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Table of contents

Executive summary 9

Assessment and recommendations 13
Making reform happen 13
Short and medium-term macroeconomic policies 13
Long-term economic growth 18
Environmental protection and energy policy 25
Fiscal reform 30
Bibliography 42
Annex A1. Progress in structural reform 44

Chapter 1. **New findings on obstacles to economic growth** 47
Economic growth 48
Informality 52
The legal system and rule of law 59
Bibliography 63

Chapter 2. **Green growth challenges and the need for an energy reform** 65
Green growth challenges 66
Energy sector reform to boost the productivity of PEMEX 81
Bibliography 85

Chapter 3. **Improving fiscal federal relations for a stronger Mexico** 87
Mexican fiscal decentralisation: Main features and recent trends 90
Issues with intergovernmental spending assignments 93
Issues with intergovernmental revenue assignments 101
Measures to reduce the pro-cyclicality in sub-national revenues 114
Improving public financial management 115
Subnational governments' debt has been increasing and pension liabilities are large 117
Concluding remarks 122
Notes 124
Bibliography 124
Annex 3.A1. 128

Boxes
1. Main structural policy recommendations for boosting growth 24
2. Main recommendations for environmental protection and energy policy 30
3. Main recommendations to improve the fiscal framework and fiscal federalism . 36
4. Main recommendations on tax policy and social transfers 42

1.1. The Australian Productivity Commission 51
1.2. Explaining informality in Mexico 53
1.3. Main structural policy recommendations for boosting growth potential 63
2.1. Attracting private investment towards green infrastructure through structured instruments (CKDs) 81
2.2. Main recommendations for green growth and energy policy 84
3.1. What are the characteristics of good intergovernmental fiscal arrangements? 89
3.2. Mexico's 2007 reform to strengthen its federal fiscal framework 97
3.3. The Norwegian KOSTRA system: What gets measured gets done and improved 109
3.4. An assessment of the stabilisation properties of the Mexican intergovernmental transfer system. 114
3.5. Recommendations to improve fiscal relations across levels of government . . 123

Tables

1. Demand, output and prices 15
2. Banking system financial indicators 16
1.1. Estimates of an informality equation across states and industries 53
1.2. Implementation of new penal codes. 61
2.1. Water, sanitary services and waste water treatment 76
3.1. Allocation of government responsibilities for key public services 93
3.A1.1. Non-earmarked transfers (Participaciones federales, Ramo 28) 128
3.A1.2. Earmarked transfers (Aportaciones federales, Ramo 33) 129
3.A1.3. Assignments of taxes to sub-national governments 130
3.A1.4. Debt limits by state 131

Figures

1. Macroeconomic indicators 14
2. Private credit as a share of GDP 17
3. Contributions to GDP per capita growth. 18
4. Stringency of employment protection legislation. 19
5. Distribution of manufacturing enterprises by size class 20
6. PISA results for Mexico 21
7. Start-up delays and costs for starting a business 22
8. Air pollution and water stress 26
9. Energy, GDP and carbon emissions 27
10. Gasoline prices and tax revenues 28
11. Unit price of water and sanitation services to households 29
12. PEMEX revenue per employee compared with other state-owned oil companies. 29
13. Fiscal balance and public debt 31
14. Gross national debt as a share of government tax revenues. 31
15. Sub-national revenue as a percentage of sub-national spending 33
16. Recurrent taxes on immovable property 35
17. VAT revenues as a percentage of potential revenue from final consumption 37
18. Relative poverty in the late 2000s 39
19. Poverty indicators 39
1.1. Gaps in GDP per capita and productivity are wide and persistent 49

1.2. Unit labour costs have been falling as labour productivity has improved in manufacturing . . . 49
1.3. Shift-share analysis of labour productivity evolution . . . 50
1.4. Very small and large enterprises dominate employment . . . 52
1.5. Education performance based on PISA scores is weak at all levels . . . 54
1.6. The time required to start a business has been falling in nearly all states . . . 56
1.7. Concentration in selected economic sectors . . . 57
1.8. Mexico's average and trade-weighted tariffs have been reduced . . . 58
1.9. Improvements in the legal system would boost average firm size . . . 59
1.10. Safety as a component of the OECD Better Life Index . . . 60
1.11. Mexico scores poorly on indexes of the rule of law and corruption . . . 62
2.1. Air pollution and water stress . . . 67
2.2. Energy, GDP and carbon emissions . . . 68
2.3. Subsidy incidence by income group . . . 69
2.4. Impact on GHG emissions of phasing-out fossil fuel subsidies . . . 69
2.5. Gasoline price and tax revenues . . . 70
2.6. Revenues from environmentally-related taxes . . . 71
2.7. Electric power transmission and distribution losses . . . 72
2.8. CO_2 emissions by sector . . . 73
2.9. CONAGUA's budget and revenues from water abstraction charges . . . 75
2.10. Water tariffs and tariffs by municipality . . . 77
2.11. Investments required to 2030 in low-carbon interventions in Mexico by sector 79
2.12. Investments required to implement the 2030 Water Agenda . . . 79
2.13. PEMEX oil production by field . . . 82
2.14. Financial summary of PEMEX . . . 82
3.1. Key highlights on sub-national spending . . . 91
3.2. Sub-national governments' revenue sources . . . 92
3.3. Sub-government revenue and expenditure, 2011 . . . 92
3.4. Health outcomes by state . . . 98
3.5. Health spending by state . . . 99
3.6. Earmarked health spending per state . . . 100
3.7. Most municipalities depend on external funding . . . 102
3.8. State and local tax revenue . . . 103
3.9. Recurrent taxes on immovable property . . . 105
3.10. Unit price of water and sanitation services to households . . . 107
3.11. Transfers are not equalising and little related to local tax effort . . . 110
3.12. The social infrastructure fund does target marginalisation . . . 111
3.13. Regional disparities across OECD countries . . . 112
3.14. Sub-central government debt . . . 117
3.15. Fiscal gaps . . . 118
3.16. Pension liabilities by state . . . 120

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The Secretariat's draft report was prepared for the Committee by Sean Dougherty, Aida Caldera Sánchez and Carla Valdivia de Richter, under the supervision of Patrick Lenain. Statistical assistance was provided by Roselyne Jamin.

The previous Survey of Mexico *was issued in May 2011.*

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BASIC STATISTICS OF MEXICO, 2011

(Numbers in parentheses refer to the OECD average)[1]

LAND, PEOPLE AND ELECTORAL CYCLE

Population (million)	115.6		Population density per km²	58.6	(34.3)
Under 15 (%)	29.2	(18.4)	Life expectancy (years, 2010)	74.0	(79.7)
Over 65 (%)	5.8	(14.9)	Males	71.1	(76.9)
Foreign-born (%, 2010)	0.9		Females	77.0	(82.5)
Latest 5-year average growth (%)	1.3	(0.5)	Last general election	July 2012	

ECONOMY

Gross domestic product (GDP)			Value added shares (%) in current prices		
In current prices (billion USD)	1.157.3		Primary	3.7	(2.5)
In current prices (billion MXN)	14.395.8		Industry including construction	35.6	(27.8)
Latest 5-year average real growth (%)	1.5	(0.8)	Services	60.7	(69.3)
Per capita, PPP (thousand USD)	15.2	(35.4)			

GENERAL GOVERNMENT

Per cent of GDP

Expenditure (2010)	23.2	(44.0)	Revenue (2010)	21.7	(36.1)

EXTERNAL ACCOUNTS

Exchange rate (MXN per USD)	12.393		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	8.184		Machinery and transport equipment	52.6	
In per cent of GDP			Mineral fuels, lubricants and related materials	15.9	
Exports of goods and services	31.6	(52.7)	Manufactured goods	8.1	
Imports of goods and services	32.8	(49.7)	Main imports (% of total merchandise imports)		
Current account balance	-0.8	(-0.7)	Machinery and transport equipment	45.3	
Net international investment position (2010)	39.6		Manufactured goods	13.6	
			Chemicals and related products	11.3	

LABOUR MARKET, SKILLS AND INNOVATION

Employment rate (%) for 15-64 year olds	60.0	(64.8)	Unemployment rate (%)	5.2	(7.9)
Males	78.0	(73.0)	Youth (%)	9.9	(16.2)
Females	43.7	(56.8)	Long-term unemployed (%)	0.1	(2.6)
Average worked hours per year	2.215	(1 776)	Tertiary educational attainment 25-64 year-olds		
Gross expenditure on R&D (% of GDP, 2009)	0.4	(2.4)	(%, 2010)	17.4	(30.7)

ENVIRONMENT

Total primary energy supply per capita (TOE)	1.7	(4.3)	CO_2 emissions from fuel combustion per capita	3.8	(10.1)
Renewables (%)	9.3	(8.2)	(tonnes, 2010)		
Fine particulate matter concentration	32.7	(22.0)	Water abstractions per capita (1 000 m^3, 2009)	0.7	
(urban, PM10, μg/m^3, 2008)			Municipal waste per capita (tonnes, 2010)[3]	0.4	(0.5)

SOCIETY

Income inequality (Gini coefficient, late 2000s)	0.466	(0.314)	Education outcomes (PISA score, 2009)		
Relative poverty rate (%, late 2000s)	26.7	(17.9)	Reading	425	(493)
Public and private spending (% of GDP)			Mathematics	419	(496)
Health care (2010)	6.2	(9.7)	Science	416	(501)
Pensions (2009)	1.7	(8.2)	Share of women in parliament (%, October 2012)	36.0	(25.3)
Education (excluding tertiary, 2009)	4.0	(4.0)			

Better life index: *www.oecdbetterlifeindex.org*

1. Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exists for at least 29 member countries.
2. 2010 for the OECD.
3. 2009 for the OECD.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

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Executive summary

Main findings

The new government has set an ambitious course of economic and social reforms (a key element of which is its recent *Pacto por México*), for which it has obtained broad political support. The policies of the past several years have positioned the country well in terms of macroeconomic and financial performance, but economic growth remains insufficient and more needs to be done to improve well-being. This *Economic Survey* puts forward reforms aimed to achieve higher income levels and better social conditions in Mexico.

In order to raise **long-term economic growth** by accelerating productivity and factor accumulation, structural reforms will be required across multiple institutional domains, as many of the problems are interlinked. This should include a follow-through of already-legislated reforms which need to be implemented – notably in the key areas of labour markets, competition and education. These reforms, however, are heavily attenuated by widespread informal employment and weak legal institutions that diminish the effectiveness of policies and hold back gains in productivity. New legislation and regulatory reform are needed to remove barriers to market entry, reduce corruption and make the civil justice system more effective.

Pressures on **natural resources and environmental outcomes** need to be taken into account as Mexico seeks to boost economic growth. Costs of environmental degradation represented 5% of GDP in 2011 and the country has made less progress than other OECD countries in decoupling CO_2 emissions from economic growth. The government has set ambitious emission reduction targets that will require new policy tools to be achieved. Removing fossil-fuel subsidies and introducing carbon pricing would be the most cost-efficient ways to accomplish these goals, and stricter emission standards also have a role to play to lower emissions in the transportation sector.

While **fiscal policy** continues to be prudent, public debt has increased during the recession, as in other countries, and the government budget is overly dependent on oil. The risk of decline in oil output, in the absence of energy reform, is a threat to fiscal stability. Fiscal buffers should be rebuilt over time to protect the economy against possible contingencies. Transitioning towards a new fiscal rule is also desirable to reduce the partial pro-cyclicality of the current framework. Moreover, the tax system could be made more efficient, by broadening the tax base, and it does not raise sufficient revenues to fight poverty, develop human capital and build infrastructure. Evaluating and removing tax expenditures and special tax regimes is necessary, especially those that erode the corporate income tax base, such as for the *maquiladoras*. Additionally, the system of fiscal federalism as it currently functions in Mexico has important shortcomings, with states and municipalities overly dependent on federal transfers to finance expenditure. The federal government should harden the budget constraints on sub-national governments by limiting further increases in transfers and avoiding extraordinary transfers. At the same time, debt ceilings and restrictions on deficits should be established to prevent unsustainable borrowing by local governments.

Remarkable progress has been made in reducing **poverty and inequality** over the past fifteen years. Still, social indicators remain unfavourable by international comparison, and poverty has increased once again during the recession. Mexico needs to strengthen its social policies to achieve a less unequal income distribution. Building on existing programmes will be important, as *Oportunidades, Seguro Popular* and *70 y más* have generally been successful, and should be expanded. However, strengthening the social safety net significantly will be costly, so improving the efficiency of the current system by reducing duplication among the numerous programmes and evaluating their effectiveness will be important. Building an unemployment insurance scheme would also be useful.

Key recommendations

Structural policies to boost growth

- Promote regulatory reform and remove entry barriers at all levels, particularly at the subnational level, building on progress at the federal level. Create a high-level inter-agency body focused on productivity that can study and advocate for structural reform.
- Seek to reduce informality through a broad-based package of policies: strengthen education and skills, reduce anti-competitive business regulation, improve the legal environment and tackle corruption.
- Complete the judicial reforms at the state level that move towards faster and more transparent trials in criminal cases. Empower an executive agency to promote the analogous transition for civil cases.
- Set up specialised economic courts with qualified judges to address economic regulation issues and support the effectiveness of the Competition Commission.
- Remove barriers to foreign entry in remaining sectors, building on unilateral tariff liberalisation.

Environmental protection and energy policies

- To ensure that the right price signals are provided, continue to remove fossil-fuel subsidies, and thereafter move towards carbon pricing.
- Similarly, promote energy efficiency in CFE electricity operations, so as to reduce government subsidies and carbon emissions. Reduce PEMEX's environmental footprint.
- Raise water service tariffs to reflect operation and maintenance costs of providing services.

Fiscal reform

- Move towards a structural fiscal rule to reduce the partial pro-cyclicality of the current framework.
- The fiscal stability law should be reformed to increase the build-up of financial buffers in liquid assets available in case of contingency or adverse market sentiment.
- Re-evaluate and remove special tax regimes, such as the one for the *maquiladoras*.
- Improve PEMEX's operational and environmental efficiency as well as governance, allowing much more reliance on private firms in the oil and gas sector, so as to increase output and generate gains for the federal budget.
- Establish a harder budget constraint on subnational governments to improve their tax collection by limiting further increases in transfers, avoiding extraordinary transfers and promoting the implementation of limits on deficits and debt ceilings.
- Fully implement the new general government accounting law to ensure greater transparency and accountability of local budgets.

Anti-poverty programmes

- Increase the coverage and size of *Oportunidades* cash transfers to the poor, complete the implementation of *Seguro Popular*, and broaden the coverage of *70 y más* old-age pensions.
- Evaluate and streamline social benefit programmes.
- Create a cost-effective unemployment insurance scheme and strengthen training programmes to help the unemployed find work.

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Assessment and recommendations

Making reform happen

The important structural reforms that have been carried out over the past few years have improved Mexico's economic performance and increased its resilience in the face of external shocks. However, there remains significant scope for reform in a number of key institutional areas, both to fully implement already-legislated measures and to undertake new steps, with the aim of accelerating the pace of convergence towards higher living standards and improving social conditions among the large numbers of households living in poverty. The *Pacto por México* ("Pact") multi-partisan agreement of 95 major reform commitments that was signed by the new Administration and representatives of the major political parties is therefore welcome. The commitments include the essential policy priorities that are needed to secure stronger growth and material well-being, as well as to promote sustainability. Moreover, the Pact is supported by ruling, legislative and technical co-ordination councils, incorporating monitoring mechanisms and timetables that should help to ensure that the commitments are actually followed through upon. Many of the Pact's proposed legal and policy measures were identified as policy priorities in previous *Economic Surveys of Mexico*, and cover nearly all policy domains addressed in outstanding OECD recommendations (see Annex A1, Progress in structural reform).

Although the reforms set out in the Pact are ambitious, in a number of areas they do not go far enough, though they represent important steps in the right direction. Key areas where reforms could go further include a more comprehensive removal of anti-competitive barriers, implementing major reforms in the civil justice system, advancing a fuller framework for green growth, and undertaking extensive reforms to fiscal federalism. These areas are discussed in greater detail in this *Survey*.

Short and medium-term macroeconomic policies

Mexico's macroeconomic policies are sound, and their credibility with markets has helped the country to avert lingering consequences from the global financial crisis. The economy has been growing at above its potential rate since 2010 (Figure 1, Panel A) thanks to a fast recovery from the 2008-09 financial crisis that left considerable spare capacity. Growth has been supported by expanding domestic demand and greater export market penetration on top of substantial improvements in relative unit labour costs, driven by moderate wage increases (Panel B). This has been accompanied by gains in formal employment (Panel C). Growth will slow in 2013 due to a weak recovery in the United States, destination for more than three-quarters of Mexico's non-oil exports, and ongoing sluggish international demand, which will moderate Mexico's exports and investment. However, GDP growth is expected to

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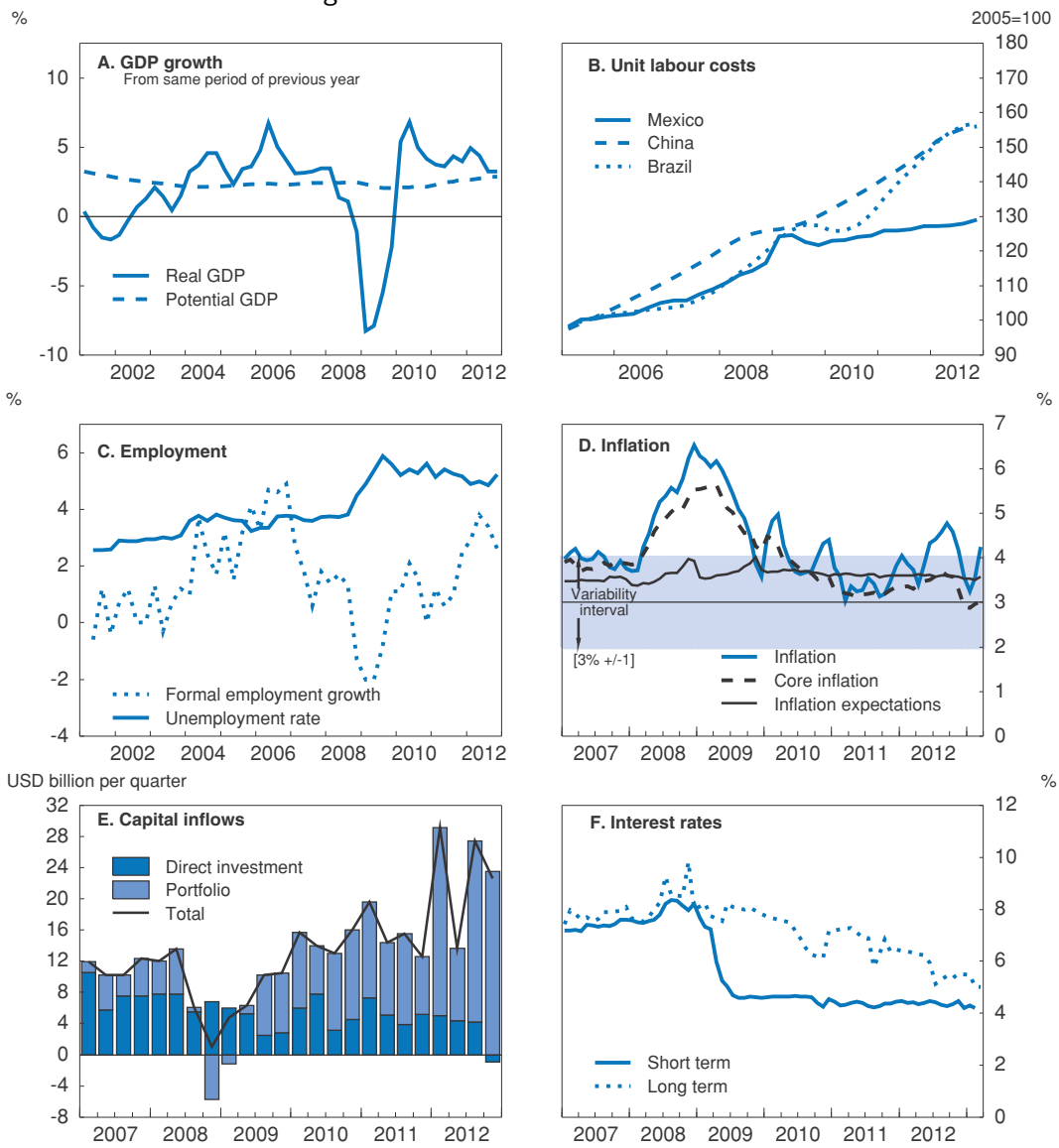
Figure 1. **Macroeconomic indicators**



Source: INEGI and *OECD Economic Outlook Database.*

StatLink http://dx.doi.org/10.1787/888932802952

gradually strengthen to over 3½ per cent by 2014 (see Table 1), as world and especially US demand will likely pick up in late 2013 and into 2014.

Headline inflation surpassed the upper limit of the central bank's variability interval for some months in the past year (Figure 1, Panel D), but this only reflected temporary shocks, in particular a bird flu, a regional drought and international supply shocks. Core inflation rose only marginally and has already reverted to just below the central bank's target of 3%, while medium and long-term inflation expectations have remained firmly anchored. In this context, the central bank cut its policy rate in March by half a percentage point, as it saw scope to achieve convergence to the inflation target with a lower interest rate. However, headline inflation remains volatile – affected particularly by food prices – and the central bank will need to monitor core inflation and its public communications closely to ensure that inflation expectations are not affected.

Table 1. **Demand, output and prices**

	2009	2010	2011	2012	2013	2014
	Current prices MXN billion	Percentage changes, volume (2003 prices)				
GDP	11 930.2	5.3	3.9	3.9	3.4	3.7
Private consumption	7 841.9	5.0	4.4	3.4	3.7	3.6
Government consumption	1 426.1	2.3	2.1	1.5	1.5	1.3
Gross fixed capital formation	2 540.5	0.3	8.3	5.8	2.4	4.7
Final domestic demand	11 808.4	3.6	4.9	3.7	3.2	3.6
Stockbuilding[1]	295.7	1.5	-1.0	0.4	0.4	0.0
Total domestic demand	12 104.2	5.0	3.8	3.8	3.4	3.5
Exports of goods and services	3 295.5	21.7	7.6	4.6	4.7	6.2
Imports of goods and services	3 469.5	19.7	7.1	4.1	4.8	5.3
Net exports[1]	-174.0	0.3	0.1	0.1	-0.1	0.2
Memorandum items						
Consumer price index		4.2	3.4	4.1	3.4	3.2
Unemployment rate[2]		5.4	5.2	5.0	4.9	4.8
Public sector borrowing requirement[3, 4]		-4.3	-3.4	-2.9	-2.3	-1.9
Current account balance[4]		-0.2	-0.8	-0.8	-1.1	-0.5

1. Contributions to GDP growth, actual amount in the first column.
2. Based on the National Employment Survey.
3. Includes central government and public enterprises. The PSBR differs from the government's definition of the deficit in that it excludes non-recurrent revenues and pure financing operations, such as withdrawals from the oil revenue stabilisation fund.
4. As a percentage of GDP.

Source: OECD Economic Outlook Database, updated with most recent information.

Fiscal policy has been conducted prudently with a gradual narrowing of the deficit since the end of the financial crisis, further strengthening the credibility of Mexico's macroeconomic policy framework. The government aims to return to a balanced budget this year – under a definition which excludes oil investment in the state oil company – by increasing spending efficiency and boosting revenues through the postponement of a scheduled reduction in the highest personal income and corporate tax rates. However, the public sector borrowing requirement, a measure of the combined deficit of the federal government and its enterprises, would still show a deficit of 2.4% of GDP.

Short and medium-term risks primarily revolve around a number of potential shocks or spillovers that Mexico could experience from abroad. These include the possibility of a more pronounced slowdown in the United States, a worsening of the euro-area sovereign debt crisis, and volatility of oil and gas prices, although Mexico has monetary and fiscal policy space to respond to these risks if needed. The country's high degree of trade dependence on the US economy, although reduced in recent years, makes it especially vulnerable to cyclical developments in its Northern neighbour. The very substantial role that oil plays in Mexico's government revenues poses a medium and long-term risk to the budget, with the short-term risk hedged using a fixed-cost derivative option. Stabilisation funds, the export oil price hedge and a conservative debt structure offer some protection, and the country's risk-management strategy includes a natural disasters fund, catastrophe bonds and excess-loss insurance to address unforeseen contingencies.

External portfolio inflows have gained substantial momentum, especially investment in fixed-income securities (Figure 1, Panel E), in a context of abundant global liquidity and lower perceptions of sovereign risk that have pushed down Mexico's long term interest rates substantially (Figure 1, Panel F). These portfolio inflows have become particularly intense over the past year, with some other emerging market economies also experiencing large-scale capital inflows. Such financial inflows could stop and reverse suddenly if risk aversion returns or quantitative easing comes to an end in advanced economies, putting pressure on the exchange rate and on growth. The central bank has substantial foreign exchange reserves, supported by a highly flexible exchange rate, and renewed access to the IMF's Flexible Credit Line, thus helping to address such adverse risks, but macro-prudential policies nevertheless need to remain especially vigilant to respond to any major capital flow reversal and the rules for the future build-up of stabilisation funds should be further examined.

Financial supervision

The banking sector appears sound, profitable, well capitalised and with good liquidity levels, according to standard indicators (Table 2). Implementation of Basel III capitalisation rules has just begun and most banks should be able to meet these new requirements comfortably. In addition, the country will soon use leverage ratios to monitor a broader set of banking system's risks. This is welcome. Given the gradual implementation of rules, some medium and small-size banks that might struggle to comply with liquidity requirements will have time to adjust.

Table 2. **Banking system financial indicators**

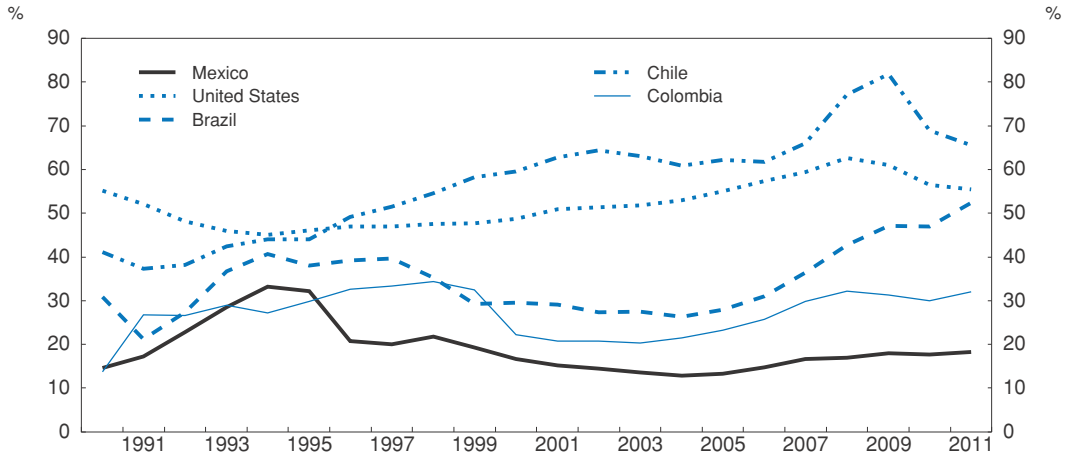
Per cent

	2008	2009	2010	2011	2012
Return on assets (ROA)	1.3	1.3	1.5	1.3	1.5
Return on equity (ROE)	13.0	12.8	13.5	12.6	14.0
Capital adequacy (regulatory capital/risk weighted assets)	15.3	16.5	16.8	15.7	15.9
Liquidity (Deposits/loans)	127.1	125.4	129.2	120.5	117.0
NPL ratio (Non performing loans/total loans)	3.2	3.1	2.3	2.5	2.5
NPL ratio adjusted (includes write-offs)	6.9	8.1	5.7	4.7	4.7
Provisions/NPL	161.2	173.3	200.0	191.0	185.2

Source: Comisión Nacional Bancaria y de Valores (CNBV).

Though the banking system has become somewhat less concentrated, seven of the 43 banks still hold 80% of total assets. This risks hindering competition, which in turn may explain the relatively low credit penetration, even when compared with other Latin American countries (Figure 2). Consumer credit remains low, and weaknesses in the legal system make contract enforcement difficult, limiting the utilisation of collateral by SMEs. One of the commitments made in the Pact and has just been presented to congress, is to change the legal framework so as to lower the cost of credit, reduce the prices of financial services and improve the treatment of non-performing loans. This would help alleviate problems in the supply of credit, though complementary measures to promote financial inclusion could help improve access to credit. In addition, efforts have been made to adopt a consolidated, risk-based supervision of financial conglomerates, though a legal reform is needed. The new administration should push forward these initiatives.

Figure 2. **Private credit as a share of GDP**[1]



1. Private credit by deposit money banks.
Source: World Bank (2013), Financial Structure Database.

StatLink http://dx.doi.org/10.1787/888932802971

Further efforts are needed to strengthen regulatory and supervisory policies. The independence of key agencies supervising the financial system should be strengthened, through the use of rules-based principles governing budget and staffing matters. The rules for conduct of business in the banking sector should be further improved, particularly given the high concentration of the system. New regulation passed last November are a step in this direction since they address most of the problems identified in this area. Over the medium-term, the regulatory architecture should be further reviewed for overlap of responsibilities to ensure an effective and more integrated supervision, and the introduction of a bankruptcy law should be considered. In addition, the tool-kit for macroprudential intervention needs to be widened to ensure effective and efficient achievement of objectives; and the legal setup of the Financial System Stability Council, whose work has improved communication and the exchange of information between various supervisory authorities, needs to be strenghtened.

Development banks' performance is sound and they are well capitalised. Banking regulation is applied to development banks in most areas, though the scope of their activities should be better defined. This is particularly relevant because these banks have remained very active, although their credit levels remain small relative to commercial banks, since the 2008-09 recession when they provided counter-cyclical credit to mitigate the adverse effects of the crisis. This can be politically attractive but very difficult to take away once established, harming competition given that these institutions have low funding costs as a result of state guarantees. Thus, development banks should focus on providing complementary products to those of the private financial system, such as infrastructure financing and financial guarantees. The new administration has committed to strengthen development banks in such areas as well as others such as innovation and patenting. Other public financial institutions should also be given clear rules and objectives. One example is *Infonavit*, the major mortgage provider that funds its operations mainly with payroll taxes. Though its performance has been so far sound, its portfolio has increased rapidly and this could become a possible source of vulnerability.

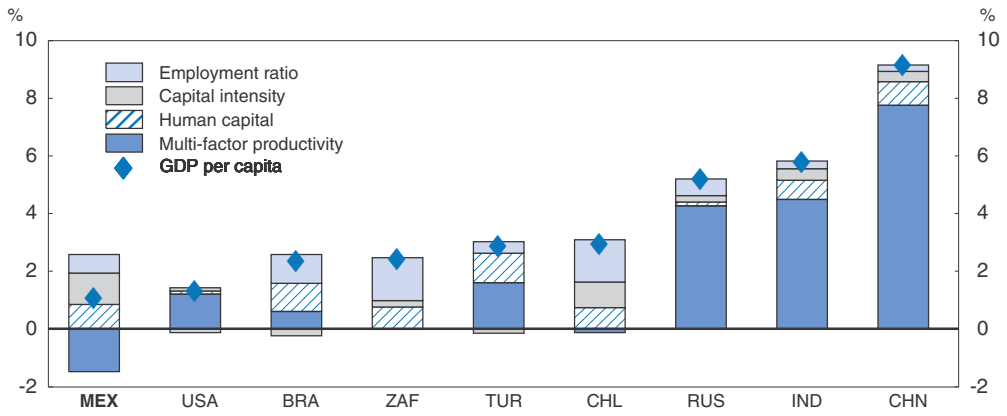
Long-term economic growth

Economic growth has been slow in the past decade. This unimpressive economic performance remains regardless of what type of material well-being concept is used – production, income or consumption-based. It reflects persistent weakness of multi-factor productivity, offsetting the otherwise positive contributions of labour force growth and human capital accumulation (Figure 3). While the contributions of such factor inputs to growth was on a par with other major emerging markets – though well behind Russia, India and China – Mexico is nevertheless alone among these countries in having suffered from negative trend productivity growth. The Pact calls for raising potential GDP growth from slightly above 3% to near 5%, which will not be possible without a major increase in productivity growth and a faster rate of capital accumulation. This would require major structural reforms, including in the areas of labour markets, education, competition and legal institutions. Given the ambition of the new administration and the comprehensiveness of the reforms needed across multiple domains, a high-level inter-agency body focused on productivity should be created to analyse the impediments and risks to growth, and advocate for reform.

Beyond the considerable short and medium-term risks discussed previously, Mexico faces a substantial long-term risk of income stagnation, if it does not carry out sufficient reforms and boost productivity growth. This risk is particularly serious given the age structure of the population, since the contribution of demographics to the potential growth rate is soon set to start declining (OECD, 2013a). In addition, some risks arise from the concentration of its export destination and production structure, though it has been diversifying to reduce its reliance on the United States and manufacturing more broadly.

Figure 3. **Contributions to GDP per capita growth**

2000-11



1. The contribution of intangible capital is subsumed in the growth of trend multifactor productivity.
Source: Long-term Growth Scenarios Database (OECD, 2012a).

How to read this figure: Contributions to GDP per capita are based on a decomposition of GDP growth into contributions of the employment ratio (based on working age population), capital-output ratio, human capital per worker and multi-factor productivity. The vertical axis is average annual growth in percentage points of GDP per capita. For more details, see Appendix 1 in Johansson et al. (2013), "Long-Term Growth Scenarios", OECD Economics Department Working Papers, No. 1000.

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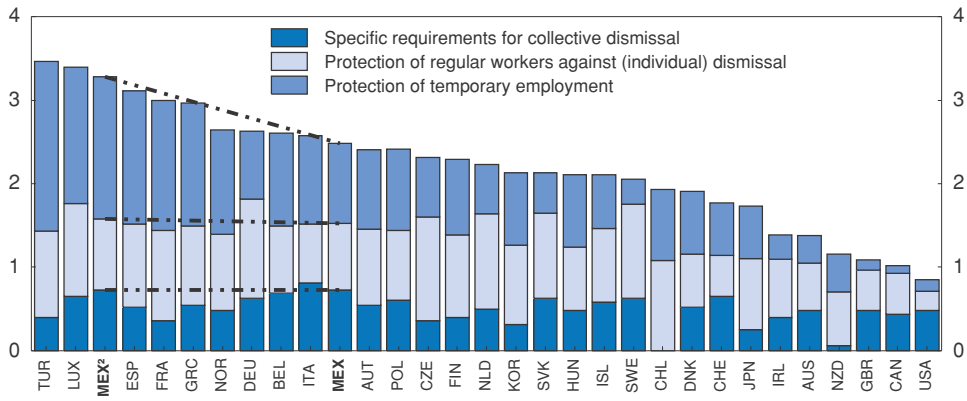
Labour markets and informality

The labour market reform that passed into law in late 2012 represents a major breakthrough in improving the functioning of the labour market. In particular, it will contribute to reducing the stringency of job protection for formal employment that reduces labour force participation rates, notably for women. The law should help boost formal job creation as well as productivity growth, by enabling employers to adjust their labour force at lower cost and with less judicial uncertainty. This should be particularly beneficial in dynamic or volatile industries that are open to international trade, since they have greater uncertainty about their labour needs. While a full estimate of the new law's impact is still highly uncertain, OECD estimates based on changes in the stringency of job protection in the formal sector (Figure 4) suggest that these reforms could raise potential growth by 0.1 percentage points or more.

Figure 4. **Stringency of employment protection legislation**

Scale from 0 (least restrictive) to 6 (most restrictive), 2008[1]



1. For all countries except Mexico, which refers to the 2013 score.
2. Prior to the 2012 reform of the Federal Labour Law, which took effect on 1 December 2012.

Source: OECD Indicators of Employment Protection Database.

How to read this figure: OECD indicators measure employment protection legislation on a scale from 0 to 6, where 0 indicates the least restrictive from the employer's point of view and 6 the most restrictive. With the reform, Mexico's employment legislation has become much less restrictive. Restrictiveness eased in the protection on temporary employment and the protection of regular workers against dismissal, but not in specific requirements for collective dismissal.

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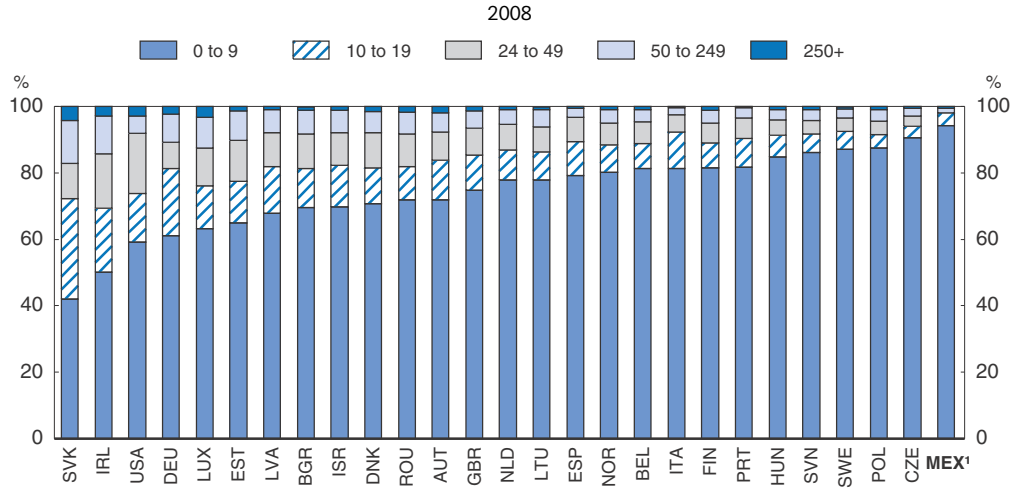
Rapid implementation of the new law is important to ensure that its benefits are realised quickly. Several aspects of the law are innovative in the Mexican context: *i*) new short-term training contracts of three months for blue collar and six months for white collar jobs are now allowed, which should help to improve job matching and facilitate higher formal employment rates of the youth and lower-skilled; *ii*) new grounds for termination without liability are now allowed for misconduct, including harassment; and *iii*) back-pay while labour litigation is in progress is now limited to a maximum of 12 months', reducing employer uncertainty (rather than unlimited as before).

Yet widespread informality remains an overwhelming challenge, limiting economies of scale and reducing economy-wide efficiency. Mexico's share of small manufacturing firms (as well as their employment and output) is large (Figure 5). Moreover, most of Mexico's informal sector works in "microenterprises" that have 10 or fewer employees, or are self-employed. A preponderance of small-scale firms and informality severely limit the economies of scale than can be achieved, and reflects structural distortions that depress average productivity and limit growth (Hsieh and Klenow, 2012; Dougherty, 2013).

Figure 5. **Distribution of manufacturing enterprises by size class**



1. The size classes 10-19 and 20-49 are aggregated for Mexico, the exact list of size classes for Mexico is the following: 0-10, 11-50, 51-250, 251+.

Source: OECD Entrepreneurship Database.

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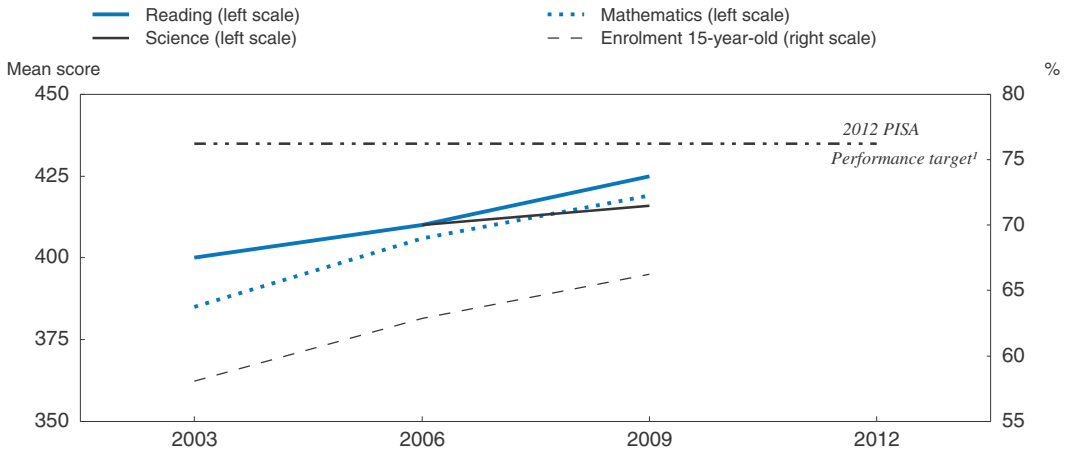
There is no magic bullet to address informality. In the long run, higher incomes will reduce informality. However, new empirical evidence shows that promoting a greater share of formal firms and employment will require a broad-based package of policies to improve educational outcomes, reform business regulation, strengthen legal institutions and reduce corruption (Dougherty and Escobar, 2013). There is also evidence that access to finance is an important barrier. Taxes are often thought to be a key problem, but evidence suggests that they are not the dominant driver of informality in Mexico, though they may affect the choices of some self-employed high earners, many of whom own their firms. On the whole, skill deficits predominate among the informal salaried workers, and an average wage gap of about 15% exists with formal salaried workers (Bargain and Kwenda, 2010). Such skill deficits, which limit formal sector employment, reflect weak educational achievement and low education quality.

Educational achievement is considerably below the OECD average, but has been gaining ground in the past decade, while education quality measures have been increasing at a moderate pace (Figure 6). This is particularly impressive given that nearly all students from the age of 4 to 14 are now in school, though enrolments beyond the age of 14 are weaker and more effort will be required at the upper secondary school level. Reforms of teaching and school leadership, system funding and curricula, as well as evaluation and assessment strategies, will need to be pushed further (OECD, 2012b). The law passed in January of this year is an important step, and should make the system for hiring, evaluating and promoting teachers more professional, as it dispenses with the discretionary criteria that have sometimes allowed teaching positions to be bought or inherited.

Figure 6. **PISA results for Mexico**



1. The performance target set by the Mexican government for 2012 to 435 considers a combined average of country mean scores starting from a 392 score-point baseline using the 2003 PISA results.

Source: OECD (2011b), *Strong Performers and Successful Reformers in Education: Lessons from PISA 2009 for Mexico.*

How to read this figure: OECD PISA indicators evaluate education systems worldwide every three years by assessing 15-year-olds' competencies in the key subjects: reading, mathematics and science. In each test subject, the score for each participating country is the average of a representative sample of students in that country. The mean score among OECD countries is 500 points and the standard deviation is 100 points. About two-thirds of students across OECD countries score between 400 and 600 points.

