the state and municipal governments belong to different political parties the construction was not authorised.[25]

Similarly, as will be discussed in this chapter, the level of development of municipal administration is diverse, reflected by the level of revenue. OECD (2013k) found that the heterogeneity of states and municipalities is creating challenges for risk prevention as not all have the same capabilities and political willingness, thereby creating bottlenecks and co-ordination problems for the implementation of federal risk prevention and management policies. Moreover, there are divergent objectives across and among levels of government regarding the implementation of key reforms such as water-related issues. For instance, while the National Water Commission (*Comisión Nacional del Agua*, CONAGUA) and municipalities have different approaches for at-risk settlements in urban

areas or the connection of new settlements to infrastructure networks, there is no mechanism compelling municipalities to follow CONAGUA's guidance and declare at-risk zones as dangerous for settlements. Construction permits are issued by municipalities in an un-coordinated manner, and unsafe human settlements have proliferated. For example, in Zumpango, in the State of Mexico, the community of La Trinidad was built over a former lake basin and during the rainy season the area is prone to flooding, which is a problem yet to be solved.

Municipal institutional design unfit for long-term urban planning

The Mexican municipal institutional design is at odds with urban planning, which by nature requires a long-term perspective. This is because municipalities are short-term institutions with long-term responsibilities (e.g. urban development). Hence, urban policy has little leadership and ownership at local level as authorities change frequently. Currently, elected and appointed officials change every three years, with no possibility for re-election in the subsequent term.[26] However, in February 2014 a constitutional reform was passed by Congress to allow municipal presidents to be re-elected for a second three-year term. Depending on the pace of local reforms, mayors elected in 2015 may have the possibility of being re-elected in 2018. The impossibility of re-election and the short municipal term have had numerous implications: high levels of turnover, lack of continuity in policy implementation, inability to ensure that staff has the right skills and competencies, the loss of experienced staff and the impossibility to accumulate knowledge, and improvisation in the daily work of the municipality. There are no incentives to undertake long-term projects that stretch beyond the three-year term, and there is no guarantee that the new administration will continue the projects of the outgoing administration. In many instances, municipal presidents and even state authorities are not willing to pay the political costs of engaging in long-term projects that, although necessary, may be perceived in a negative way by citizens. Thus, the large majority of municipal administrations adopt superficial and visible to the public solutions to problems that require a long-term approach. One example is the investment in the modernisation of the cadastre to enable property tax (*predial*) collection in a fair, practical and transparent manner and provide municipalities with a stable source of income for urban development and service delivery. Another example are the new housing developments in the municipality of Zumpango, in the State of Mexico, which are located far from Mexico City and without efficient transport connections, which are leading to family disintegration, thus the municipality has built parks (a cheap and easy but ineffective measure) as an effort to enhance social cohesion rather than investing in mobility solutions to reduce the commuting time and allow heads of families to spend more time at home.

Another consequence of the constant turnover of municipal authorities is that it affects relations among municipalities and across levels of government. In most cases, co-ordination and co-operation depend on the good will of the elected authorities, similarly to what happens at the national level. Co-ordination across levels of government and with those at the same level is necessary to increase capacity for investment and service delivery. But these practices need to be institutionalised and the short municipal terms are not necessarily contributing to this objective.

Moreover, Cabrero and Arellano (2011) found that the internal management of Mexican municipalities is weak and not considered a priority area for municipal elected authorities. The issues of planning and public policy evaluation, transparency, accountability, internal control, etc., are not an important part of their programmes of

work. This is a critical problem for Mexican municipalities, because as the experience of OECD countries has shown, a strong municipal management underpins the efficiency of sub-national governments (OECD 2008b; 2011d). The lack of effective mechanisms of internal management could hamper the good performance of the different operative units. Alarcón (2012) points out that 74% of the metropolitan municipalities in Mexico have defined a vision and objectives for the municipality, and 64% have a strategic programme for the municipal public administration. The problem is that these documents are published once and rarely revised. Only a small portion of those municipalities have management instruments that imply a continuous and systematic work of collection and analysis of information on how to improve the performance of the municipal administration. The lack of instruments to monitor and improve the operation and management of the municipal administration and the follow-up of its programmes places municipalities in serious difficulty to check the well-functioning of the administration and the proper delivery of public services.

Municipalities are generally not results-driven, with weak incentives to use available funds efficiently to achieve objectives. This is mostly due to the lack of accountability mechanisms beyond elections. Lacking performance information, municipal governments are not in a position to assess and improve managerial analysis, direction and control of public services; the budgetary analysis; monitor public service delivery; nor to account for decisions on policies and results. Moreover, municipal authorities have no basis upon which to take informed decisions; to provide guidance; to develop the municipality's mission, vision and values; and to communicate this to members of the administration and society. It must also be mentioned that municipal authorities do not have incentives to use performance information in decision-making due to the short municipal terms.

In order to support municipalities to implement the new housing and urban development policies, SEDATU has signed co-ordination covenants (*convenios marco de coordinación*) with some municipalities (Box 4.5). However, one of the main drawbacks of the covenants is their limited enforcement capacity. The only incentive for municipalities to abide by the covenant is to acquire resources for programmes administered by SEDATU. Municipalities may get technical assistance to implement the covenant, but very limited financial assistance. Without financial resources, municipalities may find it hard to fulfil their commitments as stated in the covenant. The covenants state that SEDATU should promote actions to obtain credits with the banking sector for urban development projects and the creation of federal funds for municipal infrastructure works. However, those are not resources that municipalities get at the moment they sign the covenant. Involving the Ministry of Finance and Public Credit in this co-ordination instrument could be a way forward.

Box 4.5. **Co-ordination covenants for housing and urban development**

SEDATU and 100 of the largest municipalities have signed co-ordination covenants (*convenios de coordinación*) to promote minimum standards on housing and urban development. These covenants aim to control the expansion of urban sprawl, consolidate cities, strengthen co-ordination in metropolitan areas and improve disaster prevention policies. SEDATU and the municipalities agree to a number of commitments. For instance, the municipal development plans must comply with minimum standards and urban development should be aligned to federal policies; SEDATU, on the other hand, provides training, advice, and technical assistance and prioritises investment in municipalities that comply with the covenant. These covenants expire at the end of the term of the current federal administration in 2018.

Source: SEDATU.

Implementing the covenants may be challenging for many municipalities, particularly if they do not have the necessary financial resources. Preparatory works to implement the covenant may be critical in some municipalities such as: the modernisation of the municipal public administration in areas of personnel, financial management, procurement, ICT, etc. The creation of a special fund for municipal modernisation, capacity-building activities and the implementation of the covenant would certainly put municipalities in a better position to abide to the terms of the covenant. In turn, SEDATU would be able to hold municipalities to account. Moreover, the covenants refer to a methodology to assess the level of compliance by municipalities, but this methodology is communicated to the municipality six months after they have signed the covenant. The covenants should state from the outset the periodicity of the assessments, what will be inspected and how that should be grounded on data and evidence. Another drawback of the covenants is that they are tied to a fixed term which is the end of the current federal administration in 2018. There are no provisions to ensure continuity. This shows that co-ordination instruments are designed under short-term political and administrative considerations rather than long-term urban development priorities.

Weak arrangements for metropolitan co-ordination

In Mexico, there is no legal provision for a metropolitan government structure. Although the Constitution offers the possibility to create metropolitan agencies for co-operation and co-ordination, it does not allow the creation of a metropolitan government, as municipalities retain autonomy and authority over their jurisdiction.[27] The federal system provides for a federal government and for state and municipal governments, but not for a formal metropolitan government. Hence, any metropolitan collaboration must be done informally or formally through state-mandated programmes and/or through arrangements prescribed by state law so long as these do not contradict the Constitution (Ward and Robles, 2012). One exception is the Federal District, for which the Constitution (Article 122) allows states, localities or municipalities within the conurbation to co-ordinate among themselves and with the federal government to provide services through so-called metropolitan commissions. These commissions do not have the character or authority of government.

The fragmentation of metropolitan governance is reflected in the fact that Mexican metropolitan zones are not managed as an economic, social and cultural unit or a functional urban area. Rather, they are managed individually by the municipal governments that comprise the metropolitan area, in which there is considerable heterogeneity of actors, technical and financial capacities, priorities and regulatory instruments. For example, the metropolitan zone of León is composed of four municipalities: León, Silao, San Francisco and Purísima del Rincón. While León has developed a strong capacity for urban planning through its Municipal Planning Institute (*Instituto Municipal de Planeación*, IMPLAN), the institute has no authority to conduct urban planning for the entire metropolitan area.

Additional challenges to more effective metropolitan co-ordination include:

- Absence of a region-wide framework for sharing responsibilities or pooling resources. There is no secondary legislation to operationalise Article 115 Fr. III of the Constitution on municipal co-ordination and association for an efficient service delivery. Because there is no system of common asset creation, individual policy actors weigh immediate outlays against diffuse benefits. Consequently, they tend to opt for inaction, avoiding this type of collective investment in favour

of projects that are more locally targeted with clearer local outcomes. In this respect, the lack of co-ordination appears to undermine efforts to mobilise national and sometimes international investment for major projects. Instead it promotes, or at least creates, an institutional structure that is unable to prevent patterns of growth that are extremely costly in terms of infrastructure needs and puts strains on scare resources such as water and electricity. For example, most of the 39 municipalities of the metropolitan area of Puebla-Tlaxcala face similar obstacles for service delivery, but developing common solutions to shared problems has proven difficult. Public services such as transport and water are handled by weak, fragmented and ineffective institutional arrangements with little awareness on the part of citizens and government officials about the need for co-ordination (OECD, 2013c).

- Outdated, ineffective or partial frameworks, institutions and tools for metropolitan planning and co-ordination. Governance arrangements at the metropolitan level remain ambiguous in Mexico's legislative framework. Even the metropolitan tools that have been developed to facilitate greater urban and economic development and policy coherence with the metropolitan area such as the municipal planning institutes, the Metropolitan Funds and the metropolitan councils have significant legal, economic and even geographical limitations.
- The co-ordination covenants (Box 4.5) fail to encourage or promote the development of a strong and coherent metropolitan approach, as they are mostly focused on a vertical relation between a federal body and the municipal authority rather than having a broader view. Municipalities that provide evidence of building synergies with neighbouring municipalities for service delivery should be rewarded and supported.
- Unclear accountability. The fragmentation of those metropolitan governance arrangements that do exist generates accountability concerns. The impact of institutional fragmentation due to weak central co-ordination is often played out at the sub-national level, bringing with it responsibility overlap and confusion with respect to accountability, i.e. who is responsible for what, who is accountable and to whom, and to whom a citizen may address concerns.

Strengthening collaboration across levels of government

The experience of OECD countries suggests that in order to revamp multi-level governance arrangements for better urban development it is necessary to ensure "collaboration" – by which joint actions or intents are undertaken collectively with a structured relationship based on strong legal and administrative foundation.[28] Thinking strategically, a revision of the legal framework, a reduction of the transaction costs for information, the promotion of an integrated urban development and management, the use of conditionality for investment and the revamping of intergovernmental channels for dialogue may constitute the basis for collaboration.

Think strategically to underpin collaboration for urban development

The government needs to perfect its ability to seek and consolidate the experience and expertise of multiple stakeholders in developing a strategic vision and operationalising it through strategic planning frameworks. Strategic insight requires planning and decision making based on flexible and continuously updated data, analysis and

consultation. In addition, the authorities may wish to work on a strategic vision on how service delivery is envisaged and of what quality standards; how metropolitan areas should be managed and organised; what new role municipal governments should have; and what changes to the governance system will be necessary for sustainable urban development.

Planning strategically would help Mexican authorities to identify and maintain focus on priorities and global outcomes. This involves: *i)* the capacity, tools and information to fix objectives and plan their fruition across levels of government; *ii)* the ability to use levers to control and enforce, including through the reallocation of resources if necessary; and *iii)* the governance arrangements both horizontally within the federal government and across levels of government to communicate government-wide objectives and to ensure accountability and responsiveness, and to allocate resources and decision-making authority in ways that reflect national values and concerns of effectiveness and efficiency. The participation of sub-national governments is seminal in this respect and continuity to their participation should be ensured.

Reduce transaction costs for and asymmetries of information across levels of government

According to the World Bank (2014), it is desirable that the national government assumes responsibility for national public services, international affairs, monetary policy, regulation, transfers to persons and businesses, fiscal policy co-ordination, regional equity, redistribution and preservation of an internal common market. Some central functions such as regulation of the financial sector, environment, etc., may be effectively shared with sub-national governments. State governments may have dominant responsibility for education, health, social insurance, inter-municipal issues and oversight of local governments. All local services should be assigned to local governments. Generally, the central government should be involved in overall policy, setting standards and auditing; state governments should have an oversight function; and local governments should be involved with the provision of infrastructure and services. Assignment of responsibilities to various local governments could be asymmetric based on population size, rural/urban classification and fiscal capacity criteria. Thus, large cities may have responsibilities for some services which are provided directly by the centre in other cities.

However, the experience of OECD countries shows that a clear-cut allocation of competencies across levels of government is extremely complex to design, as many policy areas require shared interventions from different levels of government, including the federal government. Many services and policy areas such as urban development often require the intervention of all levels of government. This happens because there are inherent interdependencies among levels of government. Besides, the assignment of responsibilities among levels of government can be "imperfect". This occurs either because there are overlaps leading to shared responsibilities and therefore the need for co-operation, or because some policy domains are not specifically assigned to any level of government and co-operation is thus required. However, although much effort is put into specifying the competences of each level, a large shared area will remain. Hence the crucial importance of co-ordination mechanisms and multi-level governance arrangements, both vertically between the centre and the lower level, and horizontally among the constituent units themselves, is to reduce transaction costs and asymmetries of information across levels of government.[29] One option available is the adoption of a governance framework for e-government initiatives to engender multi-level collaboration

across levels of government and to foster co-ordination across functional areas. Denmark's 2007-2010 e-government strategy may provide a source of inspiration for Mexican authorities (Box 4.4).

Align the regulatory framework on housing and urban development across levels of government

Mexico should aim to reach convergence of housing and urban development regulation at sub-national levels so as to strengthen multi-level co-ordination for seamless policy implementation. As noted above, the diverse quality regulation for and their approach to housing and urban development impedes co-ordinated policy implementation across levels of government. That is why current efforts, led by SEDATU, to revise federal, state and municipal legislation on urban development to identify contradictions, obsolete and inefficient norms and unify all legal instruments into a general code for urban development, zoning and housing should be continued and reinforced (La Jornada Aguascalientes, 2013). This is an important medium-term objective because common norms and values and a common culture may facilitate co-ordination and co-operation. A thorough review of the regulation (laws, rules and other pieces of legislation) across levels of government to align them with the PNDU and make the regulations in states and municipalities converge with the federal framework is critical and should be a continuous effort supported by all local authorities.

Institutions and capacities that support the regulatory reform in states and municipalities should be developed and strengthened, while the degree of political commitment to the review process should be bolstered (OECD, 2014b). A core challenge is the co-ordination of the regulatory homogenisation process as this is not a one-off event but it should be a continuous process of revision and adjustments as policy priorities change. The issue of enforcement is key to assess the quality of the regulation and coherence with federal strategic objectives. Mexico could take this opportunity to ensure that enforcement and compliance issues and tools are integrated in the state and municipal regulation on housing and urban development and avoid leaving that definition in the hands of the responsible authority as it could fragment the approach to implementation. SEDATU may assist in this issue by establishing core principles to guide the improvement, convergence and quality of the review of the regulatory framework. SEDATU may wish to revise the OECD recommendations on quality regulation in sub-national governments made to Mexico to support this process (OCDE, 2010; 2014b).

Foster collaboration through integrated urban development and management

Mexico requires building national integrated urban policies as a framework for supporting urban development strategies. National involvement is important because some challenges facing cities (congestion, poverty, mobility) require policy action at higher levels of government. For example, issues such as land management could be viewed beyond considering land as a physical entity; a broader integrative approach would also include the natural resources, water and biota that the land comprises, and socio-economic issues such as housing. Within the integrated approach, all relevant sectoral policies, concepts and actions for urban development are co-ordinated and oriented towards a common vision and common objectives.

SEDATU in collaboration with national institutions (for example INFONAVIT, FOVISSSTE, SHF, etc.) and with the support of sub-national governments and the private sector, should strengthen the information systems necessary for taking decisions

and evaluating future challenges on housing and urban development. To do this, the authorities should: *i)* strengthen information, systematic observation and assessment systems for economic, social, environmental and other data related to urban development; *ii)* reinforce the co-ordination between existing sectoral data systems on urban development and housing, as well as the capacity at national level to gather and assess data (e.g. by giving the National Housing Registry – RUV – a broader mandate and upgrading its capacities); *iii)* provide, via SEDATU, the appropriate technical information necessary for informed decision making on urban development and management in an accessible form to all actors involved at national and sub-national levels of government; and *iv)* support low-cost, community management systems for the collection of comparable information on the status and progress of urban development plans and strategies, mainly at municipal level. Through shared diagnostics and a common vision, the level of conflict among the different actors could be reduced. Moreover, sectoral policies and actions that shift a problem from one sector to another can be avoided.

Authorities could promote an integrated management approach for urban development policies and plans at all levels.[30] To do so, urban areas require efficient tools that facilitate the process of sustainability management and enable the actual translation of the numerous strategies and programmes developed at national level into actions carried out by state and municipal governments. Applicable procedures and structures of co-ordination, decision making and monitoring for the daily work routine, continuously dealing with and improving the development of urban areas are needed. The management approach should contain management and monitoring to assess, improve and adapt the strategy in a continual improvement process to respond to new emerging needs and challenges. It is important that it contains mechanisms for interaction among relevant institutions, governmental departments, non-governmental institutions, etc.

Co-financing and conditionality as mechanisms for better collaboration

Co-financing arrangements between central and sub-national levels are an extremely common tool in vertical cross-governmental fiscal relations. However, co-financing still represents a challenge for sub-national governments across OECD countries as requirements are too difficult to meet, exceeding the financial capacity of the sub-national level (OECD, 2013a). Although Mexico has conducted a process of decentralisation for several decades, it has given sub-national governments very limited financial autonomy, despite transferring extensive responsibilities (as explained below) to them, including spatial planning, education, healthcare, regional transport, etc. Depending on resources from the federal government complicates meeting their financing obligations. In contrast, in federal countries with a high level of fiscal decentralisation, such as Germany or Switzerland, co-financing is not a major challenge.

- A stronger role for private financing. One alternative for Mexico is to explore a more prominent role for the private sector in co-financing as this could unlock new resources of finance and may also bring other benefits in terms of management and project design. Public-private partnerships are one possible solution to co-financing (OECD, 2013a; 2010a; 2008c).
- Develop conditionality agreements. Like the majority of OECD countries, Mexico's federal government attaches certain conditionalities[31] to public investment funds allocated to sub-national levels of government: reporting requirements, matching requirements, timeframe spending, additionality requirements, the use of *ex ante* evaluation tools and environmental impact

assessment.[32] Mexico could continue using conditionality as a mechanism of co-ordination as it is perceived by the large majority of OECD countries as being very effective in increasing the quality of investment projects (OECD, 2013a). However, in order to improve the efficiency of public spending, Mexico could strengthen the links between the design and the implementation of policies and their main objectives. Control requirements could be tightened to improve the management of investment projects, as it is done in Norway and Portugal. In cases where there are incentives for inter-jurisdictional competition (e.g. local governments may be reluctant to participate in scaling up major infrastructure projects if this would mean locating key facilities and jobs in another jurisdiction), conditionality requirements can be used to direct sub-national governments towards that goal: the federal government may insist on cross-municipal participation as a condition for supporting the project.[33] In order to ensure that objectives are aligned, Mexico could follow the example of other OECD countries in using performance monitoring. In Italy, for example, this has been positively enforced through a performance reserve which awards well-performing regions with additional grants, based on pre-identified indicators and targets. To ensure accountability, Mexico could attach certain requirements, such as consulting with citizens like in Poland.

Revamp intergovernmental channels of collaboration

Sharing information and ensuring permanent communications across levels of government are critical in ensuring effective co-ordination for urban development and even public investment. As mentioned above, there is an existing forum for sharing information, good practices and analysing common challenges in Mexico. Giving them a more strategic role may be an option to overcome the lack of dialogue across levels of government and contribute to institutionalised collaboration across levels of government involving political and professional groups. Ensuring follow-up of the different agreements made during the meetings would be critical to assess progress and improve initiatives. Some other options for revamping intergovernmental collaboration channels are:

- Establishing a National Strategic Reference Framework (NSRF) as a basis for dialogue and co-ordination on housing and urban development at the national level. A NSRF could serve to introduce ways to further co-ordinate domestic regional and urban development policy, labour market policy and sectoral policies such as transport and communication. In Sweden, for example, the design and implementation of a NSRF has led to improved co-ordination among levels of government, with private actors and across sectors through the following initiatives: a national forum on regional competitiveness, entrepreneurship and employment to create a formal setting for the discussions and ongoing political dialogue of national and regional representatives; and the establishment of thematic groups of agencies for regional competitiveness, entrepreneurship and employment to facilitate sectoral co-ordination (OECD, 2010g). A Mexican NSRF could establish specific thematic groups on housing and urban development.
- Expanding CONAGO's political mandate and strengthening its technical capacity. CONAGO is already the main interlocutor of the federal government when it comes to issues regarding the states. But it could play a key co-ordinating role between federal and state governments regarding housing and urban

development. In fact, it already has a commission for regional development and another one for metropolitan development CONAGO could be a forum for discussing strategic documents such as the National Plan and programmes for urban development. Following the experience of Belgium, CONAGO's Metropolitan Development Commission could be transformed into an inter-ministerial conference/commission where federal and state urban development authorities discuss and agree on national priorities and strategies and, more importantly, assess the results of policy implementation (Box 4.6). It would be critical that members of this commission meet regularly and on the basis of a "long-term agenda" as it is done in Germany between the *Länder* and the federal government. It is essential that the Metropolitan Development Commission conduct dialogue and be in close co-operation with other commissions so as to ensure cross-sectoral dialogue and policy making.

Moreover, the organisation of CONAGO could be transformed. To that end, it would require an "executive committee" or "technical secretariat" funded by all states and the federal government to conduct technical and analytical work of the different commissions, and provide a long-term follow-up to the agreements reached by governors. CONAGO could be organised following the model of the US National Governors Association (NGA) which has a "NGA Center for Best Practices" on a series of topics considered to be of priority for the governors. Through the NGA governors identify priority issues and deal collectively with matters of public policy and governance at the state and national levels. The proposal to create an Institute of Studies and Research for Metropolitan Development, managed by SEDATU, is a positive step and should be strongly considered. But it would be important to ensure strong links between the institute and CONAGO for consultation before decision making.

Box 4.6. **Belgium's inter-ministerial conferences**

Belgium has probably the most advanced and therefore complicated system for consultations between the levels of government. This reflects Belgium's constitutional arrangements with no primacy for the federal level, and the high level of conflicts between the different federated entities. The collaboration between the levels of government has been institutionalised by creating a Consultation Committee and inter-ministerial conferences. The first is composed of members from each government and treats *ad hoc* cases; the latter is used to for the preparation and development of joint policies for a certain policy field. There are also collaboration protocols for situations when competencies are shared and when the proper execution of competencies necessitates cross-government collaboration.

Source: OECD (2008b), "Challenges of human resource management for multi-level government", GOV/PGC/PEM(2008)6, OECD, Paris.

Incentivise citizen's participation in urban development as a source of feedback, innovation and change

Mexico should open permanent communication channels between citizens and municipal authorities not just on urban planning and development issues but on a wide variety of issues. This would strengthen government-citizens relations. Municipalities can provide information to citizens by: handbooks, guides, brochures, leaflets and posters, direct mailing, telephone services, information centres and information stands, own events and exhibitions, advertising. The channel selected will depend on the resources available. Unsolicited feedback from citizens may contain valuable information for governments. For example, requests for information may reveal the need to adapt or

redesign information activities. Suggestions might feature useful propositions for consideration by municipal authorities. Complaints may point to necessary adjustments of public policies. Tools supporting unsolicited feedback are: letterboxes, information management software and analytical reports. Sometimes municipal governments may request feedback from citizens, for this purpose they can use: questioning, listening and reporting; comment periods and actions; focus groups; surveys and public opinion polls. To ensure consultation with citizens in a more steady and permanent basis municipal governments could have: opening hours offering citizens regular opportunities to meet and talk to decision makers (e.g. in Iceland all ministers hold open hours once a week at a given time and place); citizens' panels composed of citizens selected on the basis of a representative sample of the population as in the United Kingdom; and advisory committees composed of representatives of public interest, who are appointed by government bodies, with the aim of ensuring broad representation and providing a forum for ongoing consultation as in Denmark and Poland.

Modernising the municipal administration

Modernising the municipal administration is central to underpin better urban planning and development. It would ensure better management of the municipality, and facilitate setting a metropolitan strategy. Reforms include: enabling the re-election of municipal authorities, the introduction of a city manager, developing a metropolitan structure and considering supra-municipal governance arrangements.

Enabling municipal re-election and longer terms in office to foster continuity

As mentioned above, so far municipal governments are renewed every three years without the possibility for re-election. Hence, municipal personnel do not have any incentives to make a long-term career in the administration as the continuity of their employment is not guaranteed. OECD (2013c) has found that municipal presidents, in many cases, appoint even to the third or fourth hierarchical level. In Mexican politics there is a sort of unwritten rule that when a new elected authority takes over, all senior and appointed staff by the previous administration must resign to offer the new authorities the possibility to bring in their own teams, whether or not they are qualified for the job. This practice runs counter to the principles of professionalisation and merit. The possibilities of a senior municipal official to remain in the following administration are minimal, unless politics plays in their favour. Only in large metropolitan municipalities are there more possibilities for an official to be confirmed in his/her position by the new administration (Sosa López, 2010). But even if some senior officials are able to continue in the new administration, their objectives, priorities and practices are different. This prevents the institutionalisation of procedures and processes that may have been giving good results.

The recent 2014 political-electoral reform to allow the re-election of municipal elected authorities is a positive step toward giving continuity to municipal administrations. Re-election will be possible until 2018 – in some cases it may be a bit earlier – and only after local congresses individually agree on the reform and adopt legislation to implement it. If approved by local congresses, this reform will have the potential to bring more stability to municipal administrations, and it is an opportunity for the continuity of urban projects and for citizens to assess municipal government performance. Re-election could also help prevent mayors from quitting the municipal administration without finishing the term to run for another political position, a practice that currently damages continuity and accountability.

A thorough reform of the municipal government would require consultation with citizens on the duration in office of local authorities and whether they can be re-elected once or several times. In other OECD countries, municipal-level authorities are elected for a minimum of four years and, in some cases, re-election is possible. For example in Canada, municipal authorities are elected, on average, every four years and re-election is permitted. In Chile, municipal authorities are elected for a four-year term without possibility for re-election. In France, mayors are elected for a six-year term and there is no limit on re-election. In Italy, mayors are elected for a five-year period and can be re-elected for a second consecutive term, and after a term gap, they can postulate again. In Germany, the duration of municipal authorities varies by federal state, but on average the term is for five years minimum with the possibility of re-election once. In the United States, mayors are elected for a four-year term and re-election is permitted at least once. In Japan, city mayors are elected for four-year terms and, in general, there are no limits to the number of times they can be re-elected. In the Netherlands, municipal authorities are appointed for four-year terms. In Mexico, this reform could also include discussions on the municipal/city manager discussed above.

Creating the incentives for municipalities to plan urban development

Mexican municipal governments do not see urban planning as a priority and have no incentive to do it. Federal and state governments do not have the means to hold municipal governments to account for designing and implanting urban development plans. This may be correct in a federal system that gives autonomy to municipalities. Nonetheless, federal and state levels of government can still incentivise municipalities to produce the urban development plan in at least two ways:

- Offering technical and, in some cases, financial assistance to produce an urban development plan. A number of municipalities lack the technical expertise to elaborate an urban development plan which may be the reason why they do not do it. Thus, state or federal authorities through SEDATU and/or an academic institution could provide technical assistance to municipal authorities on how to prepare an urban development plan. The co-ordination covenants between SEDATU and some municipalities are a good example of this and they should be extended to more municipalities. Local governments may sign similar covenants with the poorer municipalities. SEDATU should keep a record of those municipalities with an updated urban development plan and those that have a dated plan or no plan at all. Mexican authorities could even introduce a certification programme of urban municipal plans managed by SEDATU in co-ordination with state urban development authorities. One of the criteria for granting the certification could be that the urban development plan has been developed by professional urban planners. Some municipalities may require financial assistance to elaborate their urban development plan, for which SEDATU, in co-ordination with the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público*, SHCP), could explore ways to support them.
- Enabling municipalities that have an urban development plan to apply for grants and assistance for specific projects. This could motivate municipal authorities to prepare an urban development plan. Only those municipalities that have a certified urban development plan would be able to apply for special grants to finance municipal investment projects. They could also be used to condition the participation of state and federal authorities in co-financing mechanisms for local

investment projects. The national government could attach the requirement of municipalities having an urban development plan when providing investment funds or having access to resources of the Metropolitan Fund (*Fondo Metropolitano*). In the state of Jalisco, for example, if municipalities in the metropolitan area of Guadalajara do not contribute to the financing of the Metropolitan Planning Institute, the state government does not liberate the resources of the Metropolitan Fund.

Ensuring the professional management of municipalities

In Mexico, it is essential to ensure a professional management of the municipalities in light of the short duration of the municipal president's term and the technical complexity of the services provided. In some OECD countries, cities/municipalities have adopted the figure of the professional manager of city administration, appointed by and accountable to the city's or town's governing body. The authorities may wish to consider the viability of introducing the figure of a municipal/city manager to ensure professionalism and continuity in public service delivery despite changes in the administration. So far, the learning curve is lost every three years with the change of administration. In general, city managers co-ordinate the provision of municipal services (Box 4.7). Adopting the figure of the municipal/city manager would undoubtedly imply changing the role of the municipal president from a focus on daily administrative issues to a more a strategic role. Municipal presidents should be prepared to take a leadership role in helping to guide the implementation of the municipal strategy by, for example, bringing other mayors together with financial experts to explore new ways of evaluating and financing infrastructure. The municipal president's new role would involve thinking outside the box and beyond the municipal borders.

Box 4.7. **Duties of an appointed city manager or administrator**

- Carry out the policies adopted by the elected officials.
- Manage city or town services, which may include public works, public safety, planning and economic development, parks and recreation, libraries, youth services, resource recovery and recycling and utilities.
- Prepare a comprehensive annual budget and capital improvement programme.
- Ensure fiscal responsibility and modern accounting practices.
- Develop performance measurement systems for city or town services.
- Apply for and administer federal, state and private foundation grant funding.
- Recruit, hire and supervise the workforce of the city or town, including key department heads.
- Prepare council or board meeting agenda materials.
- Develop long-range plans with guidance from elected officials and assist in the achievement of common goals and objectives.
- Facilitate the flow and understanding of ideas and information between and among elected officials, employees and citizens.

Source: ICMA (n.d.), "Professional local government management: The benefits to your municipality", available at: www.ilcma.org/DocumentCenter/Home/View/362.

The experience of OECD countries, for example Canada, Chile, the Netherlands, the United Kingdom and the United States, suggests that elected municipal boards and councils benefit in several ways from a city administrator:

- They can now spend more of their valuable time focusing on policy issues, community goals and major projects rather than on administrative details.
- They get better and more comprehensive information and analysis from the administrator in a staff role to enable them to take more informed decisions.
- The changing role of the board or council may encourage more people to run for elected office.
- The administrator can provide continuity when new persons are elected as officials.

One great advantage of this system is that it insulates day-to-day management from the intrusion of politics, something that is critical in Mexico. There would be no benefit of "greasing" decisions with the mayor or with individual members of the *ayuntamiento* (municipal council), because they would not have that sort of power. Of course, there would be a risk that this greasing would move over to the bureaucracy staff, but that is not how it has turned out. Experience in OECD countries like the United States shows that council-manager systems tend to be far cleaner. Having a professional municipal/city manager provides more direct accountability to the *ayuntamiento* for the proper operation of municipal services. Elected officials know who is responsible. A dissatisfied *ayuntamiento* can easily dismiss the municipal/city manager, something that cannot be done with the municipal president. Moreover, in the particular case of Mexico, insulating the appointment and dismissal of municipal managers from political cycles would help to keep the learning curve. In this way, municipal senior officials would invest in learning to get specialisations and knowledge on the proper management of a municipality or city.

In Mexico, there have been some attempts to introduce the figure of the municipal manager, for example Tijuana between 2001 and 2004 and between 2007 and 2010 had a municipal manager. However, Alarcón (2012) suggests some of the reasons why this figure has not had the expected success: *i*) political resistance to change the institutional design of the municipalities, and in particular to adopt any reform that may suggest going against decentralisation; *ii*) misunderstandings about the role of a professional manager: some opponents argue that it is a way to privatise the municipal administration, and the loss of power of the municipal president, which is not correct because the elected officials would keep the leading position and would be the decision makers; *iii*) the weak legal background: if it is established only in the municipal legislation the position can be abolished very easily by municipal presidents, but if it is included in the state legislation the figure would have stronger support and continuity; *iv*) when municipal managers have been appointed, they are only given the role of co-ordinating senior officials, but not that of appointing and removing functionaries which weakens their position; *v*) the municipal manager has been appointed by the municipal president and not by the *ayuntamiento*; and *vi*) the appointment and dismissal of the municipal manager coincide with the political cycles, which does not contribute to continuity or political neutrality.

To facilitate the adoption of city managers within municipalities, it is recommended to:

- Involve the state government to give a strong political and legal back-up to the position. State governments could introduce into their legislation and constitution the figure of municipal manager to protect it from the changing views of

municipal presidents. The appointment of the municipal/city manager should be done via open competition in a process conducted by the *ayuntamiento* and the municipal president as a collegiate body with representation of the different political forces in the municipality. The municipal president could ratify the appointment but not veto it. The duration of the appointment has necessarily to be for a longer period than the municipal term of three years. The contract cannot be terminated because of the arrival of a new elected authority.

- Clearly define the responsibilities of the city manager. One key responsibility is to be in charge of the appointment and dismissal of municipal personnel (Box 4.12). There should be a regular period in which the *ayuntamiento* and the municipal president hold the municipal manager to account. The salary of the manager would need to be defined by the municipal president and the *ayuntamiento* ensuring fairness; it should be competitive in order to make it attractive to highly experienced candidates. Mexico may wish to test the use of the municipal/city manager in metropolitan municipalities which have more resources to fund this position. The elected municipal authorities would remain accountable to the citizens for service delivery and the management of the municipality. The city manager would be a professional employee of the municipality accountable to the elected authorities with specific responsibilities and power to fulfil them.
- Explain clearly to the public the benefits of a city manager. Mexican public opinion needs to be clear that having a municipal/city manager would represent an evolution of the municipal system in the country. Citizens would need to cast aside the idea of a powerful municipal president and have a more predominant municipal government under the oversight of the *ayuntamiento*. Having a municipal/city manager is not a panacea but it is a way to ensure minimum professional standards in the management of the municipality and increase capacity to deliver public services.

Generalising metropolitan structures as part of municipal modernisation

In Mexico, as in most OECD countries, metropolitan areas typically cross multiple administrative boundaries; the proliferation of administrative jurisdictions within a single socio-economic "functional" area which can result in a fragmented approach to policy making and urban development. Even if different administrative entities could individually achieve the short-term political targets working in isolation, they are more likely to fall short of developing the economic potential of the metropolitan area. Indeed, OECD work shows that metropolitan cities in OECD countries with a higher level of governmental fragmentation experienced lower growth of gross domestic product (GDP) per capita over the last decade (Ahrend et al., 2014). Reforming municipalities should also contemplate developing a strategy for the creation of metropolitan structures, which can help ensure that public service delivery and urban planning occur at a more functional level (see Bahl et al., 2013).

Inter-municipal institutional arrangements for collaboration in metropolitan areas

It is a challenge for Mexican municipalities legally, financially, administratively and politically to think and act in metropolitan terms. To foster inter-municipal co-operation, Mexico, like many other OECD countries, could adopt arrangements that allow local jurisdictions to work together for certain common services or investments. These

arrangements would potentially incentivise better co-ordination for urban policy design among sub-national governments and increase policy coherence across city-region areas.

Inter-municipal institutional arrangements depend on existing entities for their resources and organisation. They can be effective at managing the impact of administrative fragmentation, particularly for service delivery. Depending on their structure and competence attribution, they may also help address the challenges associated with institutional fragmentation. Thus, in the short-term, Mexican authorities may wish to set up special-function councils or inter-municipal institutional arrangements to foster collaboration in metropolitan areas. Inter-municipal arrangements are used in OECD countries to build scale for the delivery of services. Their success, however, requires effective horizontal and vertical networks among urban actors. This arrangement is more flexible than that of a supra-municipal model and is as applicable to metropolitan areas as it is to urban municipalities within a region. Inter-municipal arrangements generally take the form of joint authorities and can fall into roughly three categories: *i)* metropolitan-wide (or city-wide); *ii)* infra-metropolitan; or *iii)* sector-specific or single-purpose (OECD, 2013b).

