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Housing policies for sustainable and inclusive cities: How national governments can deliver affordable housing and compact urban development

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Housing Policies for Sustainable and Inclusive Cities

How National Governments Can Deliver Affordable Housing and Compact Urban Development

By: Ana Moreno-Monroy, Jared Gars, Tadashi Matsumoto, Jonathan Crook, Rudiger Ahrend and Abel Schumann

In a context marked by rapid urbanisation, growing housing demand and the worsening impacts of climate change, national governments play a vital role in delivering environmentally sustainable cities with adequate and affordable housing. This paper reviews national housing policy instruments from around the world, analysing their impacts on compact urban development and housing affordability. First, the paper proposes a framework to better understand the housing market in cities by outlining drivers of housing supply and demand as well as the constitution of the housing market and its segments: homeowners and renters, single- and multi-family homes, market and below-market price segments. Next, the paper analyses a range of policy options available to national governments, which are summarised and evaluated according to their impacts on compactness and affordability. Last, the paper provides short-, medium- and long-term policy recommendations to align national housing policies with the goal of delivering more sustainable and inclusive cities. The paper is one of the first attempts to consider the intersection of physical urban form and housing affordability from a national policy perspective.

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Table of Contents

Executive summary 6

1. Introduction 8
1.1. Dual challenge: affordable housing and compact urban development 8
1.2. Key roles of national governments 9
1.3. Structure of the paper 11

2. Understanding the structure and function of urban housing markets 12
2.1. The basic functioning of housing markets in cities: an overview 12
2.2. The housing market as a collection of submarkets and segments 13
2.2.1. The owner-occupied and rental submarkets 14
2.2.2. The market-price and below-market-price segments 15
2.2.3. The single-family and other types of dwelling segments 17

3. The impacts of selected housing policies on urban form and housing affordability 18
3.1. Policies affecting the general housing market 19
3.1.1. Overview 19
3.1.2. In-depth analysis: urban growth boundaries and urban service boundaries 21
3.2. Policies affecting types of ownership: owner-occupied versus rental 23
3.2.1. Overview 23
3.2.2. In-depth analysis: Mortgage interest deductions 25
3.3. Policies affecting the physical form of housing: single-family home versus other types 26
3.3.1. Overview 26
3.3.2. In-depth analysis: Preferential tax treatment on home sales 27
3.4. Policies affecting housing affordability 28
3.4.1. Overview 28
3.4.2. In-depth analysis: Tax incentives for affordable rental housing 29
3.5. Summary of the assessment 30

4. Policy recommendations for delivering affordable housing and compact urban development 34
4.1. Design fiscal incentives to foster compact and inclusive cities 34
4.1.1. Redesign property taxes to incentivise more efficient land use through higher-density housing development 34
4.1.2. Discourage low-density housing construction at the periphery by adopting a development tax or impact fees that internalise the real cost of sprawl for property developers 34
4.2. Unlock the potential of the rental market 35

4.2.1. Establish clear and balanced tenant–landlord regulations to enhance transparency and ensure that both parties have equal access to information and legal recourse 35
4.2.2. Develop measures to support social rental housing and ensure adequate tenure protection without hampering residential mobility 35
4.3. Strengthen institutional capacity and build coherent policy frameworks 36
4.3.1. Craft national urban policies that align different ministries and levels of government behind a shared vision for cities, and design policy frameworks that enable subnational governments to promote denser, mixed-use development 36
4.3.2. Introduce mechanisms for better inter-municipal collaboration for both demand-side and supply-side policies 36
4.3.3. Increase local capacity to collect property taxes by reviewing tax exemptions and strengthening national systems to identify taxable properties and assess property values 37

5. Conclusion 38

References 41

Tables

Table 1. Policy instruments affecting urban compactness and housing affordability 32

Figures

Figure 1. Median rent burden (private and subsidised rent) as a share of disposable income for households in the bottom quintile of the income distribution 9
Figure 2. Simplified scheme of the residential housing market 14
Figure 3. Number of social rental dwellings as a share of the total number of dwellings, 2018 or latest year available 16

Boxes

Box 1. Impacts of property taxes on housing development 20
Box 2. Credit access policies and their effect on the housing market 25

Executive summary

Housing is an essential human need that affects the well-being of all citizens and has profound social and economic impacts on people's lives in every country. Providing adequate and affordable housing is a core national policy objective, and has also risen to the fore in international frameworks through the 2030 Agenda for Sustainable Development and the New Urban Agenda.

Cities face particularly strong demand for housing, partly due to the global trend of urbanisation. Urban areas are already home to more than half of the world's population, and by 2050 are expected to house 6.7 billion people – nearly 70% of the global population. Housing demand outpaces supply in most cities around the world, leading to rising house and rental prices. Currently, one in three low-income private renters in OECD countries spends more than 40% of their disposable income on rental costs alone.

At the same time, physical urban space is growing faster than the population: the overall built-up area around the globe has increased 2.5 times over the last 40 years, while the population has increased 1.8 times. Sprawl is partially driven by lower land prices around the urban periphery, but it means that urban residents need to travel longer distances, at greater personal and environmental expense. Urban sprawl has numerous other social, economic and environmental repercussions, from lower productivity to rising greenhouse gas emissions and encroachment on fertile agricultural land.

Although most housing policies are implemented at the local level, national governments have a key role to play in shaping housing markets, whether in financing sustainable urban infrastructure, designing regulations that influence citizens' decisions to either rent or buy, or in creating incentives that encourage developers to construct particular types of homes.

National governments thus have to address two urgent needs that can be at odds with one another: providing adequate, resilient and affordable housing in cities, and delivering compact, connected urban development. However, political pressure can lead the ministries responsible for housing to pursue large housing programmes to address affordability, without always considering how these policy instruments can affect urban spatial form and without coordinating with other sectors and levels of governments. National governments should instead consider how to boost affordable housing supply and use urban land more efficiently at the same time.

This paper identifies policy interventions that can achieve the dual objectives of housing affordability and urban compactness. It presents a new framework for understanding the housing market and provides an in-depth analysis of selected policy options available to national governments, illustrated with examples from around the world. This paper is one of the first attempts to consider the intersection of physical urban form and housing affordability from a national policy perspective.

The impacts of national housing policy instruments on urban form and housing affordability are diverse and complex, and there is not a direct relationship between compact urban development and house prices. There may even be trade-offs between the two that need to be carefully managed. Recognising this complexity, national governments should select policy instruments according to individual contexts and consider their impacts on the entire housing market as well as its submarkets and market segments. Key insights based on the analysis conducted in this paper include:

- Fiscal policies, such as impact fees and split-rate taxes, can ensure that new housing developments meet objectives for affordability and compactness, and reflect the true costs of sprawl.
- Incentivising home ownership through preferential tax treatment on home sales and mortgage interest deductions is costly, socially regressive and can make it more difficult for people to move. Moreover, such policies may contribute to sprawl and spatial segregation, by spurring demand from higher-income households for single-family detached housing in suburban areas. They must be very well targeted to minimise potential inequalities.
- To ensure that a certain share of housing units are sold or rented at below market prices, multiple instruments should be used in both the owner-occupied and rental markets, such as inclusionary zoning and incentives for developers. In particular, there is a need for more policies to promote the private rental housing market, from rent subsidies to better protections for tenants.
- Providing urban public space and enhancing connectivity is key to ensuring that new housing projects will support compact urban development. The transversal nature of housing policy requires a strong integrated approach, through frameworks such as national urban policies.

Based on these key insights, this paper offers three main policy recommendations for national governments looking to provide affordable housing at scale while ensuring compact urban development.

Design fiscal incentives to foster compact and inclusive cities:

- Redesign property taxes to incentivise more efficient land use through higher-density housing development.
- Discourage low-density housing construction at the periphery by adopting a development tax or impact fees that internalise the real cost of sprawl for property developers.

Unlock the potential of the rental market:

- Establish clear and balanced tenant–landlord regulations to enhance transparency and ensure that both parties have equal access to information and legal recourse.
- Develop measures to support social rental housing and ensure adequate tenure protection without hampering residential mobility.

Strengthen institutional capacity and build coherent policy frameworks:

- Craft national urban policies that align different ministries and levels of government behind a shared vision for cities, and design policy frameworks that enable subnational governments to promote denser, mixed-use development.
- Introduce mechanisms for better inter-municipal collaboration for both demand-side and supply-side housing policies.
- Increase local capacity to collect property taxes by reviewing tax exemptions and strengthening national systems to identify taxable properties and assess property values.

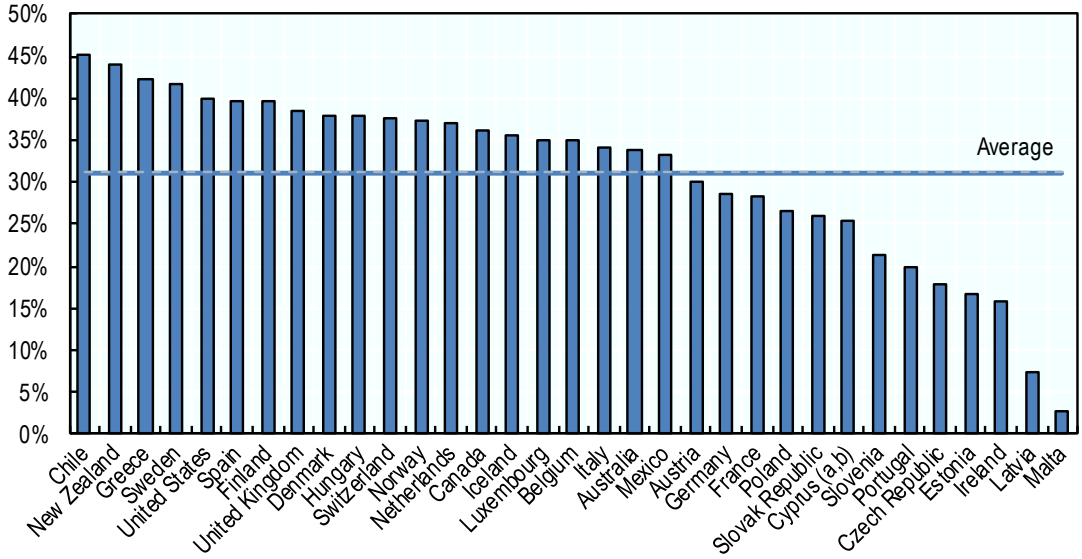
1. Introduction

1.1. Dual challenge: affordable housing and compact urban development

Housing is an essential human need to which every household requires access. It provides space, services and amenities for living. Providing adequate and affordable housing is a core policy objective of every country, and it has also risen to the fore in international frameworks through the adoption of the 2030 Agenda for Sustainable Development – with its dedicated urban Sustainable Development Goal (SDGs, namely SDG11) – and of the New Urban Agenda during the 2016 United Nations Conference on Housing and Sustainable Development (Habitat III, 2016). Housing affects the well-being of all citizens and has profound social and economic impacts on people's lives in every country. It is often the largest financial asset for households, representing on average half of total assets across households in OECD countries (Causa et al., 2019). As a result, house price fluctuations have a strong effect on both the overall economic performance and the wealth distribution of a country (Cournède et al., 2019).

Housing affordability is a persistent challenge for policy-makers. In OECD countries, total housing expenditures – including the costs of rent or mortgage payments, maintenance and utilities – constitute the single highest household expenditure item at an average of 22.3% of final household consumption expenditure in 2017; moreover, the average share of housing-related expenditure increased from 20.7% in 2000 to 22.6% in 2017 (Salvi del Pero, et al., 2016; OECD, 2020: indicators HC1.1 and HC1.2). In most cities around the world, housing needs outpace the supply of affordable housing, partly due to the global trend of urbanisation. Currently, one in three low-income private renters in OECD countries spends more than 40% of their disposable income on rental costs alone (see Figure 1). At the same time, investment in social housing stock has decreased in many countries. Globally, while the proportion of the urban population living in slums in developing regions fell from 39% to 30% between 2000 and 2014, the absolute number of slum dwellers has been rising – in 2014, over 880 million urban residents were estimated to live in slum conditions (UN, 2015). In many countries, women, the elderly, migrants and ethnic minorities face special challenges when it comes to accessing housing and property rights (King et al., 2017).