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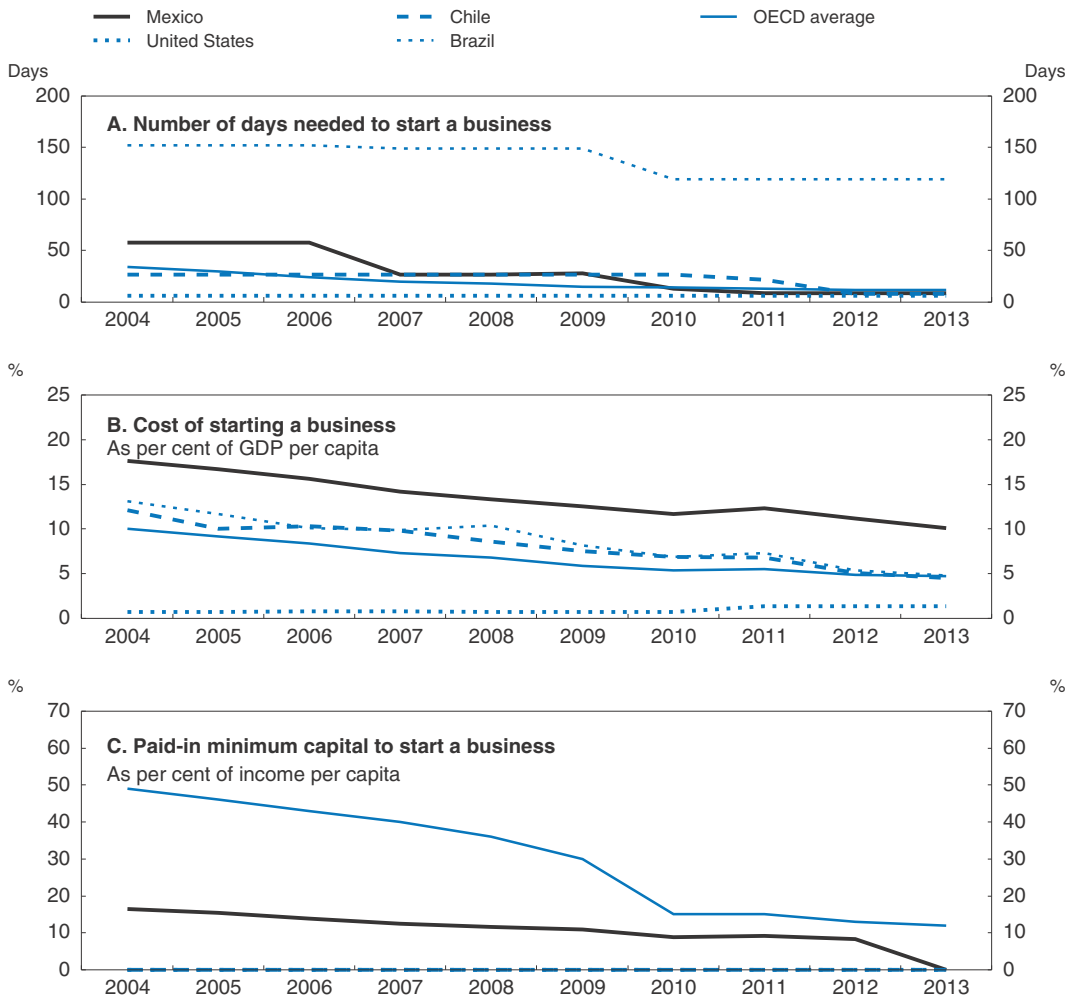
Competition and regulation

Mexico has made significant progress in easing procedures to start a business. The time in days, average cost and minimum capital requirements to open a business have been reduced progressively over the past decade, with the amount of paid-in capital required to open a low-risk business reaching zero this year (Figure 7). Moreover, the Federal Commission on Regulatory Improvement (COFEMER) has been applying regulatory impact analysis (RIA) to new and existing regulations over the past decade, and recently reformed its system to align it with the OECD best practice. The RIAs are all made public, as a result of transparency requirements, and a recent OECD (2012c) assessment suggested that line ministries and regulators are likely to follow their non-binding recommendations. However, COFEMER should be strengthened to give it sufficient legal status to tackle regulation from a "whole-of-government" perspective.

There is substantial variation of administrative rules at the state level, and considerable work remains to be done to reduce compliance costs at the local level (IMCO, 2012; OECD, 2012c). One useful option would be to integrate the Federal on-line simplified business registration portal *tuempresa.gob.mx*, with states' own registration and information portals. Some states, such as Nuevo León and Zacatecas, have taken aggressive approaches to review the stock of regulation, against need and efficiency, an approach that they dub the "regulatory guillotine". Around a dozen states and municipalities have participated in a joint OECD-Ministry of Economy initiative that has helped to apply better regulation policies at the state and municipal level, following a tool-kit developed with the OECD.

Explicit and implicit restrictions on private and foreign investment exist in a number of network sectors, limiting the role international competition can play. These restrictions on foreign ownership are among the most stringent in the OECD, and include state-owned monopolies in the electricity and oil & gas sectors, as well as additional restrictions on

Figure 7. **Start-up delays and costs for starting a business**



Source: World Bank (2013), *Doing Business Indicators*.

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foreign ownership in the agriculture, telecommunications, media, transport and financial services sectors, in all of which there is also an exceptionally high degree of market concentration (CIDAC, 2011; OECD, 2013a).

The 2011 Competition Law was a breakthrough in supporting competition and it is already playing an important role in policing abusive behaviour. The Competition Commission's (CFC) ability to impose large fines, of up to 10% of total domestic firm turnover – which it has already done in a number of cases – and criminal sanctions are likely be significant deterrents to abuse. However, delays in court review remain a problem: the specialised courts with expert judges that were envisioned when the Competition Law was passed in 2011 have still not been set up. If designed correctly, these courts could be highly beneficial, but need to have a broad mandate, with the ability to offer an expedited review of all economic regulation issues, including competition matters.

A Telecommunications Bill that would make constitutional changes to address competition issues was approved by Congress in April 2013. A majority of the State legislatures will now need to vote to support the legislation. The Bill creates an autonomous regulatory body that would be able to break up dominant firms who control

more than 50% of their markets, apply one-sided regulations to these firms, and order the unbundling of services. It would also end the current 49% limit on foreign investment in fixed-line telephony and raise the foreign ownership cap for television to 49%. Moreover, the bill would create specialised courts to address telecommunications-related cases and economic competition more broadly.

Trade

Moderate wage pressures, ongoing unilateral tariff liberalisation and geographical proximity to the United States together with bilateral investment agreements, enhance Mexico's export market share with North America. At the same time, Mexico has also diversified the destination of its exports, reducing its dependence on the United States. While the weak productivity performance has been widespread across many sectors of the economy in recent years, there are signs that some equipment-related manufacturing sectors where there is more competition – and a lower degree of market concentration – have performed better, including auto parts, machinery and equipment and audiovisual instruments (Banda and Bernal, 2011). These are also sectors that have allowed Mexico to participate more directly in global production networks.

Further input tariff and investment liberalisation, especially in services, will support Mexico's deeper integration in production networks and help it to capture higher value-added components. Removal of both domestic and international barriers to competition at the same time may even have complementary effects that can increase the overall gains from reform even more, since they can be mutually re-enforcing and yield particularly large benefits for the most productive firms (Ben Yahmed and Dougherty, 2012). This could be supported by improvements in the financial and innovation environment that is currently not conducive to the development of start-up companies.

The legal system

Boosting productivity and achieving the range of competition reforms envisioned by the authorities will require stronger judicial institutions to enforce laws and adjudicate disputes. Judicial effectiveness relies not only on legal origin, but also on the efficiency of the court system, the quality of administration, the nature of legal codes and the soundness of procedures. Empirical estimates carried out in the context of this *Survey* suggest that a low-quality judiciary makes contract enforcement problematic, reducing the average size of firms and their capital intensity, thus reducing aggregate productivity through reduced scale economies. If laggard states' judiciaries were brought up to the level of the average state, the overall level of output could be raised by several percentage points of GDP (Dougherty, 2013).

Criminal justice is also problematic, with extremely high rates of impunity (when offenders escape punishment), partly because of the inefficiency of a legal system that prosecutes few crimes, but also because of corruption which the system does not adequately deter. Better co-ordination, integration and training of police forces is also needed – reforms that would also help to improve the business environment (OECD-IMCO, 2012).

Major reforms to Mexico's criminal judicial system have been underway since a 2008 constitutional amendment was passed that gave states until 2016 to move from a written inquisitorial system that was excessively slow and lacked credibility, to an oral adversarial one, that has been shown to be more efficient, and also allows for the possibility of cross-examining witnesses and contesting evidence. This reform has been slow to get underway, but according to the Ministry of the Interior (SEGOB), a dozen states have already started hearing new cases using the new system in some or all of their districts.

Another ten states are in the process of implementing the new system, while the remaining ten have only begun to prepare the necessary legislation. A special commission (SETEC) has been set up at the federal level to support the transition, though its powers are only consultative and supportive in nature, and it lacks any authority to push forward the reforms. Harmonization of legal codes across all states would also help.

Civil trials still operate using written procedures, though a reform was passed in 2011 that mandates a rapid transition to oral trials in civil matters as well. The Federal Government has shifted to the new trials, and some states (and the Federal District) are experimenting with the new system. Such reforms have the potential to substantially improve the quality of the judiciary, and the reliability of contract enforcement. However, there is no body that has been entrusted with implementing or monitoring the civil trial reforms.

Another critical area where legal reforms are needed is to address the abuse of economic and fiscal *amparos* or "habeas corpus" petitions that are used to block regulators' actions on specific firms. A major reform of economic *amparos* focused on the domain of public concessions has been approved, that should limit the ability of specific actors to

Box 1. **Main structural policy recommendations for boosting growth**

Financial stability

- Further strengthen competition in the banking sector to support healthy development of capital markets, but with special consideration of financial stability issues.
- Strengthen autonomy on budget and staffing matters of the key financial sector agencies, give legal status to the Financial Stability Council and widen the toolkit for macroprudential intervention to ensure effective and efficient achievement of macroprudential objectives.

Informality and labour markets

- Seek to reduce informality through a broad-based package of policies: strengthen education and skills, reduce anti-competitive business regulation, improve the legal environment and tackle corruption.
- Raise labour force participation and employment rates, notably for women.
- Improve education performance by continuing with the systemic reforms to teacher incentives and school leadership, system funding and curricula, as well as evaluation and assessment strategies.

Competition and regulation

- Promote regulatory reform and remove entry barriers at all levels, particularly at the subnational level, building on progress at the federal level. Create a high-level interagency body focused on productivity that can study and advocate for structural reform.
- The institutional design of COFEMER should be revised to enhance its legal status and reinforce its impact.

Trade barriers

- Remove barriers to foreign investment in remaining sectors, building on progress with unilateral tariff liberalisation.

Legal system

- Complete the judicial reforms at the state level that move towards oral adversarial trials in criminal cases. Empower an executive agency to promote the analogous transition for civil cases.
- Harmonise the criminal code and procedure across states. Strengthen the co-ordination, integration and training of police forces.
- Set up specialised economic courts with qualified judges to address economic regulation issues and support the effectiveness of the *Competition Commission*.
- Continue to reform the *amparo* appeal system to reduce the scope for abuse, especially in the tax domain.

block regulator's actions prior to their final legal resolution. More broadly, the Supreme Court has begun to move towards a public interest principle in its jurisprudence of *amparos*, although a legislative change would be more efficient and even-handed, and deter the filing of meritless cases. The creation of specialised economic courts with qualified judges would help to facilitate more well-balanced judgements.

Environmental protection and energy policy

Green growth

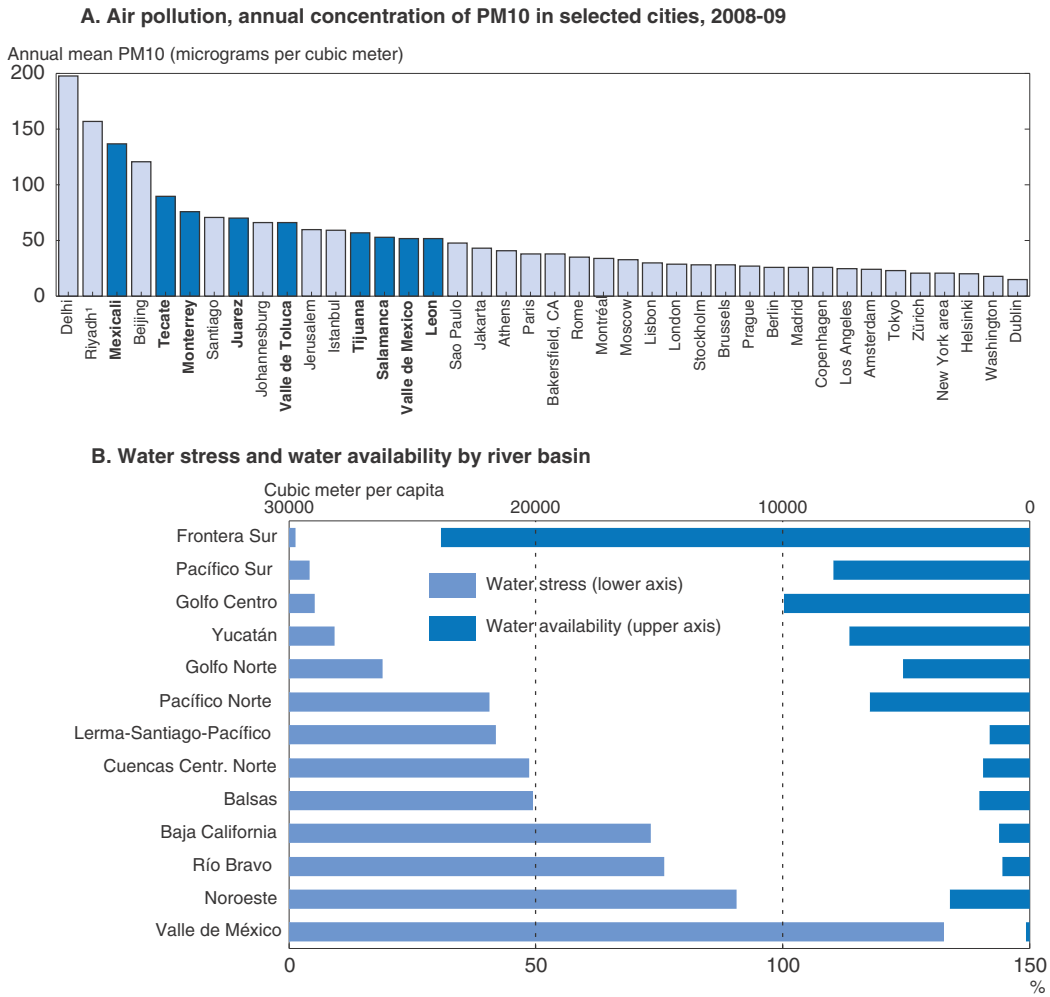
As Mexico seeks to boost economic growth, pressures on its natural resources need to be taken into account. The costs of environmental degradation were estimated at approximately 5% of GDP in 2011 (INEGI, 2013), primarily from air pollution. Though the cost has declined, the impact is considerable. Air quality has generally improved in the last decade, but air pollution still accounts for three-quarters of costs of environmental degradation, and respiratory diseases remain among the major causes of child mortality. Some Mexican cities are among the most polluted cities in the world (Figure 8, Panel A). In addition, the country's water use is not sustainable and 101 of the 653 aquifers are overdrawn, especially in the northern and northwest areas, where three quarters of the population live, and both surface and ground water quality are threatened by pollution (Figure 8, Panel B).

Reducing greenhouse gas (GHG) emissions remains a major challenge. Mexico is the 13th largest GHG emitter in the world and has the weakest progress in the OECD in decoupling CO_2 emissions from economic growth (Figure 9). Most energy production depends on fossil fuels, and energy-related sectors account for almost three-quarters of total emissions. Electricity use in the agricultural and residential sectors is subsidised by reduced tariffs, whereas petrol and diesel are indirectly subsidised by the price-smoothing mechanism. Overall, fossil-fuel (including gasoline and electricity) subsidies averaged 1.7% of GDP during the period 2006-12, which encourages inefficient and excessive energy use and weighs on public finances. Though intended to address social concerns, those subsidies disproportionately benefit the wealthiest population groups (OECD, 2013c).

Mexico has adopted an ambitious target of reducing by 30% GHG emissions below a business-as-usual scenario by 2020 and 50% by 2050 from the 2000 level, conditional on international financial support. Fully removing subsidies and introducing carbon pricing are the first and most cost-efficient ways to accomplish these goals, because they would encourage households, industries and farmers to exploit the cheapest strategies to reduce emissions. The current policy of raising gasoline prices by 11 cents per month is an important step towards closing the gap between Mexican and United States fuel prices (Figure 10). However, this still implies a significant implicit subsidy at present. Thus, more determined action is needed. Once the subsidy disappears, establishing a positive excise tax and shifting towards a market-determined gasoline price would be a positive step. This could be done gradually with a transitory, rule-based smoothing mechanism.

Mexico's producers of oil and gas (PEMEX) and electricity (CFE) can do more to reduce their emissions. Abatement measures such as reduction of gas flaring, increasing efficiency of installations and use of co-generation have been implemented in the last years. Though results have been positive, and targets were reached, more needs to be done. Further promoting the development of renewable energy could reduce GHG emissions significantly, especially since Mexico has large potential in this area thanks to its geographic and climatic conditions. This includes the proper implementation of CFE's new methodology that incorporates social and environmental externalities when purchasing electricity at least-cost price.

Figure 8. **Air pollution and water stress**



1. Last available data 2003.
Source: WHO, *Urban Outdoor Air Pollution Database*; CONAGUA.

How to read this figure (Panel A): PM10 are particles that are about 10 microns or less that because of their small size can penetrate into the deepest part of the lungs and can therefore harm human health and reduce life expectancy. PM10 concentrations are particularly high in Mexican cities, above other major world capitals, and much above the annual guideline limit of 20 micrograms per cubic meter set by the World Health Organisation.

How to read this figure (Panel B): The OECD's water stress indicator is based on the ratio of annual water withdrawals to annual water availability. Below 10% water stress is low; the 10-20% range indicates moderate stress; above 20% stress is medium; when annual withdrawals exceed 40% of annual water availability, stress is severe. Most Mexican river basins are under medium or severe stress. Water availability refers to per capita renewable water resources. It is generally considered that a country or region has water stress if this value is below 1.700.

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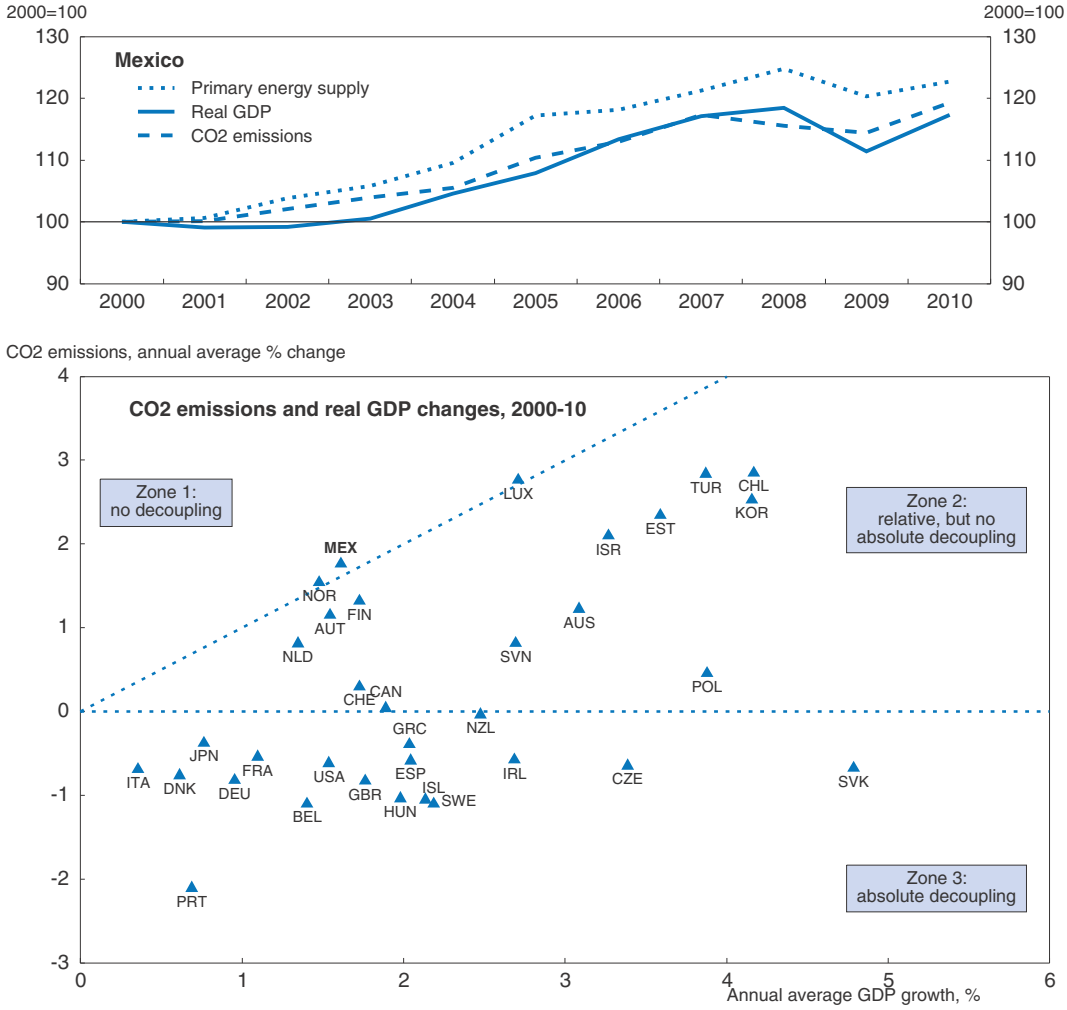
Restructuring vehicle taxes so that they take into account environmental performance could incentivise the use of more energy-efficient vehicles, though the most efficient way to reduce emissions is to establish a positive excise tax on fuel consumption. Moreover, directing effectively public and private investment in transport infrastructure that fosters mass transportation could reduce climate-change impacts. The implementation of the Bus Rapid Transit (BRT) systems in more than 10 cities, including Mexico City, and other mass transit projects led by the federal programme PROTRAM, are good examples in this direction.

Figure 9. **Energy, GDP and carbon emissions**[1]



1. CO_2 emissions from fuel combustion. Sectoral approach.
Source: OECD (2013a); IEA.

How to read this figure: Decoupling refers to breaking the link between environmental pressures and economic growth. Mexico experienced no decoupling between CO_2 emissions and GDP growth over the last decade, as its emissions rose faster than its GDP.

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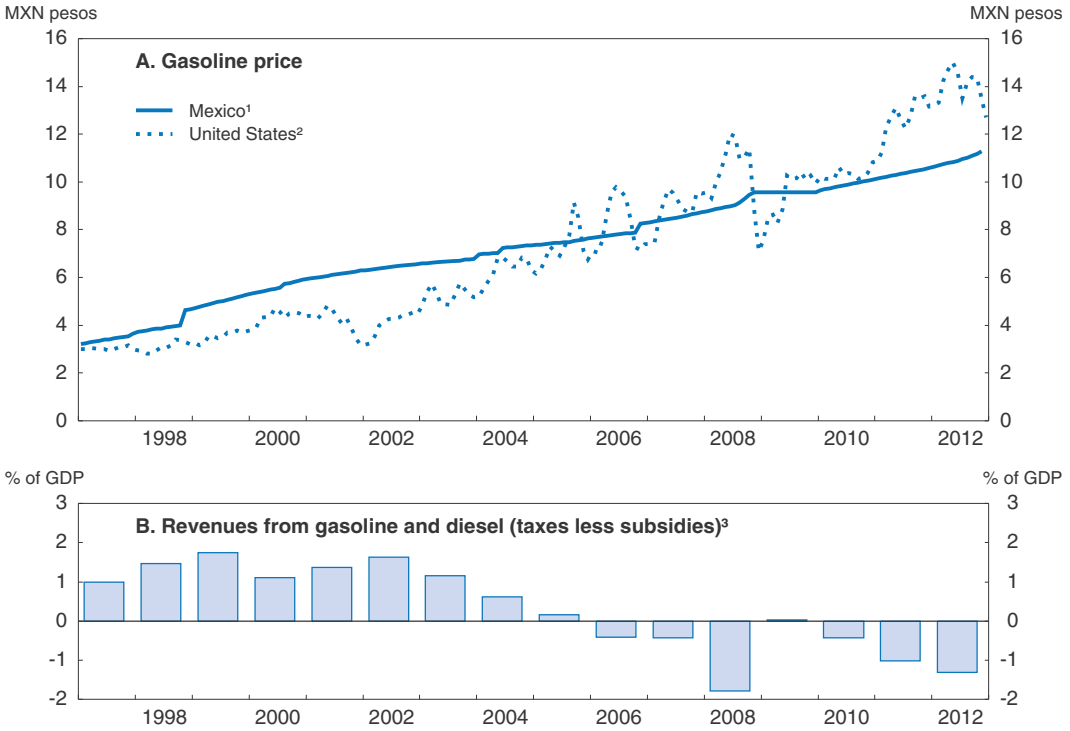
In the water sector, subsidies to agriculture, mainly through low electricity prices for pumping irrigation water and low or non-existent charges for use, have limited incentives to improve efficiency and to reduce water losses. These distortions, together with illegal water use due to lack of enforcement, have resulted in the overexploitation of ground water and have discouraged investment in more efficient irrigation technologies. Moreover, agricultural subsidies have proven to be regressive, benefiting mainly the richest 10% of farmers (OECD, 2013c). Gradually removing electricity subsidies for pumping water for irrigation and replacing them with cash transfers, independent of water use as some pilot programmes have been doing, would promote a more sustainable use of water.

Increasing access to basic water and sanitation services has been a priority during the past decade, with large infrastructure investments through federal and state transfers. Though water and sanitation coverage has increased considerably, there are still 11 million Mexicans who lack access to piped water and 14.8 million with no access to sanitation services.

Figure 10. **Gasoline prices and tax revenues**



1. Premium gasoline price, end-of-period.
2. US Premium Reformulated Retail Gasoline Prices.
3. Tax to gasoline and diesel (*IEPS de gasolinas y diesel*) which in times of high and rising international prices becomes negative (subsidy), as the government applies a price-smoothing mechanism to local prices. Preliminary data for 2012.

Source: INEGI; SHCP; US Energy Information Administration; OECD, *Main Economic Indicators Database*.

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Moreover, revenues from user charges are very weak due to low water tariffs and bill collection rates (Figure 11). There is room for tariff increases in some areas (OECD, 2013b). Prices for water services need to reflect the operational and maintenance costs of providing services. However, a phased approach involving greater bill collection would put utility balance sheets on a firmer footing and build consumer trust, which is a prerequisite for tariff increases (OECD, 2012f).

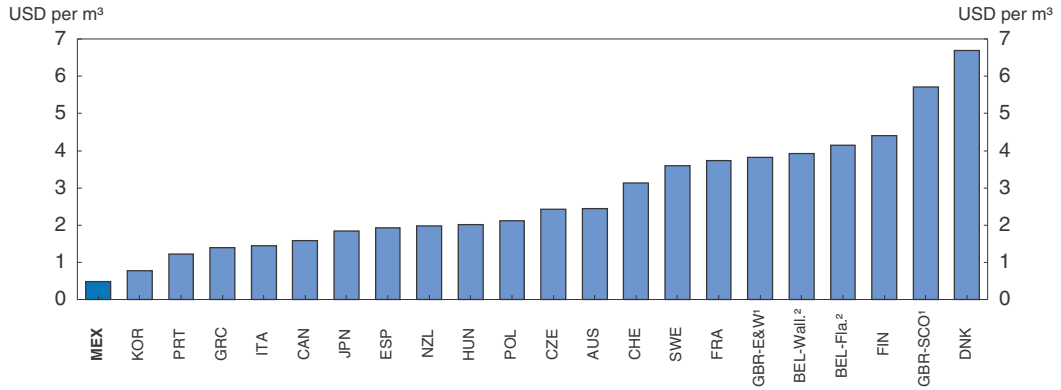
Energy policy

The oil and gas sector, through the state-owned company PEMEX, plays a key role in Mexico. PEMEX faces complex governance and operational challenges, including low labour productivity (Figure 12). This results in three of its four subsidiaries making large and persistent financial losses. Improving PEMEX's efficiency is all the more important given its critical role in public finances, energy costs and the economy more broadly. Crude production fell significantly from the mid-2000s to 2009 with the decline in the production of PEMEX's most important oil field *Cantarell*, only partly offset by increases in production from other fields, notably *Ku-Maloob-Zaap*.

The 2008 Energy Reform did not change the constitutional principles affecting PEMEX but enabled legal and structural changes. It clarified the company's objective, furthered the scope for corporate governance reform, improved operational autonomy in financing and created a special contracting regime for procurement of goods and services (OECD, 2010). The reform also gave PEMEX more autonomy and flexibility over contract models, with some successes.

Figure 11. **Unit price of water and sanitation services to households**

2008



1. GBR-E&W for England and Wales and GBR-SCOT for Scotland.
2. BEL-Wall for Walloon region and BEL-Fla. for Flemish region of Belgium.

Source: OECD (2010), *Pricing Water Resources and Water and Sanitation Services*.

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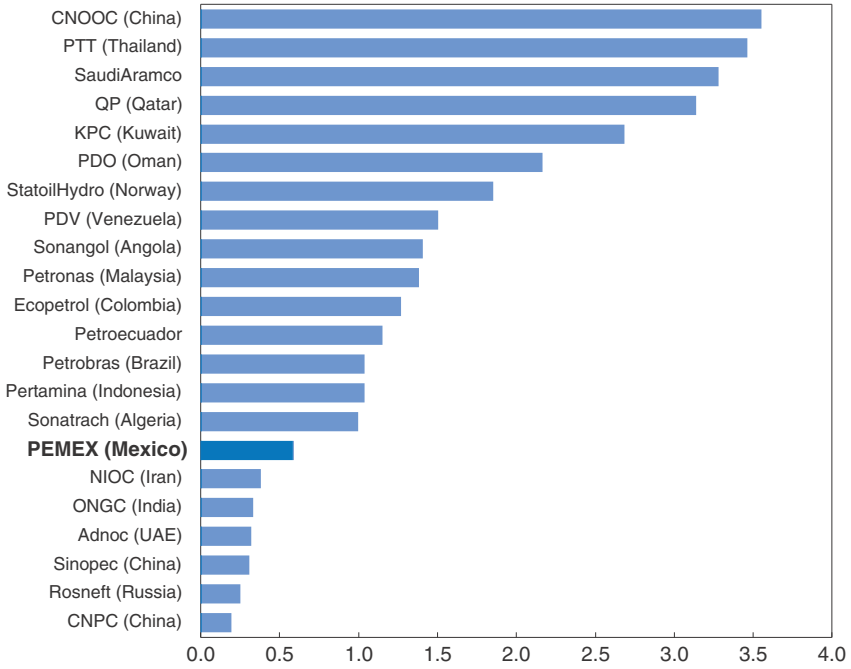
Figure 12. **PEMEX revenue per employee compared with other state-owned oil companies**

Average 2001-09, USD million



Source: Hartley and Medlock (2011).

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Yet, these reforms need to be pushed even further, including through a constitutional amendment that allows risk and profit sharing with the private sector. A more competitive environment for PEMEX would generate adequate market incentives to improve its efficiency, though regulation should be also widened to include oversight of new players. However, there is still room for allowing greater involvement of the private sector, by changing the bidding rules and hiring schemes, and placing contract incentives to attract the participation of qualified partners that have the proven technical capability to exploit opportunities.

The government plans to submit an energy reform later this year to address the commitments made in the "Pact", with the aim of transforming PEMEX into a productive and internationally competitive firm, as described in Chapter 2. A recent change in the governing party's bylaws was made to allow its legislators to support an energy reform that enables more collaboration with the private sector, including partnerships with foreign oil companies, while keeping PEMEX under state control.

Box 2. **Main recommendations for environmental protection and energy policy**

Environmental protection

- To ensure that the right price signals are provided, continue to remove fossil-fuel subsidies and thereafter move towards carbon pricing.
- Shift towards a market-determined gasoline price with a positive excise tax, while using a transitory automatic smoothing mechanism.
- Restructure vehicle taxes to take into account environmental performance. Enforce environmental standards to encourage the use of more energy efficient vehicles. Effectively direct public and private investment into infrastructure that fosters mass transportation.
- Further strengthen energy efficiency and promote development of renewable energy by including social and environmental externalities into CFE's methodology for purchasing electricity at the least-cost price.
- Gradually remove electricity subsidies for pumping water for irrigation in agriculture and facilitate investment in water-efficient practices, including through cash transfers independent of water use.
- Raise water service tariffs to reflect operation and maintenance costs of providing services.

Energy policy

- Improve PEMEX's operational and environmental efficiency, and governance allowing much more reliance on private firms in the oil sector. Similarly, promote energy efficiency in CFE electricity operations, so as to reduce government subsidies and carbon emissions.
- Promote the use of private sector expertise in oil and gas ideally by passing a constitutional amendment allowing risk sharing, or by at a minimum by changing bidding rules and altering contract incentives to attract the participation of qualified partners with the proven capability to exploit opportunities.
- Further improve the corporate governance, transparency and autonomy of PEMEX. Strengthen the technical oversight role of the National Hydrocarbons Commission.

Fiscal reform

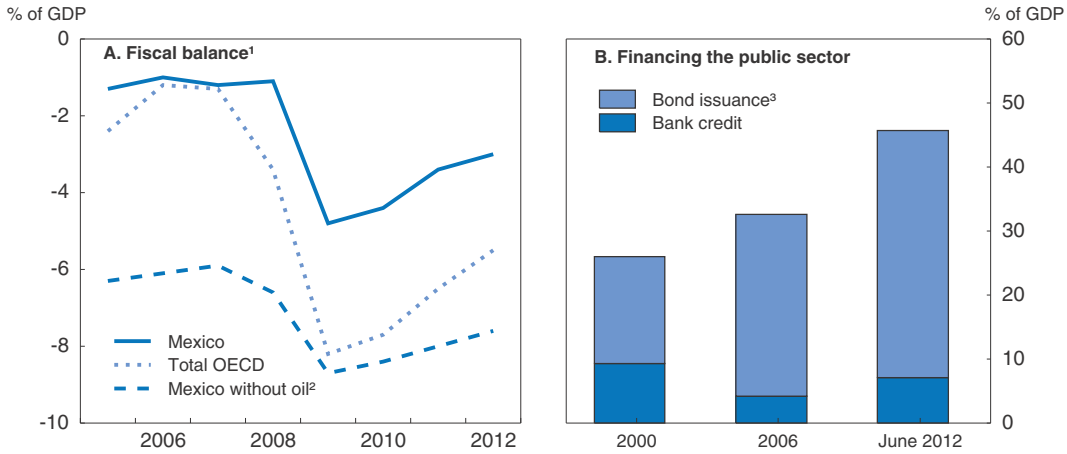
The fiscal framework

Mexico's present fiscal framework has been helpful in establishing fiscal discipline and achieving long-term fiscal sustainability. Following the financial crisis in 2008-09, an exception to the balanced-budget fiscal rule allowed the government to provide a small but helpful fiscal stimulus (Figure 13, Panel A). In addition, the government's annual oil price hedge generated additional revenues when the oil prices collapsed during the crisis. Reflecting the severity of the 2008-09 recession, government financial assets fell from

about 10% of GDP to less than 6% of GDP, and they need to be rebuilt. Moreover, government debt increased, although less than in many other countries, and now needs to be lowered (Figure 13, Panel B). While debt levels as a share of GDP are low by OECD standards, when debt is compared with tax revenue, Mexico is close to the OECD average (Figure 14).

Mexico needs to rebuild sufficient government financial buffers to address possible contingencies, such as a sharp drop in oil-related revenues, another financial crisis, or financial market sentiment unexpectedly becoming adverse. While such events currently have low probability, preparedness is nonetheless warranted. Mexico has repeatedly faced

Figure 13. **Fiscal balance and public debt**



1. For Mexico, the fiscal balance includes the borrowing requirements of the central government and public enterprises.
2. "Mexico without oil" is a hypothetical illustration, only intended to show the high dependence of the government revenue base on oil.
3. Public sector includes bonds issued by federal government, IPAB, Banxico, and subnational governments. Bond issuance also includes monetary regulation bonds used by Banxico to regulate liquidity and are not a source of net financing for the government.

Source: OECD Economic Outlook Database; CNBV.

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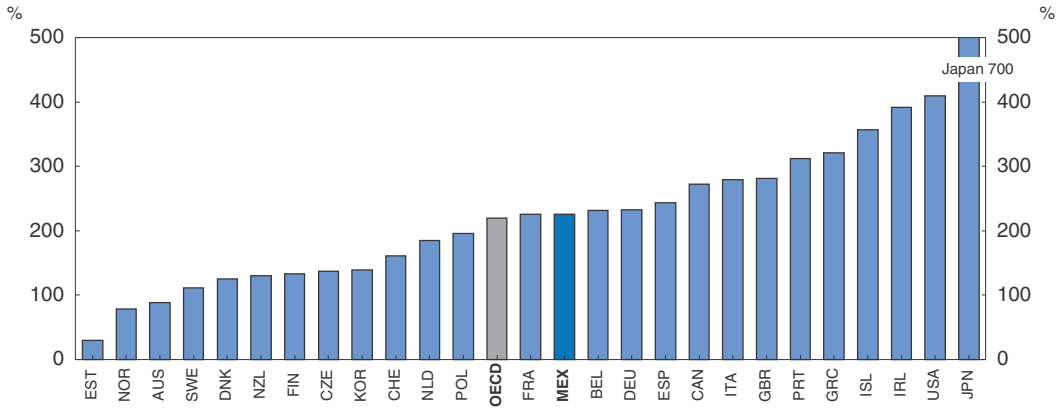
Figure 14. **Gross national debt as a share of government tax revenues**

2011[1]



1. 2010 for Australia, Japan and Switzerland.

Source: OECD Economic Outlook Database.

StatLink http://dx.doi.org/10.1787/888932803199

financial crises over the past few decades, and its geography exposes it to an above-average risk of natural disasters such as earthquakes and hurricanes. While the country has made major progress in terms of strengthening its civil protection system and has been innovative in developing targeted financing mechanisms such as catastrophic bonds (OECD, 2013d), should another financial crisis or a disaster strike, it would be prudent to have an even higher degree of fiscal preparedness against risks. An important risk involves the potential for Mexico to be cut-off from international financial markets in the event of a major crisis, compelling it to draw heavily on budgets intended for development purposes, hindering long-term growth (World Bank, 2012).

Mexico should aim at accumulating greater fiscal savings during economic upswings and periods of high oil prices (Ter-Minassian, 2012; Esquivel and Peralta, 2013), while keeping the flexibility to let automatic stabilisers play and provide some budgetary support during major downturns. This would be best achieved by moving towards a cyclically-adjusted budget balance rule. A number of developed and developing countries who have experienced major financial crises – most notably Chile and Colombia – have adopted or are moving towards structural balance rules, and also seek to build up financial buffers. While stabilisation funds already exist in Mexico, they follow complex rules and their ceilings are too low.

The temporary lifting of the funds' ceiling since 2010 should be made permanent. Assuming that the economy continues recovering and gradually gains speed, the Fiscal Responsibility Law should be amended to require the accumulation of sufficient financial buffers. The Chilean experience suggests that approach is feasible in an emerging country context; however, estimates of the output gap can be hard to explain to the public, and if a structural rule is not deemed feasible, one alternative could be to implement a simple expenditure rule, though some allowance should be made for funded increases in social expenditure. This approach would require that spending grows in line with potential GDP and would enable automatic stabilisers to play on the revenue side. Such rules have been used in several OECD countries with some success, including Denmark and Sweden, and they are increasingly used in combination with budget balance rules.

Fiscal rules in Mexico will be more effective in achieving stabilisation objectives if government accounts are presented according to international standards for national accounts for all levels of government, so as to improve transparency and accountability. Separating out PEMEX from the budget could be a step in this direction, and it would provide the opportunity to make budgetary accounting concepts more standardised. Nevertheless, PEMEX's finances will still need to be supervised carefully. The recent law to establish consistent accounting at all levels of government will be an important first step to help to make subnational governments' finances more sustainable and transparent as well.

Fiscal federalism

Mexico has achieved a high degree of decentralisation in public services, but the Mexican fiscal federal system has important shortcomings. States and municipalities already account for a growing share of government spending – nearly half – and they manage core public spending programmes, notably education and health, financed primarily by Federal transfers. But there is a widespread agreement that decentralisation has not contributed to more efficient and effective public service delivery, as it was supposed to. Neither have the wide regional disparities in public services narrowed. Given shared

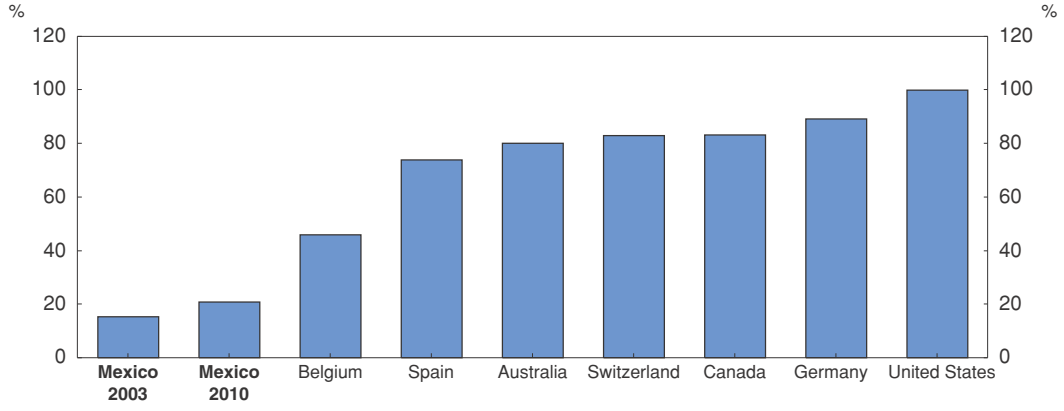
responsibilities for implementation and finance across the three levels of government, there is great scope for duplication, wasteful use of resources and avoidance of responsibility for outcomes. Shared responsibilities are particularly common in education and health. For example, the federal government finances university and hospital infrastructure, while the states are responsible for maintenance. In education, in about a third of all states there are both federal and state institutions in charge of similar tasks. Establishing clear cut spending divisions is rather difficult and in most countries there is some degree of overlap. But more could be done to clarify spending responsibilities for each level of government in education and health. For instance, responsibility for both new infrastructure and its maintenance should be kept at the same level of government. A better definition of spending responsibilities would help to reduce overlaps of spending decisions by clarifying responsibilities and force greater political accountability and better service quality.

Many subnational governments also have perverse incentives. Because most of their spending is funded by federal transfers (Figure 15), states and municipalities have little incentive to spend wisely. Such great disparity between spending and revenues may also be deterring own-revenue generation at the subnational level, given the political cost of collecting taxes and the resources needed to administer them. A fiscal reform in 2007 sought to improve the incentives embedded in the federal fiscal framework and to give states greater tax autonomy. The reform increased incentives by tightening rules for sub-national borrowing, and in principle discontinued extraordinary transfers to states. The formulas for various non-earmarked federal transfers were also reformed to include both the level and growth in sub-national government tax collection in an attempt to reward states' efforts to collect taxes.

However, the reform failed to produce a significant increase in states' own-tax collection, assigning them instead additional transfers. The reform gave a third of the revenue gains from the newly created federal taxes – the IETU alternative minimum corporate tax and the withholding tax on cash deposits – to subnational governments. The number of transfer programmes has also kept increasing over time and the remainder of

Figure 15. **Sub-national revenue as a percentage of sub-national spending**

2011[1]



1. 2010 for Canada.

Source: OECD Fiscal Decentralisation Database.

How to read this figure: In Mexico the own revenue collected by sub-national governments covered about 20% of their spending in 2009, the lowest share among selected OECD federal countries.

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the system is also overly complex. The bulk of transfers are channelled through as many as 16 different funds with very different and sometimes opaque or hard-to-measure allocation criteria. This complexity combined with sparse information on the use of federal transfers makes for a highly non-transparent system that is liable to poor public accountability and has great scope for rent-seeking. A recently-adopted law to improve the transparency of local government accounts should improve accountability, though implementation will require extensive capacity-building in many jurisdictions, as well as considerable support and supervision from the federal government to ensure its enforcement. More efforts need to be made to assess the use of earmarked transfers based on outcomes.

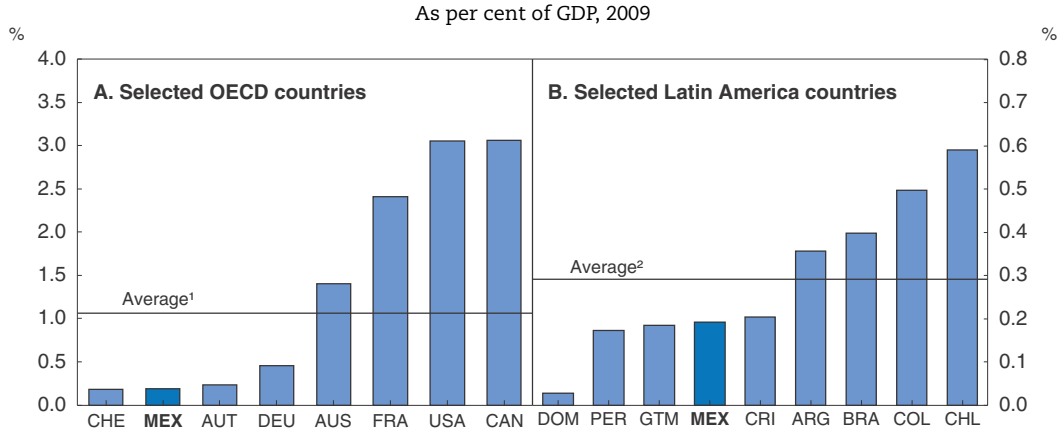
The 2007 fiscal reform also granted new taxing powers to states in an effort to increase their tax autonomy, but few states have used them and the new taxes have limited revenue raising potential. States frequently complain of limited capacity to levy these taxes, though a more convincing reason may be that lobbying for additional federal transfers is still easier than bearing the political costs of taxing their constituents. A "harder" federal budget constraint is a precondition for subnational governments to step-up their tax-raising efforts. For that, the federal government should limit further increases in transfers and do not deviate from spending programmes. If the incentives can be improved, states could be granted powers for taxes with broader bases, by charging a state income or consumption tax over and above the federal ones, within limits set by the federal government. To facilitate its administration, the federal tax administration (SAT) could collect these tax on behalf of states for a fee. This combines the advantages of a degree of local control over tax rates, therefore higher accountability, while avoiding significant increases in collection costs.

