

**POLICIES FOR A MORE EFFICIENT AND INCLUSIVE HOUSING
MARKET IN LUXEMBOURG****ECONOMICS DEPARTMENT WORKING PAPER No. 1594**

By Jan Stráský

OECD Working Papers should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the author(s).

Authorised for publication by Isabell Koske, Deputy Director, Country Studies Branch, Economics Department

All Economics Department Working papers are available at www.oecd.org/eco/workingpapers.

JT03457180

OECD Working Papers should not be reported as representing the official views of the OECD or of its member countries. The opinions expressed and arguments employed are those of the author(s).

Working Papers describe preliminary results or research in progress by the author(s) and are published to stimulate discussion on a broad range of issues on which the OECD works.

Comments on Working Papers are welcomed, and may be sent to the Economics Department, OECD, 2 rue André-Pascal, 75775 Paris Cedex 16, France, or by e-mail to eco.contact@oecd.org.

All Economics Department Working Papers are available at www.oecd.org/eco/workingpapers.

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

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

© OECD (2020)

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for commercial use and translation rights should be submitted to rights@oecd.org

ABSTRACT/RÉSUMÉ**Policies for a more efficient and inclusive housing market in Luxembourg**

Housing prices have been growing strongly in Luxembourg, stoked by population growth, a high rate of household formation and limited use of land available for construction. Increases in price-to-income ratio mainly reflect high valuations of residential real estate, which rise faster than incomes, leading to increasing financial risks related to household indebtedness. Housing affordability has been deteriorating in particular for low-income households who do not profit from highly subsidised social housing. A mix of policies addressing supply-side restrictions, such as land hoarding and resistance to densification, together with policies to increase housing tenure neutrality and better targeted fiscal support will be needed to make the housing market more efficient and inclusive. Measures increasing the opportunity costs of unused land in urbanised areas and unoccupied dwellings could be combined with further reform of land-use planning, including measures involving municipalities in selectively increasing residential density in areas well-connected to the transport network. Housing tenure neutrality could be supported by removing or at least reducing mortgage interest deductibility and other fiscal instruments supporting homeownership and by developing the recurrent taxation of immovable property into a more important fiscal resource based on up-to-date real estate valuations. The supply of social rental housing should be stepped up and access to it made conditional on recurrent means testing ensuring better targeting to those most in need. Private rental sector could be expanded by relaxing the rules on renting parts of housing units and conversion of existing dwellings into rental housing.

This Working Paper relates to the 2019 OECD Economic Survey of Luxembourg.

<http://www.oecd.org/economy/Luxembourg-economic-snapshot/>

JEL classification codes: H11, H24, R21, R31

Keywords: Housing affordability, housing construction, land-use planning, municipalities, housing tenure neutrality, Luxembourg.

Politiques publiques en faveur d'un marché du logement plus efficient et plus inclusif au Luxembourg

Le prix des logements s'est envolé au Luxembourg, sous l'effet de la croissance démographique, d'un taux élevé de formation des ménages et d'une utilisation limitée de terrains disponibles à la construction. La hausse du ratio prix/revenu reflète principalement les hausses substantielles de prix de l'immobilier résidentiel, qui progressent plus vite que les revenus, entraînant une montée des risques financiers liés à l'endettement des ménages. L'accessibilité financière des logements s'est détériorée, en particulier pour les ménages à faible revenu qui ne bénéficient pas des logements sociaux fortement subventionnés. Un ensemble de politiques publiques destinées à remédier aux restrictions existant du côté de l'offre, comme la rétention foncière et la résistance à la densification, associées à des politiques visant à accroître la neutralité vis-à-vis du mode d'occupation des logements et à des mesures de soutien budgétaire mieux ciblées s'avèreront nécessaires pour rendre le marché du logement plus efficient et plus inclusif. Des mesures d'alourdissement des coûts d'opportunité des terrains inutilisés dans les zones urbanisées et des logements inoccupés pourraient être conjuguées à une nouvelle réforme de l'occupation des sols, notamment en impliquant les communes afin d'accroître la densité d'occupation de manière sélective dans des zones bien reliées au réseau de transport. La neutralité vis-à-vis du mode d'occupation des logements pourrait être renforcée en supprimant ou du moins en réduisant la déductibilité des intérêts hypothécaires ainsi que d'autres instruments budgétaires favorisant la propriété, et en faisant de l'imposition périodique des biens immobiliers une ressource budgétaire plus importante fondée sur des évaluations immobilières récentes. L'offre de logements sociaux locatifs devrait être étoffée et l'accès à ces logements soumis périodiquement à des conditions de ressources, afin de mieux cibler les personnes les plus démunies. Le secteur locatif privé pourrait être développé en assouplissant les règles sur la location de certaines parties des unités de logement et sur la conversion d'habitations existantes en logements locatifs.