Metropolitan-wide or city-wide joint authorities are the most comprehensive form of inter-municipal arrangement. They have been described as "minimal" government restructuring and an efficient tool for service delivery in functional urban areas. They often perform a large variety of responsibilities, including planning and co-ordination. This model can develop organically over time, for example with the support of legislation promoting inter-municipal co-operation; alternately, their development can be fostered by federal government incentives. The experiences of Canada, Finland and France draw useful lessons and experience for Mexico (Box 4.8). These examples, for instance, show that the critical point is to give city-wide joint authorities clear responsibilities and assure them proper sources of funding. As in the case of Finland and France, Mexico could issue legislation on strengthening and simplifying inter-municipal co-operation and setting the rules for the organisation of municipal co-operation, operationalising Article 115 of the Constitution. Creating the incentives for co-operation – such as via greater tax autonomy – is necessary to ensure that the scheme is viable. Accountability mechanisms are also essential. Joint authorities could report to local or municipal legislatures, or even to joint municipal boards.[34] However, to be effective, Ward and Robles (2012) argue that these arrangements would require some constitutional changes to create a mandate that would ensure it is: *i)* appropriately funded; *ii)* sustainable beyond electoral term limits; and *iii)* not subject to different ideologies operating in the individual units. The experiences of Canada and France also show that the mandate of the metropolitan-wide joint authorities should be restricted to macro-level activities that are in the common interest of all municipalities, for example risk management.

As in many OECD countries, Mexico's federal government could play a key role in initiating the inter-municipal co-operation governance agreements through the use of fiscal or legal instruments. For instance, Canada enhances inter-municipal co-operation for infrastructure funding. In 2005, the government instituted a Gas Tax Fund (GTF) to share half the revenue from the federal excise on gasoline with 3 600 municipalities across the country, in order to fund sustainable municipal infrastructure, including transit and waste. To access the funds, municipalities must apply jointly. The programme has resulted in the construction of regional water filtration plans, community co-generation systems and community transit.

Box 4.8. **Examples of metropolitan-wide joint authorities**

In Canada, the *Communauté Métropolitaine of Montreal* (CMM) was established in 2001. It extends over 64 municipalities and has a planning, co-ordinating and financing role. It is managed by a council comprised of representatives of the Montreal City Council, which includes the mayors and representatives of the other municipalities in the *Communauté*, and is chaired by the mayor of the amalgamated city of Montreal. The CMM is responsible for economic development, strategic and land-use planning, culture, social housing, solid waste disposal and metropolitan infrastructure. It does not have any direct resources. Its funding comes from member municipalities and the province of Quebec, with the latter contributing a majority share (approximately 75%). The CMM has been particularly active in promoting an economic development strategy for the whole metropolitan area, including the creation of a regional fund, the production of a strategic vision and the elaboration of a cluster strategy, as well as lobbying towards higher levels of government to get more funding for municipal infrastructure

Canada's Greater Vancouver Regional District (GVRD) is a voluntary organisation that has achieved striking successes in the Vancouver metropolitan region to deal with such challenges as rapid growth and underinvestment in infrastructure. The GVRD is a partnership between the over 20 municipalities that make up the Greater Vancouver metropolitan area, which has formal responsibility in providing metropolitan-wide services such as drinking water, sewage treatment, recycling and garbage disposal, as well as regional planning and environmental protection. The GVRD's Board of Directors is comprised of mayors and councillors who serve on members' local councils, on a representation by population basis. The GVRD's budget is fairly small (CAD 191 per capita in 2002 compared to CAD 1 135 per capita for the lower tier municipalities combined).The largest expenditures of the GVRD are for water and sewers (42% of total expenditures in 2002), capital expenditures (23%) and solid waste management (16%). User fees account for 80% of GVRD revenues, followed by property taxes (almost 8%) and other investment income (almost 5%).

In Finland, the Local Government Act defines forms of municipal co-operation. Local authorities may: *i)* perform their functions jointly by agreement; *ii)* agree to have a function performed by one local authority on behalf of one or more other local authorities, or that the function will be performed by a joint municipal board; and *iii)* agree that a function prescribed by law as resting with a local authority can be delegated with public liability to an officeholder in another local authority. The act provides for the organisation of "joint municipal boards" which have to be set up by agreement between the local authorities concerned, approved by their councils and notified to the provincial state office. Their rules of operation are established in a "Charter of Joint Municipal Board", which defines, among other things, the number of members of the joint municipal board's organs, the delegates to the general assembly and the basis of their voting power.

France's *communautés d'agglomération* and *communautés urbaines* are good examples of metropolitan-wide inter-municipal joint authorities. They are found throughout the country in approximately 150 urban areas, and have incrementally built their role in the administration of large cities. *Communautés d'agglomération* apply to urban areas of between 50 000 and 500 000 residents, while *communautés urbaines* apply to areas of more than 500 000 inhabitants. Both are overseen by indirectly elected councils, on which sit representatives of the municipalities in the urban area concerned. Generally, the president of the council is the mayor of the central city. Both types of authorities are responsible for area-wide competences, including public transport, environment, social housing, planning, economic development, culture, sewage and waste management. To ensure resource capacity and the means to carry out most of their responsibilities, the *communautés* enjoy their own tax revenues from the establishment of a common business tax. In addition, they receive some financial assistance from member municipalities as well as from the state through an increase of the Operating Block Grant (*Dotation Global de Fonctionnement*).

Sources: OECD (2013b), *OECD Urban Policy Reviews: Chile 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264191808-en. For the case of Finland's Local Government Act see: www.localfinland.fi/en/authorities/local-self-government/Documents.

Guidelines for the appointment of the head of a metropolitan-wide joint authority would be needed. It would be important to ensure an open selection process, in which all municipalities play a role in selecting and appointing the head of the joint authority. The term of the appointment should be beyond the municipal three-year term with the possibility of renewal based on performance. There should be a clear job profile that defines the skills and competences of such a position to ensure the recruitment of a highly professional, experienced operator and not of a politician.

Mexico could also explore having service agreements for purchasing services from other municipalities, as is done in Finland. This practice would be feasible in Mexico in areas where there is a predominant municipality. The Finnish case shows that sending representatives from the purchasing municipalities to the entity providing services is a way to ensure that the interest of those municipalities is a taken into account in decision making. In Mexico, this practice would require clear rules, but it is feasible to be organised in the relatively short term.

The experience of OECD countries shows that until state legislature acts to foster inter-municipal co-operation, municipalities cannot be required to co-operate. The LGAH, in the case of Mexico, already promotes inter-municipal co-operation, but it would require additional legislation at local level to organise inter-municipal co-operation and co-ordination.

State (local) governments' role in fostering co-ordination and co-operation

One of the main lessons drawn from past experiences in inter-municipal co-operation in Mexico is that it seems to work better when the state government has an active role in the arrangements. For example, in Jalisco, the state government has been a key actor of the metropolitan co-ordination consolidation since 1970 through legislative and constitutional reforms. Guadalajara's metropolitan co-ordination has evolved to a formal system of inter-municipal institutions which are the result of inter-municipal agreements to jointly manage urban issues at the metropolitan scale. In the state of Nuevo León, the case of the metropolitan area of Monterrey shows that it is the state government that has the most effective metropolitan reach (Box 4.9). The relative success of metropolitan co-ordination derives in large part from the strong intervention and control exercised by the state government and by the governor's office in particular. It may also be explained by the fact that most of the state's population lives in the metropolitan area, it contains a very rich municipality and the area has considerable economic importance at national level, thus the costs of failure are high. This would differentiate the metropolitan area of Monterrey from others in the country. However, if this experience is going to be emulated in other metropolitan regions across the country, it would be necessary to find a balance between municipal autonomy and state intervention so as not to centralise decision making in the state government. A possible alternative would be the formation of joint municipal boards, as explained above, where the state government, represented by different state secretariats (ministries), chairs the sessions and ensures co-ordination.

Similarly, in the State of Mexico, the state government has had a key role in inter-municipal co-ordination. The Toluca metropolitan area comprises ten municipalities but not all of these municipalities are actually part of the contiguous built-up area. The interesting feature is that the metropolitan area comprises a series of municipal capitals (*cabeceras municipales*), or cities within the city, and a very large number of *pueblos* (towns) within its metropolitan structure. With industrial growth and metropolitan expansion, these *pueblos* (their cores and *ejido* lands) became the focus of population

infill by a working-class population, and residential states developed on the erstwhile farms and smallholdings. Thus the metropolitan area began to coalesce with each municipality taking charge of its own development, while the state government sought to create adequate transport routes and linkages between the *pueblos*, the northern industrial zone and Toluca's downtown, where most people worked. Urban development plans at the state level aimed to maintain the integrity of these outlying *pueblo* cores and their populations within the municipalities while making for a functional unit by ensuring the movement of people to their workplaces, although with limited success. However, Ward and Robles (2012) argue that the state's co-ordination of the conurbation municipalities and their *pueblo* cores can provide an important axis in achieving a significant level of integration, especially if this embodies the principle of subsidiarity at the local level.

Box 4.9. **Metropolitan co-ordination through the regional powers of state government: The case of Monterrey**

Monterrey's metropolitan area comprises nine municipalities (among those the richest municipality in the country San Pedro Garza García). Eighty-five percent of the state of Nuevo León's population live in the metropolitan area. Thus the state government's attention is firmly focused on it. Municipalities, like any other in the country, carry out the local functions and activities, and the regional government co-ordinates the metropolitan level of planning and sectoral activities in transport, infrastructure, environmental protection and security. Such co-ordination is achieved in one of three principal ways: through bilateral agreements between municipalities; by decentralised regional public agencies; or by regional government (state secretariats) through which the governor has the most say.

In Monterrey, the Metropolitan Council for Transportation is all-important, dominated by the state government. The urban rail company METRORREY is a one-purpose agency responsible to the state government through the Public Works Secretariat and also participates in the council. The Metropolitan Council for Transportation plans and undertakes investment and sets tariffs, and the state government is the primary power behind the whole structure, ruling on pricing and urban transport routes. Its strength lies in the state legislation that ensures that urban transport decisions are taken at the state level. Individual municipalities are responsible for implementing regulations and issuing permits, which has given them greater local control and autonomy. Municipalities also serve as agents of the central government and regional governments in ensuring monitoring of public transport with respect to the environment and the quality of service. Thus, while autonomous, they also remain firmly within the reach of the central and regional government.

Source: Ward, P. and H. Robles (2012), "Metropolitan governance in Mexico: Mission impossible?", in: P. Spink, P. Ward and R. Wilson (eds.), *Metropolitan Governance in the Federalist Americas: Strategies for Equitable and Integrated Development*, University of Notre Dame, Indiana, pp. 141-217.

Adopting supra-municipal governance arrangements

Creating a metropolitan tier of government in Mexico is not an option in the current structure of the system of government. However, over the long term, Mexico may introduce metropolitan governance bodies – broadly defined as bodies organising responsibilities among public authorities in metropolitan areas, including voluntary associations of municipalities, with few or no legal powers[35] – in order to encourage complementarities. Supra-municipal arrangements applied at metropolitan level may be effective in overcoming problems of fragmentation, as they can combine various components of urban governance. They can offer greater flexibility than municipal mergers[36] (the other relatively "hard" arrangement for creating a single administrative

area), as they can be adapted to cover an entire functional area as the area grows, and can more easily enable individual municipalities to maintain their own identities.

It is difficult to recommend a metropolitan governance model for Mexico, since this is a matter of political and social choice. However, some lessons for effective metropolitan reform emerge from the experience of OECD countries that could be useful for Mexico. First, it is critical to identify a common cause for collaboration and build on successful collaboration outcomes (e.g. the creation of the metropolitan authority of Barcelona in 2011). Second, metropolitan leadership and ownership need to be developed (e.g. the leadership of central government in the metro area of Paris). Third, it is essential to empower and engage stakeholders at an early stage, and ensure accountability and transparency (e.g. the mixed committee of elected officials and citizens of the Montreal Metropolitan Community to debate on a strategic metropolitan plan). Fourth, strengthening the evidence base and tracking progress is needed (e.g. the Greater Toronto Civic Action Alliance's report on "Enough talk: An action plan for the Toronto Region"). Fifth, it is important to provide or secure sources of financing (e.g. the London Business Board includes members from commerce and industry). And sixth, it is critical to balance clear timeframes and flexibility (e.g. Sweden's governance reforms were first tested in a few pilot regions).[37] An additional message for Mexico is that reform of metropolitan governance is a long-term process. It takes time to create institutions and trust, and even once they are up and running, governance structures may need to be adapted (OECD, 2014d).

Metropolitan authorities are an example of a supra-municipal arrangement, and those of London, Stuttgart and Portland, Oregon are among the best known. This form of functional metropolitan governance model has some basic characteristics (OECD, 2006):

- It is based on governance at a functional economic area level.
- It assumes some decision-making power at the metropolitan-region level that is distinct and autonomous from either central, larger regional or local government.
- It is built around cross-sectoral competencies (e.g. not restricted to a specific sector or service) and competence in areas that have a metropolitan logic, such as planning, transport, investment promotion and water supply.
- It assumes some logical predominance of functional area provision of goods and services over provision according to administrative boundaries. This assumption is based on arguments about the economies of scale (in terms of procurement, maintenance, operation, etc.) generated by larger, unified service delivery areas, better equalisation of costs across the entire metropolitan region, and more effective strategic planning and integration of sectoral policies.

Introducing supra-municipal arrangements in Mexico would require constitutional reforms. Moreover, this kind of arrangement is not feasible or appropriate for all metropolitan areas in Mexico. Mexico's metropolitan areas are diverse in size, composition and level of development. Some cover different states (Valle de México[38] or Puebla-Tlaxcala[39]), others are within a single state (Guadalajara, León and Monterrey), others are located within one single municipality (Acapulco, Culiacán, Hermosillo, Morelia) and others belong to a functional area that covers two countries (Ciudad Juárez, Chihuahua, with El Paso, Texas and Sunland Park, New Mexico in the United States). Different arrangements should be explored depending on the type of metropolitan area.

The challenge that Mexico faces is the creation of the entire legal framework to enable a metropolitan level of governance. It would need to include issues such as competence allocation and authority, the administrative organisation, sufficient authority to tax and impose user changers, and a clear definition of responsibilities and attributions of the metropolitan authority which would need to be understood in the overall structure of the public sector. This would require documenting what the metropolitan authority would do and how it is funded relative to the federal, state and municipal governments, including any co-sharing of functions. Moreover, building an accountability framework for a supra-municipal authority would be critical. However, for Mexico's case it would be necessary to define clearly to whom they are accountable, for example to the municipal presidents, governor or even the local legislature. Reasonable national and state standards and oversight for metropolitan authorities would be legitimate, and collection and analysis of performance data may help higher levels of government to allocate resources and provide useful information to voters. Strong downward accountability mechanisms are also needed to realise the expected benefits of decentralised decision making.

Financing of a supra-municipal authority would be particularly challenging as municipal governments are facing serious limitations to access funding and depend largely on transfers from the federal government. However, a promising development is offered by reforms of municipal financing in Mexico. Recognising the negative effects of metropolitan fragmentation, new federal legislation is creating incentives and funding for municipal-state co-ordination of development and public investment among municipalities in metropolitan areas (Smoke, 2013).

Ensuring financial resources for urban development

As in most OECD countries, Mexico's economic activity is concentrated in urban areas (Chapter 1). The challenges for Mexican urban and metropolitan municipalities are, however, to capture a share of economic growth that is adequate to finance the new and growing expenditure needs and to organise governance to deliver services in a cost-effective way. However, municipalities tend to have low own-source revenues and in many cases inefficiently exploit the resources they do have. States, and above all municipal governments, are highly dependent on transfers, and debt levels are soaring. Moreover, fiscal intergovernmental relations are not fully fit to allow a healthy development of metropolitan areas by making the most of scare resources. This context calls for reforms to fiscal relations across governments to ensure the availability of resources to pay for public service delivery.

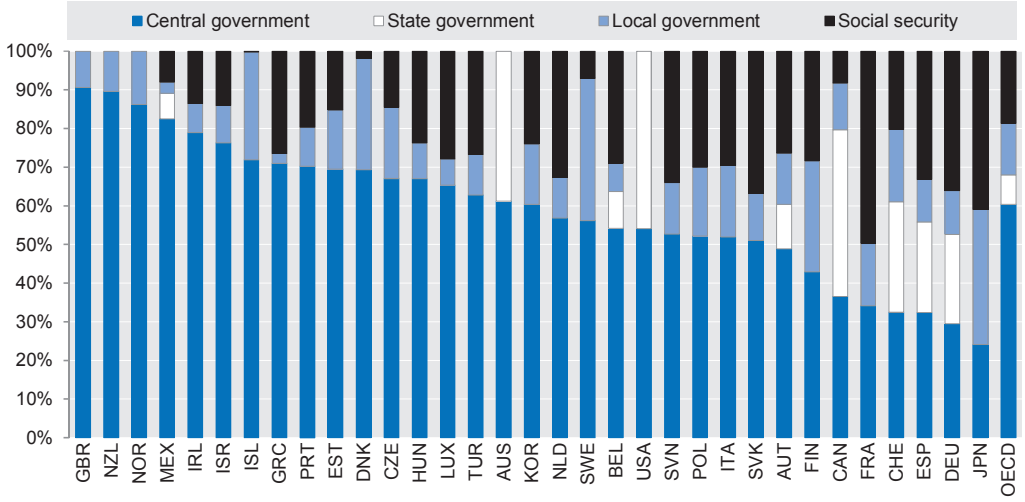
Mexico's sub-national public finances in comparative perspective

Sub-national governments have limited own-revenue sources…

In general, countries with three levels of government (e.g. federal or quasi-federal) tend to have larger revenue decentralisation than unitary countries. However, Mexico is the most evident exception as sub-central governments only represent about 9% of total government revenues (less than 1% of GDP) (Piñero Campos and Vammalle, 2011). Indeed, Figure 4.1 shows that in 2011, 82.4% of revenues were collected by the federal government (OECD average: 60.3%); state governments collected 6.7% (OECD average: 7.7%); municipal governments only collected 2.9% (OECD average: 13.3%); and social security collected 8% of total revenues (OECD average: 18.7%). This suggests that Mexican municipal governments are highly dependent on transfers from the federal

government as their fiscal autonomy and capacity to collect taxes are very limited. In comparison, local governments in Japan and the Nordic countries, with the exception of Norway, collect a relatively high share of total revenues accounting on average for 31.2%. Across the OECD, sub-central governments' main sources of revenues come from taxes and grants, representing on average about 80% of sub-central government revenues. User fees and other revenues (property incomes and non-governmental transfers) represent around 10% each (Piñero Campos and Vammalle, 2011). Among other OECD countries with a federal system, Mexico's state governments collect a very small share of total revenues: just 6.7% compared to 46% in the United States, 43.2% in Canada and 38.8% in Australia. On average, sub-central governments account for about 20% of total public revenue in OECD countries, which represents about 9% of GDP (Piñero Campos and Vammalle, 2011).

Figure 4.1. **Distribution of general government revenues across levels of government, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en, published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Property tax (*impuesto predial*) is the main source of own revenue for municipalities in Mexico, but it has not played the dominant role in big city finances that is expected. On average it represents 7% of the total income of municipalities (Aguilar, 2012). One explanation for the weak revenue performance of property tax in Mexico, as in many other countries, is its unpopularity with voters and local political leaders. Exemptions and preferential treatments narrow the tax base. Another explanation is that intergovernmental transfers have grown along with the economies, at least until 2009 before the economic crisis, which allowed local governments to avoid raising property tax rates or issuing new valuation rolls. In large metropolitan areas, especially those with significant slums, property tax collections are limited by the absence of legal title to property (Bahl et al., 2013). Another problem is poor tax collection capacities. Some municipalities do not even have an official registry of the quantity, value and ownership of properties. In many others the update of such *cadastres* is infrequent, keeping the valuation of properties for

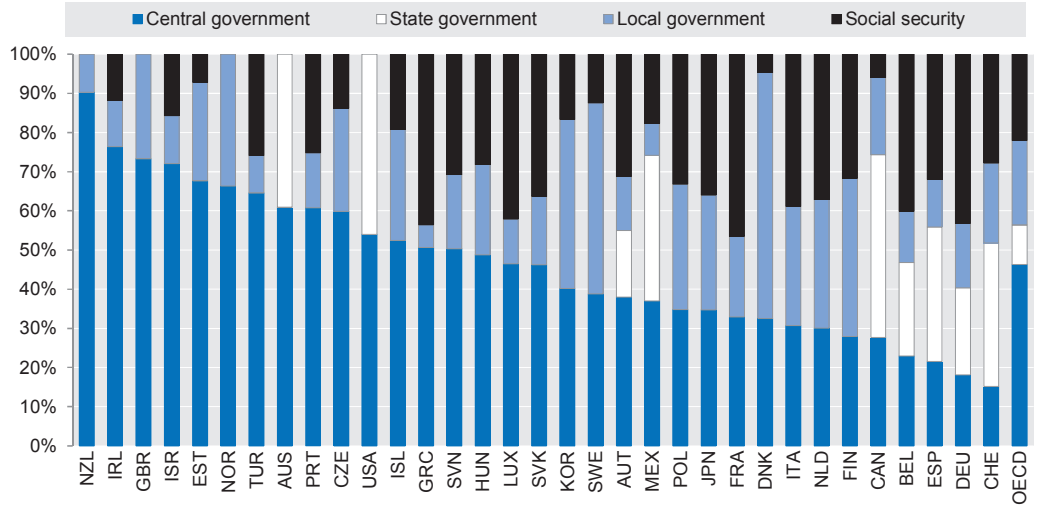
tax purposes well below their market value.[40] A high rotation of municipal workers in charge of administering the property tax also affects capacity building.

... and high levels of spending responsibility and low fiscal autonomy

In Mexico, sub-national share of total expenditure is around 45% of which 6% is municipal.[41] Municipal budgets are partly negotiated (for resources above statutory allocated shares) through a formalised fiscal co-ordination process, making municipal mayors dependent on state governors. Municipal budgets must be approved by state legislatures, and staff decisions are subject to state civil service legislation.

Over the last decades Mexico has been under a process of decentralisation of core expenditure responsibilities to its states and, to a lesser extent, municipalities. In 1990, states and municipalities together accounted for 10% of Mexico's public spending. Figure 4.2 shows that in 2011 in Mexico 37% of general government expenditure were undertaken by the federal government (OECD average: 46%), and state governments undertook 37.1% (OECD average: 10.1%). Municipal governments accounted for 8.3% of total government expenditures, a very low share compared to the 21.6% OECD average. Social security funds represented 17.6% of government expenditure whereas the OECD average was 22%. Compared to other federal countries, Mexico is relatively fiscally centralised as in countries such as Canada (27.7%), Spain (21.6%) and Germany (18.1%) the national share of government expenditure is lower.

Figure 4.2. **Distribution of general government expenditures across levels of government, 2011**



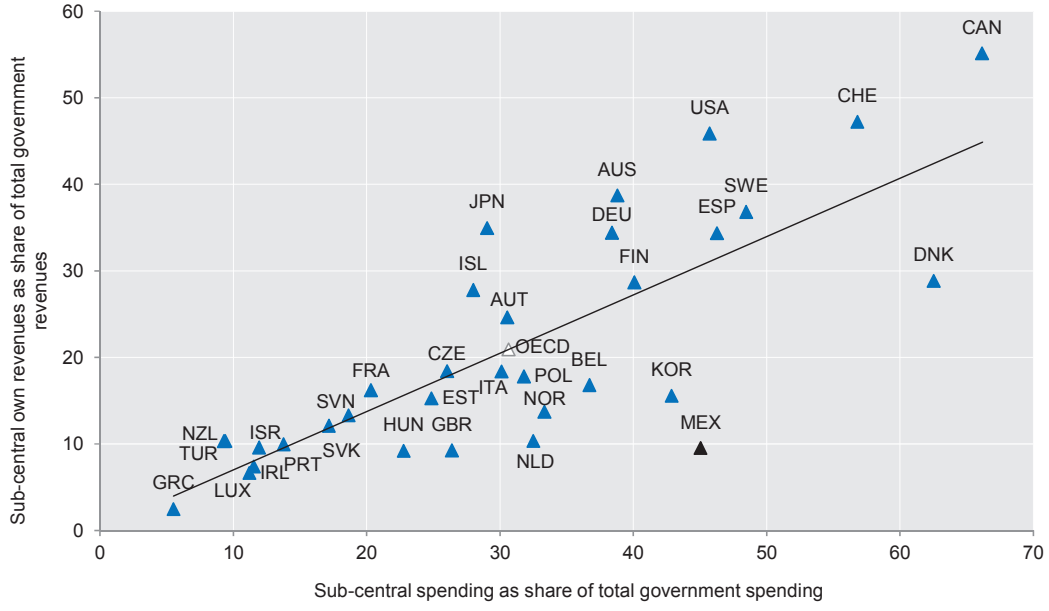
Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en, published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Mexican sub-national governments have relatively high levels of spending responsibility, but low levels of fiscal autonomy. In Mexico, sub-national government spending as a share of total government spending is higher than the OECD average, but the level of autonomy of sub-national governments to collect their own revenues is rather

low (Figure 4.3). In other words, there seems to be a mismatch between the level of responsibility and the fiscal autonomy of sub-national governments. This puts them in a very difficult position to finance the provision of goods and services to the population and conduct a proper urbanisation process. The dependence on transfers from the national government is mostly earmarked and may not necessarily respond to the needs of municipalities. Decentralisation has been particularly pronounced in social spending, in particular in education, health and poverty alleviation. States do most of the decentralised spending. By contrast, municipalities' outlays amount to only 9% of total public expenditure and are concentrated on the provision of local services and education (OECD, 2013i).

Figure 4.3. **Fiscal decentralisation: Sub-central government's share in general government revenues and expenditures, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

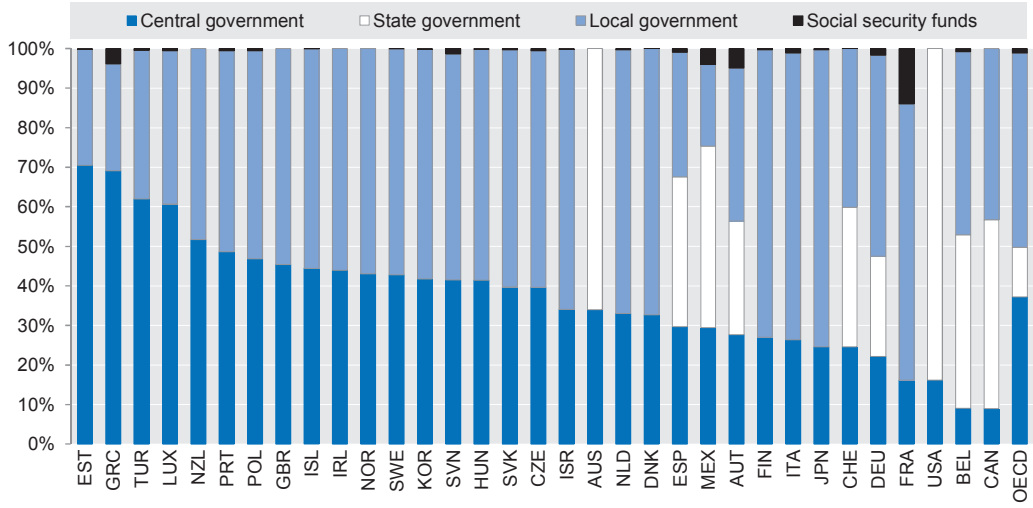
Source: OECD National Accounts Statistics (database), http://dx.doi.org/10.1787/na-data-en, published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Mexican municipalities, compared to other municipalities in federal countries, are relatively weak in terms of investment presence and they may not have the resources to finance directly projects that are of importance for their communities (roads, housing, schools, hospitals and communication networks). The distribution of public investment across levels of government reflects, in federal systems, the importance of state governments in financing investment projects. However, in Mexico, as Figure 4.4 shows, state governments represent 45.9% of government investment spending, a figure well below other OECD federal countries such as the Unites States (83.8%) and Australia (66%). Municipal governments in Mexico represented only 20.7% of government investment spending (OECD average: 49.1%). In other federal countries, the participation of local/municipal governments is higher, such as in Belgium (46.4%), Canada (43.2%), Germany (50.9%), Spain (31.5%) and Switzerland (40.1%).

Sub-national governments are highly dependent on federal transfers…

Because Mexican sub-national governments generate very limited own revenues relative to their expenditure responsibilities, Mexico has the largest fiscal gap among OECD countries (OECD, 2013i). Only 3% of all state and municipal tax revenues come from own taxes (those over which they have some discretion in setting the base and/or the rate), considerably lower than the average OECD country (23%) and in particular than those with federal systems (OECD, 2013i). The decentralisation of spending has not been mirrored on the sub-national tax revenue side, though it was mirrored by federal transfers.

Figure 4.4. **Distribution of investment spending across levels of government, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

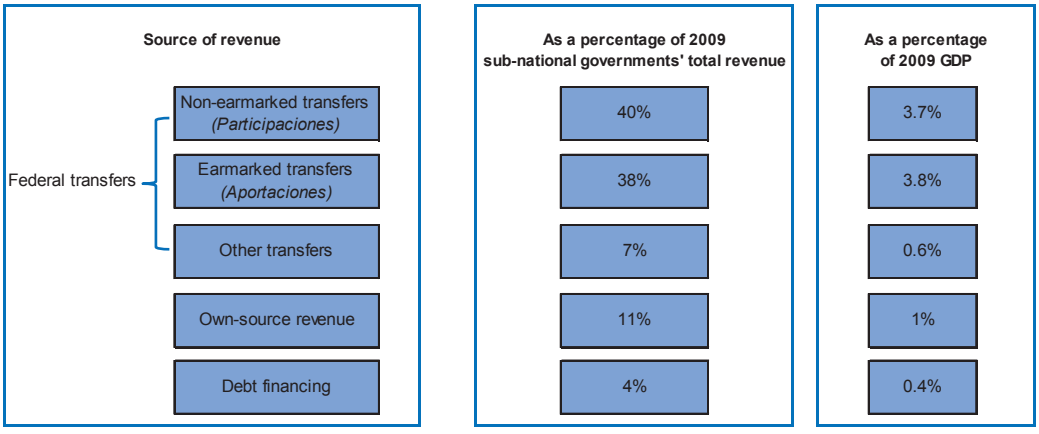
Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en, published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Sub-national governments' own-source revenue, for both states and municipalities, account for a tiny share of total tax revenues, approximately 3%, and represented only 0.7% of 2009 GDP (OECD, 2013i). Indeed, according to the ASF (2012), states and municipalities are highly dependent on resources transferred from the federal government in the way of revenue-sharing transfers (*participaciones*),[42] earmarked transfers (*aportaciones*)[43] and subsidies, which all together represent on average more than 90% of their income. This income is variable and depends on the resources of the federal government. Sub-national governments' own-source revenue, for both states and municipalities, account for a tiny share of total tax revenues, approximately 3%, and represented only 0.7% of 2009 GDP (Figure 4.5). Sub-national governments' own revenues include taxes, fees, contributions, etc. Mexican sub-national entities are therefore very far from fully self-financing their spending, in contrast to other federations like Canada or the United States. Because most of their spending is funded by federal transfers, sub-national governments have little incentives to spend wisely and be fiscally prudent. Such a great disparity between spending and own revenues may also be deterring own-revenue generation at the sub-national level, given the political cost of collecting

taxes and the resources needed to administer them. Between 2007 and 2010, transfers to municipalities decreased 26% despite having had grown over the last decade due to the decentralisation process. The fall in the *participations* between 2009 and 2010 was the result of a decrease of 20% in oil revenues that are transferred to the *Fondo General de Participations* (Aguilar, 2012).

There are also wide regional disparities in own-revenue collection among states (OECD, 2013i). This is particularly the case of the Federal District, which raises a larger share of own revenues (about 33% – although this is partly explained by the fact that the Federal District collects both state and municipal taxes); this is almost double the rate of the second state in terms of tax autonomy, Chihuahua. Heterogeneity is also wide across municipalities, but most of them have meagre resources and strongly depend on external financing to finance basic infrastructure and public services. Such low tax autonomy, which necessarily implies high reliance on transfers from the federal government, creates disincentives for sub-national governments to exploit their own revenue-raising potential and build up their administrative capacities, given the political costs of own taxes and the resources needed to administer them. This leads to lower efficiency of spending, as there is no clear link between taxes and the benefits of public spending for which local politicians can be accountable, and possibly also reduces the incentives for growth-promoting policies at the sub-national level.

Figure 4.5. **Mexican sub-national governments' revenue sources**



Source: OECD based on Revilla (2010), published in OECD (2013i), *OECD Economic Surveys: Mexico 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-mex-2013-en.

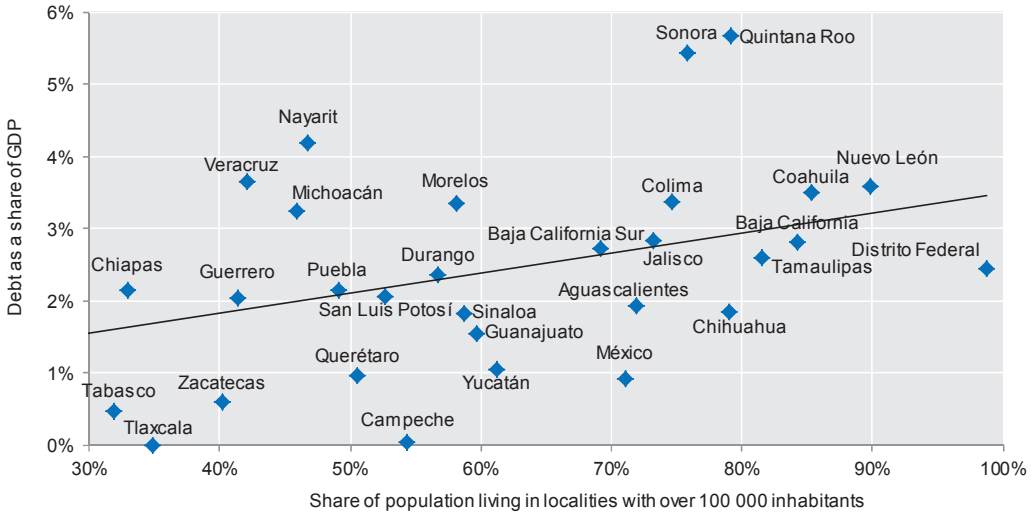
Moreover, given shared responsibilities for implementation and finance across the three levels of government, there is great scope for duplication, waste of resources and avoidance of responsibility for outcomes. These factors reduce public sector efficiency and more broadly the efficiency in the use of resources that are essential for the Mexican economy to develop and grow.

…and sub-national government debt levels are constantly growing

At the end of March 2014, the total amount of state and municipal combined debt amounted to MXN 481.1 billion, which represents an increase of 10.3% from the previous year (SHCP, 2014).[44] In March 2014, the state of Chihuahua had the largest level of debt, which represents 8.9% of its GDP as in the last year its debt grew 61%, and it only represents 3% of the national economy. The states of Coahuila (7.1%) and

Quintana Roo (6.9%) also present high levels of debt in relation to the size of their economy (Puga and Ojeda, 2014). The Federal District is the entity with the largest amount of debt since 1998 (MXN 62.1 billion in March 2014), but it has managed to compensate that with its own revenue collected. The Federal District is one of the entities that collects the most revenue through, for instance, property tax. At state level there seems to be a general trend that shows that higher urbanisation is also related to high levels of debt but outliers can be observed, as Veracruz, Nayarit and Michoacán have relatively low levels of urbanisation and a level of debt that is higher than the most urbanised states (Figure 4.6).

Figure 4.6. **State governments' debt as a share of GDP relative to urbanisation levels, 2010**



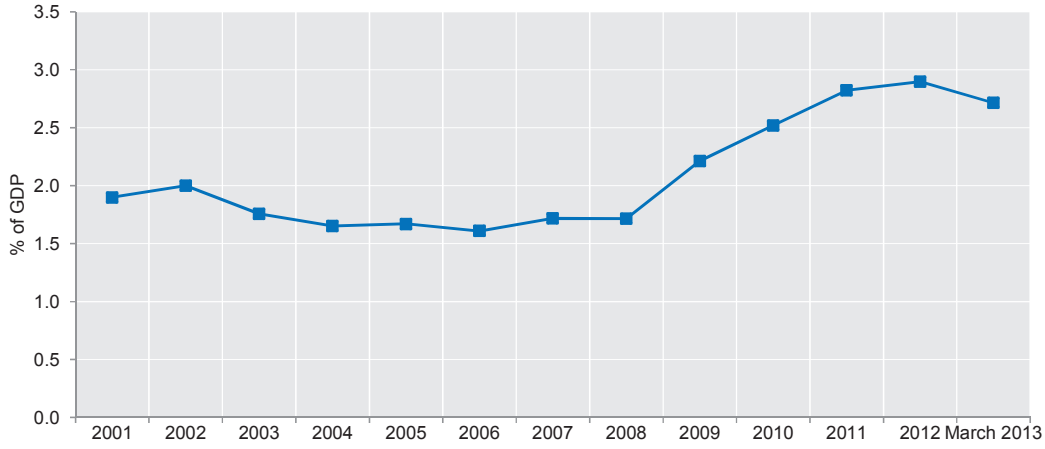
Source: Ministry of Finance and Public Credit (n.d.), "Indicadores de deuda subnacional y afectación de participaciones", Secretaría de Hacienda y Crédito Público, available at: www.hacienda.gob.mx/Estados/Deuda_Publica_EFM/Paginas/Presentacion.aspx; and INEGI (2010), *Censo de Población y Vivienda 2010*, INEGI; OECD calculations.