Strengthening municipalities' own tax revenues will also be important, given the broad range of services they are responsible for. Municipalities collect the residential property tax, a more efficient and less distortionary form of taxation than most others. However, property tax revenues are exceptionally low, even in comparison to Latin American peers (Figure 16). One issue is poor tax collection capacity. Some municipalities do not even have an official registry of the number, value and ownership of properties. In many others such registers are outdated, leading to undervaluation of property. In part this is due to poor administrative capacity. In many localities, municipal workers have weak technical skills. Another issue is weak incentives to collect higher property taxes. Mayors in Mexico can only run for a non-consecutive three-year term and such a short duration is insufficient to reap the benefits of taking the unpopular step of raising property taxes.

A first step to strengthen property taxes is for municipalities to step up their tax collection capacities by compiling updated property tax registers and comprehensively reviewing cadastral values to restore the tax base, as is already required by law. Greater federal support and training of municipal employees could help. For municipalities for which limited tax collection and technical capabilities are a problem, the federal or state tax administration could collect the tax on their behalf. Political reforms to extend the three-year term for mayors or abolishing the no re-election provision might also strengthen incentives to collect taxes. If this remains politically unfeasible, an alternative is to devise incentive mechanisms, such as special grants to municipalities distributed partly on the basis of property tax collections. Some Mexican states are already using such schemes with success. Increasing tax rates from their currently low levels and eliminating exemptions will also be important to increase revenues. Allowing municipalities to decide on property tax rates, within limits set by each state, could help. Currently municipalities

Figure 16. **Recurrent taxes on immovable property**

As per cent of GDP, 2009



1. Average of all OECD countries.
2. Average of those countries included in Panel B.

Source: OECD Tax Database; OECD Development Centre (2012), *Latin American Revenue Statistics*.

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need state congressional approval to increase rates, and these efforts often fail, as state congresses typically only see the political costs of raising taxes and not its potential benefits.

Ensuring that subnational governments are more fiscally responsible will also be important. Although by international comparison subnational governments' debt remains low (2.8% of states' GDP), it has almost doubled since 2007. Implicit state pension liabilities of public employees are also high in some states, and several states have recently introduced non-contributory pension pillars financed through taxes, which are highly unsustainable. Notwithstanding improvements in the past decade, the instruments to secure fiscal discipline at the subnational level are still weak. Following the Tequila Crisis, new rules were introduced in 2000 to limit states' access to borrowing, increase transparency and to strengthen the federal government's commitment not to bail out sub-national governments. However, the perception of soft budget constraints contributes to the current asymmetry between federal transfers and own tax revenues.

To foster greater subnational fiscal discipline, the federal government should promote implementation of fiscal rules on deficits and ceilings on debt. Sticking to its no bail-out clause and encouraging greater own-revenue generation at the subnational level will also help. Addressing the pension challenge will require in-depth reforms, including converting the defined benefit pension systems remaining in most states to defined contribution systems based on individual accounts. Better information on states debt, and contingent liabilities, would also contribute to improve transparency and accountability, as well as better monitoring of the sustainability of public finances. The new reporting requirements for sub-national governments are an important advance in this respect. A bill that would make constitutional changes to impose stricter controls on subnational governments' debt passed the Senate in April 2013, as described in Chapter 3.

The build up of subnational government debt could also be a potential risk for the banking sector. Some middle and small sized banks have substantially increased their exposure to states and municipalities over the past few years, attracted by the perception of an implicit federal government guarantee and low cost of capital (Banxico, 2011). The concentration of debt by certain borrowers in banks' balance sheets is limited by

regulation, but these regulations exempt lending to states and municipalities from limits on large exposures if the loans have federal participations as a guarantee. The problem is still limited in scope, and the national banking commission has recently unveiled plans to withdraw such exemption, so that commercial bank lending to states and municipalities is subject to the same large exposure limits – based on the capitalisation of banks – as all other loans. These are welcome. Credit reserves are another good measure to limit the risks on the banking sector and improve banks' risk management, but they should also cover development banks, which account for about a quarter of sub-sovereign lending.

Box 3. **Main recommendations to improve the fiscal framework and fiscal federalism**

The fiscal framework

- Move towards a structural fiscal rule to reduce the partial pro-cyclicality of the current framework.
- National accounts standards should be fully implemented in the budget.
- The fiscal stability law should be reformed to increase the build-up of financial buffers in liquid assets available in case of contingency or adverse market sentiment.

Fiscal federalism

- Improve subnational governments' spending efficiency and effectiveness by clarifying spending responsibilities for lower levels of government in health and education.
- Establish a harder budget constraint on subnational governments to improve their tax collection by limiting further increases in transfers, avoiding extraordinary transfers and promoting the implementation of limits on deficits and debt ceilings.
- Grant more tax powers to states by allowing states to charge income and consumption taxes over and above the federal ones, but collected by the federal tax administration. Strengthen property tax revenues by updating property registries, increasing rates, removing exemptions and improving collection, by allowing the federal or state tax administrations to collect the tax.
- Continue efforts to gradually reform states' defined pension systems toward defined contribution systems.
- Adopt stronger prudential banking regulations for lending to states and municipalities based on bank capitalization.
- Fully implement the new general government accounting law to ensure greater transparency and accountability, and ensure that it is effectively followed in all states and municipalities.

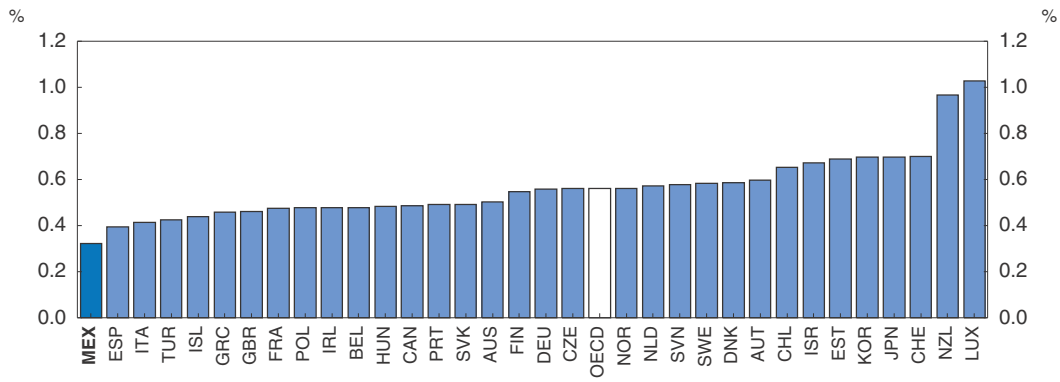
Tax reform

Mexico's tax system relies on a very narrow tax base and tax revenues are low relative to many other countries, even though statutory tax rates are not lower than in other OECD countries. This is explained by the prevalence of tax expenditures, in the corporate income, personal income and consumption tax systems, which account for an estimated 3.1% of GDP, or around 16% of actual government revenues. In addition, tax evasion is significant, despite recent strengthening of tax administration.

The value added tax (VAT) in Mexico yields less than it could due to numerous exemptions (Figure 17). The VAT efficiency ratio, which is a measure of both tax expenditures and evasion, is lower in Mexico than in any other OECD country. Tax expenditures are extensive: there are zero rates for food (including processed food) and medicines, and other exemptions, such as for education and medical services, as well as reduced rates at the border. These factors lower tax revenue by around 1.5% of GDP. Reforms could start with removal of potential loopholes such as the border rate and the lack of import tax withholding for *maquiladoras*. The basket of goods that are zero rated or exempt should be re-examined, as social objectives are better addressed through direct transfers.

Figure 17. **VAT revenues as a percentage of potential revenue from final consumption**

2011[1]



Note: The OECD area is the simple average.
1. Or latest year available. Data for 2011 are estimates.
Source: OECD (2012), *Consumption Tax Trends*; *OECD Revenue Statistics* and *Annual National Accounts Database*.

How to read this figure: The VAT revenue ratio (VRR) is defined as the ratio between the actual value added tax (VAT) revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. This ratio gives an indication of the revenue losses in the VAT system due to preferential (lower) rates, tax evasion and weaknesses in administration.

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The special tax regime for the *maquiladoras* (IMMEX) should be re-evaluated, as some of their tax concessions have become overly generous, such as the reduction of their effective tax base in 2003. The enlargement of the regime in 2006 also opened up opportunities for abuse, such as VAT carousel fraud; to address this, VAT should be levied on all imports and prompt refunds given when re-exported. Over time, the regime should be removed, as it creates important distortions, while the problems that motivated it initially appear to have eased, as the double-taxation problem that existed in the United States is no longer an issue. Mexico's international cost-competitiveness position has improved, so that it would likely to remain attractive to foreign investors. Thus a sunset clause could be introduced to phase out the tax concession.

The corporate tax regime has evolved into a two-tier system that now relies heavily on a back-stop alternative cash-flow income tax *Impuesto Empresarial a Tasa Unica* (IETU) that has few exemptions, and has boosted revenues (see OECD, 2011a and 2013a; SHCP, 2011).

The advantage of IETU is that it is broad-based and relatively easily enforced. The regime could be further improved through a number of adjustments to treatment of interest, losses and consolidation that would make it less vulnerable to abuse. In the long run, it would be ideal to have a uniform and effective business tax system. Ideally, the base of the regular business tax system (ISR) should be broadened, and enforcement strengthened. Until such reforms are put in practice, however, the IETU should remain in place. Shifting towards greater reliance on the IETU by increasing its relatively low rate while reducing the relatively high corporate (ISR) rate is another option that Mexico could consider; however, both taxes would need to be retained to ensure that foreign companies' taxes paid are creditable given existing double-taxation agreements.

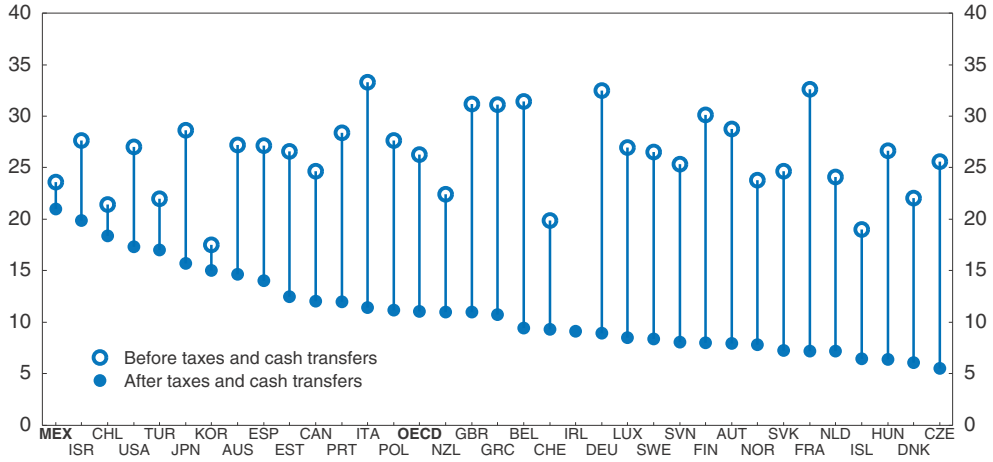
Some weaknesses in the corporate income tax system may be addressed through certain rule-changes that would help to deter aggressive tax planning strategies, including through participation in multilateral efforts to reduce base erosion and profit-shifting (OECD, 2013a; OECD, 2013e). Examples of such rule changes include: *i)* limitations on consolidation of losses of corporations that are newly purchased, which can be used to offset taxation of profits within company groups; *ii)* restrict deductibility of interest, which could be made dependent on gross earnings and be limited for debts between affiliated companies when the loan is used by one company to finance an acquisition of shares from another intra-group company; and *iii)* mandatory transfer pricing disclosure rules. Until recently, one particularly abusive practice was for large businesses to set up affiliated private airline companies, which only charge business class fares for private jet flights, and run up heavy losses that can then be deducted by the consolidated company.

Mexico has made important progress in combating tax evasion by enhancing the capacity of SAT, the federal tax administration (OECD, 2011a). Still, with a very large informal sector and considerable scope for the use of aggressive tax planning strategies, problems remain. Registration campaigns, the use of risk models to identify tax payers with a high probability of evasion, and efforts to reduce compliance costs and combat corruption within the administration have helped to reduce evasion. Enabling SAT to settle with taxpayers through some type of resolution mechanism would help to reduce the number of disputes that result in court cases. Mexico should refine and extend the use of risk models, step up training of tax administration staff, in particular regarding auditing techniques, and continue to develop attractive pay and career paths. States, where progress in enhancing the capacity of tax administrations is very uneven, will have to engage in similar efforts.

Fighting poverty

Mexico has made remarkable progress in reducing poverty and inequality over the past fifteen years. However, poverty and inequality remain high by international comparison, not only relative to OECD countries, but also relative to other emerging economies. While taxes and transfers reduce relative poverty substantially in virtually all other OECD countries, this is not the case in Mexico (Figure 18), reflecting the small size of social spending and the fact that some transfers, such as energy subsidies, are regressive. The capacity of social programmes to reach out to the poor has been extended, with progress made in reducing poverty and inequality, especially over the period from the mid-1990s to the mid-2000s (Figure 19, Panel A). However, with the financial crisis, poverty has once again increased, showing the vulnerability of low-income households to economic shocks. Mexico should

Figure 18. **Relative poverty in the late 2000s**[1]



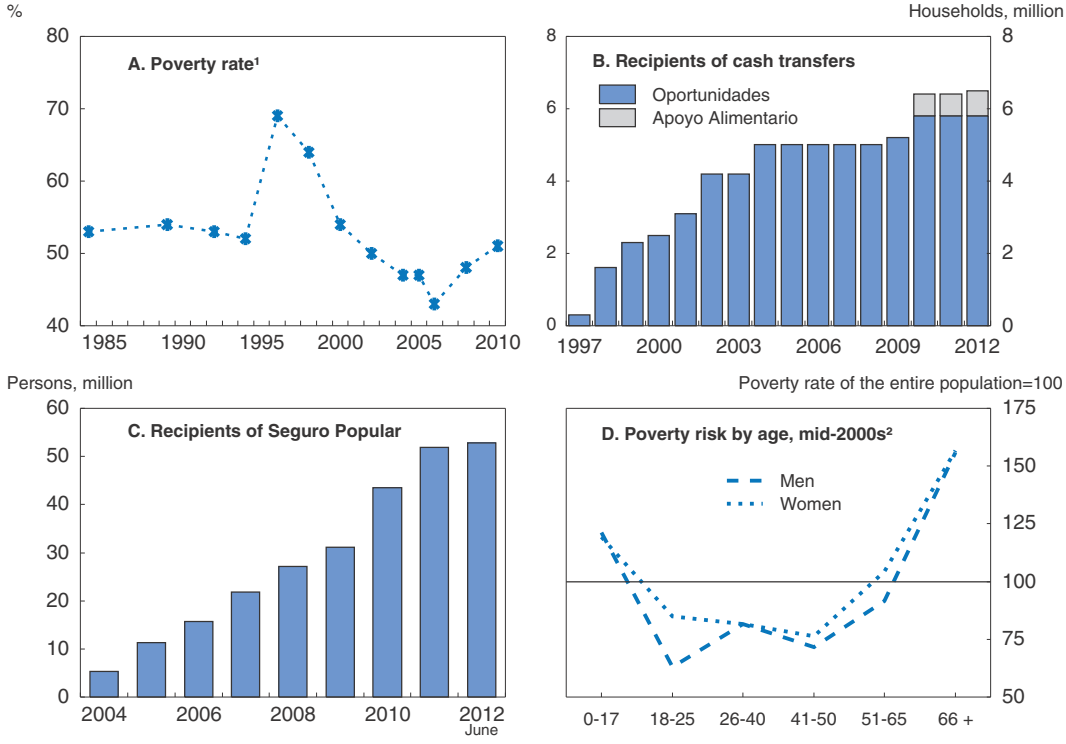
1. For international comparability, the relative poverty rate is defined as the share of individuals with equivalised disposable income less than 50% of the median income of the whole population. Data for France, Ireland and the Netherlands refer to the mid-2000s.

Source: OECD Income Distribution and *Poverty Database*.

How to read this figure: The Mexican tax and benefit system does not achieve much redistribution compared to other OECD countries. Mexico's tax and benefit system lowers relative poverty by 3 percentage points compared to 15 percentage points on average in the OECD.

StatLink http://dx.doi.org/10.1787/888932803275

Figure 19. **Poverty indicators**



1. Poverty headcount ratio at national income-based poverty line (% of population) based on a semi-annual survey.
2. Relative poverty risk is the age-specific poverty rate of men and women divided by the poverty rate for the entire population times 100. The poverty threshold is set at 50% of the median income of the entire population.

Source: CONEVAL; INEGI; SEDESOL; OECD (2013a).

StatLink http://dx.doi.org/10.1787/888932803294

strengthen its social programmes to fight poverty even more aggressively. However, strengthening the social safety net will be costly, which makes it important to improve the efficiency of social programmes by reducing overlapping ones and improving co-ordination between the different institutions in charge of their administration.

Mexico has a well-targeted conditional cash transfer programme, *Oportunidades*, that has been widely emulated internationally, which helps the poor invest in their human capital (see OECD, 2011a). It has been very successful (Parker et al., 2008). Over time, its coverage has increased (Figure 19, Panel B) and it has helped to increase secondary school enrolment rates, particularly benefitting girls. In addition, by leading to an increase in health visits, it has entailed a decline of both child morbidity and maternal mortality. However, more could be done to expand its coverage. The programme still excludes many vulnerable and moderately poor households.

The size of the cash transfers is also too small to achieve a substantial redistribution. Taken together, *Oportunidades* and *Programa para Adultos Mayores*, a component of *Oportunidades* for older individuals, amount to only 13% of household income for those in the poorest income quintile (OECD, 2011a). Mexico could withdraw some of its less efficient spending items to spend more on this well-targeted programme instead. For example, increasing the coverage of *Oportunidades* and the size of its cash transfer would be a way to compensate lower-income households for the withdrawal of highly regressive consumption subsidies, such as energy subsidies or VAT tax expenditures.

Social programmes, in particular *Oportunidades*, have helped to reduce poverty, but there is a need to review other programmes in order to reduce overlap and improve their effectiveness. Currently there are more than 1 000 social programmes in Mexico managed by different institutions, the federal government and states. The number of programmes may even be larger than that given that there is no systematic information regarding local programmes, but there appear to be too many (OECD, 2013a). More co-ordination is needed between the different administrations. Reviewing existing programmes to evaluate their effectiveness and eliminating those that do not work well would also help to generate the savings needed to expand those programmes that do work well.

Compared with most OECD countries, the coverage of contributory social insurance programmes in Mexico is very low. Only one-third of the workforce contributes to health insurance or a pension plan, reflecting in part the high incidence of informality. But in recent years Mexico has made impressive advances towards universal health coverage (Figure 19, C). Thanks to its innovative non-contributory public health system *Seguro Popular*, an additional 50 million people are now insured, achieving nearly universal health coverage (Knaul et al., 2012). Still, there remains considerable fragmentation in health care provision (see OECD, 2012d). Most formal workers are part of IMSS, which has dedicated hospitals, that themselves have scope for efficiency improvements, but other insurance programmes (e.g. ISSSTE, *Seguro Popular*) also have their own facilities.

Old-age poverty is a problem. Mexicans above 65 years old are at twice the risk of falling into poverty as the working-age population (Figure 19, Panel D). The problem reflects the fact that the Mexican pension system provides benefits to higher-income groups in the public and formal private sectors, while leaving vulnerable workers, generally from the informal sector, unprotected. In 2007, the Mexican government introduced *70 y más*, a cash transfer programme to provide income support to those over 70 years old who are not eligible to receive an old-age or retirement pension. While initially restricted to

residents of rural areas and small localities, its coverage has been extended since early 2012 to urban areas, and now about 60% of all eligible individuals are receiving a monthly flat-rate benefit of 500 pesos (about USD 40) (SEDESOL, 2012). Recent long-term projections by the *Consejo Nacional de Población* indicate that the population aged 65 or over will more than double during the coming 20 years, from 7 million in 2010 to around 16 million in 2030. With population ageing at such a rapid speed, there is a serious risk that the proportion of elderly poor will increase even further. Broadening the coverage of the programme and lowering the eligibility age from 70 to 65, now called *65 y más*, to include more seniors, as the new government plans, would be a feasible way to fight old-age poverty, although securing new permanent sources of funding would be a prerequisite. Over time the numerous cash transfer programmes that are also intended to tackle old-age poverty could be consolidated to reduce duplication.

Building up unemployment insurance would reduce the risk of informality after a job loss, which is an important contributor to inequality in Mexico. This would be a useful follow-up to the new labour law, as it would improve job matching and labour market efficiency. Given the weakness of tax revenues, any such reform would need careful design. A less costly possibility would be to introduce an individual savings account system combined with a public insurance component for job losers who have insufficient savings, as in Chile (OECD, 2012e). The existing system of individual pension accounts could provide a useful starting point for such a reform. Strengthening training programs could also improve the chances of the unemployed finding work. For instance, the *Bécate* programme, which facilitates the job placement of the unemployed through on-the-job training courses specifically tailored to the needs of companies, has been particularly successful. About 70% of the nearly 1.5 million participants between 2007 and 2012 were hired, according to government figures.

Financial inclusion

Ensuring access to financial services to all the population would improve well-being in Mexico by creating better and more equal opportunities for people to improve their lives, and reduce informality. Only 27% of the population has access to financial services, which is low even when compared to other Latin American countries such as Chile, with 42%, and Brazil, with 56%. Nonetheless, progress has been made over recent years resulting from changes to the legal framework and implementation of policies that allowed the widening of the supply of diverse financial products. Some measures that have already been taken include allowing the establishment of specialised "Niche Banks" and the use of non-financial entities as banking agents in underserved regions to help lower operation costs while expanding access and use. Though such measures are welcome, they could carry future financial stability risks that should be adequately monitored. At the lowest end of the income distribution, there has also been progress by shifting the distribution of *Oportunidades* and other cash transfer programmes to bank accounts that have now been opened for most programme participants. Measures to foster demand were also included, such as financial education and consumer protection, including enhanced transparency of costs of financial services and strengthening powers of the National Agency for Financial Consumer Protection.

In order to further address these challenges, the National Council for Financial Inclusion was created in 2011 to ensure the commitments made by the financial authorities and the private sector to implement Mexico's National Financial Inclusion Policy. The Council will provide an institutional mechanism to drive policy and facilitate co-ordination among government entities of relevance to financial inclusion, spanning agencies involved in regulation of the financial sector, social development and consumer protection.

Box 4. **Main recommendations on tax policy and social transfers**

Tax policy

- Tax expenditures need to be reduced or eliminated, in the corporate income, personal income and consumption tax systems.
- Re-evaluate and phase out special tax regimes, such as the one for the *maquiladoras*.
- The corporate tax regime could be further improved through a number of adjustments to treatment of interest, losses and consolidation that would make it less vulnerable to abuse and aggressive tax planning.

Social transfers

- Increase the coverage and size of *Oportunidades* cash transfers to the poor, complete the implementation of *Seguro Popular*, and broaden the coverage of *65 y más* old-age pensions.
- Evaluate and streamline social benefit programs.
- Create a cost-effective unemployment insurance scheme and strengthen training programmes to help the unemployed find work.
- Further encourage policies to support greater financial inclusion, including broadening the range of financial services, diversifying service providers to ensure commitments made by financial authorities.

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ANNEX A1

Progress in structural reform

This annex summarises recommendations made in previous *Surveys* and action taken since the last *Survey* was finalised in March 2011, and published in May 2011.

Recommendations	Actions taken since the previous *Survey* (May 2011)
A. Strengthening macroeconomic and financial stability	
Consider a structural fiscal balance rule, adjusting revenues for the business and the oil price cycles.	The transition from the current fiscal rule to a structural balance is still being evaluated.
Present fiscal data and budget projections according to national accounts standards on a regular basis.	In the Public Account for 2012, tax information will be presented according to the classifications and record bases established by the National Accounting Harmonization Commission (CONAC), Public authorities are required to publish financial and budgetary information at regular intervals. The Federal Budget is presented in accordance with the CONAC. But efforts continue to consolidate national accounting harmonization with the best national and international practices.
Make the temporary lifting of the limits on accumulated assets in the oil stabilisation funds permanent.	The federal budget for both 2012 and 2013 removed the limits.
Continue the build-up of foreign exchange assets through a rules-based mechanism as planned.	International reserves increased from 128.2 billion dollars in May of 2011 to 163.5 billion dollars at the end of December 2012.
In financial markets, move towards macro-prudential regulation and supervision.	The Financial System Stability Council (*Consejo de Estabilidad del Sistema Financiero*, CESF) has developed quantitative and qualitative indicators to identify potential systemic risks, including those outside the banking sector. The CESF has also established two working groups with a macro-prudential approach: one group is responsible to design metrics and quantitative indicators to identify systemic risks; another group, to identify and assess potential vulnerabilities and risks to the stability of the financial system.
Introduce counter-cyclical capital ratios as planned.	Basel III standards were installed in January 2013.
Continue retreating from exceptional state-directed lending through development banks.	As the recovery of private lending continues, direct lending by development banks is diminishing as well as the counter-cyclical programmes.
Promote additional export diversification, including through multilateral and regional trade agreements.	During 2011 and 2012 Mexico has strengthened its foreign trade platform through various regional and multilateral trade and economic agreements in order to diversify the destination of its exports. It has also continued its unilateral agenda for trade facilitation, including a gradual tariff simplification of the General Import Tariff of Mexico, and the mandatory use of the Single Window for foreign trade procedures to reduce operational and administrative costs of businesses. Mexico is also committed to advancing the Doha round of negotiations.
B. Promoting the efficiency and effectiveness of spending and taxation	
Increase cash transfers to the poor, for example through *Oportunidades* or by introducing a social assistance scheme.	Spending in cash transfers is planned to increase by 17% between, 2011 and 2013. The coverage of *70 y más* will almost double between 2011 and 2012, from 2 billion beneficiaries to 3.6.
Gradually withdraw energy subsidies, as well as zero rates and exemptions within the VAT system.	Substantial adjustments in fuel prices have been implemented periodically during the last two years.

Recommendations	Actions taken since the previous *Survey* (May 2011)
Evaluate all special business tax regimes and retain only those of proven effectiveness.	The Federal Government has worked with the OECD on the evaluation of these regimes. The fiscal reform to be presented in 2013 will include modifications to them.
Strengthen tax enforcement for the small business regime and consider a requalification after some years or a sunset clause.	A complete evaluation of the small business regimes was finalised in 2012. The fiscal reform proposal to be presented in 2013 will include some of its suggestions to modify the regime.
Evaluate the in-work tax credit and consider targeting it more at the lowest incomes.	The tax credit has been continuously evaluated; the fiscal reform proposal to be presented in 2013 might include modifications.
Move towards taxing all wage elements at the same rate.	The IETU already taxes all elements of labour income, at the same rate.
Evaluate the new alternative minimum business flat tax. In the long term, consider moving towards a simpler business tax, but keep IETU in place, unless the tax base of the regular business tax system can be broadened significantly. Consider IETU as the only business tax only if this does not lead to revenue shortfalls.	A complete evaluation of the IETU was presented to Congress in 2011. It showed that the IETU has increased revenues directly and indirectly, through its effect on the income tax, has contributed to attenuate the pro-cyclical nature of tax revenues, and has helped to deter aggressive tax planning practices.
Subnational governments should increase their own tax revenues. One way to achieve this would be to encourage states to launch programmes for municipalities to update land registers.	The Federal Government established a program (*Programa de Modernización Catastral*) and a fund (*Fideicomiso para el Desarrollo de Entidades y Municipios*) to promote and finance studies and projects to update the tax base, the taxpayers registry and the land and construction values for local taxes.
Enhance tax enforcement through extended use of risk models, training and attractive pay and career paths.	Risk models for audit selections and VAT refunds decisions have been put in place. The SAT launched a specialities program to strengthen officials´ training.
C. Reducing informality and improving labour market dynamism	
To promote formality, enhance efficiency and reduce the overall cost of social security, remove subsidised mortgages, childcare and recreational activities from the mandatory social security package and merge them with equivalent tax-financed programmes.	The pending structural reforms will address these issues in the near future.
Further integrate the different healthcare systems. Move towards integrated financing of a basic universal healthcare insurance, either through taxes or fees.	Several efforts have been put in place to pave the way to further integration. The most significant ones include the development of a General Census of patients belonging to different subsystems, the conformation and spreading of General Practice Guidelines with the active participation of all institutions and the exchange and systematic payment of services among public institutions.
Adopt and implement the proposed labour market reform in full.	The labour market reform was approved by Congress on November 2012.
Consider easing procedures to dismiss workers based on poor performance or redundancy.	No significant action taken.
D. Simplifying business regulation	
Co-operate with subnational governments to interconnect the federal one-stop shop with state and municipal internet portals for business start-ups.	Nine states have implemented tuempresa.gob.mx program, with positive results.
Extend the scope the regulatory review initiative to other regulations with a large impact on business productivity. Implement the suggested changes in the regulatory impact assessment.	In 2012 COFEMER published an agreement to simplify and harmonise the regulatory reform process with the standardization process in order to avoid delays in the issuance of Official Mexican Standards. The RIA now includes the analysis of impact on competition and the risk analysis has been modified and improved. A Quality Management System of regulatory impact assessments has been created, which aims at the continuous improvement in the information on regulatory impact analysis.
Encourage states and municipalities to apply the toolkit to simplify subnational regulations. Co-ordinate regulation across government levels.	During the second half of 2011, the OECD with the Ministry of Economy and the Federal Commission for Regulatory Improvement of Mexico (COFEMER), conducted an exercise of accompaniment in the implementation of the recommendations of the toolkit four states and four to identify good practices.
E. Strengthening competition	
Limit grandfathering of airport slots at congested airports to ensure efficient allocation, for example through auctioning. Review the requirement of route-specific concessions and allow airlines to operate as long as they fulfill safety notification requirements.	On April, 2012, the CFC issued that recommended implementing stronger principles of competition; allocation of time slots and establishing criteria for competitive concessions. The approval of a reform to the Airports Act will allow the allocation of slots in airports with saturation from independent third parties. This is consistent with the guidelines of the International Air Transport Association (IATA) for the allocation of slots, and in the medium term will allow the removal of those who are not used efficiently for their reallocation.
Ease restrictions to obtain a license in intercity bus transport and ensure non-discriminatory access to essential facilities.	There are no specific actions regarding passenger transport.

Recommendations	Actions taken since the previous *Survey* (May 2011)
Implement fully the legal changes to ease access to banking services and facilitate banks' access to essential facilities.	Several measures have been implemented in order to ease access to banking and financial services. A new regulation on banking agents was issued in 2010 allowing more banks to operate. On the other hand, new regulations were issued on mobile payments, mobile banking and simplification of requirements to open a deposit account (subject to the level of risk) in order to foster access to banking services.
Quickly implement the removal of the requirement that firms operate a plant or a laboratory in Mexico to be allowed to sell generics. Require doctors to prescribe medications only by their generic compound name and pharmacies to supply generics.	The Commission has established that doctors have to prescribe using the generic name of generic and biological medication and only have the option to write down the commercial name of the medications.
Merge local calling areas. Authorise COFETEL to regulate interconnection *ex-ante*, declare bottlenecks and essential facilities for all telecommunication sectors and establish non-discriminatory access conditions to these facilities. Allow unbundled access to essential infrastructure when it promotes competition provided that this does not undermine investment incentives. Base interconnection tariffs on long-run incremental costs.	On April, 30th, 2012, as a result of an investigation for monopolistic practices, the CFC settled with Telcel a progressive interconnection tariff reduction program.
F. Raising the quality of education	
Define nation-wide standards for teacher performance as well as accreditation standards for teacher-training institutions to improve initial teacher education. Improve the new teacher licensing examination and open all teacher posts to competition. Professionalise the appointment of directors.	In October 2012, 20 teacher performance standards in four knowledge areas were developed. The 2013 Education reform implies that the promotion of principals, supervisory levels and teachers, should be implemented through competitive examinations to ensure the appropriate knowledge and skills.
Gradually introduce a teacher evaluation system.	Since May 2011, the National Agreement for Universal Evaluation of teachers and principals in the Basic Education Service, aims to provide teachers a comprehensive assessment of their professional skills and measure the educational achievement of their students. In June 2012, the 9 tests for the first phase were applied to 264 455 teachers and principals of primary education, 94% of public schools (248 304) and 6% of private schools (16 196).
Reallocate resources to provide schools with reliable financing.	No significant action taken.
Professionalise the training and selection of principals to assume greater responsibility for teacher employment and pay.	The 2013 Education reform includes an agreement on the Universal Evaluation for teachers and principals in the Basic Education Service and on the National System of Continuing Education and Professional improvement of basic education for teachers on service.

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Chapter 1

New findings on obstacles to economic growth

Mexico's economic growth has been insufficient to generate convergence towards the income levels of the wealthiest OECD economies. The main reason is poor productivity growth, which highlights the importance of continuing reforms to improve education, competition and the business environment. These reforms, however, are heavily influenced by widespread informal employment and weak legal institutions that diminish the effectiveness of policies and hold back gains in productivity. In order to lift long-term economic growth, structural policy reforms will be required across multiple institutional domains, as many of the problems are interlinked. A broad effort to follow through with secondary stages of ongoing reforms is required to address informality and improve the legal system, and thereby release the shackles that restrain economic growth.

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.

Economic growth

Average and median incomes per capita in Mexico have grown slowly for most of the past three decades, notwithstanding a series of financial crises and severe downturns. This has left a persistently wide income gap relative to the wealthiest OECD countries (Figure 1.1, Panel A). Will the coming decade bring better outcomes? Though residents of Mexico express stronger subjective well-being than their income levels would imply – with life satisfaction reported as slightly higher than the OECD average in 2010 (Figure 1.1, Panel B) – this does not appear to be representative of material well-being measures, though more subjective measures may partly reflect political institutions, and thus be partly forward-looking, since well-functioning legal institutions are important to support economic development (Stiglitz et al., 2009). However, using any of a range of contemporaneous measures of material incomes from national accounts, the gap to the best-performing countries in the OECD has not yet been reduced substantially.

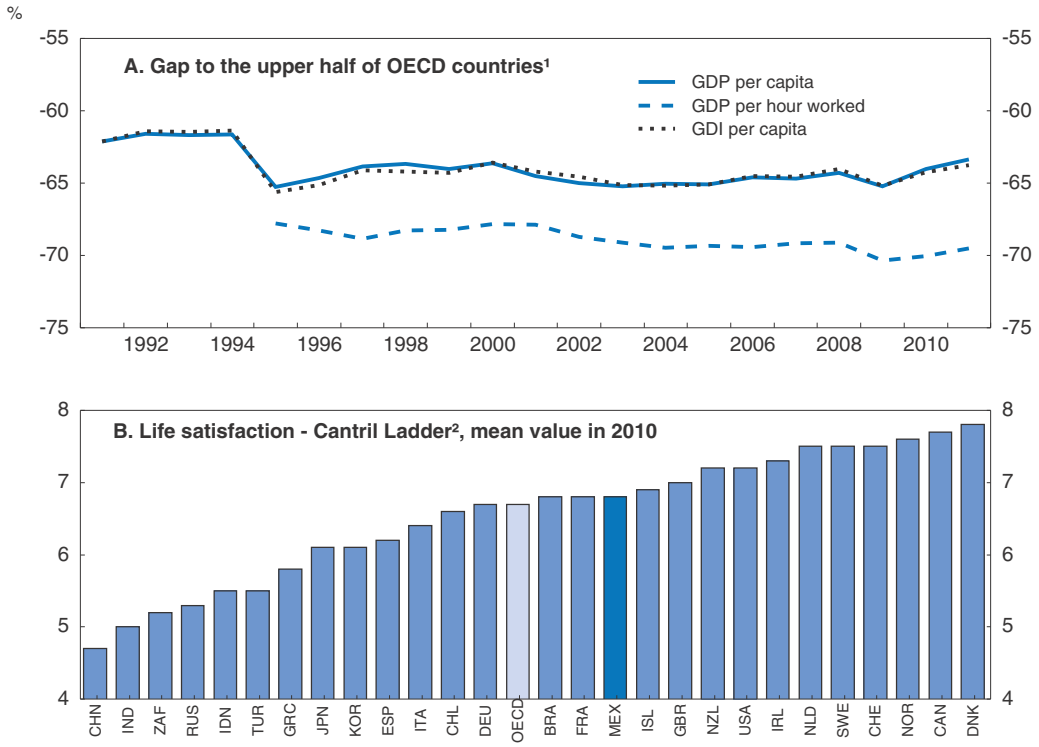
A persistent weakness in productivity growth is behind this disappointing lack of closure of large income gaps relative to more advanced economies. Poor multi-factor productivity growth (MFP) offsets otherwise positive contributions to growth from human capital accumulation, labour force growth and physical capital deepening over the past decade. And while the size of contributions from factor accumulation to growth were on a par with other major emerging markets, Mexico is alone among major emerging markets in having suffered from a negative trend MFP growth of minus 1.2% over the last decade (OECD, 2012a). While some states have achieved productivity growth above the national average, most have not, so large regional disparities in income and growth rates have persisted (OECD, 2012b). This chapter will examine which distortionary policies are most in need of reforming in order to reverse these damaging trends.

Productivity

The productivity picture is somewhat more complex than apparent at first examination, depending on the measure of productivity chosen. While MFP growth has been negative when taking human capital, labour and capital inputs into account, MFP growth has been slightly positive on average if only labour and capital inputs are considered – about 1% per year over the 2000s. Inclusion of natural capital and environmental externalities does not affect the later result appreciatively (Brandt et al., 2013). The easier-to-compute labour productivity measure grew about 2% per year over the past decade – and twice this in manufacturing – with the additional contribution beyond MFP growth coming from capital deepening. Though the growth in labour productivity is sub-par when compared with the fastest-growing emerging markets, greater moderation in wage increases since the 2008-09 recession has allowed unit labour costs in Mexican manufacturing to fall in relative terms (Figure 1.2), helping to boost trade competitiveness.

Increasing competitiveness in manufacturing has been driven by multiple factors, and it masks considerable heterogeneity across sectors in the evolution of productivity gains. A

Figure 1.1. **Gaps in GDP per capita and productivity are wide and persistent**

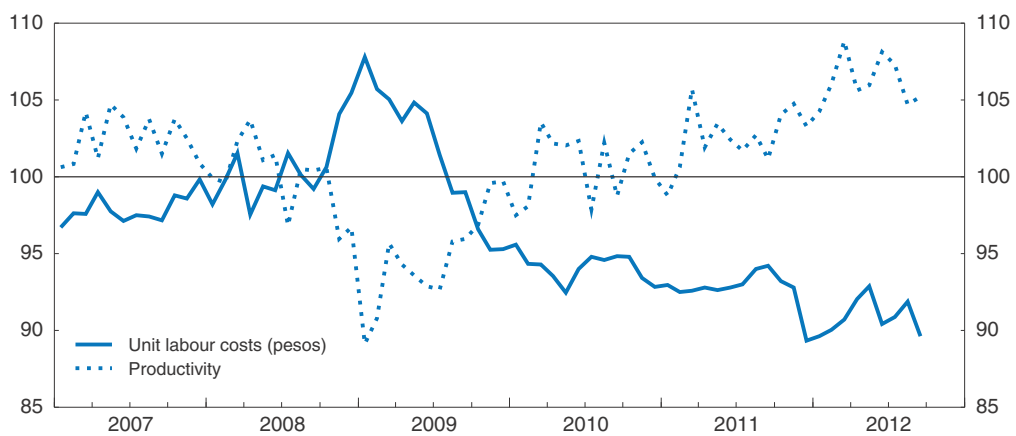


1. The per cent gap is measured with respect to the simple average of the highest 17 OECD countries in terms of GDP per capita, GDP per hour worked and GDI per capita (in constant 2005 PPPs). Real gross domestic income (GDI) at PPP takes account of terms-of-trade effects and also makes adjustments for net foreign transfers from abroad (OECD, 2010).
2. The Cantril Ladder is measured on a scale from 0 to 10, and is the best available measure of how people evaluate their life as a whole. It is based on data from the Gallup World Poll.

Source: OECD (2011 and 2013).

StatLink http://dx.doi.org/10.1787/888932803313

Figure 1.2. **Unit labour costs have been falling as labour productivity has improved in manufacturing**[1]



1. Unit labour costs and labour productivity measured as an index with 2008 = 100.

Source: INEGI.

StatLink http://dx.doi.org/10.1787/888932803332

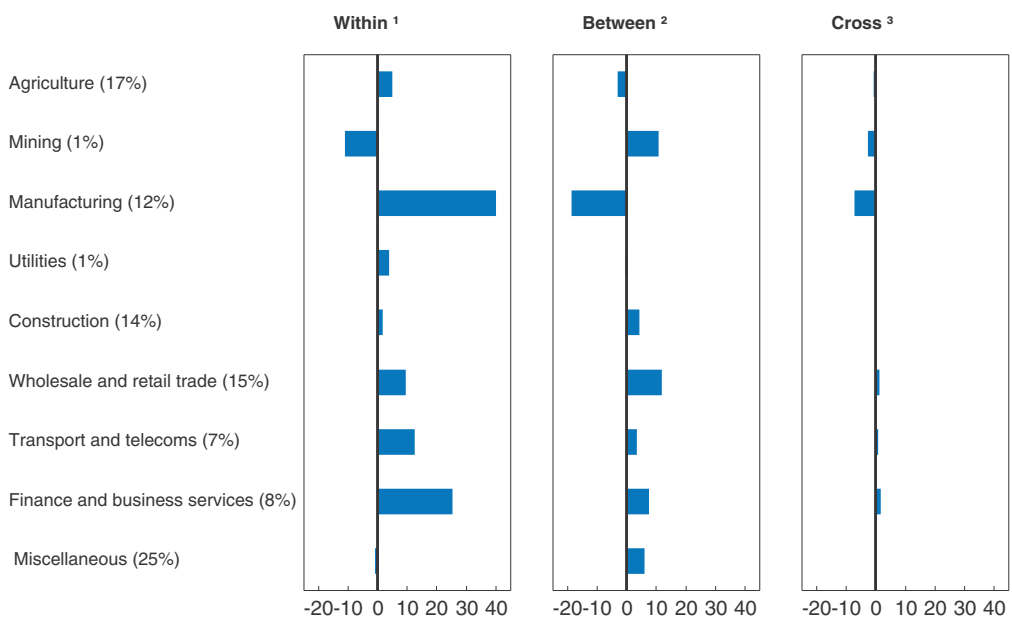
shift-share analysis of the evolution of labour productivity (Figure 1.3) shows that 85% of recent gains have been through within-sector employment adjustment rather than reallocation between or across sectors. Moreover, 40% of overall labour productivity gains have accrued simply within manufacturing, where labour productivity grew at 4% per year, or twice the overall pace. Finance and business services as well as transport and telecoms made up most of the remaining gains within sectors. Reallocation of labour between sectors played a minor role for the wholesale and retail trade as well as mining and extraction sectors, but on the whole reallocation was extremely modest, suggesting that labour or product market barriers to reallocation are likely harming productivity-enhancing shifts of labour across sectors.

Firm size

A skewed distribution of firm size in Mexico also plays a damaging role in terms of efficiency. High levels of concentration due to the presence of dominant firms in many sectors have depressed MFP growth outcomes (Salgado and Bernal, 2011). Concentration is typically a result of the existence of entry barriers that reduce competition, and allow large firms with market power that charge excessively high prices and produce low quality products to survive in given sectors. On the other end of the size spectrum, the widespread presence of informality in many sectors reduces their productivity, as institutional weaknesses limit the most productive among them from growing in size (Dougherty, 2013). Inter-regional differences in efficiency illustrate the possibilities of reform; these are estimated to be substantial in Mexico, with a one-third gain in MFP levels feasible if the least efficient states were to move towards more competitive states' economic structures (Chavez and Fonseca, 2012).