Ce Document de travail se rapporte à l'Étude économique de l'OCDE du Luxembourg 2019.

<http://www.Ooecd.org/fr/economie/Luxembourg-en-un-coup-d-oeil/>

Codes de classification JEL : H11, H24, R21, R31

Mots-clés : Accessibilité du logement, construction de logements, aménagement du territoire, municipalités, neutralité du régime d'occupation du logement, Luxembourg.

Table of contents

Policies for a more efficient and inclusive housing market in Luxembourg	5
1. Population growth and constrained supply diminish housing affordability	5
1.1. Demographic growth has exceeded housing supply	5
1.2. Price developments reflect limited use of available land	7
2. Increasing the supply of housing	11
2.1. Spatial planning instruments fail to prevent land hoarding	11
2.2. Improving co-ordination in spatial planning and infrastructure provision	14
2.3. New construction	15
2.4. Densification measures	19
3. Making the access to housing more equitable	21
3.1. Tax preference for homeownership	21
3.2. Measures to expand the stock of social housing	27
3.3. Social housing should be targeted to those most in need	30
3.4. Affordable private rental sector	31

References	35
-------------------	-----------

FIGURES

Figure 1. Strong population growth is projected to continue	5
Figure 2. Population growth is driven by net migration	6
Figure 3. Housing construction has not kept up with population growth	7
Figure 4. Real house prices are growing strongly	8
Figure 5. Increasing price-to-income and price-to-rent ratios point to affordability problems	9
Figure 6. Households' housing cost burden is high	10
Figure 7. The regional variation in housing prices reflects the distance from capital	10
Figure 8. Developed land per capita is high	11
Figure 9. Growth rates of developed areas per capita is strongly negative	12
Figure 10. Prices of land for construction vary strongly across the country	13
Figure 11. Construction prices have increased strongly	16
Figure 12. Transaction costs are high	16
Figure 13. New construction is shifting towards apartment buildings	19
Figure 14. Average number of rooms per household is high for all tenures	20
Figure 15. Perceived noise and pollution levels are high	21
Figure 16. Urban sprawl is high	22
Figure 17. Housing tenure is dominated by homeownership	22
Figure 18. Marginal effective tax rates on owner-occupied residential property are low	24
Figure 19. Taxes on property consist mainly of net wealth taxes	25
Figure 20. Recurrent immovable property taxes are low	25
Figure 21. Other real estate is predominantly owned by top 10%	27
Figure 22. Social rental housing stock is low	28
Figure 23. The stock of vacant dwellings could be reduced further	29
Figure 24. Providers of social rental housing are mainly public bodies	29
Figure 25. Income distribution of subsidised rental housing tenants include many high earners	31
Figure 26. Many low-income households rely on the private rental sector	32

Policies for a more efficient and inclusive housing market in Luxembourg¹

By Jan Stráský

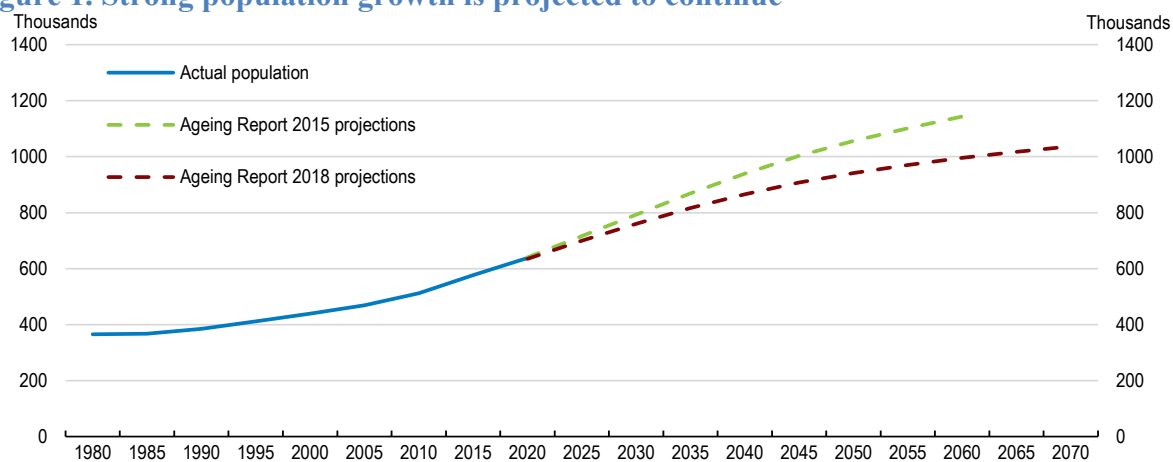
1. Population growth and constrained supply diminish housing affordability