Figure 1. Median rent burden (private and subsidised rent) as a share of disposable income for households in the bottom quintile of the income distribution



Source: OECD, 2020. *Affordable Housing Database: indicator HC1.2*. OECD Publishing, Paris. Available at: https://www.oecd.org/social/affordable-housing-database/. OECD calculations based on European Union Statistics on Income and Living Conditions (EU SILC) survey 2018 except for Ireland, Malta and the UK (2017), Iceland and Switzerland (2016), and the Slovak Republic (2015); the Household, Income and Labour Dynamics Survey (HILDA) for Australia (2017); the Canada Income Survey (CIS) for Canada (2016); Encuesta de Caracterización Socioeconómica Nacional (CASEN) for Chile (2017); Household Expenditure Survey (HES, Stats NZ) for New Zealand (2017); American Community Survey (ACS) for the US (2016).

a) Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

b) Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Urban sprawl also contributes to climate change through higher emissions from land use change, embedded emissions in infrastructure, and transport energy consumption. Atmospheric CO_2 concentrations have reached a level that is unprecedented over the last 3 million years and the impacts of climate change are widely observed to be worsening globally (WMO et al., 2019). These impacts are strongly evident in cities, where urban policy-makers and residents face extreme weather events – including heatwaves, wildfires, flooding and landslides – that particularly have an impact on vulnerable populations living in informal, low-quality and overcrowded housing without the basic infrastructure, services or green space that can offset the worst impacts of climate hazards (CUT, 2019).

1.2. Key roles of national governments

National governments enact policies with the aim of correcting market failures, increasing efficiency and broadening access to housing across social groups. As underscored in CUT (2019), national governments

play crucial roles in aligning national policies behind compact, connected and clean cities, in funding and financing sustainable urban infrastructure, influencing the capabilities and resources of subnational governments, and shaping global frameworks, such as the SDGs, the New Urban Agenda and the Paris Agreement. National governments influence multiple aspects of the housing market, including the cost, quantity and quality of housing offered. This is achieved through policy interventions to provide urban infrastructure and public services, incentives for citizens and developers to acquire or construct specific types of dwellings, and access to financial resources necessary to acquire housing. As this paper shows, these national interventions have profound impacts on the investment decisions of urban residents and property developers. National governments also allocate responsibilities for housing policies among national and subnational levels of government. In this way, national governments are playing a key role in effectively shaping housing markets even if many housing policies are implemented at the local level.

National governments thus face a fundamental challenge to create effective housing policies that both meet the demand for adequate, resilient and affordable housing in cities and address climate change and environmental sustainability. Put differently, they need to articulate policies that ensure access to housing for everybody while keeping the consumption of resources (e.g. land, energy, water) low. Compact urban development contributes to many of these objectives, including improved accessibility and productivity, reduced greenhouse gas emissions and more liveable urban environments (OECD, 2012; Ahlfeldt and Pietrostefani, 2019; Rode et al., 2017). Infrastructure development is also most cost-effective in compact urban areas; for example, the capital costs of providing water, sanitation, power, road, and information and communication technology infrastructure in Sub-Saharan Africa rose from an average of US$325 per capita in the highest-density cities, to US$665 in medium-density cities, and up to US$2,837 in remote rural areas (Foster and Briceno-Garmendia, 2010).

Although compactness offers significant advantages, evidence shows that compact urban growth can contribute to higher house and rent prices unless carefully managed (Ahlfeldt et al., 2018). As this primarily affects renters and first-time buyers, who tend to have lower levels of income than the average population, it can lead to rising inequality (Ahlfeldt et al., 2018). This concern is exacerbated by the general rise in rents and house prices that many OECD countries have experienced in recent years (OECD, 2020: indicator HM1.2).[1] The impact of housing policies on affordability is complex, requiring careful analysis of local contexts. For example, making cities compact could limit the space for other urban functions, such as public parks. Careful policy and planning choices are therefore needed to create compact cities with a sufficient supply of affordable housing.

However, rather than addressing affordable housing and compact development together, many national ministries have historically pursued large housing programmes to address affordability without always considering how they affect urban spatial form, or without coordinating with sectoral policies and subnational governments (Rode et al., 2017, OECD, 2015a). Designing good housing policies also means coming up with better ways of managing the costs of compactness. Achieving this goal requires identifying and correcting the perverse effects of current national policy interventions, and designing innovative housing policy instruments that can be incorporated into existing national policy frameworks.

The effect on house prices depends on the policy instruments that are chosen to foster compact urban development. Instruments that foster compactness by increasing the total supply of housing potentially lower housing costs. In contrast, policy instruments that restrict the supply of housing are more likely to cause rising house prices. Furthermore, the effects of different policy instruments on housing affordability depend also on the housing market segments (such as single-family dwelling) in which they encourage or discourage the construction of new housing units. While many studies on housing have tried to understand

[1] An upward trend in rent prices exists in nearly all OECD countries between 2005 and 2018 and a similar trend has been observed in the majority of OECD countries for real house prices over the same period. See: OECD, 2020: indicator HM1.2.

the effectiveness of national housing policies on affordability, few analyse the impacts of housing policies on urban physical space.

1.3. Structure of the paper

Against this background, this paper reviews various national housing policy instruments and analyses their impacts on physical urban form and housing affordability (defined as the relation between housing costs and household income).[2] Compact urban development is characterised by "dense and proximate development patterns […] linked by public transport systems [and with] accessibility to local services and jobs" (OECD, 2012). The paper also proposes a new diagnostic framework for assessing the impact of national housing policies. It is one of the first attempts to consider the intersection of housing affordability and physical urban form from a national policy perspective.[3] The methodology consists of a literature review conducted through desk research.

Following this introduction, Section 2. presents a new framework to understand the housing market in cities. It outlines the drivers of housing supply and demand, as well as the key segments of the housing market: homeowners versus renters, single-family versus multi-family dwellings, market-price and below-market-price housing. Section 3. analyses the impacts of national housing policy instruments on physical urban form and housing affordability, and these are illustrated with examples from around the world and summarised in a table evaluating their advisability (Table 1). Section 4. offers recommendations on immediate, medium-term and long-term instruments to align national housing policies with the goal of more affordable and sustainable cities. Section 5. offers concluding remarks.

[2] The OECD measures affordable housing relative to the proportion of households or population that spend more than 40% of their disposable income on housing costs (OECD, 2020: indicator HC1.2). This paper does not refer to a specific expenditure rate in order to recognise the variety of country contexts.

[3] While this paper focuses on policy impacts on urban form, it recognises that other aspects of sustainable housing are also important, such as the use of low-carbon building materials and energy-efficient building designs.

2. Understanding the structure and function of urban housing markets

Housing markets around the world look very different. In Romania and China, outright home ownership is extensive and only a minority of households rent homes. In Germany and Switzerland, around half of households rent from the private market (OECD, 2020: indicator HM1.3). In Bangladesh, Ethiopia and Nigeria, over half the urban population is estimated to live in slums without access to basic social and economic services (World Bank, 2020). These differences are largely a legacy of past policies and different demographic and social structures and development levels, but can be entrenched by current policy choices.

In order to know which housing policies will be most relevant and effective in a particular country, region or city, it is essential to understand the market structure. This section presents a framework for understanding the structure of the housing market in cities, which can be used to assess countries' housing policies. It starts with a general description of the drivers behind housing demand and supply. It continues with a description of the rental and owner-occupied submarkets, as well as the market-price and below-market-price segments. The scope of the analysis is limited to the formal housing market, but is relevant to discussions on the informal housing market and informal settlements, as most of the policy instruments that target the formal housing market also have profound impacts on the informal housing market.

2.1. The basic functioning of housing markets in cities: an overview

Housing, as an economic good, is not like any other type of good or service for a variety of reasons:

- It depreciates very slowly (and land for housing tends to appreciate).
- It takes a long time to create supply (build).
- It is an investment but it is also consumed (used).
- It can be converted to other uses (industry, services, etc.).
- Its supply (housing construction) is heavily regulated.
- It is subject to higher search and transaction costs amplified by the variety in housing types.

Perhaps the most relevant element, in economic terms, that distinguishes housing from other goods and services is that, in the vast majority of cases, the demand for housing is simultaneously the demand for a specific location and concomitant access to opportunities. This means housing outcomes are mediated by intense competition for location, as investors and households alike want access to the most attractive locations. A particular location is more attractive the closer it is to existing job and activity centres, the better connected it is to transport and other public infrastructure, the more amenities it offers (e.g. cultural attractions, attractive parks, etc.), and the better the surrounding areas (e.g. well-regarded neighbourhoods). Precisely because of their attractiveness, the best locations in cities are also the most

expensive, both for investors who want to buy land or property, and for households who want to buy or rent housing.

In addition to these microeconomic determinants, from a macroeconomic point of view housing demand reacts positively to: growing urban populations, smaller household sizes, increases in household permanent income, lower interest rates and mortgage costs, and better employment prospects. Housing supply reacts to the aforementioned demand drivers, but also to lower development costs, greater availability of land for housing, and the relative expected profitability of housing investments against other alternative investments. The responsiveness of housing supply to changes in price signals varies widely across locations,[4] and can be slow to keep up with increases in demand. Residential mobility also varies widely, with more than 40% of individuals moving over a five-year period in Australia and the US, while in certain southern and eastern European countries, less than 10% of individuals move over a five-year period (Causa and Pichelmann, forthcoming 2020). When supply is slow to respond to increases in demand, most of the adjustment happens through increased housing prices. The resulting price increases generally have far-reaching social and economic consequences. Despite the importance of the issue, international evidence on the responsiveness of housing supply remains scarce, although a growing body of work is addressing the subject (Bétin and Ziemann, 2019; Cavalleri et al., 2019).

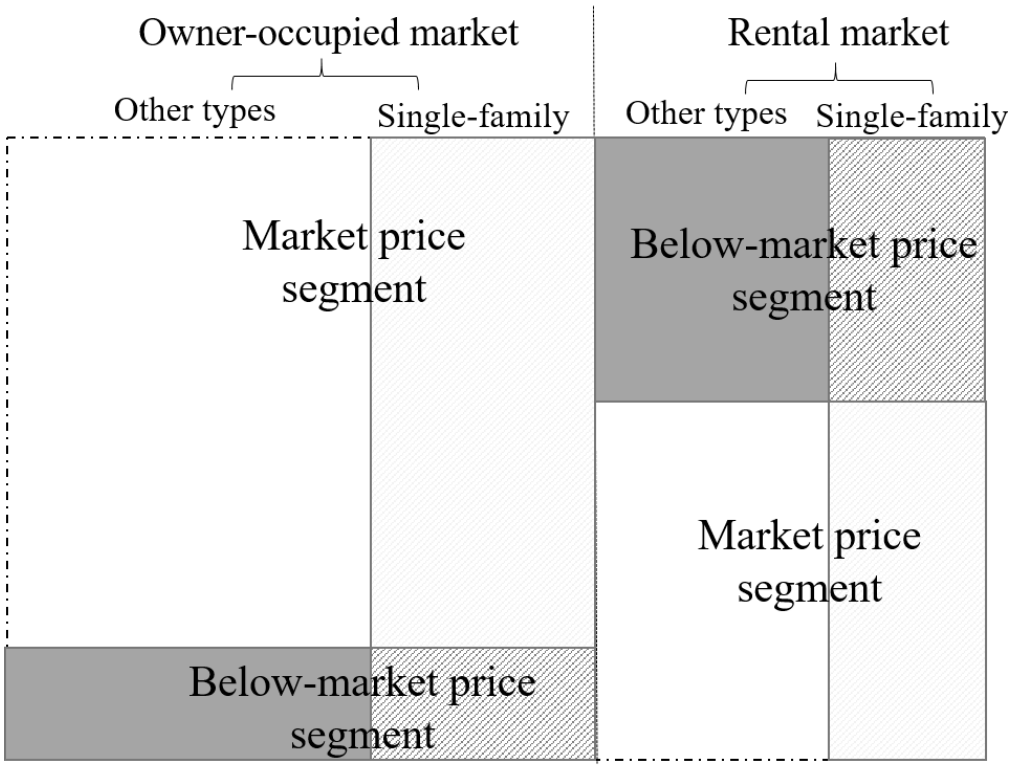
2.2. The housing market as a collection of submarkets and segments

The housing market is not a single market but a collection of several connected submarkets. This distinction is relevant because the reach and depth of the effects of policies in a given country depend on the structure of the housing market. The two most prominent submarkets within the housing market are the owner-occupied and the rental markets. In turn, each of these submarkets can be divided into market segments, two of which are particularly relevant for policies: the market-price segment versus the below-market-price segment, determined by the share of housing let or sold at subsidised rates, and the single-family segment versus other types of dwelling segment, determined by the total stock of low-rise or detached housing (see Figure 2). The next subsections of this paper develop these concepts in more detail. There are also other ways to discuss the various submarkets that have not been included in this paper, such as for informal settlements.[5]

[4] Housing supply has been found to be more flexible (in responding to demand changes) in North America and some Nordic countries, and more rigid in continental European countries and in the UK. See: Caldera and Johansson, 2013.