Since 2009, the debt of sub-national governments as a percentage of their GDP started growing more rapidly (Figure 4.7). At the end of March 2013, state and municipal public debt represented, on average, 2.7% of their GDP.[45] According to Mexico's Supreme Federal Audit Office (*Auditoría Superior de la Federación*, ASF) this growing level of debt is the consequence of the global economic crisis which in Mexico was reflected in the diminution of the economic activity, lower levels of employment, a fall in revenues, and the financing of contingencies such as natural disasters (ASF, 2012).[46]

At the end of 2013 the total amount of municipal government debt amounted to MXN 46.6 billion. This is MXN 23.8 billion more than in 2008 when the total debt was MXN 22.7 billion.[47] Municipal governments are borrowing more to meet their expenditure responsibilities. Although the level of municipal governments' debt has no risk for the national public finances, it does represent a burden to the treasury of the highly indebted municipalities. An additional problem is that short-term municipal debt is mostly used to pay for operational expenses such as salaries mostly in poor municipalities. This practice may even be anti-constitutional as Article 115 states that sub-national governments can only hire debt if it is used for productive public investments. On the other hand, the speed of growth of the long-term debt may be a cause

of concern as current administrations have borrowed money to be paid in 30 years, so future administrations will have to pay for credits that they did not request or implement.

Figure 4.7. **Sub-national governments' average debt as a percentage of GDP, 2001-March 2013**



Source: Based on Ministry of Finance and Public Credit (n.d.), Secretaría de Hacienda y Crédito Público, www.hacienda.gob.mx/Estados/Deuda_Publica_EFM/Paginas/registro.aspx.

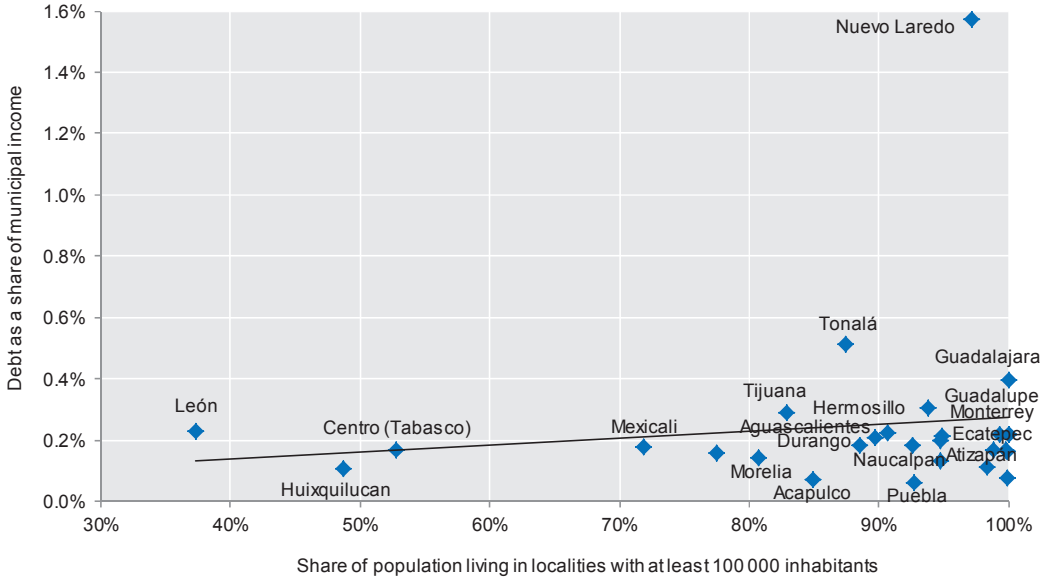
Municipal government debt represents 10% of sub-national governments' total public debt and is concentrated in 22 municipalities (ASF, 2012). According to Figure 4.8, municipalities with the highest level of public debt also present higher levels of urbanisation. Nuevo Laredo, in the state of Tamaulipas, seems to be a special case as its level of debt is by far higher than all other mostly urbanised municipalities. The ASF considers that the reason for the increase in debt levels is the need to pay for the urbanisation process in the three most important metropolitan areas of the country: Mexico City, Guadalajara and Monterrey. According to Figure 4.8 this trend seems to continue as most of the municipalities with the highest level of debt are located in the metropolitan areas of Guadalajara and Monterrey. It must be noted that data from the SHCP does not include the 16 "*delegaciones*" from the Federal District as they are not municipalities. However, municipalities in the State of Mexico which are part of Mexico City's metropolitan area such as Ecatepec, Naucalpan, Tlalnepantla, Atizapán and Huixquilucan are among those with high levels of debt.

Expanding sub-national governments' own sources of revenue

Exploring options to expand own revenues of sub-national governments should be part of the reforms to modernise municipal governments, improve fiscal relations and underpin urban development. However, OECD (2013i) made several general recommendations in this respect:

- Before giving new tax powers to sub-national governments, the federal government should enforce a hard budget constraint on sub-national governments so they have the incentives to use their new tax powers. This would include further limiting increases in transfers to encourage states and municipalities to raise more of their own revenue.
- Rather than expanding the payroll tax (which currently accounts for almost 80% of states' revenues), states should be given new powers over taxes with broader bases, such as a state income tax (over and above the federal income tax).

Figure 4.8. **Municipal debt in relation to urbanisation levels**



Notes: Data presents the municipalities with the highest level of debt according to data from the Mexican Ministry of Finance and Public Credit. Municipal debt was compared to municipal income in the form of property tax and earmarked transfers (Ramo 33). Data on municipal debt is from 2013. Data on urbanisation is from the 2010 Census (INEGI).

Source: Ministry of Finance and Public Credit (n.d.), Secretaría de Hacienda y Crédito Público, www.hacienda.gob.mx/Estados/Deuda_Publica_EFM/Paginas/registro.aspx; and INEGI (2010), *Censo de Población y Vivienda* 2010, INEGI; OECD calculations.

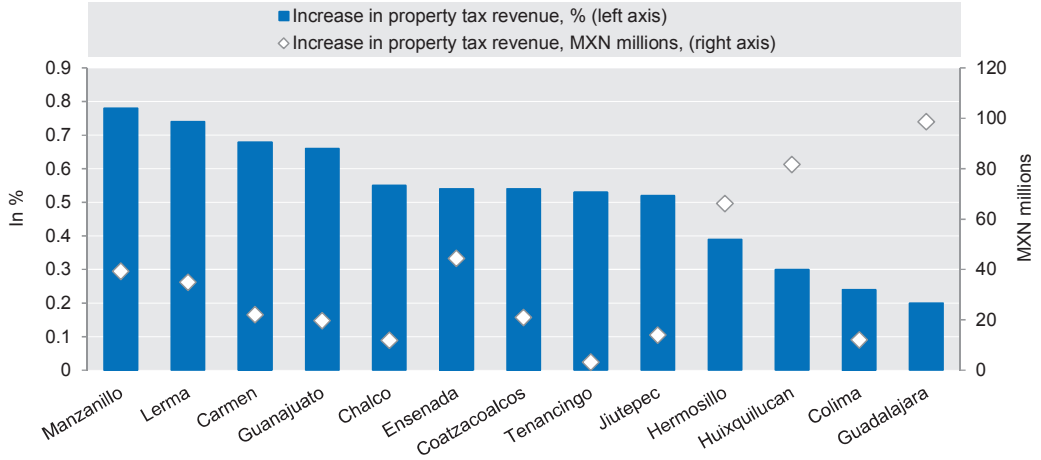
- It may also be good practice to separate tax collection from tax setting. In this way, income taxes could be set by lower levels of government but collected at the federal level. Such an arrangement combines the advantages of local control over tax rates, and therefore higher accountability, with lower compliance and administration costs.[48] Much of Canada's tax system operates this way. Provincial personal income taxes are collected by the federal government in most provinces. In some provinces, provincial corporate income taxes and sales taxes are also collected by the federal government. However, it is the provinces that decide whether they want to impose the tax, determine (within some limits) the rates and receive the revenues. Mexico could follow such an example and while allowing states to set the tax rates, set the tax base at the federal level and let the federal tax administration (SAT) collect the tax on behalf of states for a fee (OECD, 2013i).

The 2013 fiscal reform modified the guidelines for the Transfer Fund for Municipalities (*Fondo de Fomento Municipal*) to encourage municipal governments to increase collection of property taxes in a more efficient way in collaboration with states by using economies of scale and the existing states' tax collection capabilities. A new transfer fund (*Fondo de Fiscalización y Recaudación*, FOFIR) was created which substitutes the existing fund (*Fondo de Fiscalización*, FOFIE) and which rewards tax collection increases. Although these are positive initiatives, more needs to be done to ensure municipalities obtain their own resources directly and reduce dependence on federal transfers – which should be at the core of a fiscal federalism reform. For example, making property taxes and water charges more productive and fairer, and making greater use of user fees are two possible options to increase municipal revenue.

Make property tax and water charges more productive and fairer

In Mexico, modernisation of the cadastre is a must if municipal finances are to be strengthened, and housing policies are to have solid underpinnings. Valuation remains key to a more productive and fair property tax. OECD (2013i) advised that a first step for municipalities to strengthen their property tax collections would be to set up cadastres and carry out a comprehensive review of cadastral values to restore the tax base. Those municipalities could engage in state programmes to update land registries and strengthen their administrative capacities. This may result in increases in the property tax that citizens may have to pay; therefore, it is of critical importance that the modernisation of the cadastre be done by, for instance, strict technical procedures using modern technology, and that the resources collected be reflected in more and better quality public services. The Federal District, for example, has used sophisticated technology so as to modernise its cadastre to increase revenue through property tax and assure citizens that they are being taxed fairly as any decision is based on evidence. Another alternative is the new programme to update cadastres (*Programa de Modernización Catastral*) by the National Institute of Statistics and Geography (*Instituto Nacional de Estadística Geografía e Informática*, INEGI) with the financial support of the development bank BANOBRAS, which has successfully contributed to updating the cadastre of 11 municipalities and increased their property tax collection by an average of 40% (Figure 4.9). Smaller municipalities could agree with the federal or state tax administration, or with larger nearby municipalities to collect the tax on their behalf, for a fee. OECD (2013i) also suggested increasing incentives to collect higher taxes such as extending the three-year term for mayors and/or allowing re-election. A complementary alternative is to devise incentive mechanisms, such as special transfers to municipalities distributed partly on the basis of tax effort in collection of property taxes.

Figure 4.9. **Increases in property tax revenue after modernising the municipal cadastre, 2014**



Source: BANOBRAS, www.banobras.gob.mx/productosyservicios.

Revenues could also be enhanced by raising tax rates, eliminating exemptions and avoiding evasion. Rates are relatively low by international standards, ranging from 0.05% to 1.2% of the cadastral value (OECD, 2013i). Municipalities should be given some power to decide on the tax rates, perhaps within the limits set by the states, in order to achieve greater revenue and spending flexibility. A mix of taxes keeps the rate of any tax low, thereby reducing the incentive to evade or avoid the tax. Furthermore, by using a

mix of taxes, taxpayers who would otherwise be able to avoid taxation of one type are caught in the net of another, making the tax system fairer (World Bank, 2014). Since this is likely to be met with public resistance, municipalities could envisage a transition period during which they set annual caps to individual increases in taxes; special property tax relief arrangements to reduce affordability constraints for people with low incomes or illiquid assets could also be considered (OECD, 2013i). Unpopularity could also be reduced by the use of up-to-date valuations and provisions to deal with the situations of people with low incomes and illiquid assets. In the case of pensioners, one option would be to capitalise the property tax and take it from their estates on death. However, it would not necessarily be desirable to do too much in this regard, since policies aimed at keeping house-rich but income-poor individuals in their current homes create distortions in the housing market that can impose (sometimes hidden) costs on other groups. Additional measures to improve property tax collection include linking the cadastre to the property tax. The calculation of the property tax should be done with the data (cadastral value, commercial value of the land, value of the construction) obtained through a cadastral system online so that it cannot be modified by cashiers or other municipal staff. Municipalities could invest in simplifying the way by which citizens should comply with their fiscal obligations. This can be done by using ICT as a means of paying or by allowing citizens to pay in commercial centres, mobile fiscal units, etc. (Aguilar, 2012). Municipalities should publish annually how much they collect from property tax and on what it was or will be spent.

Getting the water price right to signal scarcity and its true cost is crucially important for municipal development and local finances. In Mexico, however, the price of water does not cover the cost of delivering it, let alone the depreciation of utilities, infrastructure or their R&D. It certainly does not account for other costs imposed by water use – for example fisheries or the environment – caused by taking water out of rivers or lakes. In Mexico, revenue for water provision represents 1% of municipal income on average which is not sufficient to provide basic water services in a financially sustainable way (Aguilar, 2012). Lack of cost recovery also hinders the private sector participation in water investments despite the substantial improvements in the service it could bring (Contreras, 2008). OECD (2013i) notes that there is also a widespread belief that low tariffs help the poor. But by preventing the development of reliable water supply, low tariffs can hurt the poorest the most, as they typically need to resort to private vendors, who charge much higher prices for water that is often unsafe. Targeted cash transfers are typically a more effective and less costly measure to address affordability concerns than lower water fees. Strengthening the role of the states, and in particular water commissions, in setting and revising water tariffs may therefore contribute to depoliticising tariff setting and ensuring a longer term approach to water provision and investment. This may, nevertheless, require working with state congresses and water commissions to raise awareness and build greater understanding on the rationale and political economy of tariff setting, as well as to develop a more technical approach to water setting and regulation.[49] Setting a better system for charging water consumption is necessary. An alternative to improve the revenue from water provision is by linking operational costs to tariffs as was done in the municipality of Aguascalientes (Box 4.10).

Box 4.10. **Water financing in the municipality of Aguascalientes**

In 1994, the municipality of Aguascalientes contracted the services of private enterprises to deliver the service of drinking water and sewage to the municipality. At that time only 40% of the users had access to water service 24 hours a day. Moreover, there was an optimisation of the use of water which allowed reducing water extraction from 92 mm^3 to 82 mm^3 between 2000 and 2005. Ninety-nine percent of the population now has access to the service. The concession was structured in a way that the main financing means of the operation and maintenance were the tariffs. It was decided that the tariffs should be set in a way to cover operational costs. The transition from a "virtual" reality where the costs were covered by a decrease in the quality of service, infrastructure and damage to the environment, to a "responsible" reality where the costs are reflected in the tariff faced social opposition. The local authorities and the private enterprises renegotiated the contract that included the figure of the "citizen regulator" and the enterprise committed to reducing its operational costs to avoid having the incentive to transfer the costs of inefficiencies to the users. Nowadays the enterprise has a sound financial position and has medium- and long-term investment plans to guarantee access to drinking water and ensure the sustainability of the water reserves.

Source: Contreras, H. (2008), "La última generación de proyectos de participación pública privada en sistemas de agua en México: Quince años de experiencias", in: R. Olivares and R. Sandoval (coord.), *El Agua Potable en México: Historia Reciente, Actores, Procesos y Propuestas*, ANEAS, Mexico, pp. 105-121.

Expand the use of user fees and local taxes

Mexican municipalities should also make greater use of user fees to cover at least the operational costs of service delivery, which to-date are hardly used at all. In the case of water, for instance, many municipalities recuperate almost nothing from the investment in water supply services, ultimately damaging the quality of service (Contreras, 2008). In most OECD countries, user fees represent on average just 11% of sub-national government revenue, or just above 1% of GDP. However, in countries like Finland, Greece and the United States, user fees are more developed, representing more than 20% of sub-central government revenues (Piñero Campos and Vammalle, 2011). Tariffs and fees for services should be established in function of the costs of the services, rather than based on political criteria as is currently often the case.[50] Subsidies should be granted to consumers – in particular those with limited income – and not to service providers as they have no incentive to raise the levels of efficiency and quality of service. The co-ordination covenants (*convenios marco de coordinación*) encourage the use of local taxes to reduce externalities and create economies of scale. Although this is a positive development, some of the tools recommended must be used with care. For instance, the "emission of pollutants charge" can actually create perverse incentives and should thus not be promoted as a long-term source of income. In countries such as the People's Republic of China, some municipal governments do not enforce the Law on Environmental Protection so as to keep charging enterprises the fine for polluting the environment.[51] This is a pervasive cycle that Mexican authorities should avoid. Fines should be used in a way that sends the message that the laws and rules need to be respected and which contributes to developing the law enforcement capacity of municipalities.

Other taxes, such as those on mobility and transport infrastructure, are another potential source of revenue for municipalities. Motor vehicles are an attractive target for financing metropolitan services but are generally underutilised (Bahl et al., 2013). Motor vehicle taxes can take the form of licenses to operate, a tax on the estimated value of the vehicle (which some states in Mexico have eliminated), a sales tax on motor fuel or congestion charges. Charging a fee for using certain roads and streets during a certain period of time is not only a way to obtain additional resources to finance improvements in

infrastructure and transport, but also to deal with traffic and its environmental consequences. For example, in 2003, London was the world's first major city to introduce a congestion charge to reduce the flow of traffic into and around the city centre. This is a fee charged on most motor vehicles operating within the congestion charge zone.[52] The congestion charge brought about a decrease in the use of private vehicles by 30% and the level of congestion was reduced (Aguilar, 2012). Although the idea behind the programme is to reduce the level of congestion, it has also had positive results for the citizens because by charging the use of roads the authority has the obligation to improve infrastructure and guarantee better transport. One of the obstacles to more congestion charges in Mexico's metropolitan areas such as Mexico City may be the fragmented nature of local governance.

Improving the equity of the transfer system

Since the taxing powers of municipalities do not generate sufficient revenues, the intergovernmental transfer system can supplement local revenues; however, they should avoid creating disincentives to local efforts to collect their own taxes. Intergovernmental transfers can fill the gap between expenditure responsibilities and revenue-raising powers to compensate for spending beyond the city boundaries and to equalise revenue across jurisdictions. The experience of OECD countries suggests that a high reliance on intergovernmental grants may leave sub-central governments in a fragile position, as higher levels of government may cut grants to lower levels of government in an effort to balance their own budgets, as in Italy and the United States. Transfers should be determined as objectively and openly as possible, ideally by a well-established formula and not subject to non-transparent political negotiation.

Moreover, in light of the high levels of inequality between regions, Mexico could also look to strengthen the equity of its transfer system, so that Mexican citizens have access to an acceptable level of public services regardless of their region of residence (OECD, 2013i). Despite progress, poverty and inequality in Mexico remain high in comparison to OECD and other emerging economies; indeed, a high level of inequality is one of Mexico's most important challenges (OECD, 2009a). The Mexican transfer system has not been effective in reducing regional disparities. OECD (2013i) considers that one way to improve the equalisation properties of the transfer system could be to reform some of its revenue-sharing transfers so that they follow simple and more equalising criteria, such as population or income per capita. Another alternative for Mexico to consider is a new system of unconditional federal transfers to the most deprived areas, as is done in Canada, or directly from richer to poorer regions organised on a co-operative basis as is done in Germany. Key issues, in either case, are that transfers are based on clear distribution rules and on simple and hard to influence criteria, such as for instance GDP per capita, and that marginal equalisation tax rates are not excessively high.[53]

Controlling sub-national government borrowing

The growing level of sub-national government debt should be a cause of concern for Mexican authorities. Borrowing can be an efficient way to pay for public assets that have a long life. But if borrowing is to pay for operating expenditure instead of productive investment, then this poses a threat to national finances. In order to control sub-national governments' debt, the Mexican national Congress has been long debating on a piece of legislation on fiscal responsibility of local governments. Congress is expected to amend the Constitution by the end of 2014 to impose stricter controls on sub-national governments' borrowing. If approved, debt would not be able to be used to finance

current expenditure, and should be repaid before the next election. Measurement indicators to allow the early identification of financial difficulties that states and municipalities face are being considered. Secondary legislation is expected to be discussed at the beginning of 2015.

In order to improve the use of debt finance for metropolitan and urban infrastructure services, Mexican authorities may also wish to consider providing sub-national governments with more autonomy on both the revenue and expenditure sides of the budget. If infrastructure is to be maintained, and if debt obligations are to be met, sub-national governments need to be able to control their level of budgetary resources. Even a well-structured borrowing framework cannot substitute for repayment capacity of the sub-national governments (Bahl et al., 2013). However, the Mexican government may wish to, so as to control expenditure growth in sub-national governments, set expenditure ceilings for operating expenditure only as it is done in Denmark, Estonia, Italian local governments and Korea (OECD, 2013h). In Estonia, for instance, sub-national governments' operating expenditure may not exceed operating revenues. Although Mexico already has a rule limiting debt to financing investment projects, it may wish to add the requirement to finance projects with long life.

The Mexican government may also wish to consider, as part of the fiscal responsibility debate, imposing a hard budget constraint on borrowers. This implies no possibility of a costless bailout by higher level governments if the underlying problem is that a sub-national government was imprudent in incurring in debt obligations. Putting a central government-mandated framework in place with clear rules about who can borrow, how much, for what purpose, from whom, with what instruments and with what restrictions would be a way to control borrowing (Bahl et al., 2013). Compliance with the framework should be carefully monitored. Some OECD countries introduce numerical fiscal-fixing objectives in terms of debt level, new borrowing, debt service or maturity. This kind of objective is widely used for sub-national governments across OECD countries such as Estonia, Korea, Poland and local governments in Belgium, Canada and Spain (OECD, 2013h).

Improving municipal spending

Improving municipal spending efficiency is another way to strengthen municipal finance, which could be achieved by: *i)* developing co-operation agreements for the joint provision of public services; and *ii)* ensuring greater transparency, accountability and efficiency in public expenditures.

Co-operation agreements for the joint provision of services constitute a viable strategy for better municipal spending in Mexico. These agreements can create economies of scale and scope and thus offer possibilities to overcome scale-related production obstacles and to achieve cost efficiencies. In Mexico, about a quarter of all municipalities have already formalised agreements with neighbouring municipalities for co-ordination and collaboration in the supply of such public services (OECD, 2013i). One example of co-operation agreements in Mexico is the Inter-municipal System of Drinking Water and Sewage (*Sistema Intermunicipal de Agua Potable y Alcantarillado*, SIAP) in the metropolitan area of Guadalajara in the state of Jalisco. It is an organism that co-ordinates both the provision of the service and the charging. The SIAP is in charge of providing the service in the municipalities of the metropolitan area: Guadalajara, Tlaquepaque, Zapopan and Tonalá. This has allowed Jalisco to be the state with the highest level of revenue per capita in relation to income through water fees (Aguilar, 2012). However, the

problem with the majority of the co-operation agreements is, as OECD (2013i) points out, that the annual nature of programme funding and the short planning periods associated with the municipal election cycle limit co-operation. Moreover, most of the time, the co-operation agreements also depend on the good will of the incumbent authority.

Measures to ensure more transparency, accountability and efficiency in public expenditure are needed to mitigate to national public finances stemming from low revenue levels and growing debts in sub-national governments. The poor quality of budgetary information in many municipalities has given origin to discretionality in the use of resources. A growing debt, the lack of timely and reliable information on government expenditure, and the lack of law enforcement and accountability bring about a lack of trust in municipal authorities. There are several actions that Mexican authorities could undertake to address this situation:

- Homogenise accounting mechanisms across sub-national governments. Financial information provided by sub-national governments is often not homogeneous across sub-national governments, and thus, it may be difficult for the federal government to compare the fiscal situation of the various states and municipalities, and address the sustainability of their debt. At the end of 2013, the National Council for Accounting Harmonisation (*Consejo Nacional de Armonización Contable*, CONAC) issued an agreement by which public accounts were harmonised throughout all government levels. For 2014, sub-national governments are required to present their financial results in the same terms as the federal government to the Ministry of Finance and Public Credit. Changes include a better identification of investment projects, which allows increasing transparency and encourages social control through technological platforms. These are positive moves and Mexico should ensure that the process of accounting harmonisation is completed to have complete, reliable and standardised accounting and budgetary information to analyse sub-national finances and public debt in an integrated manner. One way to incentivise municipalities to homologate their accounting systems is by conditioning their financing to meet the standards of governmental accounting (Aguilar, 2012).
- Bolster co-ordination between federal and sub-national government budgets, in particular concerning fiscal projections, targets and outcomes. Intergovernmental bodies could help in setting long-term priorities, funding sources, required fiscal adjustments, etc. For instance, the Australian Loan Council co-ordinates public sector borrowing; it considers each jurisdiction's nominated borrowings for the forthcoming year, having regard to each jurisdiction's fiscal position and the macroeconomic implications of the aggregate figure. The German Stability Council is a body representing the federation and the *Länder*, and whose mandate is to avert serious budget problems by regularly monitoring the budgets of the federation and the *Länder* based on four key ratios: structural financial balance, credit financial ratio, debt level and interest-to-tax ratio (OECD, 2013h).
- Ensure that fiscal rules are enforced by sub-national governments. The "bite" of fiscal rules depends on the ability of sub-national governments to circumvent them and the credibility of enforcement and sanction mechanisms. If sub-national governments feel there are no consequences when infringing fiscal rules, they will not respect them. Mexico does not have any established sanction mechanisms in case sub-national governments overshoot their fiscal targets. *Ex post* controls and sanctions for non-compliance should definitely be set up. In other OECD

countries, tightening enforcement of fiscal rules has been achieved either by increasing transparency and reporting, or imposing fiscal sanctions or restructuring plans on sub-national governments breaking the rules. Procedures in cases where sub-national governments fail to meet fiscal rules may consist of action by the central government or by sub-national governments themselves. Actions could be: imposing financial sanctions by obliging sub-national governments to offset the breach in future budgets (e.g. Spain); fixed fines or decreases in transfers (e.g. Austria, Czech Republic, Italy); greater control of central governments over sub-national finances (e.g. Spain); and sanctions on sub-national officials (e.g. Austria).[54]

- State governments should consider developing a more comprehensive medium-term expenditure framework in a quest to give greater stability to the government's fiscal framework and improve planning. This would certainly contribute to carry out urban development projects as municipalities should be requested to follow this initiative. The short municipal term may be a barrier to this, but if local congresses approved the re-election of municipal presidents it would certainly help enhance medium-term planning in the municipalities, which should be reflected in the budget (OECD, 2009b). The federal government should provide more information about sub-national governments' budget practices and help them to improve them. Sub-national governments still need to improve budget presentation which should include information about programme changes – both those that are proposed and those that have been changed.
- Audit reports and performance information should be provided to local congresses in a timely manner. The state audit office should produce relevant audit reports that include performance information to assess the level of progress in the execution of investment projects where the state and municipal authorities are taking part. In order to ensure transparency and accountability, it is important that these reports are made public.
- Ensure the availability of appropriate, standardised and timely information about projects financed by the federal government through municipalities in order to monitor the performance of the investment. This information should not only enhance transparency and accountability but also facilitate learning. The use of ICT tools and operational rules from the federal government to direct investment of urban development and infrastructure projects would contribute to sharing information and enhance co-ordination across levels of government.

Developing capacity for better housing and urban policies at all levels of government

In Mexico, a major constraint for the implementation of investment projects, and a reason for the weak efficiency and low quality of public service delivery at sub-national level, is the inadequacy of the civil service system, which accords sub-national government officials a lower status, including lower salaries and fewer chances for advancement, as the current system does not encourage professionalisation. A series of recommendations aims to strengthen the technical and human capacities at municipal level. These include: *i)* enabling municipal re-election and/or longer terms in office; *ii)* professionalising the local public workforce; *iii)* building technical capacity for

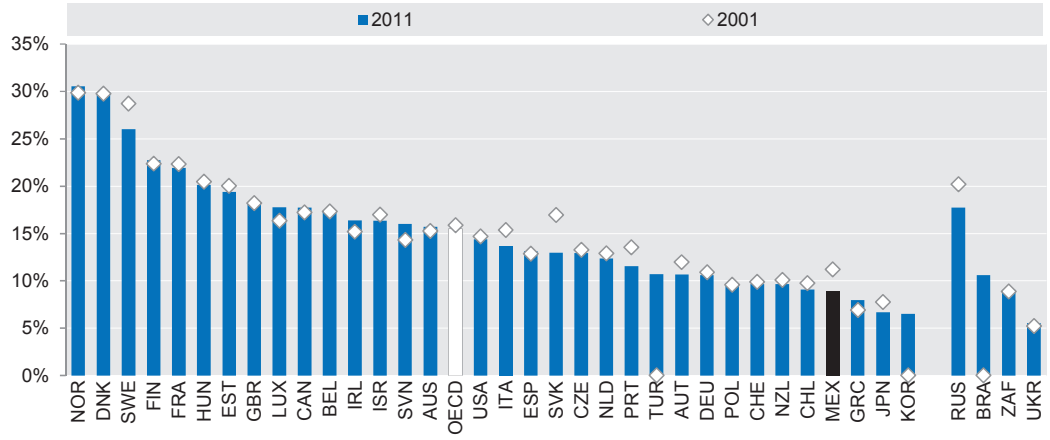
planning and urban development; and *iv)* making wider use of metropolitan structures for planning and public service provision.

A snapshot of Mexican general government employment

A relatively small but expensive total government workforce

In Mexico, employment in general government (all levels of government: federal, state and municipal levels) represented only 9% of the total labour force in 2011, which had decreased from 11.2% in 2001 (the OECD average for 2011 is 15.5%). This makes the Mexican general government workforce one of the smallest among OECD countries just above Greece, Japan and Korea (Figure 4.10). Even when considering general government and public corporations (the public sector in the System of National Accounts), Mexico's public sector is one of the smallest in comparison to other OECD countries, just above Greece, Japan and Korea. Nonetheless, it must be noted that there is no "right size" of the public employment. There are large differences in the share of government employment among OECD countries, reflecting different choices with regard to the scope, level and delivery of public services. The critical element is to plan the workforce in size, allocation and competencies in a strategic manner.

Figure 4.10. **Employment in general government as a percentage of the labour force, 2001 and 2011**

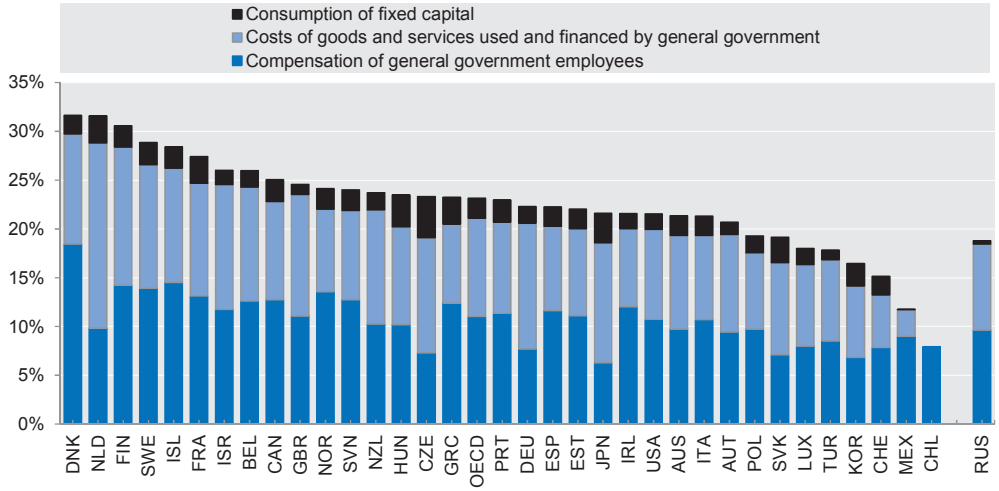


Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Sources: International Labour Organisation (ILO), *LABORSTA* (database); *OECD Labour Force Statistics* (database), http://dx.doi.org/10.1787/lfs-lfs-data-en. Data for Korea were provided by government officials. Published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Although government employees represent a relatively small share of total employment, the government workforce is expensive. Compensation of general government employees represents 9% of GDP, a rather high figure compared to other OECD countries (the OECD average is 11%) and the size of the workforce (Figure 4.11). For example, the Netherlands' total government employment represents 12.4% of the total workforce – higher than Mexico, but compensation costs amount to 9.8% of GDP, very similar to Mexico.

Figure 4.11. **Production costs as a percentage of GDP, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en. Data for Australia are based on a combination of Government Finance Statistics and National Accounts data provided by the Australian Bureau of Statistics. Published in OECD (2013f), *Government at a Glance, 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

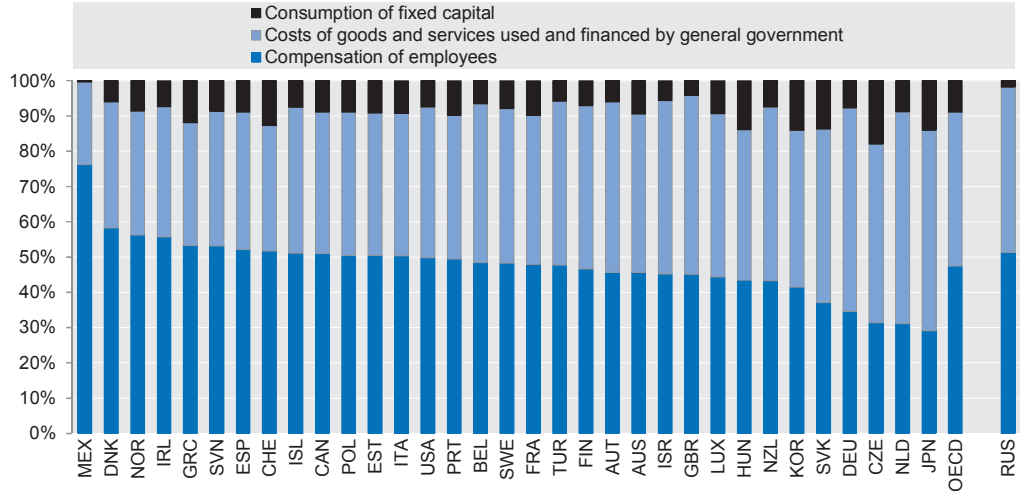
Regarding the structure of production costs, in Mexico 76.2% goes to compensation of government employees, the highest figure among OECD countries (the OECD average is 47.4%) (Figure 4.12). Only 23.4% of production costs are used to cover the costs of goods and services used and financed by general government (OECD average: 43.6%) and 0.4% represents the consumption of fixed capital (OECD average: 8.9%).This means that three-quarters of general government resources are used to pay salaries of government employees and only one-quarter to finance the provision of goods and services. This is a striking situation because countries with workforces similar in size to Mexico's – such as Japan for example – only spend 29.1% on salaries of government employees. So, Mexico's general government workforce is relatively small but expensive to the economy and the largest part of the cost is devoted to salaries and wages. The situation is aggravated if considered that salaries of medium-level bureaucrats in federal government have been frozen for over a decade (OECD, 2011d) damaging their competitiveness in the labour market; and that in many municipalities, public employees lack the skills and competencies to do their job and their salaries are rather low (OECD, 2013c).[55]

A large federal workforce in comparison to sub-national workforces

The proportion of staff employed at sub-national levels of government is an indicator of the level of decentralisation of public administrations. In general, larger shares of government employees at sub-national level indicate that more responsibilities are delegated to regional and local governments for providing public services. As Figure 4.13 shows, in 2011 most countries had more employees at sub-national level than at the national level of government. Federal states employ less than one-third of all government employees at the central level, indicating higher levels of decentralisation. Among the OECD federal states (Belgium, Canada, Germany, Mexico, Spain,[56] Switzerland and the

United States) represented in Figure 4.13, Mexico has the largest national government, with 25.63% of the workforce employed by the national government. Even Brazil's national government workforce comprises only 11.89% of the general government workforce.[57] Moreover, Mexico is among the OECD countries that employs one of the largest workforces in social security funds – just behind France. These funds are mostly managed by the national government. With 61.2% of its public workforce divided between the 32 local governments and the more than 2 400 municipalities, Mexico remains a relatively centralised country on personnel distribution, which suggests that sub-national governments may not have the number of staff needed to fulfil their responsibilities in an effective manner.

Figure 4.12. **Structure of production costs, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: *OECD National Accounts Statistics* (database), http://dx.doi.org/10.1787/na-data-en. Data for Australia are based on a combination of Government Finance Statistics and National Accounts provided by the Australian Bureau of Statistics. Published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing. Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Data from 2010 on the distribution of personnel working for general government in both centralised and decentralised administrations show that the national government has a rather large public administration as the number of personnel almost equals the total of the combined local (state) administrations, and exceeds by far the number of personnel working for municipal administrations (Table 4.3) (INEGI, 2011).