Strong population growth and an above-average increase in the number of people living alone pushed up the demand for housing in Luxembourg. The supply of housing has not kept up with demand, restricted by the limited use of land available for construction and the practice of land hoarding. The accumulated gap between housing demand and supply thus mainly resulted in strong house price increases and deteriorating affordability of housing.

1.1. Demographic growth has exceeded housing supply

Luxembourg's population has increased strongly, by 36.2% from 2000 to 2017, mainly driven by the inflow of foreign workers (net migration), while the average increase in the EU was just over 5%. The strong positive trend is projected to continue, albeit less forcefully than previously projected (Figure 1.) with total population exceeding 1 million in 2060 (European Commission, 2018). In addition, the growing number of single-person households associated with higher divorce rates, population ageing and other factors, resulted in the highest rate of household formation in the European Union, 2.5% per annum between 2005 and 2013 (European Union, 2015).

Figure 1. Strong population growth is projected to continue



Source: STATEC; European Commission (2018) The 2018 Ageing Report; and European Commission (2015) The 2015 Ageing Report.

¹ Jan Stráský is an Economist with the OECD Economics Department. The author would like to thank Pierre Beynet, Isabell Koske, Patrick Lenain and Álvaro Pina (all ECO) for helpful comments on the previous versions of the paper, Paula Adamczyk for excellent statistical support and Robin Houg Lee for the preparation of the final document.

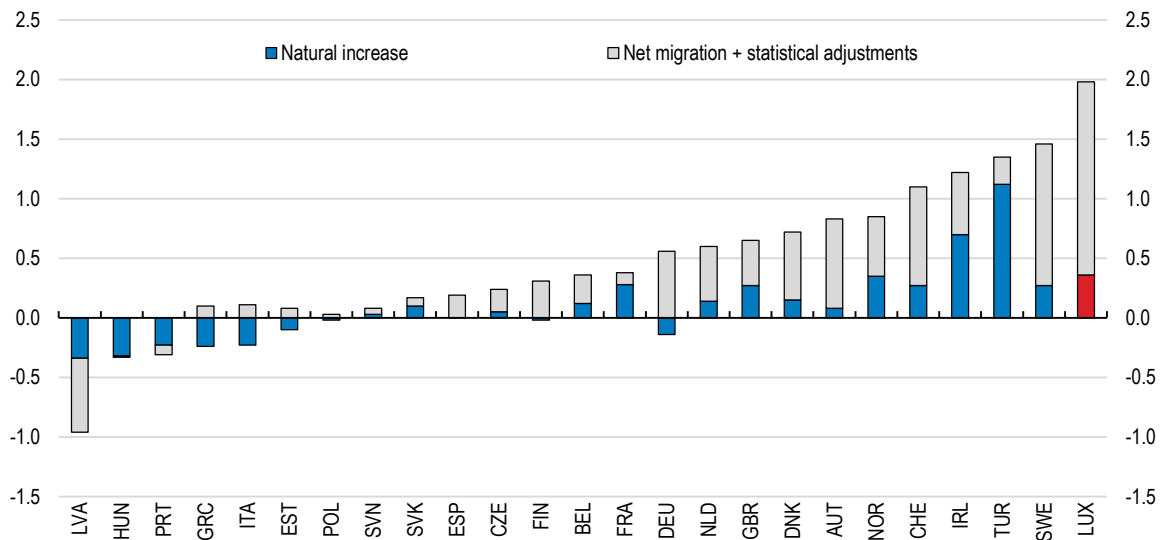
Prior to the global financial crisis, net migration broadly reflected economic developments, increasing in periods of strong economic growth and vice versa. However, in the aftermath of the 2008 crisis net migration grew strongly, reaching historically high levels (Figure 2).

The housing stock does not expand in line with the growing demand. Although the number of newly completed dwellings as a share of total housing stock is above the OECD average (Figure 3, Panel A), this increase is more than offset by strong population growth and the growing number of single-person households. The number of dwellings relative to population is among the lowest in the OECD (Figure 3, Panel B). Although the number of dwellings per 1 000 inhabitants slightly increased (from 406 in 2010 to 414 in 2015), this improvement was more than offset by the decreasing size of the average household.