Figure 1.3. **Shift-share analysis of labour productivity evolution**

Percentage of the sum of absolute changes in the components, 2003-11



Note: percentages in parenthesis represent the share of the sector in total employment.

1. *Within:* within-sector labour productivity.
2. *Between:* productivity growth due to reallocation of labour across sectors with different levels of productivity.
3. *Cross:* productivity growth from shifting of employment across sectors with different productivity growth rates.

Source: OECD analysis based on *STAN Database* and INEGI.

StatLink http://dx.doi.org/10.1787/888932803351

In order to boost productivity growth and strengthen factor inputs, structural reforms are essential. A set of stylised reforms were considered to examine the scope for boosting GDP growth. The OECD estimates that Mexico's potential GDP growth rate as slightly above 3% per annum in 2014 (OECD, 2012a). OECD analysis suggest that a moderate set of structural reforms that would bring Mexico's labour and product market policies to OECD median settings would raise Mexico's potential growth through higher productivity and investment to around 3½ per cent annually in the medium term, though demographics will cause labour inputs to slow as the working age population share decreases (OECD, 2013a). With a more ambitious course of reform that would bring policies closer to the leading OECD countries, growth rates could be lifted even further, to a rate approaching 4% annually in the medium term – or even higher if sufficiently ambitious, as the government hopes in its "Pact for Mexico".

The Pact calls for raising potential GDP growth to near 5%, which would not be possible without a major increase in productivity growth and a faster rate of capital accumulation. While many emerging countries have been able to achieve high rates of productivity growth, for Mexico this would require not just major structural reforms, but also synergies happening across multiple policy areas. Given the ambitions of the new administration and the comprehensiveness of the needed reforms that cover multiple domains, a high-level inter-agency body focused on productivity similar to Australia's Productivity Commission (Box 1.1) should be created to analyse the impediments and risks to growth and advocate for reform.

Box 1.1. **The Australian Productivity Commission**

Australia's Productivity Commission (APC) is an independent research body that advises the Australian Government on a range of economic, social and environmental issues that affect the welfare of Australians. Its charter is to improve the productivity and economic performance of the economy, taking into account the interests of the community as a whole, considering environmental, regional, and social dimensions; not just the interests of particular industries or groups. An important function of the APC is modelling the economic costs and benefits of alternative policy options. It may make recommendations on any matter that it considers relevant, and it is up to the government to decide how to use the advice provided. The APC is unique among OECD members for its standing inquiry and policy advising work across a range of economic, social and environmental issues.

The government directs the APC on what areas to study through the issuance of formal terms of reference, but the PC is independent in its analysis and findings. The processes of inquiry are public, allowing the opportunity for the participation of interested individuals and groups, and the inquiry reports must be tabled in Parliament within 25 sitting days of the government receiving the report. The APC cannot launch its own inquiries, although it can initiate supporting research and publish the results via Commission or staff research paper.

Other OECD governments have also created related bodies. New Zealand created a commission modeled on Australia's in 2010, and Denmark created a time-limited Productivity Commission last year that will deliver its final report in late 2013.

Source: OECD (2010), *Reviews of Regulatory Reform: Australia, towards a seamless national economy*.

In addition to boosting productivity and strengthening investment, a much larger role also needs to be played by reforms to labour supply and education policies, and notably to boost the labour force participation of women, whose participation rate is very low. There are signs that returning migrants could also strengthen growth, if the recent trend of reversing net flows to the United States is sustained, although that would reduce their financial remittances from abroad (Passel et al., 2012). In order to take advantage of labour supply trends, a broad range of reforms to promote employment formality will be needed.

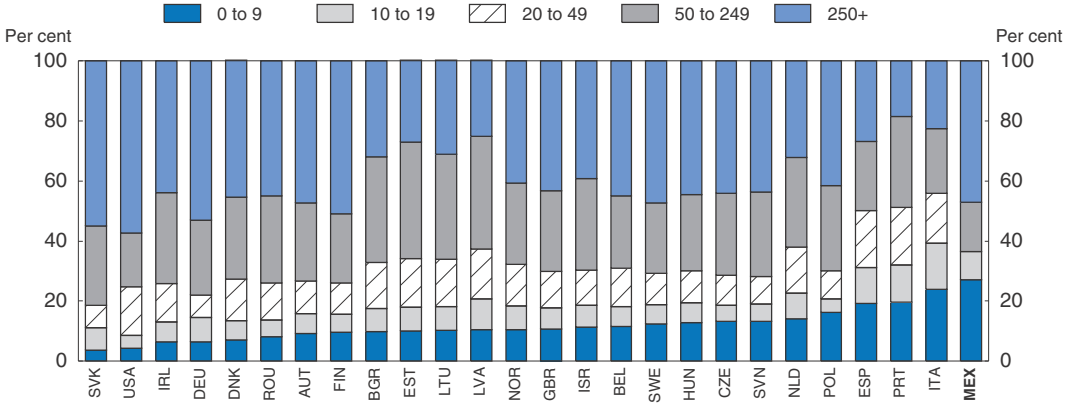
Informality

Informality – at 60% of total employment by official estimates – remains an overwhelming challenge in Mexico, limiting economies of scale and reducing economy-wide efficiency. Mexico's share of employment in the smallest size manufacturing enterprises is the largest among a varied group of OECD and non-OECD countries for which comprehensive economic census-type data are available (Figure 1.4). Moreover, about one-third of all employees work in informal firms, most of which are "microenterprises" that have 10 or fewer employees, or are self-employed. A preponderance of small-scale firms and pervasive informality severely limits the economies of scale than can be achieved, and reflects structural distortions that depress average productivity and limit growth (Hsieh and Klenow, 2012; OECD, 2012d; Dougherty, 2013).

There is no magic bullet to address informality. In the long run, higher incomes will reduce informality. However, new empirical evidence for Mexico (Box 1.2) shows that promoting a greater share of formal firms and employment will require a broad-based package of policies to improve educational outcomes, reform business regulation, encourage foreign investment, strengthen legal institutions and reduce corruption. This evidence is broadly consistent with the broad literature on developing countries (OECD, 2011), though it is more robust since it is based on time series evidence across Mexican

Figure 1.4. **Very small and large enterprises dominate employment**

Distribution of manufacturing employment by enterprise size class,[1] 2008



1. The size classes 10-19 and 20-49 are aggregated for Mexico, with the exact list of size classes for Mexico as the following: 0-10, 11-50, 51-250 and over 250. Size classes for the United States are 1-9, 10-19, 20-99, 100-499 and 500+. The variable used is the number of persons employed, except for the United States in which case it is the number of employees.

Source: OECD Entrepreneurship Database.

StatLink http://dx.doi.org/10.1787/888932803370

Box 1.2. **Explaining informality in Mexico**

Informality has important implications for productivity, economic growth and inequality of income. In recent years, the extent of informal employment has increased in about two-thirds of Mexico's states. Informality as measured using participation in the federal social security system (IMSS) varies from 80% in one of the poorest Mexican states to 45% in one of the wealthiest. The substantial differences across states in terms of informal employment can be helpful in explaining differences in economic growth outcomes. Escobar (2013) studies the determinants of informal employment using states' diverging outcomes to identify causal factors. The results of this study suggest that reductions in informality are associated with higher income levels, better-skilled labour, lower prevalence of microenterprises, reduced cost of starting a business, greater levels of foreign investment and lower corruption levels. Policies that pursue these objectives should help to reduce the extent of state-level informality.

The estimates shown in Table 1.1 are based on specifications of the following regression equation, which regresses employment informality rate in state *i*, sector *j* and time *t* as follows, using data from 2005 to 2010:

$$\ln(Informality_{i,j,t}) = \alpha + \beta \ln(X_{i,j,t}) + u_i + u_j + u_t + \varepsilon_{i,j,t} \qquad (1)$$

where *X* is a matrix of explanatory variables; u_i, u_j and u_t are the idiosyncratic error terms of state *i*, sector *j*, and time *t* respectively; and $\varepsilon_{i,j,t}$ is the overall error term. The equation is estimated using ordinary least squares (OLS), least squared dummy variables (LSDV) with state and industry dummies, and generalised method of moments (GMM) with lagged values used as instruments. All of the explanatory variables highlighted above are statistically significant in both the OLS and the robust GMM specification.

Table 1.1. **Estimates of an informality equation across states and industries**

Dependent variable :	(1)	(2)	(3)
Informality rate	OLS	LSDV	GMM
GDP per capita	-0.091**	-0.035	-0.073*
	(0.035)	(0.151)	(0.039)
High school graduate share	-0.135***	-0.203***	-0.100***
	(0.026)	(0.042)	(0.030)
Microenterprise share	0.521***	0.284***	0.275*
	(0.023)	(0.030)	(0.147)
Cost to start a business interaction			0.112*
			(0.057)
Stock of FDI as a share of GDP	-0.015*	-0.006	-0.044**
	(0.008)	(0.006)	(0.022)
Corruption prevalence	0.130***	-0.033	0.133***
(Transperency index)	(0.034)	(0.020)	(0.035)
Cost of tax administration	-0.132***	0.043	-0.149***
as a share of taxes collected	(0.049)	(0.047)	(0.057)
Observations	3 063	3 063	2 550
R^2	0.754	0.884	0.744
RMSE	0.427	0.296	0.446
Hansen J-statistic			0.388

1. All variables are expressed in log form.
2. Estimators: OLS – ordinary least squares; LSDV – least squares dummy variables; GMM – generalised method of moments.
3. Cluster adjusted (state-sector pair level) robust standard errors are in parentheses. Confidence levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
4. Dummy variables and selected explanatory variables not reported here.

Source: OECD estimates elaborated in Dougherty and Escobar (2013).

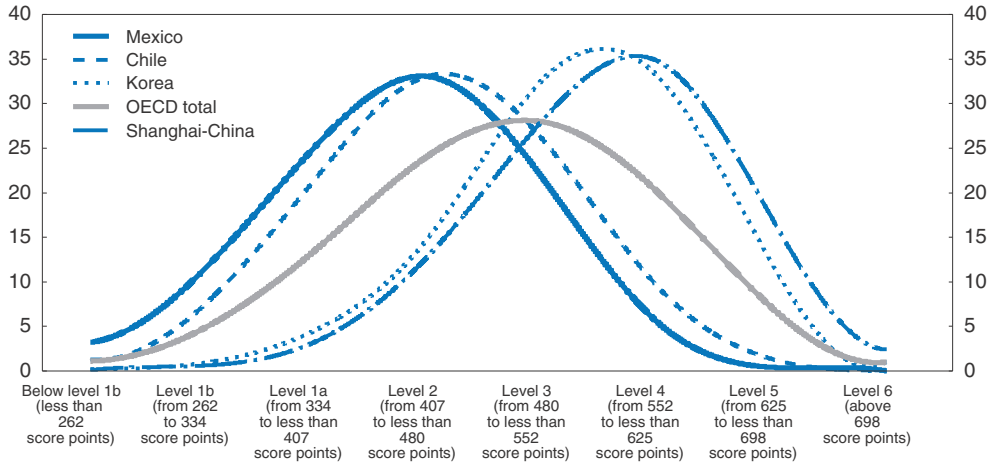
states during the 2000s. Taxes are often thought to be a key problem, but the evidence prepared for this *Survey* suggests that they are not the dominant driver of informality in Mexico, though the choices of some self-employed high earners, many of whom own their firms, could be affected. On the whole, skill deficits predominate among the informal salaried workers, and an average wage gap of about 15% exists with formal salaried workers (Bargain and Kwenda, 2010). Such skill deficits, which limit formal sector employment, are driven by weak educational achievement and low education quality.

Education

Educational performance is weak at all levels of the distribution, meaning that a substantial share of the educated population have skill deficits. While average learning outcomes have been gaining ground in the past decade, a substantial proportion of the 15-year-old students who take the PISA exam perform at the lowest levels, well below the bulk of the population in other OECD countries (Figure 1.5). While gains in average outcomes are also important, in order to tackle skill deficits in the informal sector, performance especially at the lowest levels needs to be boosted, such that their private returns are significantly strengthened (Harberger and Guillermo-Peón, 2012). Ongoing reforms of the incentives of teachers and school leadership, system funding, curricula, as well as evaluation and assessment strategies, will need to be pushed further (OECD, 2012e). Only sustained efforts will yield the necessary improvements in educational achievement that will boost skills at all student's levels and thereby help to reduce informality. Improvements in educational achievement and quality have the potential to boost potential growth more than virtually all other types of structural reforms in the long run, though these benefits can take time to fully materialise (Barnes et al., 2011; Bouis et al., 2011). Strengthening vocational education and training can help to improve workforce skills in the shorter term.

Figure 1.5. **Education performance based on PISA scores is weak at all levels**

Proportion of 15 year olds at different levels of performance, 2009



Source: OECD PISA Database.

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Job protection

The flexibility of the labour market is critical in ensuring the effective use of new entrants to the labour force. Previously, considerable uncertainty in the cost of termination for employers in Mexico could arise through the unlimited accumulation of back-pay during lengthy labour trials, though enforcement was uneven. In addition, short-term training contracts were not available to employers. The labour law passed last year represents a major breakthrough in improving the functioning of the labour market. In particular, it will contribute to reducing the stringency of job protection for formal employment, potentially reducing informality. By introducing new contracts and rules that enable employers to more easily adjust their labour force at lower cost and with less judicial uncertainty, it will lower the effective cost of hiring workers and improve employer-job matching. This should be particularly beneficial in dynamic or volatile industries that are open to international trade, since they have greater uncertainty about their labour needs (Martin and Scarpetta, 2012).

Based on international evidence, the reform will also help to boost formal job creation as well as productivity growth. Estimates of the effects of the reform using OECD panel data evidence (Bassanini et al., 2009) and a scoring using the OECD's index of employment protection legislation (EPL) imply that potential growth in the medium term could be raised by 0.1 percentage points or more. Rapid implementation of the new law is important to ensure its benefits are realised quickly.

Beyond strengthening education and skills, the remaining necessary components of a package to durably reduce informality and boost productivity will be discussed below: eliminating entry barriers and reducing concentration, strengthening legal institutions and further developing anti-corruption systems.

Competition

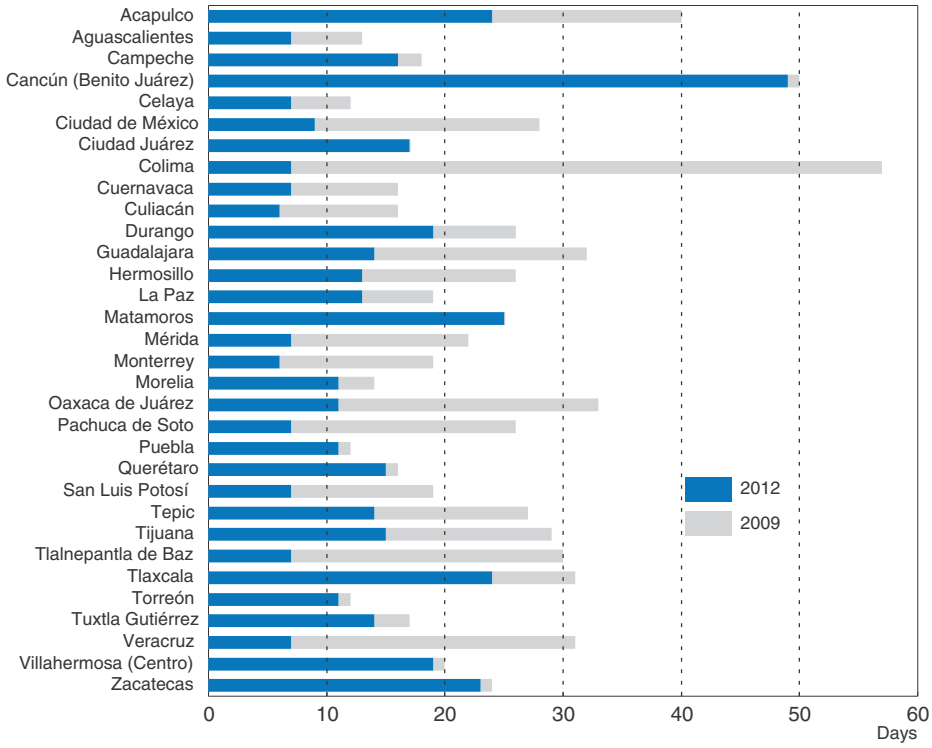
Mexico has made significant progress in easing procedures to start a business. The "typical" time in days, average cost and minimum capital requirements to open a business have all been reduced progressively over the past decade. Notably, the Federally-determined minimum amount of paid-in capital required to open a low-risk business fell to zero last year. In addition, the Federal Commission on Regulatory Improvement (COFEMER) has been applying regulatory impact analysis (RIA) to all new regulations over the past decade, and recently reformed its system to align it with the OECD best practice. The RIAs are all made public, as a result of transparency requirements, and a recent assessment (OECD, 2012c) suggested that line ministries and regulators are likely to follow their non-binding recommendations. However, COFEMER should be strengthened to give it sufficient legal status to tackle regulation from a "whole-of-government" perspective.

Reducing regulatory burdens

Substantial variation of *de jure* and *de facto* regulation remains at the state level, with some states being far more stringent than others, even on the number of days to start a business (Figure 1.6), and considerable work remains to be done to reduce compliance costs (IMCO, 2012; OECD, 2012c). One useful option would be to integrate the Federal on-line simplified business registration web portal *tuempresa.gob.mx*, with states' own registration and information portals. Some states, such as Nuevo León and Zacatecas, have taken aggressive approaches to review the stock of *de jure* regulation, against need and

Figure 1.6. **The time required to start a business has been falling in nearly all states**

Number of days to start a typical business



Source: World Bank, *Subnational Doing Business Mexico.*

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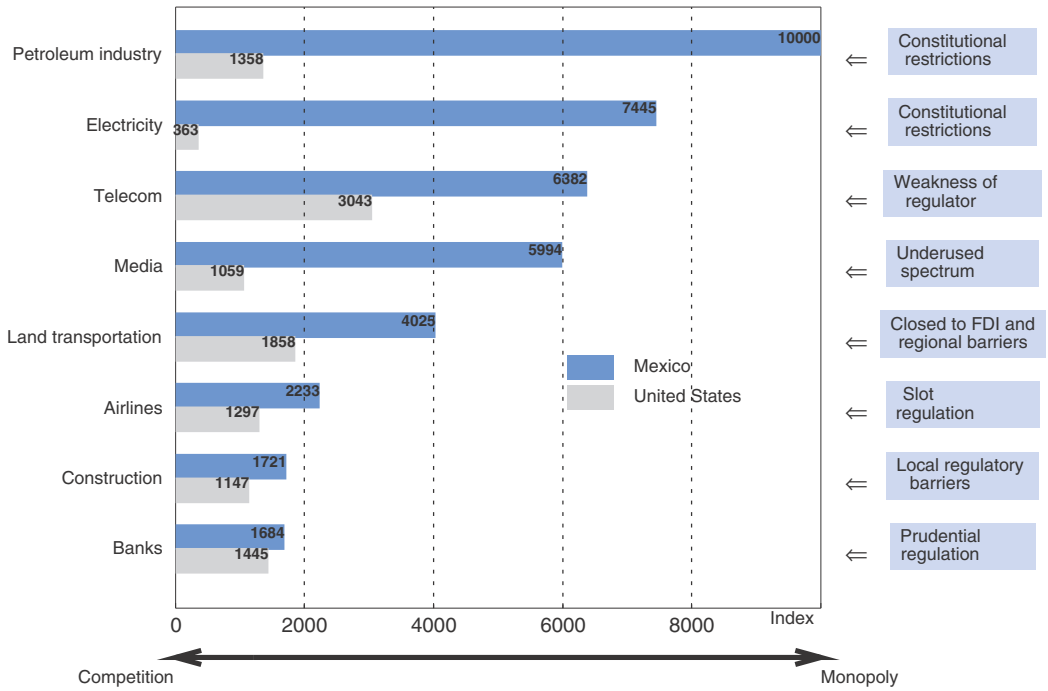
efficiency, an approach that they dub the "regulatory guillotine". Around a dozen states and municipalities have participated in a joint OECD-Ministry of Economy initiative that has sought to apply better regulation policies at the state and municipal level, following a toolkit developed with the OECD, that provides useful guidelines on simplifying subnational regulations, for instance for business start-ups, construction permits, property registration, and procurement.

Aside from regulations on domestic market entry, explicit and implicit restrictions on foreign investment exist in a number of network sectors, limiting the role international competition can play (Figure 1.7). These restrictions on foreign ownership are among the most stringent in the OECD, and include state-owned monopolies in the electricity and oil & gas sectors, as well as additional restrictions on foreign ownership in the agriculture, telecoms, media, transport and financial services sectors – most of which face a very high degree of market concentration, resulting in high prices and low productivity growth (CIDAC, 2011; OECD, 2013a).

The 2011 Competition Law was a breakthrough in supporting competition and it is already playing an important role in policing abusive behaviour. The Competition Commission's (CFC) ability to impose large fines (up to 10% of total domestic firm turnover), which it has already applied in a number of cases, is likely be a significant deterrent to abuse. In addition, its ability to carry out on-site searches and impose criminal

Figure 1.7. **Concentration in selected economic sectors**

Herfindahl-Hirschmann Index (HHI),[1] 2010



1. The HHI index is measured on a scale of 0 (most competitive) to 10 000 (least competitive) based on the sum of the squared market shares of firms in a sector. The US Department of Justice considers sectors with an HHI between 1 500 and 2 500 to be moderately concentrated and over 2 500 as highly concentrated.

Source: CIDAC (2011).

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penalties gives it further power. However, delays in court review remain a problem: the specialised courts with expert judges that were envisioned when the Competition Law was passed in 2011 have still not been set up. If designed correctly, these courts could be highly beneficial, but need to have a broad mandate, with the ability to offer an expedited review of all economic regulation issues, including competition matters.

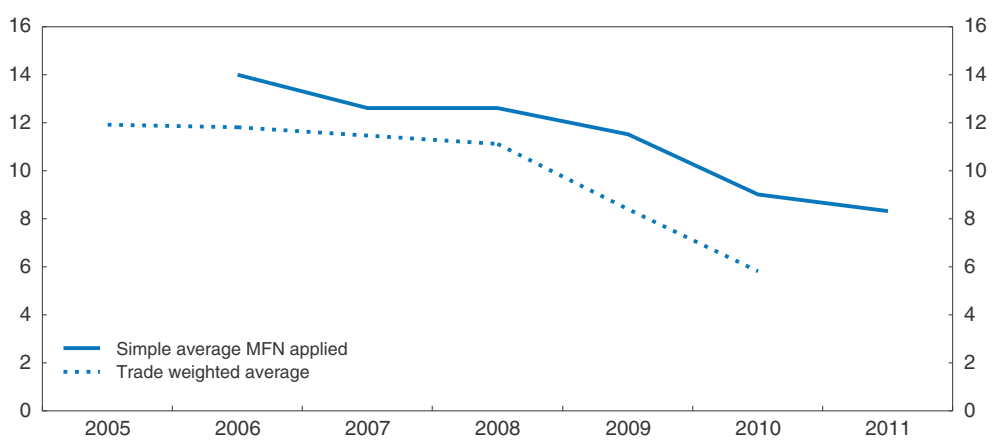
A related area where legal reforms are needed is to further address the abuse of economic and fiscal *amparos* or "habeas corpus" petitions that are used to block regulators' actions on specific firms. Examples include actions that have stymied the telecom regulator's actions as well as tax cases where specific firms have claimed to be entirely exempt from VAT, irrespective of the views of the tax authorities (SAT). A major reform of the economic *amparos* focused on the domain of public concessions has been approved, that should limit the ability of specific actors to block regulator's actions prior to their final legal resolution. More broadly, the Supreme Court has begun to move towards a public interest principle in its jurisprudence of *amparos*, although a legislative change would be more efficient and even-handed, and deter the filing of meritless cases. The creation of specialised economic courts with qualified judges would help to facilitate more well-balanced judgements.

Promoting trade

Moderate wage pressures, ongoing unilateral tariff liberalisation and geographical proximity to the United States together with bilateral investment agreements, enhance Mexico's export market share with North America. At the same time, Mexico has also diversified the destination of its exports, reducing the economy's dependence on the United States. While the weak productivity performance has been widespread across many sectors of the economy in recent years, there are signs that some equipment-related manufacturing sectors where there is more competition – and a lower degree of market concentration – have performed better, including auto parts, machinery & equipment and audiovisual instruments (Banda and Bernal, 2011). These are also sectors that have allowed Mexico to participate more in global production networks, especially in North America (OECD-WTO, 2013).

Though tariffs have been reduced significantly (Figure 1.8), further tariff and investment liberalisation, especially in services where non-tariff barriers remain high (OECD, 2013a), would help to support Mexico's deeper integration into global production networks and help it to capture higher value-added components, especially those outside of manufacturing that it is currently lacking. Removal of both domestic and international barriers to competition at the same time may even have complementary effects that can increase the overall gains from reform even more, since they can be mutually re-enforcing and yield particularly large benefits for the most productive firms in those sectors that are relatively open to international trade (Ben Yahmed and Dougherty, 2012; Bas et al., 2013).

Figure 1.8. **Mexico's average and trade-weighted tariffs have been reduced**



Source: WTO, *World Tariff Profiles*.

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Another difficulty in capturing higher value-added segments of exporting is due to Mexico's weak innovation environment that is not conducive to the development of high-tech companies. In addition to high market entry barriers, start-ups have very limited access to the banking system, and there is virtually no venture capital, in part because of a lack of protection of minority shareholders in law. Partly as a result, R&D expenditure in Mexico's business sector is the lowest of all OECD countries at under 0.2% of GDP, and

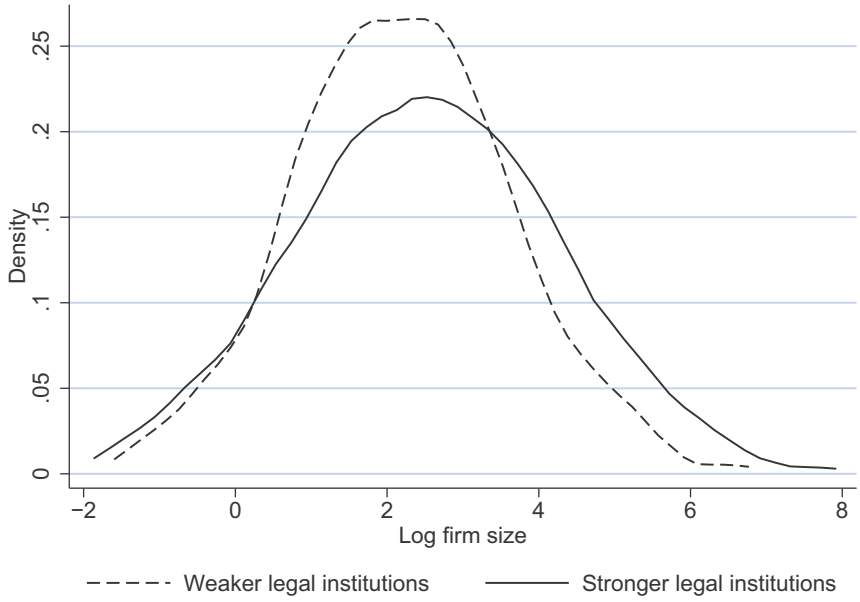
overall R&D intensity is less than 0.5% of GDP. While the innovation policy mix has recently changed to make public funding to the business sector more direct and competitive, these measures could be usefully strengthened. As part of the Pact, the new government has committed to raising R&D intensity to 1% of GDP in the coming years. Indeed, consolidating successful initiatives that facilitate high-tech start-ups and providing legal structures that are conductive to venture capital would be helpful in strengthening such funding, and help to boost business R&D (OECD, 2013b).

The legal system and rule of law

Boosting productivity and growth in Mexico by achieving the range of competition reforms that the authorities envision will require stronger judicial institutions to enforce laws and adjudicate disputes. Judicial effectiveness relies not only on legal origins, but also on the efficiency of the court system, the quality of its administration, the nature of legal codes and the soundness of standard procedures. Reliable enforcement of contracts gives agents incentives to save and invest, by protecting the returns from their activities. Empirical estimates carried out in the context of this *Survey* (Dougherty, 2013) suggest that a low-quality judiciary in many Mexican states makes contract enforcement problematic, reducing the average size of firms (Figure 1.9) and their capital intensity, thus reducing aggregate productivity through diminished scale economies. If laggard states' judiciaries were brought up to the level of the average state, the overall level of output in Mexico could be raised by several percentage points of GDP.

Figure 1.9. **Improvements in the legal system would boost average firm size**

Predicted distribution of firm size conditional on presence in best or worst-practice state



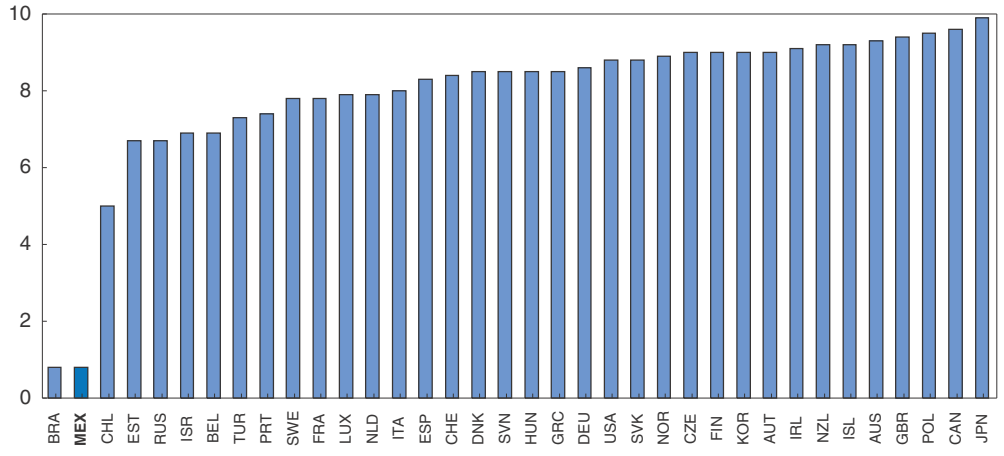
Source: Dougherty (2013).

Civil trials in Mexico still operate using written procedures, although a reform was passed in 2011 that mandates a rapid transition to oral trials on civil cases. However, only the Federal Government has shifted to the new trials for civil cases, although the Federal District and some states are experimenting with the system. Among OECD countries, the sharing of accountability and responsibilities among judges that is common in inquisitorial systems has been found to result in significantly longer trial duration (Palumbo et al., 2013). The proposed procedural reforms have the potential to improve the efficiency of judicial process and the quality of contract enforcement. However, no specific supervisory entity has yet been entrusted with implementing or monitoring the civil trial reforms in Mexico, so there is a risk that they could be delayed.

Criminal justice

Criminal justice is also problematic, with rates of impunity estimated to exceed 90% partly because of the inefficiency of a legal system that prosecutes few crimes and deters complaints, but also because of systemic corruption, which the system does not adequately deter (Centennial Group, 2012). Opinion polls rank crime as the top concern of citizens, above even other pressing socio-economic issues such as poverty and unemployment. Mexico does not fare well in terms of subjective safety (Figure 1.10). Threats to the integrity of property and the security of employees may either entirely drive investors and projects away or reduce the competitiveness of businesses through higher overhead costs. Crime in Mexico has distinct geographical dynamics, and national averages mask strong differences in crime rates across the country. Homicide rates are highest in the northern states such as Chihuahua, Sinaloa and Durango, where the rates have been high for over a decade while they are substantially lower in the rest of the country. Property crimes, on the other hand, tend to be concentrated in the cities, and tend to increase with regional per capita GDP, which explains the mixed picture of the distribution of crime across the country. Better co-ordination, integration and training of police forces is also needed – reforms that would also help to improve the business environment (OECD-IMCO, 2012).

Figure 1.10. **Safety as a component of the OECD Better Life Index**[1]



1. A score of 10 reflects the lowest perception of risk of people being physically assaulted or falling victim to other types of crime. Based on assault rate and homicide rate as of 2010 and 2008, respectively, or latest year available.

Source: OECD Better Life Index, *www.oecdbetterlifeindex.org/topics/safety*.

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Major reforms to Mexico's criminal judicial system have been underway since a 2008 constitutional amendment that gave states until 2016 to move from a written inquisitorial system that was excessively slow and lacked public credibility, to an oral adversarial one, that has been shown to be more efficient, and also allows for the possibility of cross-examining witnesses and contesting evidence. This reform has been slow to get underway, but according to the Ministry of the Interior (SEGOB), a dozen states have already started hearing new cases using the new system in some or all of their districts (Table 1.2). Another ten states are in the process of implementing the new system, while the remaining ten have only begun to prepare the necessary legislation. A special commission (SETEC) has been set up at the federal level to support the transition, though its powers are only consultative and supportive in nature, and it lacks authority to push forward the reforms itself. Harmonization of legal codes across all states would also help, and this commitment is included in the Pact for Mexico.

Table 1.2. **Implementation of new penal codes**

November 2012

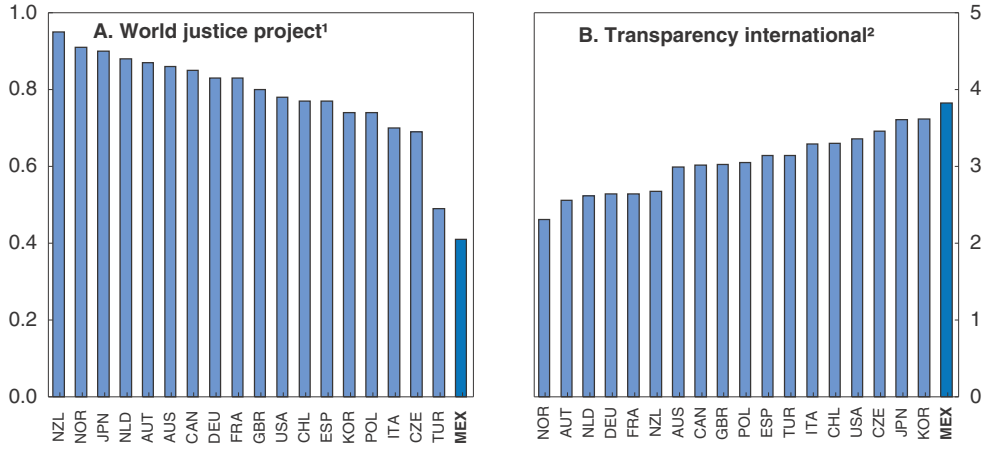
Situation of new codes	State-level jurisdiction	
New code in force in part or all of territory	1. Chihuahua 2. Estado de México 3. Morelos 4. Durango 5. Baja California 6. Zacatecas	7. Oaxaca 8. Yucatán 9. Guanajuato 10. Nuevo León 11. Chiapas 12. Tabasco
Approved procedural code	1. Coahuila 2. Michoacán 3. Puebla 4. Quintana Roo 5. Tamaulipas	6. Tlaxcala 7. Veracruz 8. Hidalgo 9. Sonora 10. San Luis Potosí
Initiative pending in the local legislature	1. Aguascalientes 2. Baja California Sur 3. Guerrero 4. Sinaloa	5. Campeche 6. Jalisco 7. Querétaro 8. Nayarit
No legislative initiative	1. Colima	2. Distrito Federal

Source: Consejo de Coordinación para la Implementación del Sistema de Justicia Penal (SEGOB).

Anti-corruption institutions

OECD member country experiences have shown that trust in institutions and government is a vital determinant for sustainable economic growth, in that it encourages investment and innovation (OECD, 2013a). In turn, trust in government is largely dependent on the integrity of the public sector. Mexico, however, has experienced a low level of trust compared to OECD countries, mostly due to the high perception of corruption and impunity. Mexico's level of corruption a decade ago was estimated to be the equivalent of a 50% tax through its deterrence of FDI (see Wei, 2000). Perceptions of corruption in Mexico are ranked the most pervasive among OECD countries according to Transparency International (Figure 1.11). Though Mexico has been at the forefront of transparency initiatives, including by founding the Open Government Partnership two years ago, it could further advance by consolidating its accomplishment at a sub-national level.

Figure 1.11. **Mexico scores poorly on indexes of the rule of law and corruption**



1. 1 = best possible performance; 0 = worst performance on "rule-of-law".
2. 1 = not at all corrupt; 5 = extremely corrupt.

Source: The World Justice Project and Transparency International, 2012.

StatLink http://dx.doi.org/10.1787/888932803484

The Pact outlines the reform of the national anti-corruption system, by means of a constitutional amendment that will establish a national commission and state commissions with powers of prevention, investigation, administrative sanction and referral to the competent authorities for acts of corruption. Many countries that faced corruption challenges similar to Mexico's have successfully addressed them through the modernisation of institutional arrangements. At the same time, their experience shows that a new institution is only a first step. Mexico should pay particular attention to ensure independence of the new institution from political interference (and insulate it from the political cycle), and provide it with a clear mandate and sufficient resources to accomplish that mandate. Structural and operational autonomy from the executive are the principal means to ensure independence of anti-corruption commissions. This autonomy could for example come through control over the appointment and removal of the governing body of the institution, where the executive shares nomination and approval powers with the legislative branch, and in some countries also with civil society organisations.

Effective institutional reform must also encompass several additional aspects. First, many corrupt actions such as bribery are crimes and thus call for criminal penalties. Institutions responsible for criminal investigation, prosecution and adjudication must have sufficient resources and expertise to accomplish this task. Second, corruption often involves not only corrupt officials, but also individuals and companies that corrupt them such as by paying bribes. Both the corruptor and the corrupted must be held accountable, though there can be reasons to show leniency when it comes to certain categories of "harassment" bribes, in order to encourage reporting and prosecution (Basu, 2011). The broader integrity framework, should also encourage and facilitate the reporting of corruption, for example through protection to whistleblowers and reducing impunity, and build a culture of integrity in public sector organisations.

Box 1.3. **Main structural policy recommendations for boosting growth potential**

Informality and labour markets

- Reduce informality through a broad-based package of policies: strengthen education and skills, reduce anti-competitive business regulation, improve the legal environment and tackle corruption.
- Raise labour force participation and employment rates, notably for women.
- Improve education performance by continuing with the systemic reforms to teacher incentives and school leadership, system funding and curricula, as well as evaluation and assessment strategies.

Competition and regulation

- Promote regulatory reform and remove entry barriers at all levels, particularly at the subnational level, building on progress at the federal level. Create a high-level inter-agency body focused on productivity that can study and advocate for structural reform.
- The institutional design of COFEMER should be revised to enhance its legal status and reinforce its impact.

Trade barriers

- Remove barriers to foreign investment in remaining sectors, building on progress with unilateral tariff liberalisation.

Legal system

- Complete the judicial reforms at the state level that move towards oral adversarial trials in criminal cases. Empower an executive agency the analogous transition for civil *cases*.
- Harmonise the criminal code and procedure across states. Strengthen the co-ordination, integration and training of police forces.
- Set up specialised economic courts with qualified judges to address economic regulation issues and support the effectiveness of the Competition Commission.
- Continue to reform the amparo appeal system to reduce the scope for abuse, especially in the tax domain.

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Chapter 2

Green growth challenges and the need for an energy reform

As Mexico seeks to boost economic growth, pressures on its natural resources and environmental outcomes may intensify, jeopardizing the sustainability of that growth and the well-being of the population. Costs of environmental degradation were estimated at approximately 5% of GDP in 2011, primarily from the health impact of air pollution, while overexploitation of natural resources – such as water – threatens their sustainability. Subsidies and prices do not reflect environmental externalities or cost of providing natural resources, including scarcity costs. They result in poor environmental outcomes, represent a heavy burden on the government budget and, contrary to their original objective, have not efficiently tackled poverty and inequality. Such subsidies should be gradually removed. In the energy sector, reforms are needed in order to allow the state-owned oil company PEMEX to become more efficient operationally and environmentally, and to better provide fiscal revenues.

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.

Green growth challenges

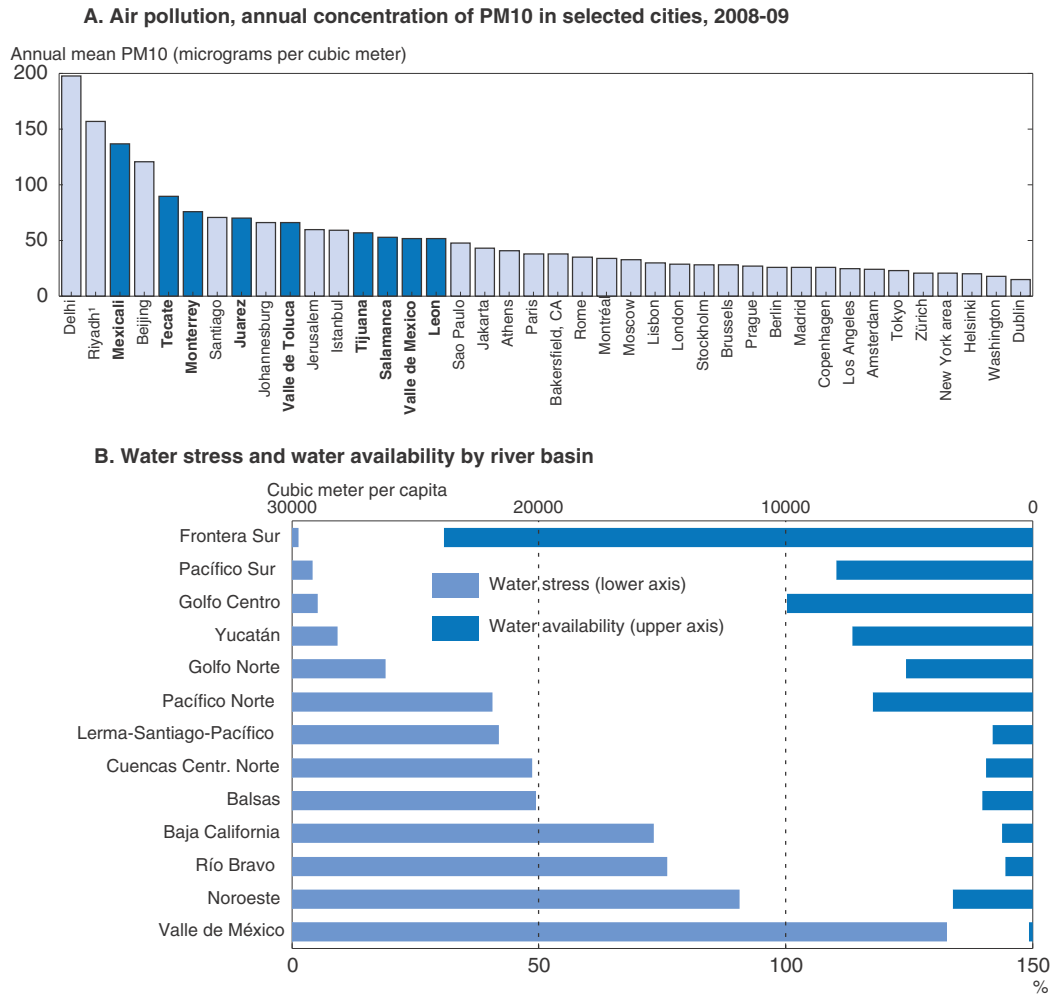
Over the last decade, Mexico has shown high commitment to green growth challenges by strengthening its national environmental policies and showing strong leadership at an international level in areas such as climate change and water management. At the beginning of this year, the new government created an inter-ministerial commission to address climate change with the aim of defining a common agenda and creating guidelines for a state policy to address climate change in a timely and effective manner. This effort to improve coherence for climate change-related policies is to be commended, and the approach can be applied to policies that affect the environment even more broadly. Implementing such policies in an effective and efficient manner is a key challenge. For instance, air quality has generally improved in the last decade, air pollution still accounts for three-quarters of costs of environmental degradation, estimated at approximately 5% of GDP in 2011 (INEGI, 2013). Some Mexican cities are among the most polluted cities in the world (Figure 2.1, Panel A). In addition, the country's water use is not sustainable as 101 of the 653 aquifers are overdrawn, especially in the northern and northwest areas, where three-quarters of the population live, and both surface and ground water quality are threatened by pollution (Figure 2.1, Panel B).