[5] For an example of a spectrum of housing options and conditions in developing countries, which ranges from street shelters to individual homes, and their various options for financing, ownership and access to services, see King et al. (2017), *Confronting the Urban Housing Crisis in the Global South*.

Figure 2. Simplified scheme of the residential housing market



Note: This simplified scheme of the residential market is provided for illustrative purposes. The size of each box does not reflect either the actual or desired size of a given segment.
Source: Authors.

2.2.1. The owner-occupied and rental submarkets

From the perspective of demand, housing is a service that can be consumed by either buying or renting. From the perspective of supply, housing is an asset that can generate profits through selling or renting. In many cases, households would prefer to own rather than to rent – based on socio-cultural norms and economic preferences for tenure security, investment in an asset, predictability of housing costs associated with a mortgage, and the freedom to modify spaces to their liking. Households weigh the economic benefits – in addition to tax deductions and expected capital gains – against the relative cost of owning versus renting. These costs include loan interest payments, differences in risk, the time and monetary costs of purchasing, various taxes, fees and charges, depreciation, and all of the upkeep, maintenance and mobility costs that come with home ownership.

Property owners then decide to occupy, rent out or leave their property vacant depending not only on rental prices but also on transaction costs and responsibilities associated with rental contracts as specified by national and local rental regulations. These include costs associated with securing ownership and future access to their properties, taxes on vacant property, the costs of insurance for rental or vacant properties, and the potentially large costs of finding tenants and maintenance.

The tenure structure of the housing market, defined as the share of homeowners versus renters, varies widely across countries. For instance, home-ownership rates range from 38% in Switzerland to 96% in Romania (OECD, 2020: indicator HM1.3). Such variation is also expected to be observed within and between cities in each country, but empirical evidence is not always available. Tenure structures may vary according to different socio-economic and demographic structures, as well as the effects of policy. Across

OECD countries, the share of renters increases with the share of households that have a lower income, with less educated and younger household heads. Tenure structures may be less clear in developing countries due to the high proportion of informal settlements, where property ownership is not always secured.

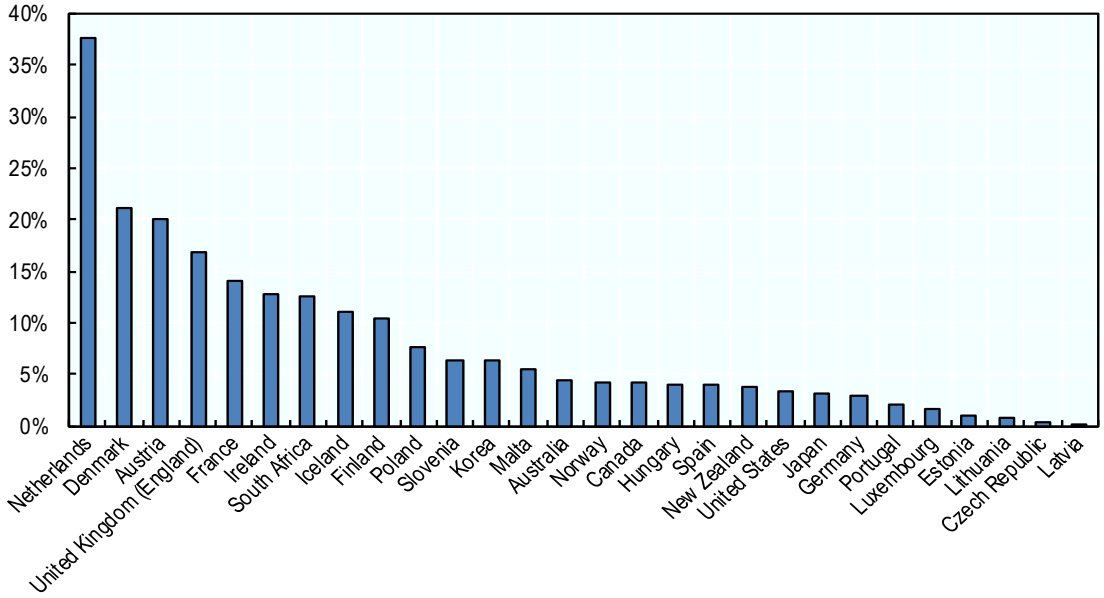
2.2.2. The market-price and below-market-price segments

In most cases, housing is distributed to different households by price mechanisms. As economists put it, "the allocation of households within cities is the result of their capacity to outbid other households (Fujita et al., 1999)." Under a market allocation system, it is extremely hard for low-income households to access well-located, high-quality housing or for developers to offer affordable options in central locations. In fact, the more attractive the location, the larger the differential between the real cost of housing and the capacity of low-income households to afford it.

One way that governments intervene to provide housing to lower-income and vulnerable groups is through social housing. While the definition and structure of social housing differs across countries, this paper defines social housing as housing owned or supplied by the state or independent organisations at below-market rents or prices and allocated according to specific rules (Andrews et al., 2011; Salvi del Pero et al., 2016). Furthermore, the paper discusses some forms of subsidised finance for housing, which often fulfils similar functions to social housing. Subsidised finance is potentially important because many OECD countries have reduced their direct provision of social housing in recent years and shifted towards subsidised finance and demand-side assistance to households (Andrews et al., 2011; OECD, 2020: indicator PH4.1). In contrast, social housing remains a major policy instrument in many developing countries, mainly due to a shortfall of housing suitable for low-income groups.

Across OECD countries, the share of social housing in the total housing stock ranges from less than 2% (Czech Republic, Estonia, Latvia, Lithuania and Luxembourg) to more than 20% (Austria, Denmark), reaching up to 38% in the Netherlands (see Figure 3) (OECD 2020: indicator PH4.2). Because of high capital costs and the difficulty in maintaining social housing stocks, many developed countries have moved from constructing social housing to providing subsidies or introducing affordability requirements for some new housing projects. In fact, the share of subsidised renters out of total renters can reach up to 50% and is much larger than the share of social housing out of total housing stock (Andrews et al., 2011; OECD, 2020: indicator PH4.2). Owner-occupied social housing is common in some countries, such as Mexico and Spain, but this need is met by rental social housing in most OECD countries (OECD, 2020: indicator PH4.2).

Figure 3. Number of social rental dwellings as a share of the total number of dwellings, 2018 or latest year available



Note: Data refer to responses as in the 2019 OECD Questionnaire on Affordable and Social Housing (QuASH) except for Canada, Czech Republic, Hungary, Korea, Latvia, Luxembourg, Malta, Portugal and Slovenia where they refer to the 2016 QuASH. For New Zealand, data refer to the number of social housing places (public housing) that are funded through central government. This does not include social housing provided by regional and municipal authorities.
Source: OECD, 2020. *Affordable Housing Database: indicator PH4.2*. OECD Publishing, Paris. Available at: https://www.oecd.org/social/affordable-housing-database/.

The governance of social housing is commonly shared between national, state and local governments (OECD, forthcoming 2020a). Higher levels of government are usually in charge of the design of overarching social housing programmes and of budgets, as part of broader national social and safety objectives. In contrast, in most countries local governments are in charge of implementing housing programmes. The ownership of social housing stock can vary between municipal governments, municipal housing companies and non-profit organisations. In countries with a small social rental housing sector, public authorities may provide and manage the whole stock (for instance, in Estonia, Hungary, Latvia and Lithuania). In other countries with a large share of social rental housing, the provision of social rental housing by non-profit organisations and cooperative providers is significant (79% in the Netherlands and 33% in Denmark) (OECD 2020: indicator PH4.2).

Generally, social housing policies aim to increase access to housing for those who cannot afford it, reflected in the fact that, across OECD countries, more than 60% of social housing tenants are low-income households (Salvi del Pero et al., 2016). However, in some countries, social housing programmes are open to households at all income levels (OECD 2020: indicator PH4.3). For instance, Luxembourg, Sweden, Denmark and the Netherlands have broad-based (or integrated) systems with subsidised housing open to all citizens. Other countries, such as Australia, Italy, Canada, France and the UK, make a clear distinction between social and private housing. These dual systems direct subsidies to households that meet some

predetermined criteria related to their incapacity to afford housing in the private market (André and Chalaux, 2018).[6]

2.2.3. The single-family and other types of dwelling segments

In terms of environmental impacts, the most important distinction in the housing market is between single-family detached homes and multi-family dwellings (also known as apartments, condominiums, terraced houses or townhouses).[7]

Single-family detached homes usually consume more space and energy per person because they are built on lots that are larger than the house structure itself – including, for example, private parking and yard spaces. In contrast, multi-family units, including apartment buildings, are usually over several storeys with lower or no per-unit yard or private parking space. Expanding vertically by constructing apartment buildings is a way to supply more housing in attractive locations. Modern apartment buildings tend to use less energy per unit because of their smaller size and the use of more energy-efficient materials, plus the walls of a housing unit are shared, resulting in more efficient central heating. Depending on prevailing construction methods, multi-family dwellings may carry higher per unit construction costs than single-family dwellings in cases where they have higher technical requirements in construction. However, even if this is the case, they are usually cheaper to build per unit than single-family homes in urban areas, where the price of land accounts for most development costs.

Multi-family dwellings are typically found in denser central areas, where land is more expensive so that developers want to take as much advantage of vertical space as possible. There are notable exceptions to this norm, where land-use regulations make low-density construction in central areas possible (as in the case of the Jardins neighbourhood in São Paulo, Brazil). Cultural preferences and legal frameworks also influence dwelling choices. In North America, Europe and Oceania, single-family homes have long been associated with higher-income households and multi-family homes with lower-income households. In other parts of the world, such as Latin America and Africa, the opposite holds true: apartment buildings tend to have a relatively greater presence of higher-income households, compared with single-family detached housing, which is associated with lower-quality housing for lower-income households (Moreno-Monroy, 2018).

[6] These schemes are referred to as “means-tested”, as the eligibility criteria relates to whether households have the means to access housing without government help.

[7] Terraced houses in the UK and townhouses in the US that do not have collectively owned space may be more similar to single-family homes than to multi-family homes, from a regulatory perspective.

3. The impacts of selected housing policies on urban form and housing affordability

This section focuses on housing policy options within the reach of national governments. National policies are in principle designed to correct for market imperfections, including information gaps between tenants and landlords, and creating fair competition in the developers' market. National policies also try to minimise the impact of negative externalities, such as inequalities in access to adequate housing and greenhouse gas emissions (Salvi del Pero et al., 2016).

Policies can nevertheless have distortionary effects on housing investment and consumption, with negative social, economic and environmental consequences. Poorly designed national policies that encourage over- or under-consumption of housing and/or tilt the balance in favour of large single-family homes can have negative effects on compact, inclusive and sustainable cities. If poorly designed, national policies can also exacerbate negative spatial effects such as discontinuous land development (or 'leapfrogging'), thereby inducing longer commutes, increased emissions and more expensive public transport.

This section describes four interconnected channels through which policies can affect housing affordability and physical urban form:

1. *Policies affecting the general housing market*, including national policies that affect the overall supply and consumption of housing;
2. *Policies affecting types of ownership (i.e. owner-occupied versus rental)*, including national policies that have specific effects on the owner-occupied or rental submarkets;
3. *Policies affecting the physical form of housing (i.e. single-family home versus other types)*, including national policies that directly or indirectly affect the incentives to develop and consume single-family housing; and
4. *Policies affecting housing affordability (i.e. the supply of below-market-price housing)*, including policies to provide social housing or subsidise housing finance.

A specific housing policy may work through only one of these channels, or through several at the same time. Depending on the structure underlying the local economy and the local housing market, the importance of the different channels will vary.

For each channel, this section gives a general overview of the policy effects and provides an in-depth analysis of selected policy options. Each in-depth analysis briefly describes the objective of the selected policy options and assesses how to render them more conducive to compact and inclusive urban development. The policy options selected in this paper primarily target the formal housing market.