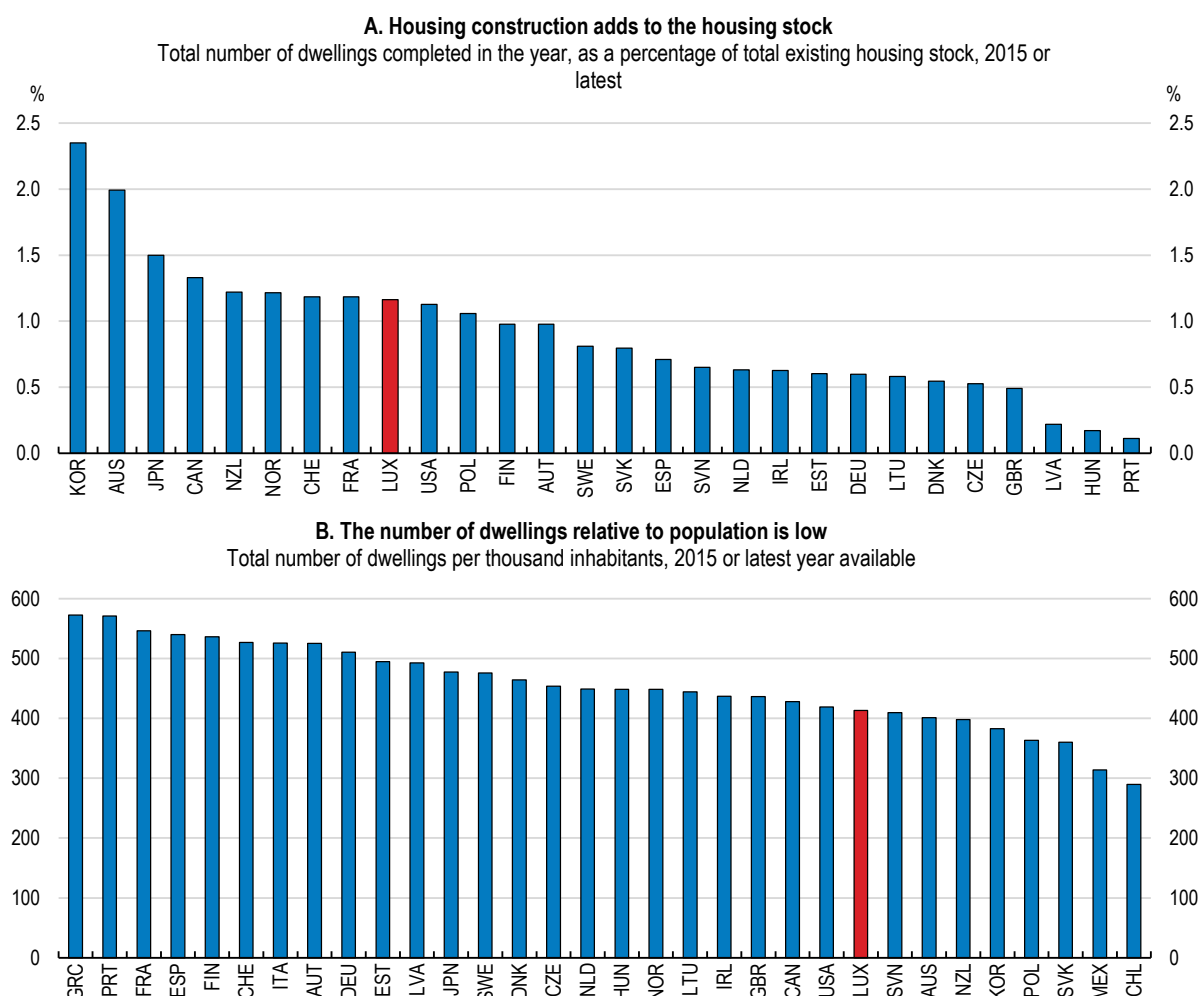
The gap between housing demand and supply has increased over many years, further restricting the effective housing supply. A pre-crisis study projecting moderate population growth up to 2021 (already surpassed by observed population growth in 2012) and taking into account the historical backlog in construction has put the annual building target at 3 800 units (Eichberger, Seidenberger and Blanda, 2008). A more recent study, based on the projected population of 647 000 in 2030, put the construction needs between 2010 and 2030 at almost 6 500 dwellings per year (Peltier, 2011). However, the average number of newly built dwellings between 2001 and 2016 was only 2 804 dwellings per year (STATEC, 2017b).