Green growth challenges in Mexico are closely connected to policies in the energy, electricity, transport and water sectors, where pricing does not reflect the costs of providing environmental goods, let alone externalities. There has been insufficient reform. This chapter focuses on green growth policies related to such sectors with the focus on subsidies and environmental taxes. The chapter also covers the main problems faced by the state-owned oil company PEMEX and much-needed reforms to improve its operational and environmental efficiency in order to become an effective contributor of fiscal revenues. Other policy areas, such as biodiversity, forestry, agriculture and waste management, are extensively covered in the recent *Environmental Performance Review 2013* (OECD, 2013c).

Energy-related subsidies and climate change

Mexico faces considerable environmental pressure. Estimates show that 68% of the population and 71% of GDP are highly exposed to climate-change risks (SEMARNAT, 2009), affecting mainly agriculture production, water availability, deforestation, biodiversity and health. Reducing greenhouse gas (GHG) emissions remains a major challenge, particularly since Mexico contributes over 1% of global GHG emissions and had the weakest performance in the OECD in decoupling CO_2 emissions from economic growth from 2000 to 2010 (Figure 2.2). CO_2 emissions from energy use have increased by 19% during the last decade which in part is due to the fact that most energy production depends on fossil fuels (89%) which are highly subsidised. Energy-related emissions account for almost three-quarters of total GHG emissions.

Figure 2.1. **Air pollution and water stress**



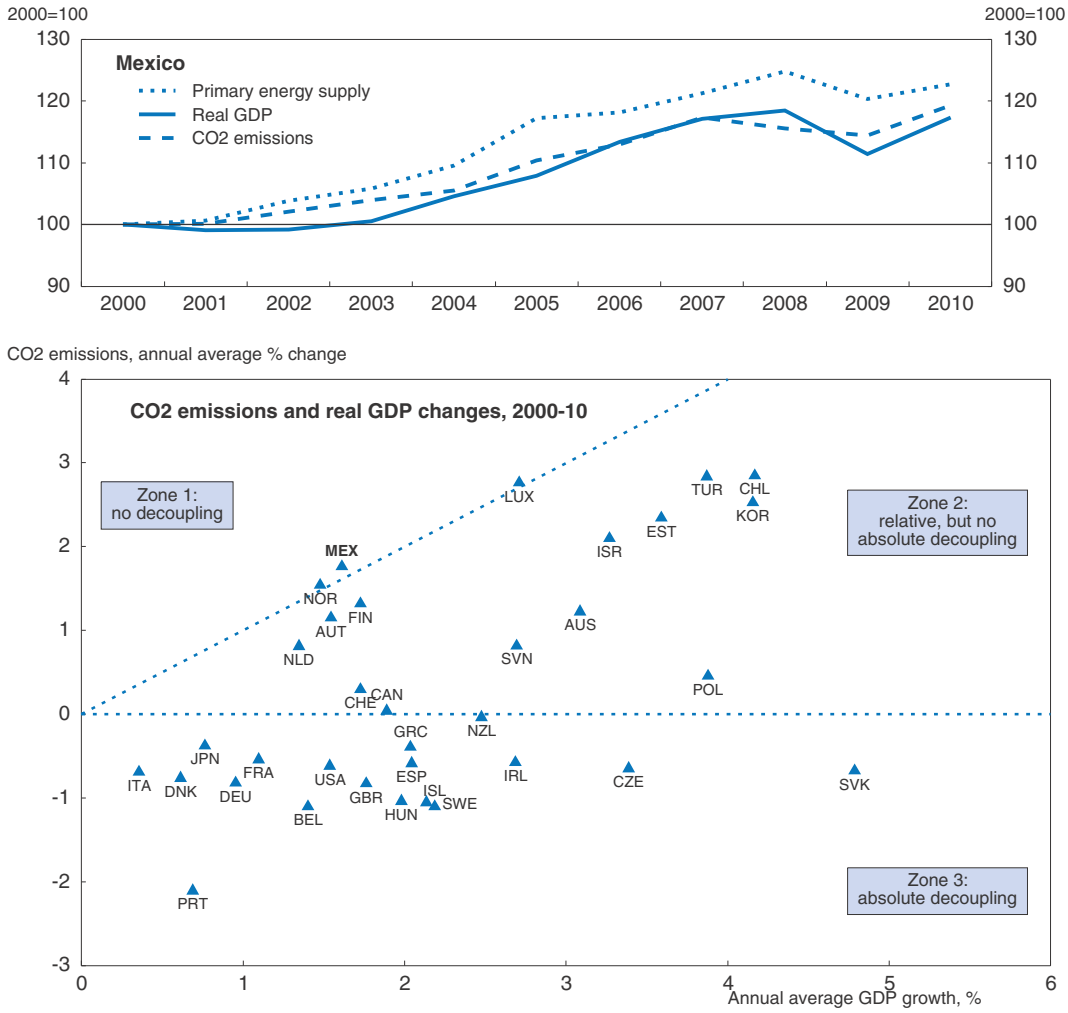
1. Last available data 2003.
Source: WHO, *Urban Outdoor Air Pollution Database*; CONAGUA.

StatLink *Note:* To download the data corresponding to this graph, refer to Figure 8.

Electricity use in the agricultural and residential sectors is subsidised by reduced tariffs, whereas petrol and diesel are indirectly subsidised in times of high and rising international prices, as the government applies a price-smoothing mechanism to local prices. Overall, fossil-fuel subsidies (including gasoline and electricity) averaged 1.7% of GDP during the period 2006-12, encouraging inefficient and excessive energy use and weighting on public finances. Though intended to address social concerns, those subsidies disproportionately benefit the wealthiest population groups (Figure 2.3).

The country has set ambitious emission reduction targets, including greater use of renewables. This was confirmed in its recent General Law on Climate Change, with the target of reducing GHG emissions 30% below a business-as-usual scenario by 2020 and 50% by 2050 from the 2000 level, conditional on international financial support. It also set the target of increasing electricity from non-fossil fuels from current 20% to 35%. Fully removing subsidies and introducing carbon prices, either with excise taxes or through a trading system, is the first and most cost-efficient way to accomplish these goals, since by

Figure 2.2. **Energy, GDP and carbon emissions**[1]



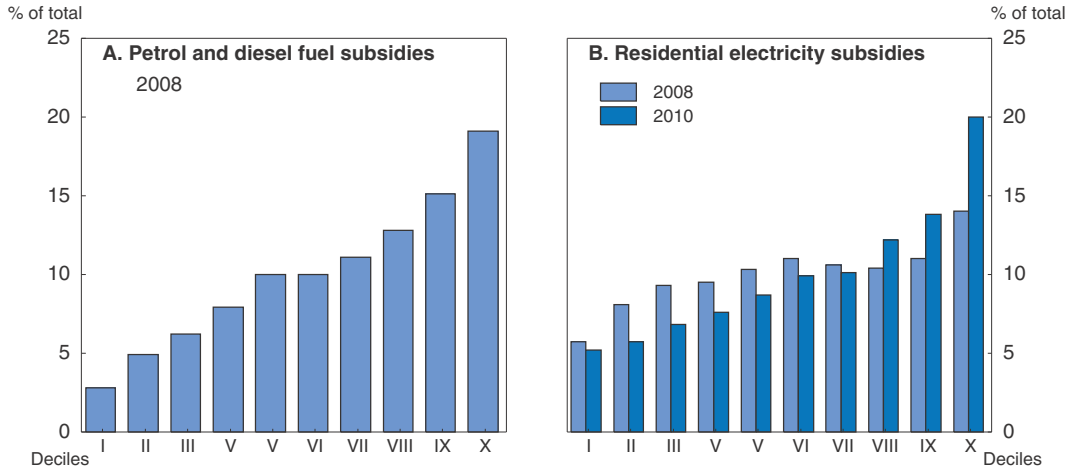
1. CO_2 emissions from fuel combustion. Sectoral approach.
Source: OECD (2013a); IEA.

Note: To download the data corresponding to this graph, refer to Figure 9.

themselves, these policies would ensure that households, industries and farmers exploit the least-cost strategies to reduce emissions. It would also stimulate opportunities for obtaining private sector support to finance investments in energy efficiency, renewable energy and other green infrastructure and technology. OECD simulations indicate that phasing out fossil fuel consumption subsidies in Mexico could reduce GHG emissions (excluding land-use change related emissions) by 10% by 2050, compared with business-as-usual (OECD, 2012c) (Figure 2.4). However, such measures should be accompanied by an effective communication campaign to overcome reform resistance.

To address poverty and inequality, the savings from these subsidies could be used to fund direct cash transfers by further expanding *Oportunidades* which has proved to be effective for targeting poor families. The policy of raising gasoline prices by 9 MXP cents per month, and from January 2013, by 11 cents per month is an important step in closing the gap between Mexican and United States' fuel prices. However, this still implies a significant implicit subsidy at current prices which will be eliminated only gradually,

Figure 2.3. **Subsidy incidence by income group**



Source: Ministry of Finance and Public Credit.

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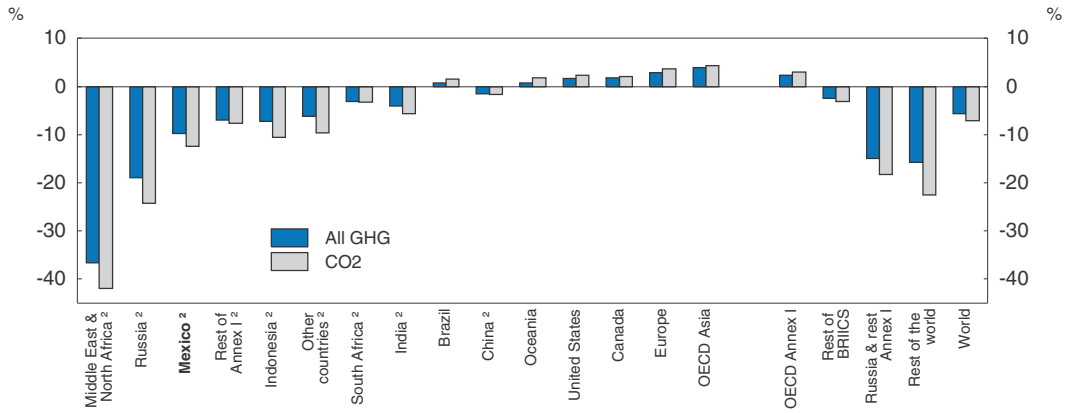
Figure 2.4. **Impact on GHG emissions[1] of phasing-out fossil fuel subsidies**

In 2050



1. Excludes emissions from land-use change.
2. Regions/countries for which fossil fuel subsidies reform is simulated. Annex I refers to countries of the Kyoto Protocol.

Source: OECD ENV-Linkages model using IEA fossil-fuel subsidies data (OECD, 2012c).

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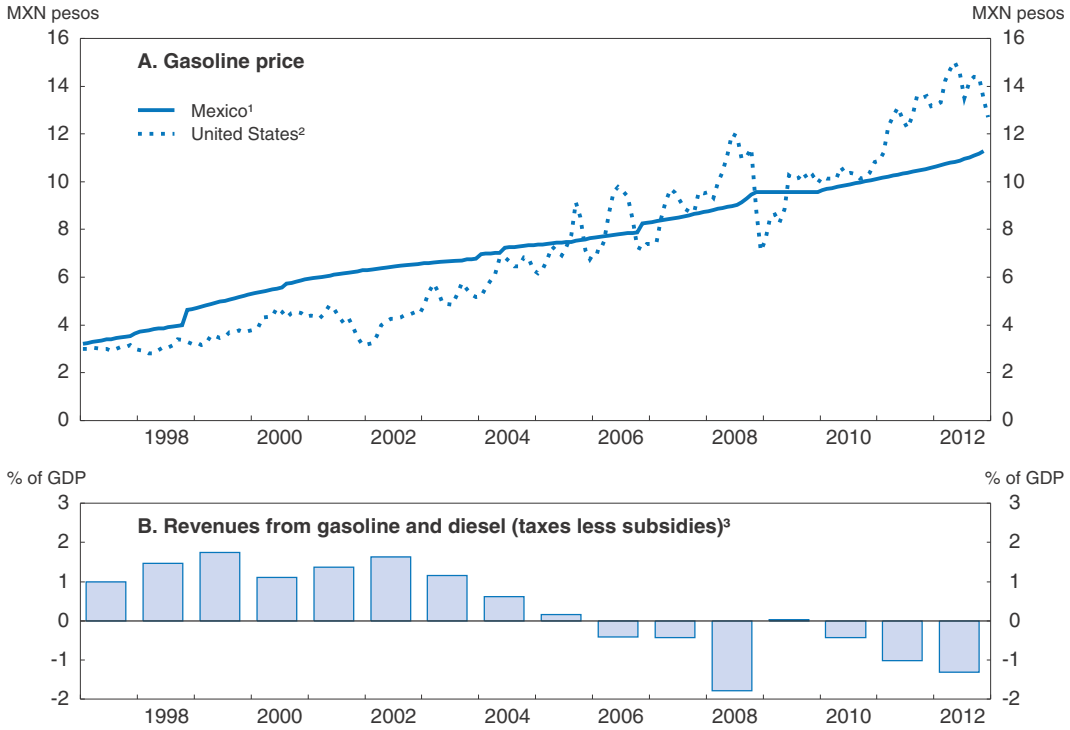
unless international prices fall. Thus, more determined action may be warranted to phase out these high and environmentally harmful subsidies (Figure 2.5). Once the subsidy disappears, establishing a positive excise tax and shifting towards a market-determined gasoline price that incorporates a carbon tax would be a positive step. This could be done gradually by using a transitory, rule-based smoothing mechanism.

Electricity subsidies for agriculture and residential sectors account for more than two-thirds of the cost of providing electricity to these sectors. They are among the largest in the world and have increased over recent decades, linked partly to the high costs of energy provision. These subsidies, together with other programmes supporting the agricultural sector, account for a large part of the sector's public spending being among the highest in Latin America and in OECD countries (OECD, 2013c).

Figure 2.5. **Gasoline price and tax revenues**



1. Premium gasoline price, end-of-period.
2. U.S. Premium Reformulated Retail Gasoline Prices.
3. Tax to gasoline and diesel (*IEPS de gasolinas y diesel*) which in times of high and rising international prices becomes negative (subsidy), as the government applies a price-smoothing mechanism to local prices. Preliminary data for 2012.

Source: INEGI; SHCP; Energy Information Administration; OECD, *Main Economic Indicators Database*.

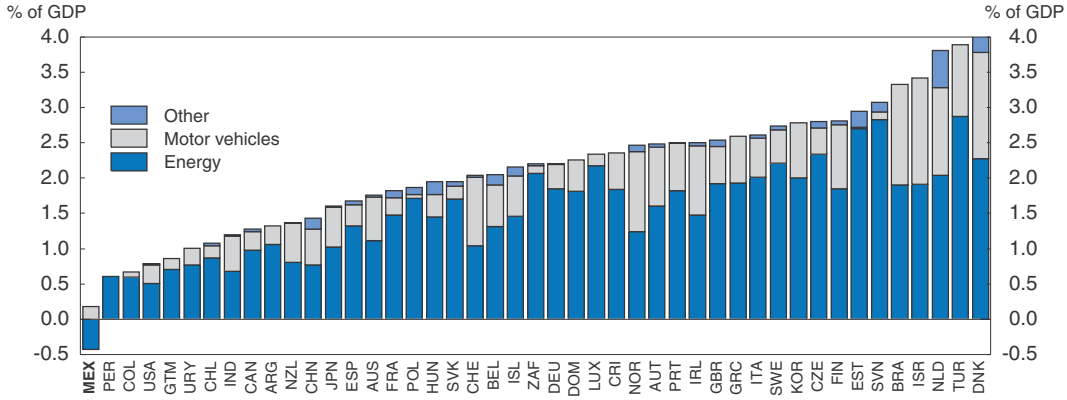
Note: To download the data corresponding to this graph, refer to Figure 10.

Together with removing energy subsidies, using market-based instruments such as broad-based GHG emission taxes or an emission trading system (ETS) would be a good start to price emissions in line with their social costs. Taxes are perhaps easier to implement, because an infrastructure for them is already in place. Environmentally-related taxes have effectively been subsidies in recent years, as a result of the price-smoothing mechanism for fossil fuels (Figure 2.6). There is considerable scope to raise higher revenues from these taxes. On the other hand, as discussed in the previous *Survey*, to some extent participating in ETSs may be more attractive for Mexico than raising carbon taxes, as it opens opportunities to obtain funds from abroad to finance investments in energy efficiency.

An opportunity for Mexico to join in the regional ETS in North America exists now that California's trading system has begun operating. With cheaper abatement possibilities, Mexico can sell emission rights to its northern neighbours, raising funds for financing investments in emission reductions. The country has expressed clear interest to participate in these carbon markets and has established the basis in its General Law on Climate Change to implement a domestic trading system with the possibility to link it to other countries. Another opportunity would be to use the experience from PEMEX's past voluntary internal ETS implemented in the first half of the 2000s, which could be revived and extended, first in the electricity sector and then gradually in other key industries.

Figure 2.6. **Revenues from environmentally-related taxes**[1]

In 2010



1. In Mexico, fluctuations of consumer prices on motor vehicle fuels are smoothed out. In 2010, when world market prices were particularly high, the excise tax on fuels turned into a subsidy, equalling approximately 0.5% of GDP.

Source: OECD/EEA Database on Instruments Used for Environmental Policy and Natural Resources Management, www.oecd.org/env/policies/database.

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However, implementation of emissions taxes and trading schemes is subject to various challenges. First the electricity and oil sectors are dominated by state-owned monopolies in Mexico, whose incentives for output reduction in response to higher emission costs are lower than in a competitive market. Given complex financial relationships with the central government, these companies' budget constraints are likely to be soft and many incentives distorted. This also applies to incentives to invest in new energy-efficient technologies. Therefore, carbon prices may have to be accompanied with instruments that are not market-based, such as further technology standards and regulation, unless Mexico improves the governance of its state-owned companies and allows more competition in these sectors. Furthermore, the presence of federal, state and municipal governments in environmental policymaking adds another layer of complexity to enforcement. Finally, the private sector is likely to resist policy measures that may affect competitiveness vis-à-vis China, for instance.

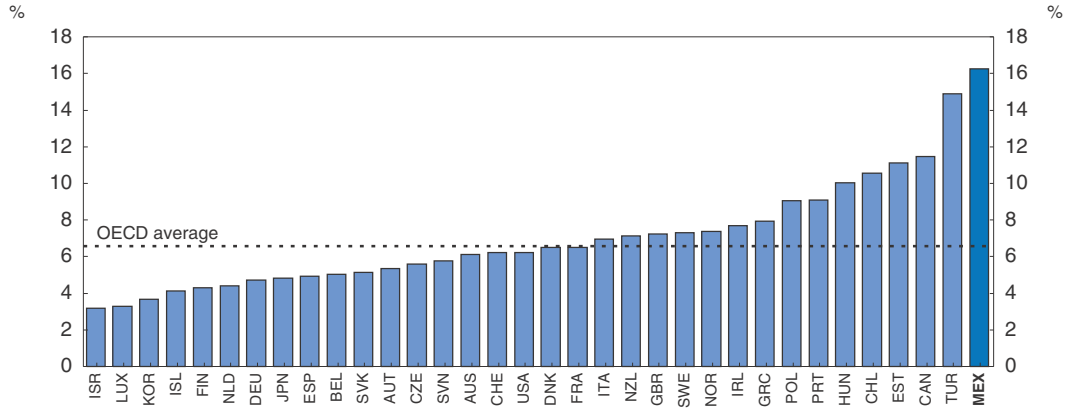
Improving energy efficiency

Complementary regulatory changes would improve energy efficiency and reduce emissions while subsidies are being gradually removed. There is potential for energy efficiency improvements in the energy sector as well as for end-users. Mexico should identify and implement more cost-effective approaches for further improving energy efficiency.

Electricity transmission and distribution losses in Mexico are about twice international averages placing them among the highest in OECD countries (Figure 2.7). Investment in this kind of infrastructure is crucial as the country could benefit from leapfrogging old technologies to new ones. In the energy sector, particularly regarding the state-owned oil and gas (PEMEX) and electricity (CFE) companies, new investments need to take into account externalities and incorporate new, more efficient and cleaner technologies. Abatement measures such as the reduction of gas flaring, increased efficiency of installation and co-generation installations have been implemented in the last years, following the energy efficiency objectives in the National Energy Strategy and regulations implemented by the National Hydrocarbon Commission. Though results have been positive and targets were accomplished, more needs to be done and cost-effectiveness of these measures still need to be evaluated, particularly given the financial constraints that these state-owned companies face.

Figure 2.7. **Electric power transmission and distribution losses**

Per cent of output, 2007-09



Source: IEA, *Electricity Information Statistics Database.*

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For end-use sectors the main programme for tapping energy efficiency has been PRONASE, which has set the target of reducing electricity demand by up to 18% by 2030 through subsidy-based instruments. These instruments include soft loans, tax deductions for environment-related investments, zero tariffs on imports of pollution control equipment, tax credits for scrapping buses and heavy vehicles, subsidies to replace old home electric appliances and loans to low income households for purchases of energy efficient houses. Of particular success was the programme *Luz Sustentable* with the purpose of replacing, with no cost to the individual household, incandescent light bulbs with energy saving bulbs. Though these programmes in general have generated energy savings, such measures are less efficient than price instruments, such as taxes, because they imply a large cost to the budget, discriminate against households and businesses with limited access to such investments, and they can force the adoption of the subsidised solutions even if there are other solutions that are more effective. Such incentives would be less warranted if subsidies to energy were removed.

Renewable energy potential

Given current price signals, it will be very challenging to reach Mexico's ambitious emission reduction targets, which include increasing electricity from non-fossil fuels from the current 20% to 35% by 2024. The share of renewables in electricity production declined between 2000 and 2011, and non-hydro renewable energy declined from 3.7% to 3.3% over the same period. However, Mexico has large potential for developing renewable energy due to its physical and climatic conditions. As an example, according to government estimates wind energy potential is over 50 GW compared to current capacity of only 1.2 GW. Total electricity capacity in 2011 reached 61.8 GW.

Measures to increase electricity prices for industry and technological developments have resulted in a significant expansion of wind power the last six years. However, it has been mainly for private self-generation, given the current regulation which allows private sector participation in power generation, but can only sell its surplus to the state-owned electricity company CFE. Given that CFE buys energy at the least-cost price with no consideration for environmental externalities, much renewable-based power cannot be competitive. A revision of CFE's cost-based planning to account for externalities has been concluded in 2012 and is a welcomed step.

Over the past decade, Mexico has undertaken several projects to overcome barriers to renewables. Since the mid-2000s, large wind projects co-financed by grants from the Global Environment Facility and World Bank loans have proved successful for building capacity in grid-connected renewable applications. New regulatory instruments have been put in place, including an energy bank allowing self-suppliers to carry over excess capacity from one year to the next; lower capacity back-up fees levied on self-supply generators and new bidding mechanisms for the private sector to cover the costs of new CFE grid capacity. In addition, since 2005, the Federal Income Tax Law has allowed 100% depreciation of capital expenses for renewables in a single year (OECD, 2013c).

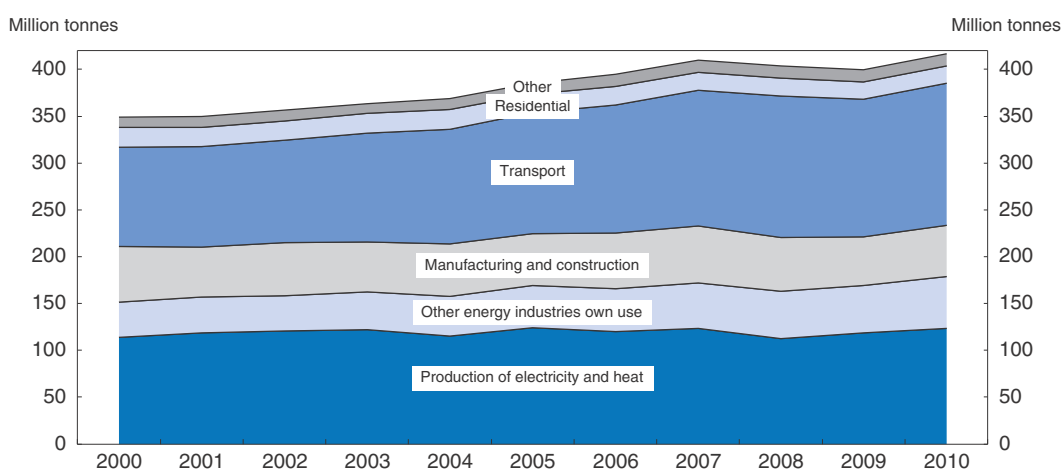
These measures, combined with other programmes such as further developing the grid and its access from renewable energy producers, addressing land compensation issues, tackling complicated permitting procedures and building a national renewable energy inventory, could allow greener energy to develop in the future, especially wind and solar. Commitments from the new government in the Pact include gradually doubling investment in R&D from its current of about ½ per cent of GDP, and reducing dependence on fossil fuels by investing in R&D in renewable energy sources such as wind and solar. This is highly welcomed.

Non market-based instruments, such as feed-in-tariffs used in Portugal to incentivise technology clusters in wind and solar power (OECD, 2011), could be introduced as a second-best option to allow some time for gradual cost reductions of renewable energy, but after that, they should be phased out. Mexico might be able to develop a whole new sector by seizing these opportunities, while improving access to basic infrastructure.

Transport sector policies

The transport sector is a major and expanding source of CO_2 emissions, driven by increased road transport and rapidly increasing motorization rates (Figure 2.8). Subsidies to gasoline and diesel through the price-smoothing mechanism as well as other incentives, such as low vehicle taxes, low standard enforcements and tax credits on road tolls to transport businesses, have reduced incentives to improve energy efficiency in the sector. These policies have run counter to a shift to smaller, more efficient and lower emission

Figure 2.8. **CO_2 emissions by sector**



Source: OECD-IEA (2012), *CO_2 Emissions from Fuel Combustion.*

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vehicles. Vehicle taxes that vary according to environmental performance or environmental standards are only applied in a few states, including the important case of Mexico City. The annual tax on vehicle ownership or use (*tenencia*) has been transferred from the Federal Government to the States in 2012, but fewer than half of the States have implemented these taxes due to weak political incentives (see Chapter 3).

Mexico also levies a one-off tax on every purchase of a new passenger vehicle. New electric and hybrid cars are exempted, yet such vehicles still represent a minor share of the market, suggesting that this exemption has had limited impact. Restructuring vehicle taxes on all cars so that they take into account environmental performance can incentivise the use of more energy-efficient vehicles. In addition, enforcing environmental standards, although not the most efficient solution, could also be used in the absence of political support for increasing taxes or removing fossil fuel subsidies. Current work of the National Commission of Energy Efficiency (CONUEE) to set efficiency rules for new and imported used vehicles is a step in this direction. However, even enforcing environmental car standards has been difficult and faces strong opposition from car companies. Mexico should broaden the application of the annual tax (*tenencia*) to all states and restructure vehicle taxes to take into account more directly environmental performance. Direct taxes on fuel consumption are the most efficient option given that they are more directly linked with carbon emissions; however, other environmental policy instruments such as vehicle taxes and standards could be complementary.

Directing public and private investment into low-carbon public transport and developing programmes to promote sustainable urban transport could reduce pollution, improve the well-being of the population through lower health costs related to respiratory illness, and result in time savings by reducing congestion. The implementation of urban public transport such as the Bus Rapid Transit (BRT) system that is present in more than 10 cities, including Mexico City, and other mass transit projects lead by the federal programme PROTRAM, are good examples of public and private investment in environmentally friendly infrastructure, having generated strong environmental, social and economic benefits (Francke et al., 2012). However, public transport projects and urban development should be based on strategic master plans, integrating transport and land-use planning, with clear policy goals and ex-ante cost-benefit analysis that consider climate-change and other environmental costs. A federal law for public transportation could be a solution to address the problems of different priorities at different governing levels. Work has also started by the OECD with Mexico to review urban policies with the aim of recommending multi-sectoral comprehensive urban policy advice that might maximise economic efficiency and foster sustainable urban development and social cohesion.

Water sector subsidies

Mexico's current water use is not sustainable. One hundred and one of the country's 653 aquifers are overdrawn, many of which are in the northern and northwest areas, where three-quarters of the population lives, and both surface and groundwater quality are threatened by pollution. Poor water quality, low stream flows, the drying up of wetlands and the intrusion of salt water into groundwater are some of the consequences. This threatens the health of ecosystems and humans; scarcity and pollution add costs to the provision of water, as it has to be treated before it can be used, and they are a major constraint for agricultural productivity with negative implications for economic

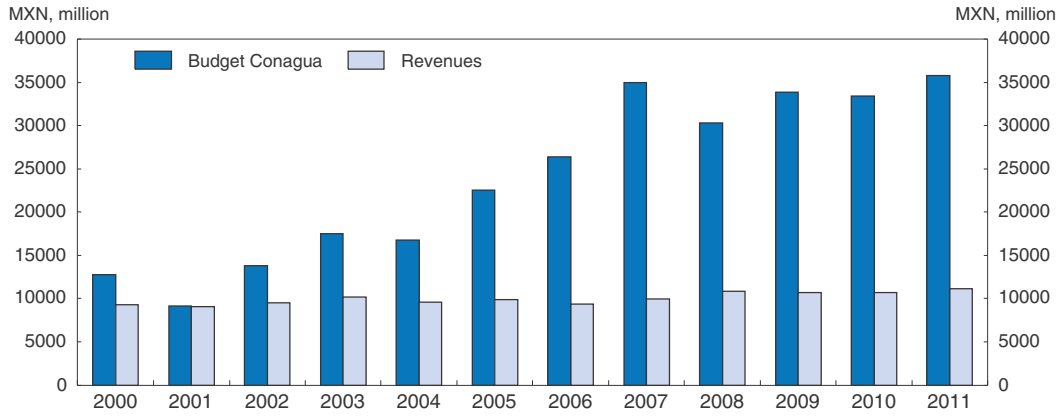
development. Moreover, water pressures might become even more pronounced as climate change progresses, since Mexico is expected to experience increasing temperatures, reduced rainfall and increased incidence of extreme weather events (World Bank, 2011). Although access to water services has increased substantially, there are still 11 million Mexicans who lack access to piped water and 14.8 million with no access to sanitation services, with large differences between urban and rural areas. This has a negative impact on economic opportunities and well-being.

In 2011, the country launched an ambitious 2030 Water Agenda with a long term strategic vision for Mexico's water sector. It envisions the achievement of four policy goals by 2030: accomplish universal access to water services, balance supply and demand for water, improve the quality of water (clean water bodies) and reduce exposure to hydro-meteorological events (settlements safe from catastrophic floods). This was complemented with a policy framework for water resource management. However, policy implementation has been a major problem, with subsidies in energy and agriculture sectors that are in odds with water policy objectives, a deficient operation of river basin councils and a regulatory framework for water and sanitation services scattered across multiple sectors (OECD, 2013b).

Mexico has experimented with market-based instruments for water, using water service charges and abstraction and pollution charges, to reflect the value of the resource. However, their net effect has been minimal due to excessively low prices, low payment rates and exemptions. Water abstraction and administration charges are collected by the National Commission of Water (CONAGUA, 2011). They are applied to underground and superficial waters to be used in public water supply, agriculture, industry, thermoelectric power and hydropower. Even though irrigated agriculture accounts for 77% of water use, no water abstraction charges are applied for irrigation users within their allocated quota, and a low charge is applied for use beyond the quota. In addition, this is effectively non-binding due to poor monitoring and enforcement. Moreover, many utilities do not pay abstraction or pollution charges. Water users' contributions over the last five years averaged over 40% of total budget for the water sector (Figure 2.9).

Figure 2.9. **CONAGUA's budget and revenues from water abstraction charges**

2009 prices



Source: CONAGUA; OECD (2013b).

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Subsidies to the agriculture sector, mainly through low electricity prices for pumping irrigation water (using subsidised *Tarifa 09* and low or non-existent abstraction charges have provided limited incentives to improve efficiency of water use and reduce water losses. This has resulted in over-exploitation of ground water, discouraged investment in more efficient irrigation technologies and redirected water away from activities with a higher economic return. Estimations show that removing electricity subsidies with subsequent incentives to use more efficient technologies in agriculture would lead to a 15% reduction in water abstraction in the short term, and to a 19% reduction in the long term (OECD, 2013c). An additional problem is lack of enforcement which has resulted in high levels of under-reporting of consumption and illegal abstractions. Resources for monitoring water use account for less than 1% of CONAGUA's budget. Moreover, agricultural subsidies have proven to be regressive since the bulk of it benefits mostly the richest 10% of farmers and redirect water away from activities with higher economic return (OECD, 2013c).

Gradually removing electricity subsidies for pumping water for irrigation in agriculture and replacing them with cash transfers, independent of water use, as some pilot programmes have been doing, would promote a more sustainable use of water. In addition, reallocating resources to monitoring, including widening the availability of water meters to better monitor water consumption would help water charges to operate better and prevent waste.

Water and sanitation services

Access to basic water and sanitation services has been a national priority during the last decade, with investments having almost tripled. Water and sanitation coverage has increased considerably, now close to 92% of the population (Table 2.1). However, there is much to be done to accomplish universal access to water and reduce urban and rural differences. In addition, Mexico has the lowest rate of connection to public sewerage treatment in the OECD, with about 47% of collected municipal wastewater. Lack of access to utilities negatively impacts economic opportunities and well-being**.** When connections are available, households can engage in more productive activities and leisure, as well as expand market opportunities for business, increasing productivity and investment.

Table 2.1. **Water, sanitary services and waste water treatment**

Per cent

	1990	1995	2000	2005	2011[1]
Drinking water					
Urban	89.4	93.0	94.6	95.0	96.2
Rural	51.2	61.2	68.0	70.7	77.1
Total	**78.4**	**84.6**	**87.8**	**89.2**	**91.6**
Sanitary service					
Urban	79.0	87.8	89.6	94.5	96.6
Rural	18.1	29.6	36.7	57.5	69.2
Total	**61.5**	**72.4**	**76.2**	**85.6**	**90.2**
Wastewater sewerage					
Municipal					46.5

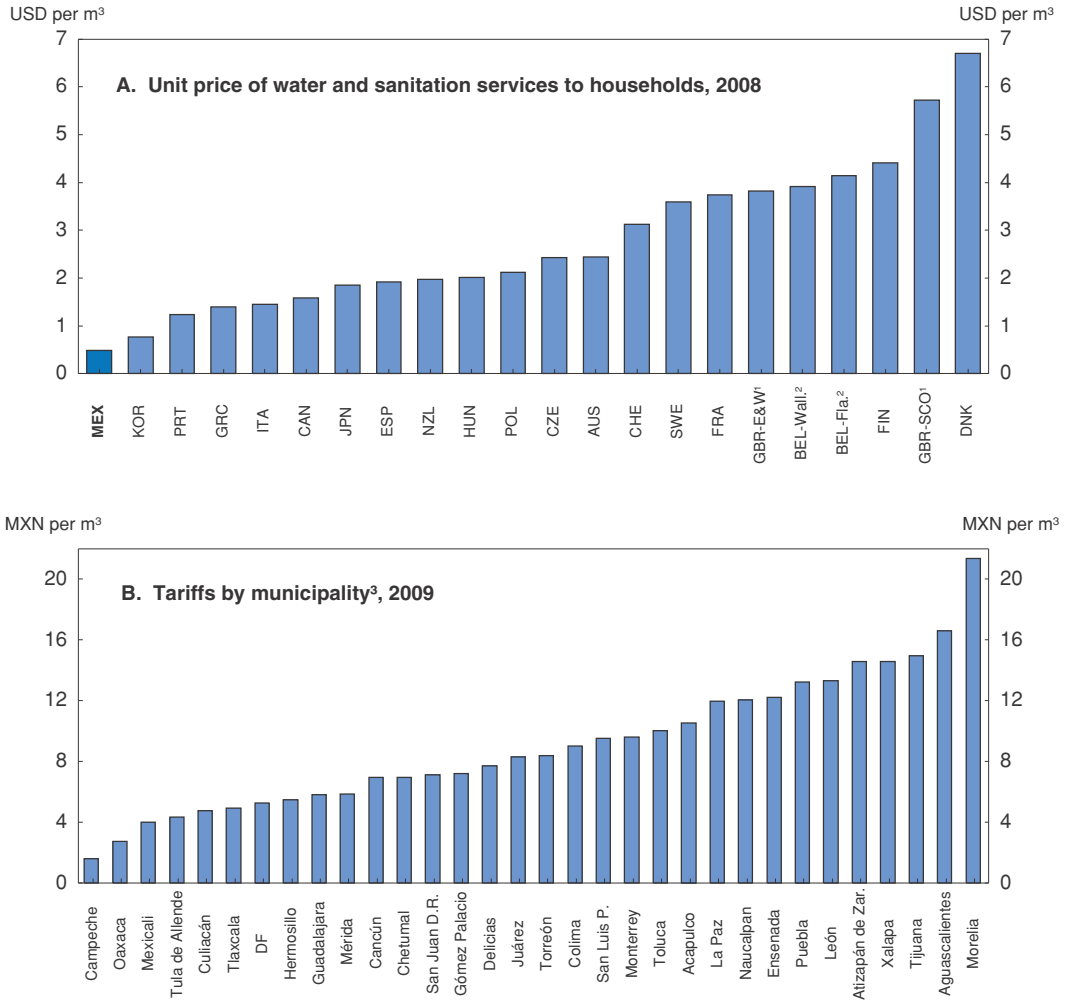
1. Preliminary data.

Source: CONAGUA (2011), SEMARNAT (2012).

Considering future population growth, in the next 20 years Mexico will need to provide an additional 36 million inhabitants with drinking water services and 40 million with sanitation services. In addition the efficiency and reliability of service provision as well as the financial sustainability of the service providers are major concerns (OECD, 2013b).

Water tariffs are extremely low for households, as in many cases they do not even reflect the operation and maintenance costs of providing the services and they have a zero VAT rate. On average, they are the lowest among OECD countries. Tariffs are proposed by each municipality and approved by the State Congress, but on average they cover only 45% of total costs, often do not keep up with inflation, and show great disparities (Figure 2.10). The result is an excessive dependence on federal and state resources. Investments are funded by federal transfers (48%), state transfers (18.5%) and private and bank loans (20.5%), with only 12% financed by municipalities.

Figure 2.10. **Water tariffs and tariffs by municipality**



1. GBR-E&W for England and Wales and GBR-SCOT for Scotland.
2. BEL-Wall for Walloon region and BEL-Fla. for Flemish region of Belgium.
3. Highest tariffs for a 30 m^3 per month's consumption.

Source: OECD (2010), *Pricing Water Resources and Water and Sanitation Services*; CONAGUA.

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The inability to raise tariffs is related to the fact that an increase needs to be approved by the State Congress where the political cost of raising tariffs is high. An additional and large problem comes from low bill collection rates due to lack of incentives for municipalities to collect given that their budgets rely largely on federal and state transfers. These incentives will have to be addressed in line with the recommendations made in Chapter 3.

Tariffs need to be increased in a number of areas (OECD, 2013b). Prices for water services should reflect the operation and maintenance costs of providing the services. In most cases, though, a phased-in approach involving greater bill collection will be necessary to put utility balance sheets on a firmer footing and build consumer trust as a prerequisite to tariff increases (OECD, 2012b).

Recent OECD work on the 2030 Water Agenda highlights extensively a number of specific actions that could contribute to a cohesive and cost-efficient water policy framework to address the main problems in the water sector and achieve the objectives set in the Agenda (OECD, 2013b). The work focuses on improving multi-level governance issues to address territorial and institutional fragmentation of the water sector, strengthening river basin governance for effective integrated water resources management, improving the regulatory frameworks for water service provision, and enhancing the economic efficiency and financial sustainability of water policies. The main policy recommendations that emerge from this study in order to make the water reform happen are: *i)* develop a whole-of-government implementation action plan building on the 2030 Water Agenda, *ii)* set up mechanisms and incentives for enhancing water policy outcomes at different government and institutional levels, *iii)* fully exploit the benefits of existing economic instruments, design and implement charges, tariffs, other schemes and water markets in line with water policy objectives, increase tariff levels and change tariff structures to enhance efficient uses of water, *iv)* clarify the regulatory framework for water services, *v)* strengthen the role, prerogatives and autonomy of river basin councils and their auxiliary bodies, *vi)* establish a platform to share good practices, *vii)* foster transparency, information sharing and public participation in all relevant processes, and *viii)* evaluate the effectiveness of federal programmes at achieving water policy objectives.

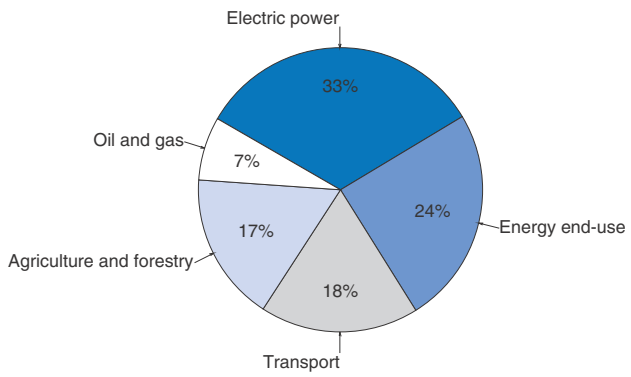
Green investment needs

Investment needs for tackling climate change and addressing broader environmental challenges are considerable. In particular, investments in basic infrastructure need to be scaled-up significantly to meet development goals. While greening infrastructure investment is often considered as an additional cost, recent work by the OECD suggests that limiting climate change to two degrees (i.e. low carbon development) could be achieved at investment costs similar to those projected under business-as-usual, particularly if interactions between network infrastructure requirements are considered (Corfee-Morlot et al., 2012).

In Mexico, climate change related required interventions through 2030 have been estimated by the World Bank to reach around USD 64 billion (Johnson et al., 2010). They include investments in the oil and gas sector (cogeneration in PEMEX), electricity (wind farms), energy end-use sector (expansion of efficient energy programmes), transport (mass transportation) and forestry (avoiding deforestation) (Figure 2.11).

Figure 2.11. **Investments required to 2030 in low-carbon interventions in Mexico by sector**

Investments required: 64.5 USD billion



Source: Johnson et al. (2010).

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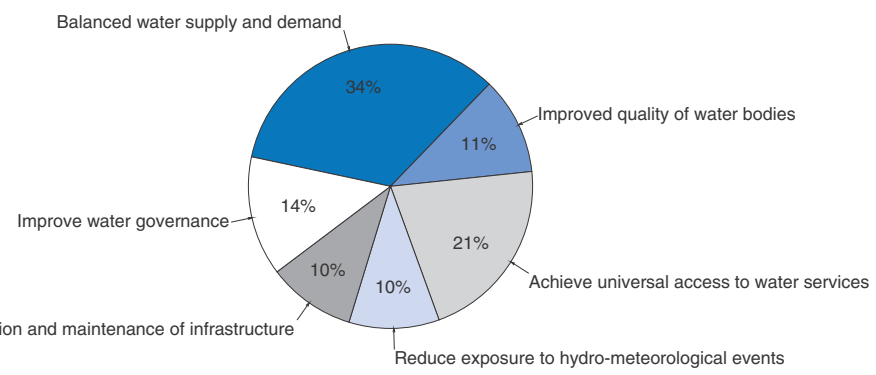
In the water sector, CONAGUA estimates investments by 2030 of USD 83 billion in order to accomplish the water reform highlighted in its Water Agenda 2030 (CONAGUA, 2011). The goal is to meet demand for water in a sustainable way, achieve universal access to water and sanitation services, improve the water quality of rivers, lakes and aquifers, and to reduce exposure to hydro-meteorological events (Figure 2.12).

Figure 2.12. **Investments required to implement the 2030 Water Agenda**

Investments required: 83.1 USD billion



Source: CONAGUA (2011).

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Alternative policy options such as removing environmentally harmful subsidies, pricing environmental goods and introducing carbon pricing could orient investment incentives in the right direction and open opportunities to finance green investments. However, the public sector will remain an important source of financing, as well as a facilitator for private sector investment, because infrastructure is often built for reasons of broader social well-being, or to offset remaining market failures. This is relevant, especially since there is insufficient infrastructure of high quality in terms of environmental impact with the corresponding negative effects on growth and well-being. Mexican development banks, mainly Banobras, and public infrastructure funds like the National Infrastructure Fund have been playing an important role in green infrastructure financing, either alone or by co-financing with the private sector. This includes wind energy projects, mass transit transportation and water service infrastructure. However, their role needs to become more efficient, including better planning, more cost-benefit analysis and better co-ordination between different government levels (see Chapter 3).