3.1. Policies affecting the general housing market

3.1.1. Overview

Arguably the most important public policy affecting the supply of housing in general is land-use regulation. Although local regulations play a large role in restricting or expanding the supply of housing, national regulations can have distinctive spatial effects, and the national government is important in providing an overarching structure to coordinate housing, transport, economic and other policies that affect urban areas, through frameworks such as national urban policies. National urban policies can increase or decrease the amount of land available for housing development, either through legislation directing the conversion of under-used land into land for development or through, for instance, a national strategy for infill development to clearly signal densification as a priority and redirect greenfield development towards infill development (OECD, 2012). National urban policies can also directly influence development decisions by investors through regulations imposing costs or benefits related to construction and development. For the specific target of more compact and connected cities, national government can develop guidelines or regulations to ensure that housing and other opportunities are more concentrated in space in order to reduce the need for travel, thereby bringing additional environmental, social and economic benefits through reduced emissions and congestion.

Direct policy tools of national governments for influencing the location of housing development include urban growth boundaries (UGBs), urban service boundaries (USBs), greenbelts and the trade of development rights. While such instruments are often part of local land-use policies, national governments often provide the overall legislative frameworks to be implemented by local governments. In addition, in many countries national governments regulate the development of natural assets, such as urban parks, forests or wetlands.

Recurrent taxes on immovable property (hereafter, “property taxes”)[8] are an important revenue source for governments and can underpin sustainable land use if well designed (Box 1) (Blöchliger, 2015). In many cases, the tax rate for land and for buildings on the same plot is the same. In contrast, the split-rate property tax is levied at a lower rate for buildings, compared with land. Applying the split-rate tax can discourage land speculation, encourage improvements and renovations to buildings, and disincentivise the hoarding of vacant plots of land in cases where land use is restricted, such as by urban containment policies (Rybeck, 2004). Levying a higher tax on vacant urban land suitable for housing development can encourage the transformation of unproductive land in central locations into productive uses, thereby reducing the associated costs of fragmentation (Haas and Kopanyi, 2017).[9] Implementing progressive property tax rates relative to the cadastral value has also been observed, for instance in Sao Paolo (Brazil) in 2001, which can lower average housing prices (Biderman and Camara Batista, 2018), although evidence is mixed and such an approach may add complexity to the tax system.

National governments also have the capacity to regulate developers’ contributions to infrastructure costs, either directly or by authorising subnational governments to leverage fees and charges. Impact fees are one specific instrument to internalise the costs of development and are relatively common in the US.[10]

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[8] Property taxes include recurrent taxes on immovable property or net wealth, taxes on the change of ownership of property through inheritance or gift and taxes on financial and capital transactions. Unless otherwise noted, within the context of this paper, the term “property tax(es)” refers to the category of recurrent taxes on immovable property.

[9] Extensive empirical evidence in the matter is limited by the small number of countries having separate vacant land taxes on top of regular property taxes (Dye and England, 2010), but relatively successful cases implemented at the national level have been reported in a number of developing countries, including the Democratic Republic of Congo, Philippines and South Africa (Haas and Kopanyi, 2017).

[10] For an overview of the use of impact fees in the US, see: Altshuler and Gomez-Ibanez, 1993.

Impact fees are a one-time fee charged directly to developers to recover the social cost of converting other land uses to housing (Bengston and Youn, 2006). The dollar amounts generated by impact fees can be substantial, reflecting the high per house cost of sewers, school facilities and other infrastructure. Extensive literature on the effect of impact fees on land and housing markets has been conducted with mixed results. Studies have found that prices for both existing and new homes increased as a result of impact fees (Bengston et al., 2004; Singell and Lillydahl, 1990; Ihlanfeldt and Shaughnessy, 2004; Mathur, 2013). Other studies have found that impact fees can lower building and lot sizes, and house prices may actually decrease if consumers demand smaller lot sizes (Walls et al., 2011), or if the fees are borne by landowners (through a reduction in land prices) (Burge and Ihlanfeldt, 2006). Impact fees have also been found to reduce the fiscal burden on existing residents from new housing developments and allow for more housing to be built (Burge and Ihlanfeldt, 2006). Overall, there is no clear consensus in the literature reviewed that impact fees will result in more or less affordable housing for homeowners and tenants, but they can generate wider benefits such as reducing the cost of services per household.

As a more general solution to compensate landowners when they lose the right to develop their property and to allocate development to its highest use value, national governments can consider the use of tradable/transferrable development rights. These are an effective tool for projects seeking to increase the density of people and economic activity in a specific area, usually around a transport hub (see Section 3.1.2) (Blanco et al., 2016).

Box 1. Impacts of property taxes on housing development

Recurrent taxes on immovable property have the advantage of offering a source for increasing revenue, especially in countries where such taxes are low, and are considered to be less detrimental to economic growth given the immobility of the tax base (this also renders them difficult to evade) (Eurostat, 2019). They are also more efficient than transaction taxes on property since they neither distort labour mobility nor are as sensitive to housing market volatility (O'Reilly, 2018). However, the economic importance of property taxes (even with a broad base) may be reduced in contexts with low tax rates and either outdated or below-market cadastral values (Geng, 2018; OECD, 2011). There is an important need to link the tax base to the market value of property. In many countries around the world, assessed property values lag behind actual market values since valuation can date back to several years (even decades in extreme cases) and updates may occur irregularly or through indexation (Geng, 2018; Blöchliger, 2015; LILP/MCFE, 2019).

Property taxes generally tax real estate and land and are levied in most countries (McCluskey et al., 2010). Two variations on property taxes impacting urban growth are the land tax, which excludes buildings from taxation, and the split-rate tax (also known as a two-rate tax, composite rating or differential rating), which taxes buildings at a lower rate than land on the same plot. Land and split-rate taxes have been applied in jurisdictions in numerous OECD countries, including Finland, Denmark, Australia and the US, as well as in non-OECD countries, including Indonesia, Namibia and Swaziland. In the US, the state of Pennsylvania reformed its property tax system in 1913 to allow for the split-rate tax system (implemented in approximately 20 cities), while the state of Connecticut allowed certain municipalities to implement split-rate property taxes in 2013 (Yang, 2018).

Compared with comprehensive property taxes, land taxes have been advocated by some economists as less distortionary and as a way to reduce incentives for urban sprawl. Given a fixed land supply, taxes on capital (buildings) in the form of property taxes may reduce resources available for development as well as the capital-to-land-ratio. As a result, land may be developed less intensively and more land would be used to fulfil housing needs. In contrast, because the amount of land is fixed,

taxing land cannot encourage its formation or movement and therefore does not have the same distortionary effect as taxing capital (Cohen and Coughlin, 2005).

Theoretically, the split-rate tax system incentivises property owners to build on (or improve) their properties, while disincentivising land speculation. As a result of the higher rate of taxation on land, the building density should increase on each unit of land leading to more dense development if the size of dwellings stays constant. However, a countervailing effect may occur if, instead, the size of dwellings increases due to incentives for household capital consumption. The overall effect on compactness will be determined by which effect dominates: the improvement effect or the dwelling size effect. Previous theoretical research has shown that if substitutability between housing and other consumption is high, then the dwelling size effect may dominate and the split-rate tax may increase urban sprawl (Brueckner and Kim, 2003).

Empirical evidence on the impacts of split-rate taxes is limited but demonstrates that the capital to land ratio generally increases in areas with a split-rate tax rather than a property tax, and that this impact is higher as the tax differential between land and buildings increases (Yang, 2014; Banzhaf and Lavery, 2010). The experience in Pennsylvania suggests that the density of housing units per unit of land tends to increase at a rate of between 4 and 5 percentage points per decade (for the first two decades after its introduction) as a result of the split-rate tax, with no concomitant impacts on dwelling size (Yang, 2018).

3.1.2. In-depth analysis: urban growth boundaries and urban service boundaries

Objectives of the policy instrument

An urban growth boundary (UGB) is a dividing line drawn around an urban area to separate it from surrounding rural areas. In contrast, greenbelts are areas of open space surrounding urban areas that act as physical boundaries against city expansion. Zoning and other regulatory tools are used to implement a UGB. Areas outside the boundary are zoned for rural uses where urban development is restricted, and inside for urban use where urban development is promoted. An urban service boundary (USB) restricts the area over which public services, such as water supply and sewers, can be administered. These regulations make it illegal for utility companies or local authorities to provide services outside of these boundaries, and can be used in conjunction with adequate public facilities ordinances to impede urban expansion. UGBs or USBs are temporary limits on urban expansion that go through periodic evaluation to determine whether they should be expanded or contracted. Like greenbelts, UGBs are enforced through regulatory policy instruments and are contingent on infrastructure funding. For example, the state of Tennessee in the US implemented an anti-sprawl ordinance that made infrastructure funding contingent on implementing UGBs (similar to a law in the US states of Oregon and Washington). Similar policy instruments are found in Japan (urbanisation promotion/control areas). Examples of greenbelts can be found in the UK, Korea and Germany, and to a lesser extent in Australia, Canada and the US.

Empirically, it is difficult to identify the impact of UGBs or USBs on sprawl or housing prices because cities or states that adopt these policies are different from those that do not on numerous dimensions (other than the implementation of containment policies). As a result, there have been few rigorous evaluations of containment policies. Researchers have shown that Oregon's UGB laws, created in 1980, have led to open space preservation and compact development, although significant development still occurs outside of the boundary (Weitz and Moore, 1998; Kline and Alig, 1999; Nelson and Moore, 1994). In other contexts, such as London, studies have found that containment policies were moderately successful at slowing expansion of built-up areas (Bengston and Youn, 2006; Dieleman et al., 1999), although low-density development outside the boundary has occurred (Tang et al., 2007). In Ontario, farmland prices adjacent to greenbelt areas increased, suggesting a leapfrog effect as developers purchased property with the intention of

rezoning for urban development (Vyn, 2012). Korean greenbelts have been found to lead to increased housing prices, in a context of rapid income and population growth between 1973 and 1988 (Hannah et al., 1993).

Impact on compactness

UGBs or USBs, like greenbelts, have been relatively effective at increasing infill development and limiting the development of open space. However, under certain circumstances (e.g. poor evaluation of local conditions, lack of flexibility to adjust to changing development pressures), such policies can lead to leapfrog development of housing and other urban functions beyond the urban containment area, increasing sprawl and fragmentation. While UGBs encourage infill development within the boundaries, leapfrogging has led to more fragmented and less dense urban development (Gennaio et al., 2009; Bengston and Youn, 2006). Leapfrogging is more likely when there is little land available for development between the growth boundary and the urban centre, whereby a less responsive housing supply increases prices and incentives for land development outside of the growth boundary. In these cases, policy design has to be particularly careful in balancing the costs and benefits of the intervention. Targeting urban containment to undeveloped areas on the urban fringe or close to areas with high environmental externalities such as natural reservoirs may decrease the likelihood of leapfrogging.

Additionally, competition among local jurisdictions can encourage leapfrogging if areas outside of the boundaries attempt to attract development with less stringent regulation and tax policy. Thus, the level of decentralisation, as well as the amount of land available for development between the boundary and the urban centre, should be taken into account when choosing boundary locations. Coordination between urban containment policies and other national urban policies (e.g. economic development, investment policies) is crucial. It is also important to adjust containment boundaries regularly according to population growth in order to limit sprawl. Most existing growth boundaries are very persistent over time, and many existing containment boundaries were implemented when cities had much lower populations and/or larger household sizes.

Impact on housing affordability

To justify these types of development restrictions, the overall benefit (e.g. open space, better access to jobs and services) to renters and first-time home buyers should outweigh the negative impacts (e.g. higher housing costs) (Ahlfeldt et al., 2018). However, these offsetting benefits may be difficult to quantify and measure, leading to an ad-hoc placement of development restrictions. In a similar way to the previous discussion on development tax (i.e. setting tax rates equal to the value of open space), the use of development restrictions requires planners to estimate the socially optimal level of open space and urban expansion (Brueckner, 2000). If restrictions are too strict, they can lead to high density and housing costs (especially for renters) that are hard to justify, or to leapfrog development. Moreover, regardless of the motivations for development restrictions, there is a potential for misplacement with the enjoyment of benefits for only a minority in the city (e.g. landowners or residents with a high value of open space).