Figure 2. Population growth is driven by net migration

Percentage, 2016



Source: OECD (2018), International Migration Outlook.

Figure 3. Housing construction has not kept up with population growth

Note: In Panel B, data refer to: 2010 for Cyprus and Mexico; 2011 for Canada the Czech Republic, Estonia, Greece, Italy, Latvia, Malta, Romania, the Slovak Republic and Spain; 2013 for Chile, Croatia and Japan; 2014 for France, Lithuania, Luxembourg, Poland, Switzerland and the United Kingdom, 2015 for Korea.

Source: OECD Affordable Housing Database.

Note: The information in the documents 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 recognizes 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”.

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in the documents relates to the area under the effective control of the Government of the Republic of Cyprus.

1.2. Price developments reflect limited use of available land

Housing prices are high, especially in Luxembourg City, which is among the most expensive cities in Europe, and have recently been rising on most definitions, reflecting strong growth of residential land prices, buoyant economic performance and low interest rates. In addition, the high share of cross-border workers (more than 40% of total employment) creates a large latent demand that reinforces the upward pressure on housing prices.

Housing prices are also much higher than in the neighbouring regions. In the Grand Duchy, the price per square meter for existing dwellings in 2017 ranged from 3930 euro in the North to 6563 euro in the area around Luxembourg City (Observatoire de l'habitat and STATEC, 2018). In the French region of Lorraine,

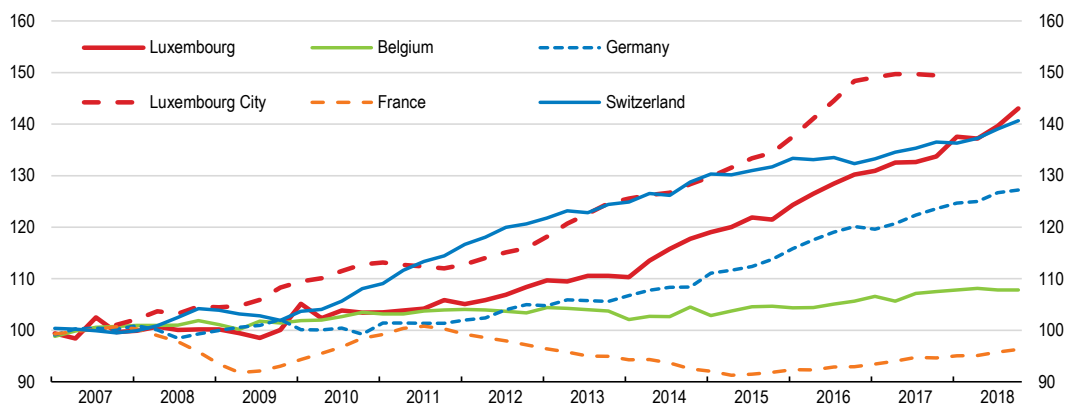
the average price per square meter in 2017 was about 1350 euro. In addition, there are spillover effects on neighbouring housing markets in the Greater Region; price differentials for equivalent dwelling can be 30% or more, especially in Lorraine, depending on the distance from the border (OECD, 2007).

While land prices were thought to represent typically about a half of house prices in European countries (Calmfors et al., 2005), more recent decompositions that cover the period of strong residential land prices growth since 2000 put the weight of imputed land prices close to 80% (Knoll, Schularick and Steger, 2014), possibly reflecting the limited use of available land for housing construction in Luxembourg. In line with the recent evidence, land prices are considered the main factor behind the increase in house prices in Luxembourg (Conseil économique et social, 2018). A novel index of residential land prices, based on the data from notarial deeds, cadastral data and geo-spatial characteristics of Luxembourg estimates the growth rate of land prices between 2010 and 2014 at 40%, about twice the growth rate of overall nominal house prices over the same period (Glumac, Herrera-Gomez and Licheron, 2018).

Real residential house prices have been growing strongly since the crisis (Figure 4) and both price-to-income and price-to-rent ratios are at historically high levels (Figure 5). The upward trend in price-to-income ratio suggests that housing affordability is on average deteriorating, while strong growth in price-to-rent ratio could point to overvaluation. The possibility of a moderate overvaluation is also reflected in recent assessments of other institutions (European Union, 2019). If continued, this tendency may lead to a correction in the future.

Figure 4. Real house prices are growing strongly

Index 2007 = 100, s.a.