The General Law on Climate Change establishes the creation of a Climate Fund for the collection and channelling of public and private resources (domestic and international) for mitigation and adaptation actions. These resources will be used, among other things, to purchase certified reductions of emissions and finance projects registered in the national emissions registry or approved by international agreements in which Mexico is part. Though this is only a starting point, progress has been made for the establishment of the fund with one billion MXP. The challenge ahead is to put institutions in place and clearly define the structure to channel these funds effectively and in a co-ordinated way with the institutions that currently carry these operations, such as development banks and infrastructure funds.

The Law on Climate Change also mandates the Federation, States and Federal District to design and implement economic instruments (fiscal, financial and/or market instruments) that promote compliance with the national climate-change policy goals. The Law lays out the technical and legal foundations to establish a national emissions trading system to encourage energy efficiency, including a regulating authority, and the possibility to establish emission trading agreements with other countries. This will facilitate and give more transparency to the financing of climate-change interventions.

Other key players in financing green infrastructure have been the multilateral development banks, such as the World Bank and the Inter-American Development Bank. However, given the scale of infrastructure investment needs, the private sector can potentially play a major role, but price incentives that give a reasonable return and changes in the regulatory regime are needed that address externalities, market imperfections, and specific investment barriers (Corfee-Morlot et al., 2012). Some examples are lowering the conditions to access the grid for private investors in renewable capacity, facilitating and promoting investment, and improving financing architecture and tools in the financial market. The introduction of the structured equity securities known as "CKDs" in 2008 was a strong step in this direction, since it has allowed private pension funds to invest in the infrastructure sector, including wind farms and water treatment plants (Box 2.1). CKDs can also include certain private equity, through which SMEs are expected to have access to capital markets. The adoption of the PPP Law (*Ley de Asociaciones Público Privadas*) in 2012 is another step towards enhancing private investment through public-private partnerships. However, potential benefits and risks of private financing should be carefully addressed, in particular when they require government guarantees, involve future pensions or depend on more complex structured finance.

Box 2.1. **Attracting private investment towards green infrastructure through structured instruments (CKDs)**

Infrastructure is a key factor in economic development and Mexico still lags in this area. The country's annual expenditure on infrastructure investment averaged 3.2% of GDP between 2000 and 2006, compared to 5.8% of GDP in Chile. The country stands in place 73 of 142 countries in terms of the quality of its infrastructure (WEF, 2012). This indicates a significant lag compared to other OECD countries and also if compared with peer economies in Latin America and other emerging countries. However, Mexico may have an opportunity to leap-frog other countries by introducing greener and more energy efficient infrastructure, including use of more sustainable energy sources and clean technology.

Though the public sector has increased resources for infrastructure investments, large capital needs led the previous government to make efforts to attract the private sector into financing infrastructure. One of the initiatives was to amend investment rules of private pension funds (AFORES) to allow them to invest in infrastructure related trust securities known as CKDs (Capital Development Certificates). In addition, the regulation allowed investment in Infrastructure and Real Estate Investment Trusts known as FIBRAS. These two products were designed so that the principal sources of capital came from institutional investors.

CKDs are securities issued by trusts on the Mexican Stock Exchange for a fixed period of time and with variable performance which can be partially or fully related to the underlying trust assets. These securities fund the development of infrastructure projects, housing and private equity. As of December 2012, 27% of this issuance is related to infrastructure projects, 32% to housing and the rest to private equity (mostly small and medium size firms). In order to be eligible as CKDs, these instruments must meet some characteristics such as finance investment within national territory, comply with National Stock Exchange rules and projects must be approved by the issuing trust's technical committee. Since its value is tied to the performance of the project, returns come from the dividends or sales of shares.

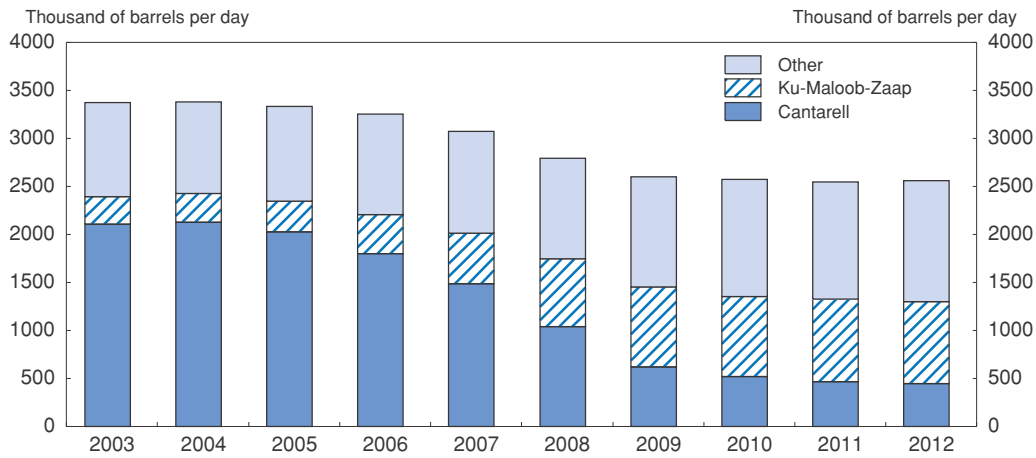
Pension funds are the most important institutional investors in Mexico, with funds under management of more than USD 146 billion (12% of GDP). For pension funds, infrastructure projects match their long term investment horizon, with steady inflation-adjusted income streams. Yet, despite this match of interests, it was not until 2000 that Mexican Pension Funds started to gradually invest in instruments other than government debt – following gradual changes in regulations – thus reducing their share from almost 98% in 2000 to 54% in December 2012. Pension funds' asset allocation in infrastructure has been mainly indirectly thorough debt and equity instruments issued by private and public entities related to the sector. As of December 2012, around USD 4.5 billion of CKD's were issued and pension funds acquired 94% of them. Now, investment in CKDs represents 2.9% of total pension funds investment and 0.3% of GDP. Regulations allow them to invest up to 20% which gives them flexibility to keep increasing their asset allocation to infrastructure.

Energy sector reform to boost the productivity of PEMEX

The oil and gas sector, through the state-owned company PEMEX, plays a key role in Mexico's public finances, in its economy more broadly, and as a contributor to GHG emissions and environmental impact. PEMEX, one of the largest oil and gas producers in the world, contributes around a third of federal fiscal revenues – almost 8% of GDP – and is a major contractor of private sector goods and services. According to the Constitution, the State has exclusive rights to: explore, exploit, refine and process crude oil and natural gas;

produce basic petrochemicals and liquid petroleum gas; and carry out first-hand sales of such hydrocarbon products. Royalties and taxes applied mainly to its exploration and production subsidiary, represent 55% of sales. Crude oil production fell significantly from the mid-2000 to 2009 with the decline in the production of PEMEX's most important oil field *Cantarell*, only partly offset by increases in production from other fields, notably *Ku-Maloob-Zaap* (Figure 2.13). However, PEMEX faces complex governance and operational challenges, including operational inefficiencies, low labour productivity, large pension liabilities and the aging of specialised workforce. This results in three of its four subsidiaries making large and persistent financial losses. Thus, the company has been relying increasingly on external borrowing to finance its investments (Figure 2.14).

Figure 2.13. **PEMEX oil production by field**



Source: PEMEX.

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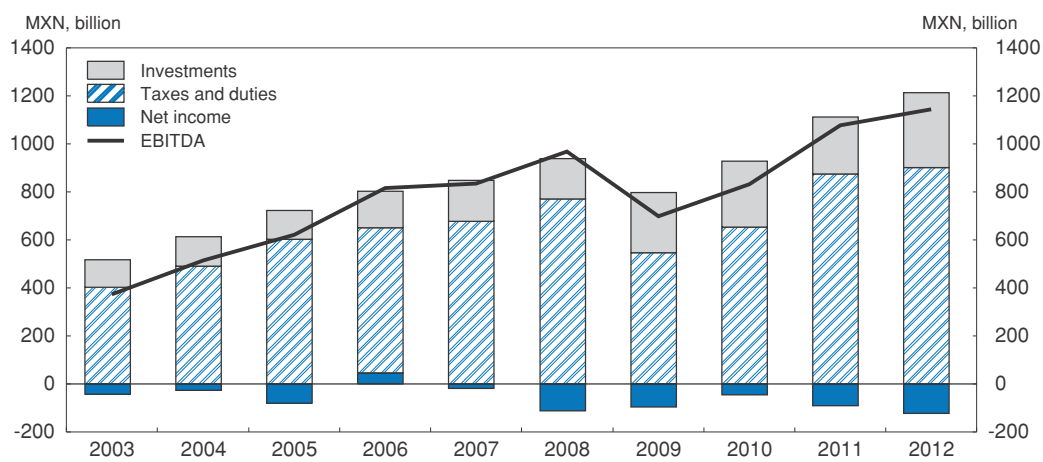
Figure 2.14. **Financial summary of PEMEX**[1]



1. As of 31 December.
Source: PEMEX.

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Improving operational efficiency, reforming the pension scheme and boosting the effectiveness of its investments, with the help of outside expertise, are needed to improve the results and performance of PEMEX. In addition, the technical oversight role of the National Hydrocarbons Commission should be strengthened.

The 2008 Energy Reform did not change the constitutional principles affecting PEMEX but enabled legal and structural changes, particularly in four areas: *i*) a special public administration regime authorised to adopt its own internal regulation and established the creation of value as an objective, *ii*) corporate governance reform granted the board greater authority over the company such as budget approval with some requirements, and broad-based improvements of corporate governance practices, *iii*) operational autonomy in financing and budget areas including the authority to obtain financing from external sources such as capital markets and bonds, and *iv*) a special contracting regime for procurement of goods and services, which allows the company to establish bid terms, criteria and contract models that best meet its needs as well as international market conditions (OECD, 2010).

The new rules clarified the company's objectives, furthered the scope for corporate governance reform, improved operational autonomy in financing and created a special contracting regime for procurement of goods and services (OECD, 2012a). The reform also gave PEMEX more autonomy and flexibility over contract models, with some successes. Yet, these reforms need to be pushed even further, including through a constitutional amendment that allows risk and profit sharing with the private sector. A more competitive environment for PEMEX would generate adequate market incentives to improve its efficiency, though regulation should be also widened to include oversight of new players. However, there is still room for allowing greater involvement of the private sector, by placing contract incentives such as using more than one variable to assign the contracts and modifying prequalification requirements to attract the participation of qualified partners that have the proven technical capability to exploit opportunities and to address environmental concerns. This becomes especially relevant if the company intends to develop deep-water and shale gas production (in particular in water-stressed areas), where environmental risks are especially high.

The government plans to submit an energy reform later this year to address the commitments made in the "Pact", with the aim of transforming PEMEX into a productive and internationally competitive firm. This would include widening and strengthening the powers of the regulatory authority, the National Commission of Hydrocarbons, while also reforming corporate governance and transparency rules. Stated aims also include increasing competition in refinement and transport of hydrocarbons. A recent change in the governing party's bylaws was made to allow its legislators to support an energy reform that enables more collaboration with the private sector, including partnerships with foreign oil companies, while keeping PEMEX under state control. This could include a constitutional amendment.

Improving the financial situation of the company, along with new contracting models to bring frontier technologies and expertise will be essential to exploit opportunities to make profitable and greener investments. These include co-generation and energy efficiency, providing many unexploited investment opportunities for PEMEX, and the exploitation of the recent offshore deep-water discoveries (*Trion 1* and *Supremus 1*) and of the abundant domestic shale gas and shale oil resources. Though all of this could increase PEMEX's production growth, its profitability and reserve volumes, such developments might prove challenging as the state-owned company will require significant new capital, outside expertise and good management of environmental risks associated with

deep-water oil and shale gas. Moreover, facing a highly competitive unconventional gas industry in the United States, exploitation of shale gas will require low cost structures and a sufficiently attractive investment framework.

Given that Mexico's unconventional hydrocarbon resources are mostly located in the most water-constrained regions of the country and unconventional gas production requires substantial amounts of water for hydraulic fracturing, the government would also have to further overhaul its water management and pricing system to make water allocation substantially more efficient than today, if it wanted to exploit these reserves taking into account social, economic and environmental costs.

Box 2.2. **Main recommendations for green growth and energy policy**

Green growth

- To ensure that the right price signals are provided, continue to remove fossil-fuel subsidies, and thereafter move towards carbon pricing.
- Shift towards a market-determined gasoline price with a positive excise tax, while using a transitory automatic smoothing mechanism.
- Restructure vehicle taxes to take into account environmental performance. Enforce environmental standards to encourage the use of more energy-efficient vehicles. Effectively direct public and private investment into mass transportation.
- Further strengthen energy efficiency and promote development of renewable energy by including social and environmental externalities into CFE's methodology for purchasing electricity at the least-cost price.
- Gradually remove electricity subsidies for residential users.
- Gradually remove electricity subsidies for pumping water for irrigation in agriculture and facilitate investment in water-efficient practices, including through cash transfers independent of water use.
- Raise water service tariffs to reflect operation and maintenance costs of providing services.
- Improve planning, fiscal relations between different government levels, and cost-benefit analysis to promote more efficient green infrastructure investment.
- Address externalities and promote private investment in renewables through setting right price signals, changes in the regulatory regime and reduced costs of access to the grid.

Energy reform

- Improve PEMEX's operational and environmental efficiency, and governance allowing much more reliance on private firms in the oil and gas sector so as to increase output and generate gains for the federal budget.
- Similarly, promote energy efficiency in CFE electricity operations, so as to reduce government subsidies and carbon emissions. Reduce PEMEX's environmental footprint.
- Promote the use of private sector expertise in oil and gas ideally by passing a constitutional amendment allowing risk sharing, or by at a minimum by and altering contract incentives to attract the participation of qualified partners with the proven capability to exploit opportunities.
- Further improve the corporate governance, transparency and autonomy of PEMEX. Strengthen the technical oversight role of the National Hydrocarbons Commission.
- Expand the scope of private capital to exploit deepwater and shale hydrocarbons.

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Chapter 3

Improving fiscal federal relations for a stronger Mexico

Mexico has achieved a high degree of decentralisation in public services, but the Mexican fiscal federal system has important shortcomings. States and municipalities have become heavily dependent on federal transfers to finance a growing share of public spending. This leaves the burden of raising tax revenues falling almost exclusively on the federal government and reduces incentives for efficient spending and active tax collection at the subnational level. It can also lead to moral hazard and fiscal slippages. The federal government should harden the budget constraint on sub-national governments by limiting further increases in transfers and avoiding extraordinary transfers. Promoting the implementation of stronger fiscal rules, such as rules on deficits and debt ceilings, could also help to harden budget constraints and to ensure greater fiscal discipline. States should be given more taxing powers, if they are to collect a larger share of total revenues. Greater accountability and clarification of spending responsibilities could also contribute to improve the efficiency of spending among states and municipalities.

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.

During the 1990s Mexico embarked on a process of decentralisation of core expenditure responsibilities to its states and, to a lesser extent, municipalities. Two decades later, although Mexico has achieved a high degree of decentralisation in public services, the Mexican federal system has some shortcomings. States, and to less extent municipalities, have formal responsibilities over major categories of spending, including in key areas such as health and education, and account for almost half of government spending. But decentralisation has not met the objective of more efficient and effective public service delivery, as it was supposed to. Neither have the wide regional disparities in public services narrowed.

Given shared responsibilities for implementation and finance across the three levels of government, there is great scope for duplication, wasteful use of resources and avoidance of responsibility for outcomes. This may also be hindering investment, despite Mexico's significant spending needs. Many subnational governments also have perverse incentives. Because most of their spending is funded by federal transfers, subnationals have little incentive to spend wisely and be fiscally prudent. Such great disparity between spending and own-revenues may also be deterring own-revenue generation at the subnational level, given the political cost of collecting taxes and the resources needed to administer them. Because information on the use of sub-national governments' financial resources is scant and monitoring infrequent, it is also hard to evaluate sub-national governments' performance in the provision of public services.

These factors reduce public sector efficiency and more broadly the efficient use of resources that are essential for the Mexican economy to develop and grow. With slow growth and large economic disparities, Mexico needs to spend wisely to address its human capital, health and infrastructure gaps and enhance its growth potential. With a larger degree of revenue autonomy and lower reliance on federal transfers, Mexican sub-national governments would have greater incentives to spend more efficiently and promote growth. Nationwide, better co-ordination of fiscal policies between the federal and the sub-national governments, which is currently weak, could further contribute to strengthen Mexico's macroeconomic stability and its ability to withstand shocks. Greater control of sub-nationals' borrowing could also help to ensure greater fiscal discipline at the sub-national level. Since the 1994-95 financial crisis, subnationals'debt has remained relatively low, but it has recently been on a rising trend.

The chapter assesses the sources of distortions of the current system of fiscal federal relations, and recommends reforms that would improve its efficiency and equity. To do so, it benchmarks Mexico's system of fiscal federalism against a few key principles defining good intergovernmental fiscal arrangements (Box 3.1) and builds on international experience in the reform of fiscal federal relations systems in other OECD countries to provide recommendations to improve the system.

Box 3.1. **What are the characteristics of good intergovernmental fiscal arrangements?**

The answer is far from simple. There is no single "correct" model for the design of intergovernmental fiscal arrangements. Fiscal relations in federal countries are much more often shaped by historical, political, and social factors than by economic considerations. Countries often face trade-offs between efficiency and redistribution when designing or reforming their arrangements, and the weight they give to each of these objectives often depends on a complex matrix of variables. Apart from choices about the distribution of tax and spending responsibilities, countries also need to take into account macroeconomic constraints, as well as relevant institutional factors, such as constitutional or political constraints, or the capacity of local governments to spend well and raise their own revenues. Reforms are also often complicated by vested interests and possible winners and losers reforms may entail.

Despite very different country experiences, some general principles can be drawn from the considerable amount of work, international organisations, including the OECD,* and the academic literature (e.g. Ahmad and Brosio, 2006; Warren, 2006; Boadway and Shah, 2009) have devoted to analyse different country experiences and to assess how best to design fiscal federalism arrangements and reform the systems already in place.

Assignment of expenditure responsibilities

Subsidiarity: Sub-national governments should be responsible for those services whose benefits are confined primarily to their geographic area and for which residents should have a choice over the quantity and the quality of the service. This will have efficiency gains by leading to greater accountability and by introducing competition among jurisdictions, and thus greater public sector efficiency.

Transparency of expenditure responsibilities: When expenditure responsibilities are shared among jurisdictions, responsibilities of each level of government should be clear, to enhance accountability. And appropriate co-ordination mechanism should be in place to ensure an efficient use of resources. Overlapping responsibilities can weaken accountability and create an upward bias in spending.

Tax assignments

Matching revenue-raising powers to spending responsibilities: Tax assignments should follow expenditure responsibilities, so the supply of public goods matches local citizens' preferences and willingness to pay, and hence for sub-nationals to be held accountable and be fiscally responsible.

Efficiency of the tax system: Few taxing powers can be transferred to sub-national governments without raising efficiency and/or distributional concerns. Therefore potential welfare gains from increasing local tax revenues should be weighed against such risks.

* Several *OECD Economic Surveys* have included chapters devoted to fiscal federalism (Germany, 1999 and 2003; United States and Mexico, 2005; Austria, 2006; Australia, Belgium and Italy 2007). The OECD's "Network on Fiscal Relations across Levels of Government" regularly carries out analysis on a wide range of topics on the relationship between central and sub-central governments, and its impact on efficiency, equity and macroeconomic stability, for both federal and unitary countries.

Box 3.1. **What are the characteristics of good intergovernmental fiscal arrangements?** *(cont.)*

Fiscal autonomy and sustainability: Local governments should have autonomy over tax rates and bases. However, to avoid perverse tax competition, leading to a more complex tax system, federally defined bands are advisable. Local tax revenues should be robust and able to expand in line with expenditure needs. However, for countries with significant devolution of spending responsibilities own revenues may not be enough, given the limited scope for fiscal autonomy at the sub-national level, and there is often a need for transfers from the centre.

Intergovernmental transfers

Adequate funding: The transfer system should provide appropriate funding for subnational operations, while ensuring an adequate level of equalization without blunting incentives to pursue sound policies.

Equity: Sub-national governments with equal fiscal needs should be treated equally. Ideally redistribution should be separated from tax incentives for the sake of transparency.

Predictability and flexibility: Sub-national governments need to be able to budget and plan for the future, but at the same time, have the flexibility to respond to changing circumstances. Transfers should be formula based rather than discretionary, but have an element of flexibility. Transfers can provide stability and contribute to smooth cyclical shocks, but care must be taken to maintain appropriate incentives for fiscal discipline.

Simplicity and transparency: The transfer mechanism or allocation formula should be readily understandable and easy to administer.

Autonomy: Sub-national governments should have the independence to set priorities and manage services to respond to local needs.

Neutrality of intergovernmental transfers: Sub-national governments should not be able to influence the transfers they receive by manipulating their expenditure or tax decisions. And the transfer mechanism should not penalise sub-national governments for sound economic management.

Sub-national governments' fiscal strategies and overall macroeconomic objectives

Co-ordination: To ensure consistency with national macroeconomic objectives, it is important to co-ordinate budgetary policies across government levels.

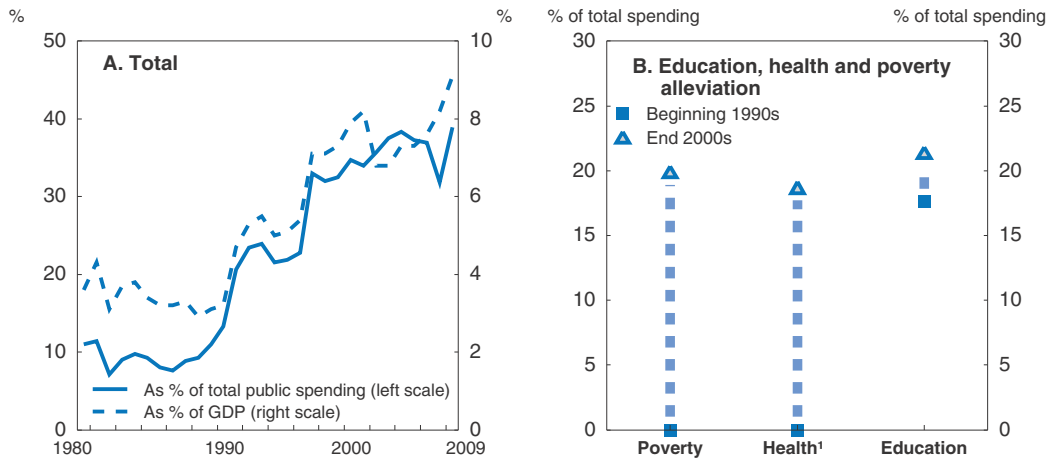
Control: Fiscal decentralisation can contribute to weaken fiscal discipline. It is therefore important to promote adherence by sub-national governments to national fiscal objectives. Controls on sub-national borrowing and/or effective intergovernmental co-operation mechanisms are often needed for both short-term fiscal stabilization and medium-term fiscal sustainability. To enforce any form of control, availability of relevant fiscal information is crucial, including debt and contingent liabilities.

Mexican fiscal decentralisation: Main features and recent trends

Mexico is a federal country with a three-tier government structure.[1] It is divided into 31 sovereign states and one federal district. Each state is composed of municipalities, about 2 457 of them in the whole country which, while having sovereign autonomy over their political and fiscal development, play a very small role compared to other OECD countries, focusing on the provision of local services such as waste management or water supply.

In the last two decades Mexico has experienced a trend – similar to the rest of the world – towards greater decentralization of spending responsibilities to its states and, to lesser extent, municipalities. As a result, sub-national spending rose sharply from the mid-1980s onwards, both as a ratio of GDP and as a share of overall public spending (Figure 3.1). The jump was substantial after the changes to the fiscal co-ordination law in 1998, whereby sub-national governments became responsible, notably, for the provision of education. In 1990, states and municipalities together accounted for 10% of Mexico's public spending. By 2009, their share of spending had multiplied by four. The increase in spending was matched with greater federal earmarked transfers. Decentralisation has been particularly pronounced in social spending in particular in education, health and poverty alleviation (Figure 3.1). 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.

Figure 3.1. **Key highlights on sub-national spending**[1]



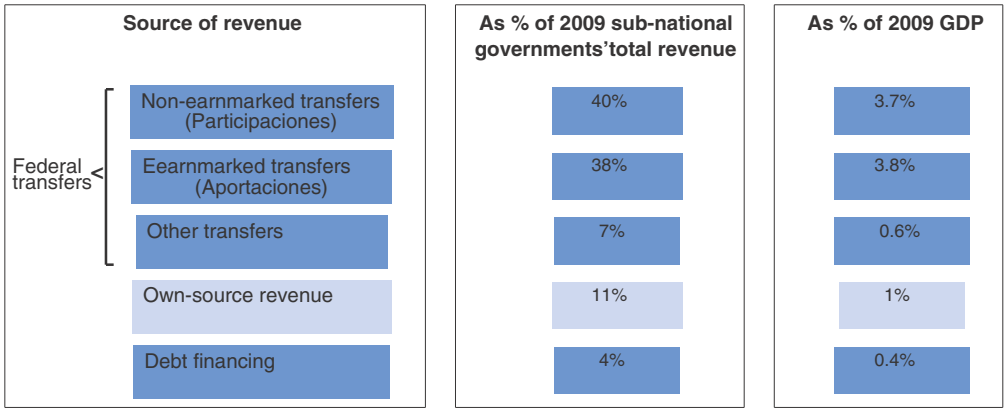
1. Health spending refers to the share of sub-national spending in total public spending for the non-insured population.

Source: Quinto informe de gobierno 2011; Centro de Estudios de las Finanzas Públicas, Cámara de Diputados, 1980-2002; OECD, *Fiscal Decentralisation Database*, 2003-09.

StatLink http://dx.doi.org/10.1787/888932803712

The decentralisation of spending has not been mirrored on the subnational tax revenue side, though it was mirrored by federal transfers. 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 3.2). By comparison, in the United States, these ratios amounted to 38% of total tax revenues and 9% of GDP, while in Canada, they accounted for about 49% and 16%. Between 1980 and 1990 most taxing powers were devolved from subnational governments to the federal government. States and municipalities kept full autonomy to set their own tax rates and/or bases over the payroll tax, vehicle taxes, property taxes, and user fees. States are responsible for tax collection for small tax payers (REPECOS). All other taxes, with the largest tax bases, were assigned to the federal government that administers them and shares them with sub-national governments through revenue sharing. Since 1990, states have gone from raising 32% of their total resources to generating about 10% on average. For municipalities, the share of own raised revenues declined from 33% to 19% on average over the same period (Castañeda and Pardinas, 2012).

Figure 3.2. **Sub-national governments' revenue sources**

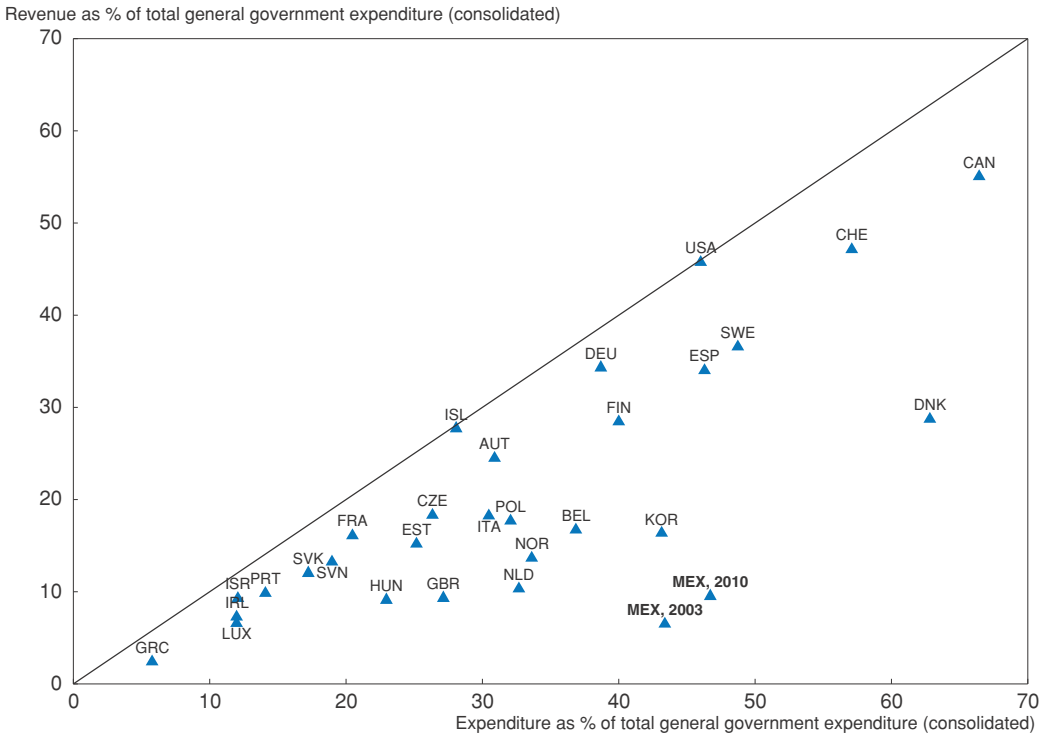


Source: OECD analysis based on Revilla (2010).

Mexican sub-national entities are therefore very far from fully self-financing their spending, in contrast to other federations like United States or Canada (Figure 3.3). The gap between their spending assignments and their own resources is met by large federal transfers, which amounted to 10% of GDP in 2009, or an average of over 85% of subnational governments' total revenues.

The most important type of federal transfers are revenue sharing transfers (*participaciones*) (see Figure 3.2), which are non-earmarked and formula based. They consist of a set of eight funds that vary in size and are itemised in the line-item *Ramo 28* of the

Figure 3.3. **Sub-government revenue and expenditure, 2011**[1]



1. 2010 for Canada, Korea and Mexico.

Source: OECD Fiscal Decentralisation Database.

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federal budget, along with transfers to compensate states for collecting federal taxes (*incentivos*). Such *participaciones* are the largest item in the federal budget. The second most important category of transfers is earmarked transfers (*aportaciones*) (see Figure 3.2), 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 transferred revenue (or 0.7% of GDP). There are also other transfers of much smaller size. These include matching transfers (*convenios*) to finance some regional spending, like co-financing of agriculture spending.

Issues with intergovernmental spending assignments

Reducing overlapping responsibilities to ensure greater spending efficiency and accountability

Mexico's public expenditure is characterised by shared responsibilities for implementation and finance across the three levels of government, which make for a system of quite complex overlapping competencies. The federal government is responsible for matters relevant for the whole 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 and water management (Table 3.1). Municipalities

Table 3.1. **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 health care 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 for 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 lightening, garbage collection, public markets, public safety, cemeteries and public parks).
Infrastructures and transportation	Road construction and maintenance are split between the three levels, with the construction mainly executed by federal and state governments, and maintenance mainly being done by the state or municipalities. Parks and public transportation are split with all levels of government providing services that correspond to their geographic area, with public transportation only rarely being managed by municipalities.		

Source: OECD analysis based on Cabrera Castellanos et al. (2008), OECD (2012a); Cabrero and Martínez-Vázquez, (2000); Fernández Martínez (2011); Martínez-Fritscher and Rodríguez-Zamora (2011).

are purely responsible for local matters such as water distribution, road maintenance and sometimes public lighting, and are co-responsible for school building and implementation of social programmes with the federal and state government. Investment in infrastructure and transportation is another area where spending involves all three layers of government (Table 3.1).

Federal transfers finance the bulk of sub-national expenditure, in particular in the areas of health and education, as discussed above. But given overlapping responsibilities and very little information on spending patterns, sub-national governments have few incentives to be fully accountable for the provision of services and there is great scope for blame shifting between the federal and sub-national governments. This potentially results in poor cost-efficiency in the provision of public services and undermines service quality. Overlapping spending responsibilities give also little incentive to exploit some of the benefits of greater decentralisation, such as innovation in management to suit local needs, as sub-national governments are not fully accountable for the provision of services.

In theory, a number of principles guide the allocation of functions across government levels and overlapping of responsibilities should be minimised for fiscal decentralisation to be effective (IMF, 1997). However, in practice establishing clear cut divisions is rather difficult and in most countries there is some degree of overlap (Joumard and Kongsrud, 2003). Rather than seeking a complete reorganisation of assignments to achieve an optimal allocation of spending functions, Mexico should seek instead to clarify spending responsibilities for each level of government. This would be particularly useful in the areas of education and health, which account for the lion's share of regional spending, and where there is also a substantial degree of overlap, as discussed below.

Education

Mexico has achieved significant progress in improving the coverage and quality of its education system. However, education performance, as measured by the PISA test, remains below other OECD countries (OECD, 2011a). Disparities across states in education outcomes are also wide. For instance, PISA tests for student performance tend to correlate strongly with socioeconomic background and income per capita across states (CONEVAL, 2011; Schwellnus, 2009). Such disparities can exacerbate and lead to a perpetuation of income differences across generations and regions. Increasing the efficiency of education spending by reducing overlaps and improving its targeting, as described below, could contribute to reduce education disparities across states and thereby to stronger economic growth. It could also help to meet the financial challenge that Mexico faces to make upper secondary education compulsory from the school year 2012-13 and reaching universal coverage by 2021-22.

While the federal government is the main decision maker in the national education system, states are in charge of the operation of basic education services and execute most education spending. Despite education responsibilities being relatively clearly defined formally, in practice state and federal responsibilities sometimes overlap and all three levels of government have simultaneous obligations for important services. For instance, in about a third of all states there are both federal and state institutions in charge of similar tasks (OECD, 2010a; Fierro Evans et al., 2009). Another example is the funding of schools and universities. Municipalities are sometimes responsible for maintaining school buildings, while federal and state governments do most of the investment and maintenance. In the case of universities, the federal government finances the infrastructure, while the states

are responsible for maintenance, even though there are federal transfers to support universities´ current expenses. This can lead to lack of action or duplication and raise concerns on efficiency and accountability (OECD, 2013a). Each level of government can blame the other for not doing its part, resulting in under-provision of education services and poor cost efficiency. There should be greater clarification of states' and municipalities' functional and spending responsibilities in education. And responsibility for new infrastructure and its maintenance should be kept at the same government level.

Higher state autonomy in the management of education spending could also contribute to greater spending efficiency and better outcomes. Funding to schools is mainly provided through a large number of federal and state programmes which, for example, amount to 140 in the state of Puebla (OECD, 2013a). Such a large number of programmes raise efficiency concerns, both on its bureaucratic costs and matching difficulties. It also leads to equity concerns. Schools need to apply in order to get the resources, but, many of the smallest and poorest schools do not have the administrative capacity to complete the application process or handle the reporting requirements (OECD, 2010a; OECD, 2013a). Mexico could consider rationalising the number of programmes and providing states with more autonomy to restructure them in order to provide a better matching between programmes and school needs (OECD, 2013a). On the other hand, the perception of a soft budget constraint has sometimes led to unsustainable increases in states' expenditure on education, particularly personnel costs.

States have primary responsibility over staffing and funding, but they have little flexibility in the way money is spent as most of the funding is earmarked for the payment of salaries. Indeed, staff compensation absorbs over 90% of all education spending, much above other OECD and Latin American countries. This leaves little room for investment in other education inputs, such as teaching materials, teachers' training and school infrastructure, which are key for good education outcomes (Schwellnus, 2009). A further side-effect of insufficient funding for non-wage expenses is that schools rely on parent donations to cover financing gaps, which represent a significant proportion of the school budget (Campos et al., 2010). This leads to great discrepancies between resources available to schools in rich versus poor communities leading to inequitable education opportunities (OECD, 2010a; OECD, 2013a).

The wage negotiation system clearly contributes to high wages. States employ teachers, but their job status and pay conditions are decided in a two step procedure. A first negotiation takes place at the federal level by the very powerful teachers union and the federal government, who often settle for large annual pay increases (Villanueva Sánchez, 2010). This highly centralised approach not only limits states' autonomy in the management of human resources, but also contributes to wage increases that are not linked to any type of evaluation or quality of teaching. The national wage negotiation between the federal government and the union is followed by a second negotiation between the state and the regional representatives of the teachers union. This second round grants additional wage increases on top of those negotiated at the national level. There should be a unique wage negotiation in order to reduce pressures on education budgets.

Education spending also needs to be targeted more effectively to education needs to reduce differences in education outcomes across states and enhance education performance. The distribution of the main earmarked transfer for education (*Fondo de Aportaciones para la Educación Básica*, FAEB) penalises poor against richer states doing little

to reduce education inequalities, notwithstanding some recent improvements (Schwellnus, 2009). Until 2007, the FAEB transfer was based on a formula driven by supply factors (number of schools and teachers) and cost shares in place prior to the decentralisation of education in 1998. Such criteria gave incentives to increase the number of schools and teachers at the expense of other education inputs. It also discriminated against poorer states as richer states had developed their own education systems before education was decentralised. And this perpetuated inequities in the education system (Joumard, 2005).

A fiscal reform in 2007 (Box 3.2) changed the redistribution formula. Allocation is now based on demand (number of students), state co-financing of education, and education quality (Annex Table 3.A1.2). The overall objective is equalizing transfers per students among states over time, which is welcome. Including quality in the formula is also welcome, as it gives states incentives to improve outcomes in order to receive more funding. However, no clear and transparent rules have been established to define education quality (Villanueva Sánchez, 2010). Including state education spending in the formula could also penalise poorer states, where needs for additional resources are larger, and limit the redistributive features of the transfer. To further improve the targeting of education spending and improve education outcomes, the allocation criteria for the FAEB fund should be revised. Education quality should be granted a higher weight in the formula and be based on a broadly agreed and transparent definition of education quality, in order to promote better education outcomes. Rather than basing the allocation of the transfer on states' spending efforts, which can penalise poor states over richer ones, it should also be based on the number of students and quality, as well as include equity criteria to account for the existing cost differentials and socio-economic disparities across states.

There are large economic disparities between states, for instance differences in sub-central GDP per capita, are the largest among OECD countries and have increased over time (OECD, 2012a). Moreover, disparities are substantial across Mexican states in terms of indigenous populations, whom are characterised by worse health and education outcomes (UNPD, 2011). Other states have a difficult topography with population being dispersed in small communities, leading to relatively higher costs of service provision. Funding formulas should be revised so that states with a large share of schools serving the most disadvantaged areas receive more money per student (OECD, 2012). Policies aimed at improving human capital in disadvantaged regions not only make sense from an equity perspective, but also from an efficiency one. The key drivers of growth vary according to a region's level of development, but education and training, above all, are critical for the growth of all regions (OECD, 2012f).

Finally, there is segmentation and lack of information on spending patterns, which renders the targeting of spending and the monitoring and evaluation of education programmes extremely difficult. For instance, spending on wages, number of teachers and registered students are not correctly, or homogenously, accounted for across states (IMCO, 2010; Auditoría Superior de la Federación, 2008). This is a big problem, not least because the earmarked transfer for education is allocated to states based on the number of students. More broadly, such lack of information makes the assessment of the optimal level of state spending extremely difficult, including whether resources are used properly. The recent federal announcement to create a census of schools, teachers and students is a step forward. The information system should facilitate keeping track of individual student and teacher trajectories and reporting on inequities in learning outcomes of different student

Box 3.2. **Mexico's 2007 reform to strengthen its federal fiscal framework***

Mexico carried out a public finance reform in 2007. The reform had four main objectives, among which was strengthening Mexico's federal fiscal framework. The first, and most important objective, was to increase Mexico's meagre tax revenues. Secondly, the reform aimed at establishing a better institutional structure for more efficient and transparent public spending. Thirdly, the objective was to improve the tax administration. And finally, the reform aimed to strengthen the federal fiscal framework. The reforms to the federal fiscal framework focused on two core areas of the system that were causing inefficiencies.

First, the reform aimed to give sub-national entities more taxing powers and the incentives to use them, without jeopardizing federal public finances, and while avoiding a proliferation of distortive or inefficient local taxes. For that purpose states were allocated new tax powers. First, states can tax the final sale of a certain subset of goods currently taxed by the federation with a special production tax (IEPS). Second, a new tax on gasoline and diesel collected and administered by the states, and with the base and rate set by the federal government, was introduced. Third, the federation transferred the power over the vehicle tax (*tenencia*) to the states by 2012. The creation of a sales tax was proposed but not approved.

Second, the reform aimed to simplify and improve the incentives embedded in the formulas for the distribution of federal transfers. For that purpose, the reform modified the allocation formula for the *Fondo General de Participaciones*, the largest of all federal transfers (Annex Table 3.A1.1). Before 2007, the fund was distributed to states on an equal per capita basis (45.17%), on the basis of actual efforts to raise federally co-ordinated excise taxes (45.17%), and the remaining (9.66%) according to a redistributive coefficient giving favourable treatment to states with few inhabitants and lower tax revenues. One crucial problem with the formula was that it pursued two contradictory objectives: first, to compensate states for relinquishing their tax powers and give incentives for higher local revenue and economic activity; second, redistribution. Neither of them was achieved.

Since 2008 a new formula seeks to strengthen incentives to increase local tax efforts and local economic activity linking federal transfers directly to population, growth in economic activity and local tax collection levels (Annex Table 3.A1.1). However, the allocation of non-earmarked transfers does not yet seem to follow the new criteria but rather pre-reform allocations, possibly because the hold-harmless clause included in the new formula implies a long transition period.

To improve the redistributive features of the system, the reform also modified the formulas of two of the eight earmarked transfers to provide more resources to states with greater needs. The fund earmarked to education (FAEB), which is the most important earmarked transfer accounting for 60% of all targeted transfers, changed its redistribution formula (Annex Table 3.A1.2). It now seeks to equalise federal transfers per student across states and distribute according to demand (number of students) rather than supply (teachers' payroll). A smaller fund, the FAFEF, which did not previously have a formula, is now distributed based on inverse GDP per capita, with the objective of fostering local development. In all three cases, so no state would lose out from the reform, the new formulas included a hold-harmless clause that froze in nominal terms the transfers received by each state at 2007 pre-reform levels, and applied the new formula to any increase in transfers.

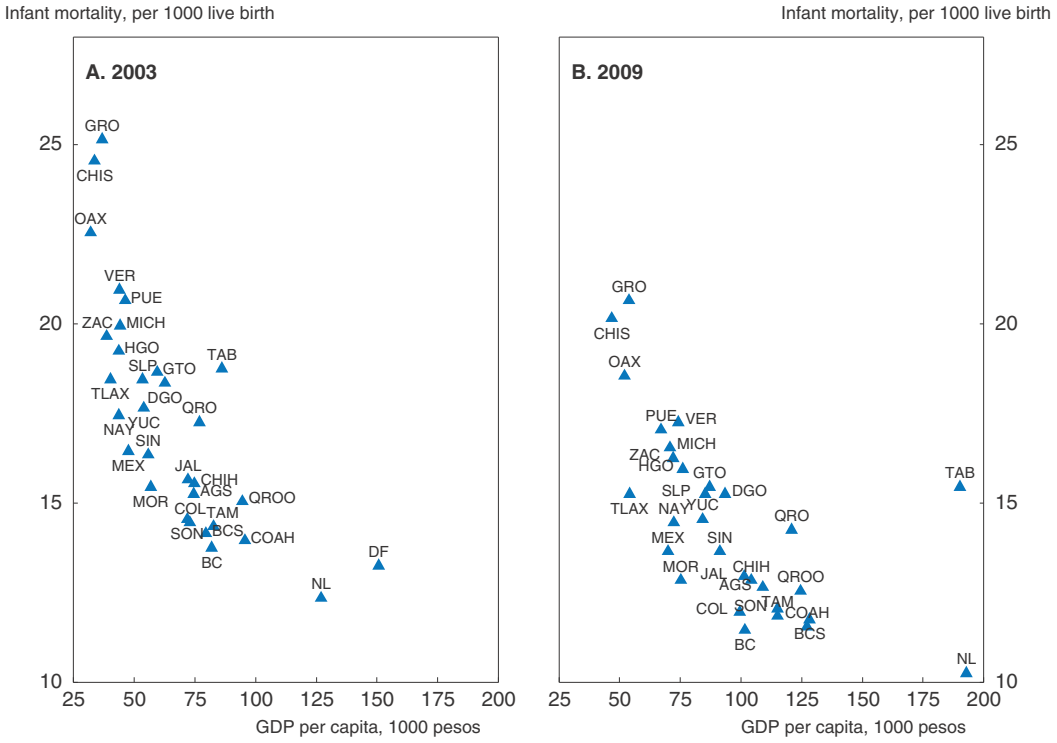
* Description of the reform based on González Anaya and Revilla (2012) and presentations from Mexico's Ministry of Finance.

groups (Santiago et al., 2012). Data on parents' contributions to public schools should also be collected, as currently there is no account of its actual extent despite its significance (OECD, 2013). Finally, there is room to better exploit system-level information to improve evaluation and policy planning of education services and states could play a greater role in setting up and supporting local school and teacher evaluation systems.