Ideally, urban containment policies should be designed so that they avoid inequality between landowners within urban containment boundaries (where urban development is permitted) and outside the boundaries (where urban development is restricted). However, redistribution based on boundary definition is extremely complex because it depends on subjective valuations of space and the ownership of land at the fringes of cities. Furthermore, it is difficult to design additional instruments to counterbalance likely effects of development restrictions on housing prices without introducing additional distortions to other segments of the housing market.

An alternative policy that, in principle, corrects some of the inequality generated by transfers to landowners is the development tax. This tax is levied on each acre or hectare of land that is converted from agricultural to urban use and is determined according to the estimated benefits of open space. While this mechanism

forces developers to internalise the social loss of open space, valuing the benefits of open space has proven to be difficult, as there are likely to be different social values for different locations and different types. In effect, the development tax faces similar difficulties in implementation to the UGB, due to the difficulty in identifying the social benefits or amenity value of land surrounding the urban fringe and ensuring the benefits are distributed equally (e.g. between property owners within and outside the city). These challenges would be greater in a metropolitan area where decision-making power is fragmented across many local governments. Managing such a complex tax system also entails an administrative burden. An alternative approach to such valuation could be to levy the tax on the increase in the market value of the land following its conversion.

As these considerations indicate, the level of complexity in designing development restrictions is high. Planners can alternatively consider more flexible approaches, such as tradable/transferrable development rights (TDRs) to obtain similar goals. TDRs allow a right to develop a plot of land to be transferred to another plot. In this way TDRs can produce densification and reduce leapfrogging, namely when implemented in parallel with coordinated planning at the metropolitan scale. Depending on the desired level of development, implementing a TDR system requires establishing the correct cap – or total amount of land development that will be allowed – and distributing the rights appropriately to achieve that development. TDRs, similar to emissions trading, should theoretically allocate land to its most efficient use. These outcomes are contingent on the market being competitive with a large number of participants, and with enough information for the market participants. Relative to zoning, TDRs are argued to lead to more equitable outcomes, as landowners who are constrained in their development can be compensated by market forces. Further, development rights can be used to compensate landholders when their development has been restricted by land-use regulations, such as down zoning or establishment of protected areas.

3.2. Policies affecting types of ownership: owner-occupied versus rental

3.2.1. Overview

Tenure policies have specific effects on the demand or supply in the owner-occupied and/or rental segments of the housing market. Increasing home ownership is often understood as a desirable policy goal, as it supposedly brings positive effects such as more commitment and community engagement by owners compared with renters, even though it also has certain social costs connected with a decrease in mobility (Causa et al., 2019). The type of schemes to support homeowners include: one-off grants towards the construction of new housing or purchase of an existing dwelling; subsidies to mortgage interest deductions (discussed in Section 3.2.2); mortgage relief and mortgage guarantees; and preferential tax treatment on home sales (discussed in Section 3.3.2). These schemes sometimes target first-time buyers and/or households within a specific income bracket or with other characteristics, but often they do not and so they can be regressive (Causa et al., 2019; OECD, forthcoming 2020b).

In most OECD countries, housing investment has special tax treatment. Taxation is the most common and most important national policy affecting housing demand (Andrews et al., 2011). In particular, in many countries, the tax code provides incentives to purchase single-family homes, or units in multi-family buildings as investments by exempting home sales from capital gains taxes (OECD 2020: indicator PH2.2). In the US, the amount of tax expenditures in relation to housing-related capital gains tax exemptions amounted to US$80 billion in 2015. Considering housing equal to other forms of investment or consumption, and taxing it in a similar way, would avoid creating distortions in investment or consumer behaviour.

In addition to taxation, national macroeconomic policies can also profoundly affect housing demand. For example, national policies that ease access to credit have a direct effect on the decision to buy a home

(see Box 2). The immense expansion in household debt in the US in the early 2000s was partially a result of national policies, and it contributed to the 2008 financial crisis (US Treasury, 2015). However, macroeconomic policies are outside the scope of this paper, as it is difficult to discern their specific locational impacts.[11]

While home ownership is often treated favourably for political reasons, rental housing provides a number of benefits for urban residents, often rendering housing more affordable in the short term and providing greater household mobility. National governments can provide a number of measures to promote affordability in the rental market, such as rent-control mechanisms, inclusionary zoning and clear tenant–landlord rental regulations (see Section 3.4.1 on social housing rental measures).

The decision to lease a property instead of selling it or giving it another use largely depends on the foreseen costs of tenure, as well as the ease of terminating tenure and the protection of landlord rights, while the decision to rent instead of owning is influenced by tenant rights and protections. The right of a landlord to terminate a lease contract varies significantly according to circumstances and domestic contexts, with many countries granting this right if the tenant does not pay rent (OECD, 2020: indicator PH6.1). Germany, for instance, has a large and stable rental housing sector, underpinned by long tenures (average 11-year rental contract duration) and flexible rent controls restricting the scale of rent increases during a tenancy (Muellbauer, 2018). National regulations on tenant–landlord relations thus play a key role in striking an appropriate balance – for example, by prescribing a standard form of contract applying to all tenants and landlords.[12] However, rental regulations that provide excessive protection of tenants can also distort residential mobility decisions: recent estimates suggest, for instance, that excessive or ill-designed rental market regulations are associated with less residential mobility (Causa and Pichelmann, forthcoming 2020) (see Section 3.4.1).

Inclusionary zoning requires a minimum percentage of new housing units that developers must reserve to be rented at below market price (often for certain periods of time, e.g. 20 years). Housing quality in such units may degrade if rental revenue is too low and thus cannot cover maintenance costs. Overall, inclusionary zoning can increase the share of multi-family housing and generate wider benefits for housing affordability for lower-income households (Bento at al., 2009; Schuetz et al., 2009; Schwartz et al., 2009). France passed a national-level law in 2000 (La loi solidarité et renouvellement urbain) requiring metropolitan areas above a certain population threshold to designate 20% of the total housing stock as social housing. While inclusionary zoning was not explicitly mandated, in practice many communes imposed requirements for inclusionary zoning on private developers, which led the national government to authorise local inclusionary housing programmes (LILP, 2010; Amzallag and Taffin, 2010).

[11] For a discussion from a macroeconomic perspective, see, for instance: Cournède et al., 2019.

[12] Additional regulations on tenant–landlord relations include: detailing valid reasons for eviction beyond failure to pay or breach of contract, including how disputes between landlords and tenants are settled (e.g. regular court vs arbitration); restricting eviction during certain times of the year such as the winter; specifying whether the landlord can collect a security deposit, and if so for what amount; setting standards for contact length notice period for contract termination including allowing tenants and landlords to freely agree upon contract duration. See: Andrews et al., 2011.

Box 2. Credit access policies and their effect on the housing market

National policies that ease access to credit have a direct effect on the decision to buy a home. These policies include deregulation of financial markets and regulations allowing for mortgage innovations. As demonstrated by the housing bubble that preceded the global financial crisis, the effects of changes in regulations in the financial market can have deep effects on the global housing market: it is estimated that increases in housing demand driven by financial deregulation in the 2000s increased housing prices by as much as 30%. While financial innovation allowed many families that were de facto excluded from the housing market beforehand to acquire a home, overly lax credit standards that took advantage of inadequate financial regulation also allowed households that did not have the necessary income or wealth to become homeowners, resulting in an increased share of households overburdened by housing costs and – ultimately – increased inequality.

Source: Andrews et al. (2011); Salvi del Pero et al. (2016); Mian and Sufi (2010); Cournède et al. (2019).

3.2.2. In-depth analysis: Mortgage interest deductions

Objectives of the policy instrument

Mortgage interest deduction (MID) is a policy that allows taxpayers who own their homes to reduce their taxable income by the amount of interest paid on their loan (Fatica and Prammer, 2018; OECD, 2018a). The US and the Netherlands allow for this deduction, which in 2019 cost 0.4% and 1.3% of GDP respectively, while Ireland, Belgium, Denmark and Sweden allow for a small part of the interest to be deducted (OECD, 2020: indicator PH2.2).

Higher mortgage interest tax subsidies have been found to be associated with reduced housing affordability across 15 OECD countries (Andrews et al., 2011). For example, empirical studies for the US have found MID to be a costly policy that does not improve social welfare (Hilber and Turner, 2014). Prior to reforms in 2018, the policy was estimated to amount to a US$28,397 subsidy per converted homeowner per year.[13]

Impact on compactness

MID primarily decreases the post-tax burden on debt-financed homes, including newly built homes. In cities where regulation limits higher densities and land is available for development on the periphery, MID is likely to increase housing consumption in that part of the city, leading to a less compact urban form. In areas where housing supply cannot respond to increased demand through new property development or conversion of other properties, or when an MID is restricted to the purchase of existing homes, the MID policy will have a neutral effect on compactness, but will raise home prices (Hilber and Turner, 2014).

Even though MID policies rarely positively affect urban form in practice, they could in theory – for example, if they were applied selectively to the construction of new homes through the conversion of brownfield land in the urban core. More generally, policies that support compact land use in housing will mitigate the negative impact of MID on compactness.

[13] In the US, the MID was reformed by the Tax Cuts and Jobs Act in 2018. The total amount of taxable mortgage debt decreased from US$1.1 million to US$750,000, and the amount of home equity debt used for home repairs decreased from US$100,000 to zero.

Impact on housing affordability

MIDs usually increase the demand for housing more than proportionally for higher-income households by sharply reducing their cost of home ownership.[14] When the MID applies to interest payments made on loans up to a specified amount, the size of the maximum partially determines the extent to which the policy may be regressive, whereby a lower maximum will decrease the marginal value of the subsidy for households with higher incomes that purchase more expensive houses. Across the OECD, only six out of twenty tax relief measures on mortgage payments are means-tested in terms of income levels (OECD, 2020: indicator PH2.2).

In any case, MIDs are likely to be a regressive policy. Empirical studies have found that there is no significant positive effect of the MID on home-ownership rates and that it may actually lower such rates due to upward pressure on home prices (Council of Economic Advisers, 2017; Sommer and Sullivan, 2018). MIDs may only have positive effects on home ownership for high-income groups in less restrictive housing markets, and in areas with a more rigid supply MIDs may have negative effects on home ownership for high-income groups with seemingly no significant impact on low-income households (Drukker et al., 2018). Some countries restrict MIDs to first-time homebuyers, but there is limited evidence to suggest this reduces the regressive impact of MIDs.

3.3. Policies affecting the physical form of housing: single-family home versus other types

3.3.1. Overview

National policies may directly or indirectly affect the incentives to choose a specific type of housing (e.g. single-family), thereby altering the structure of housing supply and demand. Regressive policies that disproportionately benefit higher-income households have often been used to encourage larger, single-family, detached housing under the implicit or explicit perception that households that demand single-family dwellings have lower financial constraints and thus a lower likelihood of defaulting on their credit. Other reasons that have been given for supporting single-family homes include support of community development, asset accumulation and more rapid construction of housing.

As outlined previously, single-family detached housing has a larger environmental footprint than multi-family dwellings, fuelling higher consumption of land, materials and energy. Moreover, if multi-family dwellings are cheaper to build and operate, land-use and zoning regulations that favour single-family housing or restrict the construction of multi-family dwellings can lead to higher housing and transport costs, reducing affordability for low- and middle-income households. Such land-use and zoning regulations can thereby negatively affect both social inclusiveness and environmental sustainability.

To the degree that the demand for single-family detached housing brings more negative consequences than other types of housing development, policies should correct for these negative externalities. In some cases, policies may actually exacerbate these trends, namely when single-family homes are taxed at lower rates relative to high-density homes of the same value, which creates perverse incentives (Haveman and Sexton, 2008). In the US, for instance, most states tax single-family homes at lower effective property tax rates than apartment buildings, often due to exemptions and credits (OECD, 2017; LILP/MCFE, 2019). This incentive for urban sprawl would be diminished if such exemptions and credits were adjusted to be identical for both types of dwellings. Moreover, in housing markets characterised by a significant share of

[14] The reason is that the size of the demand shift is contingent on the consumer's marginal tax rate. If homeowners have high incomes and therefore high marginal tax rates, then the value of the tax deduction is large. However, for those with lower or no income tax liability, there will be no shift in demand because of the mortgage interest deduction.

single-family detached dwellings relative to multi-family dwellings (e.g. in the US), many pro-home-ownership policies encourage the consumption of single-family dwellings in practice.