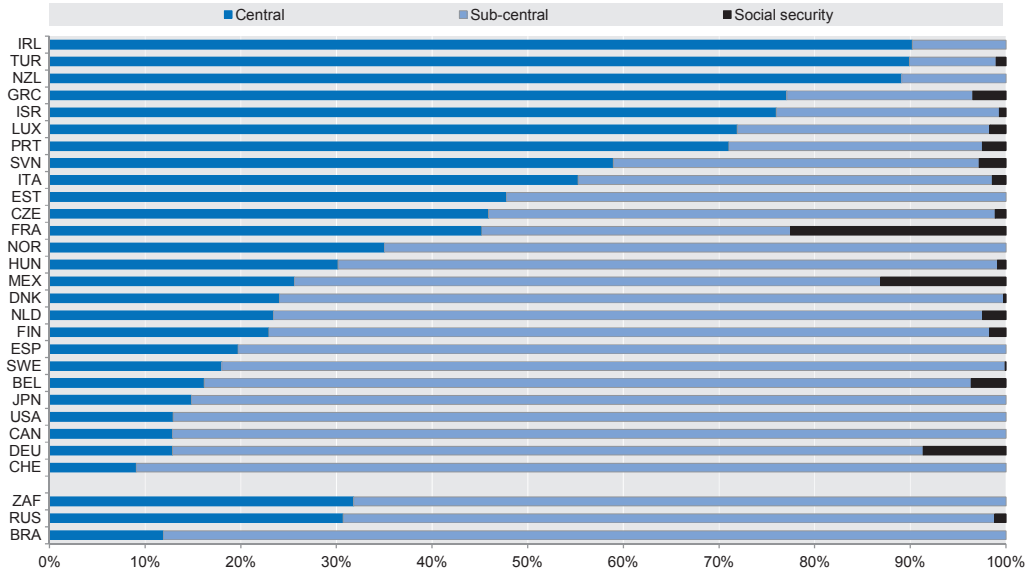
Table 4.3. **Distribution of public employees by level of government and type of administration, 2010**

Institutions and personnel	Levels of government		
	Federal	State	Municipal
Total of institutions	294	2 137	37 759
Centralised public administration	97	707	35 060
Decentralised public administration	197	1 430	2 699
Personnel	1 698 161	1 704 568	786 055

Note: Data for the Federal District are included. Data for the state of Durango are not included. Fifty-six municipalities declared not to have information on the number of personnel and institutions.

Source: INEGI, *Censo Nacional de Gobierno 2011*. Information provided to OECD.

Figure 4.13. **Distribution of general government employment across levels of government, 2011**



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: International Labour Organisation (ILO), *LABORSTA* (database). Published in OECD (2013f), *Government at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2013-en.

Education and security absorb the largest number of staff

Education and social protection are the sectors that draw the most on sub-central government resources (Piñero Campos and Vammalle, 2011). Table 4.4 shows that just over half of the personnel working for local (state) administrations are teachers of basic and intermediate education. Thus, the largest percentage of state governments' spending is on education and in order to finance other services state governments should seek efficiency gains to improve the level of service delivery at a lower cost. For municipal governments, the largest group of employees work on public security. It must be mentioned that the manner in which this classification of functions was defined is ambiguous as categories such as "government" and "public services" are rather broad and confusing, preventing a clearer picture of the staff allocation.

Table 4.4. **Distribution of state and municipal employees per function, 2010**

State level		Municipal level	
Function	Percentage	Function	Percentage
Basic and intermediate education	52.2	Public security	18.9
Public security and transit	12.1	Public services	16.1
Health	10.2	Public works	8.7
Government	4.4	Administration	5.7
Justice	4.2	Social development	5.3
Treasury and finance	2.9	Integral development of families (DIF)	4.2
Communication and transport	1.9	Treasury and finance	4.1
Integral development of families (DIF)	1.3	Office of the Municipal President	3.7
Water and sewage	1.3	Municipal council secretariat (*ayuntamiento*)	3.6
Others	9.5	Others	29.7

Source: INEGI, *Censo Nacional de Gobierno 2011*. Information provided to OECD.

The lack of trained and specialised staff leads to improvisation, and experience is not recognised

One of the weaknesses of Mexican sub-national administrations, mainly municipalities, is the low levels of training and specialisation of public officials. This makes it difficult for them to analyse and interpret THE complex data that is required for designing and implementing public policies and delivering public services in a timely and cost-efficient manner. In metropolitan municipalities, the range of issues that should be taken care of by municipal officials is wider than those in rural areas (e.g. transport, mobility, public security, urban development, environmental sustainability, etc.), which makes having professional staff a necessity. Municipal officials require analytical tools that in most cases come with a graduate degree. According to Cabrero and Arellano (2011), improvisation and experimentation are the main features of municipal public management due to the profile of elected and appointed officials.

According to CIDE, in 2009 almost three of every ten municipal presidents in metropolitan municipalities did not have a graduate degree; 9% had completed high school; 12% had just studied until the secondary school or held a technical degree; and 5% had only completed primary school.[58] In rural municipalities? two-thirds of municipal presidents did not have a graduate degree. Indeed, the Constitution does not require candidates to the presidency, governorships and municipal presidencies to have a graduate degree. However, ensuring minimum standards of education and specialisation would be highly desirable due to the complex issues they are responsible for, particularly in metropolitan municipalities as decisions taken in one municipality could affect the rest of the municipalities in the metropolitan area. Other critical positions in the municipal administration such as those in the municipal council (*síndicos* and *regidores*) and those responsible for public works require high levels of specialisation. In general, in metropolitan municipalities the large majority of these officials have graduate degrees, which is not the case in small municipalities.

Moreover, in the large majority of Mexican municipalities – as in state and national administrations – the experience and accumulated knowledge of public officials is not valued. In 2009, only 18% of municipal presidents had previously worked in the municipal administration. Others came from the private sector, or state and national governments, which suggests that they had little knowledge about municipal public administration (Alarcón, 2012). A similar story can be found in other senior political and management positions in the municipal administration. For example, in metropolitan municipalities, 49% of the public works heads (*obras públicas*) came from the private sector, 12% from the state government, 4% from the federal government, and only 32% had previous experience in municipal government (Cabrero and Arellano, 2011). Part of the problem is the lack of professionalisation of the public workforce that does not give public officials the means to make a career in the municipal administration. At the end of each administration's term a large number of experienced staff is replaced by new and mostly unexperienced staff in municipal issues. The learning curve and the accumulated experience by the previous administration are lost in the transition to a new administration. This greatly weakens the capacity of municipalities to increase their operational capacity and to plan for the medium and long terms.

Professionalising the local public workforce

The lack of professionalisation and the constant renewal of elected and appointed municipal authorities weaken the capacity of municipal governments to promote appropriate housing and urban development policies. Dealing with these two challenges

implies redesigning municipal administrations to make them suitable to a new context that requires a strong knowledge base and experience on the part of the workforce as well as fairness and transparency in the management of public employees.

Foster merit and develop strategic workforce practices

Develop a merit-based recruitment process

Mexican sub-national governments could do more to develop a merit-based recruitment process. In general, all states in Mexico have a legal framework that establishes the rules and procedures for managing state and municipal workforces. The problem is that there are no professional recruitment and selection processes to find the best candidates for the positions. In practice, entering into public employment at both municipal and state levels is generally a product of personal and political relations. Moreover, recruitment occurs as need arises, without adequate scope to match the skills and experience of the workforce to the needs of the administration. There are no open competitions to fill vacancies or grant promotions, and vacancies are not publicly advertised. Safeguards, such as examinations, to ensure that new recruits have the skills and competences required for the job are non-existent in most municipal administrations. Where examinations are used, they focus on psychological tests but not on knowledge, skills and competences. Politically based recruitment decisions extend to senior management positions, further contributing to the absence of a career civil service in the state governments and municipalities. There are no provisions to ensure high standards of performance, accountability or competence from senior managers. The political environment, the short municipal term and non-competitive salaries may further prevent public authorities from attracting the best management talent. Officials interviewed for this review commented that a director in the private sector may earn three times more than a director in the local public sector and has more possibilities for career development.

Installing a merit-based recruitment system undoubtedly requires considerable political will at all levels of government. A merit-based recruitment system should ensure consideration of a candidate's educational background, competences and experience and link qualifications to clearly articulated competencies required for the job. The system needs to avoid personal and political patronage and ensure that the best-qualified candidates are selected through a transparent, competitive recruitment process. Since merit-based recruitment in sub-national governments in Mexico is not a common practice, a first step would be to ensure that recruitment conforms to the letter of the law. Testing should take the full range of candidates' merit into account. In order to ensure that the best-suited candidate for each position is hired, more emphasis should be made on technical considerations. Some actions that Mexican authorities could take to build a modern merit-system are:

- Focus on competencies. Authorities in states and municipalities could look to improve the quality of the recruitment process by using validated testing methods during the recruitment process to assess candidates' relevant competencies (knowledge, skills and behaviours required to do the job well). While generalist examinations are an appropriate way to organise large intakes at base grades (e.g. recruitment of recent graduates for entry-level positions), more advanced or specialised positions require testing for job-specific competencies. Belgium has developed a recruitment system with a strong emphasis on testing for competencies, and the methods have been applied at national and sub-national

levels of government (Box 4.11). Another option could be for state and municipal authorities to build a competency framework detailing the professional skills required for the public workforce. The United Kingdom's Professional Skills for Government (PSG) Competency Framework emphasises that civil servants at all levels should think about the competencies needed for their current role as well as those required for their continued development. Given the high level of staff turnover in municipal and state governments, a competency framework could facilitate the transition of skilled staff between various administrations with each election cycle, mainly in metropolitan areas. Thinking in terms of competencies should become a way of life in public administration organisations, from planning to selecting employees, and guiding and rewarding their performance. For example, municipal planning institutes and municipal administrations could request candidates to join the public service to have their competences certified on urban matters.

- Improve recruitment for senior managers. It would also be important for authorities to ensure a transparent, competitive process for filling senior positions in order to give the public service access to the best talent and to give staff an opportunity for career advancement. While it is understandable that elected government officials wish to maintain discretion over the appointment of their direct collaborators, such as secretaries (ministries), there is scope to open up other higher management positions (such as head of department, director or director general) to a competitive recruitment process that is advertised publicly. Decisions should be shared among members of the municipal council (*ayuntamiento*), as well as members of a selection panel. Another option could be for members of the municipal council (*síndicos* and *regidores*), after conducting a public and competitive recruitment process, to submit a short list of the top candidates to the mayor for final decision. The system used in the United States demonstrates the possibility of reserving a limited number of senior management positions to political appointment, with clear job descriptions and confirmation procedures to ensure competence and suitability, combined with a corps of tenured civil service managers, recruited on merit through open competition. Alternately, the system of fixed-term appointments used in the Chilean senior management system (*Sistema de Alta Dirección Pública*, ADP) might be considered a helpful model, as it can achieve a balance between the need for flexibility and political neutrality of management positions.
- Develop standardised job profiles to facilitate service-wide pools of qualified workers for positions for which there is a large intake. Job profiling is a way to combine a statement about what is expected from a job with a view of what the job holder must bring in terms of skills, experience, behaviours and other attributes needed to do the job well. It is an approach that helps organisations think about the outputs and results they want from jobs, as well as what they are looking for in terms of the person who will do the job. Job profiles differ from traditional job descriptions used in Mexico in two important respects: *i)* they focus on the outputs or results expected from the job, rather than the tasks or functions to be carried out; and *ii)* they include a statement about the skills and personal attributes needed for the job. Whereas traditional job descriptions tend to be treated as stand-alone items, job profiles lend themselves to integration with other elements of human resource management and with broader organisational and management imperatives.

- Set up a dedicated public recruitment agency to help to improve the quality, transparency and efficiency of the recruitment process. This body could be formally mandated to manage recruitment for state and municipal administrations, and integrated by staff trained and certified as HR professionals. It would be critical that staff arrangements within the recruitment agency are not influenced by electoral calendars. The head of the organisation could be appointed for a specific time with the possibility of renewal based on performance. This helps to limit not only the turnover in senior positions but for technical/professional level staff as well (OECD, 2010e). Using a private recruitment firm could also be a possibility for many municipalities in metropolitan areas. The key aspect is to have similar job profiles and competency frameworks so as to facilitate movement of staff due to high turnover.

Box 4.11. **Recruitment and selection in Belgium**

Belgium offers an example of a country with relatively sophisticated recruitment arrangements. The basic form of recruitment of tenured civil servants is open and competitive examinations. These are based on job descriptions and competency requirements drawn up by the recruiting organisations. Over time, the recruitment process has moved away from large generalist examinations towards recruitment based on specific competency profiles. Presently, selection is based on generic competency profiles in only 10% of cases and on specific competency profiles in 90% of cases. Possession of a diploma may be a prerequisite for participation in an examination. The breadth and quality of the educational background affects the assessment of a candidate. Applicants who meet the formal requirements take part in different tests of skills, competences and aptitudes. The content of these tests depends on the type of post and recruitment criteria and may include a psychological test. In 90% of cases, recruitment is based on ranked selections. Most administrations follow the rankings, but the combined Flemish and Dutch administrations makes the final selection themselves. The administrations are allowed to draw up a reserve list of candidates for possible future recruitment.

Source: OECD (2007b), *OECD Reviews of Human Resource Management in Government: Belgium 2007: Brussels-Capital Region, Federal Government, Flemish Government, French Community, Walloon Region*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264038202-en.

Many municipalities do not have the capacity to conduct sophisticated practices of human resource management. In these cases, assistance provided by state professionalisation institutes (*institutos estatales de profesionalización*, IEP) could be a way to give more sophistication, transparency and credibility to the recruitment process. It would be necessary to avoid requesting academic institutions to conduct the process on behalf of municipal authorities as they do not have the background of a recruitment agency.[59] Entrusting the management of the recruitment process to an independent body, such as the IEP or specialised recruitment agencies, would enhance credibility and sophistication in the process. Municipalities could also develop, with external assistance in some cases, a talent bank to speed up the recruitment process.

Improve forward-looking management and planning

The authorities at all levels of government should also invest in developing their capacity to engage in strategic workforce planning. This is essential to anticipate possible future developments and maintain a well-structured workforce of appropriate size, which is able to meet the changing needs of the public service in a cost-efficient manner.

Workforce planning should be based on good accounting in terms of numbers and costs. For that, an integrated approach to workforce planning can be developed by linking it to the strategic planning of organisations, including business forecasting and planning, budgeting, accountability and reporting mechanisms for managers, and strategic human resource management. The definition of a standardised way of measuring and recording people's capability and work challenges should be considered. This is a very advanced human resource management (HRM) practice and not even the Mexican federal government has the capacity to do so (OECD, 2011d). But it is of great importance to begin investing in developing capacity for strategic workforce planning as it would help governments at all levels to ensure having the right mix of skills and competencies in the right place at the right time. It is not necessary to do so in a complex manner. A practical way to start would be by building databases on the number of staff they have and their competences (not academic titles). Some actions in this regards could be:

- Develop an effective workforce management information system. To improve forward-looking planning and assign a more strategic role to the management of the public workforce, states and municipalities could look to develop an effective workforce management information system. Quality and timely workforce information would enable state and municipal governments to develop a whole-of-government perspective on the allocation of staff across sectors and the size and costs of the workforce.

  As a first step, states and municipalities need to gain a proper understanding of the size and structure of the workforce by building workforce databases that include data on skills and competencies, work experience and even training needs, in addition to standard personal data. Databases should include all categories of staff: unionised (*base*), non-unionised (*confianza*), consultants (*honorarios*), part-time and short-term employees. Authorities could emulate the Civil Servant Registry of the Federal Government (*Registro de Servidores Públicos del Gobierno Federal*, RUSP). Technical co-operation and co-ordination with the federal Ministry of Public Administration (*Secretaría de la Función Pública*, SFP) would likely be necessary. State authorities could take the lead in building and co-ordinating such a database, which could be co-managed with municipal governments. Another useful example is Chile's National System of Municipal Information (www.sinim.cl) created by the Undersecretariat for Regional Development (SUBDERE). This is currently the most comprehensive source of information about the management of the 345 municipalities in Chile, as it includes data on municipal budgets, human resources and services.

- Link workforce planning to overall strategic planning. Establishing strategic planning and performance management frameworks for government organisations could be part of the municipal modernisation efforts. The importance of a well-managed public sector should be emphasised in the strategic documents of state and municipal governments, with reference to the relevance of the public workforce in achieving economic development goals within the region. Many OECD countries have established procedures to link workforce planning to the strategic planning, budgeting and performance management frameworks of organisations. HRM strategies and personnel plans are included in strategic plans and managers are made accountable for workforce planning in the context of organisational performance and reporting frameworks. Municipal urban development plans could certainly be linked to strategic workforce plans assisting

authorities to analyse human capital capacity and establish current and future skills and competence needed to achieve urban development objectives.[60]

Prepare the ground for professionalising the sub-national public workforce

In Mexico, the decentralisation process has increased the responsibilities of municipal governments, making it necessary to improve capacity by professionalising the workforce. Concrete actions for investing in professionalisation of public employees at sub-national levels include:

- Enact legislation that prioritises the professionalisation of the public workforce. Sub-national governments in Mexico already benefit from a well-articulated methodological framework as well as instruments for professionalisation that have been designed at the federal level (Box 4.12). States and municipalities could build on the national reference framework by enacting specific legislation on the issue of professionalisation as well as secondary legislation (*reglamentos*) to operationalise the strategy. For instance, state authorities may consider including the issue of professionalisation in the State Development Plan (*Plan Estatal de Desarrollo*) as a public policy, giving training a strategic role. It would be necessary to adapt the Budget Law to ensure sufficient resources are allocated at state and municipal levels for the professionalisation of the workforce, such as a specific budget for training. Moreover, building on the experience of other local governments in Mexico that have already issued legislation on professionalisation, it is recommended to avoid focusing on the administrative, procedural issues, but rather on the substantive aspects of professionalisation, such as identification of training needs, curricular design and formulation of the content of training programmes, and long-distance learning programmes. Finally, the professionalisation process would involve establishing acceptable qualifications and defining standards of performance for different professions in the public service, and be used to grant accreditation for different skill levels.

Box 4.12. **Conceptual framework for the professionalisation of public servants at sub-national level in Mexico**

The Permanent National Forum of Professionalisation issued the Mexican Letter for Professionalisation and Professional Career Service in Local Governments. The letter contains a series of guiding principles for professionalisation based on the experience of local governments that have already legislated in the area and that of the federal government. The letter stresses several important elements such as: *i)* adopting a whole-of-government approach when designing a career civil service; *ii)* professionalisation as the basic underpinning of a career civil service based on the continuous and systematic development of knowledge, competencies and experience; *iii)* coherence between the labour regimes in state and municipal governments; and *iv)* performance assessment as a guarantee for quality in service delivery.

- Make training more strategic. The increasing knowledge content of work – mainly in metropolitan municipalities – makes ongoing skill development increasingly important. The capacity of the workforce could be further enhanced by viewing employees' development as a strategic issue for enhancing public organisations. Several actions can be taken to ensure that training public employees becomes more strategic in a quest for boosting the professionalisation of the local public workforces:

  - Ensure alignment between individual training and workforce needs, so as to improve the skills of the workforce for the benefit of public administrations.
  - Develop a systematic approach to detect training needs, through the collection of organisational, occupational, curricular and personal information as regards the main profiles in the administration. State administration should take the necessary steps to develop a comprehensive, up-to-date personnel database. Authorities would then be in a position to better detect and orient training needs.
  - Link training plans to workforce analysis and planning so that staff development becomes an integral part of how local administrations plan their workforce, rather than having to depend solely on recruitment to meet changing needs. A competency gap analysis carried out in the context of workforce planning is a useful way of identifying the gap between the existing competencies of staff and those of the municipalities.
  - Issue guidelines at state level for municipalities as regards the planning, programming and budgeting of training programmes.
  - Complement job-specific training by other forms of learning to develop a range of technical and behavioural competencies, such as developmental assignments, coaching, mentoring, knowledge sharing and team-based learning.
  - Employ new technologies for training – like the federal government's @Campus Mexico portal for federal employees – in order to widen the number of participants and integrate public employees from different municipalities. This type of interface can encourage participants to take part in training courses, reduce costs and help monitor training delivery. This would require co-ordination across levels of government.
  - State governments could take the lead in the design and implementation of training programmes in collaboration with local academic institutions. State universities could develop programmes to train specialists in urban planning, procurement, cadastre, financial management, etc., which are critical areas for the functioning of a municipality (see below).

- Offer certification of competencies. Based on the experience of the federal Professional Career Service (SPC), authorities in states and municipalities could consider certifying the competencies of local public employees. Competence certification is designed to acknowledge the knowledge and abilities of an individual, irrespective of the method in which they were achieved. The purpose of a certification process is to examine and periodically re-examine whether the standards of performance of professionals –i.e. urban planners, cadastre managers, etc. – are high enough and to ensure that professionals know what they need to know to be effective. Competence certification can give curricular value to training received as well as encourage staff to pursue professional development opportunities (Box 4.13). To obtain a certification, candidates should demonstrate having experience in, for instance, urban planning to be eligible to a certification exam. Successful candidates should be granted a certification valid for a fixed-term period; this would encourage continuous learning and development to keep the certification. In most of the states there are a number of public and

private institutions authorised by the National Council for Normalisation and Certification of Competencies (*Consejo Nacional de Normalización y Certificación de Competencias Laborales*, CONOCER) to certify labour competencies. State and municipal governments could make use of this opportunity to certify the competencies of public employees at the professional and technical level. For example, in the municipality of Zacatecas, the municipal treasurer must be certified by the State Finance System. Certification does not guarantee continuation with the change of administration, but it is ruled – even in state level legislation – that employees in key municipal functions (treasury, urban planning, tax management, cadastre, municipal services, finance, management, HRM, procurement, audit) need to be certified to be hired, the practice will mature and may lead municipal elected officials to think twice before removing all employees at the beginning of a new administration. The Ministry of Public Administration (*Secretaría de la Función Pública*, SFP, although exclusively focused on the SPC, could provide invaluable expertise on these issues. Mexico could also certify urban development plans or programmes, but one of the conditions should be that such plans/programmes be elaborated by certified professionals, as it is done in China.[61]

Certification for public employees could have multiple benefits, including: *i)* ensuring credibility in the competence of the staff to perform at the highest national standards; *ii)* fostering the mobility of public employees across sectors and levels of government; *iii)* better aligning the educational offer with the requirements of the public and even private sectors; and *iv)* strengthening the capability of state and municipal governments by having staff that performs at national and international standards. Mexico's Federal Electricity Commission (*Comisión Federal de Electricidad*, CFE) is one success story in this regard. CFE has been certifying its procurement staff (*agentes compradores*) for more than 15 years. The result has been increased standards for procurement functions and career development for employees.

- Focus on training for senior managers. OECD countries increasingly use competency management to systematically identify the capabilities senior managers should bring to their jobs, set consistent standards and reinforce the desired values and culture of the public service. Typically, the required profile includes leadership capabilities, management skills, the ability to achieve results and personal integrity. Competencies are commonly used in recruitment and selection, succession planning, identification of potential future leaders among middle management ranks, performance management, training and leadership development. An example is the Korean framework for competencies evaluation of senior managers. Competencies subject to assessment include strategic decision making and commitment to change, as for high-ranking government officials, along with skills required for effective organisational management and efficient policy execution (OECD, 2011d). State governments and municipalities – mainly urban municipalities – could consider taking a similar approach, building on their current efforts to introduce competency management, using a competency profile for senior managers to develop a consistent approach to their recruitment, training and development. In some states, such as Puebla, authorities are requesting that middle managers pass psychometric tests and an interview to assess their competencies. This constitutes a good starting point to move to a more merit-based system. However, more needs to be done to enhance

the managerial capability of the metropolitan municipalities and state administrations.

Box 4.13. **Urban planners' skills and competences that may be certified**

The requirements to participate in a certification programme could be providing evidence of planning education and/or planning practical experience, and passing a comprehensive exam. The purpose is to examine that candidates possess the combination of skills and competences that enhance their professional success. Because planning is a dynamic and diverse profession, individual skills vary depending on a planner's role and area of specialisation.

The skills where planners could be tested are:

- Knowledge of urban spatial structure or physical design and the way in which cities work.
- Knowledge of plan-making and project evaluation.
- Knowledge of techniques for involving a wide range of people in taking decisions.
- Understanding of federal, state and municipal governments' laws, plans, programmes and processes.
- Understanding of the social and environmental impact of planning decisions on communities.
- Understanding of the legal foundation for land-use regulation.
- Understanding of the interaction among the economy, transport, health and human services, and land-use regulation.
- Mastery of geographic information systems and office software.

The competences to be demonstrated in the certification process could be:

- Ability to analyse demographic information to discern trends in population, employment and health.
- Ability to work with the public and articulate planning issues to a wide variety of audiences.
- Ability to function as a mediator or facilitator when community interests conflict.
- Ability to solve problems using a balance of technical competence, creativity and hard-headed pragmatism.
- Ability to envision alternatives to the physical and social environments in which people live.
- Analytical thinking and problem solving.
- Policy analysis and research.

Sources: www.planning.org/onthejob/skills.htm; Guzzetta, J. and S. Bollens (2003), "Urban planners' skills and competencies: Are we different from other professions? Does context matter? Do we evolve?", *Journal of Planning Education and Research*, Vol. 23, No. 1, pp. 96-106, Association of Collegiate Schools of Planning.

- Create a body for professionalisation. Some state governments such as Chiapas and Nuevo León have created a specific body for the professionalisation of the public service, the State Professionalisation Institute (*Instituto de Profesionalización del Estado*). These decentralised bodies function as a competence assessment centre linking assessment to the certification of competencies. Other Mexican states could follow this example and could go one step further by tasking the institute with providing guidance on workforce issues and employment law to state and municipal authorities, and helping municipal

governments develop a framework for their roles and responsibilities as employers so as to boost accountability for staff career development. It could help municipal governments develop a flexible and productive workforce. It could also deliver advice and support to help municipal authorities solve their HR problems and even to design and implement a civil service system. A state professionalisation institute would need to work closely with the proposed recruitment agency described above, and under the supervision of the state administrative authority and the municipalities that request their services.

- Promote teaching and research on urban development. State governments should encourage the specialisation of state academic institutions in urban planning to train experts and conduct research in urban development with a local perspective. This could also ensure that state and municipal authorities receive timely specialised advice and train their staff continuously. The capacity of the municipalities to formulate plans and programmes for urban development would be strengthened by having at their disposal a group of experts who know the local urban development challenges. There are just a few academic institutions in Mexico that offer training programmes in urban planning but most of them are in Mexico City.[62] The National Council for Science and Technology (*Consejo Nacional de Ciencia y Tecnología*, CONACYT) could greatly assist in this regard by offering direct support for innovation activities on urban development by funding research in state universities. But, there should be a clear link between research funded by CONACYT and the needs of the state and municipal governments on regional and urban development.

  Investing in research on urban planning also assists efforts in the professionalisation of local public employees. Public employees, particularly those working on urban development issues, need to be formed and trained in academic institutions. In addition, research institutions should support training programmes from state and municipal governments to ensure having a highly qualified workforce specialised on urban planning and related issues. They should help students and public employees to develop a critical understanding of contemporary planning challenges for cities and urban regions, in the context of climate change and growing human needs, for example. The programmes could be designed so that students may confront up-to-date scientific knowledge on planning with their own planning experiences and that of the state and municipal governments.

Institutionalise collaboration across levels of government for professionalisation

Professionalisation is a shared responsibility among the federal, state and municipal governments. Municipalities alone will not be able to achieve it. Institutionalising collaboration across levels of government to facilitate the design and implementation of strategies for the formation, actualisation, training and specialisation of state and municipal public servants is critical. In Mexico, several channels of communication and forums for the exchange of information and good practices are already in place and should be exploited, such as the National Conference of Governors (CONAGO) mentioned above. Others include:

- The national professionalisation fora (*foros nacionales de profesionalización*), organised by the National Institute for Federalism and Municipal Development (*Instituto Nacional para el Federalismo y el Desarrollo Municipal*). Established

in 2001, these fora are designed for participants to discuss technical issues regarding the professionalisation of municipal public servants and the implementation of a career service in municipal governments. Spain's Co-ordination Commission of Public Employment could be used as an example of how to build a common vision for capacity development strategies at all levels of government.

- The National Conference of Municipalities of Mexico (CONAMM) is a potential venue for exchanging proposals to improve public management. Among CONAMM's current proposals are: *i)* include the establishment of a professional career service in municipalities as a constitutional precept; *ii)* extend the mayoral term to four years and allow immediate re-election; *iii)* amend the Constitution to give municipal governments a leading role in the discussions and planning of metropolitan issues; and *iv)* legislate on the participation of municipal governments in the elaboration of the National Development Plan, mainly regarding municipal development planning.

Improve the ethical conduct of public servants at all levels of government

In Mexico, dealing with corruption and misconduct in the public service remains a challenge (OECD, 2013f). Mexico ranked 106th out of 177 countries analysed in the International Transparency Corruption Index in 2013. Low levels of ethical behaviour of public officials may be an obstacle to quality urban investment. First, corruption, either political or grand corruption, may undermine government's revenue, thereby limiting its ability to invest in productivity-enhancing areas.[63] Second, corruption distorts the decision making for public investment projects, as large capital investment projects provide tempting opportunities for corruption. Indeed, OECD (2013l; 2013m) has found, for example, that public procurement, particularly in Mexico, is the government activity most vulnerable to waste, fraud and corruption in the absence of fair and transparent procurement systems. Investors may also see their costs increase if they have to pay additional fees to obtain a contract for developing infrastructure projects. Tanzi and Davoodi (1997) found that higher corruption is associated with higher public investment, lower government revenues, lower expenditure in operations and maintenance, and lower quality of public infrastructure. Third, trust in government may be affected by diminishing the legitimacy of the state and moral stature of the bureaucracy and thus limiting urban investment opportunities. And finally, corruption may create uncertainty because when a firm obtains a concession as a result of bribery it cannot know with certainty how long the benefit will last. Thus, it is in the interests of government to ensure high levels of ethical conduct of government officials at all levels of government.

In order to reinforce the ethical conduct of civil servants, Mexico, like almost all OECD countries, could provide training on ethics issues. Training courses can be compulsory (for those entering public service like in Luxembourg) or largely voluntary (Australia). The scope of training in OECD countries ranges from general training schemes covering the whole public service (Germany, Italy) to specific programmes determined by ministries or agencies (Ireland, Japan) or a combination of both. The Mexican government could also adopt measures obliging public servants to report misconduct and/or provide procedures to facilitate reporting which have been introduced in most OECD countries. In particular, OECD countries have given special attention to measures to prevent conflicts of interest in the public sector.[64] A majority have enacted measures that target officials in positions particularly susceptible to corruption in order to help prevent conflicts of interest and combat illicit enrichment.[65] These include

professions that are exposed to sectors in which economic interests are at stake and at the intersection of the public and private sectors, such as budget execution (Australia and Japan) or health personnel (Norway). In Australia, Greece, Ireland, Italy, Korea and the Netherlands, certain categories of public officials are required to disclose their personal assets and financial interests.

Another alternative would be to adopt measures to increase the openness and transparency of the civil service to strengthen ethics management. These measures can be implemented at all levels of government. A number of OECD countries have created ombudsman functions to provide an additional channel for hearing and investigating complaints from citizens and public service users. New anti-fraud or anti-corruption offices have also flourished, such as the Serious Fraud Office in the United Kingdom, the Independent Commission against Corruption in New South Wales (New Zealand), the Commissions on Integrity in the United States, and the Antifraud Office in Catalonia (Spain). Such functions can help to highlight issues relating to ethics and conduct.

To regain trust in public service, it is important that administrative and legal sanctions accompany political sanctions in cases of proven corruption of public servants, particularly for those in political positions. Such sanctions would send the message that wrongdoing has both political and legal consequences. Normally, officials tend to be simply removed from office without facing administrative and legal charges for wrongdoing. Mexico's actions to promote ethics and integrity in the public service could be further enhanced by aligning those efforts with the *OECD Principles for Managing Ethics in the Public Service* (OECD, 1998) and the *OECD Guidelines for Managing Conflicts of Interest in the Public Service*. The creation of a Commission for Public Ethics, as in Brazil, responsible for implementing the codes of conduct as well as for oversight and evaluation, would be of great relevance (OECD, 2010d).

In addition, Mexican housing and urban organisations at all levels of government need to manage their workforce more strategically. This implies viewing the workforce as an asset to achieve organisational objectives, rather than a cost. Workforce management has direct implications on the achievement of organisational objectives. A key issue is how to maintain and improve the capacity of the organisations while at the same time producing value for money. A lesson from OECD countries is that investing in the skills, leadership and management capacity of the organisation is even more important than focusing solely on costs. Box 4.14 provides INFONAVIT – as Mexico's largest housing provident fund – with recommendations for managing its workforce more strategically and supporting the achievement of its organisational objectives. It is worth noting that many of these recommendations are also valid for other Mexican governmental institutions.

Box 4.14. **Making INFONAVIT's human resource management practices more strategic**

INFONAVIT is not part of the centralised federal administration and therefore not governed by the rules of the Professional Career Service (SPC). Nonetheless, INFONAVIT reported to have 48 employees as part of the career service, which represents only 1% of the total number. There is no specification about the position of these employees. Although the percentage is rather minimal, it is a first step to further align the human resource management practices of the institute with the principles of the SPC and apply them in the management of all employees regardless of their type of contract. It is interesting to note that over 60% of the personnel is unionized, which means that they have more stability in the work place and they normally occupy technical positions as there can also be managers who belong to the union. Unionised staff may occupy temporally a tactic position (non-unionised) retaining their membership to the union.

Box 4.14. **Making INFONAVIT's human resource management practices more strategic** (*cont.*)

INFONAVIT's personnel by type of contract, 2014

Concept	Total	Percentage
Total	4 714	100
Unionised personnel (*base*)	2 949	63
Non-unionised personnel (*confianza*)	1 238	26
Personnel part of a professional career programme	48	1
Temporal staff (*consultants-honorarios*)	479	10

Source: Information provided by INFONAVIT.

INFONAVIT's human resource management practices are ruled by the principles of "gender equity" and "non-discrimination". Fifty-four percent of the institute's personnel are female. Although this philosophy is commendable, placing too much focus on gender equity may become discriminatory, as the experience of OECD countries has shown (OECD, 2011e). A job should not be offered just based on gender grounds, as this may be against the principle of merit and act in detriment of performance. INFONAVIT may prefer to focus on ensuring "equal opportunities" and "diversity". Under these principles, all candidates are given the same opportunities to compete for a position (entry or promotion) on their own merit. The job is offered to the best candidate regardless of gender, academic and socio-economic background, disability, ethnic origin, age, etc. (OECD, 2011e).

INFONAVIT has put special emphasis on training and competence certification of staff. These are positive practices that should continue and be reinforced. OECD (2011d) has already made specific proposals to Mexico on how to make human resource management more strategic where training and competence management have a relevant role to play. There are, however, five specific aspects where INFONAVIT could pay particular attention:

- Invest in strategic workforce planning. Decisions on staffing levels cater to short-term operational demands rather than long-term workforce planning linked to strategic decisions about the positioning of the institute a number of years into the future. Thus, INFONAVIT could engage in strategic workforce planning focusing on developing information for informed HRM decision making for the short term based on a longer term context. Workforce planning is intended to help solve staffing problems related to managing employees' movement into, around and out of the institute. INFONAVIT would have to ensure having: *i*) high-quality information and discussion, organisational strategies and efficiency concerns, and organisational arrangements that support workforce decisions efficiently; *ii*) good tracking of employee numbers, costs and competencies; *iii*) alignment of workforce planning strategies with the strategy of the institute; *iv*) flexibility in the management of the workforce; *v*) a global perspective on allocations across administrative units and on the size and costs of the workforce; and *vi*) managers' accountability in terms of workforce planning.[1] INFONAVIT's "*semillero*" programme to attract talent from schools to train them so that over time they occupy key posts in the institute could greatly contribute to workforce planning.

- Select the best suited candidate for each position by opening recruitment to external recruitment and internal promotion. An open and competitive recruitment process for each position would ensure fairness and this would contribute to developing a strong individual performance assessment of employees. Giving employees the possibility to compete for a higher position based on their merit would certainly increase their commitment to the institute, allow using accumulated experience, and enhance transparency and accountability. The recruitment process could be developed around the assessment of competences and skills for the job, not just on the traditional psychometric exams. Passing panel interviews would bring transparency and a better opinion on the candidates' profile for the post.

Box 4.14. **Making INFONAVIT's human resource management practices more strategic** (*cont.*)

- Ensure that the senior managers of the institute have the right profile for the job. As performance and efficiency have become more urgent issues in the institute, more attention needs to be given to the role, tasks and capabilities of senior managers which includes vice director-generals, directors, heads of department, and state "delegates" (*delegados estatales*). The capacity of the senior management group of INFONAVIT is undermined by the little care devoted to ensure they have the right profile and experience to perform their duties. For example, some of the state "*delegados*" do not have a background on housing when they take up their duties. This results in a "trial and error" management of the state delegation as they have a prolonged learning curve, which damages the efficiency of the institute. The origin of the problem is that practically all senior management positions are filled by politically appointed staff without any open competition and assessment of their knowledge. INFONAVIT requires them to pass a psychometric exam but this is more an administrative requirement than an assessment of their competences and skills. INFONAVIT could introduce more transparency in the handling of senior managers, especially with the opening up of the recruitment process. A balance between political responsiveness and neutral competences needs to be found. In the current context, it is increasingly important that senior managers not only have experience on housing and finance, for example, but also a proven record of leadership skills, defined as the capacity for managers to make their organisation achieve better results and implement reforms, particularly when INFONAVIT is introducing new policies to change Mexico's housing culture.
- Increase the performance orientation of the institute which should be at the core of the modernisation process. The cornerstone should be the strategic goals and the business plans of the institute. Team and individual goals should be derived from these. Employees should know and understand how their performance contributes to the overall performance of the institute. Performance assessment should be based on a systematic assessment of employees' performance – something that INFONAVIT already does – but performance management should be linked to the strategic objectives of the institute. A performance dialogue between each employee and his/her closest supervisor should clarify what is expected from the employee, but also what the institute can do in order to make these goals attainable. In INFONAVIT, the results of the evaluation system determine the level of compensation, but in the experience of OECD countries this is not sustainable as it increases the costs of staffing. One-off bonuses or other non-monetary compensation for good performance is more manageable (OECD, 2012c). This may even lead the institute to modernise its compensation system where one alternative is the use of salary banding. The idea is to make managers more accountable for management and separate occupations where performance, although important, is not the determining factor for pay increases (OECD, 2012c). It is equally important to deal with underperformance by establishing clear guidelines for managers. INFONAVIT needs to recognise that training managers in performance management and assessments and making them aware that it is a management tool and not a bureaucratic process is crucial for the better performance of the institute.
- Modernise the institute's HRM practices by using job profiles stating what is expected from a job. This means that it is not necessary to request certain academic credentials but to focus more on their experience and competencies. Job profiles would need to be built for all senior and middle management as well as for professional and technical staff positions.