Health

Health is the second area where the decentralization of responsibilities to states has been most significant. While the core of the Mexican health system remains centralised, with the federal government setting the policy framework, states are responsible for the organization and operation of health care services for the non-insured population and for providing care to the rural and urban poor (see Table 3.1). At the macro level, health indicators have shown significant improvements over the past decades, although they remain behind most OECD countries (Joumard et al., 2010). Disparities in health outcomes and financial resources across regions are wide, but have decreased, with poorer regions having fewer resources and worse outcomes (Figures 3.4 and 3.5). There are also concerns about the efficiency and transparency of public spending. Further exploiting efficiency gains in health spending would allow improving outcomes further. It would also contribute to the savings Mexico will need to meet its rapidly growing health care demand. As population ages, public health spending will increase by 2.1 percentage points between 2010 and 2030 according to OECD projections (De la Maisonneuve and Oliveira Martins, 2013), from 2.5% of GDP to 4.6%.

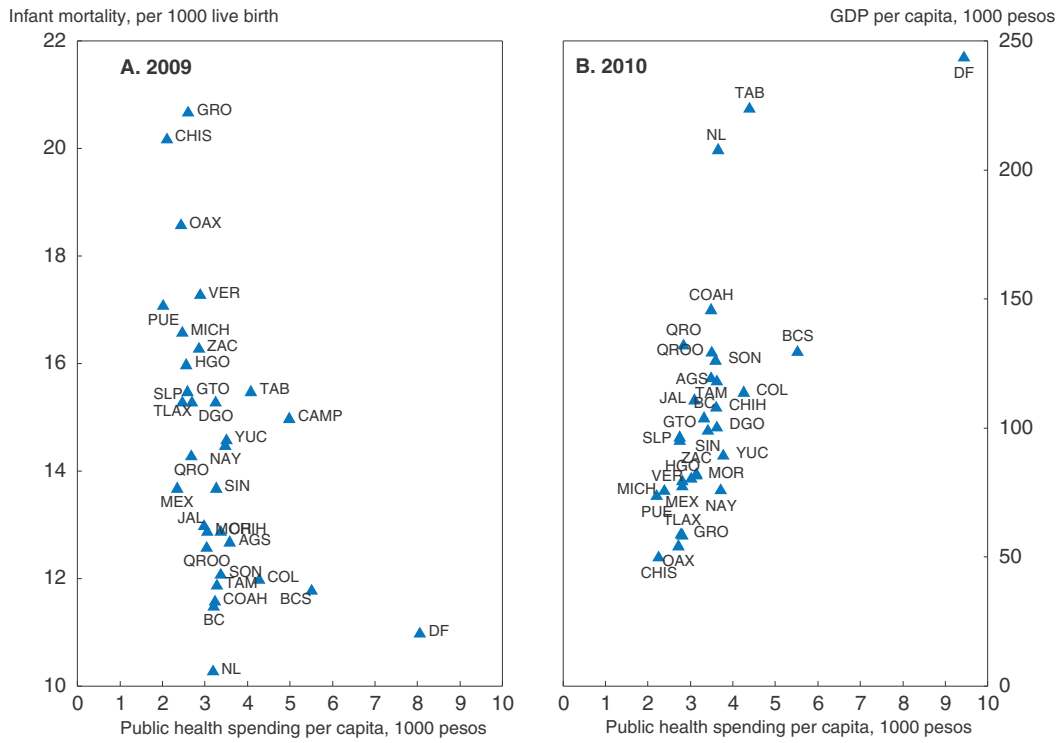
Figure 3.4. **Health outcomes by state**



Source: OECD analysis using data from INEGI.

StatLink http://dx.doi.org/10.1787/888932803750

Figure 3.5. **Health spending by state**[1]



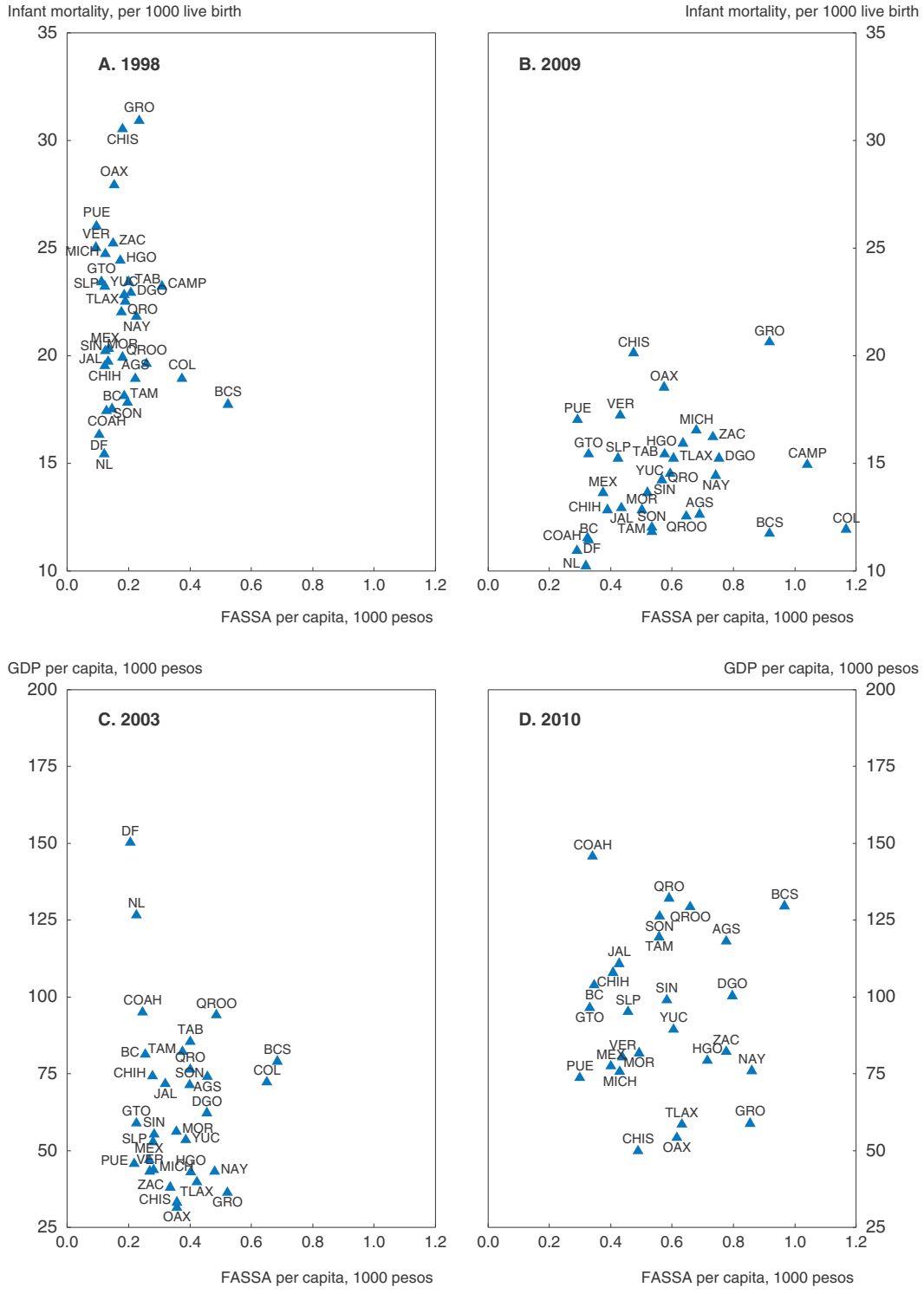
1. Health state spending for population with and without social security.
Source: OECD analysis using data from INEGI and Secretaría de Salud.

StatLink http://dx.doi.org/10.1787/888932803769

A number of sources of inefficiency make the Mexican health system one of the least efficient in the OECD (Schwellnus, 2009). One key source is the fragmentation of health systems (social security institutes, private insurers, federal and state health services). Each system has its own vertically orientated provider with no access to each other services. This leads to costly duplication of health administration and infrastructure, reduces patient choice and competition between providers and leads to quality differences across providers. The decentralization of health has somewhat contributed to this fragmentation. While the primary purpose of decentralization was to reduce bureaucracy and improve co-ordination between federal and state providers for the uninsured population (Merino, 2003; Martínez-Fritscher and Rodríguez-Zamora, 2011), this has not been the case. Responsibilities overlap and there is a lack of co-ordination between federal and state levels. For example, the financing of hospital infrastructure at one level and the administration and maintenance of hospitals at another level (see Table 3.1) potentially results in under-provision and blame-shifting. States also lack autonomy because of the centrally negotiated labour contract for health employees that set wages and working conditions. This limits non-wage spending and reduces the productivity of professionals as there is no link to efficiency. Reducing overlapping and reforming paying mechanisms to reward high performance could contribute to improved efficiency in health care delivery.

Public spending that is more effectively targeted to health needs would reduce the differences in the quality of health care across regions. Despite reforms, public health financing per capita continues to be inversely correlated with indicators of need, such as infant mortality, as well as with GDP per capita (Figure 3.6). Regions finance the bulk of

Figure 3.6. **Earmarked health spending per state**[1]



1. Fondo de Aportaciones para los Servicios de Salud (FASSA).

Source: OECD analysis using data from INEGI and Secretaría de Salud.

StatLink http://dx.doi.org/10.1787/888932803788

their health spending through an earmarked transfer (*Fondo de Aportaciones para los Servicios de Salud*, FASSA) allocated to states for the financing of health care for the non-insured population. Until 2004, the distribution of this federal transfer was largely based on historical costs of each state (adjusted for installed facilities and number of health professionals), rather than needs, with richer states often being much better-endowed than poorer states (Joumard, 2005). This contributed to the perpetuation of regional disparities in health care across the country.

The reform to the General Health Law in 2003 changed the formula with the aims of reducing the regressivity of the transfer and better linking resources to needs. The distribution of the transfer is now based mostly on the number of beneficiaries, with a small weight given to health needs, state health spending and a measure of spending efficiency (Annex Table 3.A1.2). Since the change in the formula there has been a tighter correlation between FASSA and health needs (Figure 3.6). However, the small size of these improvements and the somewhat positive correlation between the allocation of the fund and GDP per capita suggests that there remains considerable space for making spending more equitable. The formula should be revised so that the allocation of resources becomes more transparent, gives greater weight to equity and promotes better incentives to states to provide better services. Increasing the transparency in the use of the earmarked health transfer would also contribute to better spending. Often there is no clear information on the allocation of funds at the state level (CONEVAL, 2011b). Furthermore, some evidence suggests that a non-negligible part of funding is used for other purposes than the financing of the health care for the non-insured population (Auditoría Superior de la Federación, 2009).

Issues with intergovernmental revenue assignments

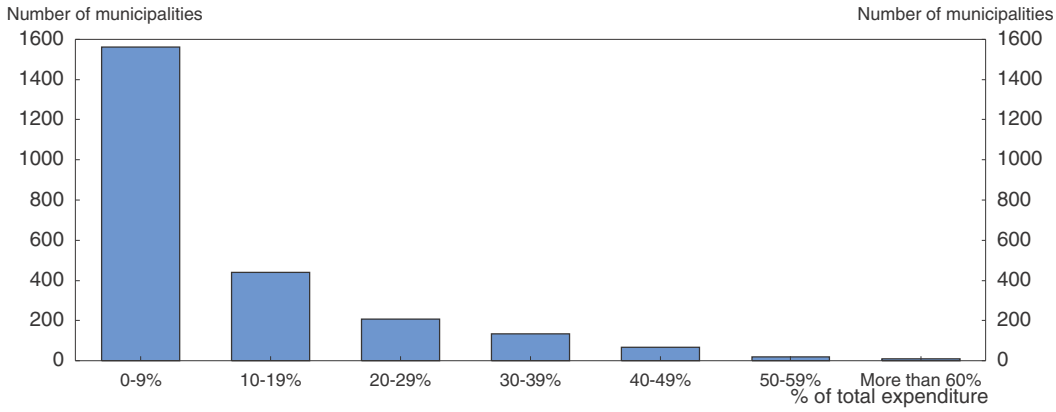
Sub-national tax autonomy is limited

Mexican sub-national governments generate very limited own revenues relative to their expenditure responsibilities, leading to the largest fiscal gap among OECD countries (see Figure 3.3). Only 3% of total states and municipalities' tax revenues stem 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. This average also hides wide regional disparities, with some states, in particular the Federal District, raising a larger share of their own revenues (about 33%, although this is partly explained by the fact that the Federal District collects both state and municipal taxes), almost double than the second state in terms of tax autonomy, Chihuahua (Castañeda and Pardinas, 2012). Heterogeneity is also wide across municipalities, but most of them have meagre resources and strongly depend on external financing (Figure 3.7) 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 3.7. **Most municipalities depend on external funding**

Distribution of own revenue in municipalities, 2008



Source: IMCO using data from INEGI for the 2 438 municipalities for which there is data.

StatLink http://dx.doi.org/10.1787/888932803807

The central government has made important and recurrent efforts to expand states' tax powers and increase their incentives to collect more own revenue. Past attempts included proposing to the states to levy a sales tax or a surcharge on income taxes, but states either refused, or have not used their new tax powers (González Anaya and Revilla, 2012). They argued limited capacity to levy these taxes. But a plausible additional reason was weak incentives, as it is easier for states to lobby for higher federal transfers than to step-up their tax raising efforts. Most recently, a reform in 2007 modified the system of intergovernmental fiscal relations (see Box 3.2). The reform increased incentives by discontinuing extraordinary transfers to states (OECD, 2011b). The formulas for various non-earmarked federal transfers were also reformed to include both the level and growth in sub-national government tax collection in an attempt to reward states' efforts to collect taxes. The reform also granted new taxes to the states. First, it allocated all the revenues from a newly created federal tax on diesel and gasoline to states. Second, it transferred the collection of taxes on vehicle ownership or use (*tenencia*) from the federal government to the states. And finally, it allowed states to levy a surcharge on goods subject to the federal excise tax (IEPS). However, few states have thus far used their new taxing powers. Besides, these new taxes have relatively limited revenue-raising capacity and are not enough to close the gap between states' transfers and own revenues. For instance, less than half of states have introduced the vehicle tax. Following the reform, the share of own tax revenues in total sub-national revenue has only mildly increased from 10% in 2007 to 10.5% in 2009.

Reforms for additional revenue mobilization at the sub-national level

Further efforts are needed to expand sub-national governments own revenues. But before considering 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. The federal government should limit further increases in transfers, so states and municipalities have more incentives to raise more of their own revenue. During the 2007 reform, while on the one hand extraordinary transfers were limited, states received a permanent top-up in their permanent transfers, by having access to fresh resources from the two newly created federal taxes (the IETU alternative minimum corporate tax and the withholding tax on cash deposits) through the revenue sharing agreement. So, overall all states received higher transfers in real terms as

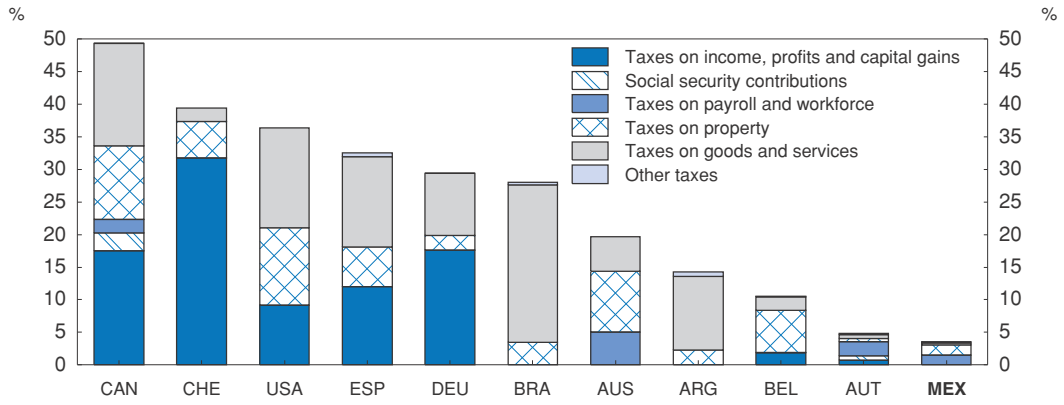
a result of the reform. This may have been necessary for the 2007 reform to go through (González Anaya and Revilla, 2012). But for future reforms to work, and truly mobilise sub-national governments' tax revenue, the federal government should refrain from giving more transfers to states and municipalities. The allocation of transfers should also not deviate from planned spending programmes and strictly follow the formulae in the allocation of transfers. Finally, extraordinary transfers should also continue to be avoided.

If the incentives can be improved, a second consideration for the federal government is: which new taxes to give sub-national governments? Answering that question first requires assessing the efficiency of the current sub-national tax mix, and whether such a mix could allow Mexican states and municipalities enough revenue to meet their expenditure responsibilities. Table 3.A1.3 in the Annex summarises the main advantages and disadvantages of various possible sub-national tax assignments. From a normative point of view, the benefit principle of taxation would argue for sub-national governments to rely mainly on property taxes and user fees that provide a link between taxes paid and public services received (Oates and Schwab, 1988). Sub-national taxes should also ideally be levied on relatively non-mobile bases, where the base is relatively evenly distributed, to avoid tax erosion and strong disparities, as well as provide a stable yield (IMF, 1997; Joumard and Kongsrud, 2003).

For states, the most important source of own revenue is the payroll tax, accounting for almost 80% of states' revenue, a rare feature among OECD countries (Figure 3.8). Although relatively easy to collect, payroll taxes are not ideal, not least because they increase the cost of formal labour (Table 3.A1.3, Annex). Another problem is that since payroll taxes are typically collected at the place where people work rather than where they live, if commuting between states is common, as for instance in the Mexico City metropolitan area that spans three states, revenues may flow to the state where core services are not provided. Other states' taxes include the tax on vehicle ownership, the lodging tax and the tax on lotteries. Although these are broadly appropriate for sub-nationals to handle, they have limited revenue raising potential and are arguably not enough to cover states' expenditure responsibilities in a sustainable way, if they are to deliver costly and important public services like education and health.

Figure 3.8. **State and local tax revenue**

As per cent of total tax revenue, 2011[1]



1. 2010 for Argentina, Australia, Brazil and Mexico.

Source: OECD, *Revenue Statistics Database*.

StatLink http://dx.doi.org/10.1787/888932803826

States should be given new powers over taxes with broader bases, such as a state income tax over and above the federal income tax or a consumption tax over and above the national VAT, where states would set rates. Experience among OECD federal states shows that, while in theory only a few taxes are best suited for subnational governments, in practice, a wide range of taxes are raised by them (e.g. Blöchliger and Petzold, 2009). For instance, about half of all taxes collected by OECD regions are taxes on income, profits and capital gains (see OECD Fiscal Decentralisation Database), and in half of all cases, regions have the power to set rates, as is the case in Canada or Switzerland. Therefore, although frictions can arise, overall they seem to have been manageable. Setting a federally defined maximum and minimum rate may be advisable to avoid horizontal competition and a race to the bottom. In the case of Mexico, a state income tax may be preferable to a consumption tax over and above VAT. The national VAT system is in need of reform, as it yields less than it could because of its big tax expenditures, zero rates and exemptions that substantially narrow the tax base (see Assessment and Recommendations). Allowing states to charge a consumption tax may add complexity to the VAT system and risk undermining any attempt of reform.

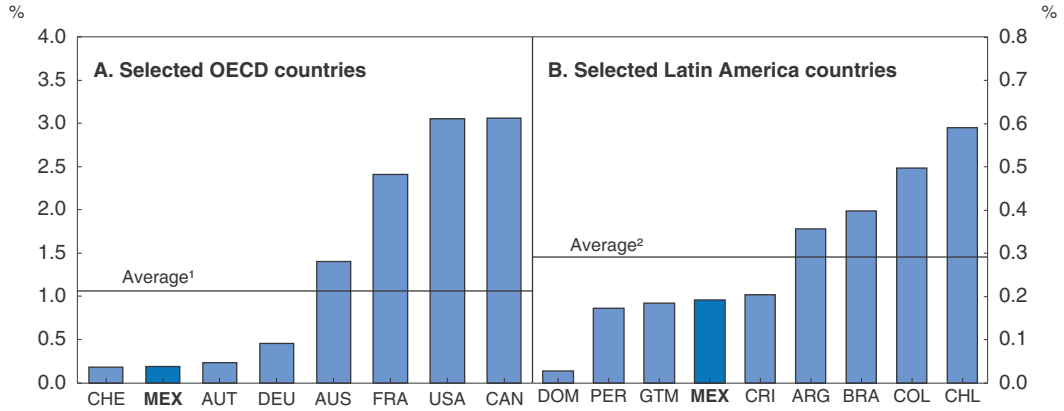
OECD experience suggests that it may be good practice to separate tax collection from tax setting. Thus income or VAT taxes set by lower levels of government can be collected at the federal level. Such an arrangement combines the advantages of local control over tax rates, and therefore higher accountability, with lower compliance costs for taxpayers and administration costs. For instance, much of Canada's extensively decentralised tax system operates in this way (Bird, 2011). 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. But the provinces decide if they want to impose the tax, they also determine (within some limits or bands) its rates; and they receive all the revenues. Mexico could follow such 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.

Municipalities should better exploit the property tax and water charges

Municipalities derive the bulk of their tax revenues from property taxes (*impuesto predial*), a relatively easy to collect and efficient tax that involves few distortions. However, there is a large potential for increasing revenues, which are very low in international comparison, much below the OECD average and other Latin American countries (Figure 3.9). One 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. Evidence shows that *cadastral* values are 60% below market values in about half of the 32 states (Indetec, 2011). In part this is due to poor administrative capacities. The average Mexican municipality has low technical and administrative capacities, and a high rotation of municipal workers in charge of administering the property tax (Alvarez Estrada, 2009). Such high rotation is partly due to short terms of municipal office of three years and the no re-election law. Mayors in Mexico can only run for a single three year term and with each new election cycle the mayor must nominate new staff. What typically happens is that a complete new team of top and middle management public officials is appointed and most previous administrations do not leave any records behind (Smith, 2012).

Figure 3.9. **Recurrent taxes on immovable property**

As per cent of GDP, 2009



1. Average of all OECD countries.
2. Average of countries shown in the Panel B.

Source: OECD Tax Database; OECD Development Centre, *Latin American Revenue Statistics*.

StatLink *Note:* To download the data corresponding to this graph, refer to Figure 16.

Another major problem is weak incentives to collect higher property taxes. Empirical evidence on the relationship between federal transfers and local tax efforts in Mexico suggests that past increases in federal transfers have had a negative effect on local tax collection, in particular, property tax collection (Smith, 2012). Arguably given the choice, a local policymaker prefers to rely on federal transfers to finance public goods, instead of increasing local taxes, especially given that it entails a political cost. The non-consecutive three year term of mayors may also be too short to reap the benefits of taking the unpopular step to raise and collect property taxes. Exemptions are also common, with some municipalities giving property tax and water fees relief to some citizens on the basis of affordability concerns.

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. For that municipalities could engage in state programmes to update land registries and strengthen their administrative capacities, as advised in the 2011 *Economic Survey of Mexico* (OECD, 2011b). States could hire and train the personnel and provide the infrastructure that is needed to update land registers, as already done with some success in the state of Puebla (González Anaya and Revilla, 2012). Another alternative is the new programme to update cadastres (*Programa de Modernización Catastral*) by the National Statistical Institute (INEGI) with the financial support of the development bank BANOBRAS, which has successfully contributed to updating the cadastre of 17 Municipalities and increased their property tax collection by an average of 40%. For smaller municipalities, for which limited tax collection and technical capabilities are a key barrier for greater tax revenues, one alternative could be to agree with the federal or state tax administration, or with larger nearby municipalities to collect the tax on their behalf, for a fee. Municipalities should also ensure that *cadastral* values stay up-to-date. The reassessment of property values is obligatory by federal law since 1999, but it is hardly enforced.

Increasing incentives to collect higher taxes will also be important. Extending the three-year term for mayors, or abolishing the non-re-election provision, would help in this respect. Chihuahua has recently lengthened the term for mayors to four years, which

shows that change is feasible. Perhaps less politically sensitive and, thus, more feasible in the near term could be to take measures to reduce the frequent turnover among officials in municipal administrations that the non-re-election rule currently entails, by for instance appointing professional city managers to care for the day-to-day administrative operations of the municipality, as is the case in other OECD countries (e.g. Spain, United States). This could also contribute to much needed improvement in municipalities' technical and administrative capacities. 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. Some states, including Nuevo León and Chihuahua, use such incentive schemes and now some of their cities (e.g. Chihuahua and Juárez) compare favourably in terms of own generated revenue (OECD, 2012c). Federal revenue sharing transfers to municipalities (*Fondo de Fomento Municipal*) are also allocated on the basis of municipal residential property tax and water fees collections since 2007. Mexico's overall property tax revenues per capita have slightly increased by 3% in real terms between 2007 and 2009, according to government figures. In the longer term, it would, however, be advisable to reform the election rules for mayors so that citizens can reward or punish mayors and strengthen their incentives to make a more efficient use of public funds and provide good quality services to their citizens.

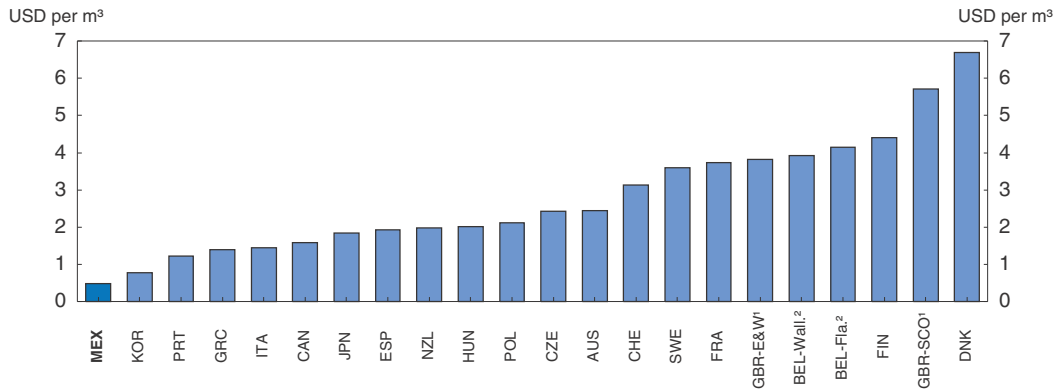
Revenues could also be enhanced by raising tax rates and eliminating exemptions. Rates are relatively low by international standards, ranging from 0.05% to 1.2% of the cadastral value (Andrews et al., 2011). An important barrier municipalities face to increasing property tax rates is that they need state congress approval to do so, and state congresses typically do not want to bear the political cost of raising taxes. If municipalities could decide on tax rates, perhaps within limits set by the state, they could raise rates more easily and achieve greater revenue and spending flexibility.

Experience in other countries shows that higher property taxes are likely to be met with public resistance given their high visibility. To increase their public acceptance, tax increases following a reassessment should be done gradually. For instance, 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. These could include introducing a well-assessed and sufficiently high exemption threshold for low income households. Such a threshold would contribute to achieving a progressive profile and tax households with high housing wealth and income, which is important for a country with high inequality like Mexico.

Another pillar of municipal revenues is fees from the provision of water services. Despite their advantages compared to other possible sub-national tax sources (Annex Table 3.A1.3), they generate very little revenue and are not sufficient to provide basic water services in a financially sustainable way. A key reason is that household water tariffs in Mexico are very low, the lowest among OECD counties (Figure 3.10). This national average hides wide variations across municipalities, but most tariff levels are generally not sufficient to cover the costs of providing the service (OECD, 2012e). Lack of cost recovery also hinders the private sector participation in water investments, despite the substantial investment needs in Mexico's water sector (OECD, 2012d). Low tariffs have also resulted in very high levels of water overexploitation in some water poor regions (OECD, 2012d).

Figure 3.10. **Unit price of water and sanitation services to households**

2008



1. GBR-E&W for England and Wales and GBR-SCOT for Scotland.
2. BEL-Wall. for the Walloon region and BEL-Fla. for the Flemish region of Belgium.

Source: Pricing Water Resources and Water and Sanitation Services (OECD, 2010).

Note: To download the data corresponding to this graph, refer to Figure 11.

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 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.

In 2012, the OECD carried out a policy dialogue with the National Water Commission of Mexico (CONAGUA) to assess the obstacles to implement Mexico's 2030 Water Agenda, which included a pillar on economic efficiency and financial sustainability (OECD, 2013b). A key conclusion from the dialogue was that to strengthen the financial sustainability of water utilities there is room for tariff increases in some places (OECD, 2012e). In most cases, however, a phased approach involving greater bill collection would be preferable to help put utility balance sheets on a firmer footing and build consumer trust and willingness to pay for higher tariffs. Currently, many beneficiaries, in particular public institutions, do not pay for their water services and this undermines private consumers' trust and willingness to pay. Another reason for low bill collections is illegal water connections. The sector also faces important water losses because of poor infrastructure maintenance (OECD, 2012e). As a result about 25% of water supply is currently not being paid for, according to CONAGUA estimates. Public authorities have a strong role to play to support greater bill recovery by ensuring that all bills are promptly paid.[2]

Political incentives to increase water tariffs will also need to be strengthened. Municipalities are typically in charge of setting tariffs, but their political leaders have limited incentives to increase tariffs and achieve sustainable cost recovery. As in the case of property taxes, the short-term mandate of mayors is a key factor limiting their incentives to raise tariffs. This added to the fact that federal subsidies for water provision are disconnected from municipalities' performance in providing water services makes it very unlikely that municipalities take the typically costly political step of raising tariffs. In fact, tariff increases generally only take place in those places where states are responsible for tariff regulation or where tariffs are adjusted automatically on a regular basis. 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.

Promoting better municipal spending for improved local public services

While greater municipal revenue generation should help ensure adequate funding of municipal services, another important way of tackling emerging needs is by improving municipal spending efficiency. Municipalities are responsible for the financing of most basic infrastructure (e.g. water, electricity, local roads), where there are important investment needs (see Chapter 2). Moreover, many municipalities are small and have dispersed populations, which make financing challenging, because of higher costs of providing services.

OECD experience provides useful lessons for reducing costs and achieving economies of scale at the municipal level. Some countries, such as Denmark, have encouraged municipalities to merge (Blöchliger and Vammalle, 2012). However, mergers are politically cumbersome and efficiency gains usually come from organisational restructuring, which is typically difficult to achieve (OECD, 2006a). Co-operation agreements for the joint provision of services are often a better strategy (Joumard and Kongsrud, 2003). The joint provision of public services 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 already have formalised agreements with neighbouring municipalities for co-ordination and collaboration in the supply of such public services (OECD, 2012a). However, the annual nature of programme funding and the short-planning periods associated with the municipal election cycle limit co-operation (OECD, 2010b). Prolonging the election periods for mayors more in line with other Latin American countries, which have four to five-year terms, could help in this respect. Federal or state support may also be needed to establish successful collaboration agreements between municipalities (OECD, 2006a). Care should, however, be exercised so that there is not a proliferation in the number of co-operation entities without a clear substitution of the services provided by municipalities leading to a wasteful duplication of resources, as has been the case, for instance, in France (Cour des Comptes, 2009).

The development and use of performance indicator systems can also contribute to promoting capacity building, and improving municipal spending efficiency through competition and learning among municipalities (OECD, 2006a). Norway's KOSTRA system (see Box 3.3), for example, has brought several benefits to Norwegian municipalities. First, and foremost, it has provided municipalities with a tool for internal planning, budgeting, and benchmarking (OECD, 2010c). But it has also helped the central government to assess if municipalities are complying with national standards and regulations and their needs for federal funding. For Mexico, with three times more municipalities than Norway, establishing a similar measurement framework would be challenging, but not impossible. Municipal information is already gathered, standardised and published for over one hundred municipalities by the national statistical agency (INEGI). Mexico could build on these efforts to develop a performance indicator system inspired by Norway's and reap the benefits of benchmarking through improved spending, greater accountability and transparency.

Box 3.3. **The Norwegian KOSTRA system:* What gets measured gets done and improved**

Norway's KOSTRA system is a pioneer of information sharing among local governments (OECD, 2012b, 2010c). It gives individual municipalities' access to budget information from other municipalities for the purpose of comparison. Information includes how much money municipalities spend, how they spend it as well as other variables that allow assessing the efficiency of municipal spending. The data is managed by Statistics Norway and reporting to KOSTRA is mandatory for all Norwegian municipalities, therefore the coverage of the data is broad, although improving data reliability is always an on-going effort. Key standardised indicators are published on the internet, so municipalities can easily access them to benchmark their performance against average comparable municipalities. Academics can also access the data and conduct useful research assessing policy effectiveness. The ten largest municipalities also participate in a system called ASSS-Teamwork where members meet regularly, using KOSTRA and other data, to compare their performance.

* More information and data from the KOSTRA system can be found on the Central Bureau of Statistics of Norway's homepage: *www.ssb.no/english/subjects/00/00/20/kostra_en/*.

Sub-national governments depend on a complex system of federal transfers to finance their spending

The system of intergovernmental transfers combines revenue sharing (non-earmarked) transfers (*participaciones*), a myriad of earmarked transfers (*aportaciones*), and some matching transfers (*convenios*). The bulk of transfers are channelled through 16 different funds to states and municipalities with very different and sometimes opaque or hard to measure allocation criteria. Tables 3.A1.1 and 3.A1.2 in the Annex present the main transfers, its distribution criteria and their weight in the federal budget. Such complexity, combined with sparse information on the use of federal transfers, makes for a system that is liable to poor public accountability and has great scope for rent-seeking. Although hard to quantify, administration costs must also be high, given the large number of funds and the lengthy negotiation process between the federal government and states for the allocation of most funds.

In addition, the overall distribution of transfers is not particularly equalising (Figure 3.11, Panel A). Also there is little relationship between tax effort and transfers per capita across states (Figure 3.11, Panel B).

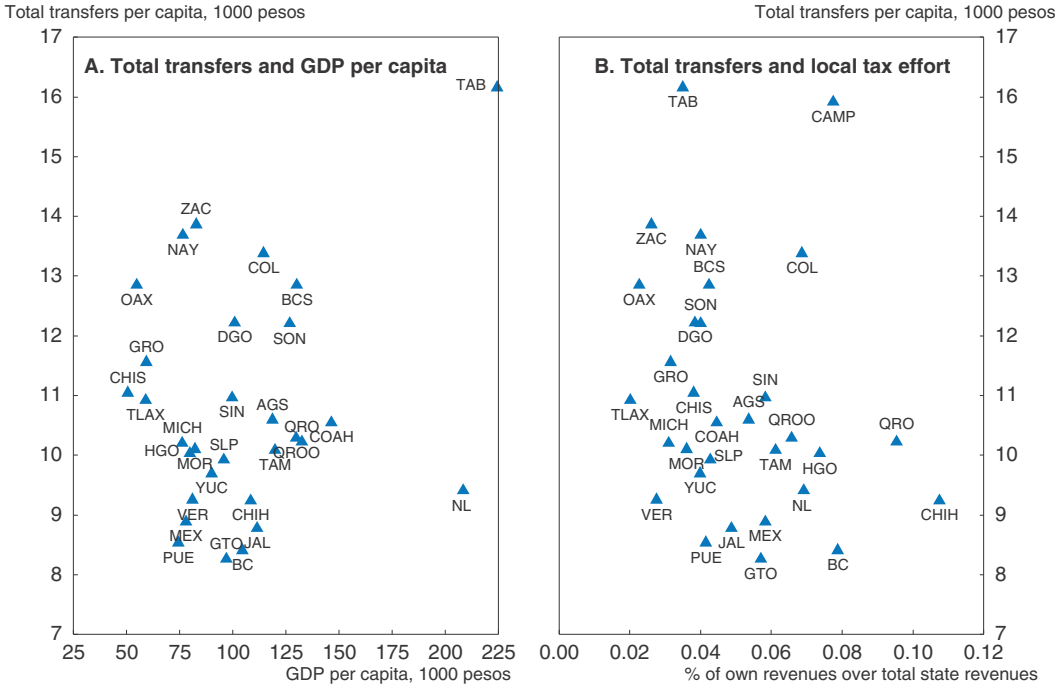
Revenue sharing

Revenue sharing is the most important source of federal transfers (3.7% of GDP and 40% of subnational revenue). The central government collects the most important taxes, including income taxes, VAT and revenues from oil and mines, and shares them with states and municipalities by means of non-earmarked transfers channelled through various funds (Annex Table 3.A1.1).

The distribution of revenue sharing transfers was originally designed to compensate states for relinquishing their taxing powers. As a result, for a long time richer and oil-producing states received more than poorer ones contributing to deepening rather than reducing regional disparities (Joumard, 2005). The allocation formula of the largest fund (*Fondo General de Participaciones*), which accounts for almost 90% of non-earmarked transfers, also gave perverse incentives. It allocated transfers mostly on per capita basis, but also on the growth of federally co-ordinated excise taxes collected by states. The idea was to use excise tax

Figure 3.11. **Transfers are not equalising and little related to local tax effort**[1]

2010



1. Total transfers include earmarked transfers (*aportaciones*) and non-earmarked transfers (*participaciones*), accounting for over 90% of all transfers from the federal government to states. Own revenues include taxes and fees. No data available for Distrito Federal.

Source: OECD analysis using data from INEGI, Sistema Estatal y Municipal de Base de Datos.

StatLink http://dx.doi.org/10.1787/888932803883

collections as a proxy for local economic activity and tax revenue, and encourage state economic growth. It encouraged instead greater consumption of alcohol, tobacco and gasoline, thus potentially increasing states' health cost burden (González Anaya and Revilla, 2012).

The 2007 fiscal reform changed the allocation formula of the largest fund to make it simpler and improve the incentives embedded in it (see Box 3.2). The new formula allocates transfers on the basis of states' GDP growth and local tax collection efforts (Annex Table 3.A1.1), and seeks thereby to strengthen sub-national governments' incentives to increase local tax effort and foster local economic activity. This change is welcome. The allocation of non-earmarked transfers does not yet seem to follow the new criteria but rather pre-reform allocations, possibly because the hold-harmless clause included in the new formula implies a long transition period (see Box 3.2). But over time the new formula should contribute to promote states' economic growth and tax autonomy, and thus help to reduce states' dependency on federal transfers.

One drawback of allocating transfers on the basis of local tax efforts and economic growth, though, is that funds will go to richer over poorer regions and thus contribute to keep deepening regional disparities. Therefore other features of the system will need to be reformed to achieve greater equalisation, as discussed below.

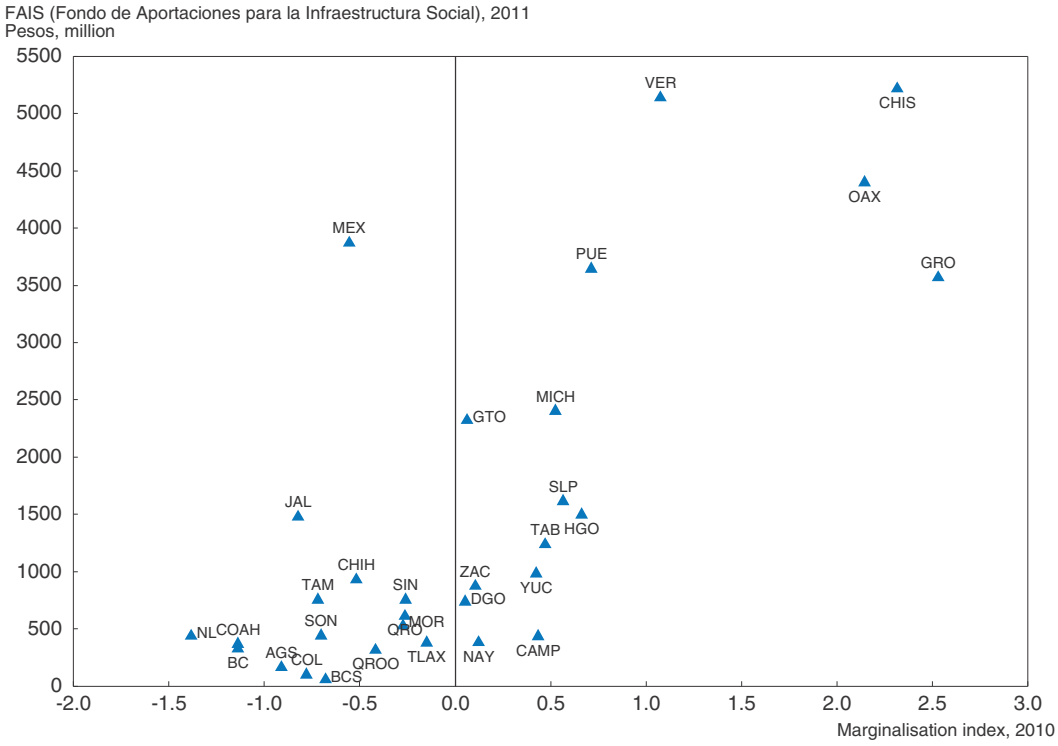
Earmarked transfers

Earmarked transfers – channelled through the *Ramo 33* (see Table 3.1) – are the second most important source of transfers (3.6% of GDP and 38% of sub-national revenue). The largest funds, accounting for 60% and 12% of all earmarked funds respectively, are

earmarked to education and health. They were designed to finance the spending responsibilities transferred to sub-national governments in the decentralisation process. Despite reforms, the allocation of these funds is not yet correlated to needs and the transition may take a long time. In addition, allocation is based on formulae for which either reliable information does not exist for many states, like health and education spending, or for which there is no clear definition, like education quality and health spending efficiency. The allocation of these funds should be reformed along the lines discussed above, so that is more closely related to need and quality of spending. More efforts need also to be made to assess the use of earmarked transfers based on outcomes.

The remaining earmarked funds have mostly an equalisation purpose seeking to improve services in the poorest states and municipalities. For instance, the Social Infrastructure Fund (FAIS) is one of the largest among those funds. It seeks to address infrastructure gaps in an effort to reduce poverty and promote regional development and finances basic infrastructure projects in municipalities, such as potable water, sewers, drainage, urbanisation etc (Salazar Domínguez, 2011). The fund does seem to be allocated according to needs. States with a higher degree of marginalisation, such as Chiapas or Oaxaca, do indeed receive more resources from this fund (Figure 3.12). A possible drawback though is that its distribution does not take into account regional externalities. Most of its resources (about 90%) are allocated on a municipality by municipality basis. While in principle it is highly desirable that the provision of municipal goods and services is administered at the local level, where needs are, many of these goods have regional externalities and would be more suitably managed at the state level.

Figure 3.12. **The social infrastructure fund does target marginalisation**[1]



1. No data for Distrito Federal.

Source: OECD analysis using data from CONAPO and Sedesol.

StatLink http://dx.doi.org/10.1787/888932803902

Other transfers

Sub-central governments also receive some, albeit small (about 6% of total sub-national revenues), resources from individual federal ministries and agencies through matching transfers (*convenios de descentralización*). Their advantage compared to other transfers is that they are subject to tighter federal supervision and auditing controls. However, as they don't follow any formula they lack transparency in their allocation.