3.3.2. In-depth analysis: Preferential tax treatment on home sales

Objectives of the policy instrument

In some countries, such as Canada, Norway, the UK and the US, the tax code provides incentives to purchase homes as investments by exempting home sales from capital gains taxes and granting MIDs (OECD 2020: indicator PH2.2). While tax benefits on home sales do not have a specific spatial component, they reduce the after-tax costs of home-buying. They also interact with local market and regulatory conditions to increase demand for home ownership as well as to increase households' ability to pay. Such exemptions will have a negative impact on total expected tax revenue and can hinder the common goal of taxing all capital gains, although these effects may be mitigated through deferral. Preferential tax treatment on home sales can thereby lead to less dense development if a sufficiently large share of consumers prefer single-family, detached housing, or if regulation favours these types of homes.

Impact on compactness

It is difficult to ensure that preferential tax treatment on home sales does not promote urban sprawl, meaning that there is a need to mitigate the most negative effects of such tax arrangements on compactness. For example, the council tax in the UK directly incentivises the conversion of multi-unit residences into single-family luxury homes (Muellbauer, 2018). Under tax exemptions in the US prior to 1997, capital gains taxes on home sale profits could be avoided if the money was used to buy a more expensive home. This policy encouraged people to move into larger homes even if they would prefer downsizing, and bolstered the market for larger and more expensive housing, resulting in more urban sprawl. The Taxpayer Relief Act of 1997 expanded the tax treatment to all homes by allowing homeowners to exclude capital gains of US$500,000 when selling their homes, essentially subsidising home ownership with no restrictions on where the development occurred. In this way, it may be possible to mitigate the negative impact of preferential tax schemes on compactness by applying them uniformly across all types of homes. However, such a policy would still generally increase the attractiveness of housing as an asset and thereby increase the demand for housing, likely with negative effects on compactness and affordability.

Impact on housing affordability

Tax exemptions from capital gains on home sales are likely to increase housing prices, particularly in markets with a rigid housing supply where higher demand mainly leads to higher housing prices. However, even in cities with a more responsive housing supply where tax exemptions from capital gains are likely to increase residential housing development and mitigate housing price increases (Glaeser, 2008), the policy is likely ultimately to decrease inclusiveness. More precisely, it will be likely to result in higher home-ownership rates only for higher-income households. The reason is that higher prices increase the down-payment requirements, which can disproportionately affect younger buyers or those with low incomes, thereby restricting their access to home ownership.[15] In New Zealand, the introduction of a tax exemption on capital gains from home sales has been linked to higher present and inter-generational inequalities through higher housing prices and average dwelling sizes, and lower owner-occupied rates (Coleman, 2017).

[15] While these predictions hold across markets, the same logic applies within cities and determines where development is most likely to occur. In markets with rigid housing supply, higher prices from changes in taxation or mortgage financing that increase demand will also increase the value of tax deductibility and exclusions from capital gains, thereby concentrating benefits in areas of a city with high prices and homeowners with high marginal tax rates.

From a labour mobility perspective, preferential tax treatment on home sales may have a positive impact, as homeowners can sell homes more easily when needed and move closer to where their jobs are.

3.4. Policies affecting housing affordability

3.4.1. Overview

National governments have numerous policy instruments at their disposal to increase access to affordable housing by selling or letting housing at below market rent and allocating housing directly through an administrative procedure not necessarily dependent on market values. These policies provide access to publicly owned or private affordable housing through demand-side schemes, such as housing allowances or financial support to households in financial distress, and supply-side schemes that incentivise developers to build affordable housing through loans, grants or subsidised land (OECD 2020: indicator PH5.1).

By subsidising construction costs and thereby securing demand, national policies directly shape urban form and encourage residential development for groups that struggle to afford housing in the private market. Policy interventions are especially necessary to increase access to affordable housing in attractive or well-located parts of the city because of their higher price relative to other locations. This often results in incentives for agencies in charge of social housing to trade for locations with poorer connections to public infrastructure, transport networks, jobs and services and for developers to build social housing in non-attractive locations.

Housing allowances have been found to lower capital costs and enhance equality in access to housing when they are well targeted (OECD, 2014). More generous housing allowances per household (measured as a share of GDP) are also associated with greater residential mobility (Causa and Pichelmann, forthcoming 2020). A drawback is that housing allowances can be capitalised in housing prices. Alternatively, rent-subsidy vouchers can work particularly well in cities where the social housing stock is highly concentrated in low-income neighbourhoods, as they allow tenants to choose the type of housing and location that best meets their needs.[16] Social rental housing can support denser development, for instance by creating a pool of well-located units available at below market price (commonly known as the "perpetual use of social housing for rent in central areas" (OECD, 2014)), which stimulates demand for higher-density housing as long as there are effective financing mechanisms to ensure that social housing stock is maintained at appropriate quality and safety standards.

Policies such as rental allowances, rent stabilisation and higher tenure protection for social housing than private housing may encourage renters to stay in the same location, thereby making tenants less mobile. Across OECD countries, mobility is the highest among tenants renting at market price, 51% of whom changed residence within the last five years. Among social or subsidised tenants, 34% changed residence in this period, in contrast to 24% of owners with a mortgage. Mobility is the lowest among outright owners, 9% of whom moved over the same period (Causa and Pichelmann, forthcoming 2020).

If planned or implemented poorly, affordable housing policies can contribute to urban sprawl. Low-quality subsidised dwellings built in unattractive locations with poor access to transport, jobs and services often have high vacancy rates, not least as even subsidised housing is of limited use if its location does not allow access to jobs. In Mexico, expansion of federal housing finance for lower-income segments of the population in recent years has led to housing developments located far from employment opportunities and services, poorly served by infrastructure (especially transport), with social segregation and lower well-

[16] Rent-subsidy vouchers are similar to housing allowances but are not considered entitlements – recipience is contingent on availability of funding and priority criteria for eligible households are commonly employed. For further information, see: Salvi del Pero et al., 2016.

being. Approximately 4.9 million homes were uninhabited in 2015 (equivalent to one-seventh of the total housing stock): 3 million of these are located in cities (OECD, 2015a).

Additionally, some social housing schemes also tightly regulate the location and type of dwelling within the pool of subsidised housing units. This can lead to a high concentration of subsidised households in specific neighbourhoods. In some cases, this follows from the clustering of social housing units in less-serviced areas, where cheap land costs allow more social housing units to be built at a given cost. In other cases, however, social housing schemes include highly targeted allocation rules based, for instance, on country of origin and migratory status (Åslund et al., 2009). Social housing programmes that give little or no room for household choices in terms of location and type of dwelling can lead to spatial segregation and concomitant negative effects, including worse access to jobs and services (Åslund et al., 2009; OECD, 2018b).

Some OECD countries have rent control programmes which generally aim to impose restrictions on initial rent levels and rent level increases in the private rental market. Colombia, Luxembourg and Sweden apply rent controls across the entire rental sector, while other countries, such as Australia, Austria, Denmark, France, Germany, the Netherlands and the US, apply rent controls to part of their housing stock (OECD, 2020: indicator PH6.1). The impact of rent control on housing affordability is not certain; while it may temporarily increase access to affordable housing, it may also decrease supply across the overall housing market in the medium term (Cavalleri et al., 2019).[17]

3.4.2. In-depth analysis: Tax incentives for affordable rental housing

Objectives of the policy instrument

Certain countries give tax incentives to private investors to spur equity investments in affordable rental housing. The equity raised can then be used for construction, acquisition, renovation and refinancing of existing properties. This is the case with the Low Income Housing Tax Credit (LIHTC) programme in the US. Created as part of the United States Tax Reform Act 1986, the LIHTC has provided financing for approximately 2.7 million units (US Treasury, 2008; OECD, 2020: indicator PH5.1).

Under the LIHTC, federal regulations provide incentives (tax credits) for development of areas with high construction costs in census tracts with high levels of poverty (known as Qualified Census Tracts). The credits are awarded to developers of qualified projects through a competitive application process administered at the state level.[18] In each year for 10 years following the construction of the property, a 9% tax credit is applied (4% in the case of renovations) based on the share of the value of the building that is allocated to affordable housing. The programme requires that rental units be kept affordable for at least 30 years after construction and that the occupant pays less than 30% of their income for housing costs, including utilities. In many cases, these credits can then be sold by developers to investors in exchange for a higher ownership stake in the building. While this type of tax incentive may be theoretically attractive to promote affordable housing, in practice it may have adverse effects such as presenting opportunities for tax avoidance.

[17] For further information on rent controls, see: OECD, forthcoming 2020b.

[18] Additional priorities for housing are set annually by states to determine the allocation of credits. While the standards vary, they generally require that at least 20% of units in a property be affordable to households that earn less than 50% of the locality's median income or that at least 40% of units be available to households that earn less than 60% of the median income (US Treasury, 2008).

Impact on compactness

In the case of the LIHTC programme, the spatial implications of the federal tax subsidy programme are determined primarily by the design of the eligibility requirements. For example, the Qualified Census Tracts designation provides further credit to developments in the lowest-income census tracts in the form of eligibility for 30% higher credits than developments in non-Qualified Census Tracts. Such incentives to increase multi-family, central urban developments have served specifically to offset higher development costs and lower incomes of impoverished neighbourhoods in metropolitan areas (Dawkins, 2014).[19]

National governments can consider further options to encourage densification. One fiscal tool to make this possible is a supplementary subsidy for constructions meeting certain requirements in terms of density and access to existing infrastructure, as introduced in the revised housing policy of Chile (Salvi del Pero, 2016). The subsidy design needs to take into account that higher grants and subsidies can quickly translate into higher prices. Consolidating subsidies for land, site development, urbanisation and construction costs can incentivise more development in dense central areas but cannot offset price increases (Salvi del Pero, 2016).

Impact on housing affordability

Tax incentives for denser, more affordable housing units can increase supply, but can result in inequality through increased spatial segregation. Higher segregation will result if project eligibility is uniquely anchored to a certain median income level or poverty rates in neighbourhoods. These types of rules can result in the clustering of affordable housing in lower-income neighbourhoods, which in turn can exacerbate social or economic segregation. To encourage development in areas with a shortage of affordable housing, researchers argue that stronger incentives may be needed such as allocating tax credits where local construction costs are high (Dawkins, 2014; Landis and McClure, 2010).

In the case of LIHTCs, more developments take place in high-poverty census tracts that are generally located in high-density urban locations as a result of the Qualified Census Tracts programme. To decrease segregation, policy-makers should balance such policies with incentives to develop low-cost housing in higher-income areas. In the case of the LIHTC, eligibility also requires developments to be wholly within Qualified Census Tract boundaries, leading to further spatial clustering in Qualified Census Tracts. Developments in low-poverty suburbs have been shown to increase over time due to increases in the price for tax credits, offering opportunities for low-income households to live in low-poverty areas (McClure, 2006).

3.5. Summary of the assessment

Table 1 presents 16 major national housing policy instruments that can affect urban form and housing affordability. Based on the assessments in this section and owing to the cross-cutting nature of many of these policies, they are categorised into three groups: i) policy instruments affecting use of land for housing development, thus affecting the general housing market; ii) policy instruments mainly affecting the owner-occupied housing market; and iii) policy instruments mainly affecting the rental housing market. The table summarises the objectives for each instrument, as well as its impacts on compactness and housing affordability.

[19] The Qualified Census Tracts require at least 50% of households to earn less than 60% of the median income in the area or that have a poverty rate of at least 25%. Additional implicit and explicit spatial policies affect the geographic clustering of LIHTC developments, including the Difficult Development Areas designation, or credits towards projects located around public transport.

The colour – red, yellow, green – of the text in the Policy column in Table 1 indicates which policy instruments are more advisable for achieving compact and inclusive cities. Green refers to policy instruments which are likely to provide positive impacts on both urban form and housing affordability (or positive impacts on one and neutral or mixed impacts on the other). Red refers to policy instruments which are likely to provide negative impacts on both outcomes. Yellow is applied to policy instruments that may be advisable but require careful assessment, as the expected impacts are mixed (e.g. positive impacts on one and negative impacts on the other) or unclear (e.g. different literature provides different evidence, or the expected impacts depend on the detailed design of the instruments). The assessments are based on the literature review and the analysis performed in this paper. Policies were assessed according to their impact on compactness and affordability, but the corresponding financing and political acceptability of implementing them has not been considered within this assessment. Certain policies may not be relevant to all countries, since their applicability can vary according to pre-existing policy frameworks and institutional settings.