1. For more information on the experience of OECD countries on strategic workforce planning see: Huerta Melchor (2013).

Thinking metropolitan

The level of urbanisation reached in Mexico calls for the development of a metropolitan strategy. Reforming the municipal institution will be critical to ensure that municipal governments have the necessary fiscal and human capital capacity to fulfil their mandate. New governance arrangements will be needed, in addition to amending the current approach to fiscal decentralisation by developing a separate model for spending,

taxing and borrowing for the large metropolitan areas. The efficient provision and financing of public services has outgrown the jurisdictional boundaries of the main cities. A new approach could include the establishment of regional taxes, delivery of some services on a regional basis and a revenue model for metropolitan areas that focuses on self-sufficiency. A metropolitan strategy also needs strong political leadership and strategy. Too often, political solutions defeat good public management objectives. But circumstances may now be different to clarify practices (regarding, *inter alia*, re-election, local government borrowing, the establishment of metropolitan authorities) and support a metropolitan strategy. The idea of a metropolitan-area constituency is growing in political favour – for instance, in Mexico City's metropolitan area – and may have greater weight to sway public opinion. Authorities should thus ensure that "thinking metropolitan" is a priority of the current political agenda as a means of enhancing economic growth.

Notes

1. It has been announced in 2014 that the Commission for the Regularisation of Land Tenure (CORETT) will change to the National Institute for Sustainable Land (INSUS), but as of September 2014 it was not clear when the change would take place.
2. For more information, see the Organic Law on the Federal Public Administration (*Ley Orgánica de la Administración Pública Federal*, Título II Capítulo II). Until 2012, SEDESOL had the responsibility for territorial development. SEDESOL was created by merging the former Ministry for Urban Development and Ecology (SEDUE) and the Ministry for Programming and Budgeting (SPP), which managed the solidarity programme to deal with poverty. Thus, SEDESOL's approach to territorial development was more focused on fighting poverty in marginalised urban areas and decentralisation of authority to sub-national governments.
3. In 2011, the housing industry contributed 4% of the national GDP, created 7 million direct and indirect jobs in what represented an investment of MXN 253 billion (see: www.canadevi.com.mx/canadevi.html).
4. See OECD (2014b) for further details.
5. For the purpose of translation this review will make reference to "agreements" only, but the General Law for Human Settlements refers to "*convenios*" (covenants) and "*acuerdos*" (agreements). The former is an agreement of wills to create, modify or extinguish rights or obligations. The latter refers to a convergence of wills with the purpose of having legal effects, making it compulsory for the different actors involved to adhere to the rights and obligations assumed in the agreement.
6. For further discussion see Alarcón (2012).
7. This duplicity of functions can also be observed in the health sector where the Mexican Institute of Social Security (IMSS) and the State's Employees' Social Security and Social Services Institute (ISSSTE) are two public health service providers but the former covers workers in the private sector whereas the latter covers those in the public sector.

8. Article 19, Housing Law (*Ley de Vivienda*).

9. Article 9, Housing Law (*Ley de Vivienda*).

10. In fact, according to officials interviewed for this review, in the elaboration of the current federal housing policy CONAVI had the lead rather than SEDATU (interviews with INEGI officials on 30 January 2014).

11. Article 41 Frac. XIII of the Organic Law on the Federal Public Administration (*Ley Orgánica de la Administración Pública Federal*).

12. The Housing Law (*Ley de Vivienda*, Art. 18) mentions that CONAVI is a decentralised organism not "*sectorizado*" (grouped). In the Mexican public administration, "*sectorización*" means the grouping of decentralised organisms in administrative sectors (housing, energy, health, etc.) under the co-ordination of a federal ministry (*secretaría de estado*), for the planning, co-ordination and evaluation of their functions individually and as a group. The aim is to give the sector head the possibility of implementing policies under their responsibility with the support of the organisms of their sector.

13. See OECD (2011d, 2011e) and Huerta Melchor (2013) for a detailed discussion on strategic workforce planning in the public sector.

14. Membership to National Urban Development Co-ordination Council could also include the institutions named in the National Programme of Urban Development.

15. For further information see: OECD (2011f; 2012e).

16. For an in-depth discussion regarding the overlapping of responsibilities on education and health across the different levels of government see: OECD (2013i).

17. Mexico's answers to the OECD questionnaire: Multi-level Governance of Public Investment, answered by Sara Topelson, SEDESOL, April 2012.

18. For further information see: www.conago.org.mx.

19. For further information see: www.inafed.gob.mx.

20. For further information see: www.alcaldes.org.mx.

21. For further information see: www.fenamm.org.mx/site/index.php.

22. For further information see: www.aalmac.org.mx.

23. For further information see: http://conferenciademunicipios.mx/cam2013_presenta.html.

24. The heterogeneity of municipalities can be explained by the decades of centralisation in the 20th century. At that time, only a few favoured industrial urban areas received investment due to their geographical position, natural resources available or economic importance. These centres received an influx of migrants from rural areas looking for better jobs and living opportunities. This led to the emergence of a few relatively rich and developed urban areas while the others remained relatively underdeveloped (Sosa López, 2010). In the 1980s, Mexican government began a process of decentralisation to give a wider scope of responsibilities and participation to state and municipal governments. However, the problem was that decentralisation efforts did not contemplate the differences among regions and municipalities in terms of their population, territorial extension, environmental complexity, level of urbanisation and the level of development of their administration.

25. Mission notes, visit to Guadalajara, 4 April 2014.

26. In the states of Chihuahua, Coahuila and Veracruz municipal presidents are elected for terms of four years.

27. Article 115 of the Constitution states: "When two or more urban centres located in municipal territories of two or more different states form or tend to form a demographic continuity, the national government, the states and the respective municipalities, within their entitlements, will jointly and in co-ordination plan the development of those centres abiding by the respective laws on the topic".

28. Co-ordination: joint or shared information ensured by information flows among organisations. "Co-ordination" implies a particular architecture in the relationship between organisations (either centralised or peer-to-peer and direct or indirect), but not how the information is used. Co-operation: joint intent on the part of individual organisations. "Co-operation" implies joint action, but does not address the organisations' relationship with one another. Collaboration: co-operation (joint intent) together with direct peer-to-peer communications among organisations. "Collaboration" implies both joint action and a structured relationship between organisations. For further information see: OECD (2005b).

29. Many OECD countries are confronted with the problem of overlap in competencies across levels of government, leading to unclear responsibilities, inefficient public spending and lack of evaluation mechanisms for certain policy fields. For example in France, the central government sets the overall framework for the employment policy and decides on the amount of the unemployment benefits, while the departments fund the minimum salary (*revenu minimum d'insertion*) and regions are responsible for adult training. Evaluation mechanisms are very hard to set in such a system. Germany faces similar problems, and one of the objectives of the Hartz reform in 2005 was to reinforce the coherence across employment and social policies, across levels of government. In Switzerland, many efforts were conducted at the end of the 1990s to clarify allocation of competencies across levels of government and enhance public spending effectiveness.

30. For further information on the general characteristics of the integrated management system for urban areas see: The Integrated Management System for Local and Regional Sustainability: www.localmanagement.eu/index.php/mue25:mue_ims.

31. Conditionality is a type of contractual arrangement whereby a government takes, or promises to take, certain policy or institutional actions, in return for which a higher level of government authority will provide specified amounts of financial and/or technical assistance (OECD, 2013a).

32. Mexico's answers to the OECD questionnaire: Multi-level Governance of Public Investment, answered by Sara Topelson, SEDESOL, April 2012.

33. See OECD (2013a) for an in-depth discussion.

34. An inter-municipal joint authority in Mexico City would require new institutional executive arrangements reporting to two legislative chambers: the Legislative Assembly of the Federal District and the State of Mexico Congress in Toluca. Other cities would require an arrangement in which each *ayuntamiento* was an equal stakeholder to which the new metropolitan council would report.

35. Around two-thirds of the metropolitan areas in the OECD now have a metropolitan governance body (OECD, 2014d).

36. Municipal mergers have been adopted in some OECD countries (e.g. Denmark, Finland, Greece, Iceland, the Netherlands, Norway and Sweden) to reduce the number of municipalities and increase their scale in terms of geography and population (OECD, 2014d). Although in Mexico this has not been discussed so far, it may be worth considering for the future as a movement towards administrative consolidation.

37. For further information see: Kim et al. (forthcoming).

38. See Rodriguez Cañas (2005) for an in-depth discussion on the political reform of the Federal District.

39. See OECD (2013c).

40. Aguilar (2012) shows that cadastral values are 60% below market values in about half of the 32 states. In part this is due to poor administrative capacities. For instance, 30% of the municipalities use a manual process to produce cartographic cadastral representations, and only 17% of those has a level of detail that identifies individual properties.

41. In 2011, Mexico's general government expenditure accounted for 22.8% of GDP (OECD average: 45.4%) (OECD, 2013f).

42. "*Participaciones*" are non-earmarked and formula-based transfers. They consist of a set of eight funds that vary in size and are itemised in the line item *Ramo 28* of the federal budget, along with transfers to compensate states for collecting federal taxes (*incentivos*). "*Participaciones*" are the largest item in the federal budget.

43. "*Aportaciones*" are earmarked transfers to finance the decentralisation of education and health, as well as other local responsibilities like security. Some of these earmarked transfers have a more or less explicit equalisation role, but these are only about 10% of all transfer revenue (or 0.7% of GDP) (OECD, 2013i).

44. Sub-national government debt has been in constant growth since 2000 when debt amounted MXN 100 billion (Ministry of Finance and Public Credit), www.hacienda.gob.mx/Estados/Deuda_Publica_EFM/Paginas/Presentacion.aspx.

45. This number is of little significance if it is considered that the total debt net of the federal public sector represented 32.4% of GDP in 2011. Twelve states had a level of debt as a percentage of their GDP above the national average. Some of them, such as the State of Mexico and Nuevo León, have larger economies and may well manage the level of debt, but others such as Chiapas, Chihuahua, Coahuila, Michoacán and Zacatecas have weaker economies but higher levels of debt.

46. Mexico has the National Disasters Fund (*Fondo Nacional de Desastres*, FONDEN) to support local governments with up to 50% the costs of reparations of damages caused by natural disasters. This mechanism has led many state governments to borrow money to pay the other 50%. In 2010, for example, the municipality of Monterrey borrowed from BANOBRAS MXN 165.8 million to pay for its 50% according to the rules of the FONDEN and contribute to repairing the damage caused by hurricane Alex. The state of Nuevo León had to pass from paying nothing in 2009 to paying MXN 6 033.4 million in 2010 and MXN 687.4 million in 2011 to pay for the damages caused by the hurricane.

47. Almost 50% of debt was hired with commercial banks and 44.5% with development banks (Ministry of Finance and Public Credit, available at: www.hacienda.gob.mx/Estados/Deuda_Publica_EFM/Paginas/Presentacion.aspx).

48. Experience suggests that in countries with a federal level VAT, it may be too cumbersome to have sub-national sales taxes. Allowing sub-national governments access to taxes which are traditionally regarded as more suitable for the national administration such as personal income taxes may be a way forward (World Bank, 2014).

49. For further discussion on water tariffs in Mexico see OECD (2013i). For an in-depth discussion on the water governance challenges in Mexico see: OECD (2013j).

50. For further discussion see: Aguilar (2012).

51. See OECD (forthcoming).

52. See Transport for London website for further information: www.tfl.gov.uk/modes/driving/congestion-charge.

53. For an in-depth discussion see: OECD (2013i).

54. For further information see: OECD (2013h).

55. As the cost of the public workforce and the overall costs of producing goods and services funded by government weigh heavily in the economy, the management of the workforce in a strategic manner and in particular the allocation of staff across policy sectors and priorities are important structural measures to consider. Strategic workforce planning and competence and performance management are central issues to better HRM. For an in-depth discussion on how to make Mexican public workforce management more strategic based on the experience of other OECD countries see OECD (2010c; 2011d).

56. Spain is considered as a quasi-federal country (OECD, 2013f).

57. Brazil and the Russian Federation are also federal countries but non OECD member countries.

58. Cabrero and Arellano (2011) cited in Alarcón (2012).

59. This is a problem found in countries such as Colombia where universities conduct the recruitment process to enter the public service.

60. For further discussion and information see: OECD (2011e) and Huerta Melchor (2013).

61. For further information see OECD (forthcoming).

62. Some teaching and research institutions are: the National Autonomous University of Mexico (UNAM), El Colegio de Mexico (COLMEX), the Ibero-American University (UI), the Autonomous University of Puebla (BUAP), the Autonomous University of Aguascalientes (UAA), the Metropolitan Autonomous University (UAM), and the Autonomous University of Ciudad Juárez (UACJ).

63. For an in-depth discussion see: Lopez-Claros (2014).

64. For further information see: OECD (2005d).

65. For further information see: OECD (2010i).

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Chapter 5

The potential contribution of INFONAVIT in resolving Mexico's pension shortfall*

This chapter discusses the ways in which INFONAVIT can help to resolve Mexico's pension challenge, proposing strategies to strengthen the institute's financial position and improve outcomes for affiliates in light of proposed reforms to the Social Security Law. The chapter: i) *assesses the causes of inadequate retirement income in Mexico and proposes possible avenues for future reform;* ii) *reviews the financial history of INFONAVIT, focusing on the institute's tendency to prioritise housing finance functions over pensions; and* iii) *examines the potential impacts of the pending changes to the Social Security Law, focusing on how INFONAVIT might position itself in a new landscape for housing finance, unemployment insurance and pensions income.*

* The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Retirement income: A long-term challenge for Mexico

Mexico faces a long-term challenge in assuring that its citizens will have adequate income during their retirement. The present system of individual defined contribution (DC) pension accounts[1] that was introduced in 1997 represents a clear improvement over the preceding unfunded system, which was fiscally unsustainable and vulnerable to political interference. Nevertheless, the present system will leave most Mexicans with insufficient resources for retirement. The expected shortfall stems mainly from three sources:

1. Dependence on a single "pillar". While many countries have several "pillars" (such as government pensions, occupational pensions and individual pensions), Mexico relies very heavily on a system of individual DC accounts for those in the formal economy.

2. Low levels of participation. Most workers remain outside the formal economy, and many shift back and forth between the formal and informal sectors.[2] Moreover, many workers in the formal sector do not contribute regularly enough to qualify for any pension other than the minimal pension designed to avoid extreme poverty.

3. Low levels of mandatory contributions. Even those who qualify for a pension will receive comparatively low benefits because the levels of mandatory contributions (only slightly more than 6.275% combined contributions of employers and workers) are insufficient to generate enough savings in an individual account to produce adequate flows of retirement income. This level of contribution is low in comparison to other countries using individual accounts. To a lesser degree, improved net returns on investments could also help augment pension income.

4. Underdeveloped private and voluntary pension schemes. Participation in private pensions remains low relative to other OECD countries. Meanwhile, participation in voluntary schemes (i.e. contributions above that which is legally required) has been disappointing.

The inadequacy of pension benefits under the present system will not be evident immediately. Workers who joined the system before the present system was introduced in 1997 have the option of receiving the same benefits as they would have had under the previous unfunded defined benefit (DB)[3] system, which are considerably more generous. However, after 2035 as the number of workers who depend entirely on the post-1997 retirement scheme increases, the shortfall will become increasingly evident. While there is still time to act, the longer that adjustment is postponed the more painful it will be.

In the medium to long term, additional efforts will be required to encourage broader participation in the formal economy and otherwise to increase individual pension savings. One crucial part of the effort to build a robust pension regime will be to bring the issue of the looming shortfall in pension revenues to the attention of the general public and the legislative authorities. Simultaneously, the various public and private institutions that are active in pensions – INFONAVIT included – will have to educate prospective pensioners about the need to save, when possible, a higher percentage of their disposable income for retirement while broadening the range of investment techniques and products for individual savers in order to help enhance pension income.

In this context, while INFONAVIT cannot resolve the country's pension problem by itself, it is clearly well positioned to improve workers' prospects for retirement income. Most importantly, INFONAVIT has an established relationship with formal-sector workers through a mandatory contribution that is held in individual accounts that can be used to supplement pension income. Sums in that account are equivalent to some 33% of funds in dedicated retirement accounts (CONSAR, 2014d; INFONAVIT, 2014).[4] INFONAVIT also has a mandate to assist workers to manage these funds to enhance future pension income. INFONAVIT (2013b) reports that in mid-2013, the institute accounted for more than 20% of the market for complementary retirement funds in Mexico. Moreover, Article 40 of the INFONAVIT Law states that the funds from the housing sub-account (*Subcuenta de Vivienda*, SCV) that were not used for housing will be automatically transferred to the administrator of the pension fund of the worker.

In September 2013 the Mexican President put forth a detailed proposal for major changes to the Social Security Law, which would imply a significant realignment of the functions of INFONAVIT (Presidential Statement on Social Security Reforms, 2013; CONSAR, 2013c). In early 2014, the House of Deputies of the Congress approved several changes in relevant laws based upon the proposals of the President. The proposal is now before the Senate (Presidential Statement on Reforms, 2013; Cámara de Diputados del H. Congreso de la Unión, 2014). The proposed changes include: *i)* the introduction of a system of unemployment insurance and a "universal pension" for those who fail to qualify for a pension under the system of individual accounts; *ii)* measures to increase competition among suppliers of pension services; and *iii)* additional provisions that will significantly affect the role of INFONAVIT in providing pensions while giving the institute new functions in the country's unemployment insurance regime. However, this legislation essentially leaves the existing pension regime intact and is not conceived as a comprehensive reform of the pension system *per se*; that remaining fundamental challenge will have to be addressed at a later time. Nevertheless, INFONAVIT is positioned to be one of the main institutions that can play a key role in helping to address the country's pension challenge.

This chapter discusses the ways in which INFONAVIT can help to resolve the country's pension predicament, proposing strategies to strengthen the institute's financial position and improve outcomes for affiliates in light of the proposed reforms to the Social Security Law. The first section assesses Mexico's pension system and the role of INFONAVIT therein, discussing the causes of inadequate retirement income in Mexico and proposing plausible avenues for future reforms. The second section reviews the financial history of INFONAVIT, focusing on how the institute, owing to its initial mission of providing low-cost housing finance has tended to assign a higher priority to its housing finance functions than to its pensions function, with important repercussions for affiliates' retirement income. The final section considers the potential impacts of pending changes in the Social Security Law currently under review in the Mexican Senate: what are the possible repercussions for housing finance, unemployment insurance and pensioners' income? How might INFONAVIT continue to improve as both a provider of housing finance and, under the proposed legislation, an asset management institution to ensure better outcomes for its affiliates?

The Mexican pension system, and INFONAVIT's role therein

INFONAVIT is the largest housing finance institution that functions under the broader framework of the Mexican Institute for Social Security (*Instituto Mexicano del Seguro Social*, IMSS), with the ancillary function of providing supplementary retirement

income. The IMSS is responsible for social protection policies related to all formal private-sector workers (Sales-Sarrapy et al., 1998; Sandoval, 2004).[5] The IMSS/INFONAVIT system is by far the system with the largest coverage of housing, pensions and other social benefits. It is estimated that all contributory pension schemes now cover less than 40% of the economically active population, of which 33% is covered by the IMSS. There are other schemes for other categories of formal workers. The second-largest pension scheme, the State's Employees' Social Security and Social Services Institute (*Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado*, ISSSTE), covers 5% of the economically active population. The ISSSTE provides coverage to federal civil servants and is a DC scheme similar to that of the IMSS but with higher contribution rates. There are also the state government pension systems, those of public universities and state-owned companies including PEMEX (Mexican Petroleums), which together cover 2% of the economically active population; most are DB schemes (Alonso et al., 2014).

At the same time, roughly 60% of the labour force is in the informal sector (Chapter 1) and therefore has no coverage from any social security institution. However, informal workers can obtain limited health coverage from *Seguro Popular*. This chapter, which focuses on the role of INFONAVIT in pensions, will emphasise workers participating in the IMSS/INFONAVIT scheme, but much of the analysis is relevant for the entire pension system. A brief history of the development of the Mexican pension system is summarised in Box 5.1.

Box 5.1. **Historical development of the Mexican pension system**

The programmes undertaken by the IMSS are mainly funded by contributions from employers and/or workers, but some require supplemental funding from government (see table below). In all, contributions from employers total more than 30% of the worker's wages, while the workers contribute about 2.9% of their wages. Monthly social security contributions paid by the employer are capped at MXN 4 070 (USD 313) for employees earning an amount equivalent to at least 25 monthly minimum wages in Mexico City (OECD, 2014). Overall, social security contributions represent a rather high share of wage expenses for employers and undoubtedly constitute a major inducement for firms and workers to remain in the informal sector.

The initial structure of the IMSS pension system, which was inaugurated at the time of the social security reform in 1943, proved to be inadequate in the decades that followed. The system originally provided defined benefit (DB) pensions based upon the final years five years of earnings. Workers were required to have 500 weeks of employment to qualify for a pension. Until the 1990s, the pension system functioned on a pay-as-you-go (PAYG) basis. During its early years of operation, the pension plan ran large surpluses since large amounts of contributions flowed in while outlays for pensions were modest. In that period, revenues from pension contributions were used to cross-subsidise other programmes, such as health and maternity, disability, workers' compensation, life insurance and severance pay. However, over the years, actual pension income paid to retirees showed wide variability as governments modified provisions in the law on an *ad hoc* basis in response to changes in the political and social environment. Distortions grew more serious with accelerating inflation in the 1980s. In later years, demographic trends further destabilised the system as the rise in workers contributing to the system slowed while the numbers eligible for pensions began to rise. By the 1990s, it was clear that under existing rules the imbalance between official commitments for pensions and earmarked revenues would lead to an exploding fiscal deficit (see Grandolini and Cerda, 1998; Sales-Salapy et al., 1998).

Box 5.1. **Historical development of the Mexican pension system** (*cont.*)

Contributions to social security for private sector workers

Social security insurance	Contribution base	Contribution rate (% of salary)			
		Employer	Employee	Federal government	Total
Risks at work	Wage contribution (*salario base de cotización*,SBC)	1.868[2]			1.868
Sickness, medical and maternity insurance					
Insurance					
Benefits in goods					
Fixed share	SMGDF[2]	20.400		14.92[4]	35.200
Additional share	Total of the SBC minus 3 times SMGDF. The following percentages are applied[5] to the result:	1.100	0.400		1.500
Benefits in cash	Wage contribution (*salario base de cotización*,SBC)	0.700	0.250	0.050	1.000
Retirees	Wage contribution (*salario base de cotización*,SBC)	1.050	0.375	0.075	1.500
Death and disability	Wage contribution (*salario base de cotización*,SBC)	1.750	0.625	0.125[7]	2.500
Retirement and old age[5]	Wage contribution (*salario base de cotización*,SBC)	5.150	1.125	0.225[8]	6.500
Retirement	Wage contribution (*salario base de cotización*,SBC)	2.000			2.000
Old age	Wage contribution (*salario base de cotización*,SBC)	3.150	1.125	0.225	4.500
Workers' compensation	1-15 SMGDF			6.530[9]	6.530
Day care	Wage contribution (*salario base de cotización*,SBC)	1.000			1.000
Total		38.1682	3.9	22.1564	64.098

Wage contribution	Worker's compensation
1 minimum wage	MXN 3.87077
1.01 to 4 minimum wage	MXN 3.70949
4.01 to 7 minimum wage	MXN 3.54820
7.01 to 10 minimum wage	MXN 3.38692
10.01 to 15.0 minimum wage	MXN 3.22564

Notes: 1. The premium of this insurance is based on the accident rate of each firm. The reported percentage is based on December 2012 data from the Risks at Work Annual Information System (*Sistema de Información Básica Anual de Riesgos de Trabajo*). 2. SMGDF: Minimum wage established for Mexico City (*Salario mínimo general del Distrito Federal*). For 2014 this figure is MXN 67.29/day (about USD 5). The contribution rate of the employer is established in the law at 13.9% (Art. 106, section I) and it will increase to 20.4% of a SMGDF. 3. The Social Security Law establishes a daily payment by insured person which will be updated on a quarterly basis. In December 2012 the rate was MXN 9.30, which is 14.92% of the SMGDF. 4. The percentage established by law is 6% for the employer and 2% for the employee (Art 106, section II); it will be reduced to 1.1% and 0.4%, respectively. 5. On 1 July 1997 the cap for the Death and Disability Insurance and Old Age Insurance was 15 times the SMGDF. 6. This refers to 7.143% of the employer's contribution (7.143% x 1.75% = 0.125%). 7. This refers to 7.143% of the employer's contribution (7.143% x 3.15% = 0.225%). 8. Article 168, section IV of the Social Security Law, which was amended on 26 May 2009, determines a daily payment for employees who earn up to 15 times the SMGDF. This payment depends on the wage of the worker and is updated on a quarterly basis in accordance to inflation. In December 2012 the average payment was MXN 4.07, equal to 6.53% of the SMGDF.

A first attempt to place the funding of retirement income on a sounder footing occurred with the passage of the revised Social Security Law in 1992. This law, which created a Retirement Savings System (*Sistema de Ahorro para el Retiro*, SAR) for the first time included funded individual accounts that were intended to supplement the existing system of DB public pensions. This law mandated a 2% contribution from employers and also opened the possibility to use part of the 5% employer contribution to INFONAVIT for pensions. However, the programme generally failed to attract sufficient amounts into the accounts and also generated little interest in the private banks which were offered the possibility of managing investment accounts. Difficulties with administration compounded the problem, with many workers having multiple accounts and many reporting difficulties in determining the amounts of holdings in their accounts (Sandoval, 2004).

As it became evident that these partial modifications were not sufficient to correct the deficiencies of the previous system, an entirely new system was approved by the Congress in December 1995 and took effect in 1997.

From defined benefits to defined contributions

Between 1943 and 1997 Mexico had a system of DB pension, but a major reform was implemented in 1997. This system, which still operates with some adjustments, is one of defined contributions (DC)[6] with individual accounts to which workers and employers contribute with some subsidies from the government for low-wage workers. Mexico's transition from a DB to a DC scheme is mirrored to some extent in other OECD countries (Box 5.2). In addition to its fully funded DC pension scheme, the government established a system of minimum pensions funded by general revenues. For workers with at least 9.6 years of work, the government provides a minimum pension. Finally, there is a programme under which all persons over the age of 65 who receive less than MXN 1 092 per month from recognised pension programmes are eligible for a monthly payment of MXN 560.[7]

Box 5.2. **The Mexican pension system in context: Evolution of pension schemes across the OECD, Latin America and emerging economies**

The experience of OECD countries varies widely with respect to pensions. In North America and Europe, most countries have one or more "pillars", with retirees receiving income from government, occupational and personal pension plans. The governmental pillar is typically as pay-as-you-go (PAYG) system. In many European countries, the pension system is heavily tilted toward government PAYG pensions, which has created serious fiscal imbalances in several countries. In those cases, where occupational pensions are significant (notably the United Kingdom and the United States), there has been a clear shift away from DB to DC plans. This is mainly because the unfunded pension liabilities have represented a serious vulnerability to corporations. This shift is not driven by government policy, but by the decisions of companies to limit their exposure to pensions. In a major exception, the Netherlands still has a functioning DB occupational pension system. Most countries that have undertaken wholesale reforms in the pension systems have opted for DC schemes. In Sweden, for instance, some possibilities to invest official pensions in individual accounts have been introduced.

The most sweeping changes have occurred in Latin America and in transition economies. Beginning with Chile's pension reform of 1981, ten Latin American countries have reformed their pension regimes by introducing new systems based on individual DC plans. These reforms usually occurred because the existing system committed the country to high pension benefits that could not be supported with government revenue. Some of these countries (e.g. Argentina) have reversed their decisions. The other major wave of reforms is in transition economies, where many countries have introduced systems of individual accounts. This reform has tended to accompany the transition from centrally planned to market economies.

The Congress is currently considering substantial changes in the Social Security Law, including a provision for universal pensions, which would guarantee every individual who does not qualify for any other pension a payment equal to the minimum level of subsistence. Under the post-1997 system of individual DC accounts, the IMSS collects contributions from employers and workers and places them in individual accounts that are administered by specialised investment management companies known as AFOREs (*Administradores de Fondos para el Retiro*), which in early 2014 numbered 11 (CONSAR, 2014e). Each AFORE operates one or more pension investment vehicles, known as a SIEFORE (*Sociedad de Inversión Especializa de Fondos para el Retiro*), a fund that manages a collectively owned portfolio on behalf of beneficiaries under an explicit investment mandate. The AFOREs are regulated by the National Commission of Retirement Savings (*Comisión Nacional del Sistema de Ahorro para el Retiro*, CONSAR), an independent regulatory body (Box 5.3).

The AFOREs are responsible for the administration of individual accounts, each of which has four sub-accounts:

1. The retirement sub-account (*Subcuenta de Retiro, Cesantía en Edad Avanzada y Vejez*, RCV), holds and invests the funds from obligatory contributions of workers and employers. In addition to the employer and worker contributions, the government makes a contribution known as the social quota (*cuota social*), which is equivalent to 5.5% of the minimum wage in the Federal District up to a ceiling of three times the minimum wage. This contribution is very important for low-wage workers. Since the total employer and employee contributions amount to 6.25% of earnings, the addition of the 5.5% government contribution almost doubles the funds of a worker earning the minimum wage, but since the amount of the contribution is fixed in peso terms, its importance diminishes as earnings rise. The funds accumulated in the RCV account, including all earnings from investment, are available as retirement income when the worker reaches retirement age or otherwise qualifies (e.g. by disability). A worker must have at least 1 250 weeks (about 24 years) of creditable work and be 65 years of age in order to qualify for a pension. There are possibilities for early retirement and to work beyond 65. In the cases where the retiree receives a minimum DB pension due to insufficient contributions, the funds in the RCV are returned to the Treasury.

   - The voluntary multi-purpose sub-account contains contributions by workers or employers in excess of the minimum social contributions. These funds are not limited to retirement savings and may be used for other personal projects. Funds may be withdrawn without limit, two months after the first deposit or last withdrawal.

   - The complementary retirement sub-account contains contributions by workers or employers in excess of the minimum social contributions, which are usable for retirement purposes only. Withdrawals from this account can only be made by the worker once s/he has reached the age of 65, or in the event of disability or incapacity for remunerated work, as provided by law. The funds may be withdrawn either as a lump sum or may be used as a complement for a pension in the form of an annuity. There are tax incentives to participate in this scheme. Although the law permits employers and workers to make voluntary contributions, the actual amounts of such contributions, both for general purposes (see previous bullet) and for retirement have been minimal. At the end of March 2014, CONSAR (n.d.) indicates that the amount in such accounts totalled less than 1% of the amount in mandatory retirement accounts (RCVs).

   - The SCV represents the obligatory fiscal contributions to INFONAVIT by employers on behalf of their workers. The funds are administered directly by INFONAVIT, which remunerates balances in these accounts from its operating surplus. If the worker obtains a loan from INFONAVIT, the funds in the sub-account are first used as a down payment on the mortgage loans. Any funds that remain in the account are used to pay the debt. However, if the worker does not receive a loan from INFONAVIT or loans have been repaid, funds are transferred to the AFOREs upon retirement, thereby increasing the amount available for retirement income. The funds in the INFONAVIT SCV are not used in calculating other pension benefits, and balances in the

retirement account do not affect pension benefits from other sources. Therefore, the funds in the INFONAVIT account represent a substantial potential increase in retirement income.

Box 5.3. **CONSAR: Regulator and supervisor of retirement savings in Mexico**

The National Commission for the Pension System (CONSAR), the regulator and supervisor of the Retirement Savings System (SAR), is the regulatory and supervisory agency decentralised from the Ministry of Finance and Public Credit that operates with technical autonomy. The President of CONSAR is appointed directly by the Secretary of Finance, and the governing board of the commission is comprised of representatives of the government (Secretary and Undersecretary of Finance, the President of CONSAR, other government financial regulators and labour authorities), private-sector organisations, workers' unions and the social security institutes. Each one of these constituencies appoints its representatives to the board.

The main function of CONSAR is to regulate, supervise and sanction the AFORES (private financial institutions in charge of the administration and investment of retirement savings). CONSAR also undertakes other activities in the interest of developing a more mature savings system, such as promoting investor access to financial services, individuals' education as well as the raising the population's awareness on retirement issues. CONSAR sets standards for operational efficiency within the savings systems, with respect to registration of workers and for accuracy of individual accounts and transactions. CONSAR also monitors the AFOREs to ensure that they maintain adequate in-house risk management systems and procedures and adhere to appropriate norms of corporate governance.

Source: CONSAR (n.d.), "Composición de las inversions", Comisión Nacional del Sistema de Ahorro para el Retiro, Mexico City, available at: www.consar.gob.mx/SeriesTiempo/CuadroInicial.aspx?md=21.

The SIEFOREs invest in capital markets in order to provide competitive returns to their beneficiaries under investment rules set by CONSAR. Policies governing the investment of funds by AFOREs have been rather risk averse. At the outset of the system in 1997, each AFORE was only authorised to manage a single SIEFORE, while regulations essentially restricted their portfolios to fixed-income government instruments. Over time policies governing investment by the AFOREs were eased and the range of investment options was broadened (Table 5.1), and CONSAR has been moving to more flexible forms of regulation, including the adoption of value-at-risk schemes. Yet even after the recent liberalisation of investment policy, rules governing AFORE investment confines investment to a rather narrow range of assets with high mandatory concentrations in fixed income and government-backed securities (CONSAR).

Asset allocations managed by the AFOREs are, as in other Latin American counties, considerably more risk averse than in most other OECD countries (Figure 5.1), which can be explained by several factors. First, since in some countries (e.g. Mexico and Chile) the DC individual account is the only source of retirement income, it cannot be allowed to assume as much risk as a DC scheme in a multi-pillar system. Thus, in the United States workers receive a DB pension from social security which provides a basic floor on income; DC plans (either from employers or from the individual workers) provide supplementary income and thus have higher risk tolerance. Second, yields on government bonds in Latin America remain above the world average and thus pension plans can achieve higher yields with lower risk. Third, markets in equities and alternative assets are less developed and less liquid than in higher income OECD countries.

Table 5.1. **Investment instruments authorised by CONSAR have been gradually liberalised, 1997-2003**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Debt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Currencies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Equities	×	×	×	×	×	×	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓
CKDs and FIBRAS*	×	×	×	×	×	×	×	×	×	×	✓	✓	✓	✓	✓	✓	✓
Securitised	×	×	×	×	×	×	×	×	×	×	✓	✓	✓	✓	✓	✓	✓
Goods	×	×	×	×	×	×	×	×	×	×	×	×	×	×	✓	✓	✓
Swaps	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	✓
REITs**	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	✓

Notes: (*) Structured equity securities (CKDs) and real estate investment trusts (FIBRAS); (**) Real estate investment trusts (REITs).

Source: Adapted from CONSAR.

Limited private pension schemes

In addition to the pension system that operates under public systems (e.g. the IMSS and its counterparts for certain public sector bodies), there are a substantial number of plans sponsored by private companies that operate independently, yet participation remains low. Persons affiliated to these schemes are usually in the private formal sector and thus are also affiliated with the IMSS programmes. Any pension revenue from these plans supplements pension revenues from other sources. The Social Security Law provides some incentives for private companies to open these plans. Nevertheless, participation in private pension schemes remains fairly low: CONSAR reports that as of 2013 there were 1 766 companies that had such plans with more than 1.3 million members, approximately 2.6% of the 50 million workers with retirement accounts.[8]

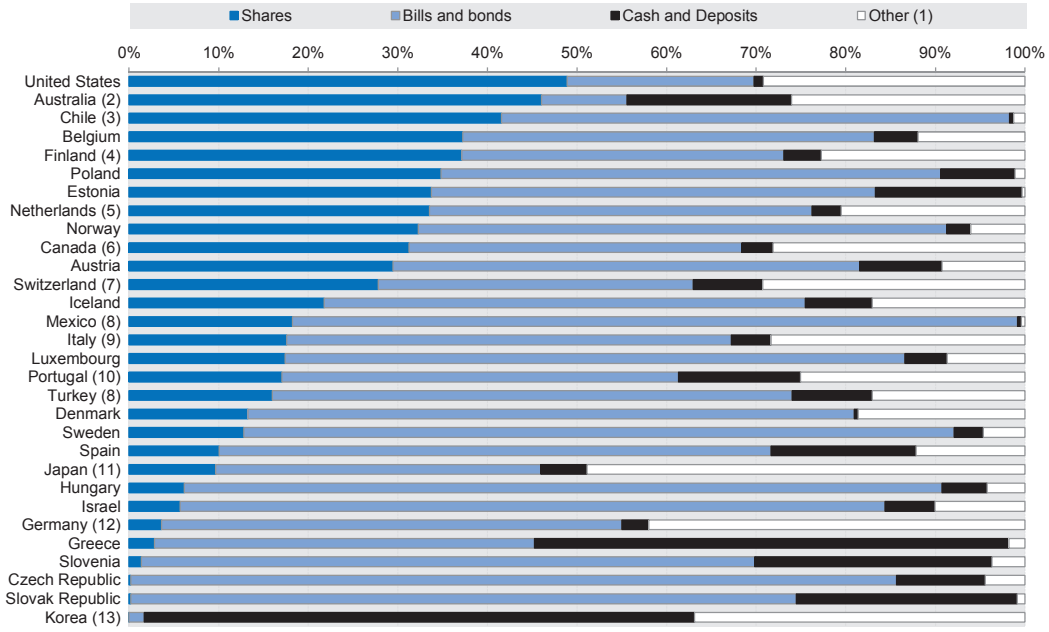
Moreover, more than two-thirds of these plans have been established in the past ten years and, until 2006, were not regulated. Since 2006, CONSAR has assumed responsibility for their supervision. About 53% of private pension plans are DB, 34% are DC and the remainder are mixed. In most plans, both the employer and employee contribute, but in about 40% only the employer contributes while in a small number only the employee does. In general, relatively high-income workers (i.e. those earning at least 10 TMW) between 30-50 years of age have been the largest beneficiaries of these plans. The funds with the largest amounts of assets are sponsored by larger companies and are designed to encourage workers to remain with their employer. It typically requires 15 years to qualify for a pension, but in most cases, an employee switching jobs can take some of the funds upon leaving. These funds are freer in the investment of their portfolios than funds operated by the AFOREs, and, according to most analysts, their operating expenses are significantly lower.