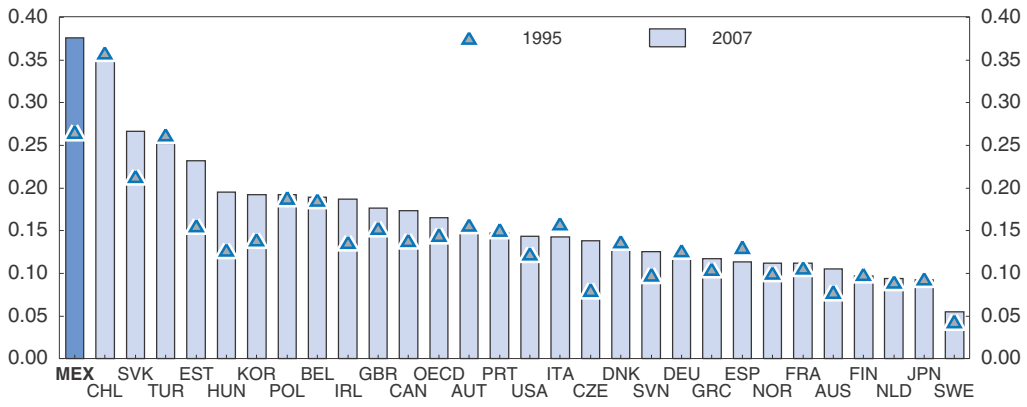
Another area where the allocation criteria are not clearly defined is in the transfer of federal funds from states to municipalities. For instance, states are required to allocate at least 20% of the revenue-sharing transfers they receive from the federal government to municipalities. However, there is no uniform or clear distribution formula across states and this can similarly lead to rent-seeking and corruption. It also leads to unpredictable levels of annual financing for municipalities complicating their planning and budgeting for public services. Clear formulae should be used to allocate these funds. As regards municipalities, clearer and transparent allocation criteria combined with a municipal performance measurement system, as discussed above, could contribute to increased accountability in the municipal use of transfers.

Improving the equity of the transfer system

One of the most important challenges that Mexico faces is the large inequality levels in the country. Mexico has made remarkable progress in reducing poverty and inequality over the past fifteen years. However, poverty and inequality remain high by international comparison, not only relative to OECD countries, but also relative to other emerging economies. Mexico's regional disparities are also among the top in the OECD. Differences in sub-central GDP per capita, are the largest among OECD countries and have increased over time (Figure 3.13). Mexico should strengthen its social policies to fight poverty even more aggressively, as argued in the Assessment and Recommendations, but it should also strengthen the equity of its transfers system so Mexican citizens have access to an acceptable degree of public services regardless of their region of residence. If schools or health services in poor regions are of poor quality, cash transfers to the poor cannot be very effective in reducing poverty.

Figure 3.13. **Regional disparities across OECD countries**

Regional disparity (Gini index of GDP per capita)



Source: OECD (2009), *Regions at a Glance*, OECD Publishing, Paris.

StatLink http://dx.doi.org/10.1787/888932803921

The Mexican transfer system, while it does not have an explicit equalisation framework, does embed some equalisation features within its earmarked transfer system, as described above. However, the system is not very effective in reducing Mexico's large disparities. Moreover, increasing sub-national governments' tax autonomy, as recommended above, may deepen fiscal disparities as other things equal, richer states and municipalities will collect higher tax revenues (Blöchliger and Petzold, 2009). Greater fiscal equalisation could also bring efficiency gains by avoiding regional differences becoming self-perpetuating and by setting the basis for effective fiscal competition (Joumard and Kongsrud, 2003).

While all OECD federal countries, except the United States, have some sort of equalisation system OECD experience suggests that designing a well functioning system is not an easy task and great caution is needed (Blöchlinger et al., 2007). There is no one-size-fits-all solution: fiscal equalisation systems are very country and history specific. And often there are some efficiency-equity trade-offs that need to be considered. For instance, equalisation transfers can reduce tax and development effort in poorer regions and create poverty traps by reducing sub-national government incentives to introduce growth-promoting policies (Joumard and Kongsrud, 2003). They can also pose a problem for budget stability in particular if transfers are open-ended and/or if local governments are entitled to a minimum fiscal capacity.

A first option for Mexico to improve the equalisation properties of its system could be to reform some of its revenue sharing transfers so they follow simple and more equalising criterion, such as population or income per capita. However, based on OECD experience it is better to separate redistribution from tax raising incentives, which the current revenue sharing formula seeks, for the sake of transparency and simplicity (Blöchliger et al., 2007). Reforming the current revenue sharing system may also be politically difficult, given that it was recently reformed and this required substantial negotiation. Frequent formula changing is also not advisable as it can complicate sub-central governments' budget planning.

Instead, Mexico could consider a new system of unconditional federal transfers to the most deprived areas (as in Canada), or directly from richer to poorer regions (as in Germany) organised on a co-operative basis. Both options have the advantage that redistribution is clear and transparent. In principle redistribution from richer to poorer states could be preferable as it has the advantage of increasing accountability and reducing incentives for free riding, as donor states would have incentives to check more closely how receiving states are using their money. It also favours fiscal stability as it doesn't draw resources from the federal budget. Redistribution from richer to poorer states may, however, be more politically difficult to achieve as it can lead to strong opposition to transfers from the better-off states. In such a case, equalisation from the federal government may be politically easier.

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. A too high equalisation tax (the rate at which additional own tax revenue is equalised away) can reduce a jurisdiction's effort to develop its economic and fiscal base and can also slow down regional convergence within a country (Blöchliger et al., 2007).

Measures to reduce the pro-cyclicality in sub-national revenues

It is important that sub-national governments' total pool of available resources is flexible enough to meet changing budgetary needs, but also predictable enough to ensure an efficient allocation of resources. In Mexico, however, sub-national government revenues are highly volatile and this is in part because of transfer system, which exacerbates states' revenue fluctuations and does nothing to attenuate GDP fluctuations (Box 3.4). Most transfers are set as a fixed percentage of the revenue sharing pool, and thus as a fixed percentage of the federal government tax and oil revenues, which are highly cyclical. Revenue volatility can have efficiency costs and impair long-term growth by leading to sharp fluctuations in public expenditure. It can also have social and political costs if leads to sharp retrenchments in socially sensitive sub-national spending programmes during cyclical downturns, as shown by countries strongly affected by the recent global financial crisis.

There are a number of measures countries can use to reduce the pro-cyclical features of intergovernmental transfer systems and strengthen their automatic stabilisation properties (Blöchliger and Petzold, 2009; Ter-Minassian and Jiménez, 2011). One option for Mexico is to limit the weight of cyclical and oil price developments in the formula. This

Box 3.4. **An assessment of the stabilisation properties of the Mexican intergovernmental transfer system**

The stabilisation properties of intergovernmental transfers can be assessed using a variety of indicators. The simplest and crudest approach is the correlation between fluctuations in sub-central governments' tax and transfer revenues, where a negative correlation indicates stabilisation, while a positive correlation points at a destabilising transfer system. For Mexico, such correlation coefficient equals 0.38 over the period 1989-2010, indicating a destabilising effect of transfers.

A more reliable way is to follow the methodology developed by von Hagen and Heppe (2001) and regress the annual fluctuations in transfers on GDP and sub-central government effort. This simple bivariate analysis, while it does not control for all the determinants of transfers because of the lack of available data, can shed light on the extent to which the intergovernmental transfer system acts as a buffer against regional income shocks and against fluctuations in local government tax collections. The size and the sign of the coefficients will then indicate whether transfers follow the cycle and/or variations in local tax revenues, or by contrast are destabilising. The estimated regression equation is

$$\frac{x_{it} - x_{it-1}}{y_{it-1}} = \alpha_t + s_i + \beta \frac{y_{it} - y_{it-1}}{y_{it-1}} + \varepsilon_{it}$$

Where i denotes state and t denotes year, x_i stands for the transfers state i receives from the federal government in year t and y_{it} stands for GDP in state i at year t, or state i local tax revenues in year t, depending on the regression, α_t are year fixed effects, and s_i are state fixed effects. The coefficient β measures the extent to which transfers provide an insurance against asymmetric region-specific GDP shocks or shocks to local tax revenues, depending on the regression. A $\beta = -1$ indicates the transfer system provides complete insurance against shocks. A $-1 < \beta < 0$ indicates transfers partially stabilise GDP fluctuations, or fluctuations in states' tax revenues, thus have a stabilising component. A $\beta > 0$ indicates that transfers are pro-cyclical, in the case of GDP, or destabilising, in the case of local tax revenues. The following table presents the results for the Mexican transfer system employing annual data for Mexican states from 1989 to 2010.

Box 3.4. **An assessment of the stabilisation properties of the Mexican intergovernmental transfer system** *(cont.)*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP growth	0.196**		0.0583		0.232**		0.120	
	(0.0964)		(0.119)		(0.0914)		(0.106)	
Own tax revenue growth		0.0849***		0.0632***		0.0709***		0.0414***
		(0.0111)		(0.0125)		(0.0106)		(0.0117)
Constant	9.250***	4.213***	8.919***	12.06***	6.280*	5.365***	5.408*	14.53***
	(1.050)	(0.507)	(2.130)	(1.979)	(3.275)	(2.056)	(2.921)	(2.571)
Year fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
State fixed effects	No	No	No	No	Yes	Yes	Yes	Yes
Observations	217	651	217	651	217	651	217	651
R-squared	0.019	0.083	0.365	0.218	0.299	0.237	0.642	0.380

Notes: Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Focusing on the preferred set of results, including state and year fixed effects, the results suggests the system provides no insurance against asymmetric GDP shocks and is even destabilising in the case of own tax revenue. In particular, a non-significant β coefficient in column 7 suggests the transfer system does not ensure states against fluctuations in states' GDP. A positive and significant β coefficient in column 8 suggests the transfer system has a destabilising effect relative to tax collections. While the simplicity of this approach, may warrant some caution in interpreting the results, more sophisticated analysis by Blöchliger and Egert (2013) controlling for a large number of determinants of transfers and for endogeneity of the business cycle using a GMM approach confirms that in Mexico transfers do not ensure against fluctuations in GDP.

would reduce the scope for transferring volatility from federal to state finances. It would also help to avoid temporary increases in federal transfers being transmitted into permanent increases in sub-national spending.

Another option is to build some countercyclical features or smoothing mechanism in the sharing formula. Such as for instance using lagged or moving averages of national revenues as a base of sharing, that would allow for longer periods to adjust fluctuations in national revenues. Though such a system could lack the necessary flexibility in reacting to legitimate sub-central needs, using lagged or moving averages variables could reduce excessive revenue volatility.

Improving public financial management

A clear and transparent public financial management framework at the sub-national level is a key ingredient for effective fiscal decentralisation and public management (Fedelino and Ter-Minassian, 2010). It facilitates consistent decision-making to ensure macroeconomic stability and accountability for an effective use of public money. A package of measures in public financial management could help to improve budgetary practices, transparency and promote good governance in Mexico.

Budgetary practices

States lack flexibility in the use of their budgets, as most of their resources are either earmarked to health and education, or are allocated to administrative and operational spending. This coupled with the fact that states' budgets have an annual term, with no

possibility of authorizing longer term budgets that could allow a longer and more strategic financial planning horizon to enhance their economic opportunities, makes for very inflexible budgetary practices. Introducing multiyear sub-national budgets would provide more certainty and help to integrate multiyear programmes and medium-term objectives into their budgetary planning. More broadly Mexico as a whole will need to develop a longer-term budget focus that aligns spending and funding with the government's plans and goals for different sectors, and prepare better for eventualities such as declining oil revenues and population ageing (see the Assessment and Recommendations).

Co-ordination

Although Mexico is a federal country, policy decisions remain quite centralised. Sectoral policies, as for instance in education and health, are largely designed at the federal level, but implemented at the state and local level. In the absence of effective co-ordination mechanisms between different levels of government, policy making at the regional and local level in Mexico is highly fragmented, making it hard to design strategies and policies tailored to local needs (OECD, 2012f). For instance, no co-ordination system exists for public spending across states that allows co-ordinating priorities and decisions on spending. This can lead to weakened public financial management and a lack of consistency with national macroeconomic objectives (IMF, 1997).

Better co-ordination between the federal and state governments could be pursued through the creation of institutions bringing together states' policymakers and national policymakers and fostering joint responsibilities for fiscal and development plans. Several good examples of such co-ordinating institutions exist across OECD countries. One example is the intergovernmental forum in Australia (Council of Australian Governments, COAG). The COAG is in charge of initiating, developing and implementing reforms of national importance that require co-operative actions by Australian states. Its reform council monitors the implementation of reforms decided by the COAG and has successfully contributed to the implementation of the regulatory reform agenda across Australian states (OECD, 2010e). Another good example is the Stability Council in Germany, which is in charge of co-ordinating the budgets and financial plans of the different levels of government (Deutsche Bank, 2011). In Mexico the State Governors' National Conference (*Conferencia Nacional de Gobernadores*, *CONAGO*) could perhaps play such co-ordinating role. While this may require strengthening the CONAGO's technical capacity and expanding its rather political mandate, it may be worthwhile pursuing given that the CONAGO is already the main interlocutor of the federal government when it comes to issues regarding the states.

Transparency

A necessary condition to evaluate efficiency in public spending is the availability of transparent and accurate information on spending. However, until very recently in Mexico, there was no homogenous and agreed upon standard method for accounting and reporting of revenues, spending and debt of sub-national entities. As a result, official documents are not clear, have missing information on salaries, number of state employees and debt, as well as how much revenue is transferred to municipalities. This complicates the comparison of resources available to subnational governments, as well as the evaluation of their fiscal performance. It also leads to lack of transparency and possibly corruption. A recently-adopted Law on Government Accounting should enhance the transparency of subnational finances. The law introduces a common template for reporting financial and

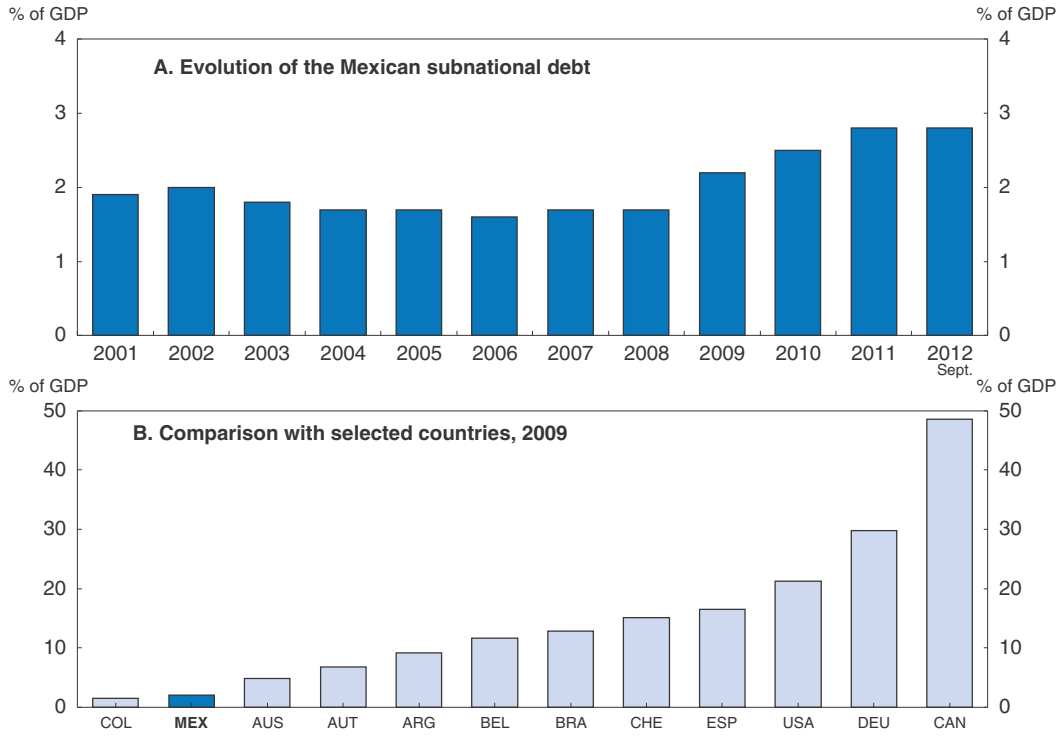
budgetary information – including revenues, expenditures, debt and financing sources – at the state and municipal levels, which will have to be published on a quarterly basis.

The new law represents a great advancement. However, the federal government should ensure that it is fully implemented. In 2008, Congress granted authority to the federal legislature to enact laws governing accounting practices for all levels of government and accrual accounting (Governmental Accounting General Law), thereby establishing the legal basis for uniform national accounting by 2012 for states and 2013 for municipalities. However, few entities adopted the rules. This time the stiff penalties for government officials not applying the law, including prison, may foster implementation. But implementation will require extensive capacity-building in many jurisdictions, in particular municipalities, and may therefore require considerable support from the federal government to ensure its enforcement.

Subnational governments' debt has been increasing and pension liabilities are large

Subnational government debt, although remains low by international standards, and therefore is not a systemic risk, has almost doubled – from 1.6% to 2.8% of states' GDP – between 2007 and 2012 (Figure 3.14).[3] Some evidence also suggests that spending is higher than revenues in several states and municipalities and current liabilities have reached unsustainable short term levels, increasing the risk of refinancing (Fitch, 2011b). In 2012, one state and several municipalities have not been able to pay their debt and required refinancing. Comparing states' liabilities to own revenue, a better measure of financial sustainability, suggests that, by this account, states are the worst performers in the OECD (Figure 3.15).

Figure 3.14. **Sub-central government debt**

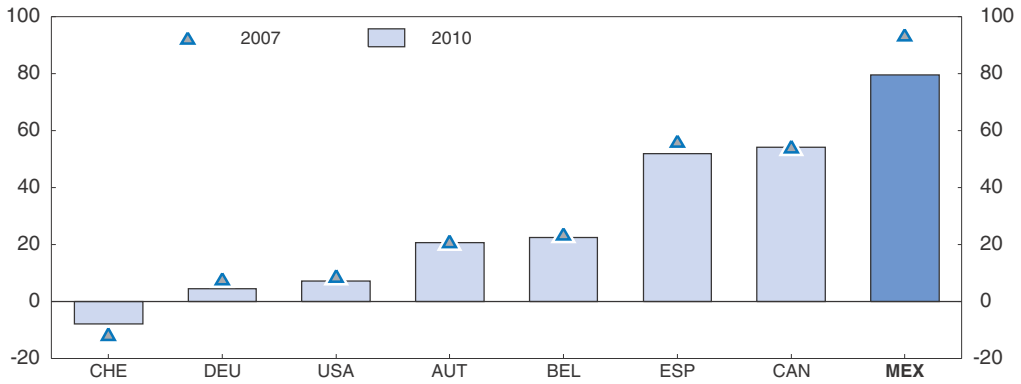


Source: Registro SHCP; OECD, *OECD Economic Outlook Database*; Interamerican Development Bank.

StatLink http://dx.doi.org/10.1787/888932803940

Figure 3.15. **Fiscal gaps**[1]

As per cent of sub-central tax revenues



1. Actual fiscal gaps are defined as the additional and permanent improvement – above outcomes in 2009 – in primary balances required to hit the debt-to-GDP ratios of 2007 or 2010 in 2026. A fiscal gap of zero means that no additional effort compared to 2009 is needed.

Source: OECD, *OECD Economic Outlook Database*.

StatLink http://dx.doi.org/10.1787/888932803959

Several explanations are behind the trend increase in states' debt. First, better information on sub-national governments' financial positions, and lower borrowing costs have facilitated the development of an incipient debt market for sub-national governments. Since 2000 it has been a market practice for sub-national governments to be rated by two agencies in order to access credit through the securities market. Currently all the states and about 100 municipalities are rated by at least two agencies (Fitch, 2011a), accounting approximately for 58% of all debt in the first quarter of 2011, according to government figures. Sub-national governments are also required to register their debt with the finance ministry when debt is backed by federal transfers. Increased transparency and the broad use of credit risk ratings have allowed a better identification of risks triggering greater access to credit. Second, the creation of a trust fund (*Fidecomiso Maestro*) enabling the use of federal transfers as collateral for sub-national government borrowing has also been key for a more active participation of the banking and stock market in the financing of sub-central governments (IDB, 2009; Joumard, 2005). Third, the continuous growth of federal transfers has also facilitated greater access to credit, as transfers serve not only to pay for, but also to guarantee sub-nationals' debt.

The 2009 crisis has been an additional factor adding to increasing debt. Access to the federal stabilization fund (*Fondo de Estabilización de Ingresos de las Entidades Federativas*) provided a welcome stability to sub-national finances. But, the fall in federal transfers as a result of the slowdown in economic activity and the reduction in the oil price meant that subnational governments were severely hit by the crisis (Fitch 2012 and Revilla, 2010). The combination of rising spending and lower revenues, meant some states needed to issue debt in order to finance investments as part of their fiscal stimulus packages (OECD, 2012a). However, debt continued to increase even after 2009 in spite of a recovery in their revenues.

While at only 2.8% of states' GDP the growth in state indebtedness does not pose a systemic risk, however, such behaviour can eventually lead to debt servicing difficulties and hard-to-resist pressures on central governments to bail out states in difficulties. Pressures could be quite powerful as states have the responsibility of essential public services, such as education and health, as the 1990s sub-national debt crisis showed. In

addition, some banks have built up their exposures to sub-sovereign borrowers substantially over the past few years, attracted by the perception of an implicit government guarantee and low capital usage (Banxico, 2011). Banking regulations exempt lending to states and municipalities from limits on large exposures if the loans have federal participations as a guarantee. The national banking commission (*Comisión Nacional Bancaria y de Valores*) has recently unveiled plans to withdraw such exemption, so that commercial bank lending (*banca múltiple*) to individual states and municipalities would be subject to the same large exposure limits – which are based on the capitalization of banks – as all other loans. These are welcome. Credit reserves are a good measure to limit the risks on the banking sector and improve banks' risk management, but they should also cover development banks. Slightly less than a quarter of sub-sovereigns' lending is provided by development banks, according to government figures.

In addition to explicit debt, implicit liabilities stemming from state pension systems for public employees are high in about half of the states (Fitch, 2011a). Moreover, about one third of all states have recently introduced non-contributory pension pillars, which are financed through taxes (OECD, 2011b). Most municipalities lack a formal pension system and pension obligations are paid through current expenditure. Sub-national entities may also have important liabilities related to their decentralised agencies, particularly local public enterprises in the water, transportation or housing sector. Although a precise figure is hard to come by, given very sparse information, some estimates put contingent liabilities at 12% of GDP in 2010 (IMCO, 2010). The ratio of active to retired workers will continue to decrease in the coming decades, as population ages. And the burden of retirement benefits will grow for state governments as the pool of contributions from active workers continues to shrink.

Addressing the pension challenge will require in-depth reforms, including converting the defined benefit pension systems in most states to defined contribution systems based on individual accounts, as recommended in the 2011 *Economic Survey of Mexico* and more recently by González Anaya and Revilla (2012). The need for reform is particularly urgent in a few states that have less than 5 years of self-sufficiency or are even already making their pension payments out of current expenditure (Figure 3.16). For others the sustainability of the system is only secured until 2015 (Figure 3.16). The federal government should keep encouraging states to reform their pension systems and make use of the dedicated fund for the structural reform of pension systems (*Fondo de Apoyo para la Reestructuración de Pensiones*), which has been hardly used up to date. Better information on states' debt, including short term debt, as mandated by the new Law on Government Accounting, would also contribute to improve transparency and accountability, as well as better monitoring of the sustainability of public finances. Information on states and municipalities contingent liabilities should ideally be also available. An option would be for the Ministry's debt registry to cover not only states' debts, but also contingent liabilities. In addition, it would be important to improve the information on the number and wages of state employees, in particular in the education sector, which accounts for the bulk of states' employees, as to have better information on future pension payments and contingent liabilities.

Institutional arrangements to ensure greater fiscal discipline

Broader reforms are nonetheless warranted to ensure greater fiscal discipline at the sub-national level. The current system does not promote fiscal responsibility and the instruments to secure fiscal discipline are weak, notwithstanding important progress in

Figure 3.16. **Pension liabilities by state**[1]

1. White denotes no data.
Source: OECD analysis based on Fitch state reports over 2009-12, as of June 2012.

the past two decades. Following the 1990s sub-nationals' debt crisis, new rules were introduced to limit states' access to borrowing and to increase transparency. They also strengthened the federal government's commitment not to bail out sub-national institutions. In the past, upon a sub-national debt default, banks could ask the federal government to pay for the debt, as the federal government acted as a trustee in servicing the debt that had been collateralised with federal transfers (Joumard, 2005; Fedelino and Ter-Minassian, 2010). Now it is no longer the case.

However, the current system still has flaws. It relies mainly on market discipline, but several of the necessary conditions for market discipline to work as an effective instrument to impose hard budget constraints on sub-national governments are not in place. First, there is a large asymmetry between transfers and own revenues that can still lead to soft budget constraints and moral hazard. Second, sub-central governments, in particular states, have a rather privileged access to finance. While their own revenue raising autonomy is low, loans are often guaranteed with federal government transfers and are therefore perceived to be low risk. However, the guarantee implies that the lender has no incentives to assess if the sub-central government is committing too many of its transfers and would therefore have fiscal problems if the guarantees were to be exercised. Moreover, by having used their federal transfers as guarantees, local governments have a very limited ability to renegotiate their loans. Third, information on sub-national finances is at best scarce, and at worst unreliable, impairing the scrutiny of financial institutions. And finally, the history of past bailouts and discretionary transfers from the federal to sub-central governments hardly suggests the federal government will not bail out subnational governments if in trouble.

Relying mostly on market discipline is more of a problem given loose borrowing restrictions at the subnational level. The federal constitution imposes some conditions sub-national entities must comply with to access credit markets. Sub-national entities can only borrow in domestic currency, from domestic creditors, and to finance productive public investment (the so called golden rule). Each state is, however, responsible for setting its own limits on debt contracting. But very few states impose limits. And for those that do have them they are rather loose and easy to circumvent. Only five out of 32 states have set a limit on borrowing based on a percentage of the expenditure budget or certain revenue for each fiscal year (Annex Table 3.A1.4), however, such limits crucially exclude outstanding debt.

Often short-term borrowing does not require legislative authorization, which is usually required for contracting and registering long-term debt (Annex Table 3.A1.4). In addition, debt limits can also be exceeded if authorised by state congress. Finally, state laws typically restrict debt contracting for the financing of productive investment, but the definition of productive investment is very loose (IDB, 2009; ASF, 2011).

International evidence suggests a combination of fiscal rules at the sub-national level and market discipline works best, combined with strong credibility of no bail-out provisions, as to reduce moral hazard (IMF, 1997; Sutherland et al., 2005). Such rules can help to ensure fiscal discipline, but also to improve the coherence and co-ordination of overall macroeconomic objectives across levels of government. Mexico stands out among the OECD and Latin American countries as an exception by combining loose constraints on sub-national borrowing with the use of federal transfers as guarantees for the loans (Fedelino and Ter-Minassian, 2010). States should adopt additional prudential rules, such as rules on deficits. Such rules should also include tighter regulations on short term debt. Short term debt should only be allowed for liquidity purposes and rules should stipulate that such borrowing has to be repaid by the end of the fiscal year, as is done for example in the United States (IMF, 1997).

The role of the federal government should be to promote the implementation of fiscal rules and to ensure that the rules adopted by sub-national governments are mutually consistent, so the risk of free-riding behaviours is minimised. The federal government should also promote the implementation of indirect debt ceilings by setting a limit on the share of transfers that can be used to underwrite sub-national government debt and/or make the implicit guarantee conditional on sub-central governments implementing more prudent fiscal rules. A better distinction between current expenditure and capital expenditure should be applied to ensure long term debt is efficiently used to finance public investment. To be effective, such rules should also strictly limit the scope of off-budget operations, such as for instance through local enterprises and financial institutions, to avoid fiscal gimmickry (Sutherland et al., 2005). For instance, evidence from the United States suggests that budget balance requirements have only moderate impacts partly due to states evading the constraint by shifting resources between controlled funds and other funds that are unconstrained by the fiscal rule. The growth of debt in Spanish public enterprises is another example of how evasion of strict budget balance requirements can manifest itself, at least temporarily (OECD, 2005). In addition to strengthened rules, given the history of bail outs of insolvent sub-national governments by the central government, a firm and sustained refusal to engage in similar operations should be maintained to firmly keep market participants' expectations and behaviours.

A bill that would make constitutional changes to impose stricter controls on subnational governments' debt passed the Senate in April 2013. It will need to pass the lower house and be ratified by a majority of state legislatures. If passed, the law would allow the

federal legislature to enact laws on fiscal responsibility and coordination, plus create a single debt registry at the Ministry of Finance to monitor subnationals' debt. It would also establish a mechanism to reduce borrowing costs for highly indebted subnational governments with Senate approval, by obtaining a federal government guarantee conditional on subnationals fulfilling pre-agreed financial objectives. Moreover, debt contracting by states would require two-thirds approval by state legislatures rather than a simple majority vote, while specifying that debt should not be used to finance current expenditures and it needs to be repaid by the end of the contracting administration.

Stricter fiscal rules, such as rules on deficits or debt rules are likely to make fiscal policy more pro-cyclical. A possible solution would be to define fiscal rules in cyclically adjusted terms, but it is computationally difficult to assess local cycles. A more feasible possibility would be to set up budget stabilisation funds ("rainy day funds") at the state level to save extra revenues during upswings, as in the United States (NASBO, 2007). In combination with rules calling for balanced budgets, rainy day funds have provided a transparent mechanism to save during good times, and have proved useful in smoothing the impact of cyclical revenue fluctuations on state expenditures (Ter-Minassian, 2007). Better co-ordination between the central and state governments in setting fiscal objectives, for instance through a forum, as those existing in Germany, as described above, could also contribute to better align fiscal policies during the cycle. Such a forum could also help to strengthen fiscal discipline by strengthening political commitments and peer pressure.

For fiscal rules and market discipline to work, timely and reliable information on sub-national governments' financial positions, including on contingent liabilities and on fiscal activities, such as those related to public private partnerships (PPPs) should be available to allow better monitoring of rule compliance and better monitoring by lenders. The new law on Government Accounting, which mandates states and municipalities to publish their accounts on the Internet including information on their debt positions, should certainly help. To strengthen monitoring the federal government could also consider setting up an external auditing system. Such institution would help not only to monitor the compliance with fiscal rules, but could also spur sub-central government innovation and moving towards best practice in the delivery of information.

Concluding remarks

Successfully reforming Mexico's fiscal federal system will require a consistent and well co-ordinated package of measures and substantial political will, given the complexity of the current system and vested interests. Box 3.5 summarises the key features of such a reform package. It will not be easy. Mexico could, however, reap significant efficiency and equity gains if it were to pursue the necessary reforms. A reform of this type would be a medium- to long-term project. But it should not be delayed. The government should take advantage of the current good economic and fiscal situation, to reform Mexico's intergovernmental fiscal relations. Evidence from OECD countries suggests that a good economic and fiscal situation is key for the success of such reforms (Blöchliger and Vammalle, 2012).

As preliminary steps, the reform needs to improve the assignment of spending responsibilities to each level of government to reduce overlaps. Greater efforts will also be needed to gather the information needed to assess sub-nationals' spending needs and use of funding. Better co-ordination between sub-nationals and the federal government, implementing homogenous accounting across all levels of government and strengthening

sub-nationals' fiscal rules should also be given priority to enhance macroeconomic management, fiscal sustainability and transparency. Then broader reforms to improve the efficiency and redistributive features of the transfer system could be tackled. Bundling efficiency-enhancing elements with distributional objectives could help to spread reform benefits across different jurisdictions and actors and help to overcome their resistance. This could then set the stage for overcoming sub-nationals' resistance to tax more and successfully increase sub-national revenue autonomy. Once sub-nationals' revenue autonomy is higher, federal governments transfers could then be limited to avoid duplication and to improve efficiency.

Box 3.5. **Recommendations to improve fiscal relations across levels of government**

- Improve sub-nationals' spending efficiency and effectiveness by clarifying spending responsibilities for lower levels of government in health and education.
- Establish a harder budget constraint on subnational governments to improve their tax collection by limiting further increases in transfers and avoiding extraordinary transfers and promoting the implementation of limits on deficits and debt ceilings.
- Grant more tax powers to states by allowing states to charge income and consumption taxes over and above the federal ones, but collected by the federal tax administration. Strengthen property tax revenues by updating property registries, increasing rates, removing exemptions and improving collection, by allowing the federal or state tax administrations to collect the tax.
- Improve the functioning and transparency of federal transfers by setting up and applying clear and measurable formulae for the allocation of transfers whenever these don't exist, by giving greater weight to needs and higher incentives to states to provide better services. Earmarked transfers for health and education should also take cost differentials in service provision among regions into account in the allocation of funding to reduce inequities in access.
- Enhance the system's equity by setting-up a system of federal transfers to most deprived areas. Reduce the volatility of federal government transfers by including a smoothing mechanism in the revenue sharing formulas and consider setting-up budget stabilisation funds to smoothen sub-national revenues.
- Improve public financial management by developing and implementing multi-year budgeting at the state level, with a focus on expenditure performance and effectiveness, and on outcomes in the public sector. Improve fiscal co-ordination between the federal and state government, by for instance, setting up an institution for discussion on sub-national budgets and financial plans.
- Continue efforts to gradually reform states' defined pension systems toward defined contribution systems.
- Encourage the use of a more precise definition of productive public investment in state debt laws.
- Adopt stronger prudential banking regulations for lending to states and municipalities based on bank capitalization.
- Fully implement the new general government accounting law to ensure greater transparency and accountability of local budgets, and ensure that it is effectively followed in all states and municipalities.

Notes

1. Throughout the chapter, sub-national/sub-central governments refer to both states and municipalities. Whenever the text refers to an entity (federal, state, municipalities) in particular it is spelled out.
2. There are good practices in Mexico that have led to increased bill collection. For instance, CIAPACOV – a multi-municipal service provider in Colima – has increased commercial efficiency from 40% to 72% without social conflict thanks to a programme of "friendly bill collection" that combined making it possible to pay the water bill in newsstands, assigning different payment periods to different service areas and improving the quality of client services (see OECD [2013b] for more details).
3. This debt includes all liabilities that are incurred by subnationals which are registered with the Federal Ministry of Finance, and that were approved by their local legislatures. It does not include short-term loans, or contingent liabilities such as pensions or suppliers' credit.

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ANNEX 3.A1

Table 3.A1.1. **Non-earmarked transfers (*Participaciones federales*, *Ramo 28*)**[1]

Fund	Purpose	Funding	Distribution criteria	Recipient	% Ramo 28 (2010)
Fondo General de Participaciones (FGP)*	Revenue sharing with states and municipalities	20% of RFP	(60%) State GDP growth; (30%) local revenue growth; (10%) local revenue level	State and municipalities	86
Fondo de Fomento Municipal (FFM)	Revenue sharing with municipalities	1% of RFP	Municipal revenue (property tax and water fees) weighted by state population	Municipalities	4
Fondo de Fiscalización (FOFIE)	Incentive for enforcement of tax laws	1.25% of RFP	Measures of local efforts of enforcement of tax laws	State and municipalities	5
3.17% of Derecho Adicional (Special Oil royalty)	Resources for oil producing municipalities	3.17% of a special oil royalty	Municipal revenue (property tax and water rights)	Municipalities	0.30
0.136% de Recaudación Federal Participable	Resources for municipalities on the border	1.136% of RFP	Municipal revenue (property tax and water rights)	Municipalities	0.70
Fondo de Extracción de Hidrocarburos (FEXHI)	Compensate for oil and gas extraction	0.6% of main oil royalty	Oil and gas production	State and municipalities	1
Impuesto Especial sobre la Producción y Servicios (IEPS)	"Sin tax" revenue sharing with states and municipalities	80% tobacco; 20% beer and alcohol	% sales of tobacco, beer and alcohol relative to the national average	State and municipalities	2
Fondo de compensación (FOCO)	Compensate the 10 poorest states	Two-elevenths of the local gasoline tax collection	Inverse of nonoil GDP per capital	State and municipalities	1

1. RFP stands for *Recaudación Federal Participable*, the pool of federal revenues that is shared with states and municipalities. It includes the income tax, VAT, all other federal taxes and oil revenues. It does not include revenue from public enterprises, federal government funding, and certain other sources of nontax revenue. States are required by lax to share at least 20% of these resources with municipalities. Funds which allocation formulas were modified in the last 2007 reform are marked with an asterisk.

Source: OECD analysis based on González Anaya and Revilla (2012) and Garza Ibarra (2011) and other documentation from the Ministry of Finance.

Table 3.A1.2. **Earmarked transfers (*Aportaciones federales*, *Ramo 33*)**[1]

Fund	Purpose	Funding	Distribution criteria	Recipient	% Ramo 33 (2010)
Fondo de aportaciones para la educación basica (FAEB)*	Basic education	Theoretically enough money to cover payroll. Typically negotiated during the budget process	(50%) Public student enrollment in state; (20%) state's spending in education; (20%) states with per student FAEB below national average; (10%) education quality index	State	59
Fondo de aportaciones para los servicios de Salud (FASSA)	Health services	Theoretically enough money to cover payroll. Typically negotiated during the budget process	Mostly based on number of beneficiaries, with a small weight given to health needs, state health spending and efficiency in spending	State	12
Fondo de Aportaciones para la Infraestructura Social (FAIS)	Social and rural infrastructure	0.303% of RFP 2.197 of RFP	Relative state's needs compared to the national average measured by: extreme poverty, per capita income, schooling, housing size, water and drainage quality	State Municipalities	9
Fondo para el fortalecimiento Municipal y Demarcaciones Territoriales del DF (FORTAMUN-DF)	Municipal strengthening	2.56% of RFP	2.35% to states based on population. States distribute to municipalities based on population.0.2123% distributed to the Federal District (DF). The DF distributes funds to municipalities based on their resident and floating population	Municipalities	9
Fondo de Aportaciones Múltiples (FAM)	Social assistance and education infrastructure	0.814% of RFP	Social vulnerability index	State	3
Fondo de Aportaciones para la Educación Tecnológica y de Aduttos (FAETA)	Promote adult education and alphabetization	Theoretically enough money to cover payroll. Typically negotiated during the budget process	Schooling facilities and workers	State	1
Fondo de aportaciones para la Seguridad Publica (FASP)	Public security	Negotiated during the budget process	Population, delinquency and criminality indices	State	2
Fondo de Aportaciones para el Fortalecimiento de las Entidades Federativas (FAFEF)*	Financial needs and pensions	1.4% of RFP	Inverse of GDP per capita	State	5

1. FP stands for *Recaudación Federal Participable*, the pool of federal revenues that is shared with states and municipalities. It includes the income tax, VAT, all other federal taxes and oil revenues. It does not include revenue from public enterprises, federal government funding, and certain other sources of nontax revenue. States are required by law to share at least 20% of these resources with municipalities. Funds which allocation formulas were modified in the last 2007 reform are marked with an asterisk.

Source: OECD analysis based on González Anaya and Revilla (2012) and Garza Ibarra (2011) and documentation from the Ministry of Finance.

Table 3.A1.3. **Assignments of taxes to sub-national governments**

Type of tax	Advantages	Disadvantages
Property and land taxes	– Immobile tax base	– Difficult and often costly administration (especially in determining the value of the property tax bases and setting up well-functioning cadastres), often resulting in low yield
	– Visible	– Highly visible, so often reforms are politically difficult
	– Stable yield	– Raise equity issues
	– Indirectly linked to benefits	
User fees and charges (e.g. waste collection, water management, road tolls)	– Low mobility tax base	– Generally low yield, because of distributional/political considerations
	– No obvious horizontal or vertical imbalance problems	– Low cost-efficiency
	– Visible	– Raise equity concerns if applied to core goods such as education, health care and social assistance
	– Linked to benefits	– Legal constraints may exist in setting charges
		– High implementation costs in some cases (administrative and estimation of individualised consumption)
Personal income tax	– Buoyant revenues	– May create or aggravate horizontal imbalances
	– Visible (increases accountability)	– In areas where average incomes are below threshold, insufficient yield; also, as most people would not pay, the price-signal effect of the tax is weakened
	– Cost-effective if piggybacked on national taxation	– If levied at different rates among jurisdictions, it may create distortions if people are mobile
Sales and excise taxes	– No horizontal or vertical imbalance problems	– May create cross-border shopping if levied at different rates among subnational jurisdictions
	– Visible	
	– Easy to administer	
	– Some benefit argument e.g. alcohol and tobacco (if subnational responsible for health) vehicles and fuel (if subnational responsible for roads)	
VAT	– If properly designed and administered, it could be a good local tax	– Complex tax administration
		– If applied on destination principle, border controls between local jurisdictions required; if applied on origin principle, tax exporting and transfer pricing may arise
Payroll tax	– Low administrative costs	– Act as a barrier to formal employment and may discourage innovation by imposing a heavy burden on newly created firms with low profits
	– High revenues	– Weak link to benefits if commuting between different jurisdictions is common, as revenues are collected at the place of employment, as opposed to the place of residence
Corporate income tax	– Sometimes seen as a bit of a benefit tax	– Mobile tax bases and complex administration make it suitable for collection by the centre
		– Highly cyclical
		– Geographically concentrated
Resource taxes		– Significant horizontal imbalances
		– Difficult to administer
		– Excessively volatile

Source: OECD analysis based on Bird (1999), Blöchliger and Petzold (2009), Fedelino and Ter-Minassian (2010), Joumard and Kongsrud (2003).

Table 3.A1.4. **Debt limits by state**

State	Long term debt			Short term debt			
	Need authorization by state government	Limits on state debt	Base for debt ceilings	Is public debt?	Has to be registered?	Should be guaranteed?	Debt restructuring is prohibited
Aguascalientes	Yes	No	…	No	Ambiguos	No	No
Baja California	Yes	Yes	Capital and interest payments over first 12 months should not exceed 22% of state's spending.	n.a.	n.a.	n.a.	n.a.
Baja California Sur	Yes	No	…	No	Ambiguos	No	No
Campeche	Yes	Yes	Debt equivalent to 10% state's spending.	Yes	Yes	No	No
Chiapas	Yes	Yes	Debt equivalent to 25% state's own revenues and non-conditional grants (participaciones).	Yes	Yes	No	No
Chihuahua	Yes	No	Debt ceiling only applied to municipal debt. Debt cannot exceed the period of 2 administrations and should not exceed 10% of the budget in the preceding fiscal year when contracts were signed.	Yes	Yes	No	No
Coahuila	Yes	No	…	Yes	No	Yes	No
Colima	Yes	No	…	Yes	Yes	No	No
Distrito Federal	Yes	No	…	Yes	Yes	No	No
Durango	Yes	No	In addition to program funding approved by the state Congress, additional debt can be authorised if it doesn't exceed 5% ordinary revenues during the fiscal year when debt is taken.	Yes	Yes	Yes	Yes
Estado de México	Yes	No	Debt ceiling only applies to municipalities.	No	Ambiguos	Yes	No
Guanajuato	Yes	Yes	Debt may be contracted up to a net amount of 10% of the total budget for the fiscal year when is taken.				
Guerrero	Yes	No	…	Yes	Yes	No	No
Hidalgo	Yes	No	Debt ceiling only applied to short term debt	No	No	Yes	Yes
Jalisco	Yes	Yes	Debt may be contracted up to a net amount of 10% the total budget for fiscal year when is taken.	No	Ambiguos	No	No
Michoacán	Yes	Yes	Debt service in any case should be greater than 2.5% of the annual budget for the fiscal year debt is taken and should be based on financial projections.	Yes	Yes	No	No
Morelos	Yes	No	…	No	No	Yes	Yes
Nayarit	Yes	Yes	The debt service in any case should be greater than 15% of the annual budget for the fiscal year the debt is taken and there should be a projected superavit of the primary deficit.	No	Ambiguos	No	No
Nuevo León	Yes	No	…	Yes	Yes	No	No
Oaxaca	Yes	No	…	No	No	No	No
Puebla	Yes	No	…	No	Ambiguos	Yes	Yes
Querétaro	Yes	No	…	Yes	Yes	No	No
Quintana Roo	Yes	No	…	Yes	Yes	No	No
San Luis Potosí	Yes	Yes	Debt cannot be higher than 20% of authorised revenues in annual budget.	n.a.	n.a.	n.a.	n.a.
Sinaloa	Yes	No	Short term obligations will not constitute debt unless the cumulative balance exceeds 5% of fiscal years revenue.	No	No	Yes	Yes
Sonora	Yes	No	…	Yes	Yes	No	No
Tabasco	Yes	Yes	Debt may be contracted if it doesn't exceed 5% of state revenues in the fiscal year and debt is paid out within the same fiscal year. Same terms for municipalities.	Yes	Yes	Yes	Yes
Tamaulipas	Yes	No	Debt ceiling only applied to short term debt.	No	Ambiguos	Yes	No
Tlaxcala	Yes	No	…				
Veracruz	Yes	No	…	No	Ambiguos	No	No
Yucatán	Yes	No	Debt ceiling only applied to municipal debt. Payment of obligations should not exceed more than 30% of the annual federal revenue sharing.	Yes	Yes	Yes	Yes
Zacatecas	Yes	No	…	n.a.	n.a.	n.a.	n.a.

Source: OECD analysis based on information from Fitch (2011c) and ASF (2011).

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