Table 1 underscores that, in the first group of policies on land use, regulatory instruments, such as UGBs, USBs and greenbelts as well as TDRs, bear a risk of negative impacts on compactness and housing affordability. These policies require particularly careful design and implementation – for example, with regard to their capacity to adapt to urbanisation trends in the case of greenbelts or UGBs and USBs. In contrast, fiscal instruments, such as split-rate taxes, taxes on vacant land, impact fees, development taxes and incentives for higher density/accessibility, tend to be more adaptable and are more conducive to increasing compactness and housing affordability. Such instruments can be particularly effective in preventing windfall gains for landowners and redistributing a degree of landowners' benefits directly to urban residents.

With regard to the second group of policies affecting types of ownership, those strongly promoting home ownership, such as grants for new homes or MIDs, tend not only to contribute to urban sprawl but also to exacerbate inequalities. In practice, the literature suggests that many home-ownership policy instruments benefit middle- to high-income households that may receive fiscal advantages while low-income households face an ensuing housing cost overburden. In addition, these policies are costly relative to the expected social benefit. When implemented, such policies must be appropriately designed for target households in order to manage these negative impacts, but they are difficult to design well.

On the other hand, policies in the third group, bolstering the rental housing market, can generate marked benefits for inclusiveness as well as for compactness, especially through measures ensuring rental housing options for lower-income households, such as rental housing allowances, rent-subsidy vouchers, inclusionary zoning and the perpetual use of social rental housing in central urban areas. Notably, these instruments can spur denser development when targeted in central urban areas and can play a key role in reducing housing costs for eligible beneficiaries of social housing (eligibility must be periodically reassessed to avoid distortion). There is not sufficient evidence to accurately assess the extent to which policy instruments, such as regulations on tenant–landlord relations, affect compactness and housing affordability, but these instruments are nonetheless generally recommended to balance the rights and responsibilities of landlords and tenants.

Table 1. Policy instruments affecting urban compactness and housing affordability

Policy (section discussed)	Objectives	Impact on compactness	Impact on affordability
Policy instruments affecting use of land for housing development			
Split-rate property taxes or vacant urban land tax (3.1.1)	Incentivise property owners to build on (or improve) their properties while disincentivising land speculation	If well designed and adequately targeted, split-rate taxes reduce incentive for sprawl	Effect on housing prices is mixed
Impact fees (3.1.1)	Internalise the cost of infrastructure provision by charging developers/landowners for their developments in order to recover the social cost of conversion to housing	More dense and less fragmented development as incentives to build near existing stock increase	Mixed – Prevent windfall gains for landowners (for developing their land without providing necessary infrastructure) and increase access to services
Development tax (3.1.2)	Internalises the social and environmental loss of open space by levying tax on land that is converted from agricultural to urban use	Less sprawl, as it provides disincentives to landowners for land conversion	Mixed – Can capture and redistribute landowners' benefits to urban residents
Tradable or transferable development rights (3.1.2)	Compensate restricted development rights by allowing a right to develop a plot of land to be transferred to another plot; often used to preserve historical buildings	May not directly reduce sprawl but can produce more dense development if restricted rights in urban fringes are traded to urban centres; the correct cap needs to be established	Uncertain – depends on the initial state of regulation and allocation of development rights
Urban growth boundaries or urban service boundaries (3.1.2	Contain sprawling housing development by physically limiting developable fringe areas	Less sprawl and more dense development, but more sprawl and more fragmented if boundaries are not drawn properly or updated periodically	Increased housing prices
Greenbelt (3.1.2)	Designates areas of open space surrounding urban areas (or certain parts outside urban areas) that act as physical boundaries against city expansion	Less sprawl and more dense development, but fixed greenbelts are likely to lead to leapfrogging (development outside the greenbelts)	Increased housing prices
Incentives for higher density or accessibility (3.4.2)	Incentivise housing development with higher density/floor-to-area ratio and with better access through subsidies; used in areas where densification needs to be encouraged (e.g. near public transit infrastructure or high employment areas)	Less sprawl and more dense development	Increased affordable housing stock; access requirements can increase inequality through housing cost overburden (higher grants and subsidies can capitalise into higher prices)
Policy instruments mainly affecting the owner-occupied housing market			
Grants for buying or constructing a new home (3.2.1)	Increase access to housing; alleviate housing cost burden for homeowners/home buyers	Less compact if preference is given to single-family home projects	In practice with rigid supply they can inflate land prices; increased housing cost overburden (unless restrictions on mortgage uptake are in place); if targeting is weak, higher-income households mostly benefit
Mortgage interest deduction (3.2.2)	Allows taxpayers to own their homes and brings positive externalities to their communities	Results in an increase either in space consumed per capita or in the share of single-family homes in peripheral areas (more in places with rigid housing supply)	Higher housing prices in places with rigid housing supply; increased wealth inequality when beneficiaries are high-income households that benefit from large tax deductions
Preferential tax treatment on home sales (3.3.2)	Increases positive effects of homeowners in communities by promoting home ownership and increasing share of homeowners, through exemption from capital gains taxes	No densification effect expected; higher space per capita consumption / higher share of single-family homes in suburbs	Lower-income households overburdened by rising housing prices (especially in markets with a rigid supply); can have a positive impact on labour mobility as homeowners can sell homes more easily when needed

Policy (section discussed)	Objectives	Impact on compactness	Impact on affordability
Policy instruments mainly affecting the rental housing market			
Regulations on tenant–landlord relations (3.2.1)	Address asymmetric information and unequal bargaining power between landlords and tenants	Neutral	Mixed – may increase security of tenure and minimum quality standards of rental housing but may indirectly decrease rental housing supply and can reduce labour mobility
Inclusionary zoning (3.2.1)	Ensure access to affordable housing by reserving new housing to be rented at below-market-price levels (often for certain periods, e.g. 20 years)	More compact if housing is located in more central areas compared with social housing stock	Lower housing costs; housing quality may degrade if rental revenue cannot cover maintenance costs
Rental housing allowances or rent-subsidy vouchers (3.4.1)	Ease housing cost burden for renters by lowering rents through a subsidy	Neutral	Mixed – Increase access to affordable housing for lower-income households and can also increase residential mobility; can boost rents and land prices if supply is rigid
Rent control (3.4.1)	Establish controls on rent (e.g. initial rent level, and/or increases in rent levels)	Neutral	Mixed – may increase affordability of rental housing in the short-term but decrease supply across the housing market
Perpetual use of social housing for rent in central areas (3.4.1)	Create a pool of social housing units to be leased out to eligible households through a below-market use contract	More compact since such housing is located in more central, and generally denser, areas	Lower costs for social housing tenants and increased overall access to social housing
Subsidies or tax incentives for affordable rental housing (3.4.2)	Ensure access to affordable housing by providing incentives to investors and developers	Mixed – more compact development through regeneration and conversion of central housing stock or explicit subsidies for multi-family dwellings; less compact development through development in peripheral areas, with maximum negative effects when combined with low occupancy rates	Lower housing costs, but potentially greater spatial segregation; if developments are built at low cost in areas with low connectivity this can lead to poor-quality housing and worse access to jobs and services. Tax incentives may create some distortions (e.g. tax avoidance)

Note: In the "Policy" column, the following colours assess the extent to which a given policy instrument is advisable in order to achieve compact and inclusive cities:

Red = Not advisable in principle.

Yellow = May be advisable but requires careful assessment to avoid potentially mixed or adverse impacts.

Green = Advisable with appropriate qualifications.

Source: Elaboration based on multiple sources.

Finally, while national governments play a key role in providing the overarching legal framework for many of the documented policies, in many cases, subnational governments actually design and implement housing policies, underscoring the need for effective coordination across levels of government. National governments also significantly influence investment decisions in the housing market and determine how responsibilities for housing policies are allocated between the national and subnational levels of government. Effective allocation of responsibilities and eventual implementation of such policies at the subnational level are in turn dependent on adequate institutional capacity and financing, among other factors.

The next section builds on the key insights presented in Table 1 in order to provide concrete recommendations for delivering affordable housing and compact urban development, in three principal areas: i) designing fiscal incentives to foster compact and inclusive cities; ii) unlocking the potential of the rental market; iii) strengthening institutional capacity and building coherent policy frameworks.

4. Policy recommendations for delivering affordable housing and compact urban development

Based on the preceding analysis, this section provides recommendations to national governments on how to deliver affordable housing and more compact, inclusive cities.

4.1. Design fiscal incentives to foster compact and inclusive cities

4.1.1. Redesign property taxes to incentivise more efficient land use through higher-density housing development

Redesigning property taxes is a powerful vehicle through which national governments can shape the owner-occupied housing market (Norregard, 2013). Despite their important revenue potential and lower distortionary effect compared with other taxes, property taxes remain misused and under-used in many countries (Franzsen and McCluskey, 2017; O'Reilly, 2018). In contrast, well-designed property taxes, such as a split-rate tax and a tax on vacant urban land, limit distortionary impacts and provide incentives for more efficient use of well-located urban land (see Section 3.1.1).

National governments can also contribute to integrated urban development by making construction grants spatially targeted, for instance as a complement to programmes providing incentives for developers, as discussed in Section 3.4.2.

4.1.2. Discourage low-density housing construction at the periphery by adopting a development tax or impact fees that internalise the real cost of sprawl for property developers

Newly developed areas require roads, sewers, schools, parks and recreation areas. When neighbourhoods are more spread out or have lower density, like those on the urban fringe, infrastructure costs (construction, operation and maintenance) are higher per household relative to higher-density neighbourhoods. In those cases, developers and homeowners do not pay the full costs of the infrastructure needed to service new developments. By not fully internalising the costs of infrastructure or the loss of other land uses (such as agriculture and forests), development of urban land is cheaper than its true social and environmental cost.

National governments can make use of fiscal incentives to discourage urban land expansion in greenfield areas such as forests and agricultural land, and reward more efficient use of built-up land. Examples of this type of policy include a development tax and impact fees (see Section 3.1.1 and Section 3.1.2). The fees can be calculated to cover the cost of each increment of the infrastructure stock that is added, with differential fees for greenfield versus infill development (OECD, 2014). This can create strong incentives

for developers to intensify land use or build next to existing developments, leading to more compact and contiguous growth.

Another way to achieve this is to construct new homes through the conversion of brownfield land in the urban core. This strategy limits the incentives for converting greenfield land to housing developments (see Section 3.2.2). By lowering the opportunity cost of keeping land for agricultural purposes, these tax incentives deter further conversion of land into housing developments.

It is crucial that measures to discourage urban sprawl are combined with measures to guide housing development towards desirable locations. For example, providing incentives for housing development along high-capacity public transport lines can offer investors an attractive alternative to development on the urban fringe.

4.2. Unlock the potential of the rental market

4.2.1. Establish clear and balanced tenant–landlord regulations to enhance transparency and ensure that both parties have equal access to information and legal recourse

Many national housing policies tend to favour the owner-occupied submarket of the housing market. However, many common policy instruments to promote home ownership (e.g. preferential tax treatment on home sales or MIDs) both are regressive and encourage the over-consumption of housing space. Concomitant issues with home ownership, such as excessive leverage, accentuated by the 2008 financial crisis, have also brought into question the desirability of constantly expanding the owner-occupied market segment (Ronald and Elsinga, 2012; Lennartz et al., 2014). This is particularly true for households with little and unstable financial capacity who are at higher risk of defaulting on their mortgages (Bayer et al., 2014). At the macro level, a developed rental market seems to attenuate fluctuations in the housing sector (Czerniak and Rubaszek, 2018). Various studies have also documented adverse outcomes of high home-ownership rates on labour markets (Blanchflower and Oswald, 2013; Laamanen, 2013; OECD, 2015a), including decreased labour mobility (Causa and Pichelmann, forthcoming 2020).

To boost the rental market, it is necessary to identify any constraints to the supply and demand of rental housing, which is influenced by measures impacting tenant–landlord relations such as rent control mechanisms (see Section 3.2.1). Establishing clear and balanced regulations on tenant–landlord relations is vital in order to provide transparency and equal access to information between tenants and landlords. Poorly designed or stringent rental regulations can lower the net return of new construction and maintenance by capping the price of rentals, resulting in a lower quantity and quality of housing stock than in the absence of the policy (Andrews et al., 2011).