Pension reform and the inadequacy of retirement income in Mexico

The reforms since the mid-1990s have completely transformed the Mexican pension regime, shifting the locus of responsibility for pension income from the government to the individual workers inasmuch as their retirement income will depend upon their decisions concerning savings and investment over their working lives. Previously, any worker who contributed for 500 weeks (approximately 10 years) was assured a pension based upon the last 5 years of creditable earnings. There was certain unpredictability in the system, especially since promises tended to generate rising fiscal deficits, and the government often decided to compensate pensioners for inflation in unpredictable ways.

Figure 5.1. **Pension fund asset allocation for selected investment categories in selected OECD countries, 2012**

As a percentage of total investment



Notes: The *GPS database* provides information about investments in collective investment schemes (CIS) and the look-through of their holdings in cash and deposits, bills and bonds, shares and other. When the look-through analysis was not provided by the countries, estimates were made under the assumption that mutual funds' investment allocation in cash and deposits, bills and bonds, shares and other investments was the same as pension funds' direct investments in these categories. Therefore, asset allocation data in this figure include both direct investment in shares, bills and bonds and indirect investment through CIS investment vehicles. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

1. The "other" category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (i.e. not invested in cash, bills and bonds, shares or land and buildings) and other investments. 2. Source: Australian Bureau of Statistics. The high value for the "other" category is driven mainly by net equity of pension life office reserves (14% of total investment). 3. Other investments include market or fair value of derivatives held. 4. The high value for the "other" category is driven mainly by land and buildings (14% of total investment). 5. The high value for the "other" category is driven mainly by other investments of mutual funds (7% of total investment). 6. The high value for the "other" category is driven mainly by other investments of mutual funds (15% of total investment). 7. The high value for the "other" category is driven mainly by land and buildings (direct and indirect investment in this category accounts for 17% of total investment). 8. Data refer to personal pension plans only. 9. The high value for the "other" category is driven mainly by unallocated insurance contracts (24% of total investment). 10. Other investments were excluded in the calculation of asset calculation because they are reported as negative in 2012. The high value for the "other" category is driven mainly by land and buildings (direct and indirect investment in this category accounts for 19% of total investment). 11. Source: Bank of Japan. The high value for the "other" category is driven mainly by accounts payable and receivable (22% of total investment) and outward investments in securities (21% of total investment). 12. The high value for the "other" category is driven mainly by loans (18% of total investment) and other investments of mutual funds (17% of total investment). 13. The high value for the "other" category is driven mainly by unallocated insurance contracts (32% of total investment).

Source: OECD (2013b), "OECD pension markets in focus 2013", OECD, Paris, available at: www.oecd.org/finance/PensionMarketsInFocus2013.pdf, based on data from *OECD Pensions Statistics*, http://dx.doi.org/10.1787/pension-data-en.

For the most part, these reforms have made the system more financially sound. Unfunded pension liabilities no longer represent an unsustainable claim on future fiscal resources, and the vulnerability of the system to unpredictable political interference and the political pressures on governments to make such adjustments has diminished. Moreover, individuals now potentially have greater predictability and control over their future retirement income and somewhat improved prospects for increasing their retirement savings by adjusting their savings behaviour and/or their investments of pension savings. Indeed, the saving patterns of the public have changed appreciably. Between 1993 (immediately prior to the reform) and the end of 2013, financial savings (i.e. savings in the form of assets such as bank accounts, investments and insurance policies) rose from 32.6% to 68.2% of GDP (CONSAR, 2014c). Assets under management in the AFORE system have grown from 0% to 14.52% of GDP in the last 20 years. Meanwhile, the accumulation of assets in individual accounts and the use of professional investment techniques by the AFOREs have helped to promote the development of the Mexican capital market, making more funds available to finance productive investment.

Despite these undeniable achievements, the system still exhibits some stark shortcomings. Most seriously, as it is now structured the pension system will not generate sufficient retirement income for those in the system. This conclusion is widely accepted by analysts in Mexico and among international pension experts,[9] and the challenges are especially salient for the IMSS affiliates.[10]

Multiple indicators point to the inadequacy of retirement income for Mexicans

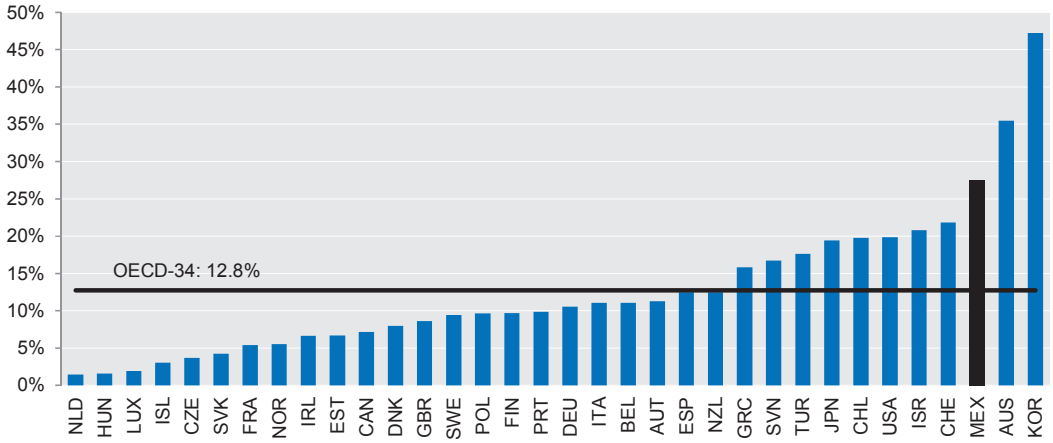
Nearly all indicators – notably a high incidence of poverty among people over 65, limited sources of income for those over 65 and low projected replacement rates for participants in Mexico's pension system relative to other OECD pension systems – suggest that Mexico's system has serious shortcomings with respect to its capacity to provide adequate income.

The incidence of poverty among older citizens is very high in Mexico relative to other OECD countries. Only two countries in the OECD have higher rates of poverty among older citizens than Mexico (Australia and Korea), and the Mexican rate was more than twice the OECD average (Figure 5.2). In fact, estimates of poverty among those over 65 by Mexican sources place the share of poor among the elderly somewhat higher, in the range of 45% (CONSAR, 2013c). A separate measure – the income of persons 65 and over as a percentage of total income – results in a more favourable position for Mexico. By this measure, Mexicans over 65 have an average income equal to more than 90% of the average of all Mexicans, one of the highest rates in OECD countries (Figure 5.3). However, further examination of the data reveals that the main reason that older Mexicans maintain a high income compared to younger Mexicans is that Mexicans continue to work on average longer than those in other OECD countries (OECD, 2013a).

Indeed, two-thirds of the income for Mexicans over 65 comes from work (either formal employment or self-employment), rather than pensions savings. Comparisons with other OECD countries are instructive. At one extreme, in many European countries, most people of that age are out of the labour force, with the great majority of their income derived from public pensions (i.e. transfers) (Figure 5.4). This situation of excessively early retirement has been criticised as wasteful of human resources and a strain on public budgets. A somewhat intermediate position can be found in other countries such as Australia, Canada and the United States, where individuals tend to work longer and to

Figure 5.2. **Poverty rates among people over 65 in OECD countries**

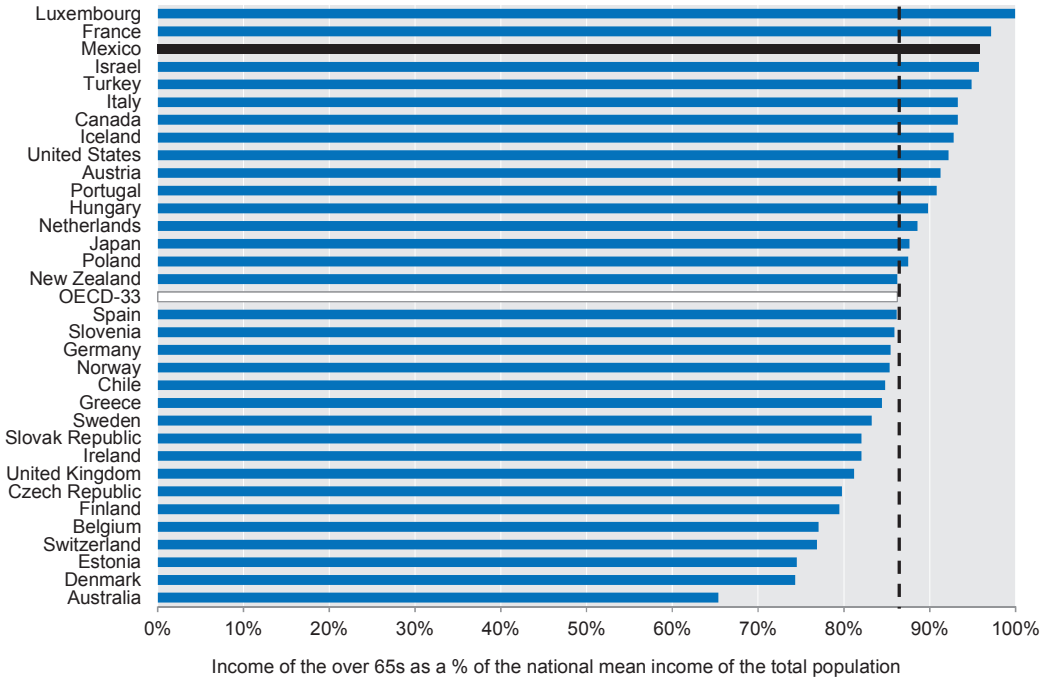
Percentage of people over 65 with incomes below 50% of the median equalised income



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013a), *Pensions at a Glance: OECD and G20 Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pension_glance-2013-en, based on *OECD Income Distribution Database*, www.oecd.org/social/income-distribution-database.htm.

Figure 5.3. **Relative incomes of people over 65, late 2000s**

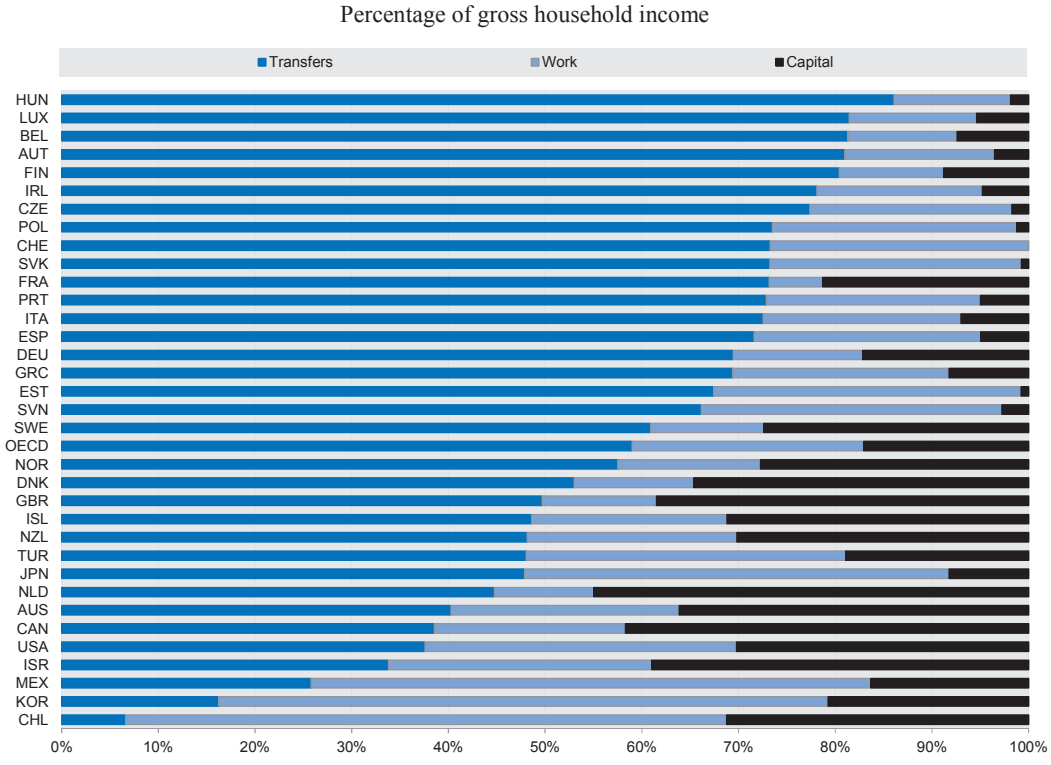


Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013a), *Pensions at a Glance 2013: OECD and G20 Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pension_glance-2013-en.

depend on income from a more varied mix of work, public pensions and capital (including DC pension schemes). To some degree, this also reflects a multi-pillar pension system (to be discussed further in the next section). The closest approximation to the Mexican case would be Chile, but, while similar, Chile's system has been in operation longer and has higher contribution rates. Nevertheless, the Chilean system still leaves a large number of persons over 65 without adequate income from pensions and thus they are required to continue working.

Figure 5.4. **Sources of incomes of people over 65, late 2000s**



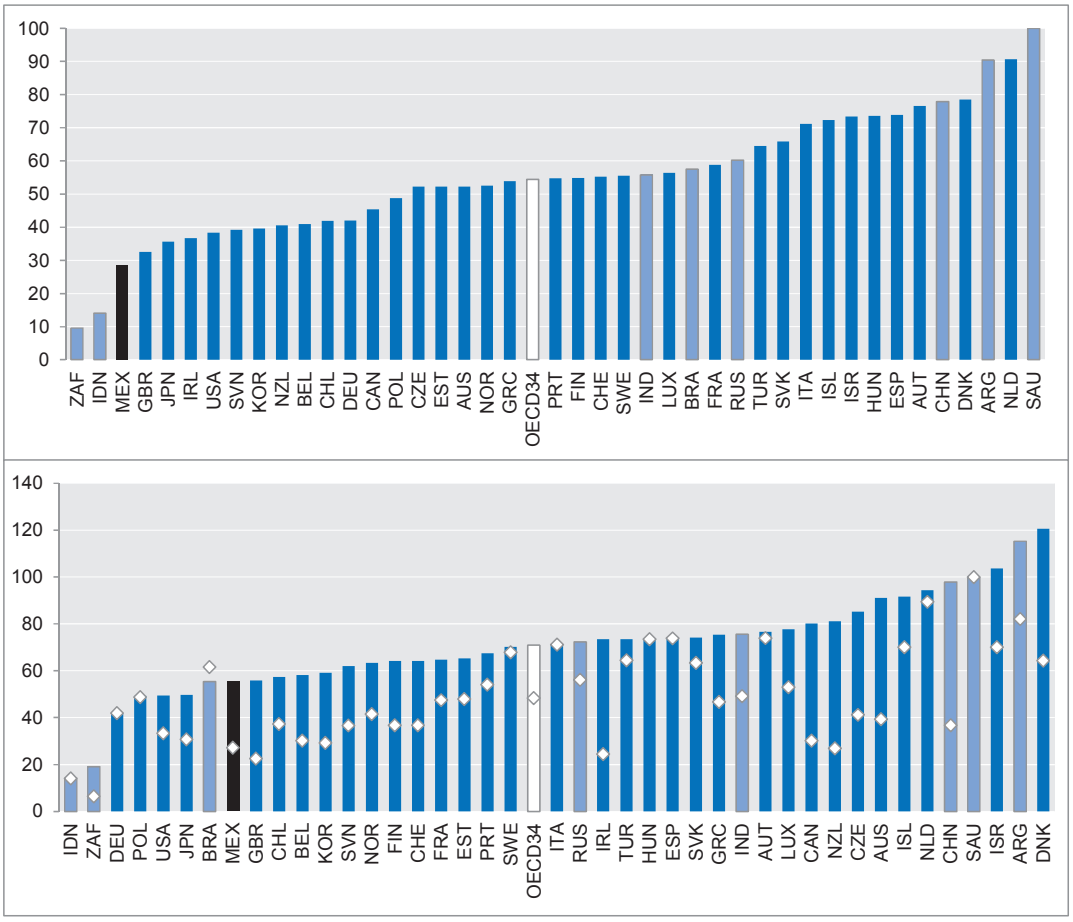
Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013a), *Pensions at a Glance 2013: OECD and G20 Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pension_glance-2013-en.

OECD projects that most participants in Mexico's present pension system will upon retirement receive a much smaller share of their pre-retirement earnings than is the case in other OECD countries. It is expected that the replacement rate – defined by the OECD as pension entitlement as a percentage of pre-retirement earnings – of the average Mexican participant in the country's present system of DC individual accounts will be only 28%, compared to an average 55% in OECD countries (Figure 5.5).[11] While returns have been higher than this level for accounts in the AFOREs, in the long run, rates of return on investment in Mexico are likely to converge toward the global average. Replacement rates for low earners compare more favourably than those of average and high earners.

Figure 5.5. **Gross pension replacement rates**

Average earners (top); low and high earners (bottom)



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013a), *Pensions at a Glance 2013: OECD and G20 Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pension_glance-2013-en.

The current capacity of the pension system to provide retirement income contrasts sharply with the expectations of the Mexican public, suggesting a need for: *i)* reform of the pension system; and *ii)* greater financial education to build awareness of the urgency of saving and investing effectively (discussed later in this chapter). In a recent survey (CONSAR, 2012), more than 85% of men and 93% of women indicated that they would like to retire at or before the age of 65, and more than 60% thought that their main source of income in retirement would be their pensions or their savings. Clearly, there is a disconnect between what Mexican workers hope to obtain in terms of retirement income and what the system is now capable of delivering.

Multiple roots of low potential retirement income in Mexico

The problem of low potential retirement income in Mexico stems from several factors: *i)* high dependence upon a system of mandatory DC individual accounts; *ii)* low levels of mandatory contribution; *iii)* low levels of participation in the system, either by

workers who remain entirely in the informal economy, or by workers who do not participate with sufficient regularity to earn an adequate pension; and *iv)* underdeveloped private and voluntary pension schemes.

Heavy reliance on a single "pillar": Mandatory individual accounts

Although the analysis of pension systems has become increasingly complex in recent years,[12] the concept of multiple pillars of pension systems remains valid. The OECD's *Pensions at a Glance* (OECD, 2013a) classifies pension systems as an "adequacy" pillar, an "insurance pillar" and a "voluntary" pillar. In the OECD classification, Mexico has a first "minimum" pension pillar and insurance pillar DC mandatory.

Realistically, in most countries, lower income households tend to under-save and thus are likely to rely heavily on the "adequacy" pillar. Mexico heavily focuses on one "pillar" in the pension system: mandatory individual accounts that are privately managed and officially supervised.[13] However, other things being equal, most analysts would agree that it is desirable for individuals not to rely on a single source of retirement income, but to diversify their sources. Thus, a retired worker might be better off if he/she receives income from a modest government pension, a pension from his/her employer and a personal savings plan than if there were only one source of pension income.

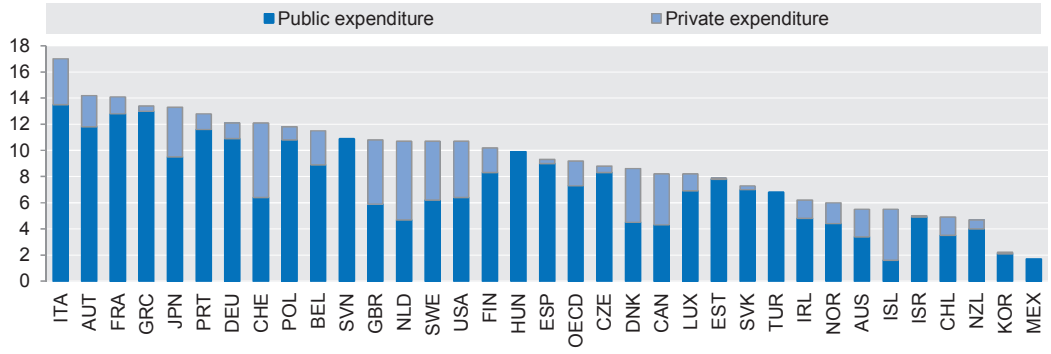
Diversifying retirement income across multiple pillars is important to manage the risks and consequences associated with each pillar. If a system relies heavily on government pension, it is important to balance the pension commitments against the capability of the government to maintain fiscal balance. Thus, a government pension programme that makes excessive promises has the capacity to generate unsustainable fiscal deficits in the long run. This problem was fairly common in Latin America in the past and is central to the fiscal imbalances dogging European OECD countries at present. Conversely, a system of individual accounts shifts the responsibility for providing income to the individual. A poorly designed or poorly operated system can result in individuals having low accumulations of savings in their accounts and/or poor returns on the savings. The problem with all systems is that the weaknesses of poorly designed systems only become apparent after decades. Thus, unsound decisions in an early period become evident decades later, either when: *i)* the unfunded government system becomes fiscally sustainable; or *ii)* retirees in a fully funded system of individual accounts have inadequate retirement income.

Low levels of mandatory contributions

A large part of the shortfall in forecast pension revenue is explained by the fact that Mexico spends far fewer resources than other OECD countries on pensions. Expenditures on pensions from public and private sources amounted to only 1.7% of GDP in Mexico, compared to an OECD average of 9.2% (Figure 5.6). To some degree, this wide discrepancy reflects the lower average age in Mexico than in other OECD countries, but the difference is too large to be explained by this factor alone. Furthermore, demographic trends already observed indicate that the Mexican population will age significantly in coming decades, and the number of elderly poor will thus rise considerably.[14] Moreover, the low capacity of the present system to generate income is partly concealed since virtually no one is collecting benefits under the newer, post-1997 regime at this time. Those who were in the pension system before 1997 can choose to receive benefits under the pre-1997 formula. The number of people who will retire under the previous scheme will continue to increase until the late 2010s. However, after 2035, large numbers of Mexicans will eligible for entitlements only under the new pension regime.

Figure 5.6. **Pension benefits: Public and private expenditure in OECD countries, 2009**

As a percentage of GDP



Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD (2013a), *Pensions at a Glance 2013: OECD and G20 Indicators*, OECD Publishing, Paris, http://dx.doi.org/10.1787/pension_glance-2013-en.

Moreover, the combined rate of contribution from employers and employees of 6.275% in Mexico is one of the lowest in Latin America. As in several other Latin American countries, Mexico has moved from a pay-as-you-go (PAYG) DB pension system to a DC system based on individual accounts. Rates of mandatory contribution in Mexico (6.5%) are considerably lower than those for most other countries that rely mainly on individual accounts: Bolivia, Chile, Colombia, the Dominican Republic, El Salvador and Peru all have rates of contribution of 10% or more (Table 5.2). Countries with low rates of contribution (Costa Rica, Panama and Uruguay) use DC individual account pension schemes to supplement another pillar.

Table 5.2. **Contribution rates for defined contribution pension systems in Latin America**

Country	Contribution rates (Percentage of wages)				Additional DB pension pillar
	Worker	Employer	Government	Total	
Bolivia	10	0		10	
Chile	10	Voluntary		>10	
Colombia	3.85	11.625	a	>15.475	
Costa Rica	1	3.25		4.25	Yes
Dominican Republic	2.87	7.1		9.97	
El Salvador	6.25	4.05		10.3	
Mexico	**1.125**	**5.15**	**a**	**> 6.275**	
Panama	8.5 (b)	4(b)			Yes
Peru	10	–	–	10	
Uruguay	15 (c)	–			Yes

Notes: (a) Fixed sum for low-income workers. (b) Only for monthly salaries higher than 500 balboas (USD 490). (c) Only for monthly salaries higher than 19 805 pesos (USD 947).

Source: Adapted from Krizer, B.E., S.J. Kay and T. Sinha (2011), "Next generation of individual account pension reforms in Latin America", *Social Security Bulletin*, Vol. 71, No. 1.

Low levels of participation in the system, low density of contributions

A low level of participation in the pension system is a problem for workers in the formal and informal sectors. On the one hand, many Mexicans with some history of formal employment and a public retirement account have low contribution density, meaning that they will have made insufficient contributions over their working life to qualify for a minimum pension, or they will ultimately have a low replacement rate. In order to be eligible for a pension, a worker must have 1 250 weeks of creditable employment during his/her working life – requiring a density of contributions of about 50% is needed to qualify for a pension. Yet the average density of contributions of most participants in pension plans was about 40% in 2012 (CONSAR, 2012).[15] Moreover, of the 48 million persons with an account at the IMSS, only 21 million can be characterised as regular contributors[16] (Hoyo Martínez et al., 2014). In the case of informal workers, on the other hand, some 60% of the Mexican labour force works in the informal sector and thus does not contribute to any recognised pension scheme.[17] As a result, comparing average replacement rates for those receiving pensions can give deceptively positive results.

Taken together, the low participation in the formal economy and low density of contribution suggests that most Mexicans will not be able to qualify for a contributory pension of any kind. A 2012 analysis by the Inter-American Development Bank projected that without pension reforms, only 32-38% of the Mexican population aged 65 and older will qualify for a pension in 2050 (Table 5.3) (Bosch et al., 2013).

Table 5.3. **Projected pension coverage rates for pension plans in selected Latin American countries under alternative scenarios**

Country	No change	Under reform scenarios		
		Limited	Basic	Optimistic
Argentina	64	69	73	77
Brazil	66	72	73	73
Chile	41	42	43	43
Colombia	53	57	59	66
Costa Rica	65	66	67	67
Mexico	**32**	**32**	**34**	**38**
Panama	71	74	76	77
Peru	36	38	39	46
Uruguay	52	52	53	53

Source: Bosch, M., Á. Melguizo and C. Pagés (2013), *Better Pensions, Better Jobs: Towards Universal Covergae in Latin America and the Caribbean*, Inter-American Development Bank, Washington, DC, available at: http://publications.iadb.org/bitstream/handle/11319/462/Better_Pensions_Better_Jobs.pdf?sequence=8.

Underdeveloped private and voluntary pension schemes

As discussed previously, an additional problem leading to low prospective rates of replacement is that private and voluntary pensions are not well developed in Mexico. OECD projections of total replacement rates (both public and private pensions) found that other OECD countries with low replacement rates comparable to those of Mexico on mandatory pension schemes (e.g. Ireland and the United Kingdom) show considerable improvement when voluntary private pensions are included. However, in Mexico, pension schemes other than those offered through the official social security institutions are much less significant. As mentioned above, there are only 1 million private pension accounts, compared to 50 million pension accounts with recognised social security institutes.[18]

Possible avenues for pension reform in Mexico

While individuals will have responsibility for assuring the adequacy of their retirement income, the authorities have the responsibility of designing a system that makes it possible for most individuals to take decisions that make it possible to have adequate retirement income. Furthermore, individuals will need to acquire the capability to take informed decisions concerning retirement income. In order to build a system that is able to assume these tasks, significant additional reforms will be needed. None of the reforms to the Social Security Law currently under consideration addresses this issue directly. Although there is no perfect system to which Mexico should aspire – indeed, it would be counterproductive to emulate the European systems of pensions that force workers out of the labour force and to shift the burden of retirement income onto state budgets – the system should enable those who wish to continue to work after 65 to do so without penalties. Moreover, the pension system should also be sufficiently robust to enable those wishing to retire or who are unable to work the possibility to obtain adequate pension income.

Although it is beyond the scope of this chapter to propose a full programme for further reform of the Mexican pension system, reforms might be considered in a broad range of areas. Each of the possible strategies for strengthening the pension regime that are mentioned below – most of which would have to be addressed on a national legislative level – has received lengthy analysis by experts in pensions and other forms of social protection.

Clearly it would be desirable to encourage firms and workers to move into the formal economy. In this connection it should be mentioned that in the past two years the government has introduced significant new programmes aimed at encouraging firms and workers to move into the formal economy.[19] Increased reliance on voluntary and corporate pension plans and a public DB plan funded by tax revenue to increase retirement incomes of all workers[20] (i.e. not only those with incomes too low to qualify for the minimum pension) could contribute to a solution. In any event, it is obvious that the funds currently held in accounts at INFONAVIT have a significant potential to alleviate Mexico's pension shortfall.

It is in this context that INFONAVIT has the potential to enable its members to improve their prospects of obtaining sufficient income for retirement. INFONAVIT already receives sizable amounts of funds from private formal-sector workers and has a legal mandate to assist its members in obtaining adequate income for retirement as well as its constitutional mandate to support housing for lower income groups. Contributions to INFONAVIT as well as to the Retirement Savings System amount to more than 11% of total wages, which places Mexico closer to the average of countries that utilise the system of individual accounts heavily. At the same time, returns on accounts at INFONAVIT have only amounted to an average of 2.85 above the rate of inflation since 2000 (Table 5.6). In that period, real returns on SIEFORs have averaged 6.5%. Clearly, differences in rate of return of this magnitude can fundamentally affect prospects for achieving adequate retirement income.

The recently proposed amendments to the Social Security Law will have significant effects on future activities of INFONAVIT. The remainder of this chapter will focus on the role of INFONAVIT within the broader pension system and propose strategies for INFONAVIT to contribute to the national objective of improving the prospects for adequate retirement income for the IMSS-affiliated formal-sector workers in Mexico.

The financial history of INFONAVIT: Balancing the dual objectives of housing and pension finance

In order to place the experience of INFONAVIT in a global context, it is useful first to specify what kind of an institution INFONAVIT is and secondly to compare it to similar institutions in other countries. According to World Bank terminology, INFONAVIT is a housing provident fund with a dual mission of providing housing finance and pensions; yet as will be seen below, INFONAVIT has historically favoured its housing finance mandate over its pension activities.[21] There are very few countries in which institutions comparable to INFONAVIT are found (Singapore has a similar institute in its Central Provident Fund, but with important differences; Box 5.5). Nevertheless, the World Bank's criticisms of housing provident funds are similar in most countries (Box 5.6). These include:

- Unclear mandates, resulting in a basic conflict between subsidising housing and generating pension income; at some point in their development, many are confronted with a strategic choice between their functions as a pension fund, housing lender and subsidy distributor.
- Conflicts of interest in the governance system, leading to "capture" of institutions by trade unions and housing developers.
- Substandard returns to participants who do not receive housing loans.
- Arbitrary criteria in selecting those who receive loans.

As was discussed in Chapter 2, these distortions reached very serious proportions in INFONAVIT before 2000, but subsequent reforms have led to substantial improvements. At the same time, the suboptimal returns on pension accounts remain an ongoing issue.

Box 5.5. **Singapore's Central Provident Fund**

Singapore is an example where a housing provident fund (HPF) has operated relatively efficiently. However, Singapore has extremely high contribution rates (more than 35%), which are probably not replicable in other areas of the world. Moreover, the Central Provident Fund (CPF) is primarily a pension fund rather than a housing lender, but it allows participants to use some of their retirement savings in accounts for housing. The CPF invests the savings in a diversified portfolio of domestic and international assets. Housing loans account for only a small fraction of the CPF uses of funds, so the CPF can operate in an actuarially sound manner to provide the highest return for its participants, in keeping with international standards for pension fund management.

Most housing finance was traditionally provided by the Housing Development Board (HDB), a government agency that develops, finances and manages housing. The HDB requires a 20% down payment for its loans, and households can borrow from the CPF for the down payment and amortisation of their housing loan. The savings in the CPF are not used for direct subsidised lending, which reduces the possible confusion of roles.

In the past, the HDB provided both market rate and subsidised loans. The Ministry of Finance lends to the HDB at the government borrowing rate and the HDB provides interest rate subsidies to households according to need. As of 2003, the HDB no longer provides market rate loans – households are expected to obtain credit from banks. The HDB continues to provide concessionary interest rate mortgage loans for first-time buyers and current HDB borrowers who are upgrading from smaller units (first-time buyers and married households with children receive priority). The subsidised and market-rate lending sectors are quite separate segments of the business. Borrowers obtaining market-rate credit from a bank can also use their CPF savings for their required down payment.

Source: Chiquier, L. (2009), "Housing provident funds", in: L. Chiquier and M. Lea (eds.), *Housing Finance Policy in Emerging Markets*, The World Bank, Washington, DC.

Box 5.6. The challenges associated with housing provident funds: The World Bank view

The World Bank has been examining housing provident funds (HPF) as part of its analysis of the impact of non-bank financial institutions in emerging market economies. HPFs are found in a small number of countries, specifically Brazil, Jamaica, Mexico, Nigeria, the Philippines, the People's Republic of China and Singapore. HPFs are public institutions into which employers and workers contribute to accounts which are often remunerated at sub-market rates. Many variants exist, notably whether the HPF is a direct lender (Mexico and China) or not (Brazil and Singapore). Although HPFs take deposits and lend, they are not banks and are usually not regulated as such (for capital adequacy, provisioning, etc.). And while they provide retirement benefits, they are neither regulated as a pension fund nor subject to investment limits and performance benchmarks. They typically operate under a specific legal regime, with activities and products set by law.

Funds in HPF accounts may be used for housing loans or to enhance retirement income. The account holders may:

- withdraw accrued savings as a down payment for a housing investment (but they cannot otherwise withdraw their savings before retirement)
- obtain long-term housing mortgage loans, usually at a preferential rate (either directly lent by the HPF or through another lending institution)
- utilise retirement savings to supplement regular retirement schemes
- receive unemployment severance payment (in some cases).

The World Bank has a generally negative assessment of HPFs, noting that they have unclear mandates, governance regimes that leave the institutions vulnerable to "capture" by interests such as unions and real estate developers, and basic conflicts between subsidising housing and generating pension income. Many HPFs share some common features at a certain stage of their development: low-income savers cross-subsidise a smaller number of better-off borrowers; the accrued savings are not sufficiently remunerated for retirement needs; administration costs of HPFs are high and the lending performances poor; their presence may hinder the expansion of other private lenders.

Many of the problems highlighted by the World Bank are similar to those of INFONAVIT before its reform of 2000. When the institution has an adequate record of collections, reflows from the portfolio can be recycled into even more new loans. In some cases (for example, the National Housing Trust in Nigeria), they fail to provide any sizeable funding or to develop a critical mass in housing finance because employees try to avoid paying their contributions when the interest rates on saving are negative in real terms, and the proportion of savers to borrowers is exceptionally low. HPFs often finance some social groups on preferential credit conditions, but not necessarily the lower or informal-income segments. HPFs are then exposed to considerable political pressure and interference from changing governments. Most of the time this is to the detriment of their financial sustainability as lending institutions and pension funds.

Their implied level of cross-subsidisation can be larger than any other state programme of housing subsidies. It depends mainly on three core factors: *i)* the proportion of contributing savers who will never receive a long-term housing loan (but have their savings under-remunerated to the detriment of their future pensions), *ii)* the interest rate gap below market levels for the savings and credits; and *iii)* the mortgage portfolio performance (the less performing, the more inefficient subsidies). This system of cross-subsidies is often socially regressive. The proportion of borrowers to savers is low by arithmetic necessity, given the relatively large amount and long-term nature of housing loans (less for eligible home improvement purposes). This is an issue in the event that the loan interest rates are subsidised by the under-remunerated savings of the contributing members.

Box 5.6. **The challenges associated with housing provident funds: The World Bank view** (*cont.*)

Even in the favourable case of an HPF refocusing its preferential housing lending to the underserved populations, it sacrifices its provident fund function to become an indirect taxation and redistribution vehicle, although: *i)* this role is often not integrated within the national housing policy of the government (given the HPF's legal and corporate governance structure); and *ii)* these subsidies do not appear as on-budget fiscal expenditures, which may be inefficient but sometimes perceived as convenient by some governments exposed to tight fiscal constraints.

Source: Chiquier, L. (2009), "Housing provident funds", in: L. Chiquier and M. Lea (eds.), *Housing Finance Policy in Emerging Markets*, The World Bank, Washington, DC

This section will review how INFONAVIT acquired its double mandate (housing finance and pensions) and, importantly, how its activities in pursuit of its double mandate have tended to favour its housing mandate over its pensions activities. It is clear that INFONAVIT has, throughout its history, interpreted its primary mission as one of providing low-cost housing, with the support of retirement income receiving a growing, but distinctly lesser, priority. To a considerable degree this is understandable since it was explicitly established to provide low-cost housing to workers and the governance structure of the institution was designed to reflect this vision. Moreover, during the institute's first two decades of operation, it was assumed that the pension regime, which was a separate PAYG system, had the main responsibility for retirement income. However, after 1992, INFONAVIT was integrated into the national retirement system (SAR) and thus acquired some theoretical responsibility to assist its account holders (DHs) in attaining adequate retirement income.[22] This is especially important since less than 25% of INFONAVIT's DHs ever receive a housing loan.

INFONAVIT has historically acted like a government-sponsored mortgage bank, making loans for the purchase of housing which remain on its own balance sheet. For the first 30 years of its existence, virtually the only source of funding for these operations was the funds in housing sub-accounts (SCVs). INFONAVIT's funding situation is much more favourable than those of most mortgage banks, since it obtains its funds from mandatory contributions by employers on behalf of their workers. Thus, it had no obligation to pay competitive returns on the SCVs to obtain its funds or to maintain the confidence of those supplying funds, for unlike depositors in a mortgage bank or investors in mortgage bonds, the holders of SCVs have no right to withdraw their funds.

Rapid expansion of housing, with poor management and financial weaknesses in the 1970s and 1980s

As discussed in Chapter 2, in the first two decades of INFONAVIT's existence, in the absence of large-scale real estate developers, the institute focused its activities on promoting housing construction for targeted social groups. To this end, INFONAVIT analysed housing needs in the most important urban centres, bought land, obtained construction authorisations from local governments, designed housing developments and set construction standards while outsourcing actual construction to private developers. Credits were extended mostly to developers who would build housing in line with specifications set by INFONAVIT. When the housing was completed, INFONAVIT selected the workers who would be able to obtain loans to purchase housing (see Fuentes López and Campos, 2007; INFONAVIT, 2013a).

As a result, many distortions and imbalances could be observed during this period:

- Housing of poor quality and in undesirable locations. A significant share of housing developed in the early years of INFONAVIT consisted of multi-story, multi-unit developments, many of which were poorly located and poorly maintained, many suffering from rapid degradation (Fuentes López and Campos, 2007).[23]
- Severe distortions stemming from high inflation. From 1972 to 1987, loans were granted in nominal pesos with a 4% fixed annual interest rate while annual inflation rates for that period exceeded 40%.[24] Thus, loans granted in 1972 had lost nearly all of their real value by 1987. Meanwhile, savings in the SCVs lost nearly all their value (INFONAVIT, 2013a).
- Politicised, non-transparent loan allocation procedures. During the 1970s, INFONAVIT initially selected borrowers to receive housing loans by using computerised random selection procedures to choose borrowers from among applicants who fit a pre-determined socio-economic profile. However, the selection process was soon captured by interest groups, particularly labour unions. The situation of general excess demand for housing in a high-inflation environment meant that INFONAVIT affiliates faced great pressure to accept any house they were offered, leading to widespread dissatisfaction on the part of borrowers. During the 1980s, INFONAVIT increasingly allowed these groups to propose specific development projects and to select workers who eventually entered the selection process (INFONAVIT, 2013a).
- Poor management and conflicting objectives, which further weakened the financial strength of the institution. The institution was overstaffed. Lines of responsibility were unclear. Many employers did not make the legally required payments to the fund and it was difficult for affiliates to determine the amounts in their accounts.
- High rate of non-performing loans (NPLs). Borrowers frequently missed payments. Despite the highly negative real cost of borrowing, more than 40% of total loans were classified as non-performing (more than 180 days overdue) in 2000. The management of INFONAVIT believed that they had an obligation to pursue the institution's social mission and thus hesitated to take action against delinquent borrowers while there were widespread doubts about the courts' capacity to protect creditor rights. Additionally, the unions often protected their members who were behind on payments.

Efforts to correct the most glaring flaws in the system were undertaken at various times. In 1987, the loan denomination system was overhauled. From that year on, INFONAVIT's loans were no longer denominated in nominal pesos but in "multiples of the minimum wage" (TMW), which closely tracks the rate of inflation.[25] When INFONAVIT originated a loan, the nominal value of the loan was divided by the value of the minimum wage and thus converted to TMW. The loan balance was indexed to the minimum wage. Real interest rates ranged from 4% to 9%, with low-income workers receiving the lowest rates.

Expansion of INFONAVIT activity in the 1990s

Despite its weak financial situation in the mid-1990s, INFONAVIT assumed an even more predominant position in the domestic housing market as a major global financial crisis – often known as the "tequila crisis" – hit Mexico in 1995. During the crisis, private banks contracted their mortgage activity (and indeed all lending to the domestic private sector) for several years, until new mortgage origination by private banks virtually ceased between 1997 and 2002 (Carballo-Huerta and González Ibarra, 2009). Bank lending to the private sector only began to recover in real terms after 2001 and real lending to the housing sector did not recover until after 2004. Even then, lending tended to be concentrated to higher income borrowers.

As a result of the turbulent conditions in the private banks, public institutions, mainly INFONAVIT,[26] experienced a sharp rise in their share of total housing finance. Indeed, Mexico has one of the largest market shares of government-sponsored institutions in housing finance in Latin America. INFONAVIT was particularly dominant for workers in lower income groups, i.e. those earning 4 TMW or less. Between 1995 and 2004, INFONAVIT's share of total housing finance (in terms of peso value) increased from 26% to 57%, while commercial banks' market share dropped from 73% to 21% (CONAVI, 2014).[27] Commercial banks have resumed housing lending since then – despite a pause in loan expansion after the 2007-08 international housing crisis – and in 2013, the shares of banks and INFONAVIT in total value of new housing credit were almost identical at 42% (BBVA, 2014b). INFONAVIT had a larger number of loans (306 000 against 80 000 for banks), but the average value of the loans was much lower.

Post-2000 managerial reforms lead to better financial performance

After 2000, INFONAVIT introduced major changes to its business model and governance and management practices. The major turnabout in policy had several sources. While INFONAVIT had gained a dominant position in housing finance, the problems of poor management and the resultant financial weaknesses in the system came under growing scrutiny. In 2000, the non-performing loans (NPL) ratio was still almost 22%, a notable improvement from the levels in the 1980s, but still unacceptably high (INFONAVIT, 2013a). In fact, the drop in the NPL ratio was not the result of improved credit discipline but of the rapidly rising volume of loans. In a political context urging an important quantitative push for housing development in the early 2000s (Chapter 2), INFONAVIT made several important achievements during this period that are worth noting:

- Drop in the rate of NPLs. The new management, equipped with experience in the financial sector, assigned a high priority to reducing the NPL rate (through the design of a new collections and incentives scheme (INFONAVIT, 2006).[28] Between 2000 and 2007, fiscal collections rose at a compound annual growth rate of 24%, and by 2007, 94% of collections were on time. By the end of 2005, annual inflows from loan repayments had increased by 325% in real terms when compared to 2000, whereas real annual outflows for new mortgages had increased by 134% in that same period. By the end of 2006, the NPL rate was 5.36%, down from 21.7% in 2000. At the same time, more stringent definitions were gradually applied in defining when a loan is classified as non-performing (180 days overdue before 2005, 150 days in 2005 and 90 days after 2006).

- Improved management of credit risk. To increase transparency and better manage credit risk, INFONAVIT introduced a new system under which DHs seeking loans would receive a credit score and replaced the previous lottery system for granting loans to a rolling, first-come-first-served system. The credit score reflected variables which were known to be strongly correlated with ability to repay loans (e.g. applicant's age, income, the current housing account balance, the length of continuous employment and the length of continuous employment with their current employer). An eligibility threshold was set at 116 points (out of a possible 171), at which point applicants could automatically qualify for a loan.
- Increased return rate on savings. Recognising that INFONAVIT DHs who did not take out an INFONAVIT housing loan (approximately 75% of all DHs) should receive a better return on their savings, INFONAVIT aimed to gradually increase the real return on savings from 2.5% to 4% (INFONAVIT, 2013a). The higher return was to be made possible by the growth of earnings and lower credit losses. It also began experimenting with newer financial techniques to finance its operations in order to diversify its funding source, beyond the reliance on the 5% payroll tax. In particular, in 2004 INFONAVIT began issuing CEDEVIS (*Certificados de Vivienda*), mortgage-backed securities (MBS) supported by cash flows from INFONAVIT mortgages and sold to (mainly Mexican) investors. Issuing these securities enabled INFONAVIT to free up its balance sheet for additional credit beyond that which could be financed with funds from the affiliates' housing accounts while obtaining funding on competitive terms.

Overall, the period 2001-06 was one of rapid expansion of housing lending with substantial managerial reforms, which led to a marked improvement of the financial profile of the institution.

Consolidation of reforms in difficult conditions, 2007-12

Between 2007 and 2012, the gains in management and efficiency that were attained with the reforms adopted in 2000 were consolidated and deepened. Reforms continued during a period in which the Mexican economy entered a slowdown due to the global financial crisis and the subsequent recession in the United States. Confidence in private housing finance markets was further undermined by the fact that the crisis originated with housing finance in the United States and disproportionately affected other countries with housing price inflation, excessive mortgage debt and the reckless use of exotic credit techniques in housing finance. During this time, INFONAVIT continued to improve transparency and accountability (e.g. greater separation between management and governance, formation of committees on audit and transparency and access to information, formalisation of the principle of prudential oversight, publication of outside reviews on its governance practices). It also expanded housing solutions for affiliates, including credits to enable affiliates to renovate, expand or improve existing housing or purchase new housing (Chapter 2).

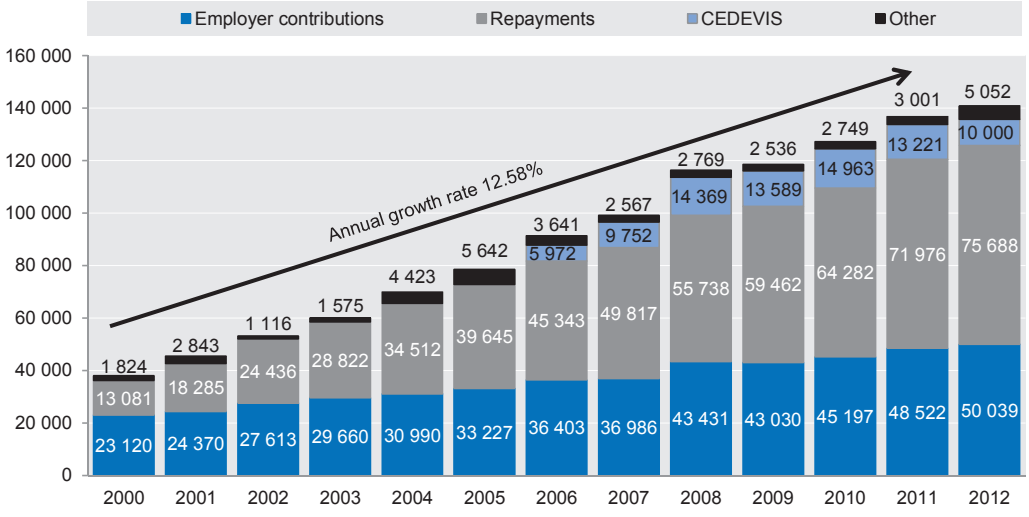
- Increased focus on low-income groups. INFONAVIT, in co-operation with the federal government, pursued a policy of developing more suitable products for low-income groups (i.e. those with incomes of four times the minimum wage or less), whose share of credits had declined between the mid-1990s and 2002, and of cross subsidising rates for borrowers in this category. By 2012, 22% of credits were extended to borrowers with an income of 2 times the minimum wage or less, while 33% went to those in the 2-4 TMW range and 45% to those in higher

income brackets. In general, traditional INFONAVIT loans that remained on the institute's balance sheet were increasingly directed toward lower income groups while loans to higher income borrowers were easier to market though securitisation or co-financing (discussed below). Moreover, since private banks were re-entering the market, higher income borrowers had the option of completely bypassing INFONAVIT.

- New sources of funding: loan repayments, co-financing and securitisation. INFONAVIT's funding sources also changed considerably after 2000 (Table 5.4). At the beginning of this period, about two-thirds of funding was supported by employers' 5% contributions into workers' housing accounts and one-third by the repayment of earlier loans (Figure 5.7) (INFONAVIT, 2013b). As private banks re-entered the housing finance market, INFONAVIT developed forms of co-financing via agreements with private banks to extend funding and share risk. By 2010, only half of the total consisted of unsubsidised lending on the institute's own balance sheet, about 20% of lending took the form of co-financing, while 30% involved some form of subsidy. Indeed, in the latter half of the decade, INFONAVIT demonstrated: *i)* an increasing capability to access private sources of finance; and *ii)* rising cash inflows due to repayments of earlier loans. The institute further developed securitisation through CEDEVIS, by which mortgages were moved off the balance sheet and sold to investors. By 2008, some 12% of funding was obtained by CEDEVIS issuance.[29]
- A strengthened cash flow. Rising interest payments and repayments of principal further strengthened INFONAVIT's cash flow. After 2004, inflows on earlier loans began to exceed new deposits in the housing accounts as a source of funding. By 2012, loan repayments accounted for 54% of total funding compared to 36% for new flows into housing accounts and 8% from markets (Figure 5.7); moreover, repayment flows were so strong that INFONAVIT could reduce its reliance on markets.

Figure 5.7. **Sources of INFONAVIT funding, 2000-12**

MXN millions



Source: INFONAVIT (2013b), *Plan Financiero 2014-2018*, INFONAVIT, available at: http://portal.infonavit.org.mx/wps/wcm/connect/eb3b5c33-9cf5-4b08-9c8c-eb50f7f6537e/PF+2014_2018+(v19dic).pdf?MOD=AJPERES.

A full appreciation of the transformation that has occurred in INFONAVIT since the year 2000 can be gleaned from Table 5.4, which compares key data between the outset of the reform in 2000 and 2012. Real income has almost tripled and net earnings have risen almost fourfold. The capital asset ratio has risen appreciably and now exceeds international standards. The institute's capital is four times the level (real terms) it was in 2000. Meanwhile the NPL ratio has been cut from more than 20% to about 5%. Taken together these figures indicate that INFONAVIT has achieved a remarkable transformation since 2000. It is now a well-managed and financially strong institution that is well placed to contribute to the resolution of the country's pension dilemma.

Table 5.4. **The improving financial profile of INFONAVIT, 2000-12**

		2000*	2012*	Percentage change
Total income	Income	3 8237	140 778	268
	Net operating result	2 919	13 974	379
Profitability	Capital/assets	10.5%	12%	
Solvency	Loan loss reserves/non-performing loans (NPL)	79%	288%	
	Capital	20 382	94 105	
	NPL ratio	21.7%	5.4%	
Market funding	CEDEVIS	0	9 971	
	Amount provided by private institutions through co-funding	0	22 909	
Measures of efficiency	Credits originated	250 110	490 000	96
	Outstanding volume of credits	1 352 181	4 848 169	258
	Employees	6 000	3 889	-35
	Credits originated per employee	42	126	200
	Volume of credit per employee	225	1 247	454
	Expense ratio	6.6%	5.85%	

Note: * MXN millions unless otherwise indicated.

Source: INFONAVIT (2013a), *Estrategia y Resultados Institucionales, 2001-2012*, INFONAVIT, Figure 76.

Nevertheless, despite the generally favourable progress of INFONAVIT in meeting its financial objectives, some indicators point to unfavourable trends during this period. The NPLs ratio rose somewhat due mainly to more difficult economic and credit conditions as well as concentration in lower income groups. Accordingly, INFONAVIT looked to strengthen the financial ratios of the institute, increasing the loan loss reserves to more than 2.5 times the level of NPLs and the capital/asset ratio rose to 12.

Moreover, the pressure on net lending margins led to a significant reduction in the real return on the SCVs, despite the earlier commitment to increase yields. After rising in the early 2000s to reach 4% in 2006, returns have fallen to the range of 1.0-2.0% in recent years (Table 5.5). On balance, INFONAVIT is respecting its legal obligation to provide a positive real return to SCVs and is even trying to raise returns beyond that minimum. Nevertheless, it is clear that DHs have their savings immobilised throughout their working lives at comparatively low interest rates. The large majority of DHs who never use their rights to ask for a housing credit are thus worse off than if their funds were in a dedicated investment account, such as an AFORE.

The present: Expectations of a strengthening financial position

By 2010, INFONAVIT projected increasingly strong net cash inflows owing to: *i)* flattening demand for traditional housing finance; *ii)* growing repayments of earlier credits; and *iii)* continued inflows from the 5% levy paid by employers on workers'

wages. Long-term projections of demand for housing finance included an expectation that the resulting surpluses could be invested in the markets to generate revenue to support INFONAVIT's housing finance activities, and used to offer higher returns on housing accounts (INFONAVIT, 2013b).

Table 5.5. **Real annual returns on the housing sub-accounts (SCVs), 2001-13**

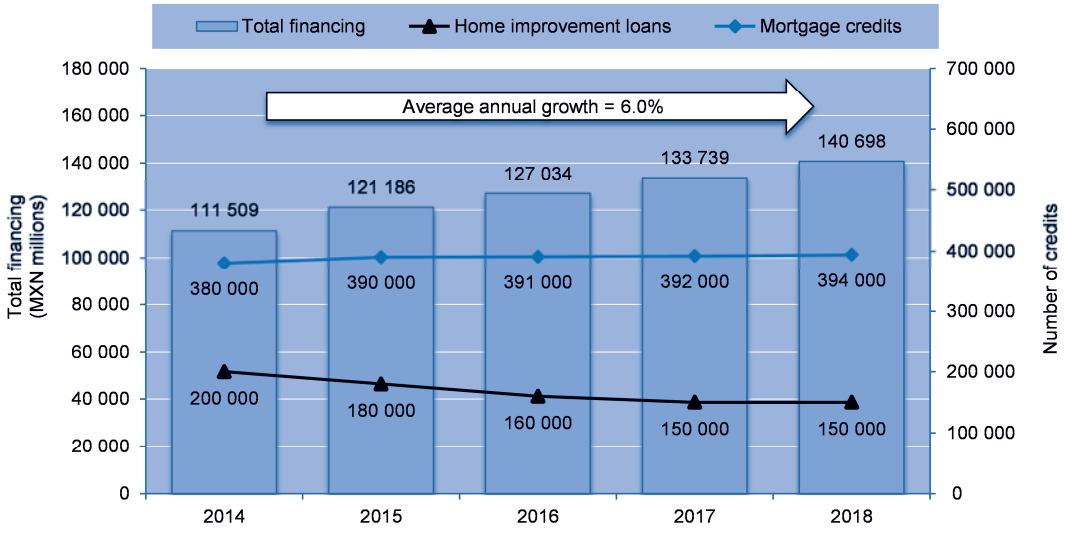
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013a
2.5%	2.5%	2.75%	3.0%	3.5%	4.0%	3.9%	3.0%	1.5%	2.5%	1.0%	1.5%	2.0%

Note: For an idea of the returns actually obtained by the AFOREs, see data on investment by SIEFORES on the CONSAR website: www.consar.gob.mx/SeriesTiempo/Enlace.aspx?md=18.

Source: INFONAVIT (2013a), *Estrategia y Resultados Institucionales, 2001-2012*, INFONAVIT, Figure 70. a- Cédula de Información INFONAVIT.

INFONAVIT's Financial Plan for 2014-2018 was formulated on the assumptions that: *i)* the demand for housing finance would remain fairly flat;[30] and *ii)* inflows would continue, reflecting the 5% charge on workers' earnings as well as rising net repayments of earlier mortgages. Figure 5.8 shows projections of lending operations in the period through 2018. The number of mortgage loans is expected to rise marginally – from 380 000 in 2014 to 394 000 in 2018. Meanwhile home improvement (*mejoravit*) loans will decline from 200 000 to 150 000 in the same period while the peso value of lending will rise 6.6% annually from MXN 111.5 billion to reach MXN 140.7 billion. Lending operations are programmed to concentrate on fulfilling the institute's social role. DHs with incomes of 4 TMW or less would receive 55% of the loans and those with more than 11 TMW only receiving 10%.

Figure 5.8. **Projected extension of credit demand until 2018**



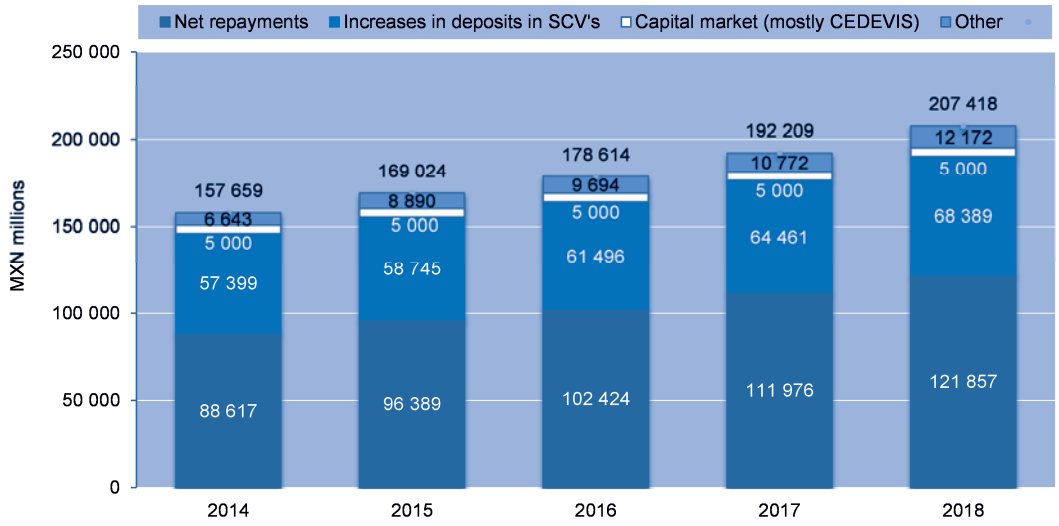
Source: INFONAVIT (2013b), *Estrategia y Resultados Institucionales, 2001-2012*, INFONAVIT.

INFONAVIT also forecasts sharply higher net receipts in the period 2014-18 (Figure 5.9), which will put the institute in a strong financial position moving forward. Income is expected to rise more than 7% annually, from MXN 157 billion in 2014 to MXN 207 billion in 2018, as employers will continue to make their 5% contribution to

INFONAVIT while repayments of earlier credit rise significantly. Consequently, in this period liquid reserves are projected to rise steadily – from MXN 47.9 billion at the end of 2014 to MXN 116 billion in 2018. INFONAVIT projections of key financial ratios indicate that the institution is expected to be extremely financially sound, with ratios that surpass domestic and international prudential standards and the comparable ratios for Mexican banks by wide margins (Table 5.6). These ratios are even more remarkable when it is considered that on balance INFONAVIT faces far fewer risks than private banks.

Figure 5.9. **Forecast revenues of INFONAVIT, 2014-18**

MXN millions



Source: INFONAVIT (2013b), *Estrategia y Resultados Institucionales, 2001-2012*, INFONAVIT.

Table 5.6. **INFONAVIT projections of key financial data, 2014-18**

Ratio	2014	2015	2016	2017	2018	Average for Mexican banks in 2012
Major flows (MXN)						
Financial income	99 869	104 447	113 982	123 888	134 447	
Net profit	17 432	16 682	15 724	15 407	18 656	
Key balance sheet items (MXN)						
Assets	953 838	1 035 632	1 121 991	1 216 622	1 319 906	
Capital	131 516	148 199	163 923	179 330	197 986	
Housing sub-accounts (SCVs)	755 739	810 117	868 315	930 666	998 216	
Reserve for additional return on SCVs	3 550	9 684	19 290	32 822	46 069	
Key financial ratios (%)						
Capital/total assets	13.8	14.3	14.6	14.7	15	10.4
NPL ratio	5.5	5.7	5.8	5.9	6	2.5
Reserves/NPLs	284	28	294	296	296	186
Net earnings/assets	1.8	1.6	1.4	1.3	1.4	2.6
Net interest margin/asset	6	5.6	5.4	5.0	5.0	6.0
Cash/total assets	5.0	6.0	6.9	7.8	8.9	

Sources: INFONAVIT (2013b), *Estrategia y Resultados Institucionales, 2001-2012*, INFONAVIT, Table 26; Fitch Ratings (for banks).

Faced with the prospect of rising high net inflows, the Assembly of INFONAVIT approved a policy in 2013 on how the surpluses should be used. The guidelines that are to be applied in using the funds are:

- Remunerate the SCV in accordance with the legally prescribed minimum (i.e. equal to the change in the minimum wage, which means to compensate for inflation).
- Cover net operating costs.
- Build reserves (mainly for loan losses) to 100% of required standards.
- Increase capital to the point that the capital/assets ratio remains constant.
- Temporarily increase the capital/assets ratio to 15%.
- Use any remaining surplus to increase the return on the SCV beyond the legal minimum. The current plan calls for increasing the real remuneration (i.e. adjusted for changes in the minimum wage) from 2.5% in 2014 to 4% 2018.

INFONAVIT is also moving toward a more active investment regime, with the creation of FANVIT. In late 2012 and early 2013, liquid holdings of the institute began to rise, and the question of how to deploy rising liquid assets became urgent. Until very recently, most assets have been held in highly liquid short-term assets with rates of return only slightly higher than the rate of inflation (INFONAVIT, 2013b). The institute thus developed FANVIT (*Fondo de Apoyo a las Necesidades de Vivienda de los Trabajadores*) as a special fund to invest excess cash holdings. The earnings from this fund will be used to support the general operations of INFONAVIT, including: *i)* subsidising low-income housing credit; and *ii)* enhancing pension income. This plan will require substantial modifications as a result of the introduction of the new Social Security Law. In some respects, FANVIT will operate as a pension fund, but is structured as an account within INFONAVIT and will not be subject to supervision by CONSAR. In April 2014, INFONAVIT's Board of Directors approved the establishment of FANVIT with its new mandate. The future activities of FANVIT are analysed at length in the final section of this chapter.

Impact of changes in the Social Security Law on INFONAVIT: Housing finance, unemployment insurance and pensions

In September 2013, the President of Mexico put forth a proposal for major changes to the Social Security Law, followed by amendments to relevant laws by the House of Deputies of the Congress in early 2014, which would imply a major realignment of the functions of INFONAVIT. The proposal is now before the Senate (Presidential Statement on Reforms, 2013; Cámara de Diputados del H. Congreso de la Unión, 2014). The changes include the introduction of: *i)* unemployment insurance, with certain new responsibilities assigned to INFONAVIT; and *ii)* a universal pension scheme. The implications of these proposed changes on INFONAVIT are discussed in this section. Since the details of the new plans are subject to change during the legislative process, the discussion of INFONAVIT's possible role under the new system will be more tentative than discussions in the preceding sections.

The introduction of unemployment insurance in Mexico

As background to this policy change, Mexico is the only country in the OECD that has no national system of unemployment insurance. In designing the proposed new system, Mexican authorities examined the practices of other countries and also analysed the characteristics of the Mexican labour market. Two observations are worth mentioning:

- In most OECD countries, unemployment insurance is mostly funded by contributions from employers. However, wide divergences are observed among countries concerning the minimum amount of time worked that is required to qualify for benefits, as well as the length of time during which benefits may be received. In Mexico, there is at present limited possibility to withdraw funds from the RCV sub-account of the individual account administered by the AFOREs during periods of unemployment. With the introduction of formal unemployment insurance, such withdrawals will no longer be allowed. The new programme makes it much easier for formal private-sector workers to use funds in their INFONAVIT accounts for unemployment insurance.
- It was also observed that unemployment tends in Mexico to be concentrated among those earning 4 TMW or less and those periods of joblessness tend to be short, with 90% of incidents of unemployment lasting less than six months.

The proposed new system, summarised in Box 5.7, could have a significant impact on INFONAVIT's accounts (Table 5.7). Under the new scheme, the present 5% employer contribution to the SCV will be divided into two parts: *i)* a **housing account (SCV)**, which would continue to function as under the present system, but with the amount of contribution reduced from 5% to 2% of earnings; and *ii)* a new **mixed account (SCM)**, in which the remaining 3% of the employer contribution would be placed; this mixed account could be used for three purposes: a) unemployment benefits; b) mortgage payments; or c) retirement income. In addition to workers' and employers' contributions, the government would contribute an amount equal to 0.5% of the worker's salary to a Solidarity Fund (*Fondo Solidario*), available only to complement unemployment benefits. The Solidarity Fund would be managed through a special account in a development bank with operating rules defined by the Ministry of Finance and Public Credit. BBVA estimates that contributions to the Solidarity Fund will exceed MXN 9 billion per year (Hoyo et al., 2014).

Table 5.7. **Proposed system of employer and government contributions to INFONAVIT**

	Current system		Proposed system	
	% of salary	Uses	% of salary	Uses
Housing sub-account (SCV)	5	Housing/retirement	2	Housing/retirement
Mixed account (SCM)[a]	x	x	3	Housing/retirement Unemployment insurance
Total employer contributions	5	Housing/retirement	5	Housing/retirement Unemployment insurance
Solidarity Fund (by government)	X	X	0.5	Unemployment insurance
Total contributions	5	Housing/retirement	5.5	Housing/retirement Unemployment insurance

Note: x: not applicable.

Box 5.7. **Mexico's pending reforms to the Social Security Law: Key elements of the proposed introduction of unemployment insurance**

Provisions outlined in Mexico's pending reforms to the Social Security Law differ for permanent and non-permanent workers.

Permanent workers

In order to qualify for benefits, permanent workers must have been employed for 104 weeks during the 3 years preceding their unemployment and must be registered with the National Employment Service. They must also not be receiving additional income and demonstrate that they have carried out the placement and training programmes run by the Department for Work and Social Provision. The DH must have been unemployed for 45 days. With the introduction of unemployment insurance, workers are no longer permitted to make withdrawals for unemployment from the retirement sub-account (RCV) of their individual accounts at the AFOREs.

Unemployment benefits for INFONAVIT affiliates without an outstanding mortgage: Eligible individuals may collect unemployment benefits for up to six months. The benefit is equal to: *i)* 60% of the worker's last salary for the first month; *ii)* 50% for the second month; and *iii)* 40% for the third to sixth months. The benefits come from withdrawals from the individual's SCM account. In the case that the funds in his/her account are not sufficient to reach a minimum, benefits would come from the Solidarity Fund, ensuring one month of minimum wage each month for up to six months. The Solidarity Fund would provide the difference between the promised benefit and the funds in the mixed account. If the Solidarity Fund has insufficient resources to make payments promised under the Unemployment Law, payments would be made from general government revenues. Each eligible DH may collect unemployment benefits once every five years.

Unemployment benefits for INFONAVIT affiliates with an outstanding mortgage: In cases when the DH has an outstanding mortgage, the employer contributions to the SCM would be applied exclusively to reducing the unpaid balance of the loan. Should the worker become unemployed while the mortgage is not fully repaid, the unemployed worker would be eligible to receive benefits equivalent to one minimum wage for six months, once every five years. These payments would be funded by the Solidarity Fund. This rule would also apply to workers who had a mortgage loan before the new law was passed.

In both cases, the measure would be highly progressive. In the case of workers making one minimum wage, about 90% of the benefit would come from the Solidarity Fund. The share of the Solidarity Fund in the total payment declines as incomes rise, with a rising proportion drawn from the SCV. Thus, in the case of those earning 4 TMW, about half of the payments will come from the Solidarity Fund.

Non-permanent workers

Unemployment benefits for non-permanent workers: Non-permanent workers are subject to somewhat different requirements. They must have been employed for 26 weeks during the 3 years preceding their unemployment. Non-permanent workers may receive a one-time payment from their mixed account of up to two months of salary, but no payments from the Solidarity Fund. Non-permanent workers tend to have irregular employment patterns with occasional episodes of unemployment. This measure is aimed at avoiding a distortion in the labour market with incentives for the repeated loss of employment and for undeclared income.

Source: INFONAVIT documentation provided to OECD.

The new programme does not diminish the access of DHs to mortgage finance and would, on balance, have the potential to greatly enhance the flexibility of workers in the IMSS system. For those who desire to obtain housing loans, the same possibilities exist to use resources with INFONAVIT as before the change. Accumulated balances in both accounts (i.e. the SCV and the SCM) can be used for housing finance (i.e. as a down payment for a mortgage loan or service of the loan), while future contributions to both funds will be used for making mortgage payments. Similarly, any balances remaining in

either account are added to funds in other retirement accounts at the time the worker becomes eligible for retirement. At the same time, DHs will be able to use their balances for unemployment insurance, as well as housing and pensions. Funds in the SCM may be withdrawn by workers who become unemployed. INFONAVIT estimates that 1.2-1.6 million persons will draw benefits each year and that expenditures on unemployment benefits will range between MXN 13-19 billion in the first few years of operation.

There is a risk that workers will use the new law to draw as many unemployment benefits as possible. Thus workers can move from the formal and informal sectors while drawing down balances in their SCMs. The requirements for time worked in the formal sector and co-operation with employment agencies affords some protection, but there is a possibility that some workers will use the system in this way.

Most importantly, this new measure has great potential to make a contribution to alleviating the country's pension gap. Those who would like to increase their future retirement income can either leave the funds in their SCM with INFONAVIT or obtain better returns elsewhere, as discussed in the next section.

Increased flexibility, enhanced competition in pensions management by the AFOREs

Most of the changes envisaged in the Social Security Law governing the pension management regime are designed to make the regime more flexible and competitive while enhancing protection of the IMSS affiliates through greater transparency and more competition. Rules governing individual pension accounts in Mexico have often been very rigid. For instance, at present, IMSS affiliates requesting a pension must choose to receive their payments either as an annuity or through a phased withdrawal (PW). Under the new law, the affiliate could choose to receive the funds in any combination of PWs or annuities, while leaving balances in the individual account in the AFORE. Several of the key elements of the proposed changes to the rules governing pension management by the AFORES are summarised below.

One key element of reform to pension management includes measures to reduce the fees charged by the AFOREs, which – despite considerable compression in recent years – have been criticised as excessive. CONSAR has noted that the AFOREs spend a large share of their budgets on marketing and inducing customers to switch AFOREs. In early 2014, fees among competing AFOREs ranged from 0.99% to 1.34%, which are generally comparable to those of other emerging and transition economies, but somewhat higher than those in the most competitive countries.[31] Judging by its recent statements and policy initiatives, CONSAR would appear to believe that there is room for a further reduction of fees (CONSAR, 2013d). The current fee scheme is based upon the level of assets under management (AUM) in the individual's AFORE account, with 1.24% of AUM being the average charge in 2014. Under the proposed new fee structure, total fees would consist of two components: *i)* the first part calculated as a percentage of the value of the AUM; *ii)* the second variable according to the SIEFORE's investment performance, as well as levels of service provided. Moreover, the AFOREs would have to obtain prior approval for fees from CONSAR. Failure to do so would result in the obligation for the AFORE to charge the lowest fees in the market. If CONSAR rejects the fee structure proposed by the AFORE, the fee will be 75 basis points. Finally, CONSAR would improve its criteria for the 10.6 million allocated individual accounts (accounts of workers who did not choose an AFORE and had an AFORE assigned by CONSAR), to be based on objective measures, particularly low fees and high net yield.

The proposed law would also strengthen the rules for switching AFOREs, with the intention of improving service and returns for workers. Workers are currently allowed to change AFOREs once a year, but analysis by CONSAR indicates that more than half of all transfers are made to AFOREs with lower net yields, suggesting that the aggressive market may be a major factor influencing the decision of affiliates (CONSAR, 2014a). Accordingly, with the aim of improving the equality of the transfer and reducing the commercial expenses of AFOREs, the transfer right could be exercised once every three years. The affiliate would be able to switch after one year, provided the change is to an AFORE that offers better yields and/or has a demonstrable history of superior services. In order to assist affiliates in taking sound decisions about retirement income, AFOREs would also be obliged to send workers an annual pension forecast report, giving information about their current retirement savings situation and the outlook for the pension income under various pension scenarios.

Other measures would be taken to align the corporate governance systems of the AFOREs with best domestic and international practices. Regulations of CONSAR will define with greater precision the responsibilities and functions of the governance bodies, including directors, the administrators and key executives. The AFOREs will be required to have an Audit Committee and a Corporate Practice Committee as well as adequate internal safeguards. The responsibilities of independent board members and the compliance function will be strengthened. CONSAR would also co-operate with other supervisors in scrutinising the activities of financial groups when AFOREs are part of such a group, in order to detect possible conflicts of interest and risks of contagion.

Finally, the new law would also make investment policy more flexible by permitting investment in privately placed securities. Until now, AFOREs could only invest in publicly listed and traded financial assets. The new provisions are particularly important because in many countries investment in infrastructure projects, which are usually not publicly listed, is an asset class of increasing relevance to pension funds. In any event, investment in unlisted securities will be subject to approval of the securities by the Central Bank and the National Banking and Securities Commission (CNBV).

What future for INFONAVIT?

The changes in the law that are currently under consideration would have a profound impact on the organisational structure of INFONAVIT and thus make it imperative for INFONAVIT to reassess its options for the future. It bears repeating that the discussion that follows is subject to considerable uncertainty, because the proposal may undergo considerable revision before becoming a law. Nevertheless, if enacted, the law would make INFONAVIT decide whether it should: *i)* remain a housing finance institution as before, but with substantially reduced resources; or *ii)* compete more aggressively in the savings market by offering improved capability to enhance savings for retirement.