4.2.2. Develop measures to support social rental housing and ensure adequate tenure protection without hampering residential mobility

Because of their lower locational impacts, social rental housing measures, such as housing allowances and rent-subsidy vouchers (Section 3.4.1), can increase access to quality housing without interfering directly with urban form. Housing allowances can reduce capital costs and improve access to housing for low-income groups when they are well targeted (OECD, 2014), although they can lead to higher housing prices in the longer term. Rent-subsidy vouchers are also a useful policy tool, enabling tenants to choose the type of housing and location that best meets their needs. The effectiveness of social rental housing programmes depend on the eligibility criteria and the level of subsidies that can reflect the local market conditions and ensure equal access to affordable housing under the budget constraint. It is also crucial to ensure that social rental housing programmes are sensitive to the needs of vulnerable constituencies (e.g.

women, youth, the elderly). Ensuring adequate tenure protection and safeguarding the rights of tenants can therefore help national governments to achieve multiple equity and affordability objectives.

Special attention is required when designing these policies as they may distort housing consumption choices, making renters less mobile. Policy efforts to encourage property owners to rent their properties should therefore be accompanied by a periodic review of policies that may lower residential mobility, including rent stabilisation and relatively higher tenure protection for social rental housing, which encourage renters to stay as renters (see Section 3.4.1). In countries where eligibility conditions are not periodically revised, there is an extra incentive for social housing tenants to stay put as a way to preserve their rental savings.

4.3. Strengthen institutional capacity and build coherent policy frameworks

4.3.1. Craft national urban policies that align different ministries and levels of government behind a shared vision for cities, and design policy frameworks that enable subnational governments to promote denser, mixed-use development

National urban policies can embed housing strategies within a broader vision for cities by providing guidance about the long-term strategy and goals for cities, based on explicit principles of urban form (OECD, 2014; OECD, 2015b; OECD/UN-Habitat, 2018). Previous work in Chile suggests that a national strategy should specify at least the following: which land uses should co-exist within cities; the service provision levels linked with new developments; densification thresholds; specific conditions for urban boundary expansion; and the links between public transport and economic and social activities (OECD, 2013). National urban policies should also include clear regulations for climate-smart housing and connective infrastructure (Broekhoff et al., 2018; Rydge et al., 2015). This might include introducing or updating building energy efficiency codes, supporting environmentally friendly technologies, such as decentralised renewables, and providing incentives for the adoption of green building materials (Rode et al., 2017).

In cities facing housing shortages and rising housing prices, national governments can take a more active role in helping local governments incentivise the development of vacant or under-used land, especially in central areas. National government can accomplish this, for example, by defining a clear national strategy towards infill development (see Section 3.1.1), even if not mandatory. Successful infill policies at the local level can also benefit from technical assistance by national agencies to identify and catalogue underdeveloped urban land, and to create reliable and updated information systems where developers can access information on developable land in central areas.

To boost densification, national housing legislation can introduce the perpetual use of social housing for rent in central areas, inclusionary zoning and minimum requirements for public spaces and infrastructure provision – as a complement to other incentives for developers (see Sections 3.4.1, 3.2.1 and 3.4.2). Recent examples include the incorporation of transport-oriented principles in some development projects of the Minha Casa, Minha Vida social housing programme in Brazil (Broekhoff et al., 2018) and the recommendations for integrated social housing projects in Mexico (OECD, 2015a). These types of requirements guarantee at least the minimum standards on neighbourhood quality and access to services. However, they can also backfire if they substantially increase the unit costs of housing.

4.3.2. Introduce mechanisms for better inter-municipal collaboration for both demand-side and supply-side policies

National governments are in a prime position to coordinate the efforts of different ministries and local governments to achieve reduced emissions and more inclusiveness (see Section 3.1.1). Even though

coordinating policies horizontally and vertically is likely to be a win-win scenario, many governments do not yet consider it a priority. National urban policies provide an overarching structure to coordinate housing, transport, economic and other policies affecting urban areas, and will frame action extending beyond strict administrative boundaries to a broader metropolitan area. National urban policies can also articulate the rights and responsibilities of local governments, and should suggest mechanisms for inter-municipal collaboration accordingly. This applies both to demand-side policies such as voucher programmes, so that subsidised households can consider all possible locations within functional urban areas, and to supply-side policies such as impact fees, which may affect infrastructure investment decisions and housing prices across multiple municipalities.

4.3.3. Increase local capacity to collect property taxes by reviewing tax exemptions and strengthening national systems to identify taxable properties and assess property values

National and subnational governments need sufficient financial resources to implement housing policies. The property tax represents a key potential source of revenue in many countries, and increasing the capacity of property tax collection is a prerequisite for well-functioning tax systems. Central governments play different roles with respect to setting and collecting property tax across countries. In some cases, national governments directly set property taxes. In others, local governments may be authorised to determine the tax rate (within limits set by national governments to prevent harmful tax competition across jurisdictions) (Slack and Bird, 2014).

Property tax revenues are much larger in developed countries (2.2% of GDP) than in developing countries (0.6% of GDP), and – due to a variety of historical, cultural and institutional reasons – are particularly low in African countries (0.38% of GDP on average across 32 African countries) (Franzsen and McCluskey, 2017). To complement direct action towards more compact and inclusive cities, it is crucial that national governments focus on increasing local capacity for property tax collection. Higher collection can start with the revision of tax exemptions, which stretch beyond socially desirable reasons in many cases (Slack and Bird, 2014). This is particularly urgent in cases where differential tax treatment affects decisions about location and activity, leading to less compact development, as can happen with MIDs (see Section 3.2.2). Adequate and regular property value assessments are key to align the market value of the property with the corresponding tax. Limited administrative capacity and potentially heavy resistance to reassessing property values remain challenges since they can lead to mismanagement of value assessment and reduced tax collection.

In parallel, national governments can bolster their efforts to identify taxable properties in a consolidated national cadastre system. Evidence from developing countries shows that the cost of administrative improvements can discourage governments from investing in this option (Bahl and Wallace 2008; Slack and Bird, 2014). Nevertheless, a property identification system that is consistent and allows for regular updates is a sensible investment for other goals besides tax collection related to compact and urban development. In Mexico, the government implemented a programme that successfully updated the cadastre of 11 municipalities and increased their property tax collection by an average of 40% (OECD, 2015a). In addition, a property identification system creates the option of pooling national resources for investing in institutional capacity.

5. Conclusion

Providing adequate and affordable housing at scale while simultaneously fostering compact cities is a global challenge. It is an ambitious but essential policy objective to provide urban residents with good access to jobs, services and amenities, and with cleaner air and more disposable income. National governments have a major role in achieving this objective, with their capacity to set overarching visions and goals, provide policy frameworks for subnational governments, and finance housing and urban infrastructure investment.

The aim of this paper was to develop a set of priorities for national governments in delivering affordable housing and compact urban development, based on an analysis of the advantages and disadvantages of various policy options for different submarkets and segments of the housing market. The evidence reviewed in this paper suggests that national governments need to better align the demand and supply of housing with the right kind of incentives for households and investors. For households, these incentives should redirect owner-occupied and rental housing demand to compact and connected areas, without becoming a financial burden or slowing residential mobility. For investors, these incentives should redirect new housing development, reconversion and rental property to connected and compact areas, without discouraging new project and maintenance investment or over-complicating the rules and regulations.

As Table 1 shows, it is hard for national governments to strike the appropriate balance in order to accomplish the goals of more affordable housing and more compact urban development. The in-depth analysis of past policies reviewed in this paper highlights some of the trade-offs and unanticipated results of implementing housing policies. This evidence is based heavily on developed countries, as they have extensive experience in a wide variety of housing policy instruments. Learning from the past successes and mistakes of developed countries can be useful for developing countries designing policy solutions. Importantly, such policy design should account for market segmentation (informal housing), higher levels of inequality and exclusion, potentially weaker governance and institutional capacity, and ongoing urbanisation.

The policy analysis conducted in this paper generates several key insights, which include the following:

- Fiscal policies, such as impact fees and split-rate taxes, can ensure that new housing developments meet objectives for affordability and compactness and reflect the true costs of urban sprawl. The balance between fiscal incentives, taxes and fees is context specific, as imposing too stringent rules can discourage investors and affect the quality of projects. Fiscal incentives represent a transfer from society to developers that should be justified by the social benefits of the policy.
- Certain policy instruments incentivising home ownership, such as preferential tax treatment on home sales and MIDs, are costly, socially regressive and can make it more difficult for people to move. Moreover, they may contribute to sprawl and spatial segregation by spurring demand from higher-income households for single-family detached housing in suburban areas. Therefore, they should not be actively encouraged by governments through subsidies. They must be very well targeted in order to minimise potential inequalities.

- To ensure that a certain share of housing units are sold or rented at below market prices, multiple instruments should be used in both the owner-occupied and rental markets, such as inclusionary zoning or incentives for developers. In particular, there is a need for more policies to promote the private rental housing market, from rent subsidies to better protections for tenants.
- Providing urban public space and enhancing connectivity is key to ensuring that new housing projects will support compact urban development. The transversal nature of housing policy requires a strong integrated approach, through frameworks such as national urban policies. For instance, national governments must closely work with subnational governments to ensure adequate service provision and transport links.

Based on these key insights, this paper has proposed three main policy recommendations for national governments, elaborated in Section 4. , in order to design policy instruments that can provide affordable housing at scale, while ensuring compact urban development. They are summarised below.

- **Design fiscal incentives to foster compact and inclusive cities**:
  - *Redesign property taxes to incentivise more efficient land use through higher-density housing development.* In order to accomplish these goals and effectively shape the owner-occupied housing market, national governments should implement property taxes, such as split-rate taxes and a tax on vacant urban land, in a manner adapted to their respective domestic contexts.
  - *Discourage low-density housing construction at the periphery by adopting a development tax or impact fees that internalise the real cost of sprawl for property developers*. National governments should discourage urban expansion into greenfield sites and other areas at the urban fringe, by implementing a development tax and impact fees.
- **Unlock the potential of the rental market**:
  - *Establish clear and balanced tenant–landlord regulations to enhance transparency and ensure that both parties have equal access to information and legal recourse.* On the supply side, the decision to lease a property rather than sell it largely depends on foreseen tenure costs, including the ease of terminating tenures and the protection of landlord rights, while on the demand side, the decision to rent a property rather than own one largely depends on the protection of tenant rights. While striking the correct balance is highly context dependent, it is crucial to establish clear tenant–landlord regulations that provide transparency and ensure that both parties have equal access to information and to legal recourse.
  - *Develop measures to support social rental housing and ensure adequate tenure protection without hampering residential mobility.* Policy interventions are especially necessary to increase access to affordable housing in central parts of the city because of their higher price relative to other locations. Rental housing allowances, rent-subsidy vouchers and adequate tenure protection play a key role in improving housing quality and affordability. While measures such as standardised contracts and rent stabilisation can secure affordable housing for low-income households, they need to be periodically revised to make sure that they do not disproportionately hamper residential mobility or affect housing supply.
- **Strengthen institutional capacity and build coherent policy frameworks**:
  - *Craft national urban policies that align different ministries and levels of government behind a shared vision for cities, and design policy frameworks that enable subnational governments to promote denser, mixed-use development.* National governments should craft national urban policies (for instance, on infill development) in order to integrate localised efforts in larger domestic objectives and across the many sectors that strongly impact urban housing, such as transport, land-use planning, water and energy, among others. As well as designing national urban policies, national governments should establish, as appropriate, regulations mandating inclusionary zoning, minimum requirements for public space and access to infrastructure,

perpetual use of social housing for rent in central areas and climate-smart housing infrastructure.

- *Introduce mechanisms for better inter-municipal collaboration for both demand-side and supply-side policies.* National-level policies may inadvertently lower urban density when there is a lack of coordination between levels of government. To address this, national housing policies must recognise that they are likely to have an impact beyond strict urban administrative boundaries (i.e. extending to the functional urban area, the less densely populated commuting zone) and introduce mechanisms for inter-municipal collaboration, both for demand-side and supply-side policies.
- *Increase local capacity to collect property taxes by reviewing tax exemptions and strengthening national systems to identify taxable properties and assess property values.* National governments should capitalise on tax revenue by increasing local capacity for property tax collection, beginning by systematically reviewing tax exemptions. In addition, national governments should bolster their efforts to identify taxable properties consolidated in a national cadastre system, which should be regularly updated and monitored.

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