The most significant result of prospective changes in the law is that INFONAVIT, which previously functioned as a housing bank with privileged access to funding, would be split along functional lines into:

1. a housing finance function with somewhat reduced access to low-cost funding through the SCVs, which will be responsible for satisfying the demands for low-cost housing finance while retaining the double mandate for housing and pensions

2. an asset management function with responsibilities for helping DHs use the SCMs for housing and pensions, with the additional responsibility for unemployment insurance.

Each of these functions would be carried out by a separate corporate entity, although there would be some linkages between the two entities.

This section offers some suggestions as to how INFONAVIT may adapt to its new role under the revised Social Security Law, based on a division of INFONAVIT's operations into a provider of housing finance and an asset management institution.

INFONAVIT as a provider of housing finance

INFONAVIT would still operate as a housing finance institution with a constitutional mandate to provide affordable housing finance to IMSS affiliates, but with reduced access to privileged financing, as the share of workers' income that is placed in the SCVs would decline from 5% to 2%. As can be seen in Table 5.8, the impact of the cut in the contribution rate would not be as harsh as it would appear at first blush. The main source of inflows in the next few years is expected to be the repayments from earlier loans which should be rising significantly throughout the period. Nevertheless, the reduction in available resources is substantial and some adjustments to the originally forecast patterns of activity will be required. A few strategic options for adapting the process of extending housing finance to the new environment are discussed below.

Table 5.8. **Impact of proposed changes on the financial position of INFONAVIT**

	2014	2015	2016	2017	2018
From employer contributions[1]	57 399	23 498	24 598	25 784	27 356
Repayments of principal	88 617	96 389	102 424	111 976	121 857
CEDEVIS	5 000	5 000	5 000	5 000	5 000
Other	6 643	8 890	9 694	10 772	12 172
Total inflows	157 659	135 792	143 732	155 549	168 403
Return of SCVs	14 770	17 346	20 118	23 538	27 356
Expenditures	8 017	8 257	8 505	8 760	9 023
Other outflows	8 114	7 646	7 989	8 348	8 728
Total outflows	30 901	33 249	36 612	40 646	45 107
Net inflows	126 758	102 543	107 120	114 903	123 296
Memorandum item					
Cash flow before changes in the law					
From employer contributions (5%)	57 399	58 745	61 496	64 461	68 389
Net reduction in inflows	-	33 232	34 882	36 660	39 015

Note: 1. 5% in 2014; 2% for 2015-18.

Source: Compiled from INFONAVIT (2013b), *Plan Financiero, 2014-2018*, INFONAVIT, Graphs 82-86 and Table 26, available at: http://portal.infonavit.org.mx/wps/wcm/connect/eb3b5c33-9cf5-4b08-9c8c-eb50f7f6537e/PF+2014_2018+(v19dic).pdf?MOD=AJPERES.

Several strategies could be envisaged for INFONAVIT to continue to carry out its double mission in the face of reduced increases of funds in SCVs. One series of options could involve improving net operating margins by reducing the value of loans currently targeted in the 2013-2018 Financial Plan, tightening credit standards to reduce NPL ratios, or increasing rates charged to riskier lower income borrowers. These could be envisaged to a rather limited extent in view of INFONAVIT's constitutional mandate to

extend affordable housing finance, especially to low-income groups. Therefore, on balance, the two most promising ways in which INFONAVIT can remain active as a supplier of low-income housing finance in the face of reduced access to low-cost funds would be to focus on lowering targets for prudential ratios and to increase the use of alternative finance techniques.

Improving net operating margins. One must be cautious in applying any of the first three solutions in a way that involves a retreat from INFONAVIT's constitutional mandate to extend affordable finance for housing, especially for low-income groups. Nevertheless, earlier lending policies may have encouraged excessive borrowing by households that were ill-equipped to handle their financial obligations. To the degree that marginal borrowers can be made to pay interest rates that reflect their risk – while remaining in conformity with INFONAVIT's mandate – this option could help reduce credit losses. Furthermore, as discussed earlier in this report, there are many examples of programmes in other OECD countries that require prospective borrowers to save specified sums for a certain period in order to obtain financing on concessionary terms. All of these could be usefully explored in order to help INFONAVIT improve operating margins while still carrying out its constitutional mandate.

Maintain adequate and reasonable prudential ratios. The present ratios of capital adequacy and NPL coverage would appear to be fully adequate in comparison to the standards of the Mexican banking supervisor, the ratios maintained by other Mexican banks and international supervisory norms. Moreover, private Mexican banks that are required to observe these standards face more risks on the credit and funding side than INFONAVIT. On balance, it would seem reasonable to conclude that these ratios can be maintained at present levels without any serious prudential risk to INFONAVIT or the domestic financial system.

Increase funding through the capital market and private markets. Looking ahead, the option that can be most usefully explored is to replace the use of SCVs through expanded use of capital market funding and co-financing with private banks. The currently proposed change in the law would reduce the employers' contribution to the SCVs at INFONAVIT from 5% to 2%. Consequently, funding through the SCVs would shrink by an average of MXN 30-40 billion in each year through 2018. The simplest solution would be to find alternative sources of funding of this magnitude; logically, this could come from the capital market.

- Securitisation. Securitisation involves the removal of assets from INFONAVIT's balance sheet and the issuance of mortgage-backed securities (MBS) based upon the cash flows from these mortgages. The market for securitised mortgage debt through the issuance of MBS has substantial room for expansion. The targeted MXN 5 billion of annual issuance of CEDEVIS, which is the main securitisation vehicle currently used by INFONAVIT, could likely be increased substantially. In fact, between 2008 and 2011 INFONAVIT issued three times this amount of CEDEVIS annually; meanwhile, the capability of the market to absorb such issues has undoubtedly risen.
- Mortgage bonds and covered bonds. There are other means by which capital markets can be used to fund housing. INFONAVIT could issue mortgage bonds while leaving the credits for housing on its own balance sheet. In other words, SCVs could be replaced by mortgage bonds as a funding vehicle. Given its strong risk profile, strong credit rating and high degree of official support, INFONAVIT could certainly borrow at very low rates. In addition, the issuance of mortgage

bonds would improve the transparency of INFONAVIT and of pricing. Variations of the mortgage bond mechanism, under which the investor acquires some credit enhancement through rights to cash flows associated with mortgages as well as the support of the issuing institution, are also possible. These mechanisms, commonly known as "covered bonds" are used in several European countries as well as in Chile. In other Latin American countries, the legal framework for the use of these instruments has been established, although the technique is not widely used. In this context, Mexico is reportedly adapting its laws to permit the issuance of mortgage bonds, using techniques that are similar to the Danish mortgage model.

- More extensive use of private banks. Finally, it is probably wise to allow the private markets to assume a larger share of housing finance. Private banks are showing increased interest in engaging in mortgage finance. As discussed in Chapter 2 and in this chapter, Mexico has an exceptionally high rate of public involvement in the financing of housing. Part of this high rate of public finance is due to the mandate of INFONAVIT, but it is also due to the crises of 1994 and 2007 that pushed private banks out of the market. Private banks would like to expand lending either on their own or though co-financing with INFONAVIT. Thus, a new model of housing funding could involve wider use of the private banks and capital markets in complementing INFONAVIT as a supplier of housing finance.

Maintain the commitment to improved returns on SCVs. Inasmuch as the net increases of inflows into SCVs will be reduced, INFONAVIT will clearly have to reconsider its plan to invest part of cash surplus in order to boost the yield on SCVs, as programmed in the Financial Plan for 2014-18. Nevertheless, there are persuasive arguments that this project should be maintained insofar as is possible. In the first place, INFONAVIT has a legal requirement to compensate DHs at least as much as the increase in the minimum wage. Additionally, changes in the Social Security Law will require INFONAVIT to decide whether it will evolve into an institution that only provides housing finance or whether it will fulfil its "double mandate" by making it possible for DHs to obtain better returns on savings. In this connection, it should be repeated that about three-fourths of DHs never receive a housing loan.

Given INFONAVIT's history of favouring housing finance over the provision of retirement income, INFONAVIT could enhance its credibility if it wishes to be present in both segments of the financial markets by producing tangible results in terms of returns on the SCVs. As a first step in this direction, INFONAVIT could aim to remunerate the SCVs from its net operating profit at 200 basis points above the change in the minimum wage. This would appear reasonable since DHs who do not use the housing loan facilities, a strong majority of DHs, are supplying cheap long-term funding for those who choose to borrow.

Obtain high investment returns from FANVIT. INFONAVIT created FANVIT (*Fondo de Apoyo a las Necesidades de Vivienda de los Trabajadores*) with a mandate to invest surplus cash holdings in order to enhance the yield on the SCVs (INFONAVIT, 2013a; 2013b). In place of the highly liquid and risk-averse portfolios currently held by INFONAVIT, FANVIT was authorised to invest in a more diverse portfolio, thereby accepting higher risk and earning higher returns.

However, the current guidelines proposed by INFONAVIT appear to leave FANVIT with an excessively risk-averse portfolio in light of its stated objectives. As an initial

guideline, it was suggested that INFONAVIT choose as a benchmark the asset allocation rules that apply to SIEFOREs – which are regulated by CONSAR – with the most conservative policy (e.g. SB1), to shift by the end of 2014 to somewhat more aggressive portfolios (SB2 or SB3). However, the investment mandate of FANVIT is not comparable to those of SIEFOREs and thus its investment policies should be formulated in the light of its own risk profile rather than those designed for other categories of investors. The prudential limits that CONSAR imposes on SIEFOREs are thus designed mainly to protect individuals from being forced to withdraw their retirement savings under adverse capital market conditions.[32] Recognising that equity returns are higher than bonds on average but are also more volatile, CONSAR assumes that as a worker nears retirement age, the exposure to volatile markets should decline – a widely accepted principle in the management of many public and private pension systems. Consequently, CONSAR's rules for SIEFOREs allow younger workers to assume greater risk, while SIEFOREs are required to invest in portfolios with lower risk variance as the DH approaches retirement.

Aligning FANVIT's investment regime to the rules applied to SIEFOREs is therefore somewhat problematic, because FANVIT differs from SIEFOREs in several important ways:

- DHs already have a basic retirement account with an AFORE, which is protected against market fluctuations by the CONSAR rules. Moreover, DHs are already compensated in their SCVs by an amount equal at least to the change in the minimum wage from INFONAVIT's operating surplus on its housing finance operations.[33] (Earlier in this section it was proposed to aim for a higher return from INFONAVIT's operating surplus.)

- Unlike a SIEFORE, which manages assets for individual accounts, FANVIT is a collective account in which each DH has a share. Therefore, it would seem appropriate for FANVIT to be managed and regulated like the investment vehicles whose nature is most like FANVIT: life insurance policies and DB pension plans, which are managed so as to maximise long-term yield, while matching liabilities over a long-term investment horizon. The major difference is that FANVIT does not have to deliver a specific return (as do DB pensions and insurance policies), only the best possible return given the investment mandate. Other institutional investors with similar profiles would be: *i)* endowments such as are common for institutions such as universities or hospitals; or *ii)* provident funds as are found in several Asian countries. The portfolio could therefore be structured to invest most of its portfolio fairly aggressively while having sufficient liquid assets available for specific contingencies at certain future periods, such as: *i)* annual transfers of earnings on the portfolio from FANVIT into individual SCVs; and *ii)* net liquidations of the portfolio when DHs reach retirement age or when they request housing loans. INFONAVIT has already made projections of these latter two variables, which it uses in its financial planning.

Given the nature of FANVIT's investment mission, its basic portfolio could initially be composed of risk-free long-term government bonds that are laddered[34] so as to spread interest-rate risk over long periods and to allow DHs to make withdrawals for retirement or to request housing loans. The yield on this basic portfolio could be enhanced by adding riskier fixed-income assets to the portfolio (e.g. corporate bonds or structured products of varying credit ratings). Some part of the portfolio could be allocated to equities or

alternative investments. At present, equities account for less than 20% of the investments of all AFOREs, while in some OECD countries the ratio for pension funds is closer to 40%. While the rates that prevail in OECD countries with strong equity cultures may not be appropriate for Mexico, a higher allocation than those of the AFOREs would appear justified. There are other structured products through which FANVIT can invest in other alternative asset classes such as SME finance (Cheikhrouhou et al., 2007; Larrain, 2011).

Infrastructure investment is another asset class that could be considered for inclusion in the FANVIT portfolio. In a number of emerging markets, the authorities are planning huge outlays for roads, electricity, ports, air transport and power. In many cases, the financing of these investments will be made through co-operative agreements with the private sector, which in turn are financed through specialised investment products. These investments have higher yields than government bonds, are indexed to inflation and have maturities that last decades. Nevertheless, pension funds in most countries have not fully exploited the potential of this asset class. There is a good argument why FANVIT, which has commitments that are spread over long periods, would be a "natural investor" in such instruments. CONSAR has recently authorised investment in these instruments by AFOREs.

Because the proposed activities entail newer risks than INFONAVIT has taken in the past, it is essential that INFONAVIT develop the capability to manage the attendant risks.[35] To the degree that INFONAVIT diversifies beyond the core holdings of risk-free government bonds, robust internal risk management systems must be developed, including the design of processes to assess whether to enter new market segments. Unlike the AFOREs, which have externally imposed guidelines on asset allocation, FANVIT will be free to take its own decisions with respect to risk. This implies that those responsible for its risk management should be of high professional calibre. Simultaneously, compensation should be structured so as to discourage imprudent behaviour. The safeguards that INFONAVIT constructs must be adequate to compensate for regular oversight by a financial supervisor. Additionally, FANVIT's activities should be subject to rigorous requirements for transparency and disclosure. One additional safeguard could be to require the production at regular intervals of a public statement of investment decisions and results, to be reviewed by an independent auditor.

INFONAVIT as an asset management institution

The changes in the law that are now under consideration would oblige INFONAVIT to reconsider its role in the entire Mexican social safety net and the financial system. Under the proposed new law, DHs of the IMSS would be able to use their SCM account for housing finance, unemployment insurance or retirement savings. INFONAVIT would be required to set up a separately capitalised entity to administer and invest funds in the SCMs. This entity would be subject to regulatory oversight by CONSAR with respect to investment, accounting, corporate governance and auditing practices. If approved, INFONAVIT would have the exclusive right to manage the SCMs through 30 June 2017 and could charge fees for administering the SCMs. From 1 July 2017, workers would be able to transfer resources from their SCM at INFONAVIT to an AFORE, provided that the AFORE has posted a higher net yield relative to INFONAVIT in the previous year. Given this fundamental change in the institutional and regulatory framework, INFONAVIT faces a basic decision about how to operate in the future. INFONAVIT could follow one of two approaches: *i)* focus narrowly on the management of the SCMs and support INFONAVIT's housing finance activities; or *ii)* seek to become a bigger player in the market for asset management.

Option 1: Specialise in the management of SCMs

INFONAVIT could simply act as an administrator for the funds in the SCMs that are not withdrawn for unemployment insurance or to obtain a housing loan. CONSAR would set investment guidelines for the SCM. INFONAVIT's policies toward investment of the SCMs will be subject to regulation by CONSAR. As a starting point in deciding about how the SCMs will be remunerated, INFONAVIT will want to have a well considered proposal. In this context, it is reasonable to suggest that remuneration on the SCMs should be similar to those proposed for the SCVs. At a minimum, INFONAVIT will probably be required by law to remunerate these accounts by at least the rise in the minimum wage. In order to demonstrate its commitment to providing competitive returns to the DHs, INFONAVIT might further voluntarily aim to remunerate accounts from its net operating profit by at least 2% (200 basis points) more than the rise in the minimum wage. In addition, as proposed for the SCVs, INFONAVIT could create a special fund (similar to FANVIT) that would provide additional revenue to enhance the yield on the SCMs. The conceptual basis for providing this return is that those DHs who choose to leave their savings in the SCMs are providing finance for INFONAVIT's housing programmes and should be remunerated accordingly. The fund that would be used to supplement earnings from INFONAVIT's operating surpluses would be invested in line with the principles suggested for FANVIT. As with FANVIT, this fund would not have to be managed to minimise losses of value as the DHs liquidate positions upon retirement. However, this fund would be exposed to more liquidity risks than FANVIT. In addition to withdrawals for housing loans, this fund would be required to hold funds in relatively liquid form for: *i)* withdrawals during unemployment; and *ii)* transfers from the SCMs to the AFOREs. Nevertheless, between the guaranteed return on INFONAVIT operating income and the income from investments, the yields on the SCMs can be attractive.

It is unclear whether the new entity would be under the full control of INFONAVIT, but if permitted, the new entity might also be used to generate business for housing loans for INFONAVIT. Assuming that the new entity operates as an extension of INFONAVIT, and returns on INFONAVIT's SCMs are below those of the AFOREs, there is the risk of a drain of funds after July 2017. In contrast to the present situation where INFONAVIT retains the funds in the SCVs even if the DH does not request a housing loan, the DHs would be free to switch to the AFORE that best meets their financial objectives. At the same time, INFONAVIT estimates that unemployment benefits are likely to amount to MXN 13-19 billion per year, or about 30-40% of annual inflows into the SCMs. This would amount to a substantial amount of assets under management, but increasingly the DHs – at least 75% of whom will never request a loan from INFONAVIT – are likely to transfer funds from INFONAVIT into the AFOREs in order to obtain better yields. Additionally, the AFOREs will eventually be authorised to offer SCMs. In this case, there is a possibility that INFONAVIT will mostly manage SCMs for those who intend to obtain housing loans and/or those who use their accounts to accumulate funds for unemployment benefits.

Option 2: Compete throughout the range of savings instruments

Alternately, INFONAVIT could take a more proactive role and compete for assets based upon its capability to deliver a range of products and services that meet the basic public needs for wealth management and to meet the need for an even higher level of sophistication in the investing public with regards to wealth management. In order to compete successfully, INFONAVIT's asset management affiliate would be well advised to develop an institutional brand based upon its strong commitment to its DHs. As in

most countries, Mexicans hold most of their wealth in housing and institutional savings products, such as mutual funds, insurance products and pension funds (in Mexico's case, the primary institutional savings product is individual pension accounts). INFONAVIT has some advantages in its close links to both the housing and pension markets and a natural client base consisting of the affiliates of the IMSS.

In order to fulfil this role, INFONAVIT would be well advised to have a governance structure consistent with its corporate objectives. The law requires INFONAVIT to establish a separately capitalised company in order to manage the SCMs and also gives guidance about the corporate governance regime for the new company. In the discussion that follows, this company is referred to, for the sake of convenience, as INFONAVIT-AHORRO (IA), though its ultimate designation remains to be determined.[36] The present law indicates that the new company would have a governance structure paralleling that of INFONAVIT, with representation from the government, the unions and the employers. However, it would be advisable to have assured that INFONAVIT's asset management affiliate (IA) has a governance structure that assures substantial independence of the new company with regard to INFONAVIT and its commitment to maximising the financial well-being of the DHs. In order to create a distinct corporate identity for IA, independent directors should be appointed to the board. Further, the statutes of the company should specify that the main fiduciary duty of directors is to the DHs. In effect, the new company would be the equivalent of a co-operative or mutual company with no shareholders in which the "residual owners" of the company are the DHs who hold the SCMs. In OECD countries, mutual companies are common in banking, investment and especially in insurance. The presence of representatives of INFONAVIT in the governance structure would assure some co-ordination with that institution for those affiliates seeking to integrate housing finance into their plan for wealth management. Nevertheless, the corporate objective of IA should be to help the IMSS affiliates devise and execute wealth management strategies suited to their particular needs (thereby reducing INFONAVIT's historic favouring of housing over savings). In this context, a partly relevant model could be the discount brokers in the United States. These institutions typically compete on the basis of their commitment to delivering simple financial products at low cost with a strong focus on commitment to customers. Their remuneration structures typically differ from higher cost providers where sales personnel derive a high share of income from sales commissions,

The institutional mission of IA could be envisaged to assist the IMSS affiliates: *i)* in deepening their understanding of possible uses of their funds in SCMs, SCVs and other accounts; and *ii)* in devising plans to use these resources as efficiently as possible in order to meet financial objectives throughout the affiliates' life cycle. This could be accomplished by:

- providing financial education to affiliates about the various ways in which the financial facilities (unemployment insurance, housing credit and pensions) of the IMSS function and how these products can be combined to form a coherent financial strategy for each individual
- providing tailored financial advice to each affiliate upon request
- developing a full range of savings-related products
- maintaining a financially sound institution while competing in the national market for savings so as to generate adequate returns and assure that affiliates enjoy the benefits of competition.

Provide financial education to affiliates. INFONAVIT could be well-placed to offer high-quality information and advice on financial planning for Mexicans – a service that is largely lacking at present,[37] although INFONAVIT's *Saber Para Decidir* workshop is one tool that could be improved upon. If properly organised and incentivised, INFONAVIT can help the DHs execute strategies that optimise their accumulation of wealth during their working lives and the use of their wealth in retirement. As discussed earlier in this chapter, recent analyses by CONSAR show that there is a clear disconnect between the current capacity of the current pension system and the expectations of the Mexican public. What is more, the majority of workers lack of basic information about the operations of the retirement system and their options in retirement planning (CONSAR, 2012). Only about half of all workers knew that an AFORE was a savings vehicle related to retirement, and only 2% were aware of its basic characteristics. Moreover, in effect this means that while the Mexican pension reform has effectively transferred responsibility for pension income to the individual worker, most workers are underequipped to shoulder that responsibility.

To this end, INFONAVIT could develop a business model by including among its highest corporate objectives: *i)* to assist DHs in understanding their options with regard to the use of their savings; *ii)* to assist DHs in setting financial goals and in developing investment strategies to achieve their financial goals through their life cycle; and *iii)* to compete for business by offering highly competitive services, fees and commissions.

In addition to the investor education efforts undertaken by public sector entities, such as CONSAR, individual firms and industry associations have often untaken investor education campaigns.[38] Of course, financial education cannot be the monopoly of any institution, and it would clearly be desirable for the authorities as well as the financial industry to take reasonably co-ordinated measures to raise the general level of financial public knowledge. The delivery of such education might take the form of publications, classes or online delivery of information. At the same time, the presence of a competitor with an institutional commitment to improving market quality will encourage all intermediaries to improve their standards.

If IA were to decide unilaterally to pursue a campaign aimed at raising the general level of investment knowledge in the country, it might appear to be equivalent to offering to provide a public good without compensation. However, the provision of general investment information to the broad public is a function that financial institutions in OECD countries use to "build their franchise". Thus, in the United States, "discount brokers" compete on the basis of low-cost delivery of investment services. Many such firms also offer investment planning models on their websites. Their compensation structures for employees usually de-emphasise sales commissions. The corporate policy of IA and the compensation structure must support the overriding goal, which is delivery of sound investment advice to affiliates, rather than the marketing of specific products.

Provide individual counselling to affiliates. Investment counselling, which can be considered to be the logical extension of financial education, refers to advice more specifically tailored to the situation of each individual and is closer to making actual recommendations. While financial education can be provided by the public authorities or by an industry association, financial planning is more frequently supplied by individual firms. Thus, many financial institutions in OECD countries offer retirement planning models that enable individuals to set their own goals for key variables, such as home ownership and retirement income, and to take action to reach those goals. When it appears that current levels of savings are not sufficient to reach stated goals, the DHs can

be encouraged to increase contributions to the voluntary accounts and/or to change investment allocations. INFONAVIT has made efforts in the past to develop such a tool with its Personalised Assessor programme (*Asesoría Personalizada*).

Develop a full range of savings investment products. In addition to offering education and financial planning advice, IA could also offer a full range of savings and investment options. Thus, beyond the SCMs, a natural product for IA would be savings/housing plans that enable the DHs to obtain credit from INFONAVIT on favourable terms, provided they save specified amounts for specified times.

Just as INFONAVIT as a housing finance institution evolved a doctrine of providing solutions for housing that guided the DHs through their life cycle, IA as a wealth management institution could evolve a doctrine of adapting savings investment strategies to the life cycle of the IMSS affiliates. Thus, individuals build their wealth by acquiring housing and by investing their accounts (SIEFOREs, SCMs and SCVs) as part of an overall wealth management strategy. In retirement, those assets could be used to produce streams of income. Income could be extracted from accounts through phased withdrawals or annuities. Income can also be extracted from housing by outright sale of the property or by techniques such as reverse mortgages. INFONAVIT could develop its market position by working with the DHs, both in the wealth accumulation phase and in the pay-out phase. Other products and instruments could be placed in the voluntary accounts. This is particularly important since under most circumstances individuals relying on their retirement accounts (RCVs) will have low replacement rates and will need other sources of income. Funds held in voluntary accounts are subject to less-stringent investment guidelines. Since minimum retirement income will be assured through the SAR (SIEFOREs, SCVs and SCMs), incremental incomes could be invested in retirement accounts that are subject to less restrictive prudential rules. A challenge for IA will nevertheless be to deliver value-added services, such as the provision of detailed statements, personalised information via appropriate platforms (email, SMS), the ability to transfer benefits to a trusted third party, and so on.

Since the expected new law would remove INFONAVIT's monopoly on SCMs in less than three years, it is reasonable to expect that the fund should have the range of products that will enable the institute to retain its clients. At this time, it appears that the new company will only be authorised to offer SCMs and would have to compete with the AFOREs with regard to SCMs. This seems to be a rather serious competitive disadvantage, and INFONAVIT would have a strong case to request a reconsideration of this part of the law. In any event, rather than creating its own range of SIEFOREs, IA might consider a merger or strategic alliance with one of the 11 existing AFOREs on the market that offers the full range of SIEFOREs. The AFORE would gain access to IA's large base of SCM accounts and its name recognition. IA would gain access to the partner's skills in asset management. To function, this alliance would require that the other partner share IA's commitment to a business model based on improving the quality of the market and low-cost delivery of services.

Compete on the basis of costs. One final objective that IA may have as part of its "brand" could be to become a market leader with respect to costs. IA's main source of income would be fees based upon assets under management. For many years, high fees have been a major drag on final total returns; competition, as well as stricter regulation by CONSAR, has slowly helped to reduce fees to more reasonable levels. In order to encourage the competitive process and continue to discipline fees and expenses, the

proposed changes in the Social Security Law would give companies that offer low fees various advantages in gaining new accounts.

One example that could be of special pertinence to INFONAVIT's new structure is PENSIONISSSTE, which is the pension management entity associated with the ISSSTE. PENSIONISSSTE, which is a publicly owned AFORE, performs pension management services for civil servants similar to those perfumed by the AFOREs for private-sector workers. PENSIONISSSTE almost always has the lowest fees among AFOREs. Thus, to some degree IA could emulate PENSIONISSSTE and, other things being equal, could compete on the basis of fees.

Notes

1. Under a defined contribution plan (DC) the employer, employee or both make contributions on a regular basis. In some cases government may also contribute. Individual accounts are set up for participants and balances are based on the amounts credited to these accounts through contributions and any investment earnings on the money in the account. These plans do not promise any payments upon retirement. For more detailed definitions of all pension-related terms used in this text see OECD (2005).

2. The OECD Development Centre defined employment in the formal sector as employment subject to a written contract or document that certifies social protection entitlement through employee status (OECD, 2011). A worker participating in the social programmes of the IMSS or other recognised agency (see next footnote) is considered to be in the formal sector.

3. A defined benefit (DB) plan is a retirement scheme that contractually agrees to pay a specified benefit, which may be nominal or indexed, upon the plan-holder's retirement.

4. CONSAR reports that at the end of April 2014 the assets of all housing accounts (i.e. those of INFONAVIT and similar institutions) were equal to 38% of the total of retirement and voluntary accounts. The quarterly report of INFONAVIT for April 2014 shows that total funds in the SCVs (individual housing sub-accounts) amounted to MXN 716 billion, or about 33% of the assets in the AFOREs.

5. The Mexican pension system is part of a broader system of social protection that began with the passage of the Law on Social Security in 1943 and the establishment of the IMSS in the following year. Although the IMSS initially emphasised the provision of medical services, with time its range of activities expanded to include workman's compensation, maternity, disability, life insurance and child care, as well as pensions.

6. A defined contribution (DC) plan is a type of retirement plan in which the employer, employee or both make contributions on a regular basis into individual accounts which hold contributions any investment earnings. The funds in the account are used

to generate retirement income. The worker has no promise of receiving any particular benefit after retirement.

7. Pensión para Adultos Mayores: www.sedesol.gob.mx/en/SEDESOL/Pension_para_adultos_mayores.

8. For an extensive discussion of the characteristics of private pension plans, see Krizer et al. (2011).

9. There have been numerous studies in the past few years that present the current situation of the Mexican pension system either as their main theme or as part of a larger reform programme: see Acuña et al. (2013), Alonso et al. (2014), Anton et al. (2012), De la Calle and Rubio (2012) and Krizer et al. (2011). Franco and Villagómez (2013) have produced a broad collection of analytic papers which cover many related issues.

10. This section only pertains to those who are affiliated to the IMSS. In the case of the ISSSTE, which is similar to the IMSS but covers civil servants, rates of contribution are higher as is density of contribution. Thus, projected replacement levels are higher.

11. The OECD projections are based upon the uniform assumption of a 3.5% real rate of return on pension assets in all countries.

12. The conceptual framework of a multi-pillar system emerged a major topic of policy debate with the publication of the World Bank's *Averting the Old Age Crisis* (World Bank, 1994). This coincided to some degree with awareness of the imminent ageing of populations in many world regions. Although the analysis has since become more complex, the simplified presentation in this text is adequate to the understanding of Mexico's problem.

13. One can qualify this generalisation slightly by adding that if the pending social security reform is enacted, the country will have a government pension scheme for low-income and informal workers (who constitute a majority of the labour force) and an additional scheme for formal-sector workers with adequate contribution levels. However, a multi-pillar system typically provides income from more than one source to the same individuals.

14. As reported in Chapter 1, the National Population Council (CONAPO) projects that two out of ten Mexicans will be elderly in 2035, doubling the share in 2014; by 2050, almost three out of ten citizens will be elderly (CONAPO, 2012).

15. The main determinant of future pensions is, nevertheless, the average density of contributions in the future. Some changes will occur spontaneously as a result of demographic trends. Density is highly correlated with levels of education. Younger persons have lower densities than older persons and hence the ageing of the population should also stimulate density. Thus, assuming that average education levels rise, density will also rise. Taking these factors into consideration, the baseline projection of 2014 by the BBVA (Hoyo Martínez et al., 2014) shows the average density rising from 40% at present to about 50% in 2050, which would still leave substantial numbers of persons uncovered by any pension scheme. To increase density beyond these levels, it would be advisable to pursue policies that encourage firms and workers to operate in the formal, rather than the informal, economy.

16. Many workers have significant periods during which they do not contribute, either because they are unemployed or out of the formal labour force. Women, for instance, typically have substantial portions of their working lives outside the labour force due

to maternity leave and child care responsibilities. Additionally, many workers move between the formal and informal sectors and therefore have significant periods in their careers during which they do not contribute regularly enough to qualify for any pension.

17. The rate of informality in Mexico has not shown any improvement since 1990 (see, for example, Rofman and Oliveri, 2012). Low participation is especially prevalent in the lower two quintiles of the population and in the SME sector. The problems of widespread informality and low participation in pension schemes are common throughout Latin America. However, a few countries in the region have higher participation rates than Mexico and a few have made sizeable gains in participation in the past two decades.

18. One could add relatively low net rates of return (i.e. returns less fees) in retirement-related accounts as a factor diminishing pension income. However, this criticism must be carefully qualified. While returns may be suboptimal, they are higher than returns in high-income OECD members. Most retirement accounts in Mexico and in other Latin American countries have high allocations of domestic fixed-income securities, and domestic interest rates in Mexico are higher than those in world markets. At the same time, as Mexico continues to develop, one would expect differentials between domestic and international interest rates to narrow. Moreover, as mentioned above, substantial progress has been achieved in liberalising portfolio allocation rules and lowering management fees. In brief, costs are an issue of lesser importance at this time, but progress is being made. High costs could become more significant if other structural improvements in the system are made.

19. Two noteworthy proposals are the RISS (Regime of Incorporation to Social Security) and *Crezcamos Juntos*, which provide significant tax relief to firms that agree to operate openly and pay taxes as well as subsidies for workers' social security payments. INFONAVIT will have an important role in implementing these programmes. See Ministry of Finance and Public Credit (2014).

20. For a concrete proposal on how such a system might work, see Anton et al. (2012).

21. Indeed, it was not until 2006 that INFONAVIT's General Assembly approved a mission statement recognising the double mission (housing and pensions) of the institution.

22. INFONAVIT refers to workers with accounts as *derechohabientes* or (DHs), meaning those having rights. The term DHs is used in this discussion to refer to those with SCVs in INFONAVIT.

23. The analysis by Fuentes López and Campos (2007) gives a good overview of the situation prevailing before 2000 and the reform policies through 2006. A comprehensive review of the period 2000-12, which is generally consistent with the discussion in that paper, is found in INFONAVIT (2013a).

24. Inflation rates are from the Bank of Mexico's website.

25. In Spanish, "*Veces de Salario Mínimo* (VSM)" is also commonly used.

26. The second largest public supplier of housing finance is FOVISSSTE, which fulfils a function for civil servants similar to that of INFONAVIT for private formal-sector workers.

27. The differences between the sum of banks and INFONAVIT and 100% mainly reflect the activities of FOVISSSTE.

28. Despite some resistance from labour representatives to tightening discipline, a newly reorganised servicing area was tasked with improving collections: increased resources (from a staff of 15 in charge of loan repayment collections in 2000 to 300 in 2006, and an additional 5 000 people working indirectly for INFONAVIT in private companies to which collection efforts were outsourced). INFONAVIT also investigated the causes of the high NPL rate – oftentimes borrowers who lost their jobs in the formal economy and either remained unemployed or found jobs in the informal sector – and negotiated new contracts with delinquent borrowers by offering modified repayment schedules, partial forgiveness on interest and lower monthly payments. For a detailed discussion of the management reform with views of key personnel, see Fuentes López and Campos (2007) and López-Silva et al. (2011).

29. For a discussion of INFONAVIT's innovative use of the capital markets to securities low-income housing loans see IOSCO (2014).

30. The slowing of growth of demand reflects several factors: *i)* elimination of most pent-up demand for housing due to the rapid expansion of lending by INFONAVIT in earlier years (based on INFONAVIT projections, the existing backlog of about 240 000 affiliates who wished to purchase homes but had not yet obtained loans would be eliminated by the year 2015); *ii)* increased willingness of private banks to lend for housing, at least for higher income groups, resulting in displaced lending by INFONAVIT; *iii)* declining final demand for housing, due to slower rates of population growth and household formation; and *iv)* reduced demand for traditional housing credit, due to the increasingly diverse offer of financing solutions with the implementation of the new mortgage model (NMH) (e.g. the use of credit for home improvement and, since 2014, a programme to support rental housing) (Chapter 2).

31. For a brief discussion of fees, see Sinha (2010). For a more extensive analysis in a global context, see Tapia and Yermo (2008). For an extensive recent discussion of the Mexican case, see Aguila et al. (2013). For a critique of this article from the viewpoint of the AFORE industry, see AMAFORE (2014).

32. As an example, if the portfolio had 50% in equity and the stock market declined 20%, the portfolio would lose 10%. Corrections of this kind occur frequently in equity markets and a significant number of individuals would be required to begin taking funds out under highly adverse conditions.

33. It was recommended above that INFONAVIT commit to raising this return to 2%, plus the inflation adjustment. Thus, FANVIT's objective is to enhance income above a minimum that is already provided through other sources. In addition, the Financial Plan for 2013 proposes that the INFONAVIT Law should be amended so that each year the Board of Directors of INFONAVIT will determine additional amount that should be transferred into the SCVs based upon the investment results of FANVIT. Thus the risk that is borne by the DH is only that there will be no additional returns in years when investment performance is not adequate to justify such returns. In normal circumstances, these fluctuations will be smoothed over the course of the DH's working life.

34. "Laddering" refers to a technique of bond investing in which the maturities of the portfolio are varied across time. If a portfolio is evenly laddered over 30 years, 1/30 of the bonds will mature each year.

35. Strategies for enhancing risk management are summarised in INFONAVIT's Financial Plan 2013-2018. Moreover, in order to set investment policy for FANVIT and to monitor adherence to those policies, certain changes in the governance of INFONAVIT have already been adopted. The responsibilities of the present Risk Management Committee have been expanded and a new Investment Committee have been formed. The Investment Committee would be an advisory group to the Board of Directors of INFONAVIT and, as in the present governance structure of INFONAVIT, would also be composed of representatives of the federal government, the trade unions and the enterprise sector. Both committees would be independent of the management.

36. The designation used here would have at least two advantages: leveraging the INFONAVIT "brand" and clearly defining the company's specific role.

37. The need for financial education is widely acknowledged in Mexico. CONSAR has completed several studies that highlight the lack of basic knowledge in the working population and also notes the high levels of marketing fees in the AFORE sector and the apparent insensitivity of many workers with respect to returns and fees. Some observers have concluded that workers are often swayed by aggressive marketing techniques and/or by links between their accounts and other products, such as consumer loans or credit cards. CONSAR also notes the very high marketing expenses of many AFOREs. Partly as a result, CONSAR recently announced that it was accelerating its effort in the field of investor education with respect to the use of investment accounts (CONSAR, 2014b).

38. For an example of industry-driven investor education, see EFAMA (2014).

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