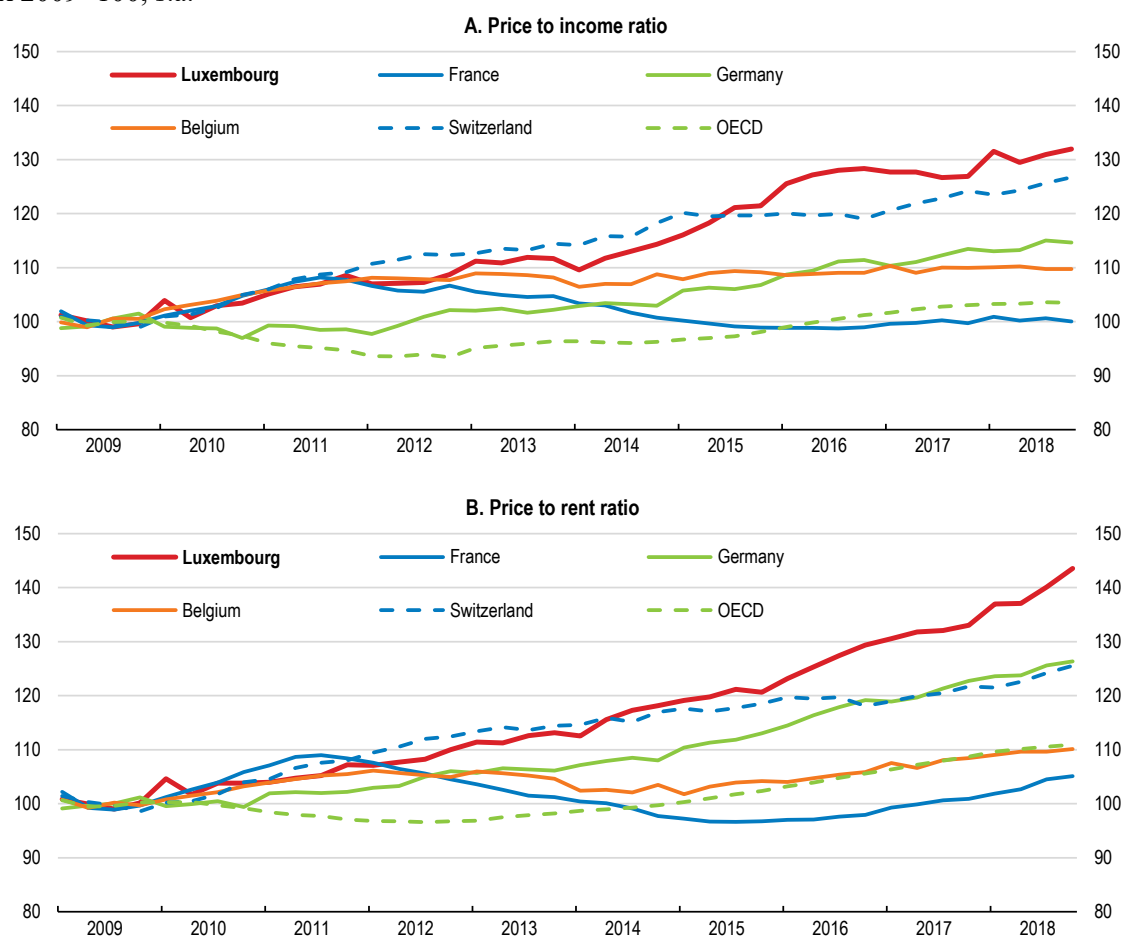
Note: For Luxembourg City, nominal annual values were interpolated linearly and deflated using a house price deflator calculated from the OECD Analytical House Price Indicators database.

Source: OECD, Analytical house prices indicators database; and Observatoire de l'Habitat.

The housing cost burden is indeed high by OECD standards, in particular for owners with a mortgage, reflecting the high values of residential real estate relative to income (Figure 6). While many cross-border workers find it too expensive to live in Luxembourg and resort to commuting, an increasing number of residents move across the border in search for affordable housing. The number of such cases, although small, more than doubled between 2001 and 2007 and a large proportion of these workers returned to their countries of origin to become homeowners (L'Observatoire de l'habitat, 2010). More up-to-date data on this trend would be useful and the decision to consider establishing a housing observatory at the level of the Greater Region, collecting and analysing territorial and cross-border data on housing, is a step in the right direction.

Figure 5. Increasing price-to-income and price-to-rent ratios point to affordability problems

Index 2009=100, s.a.



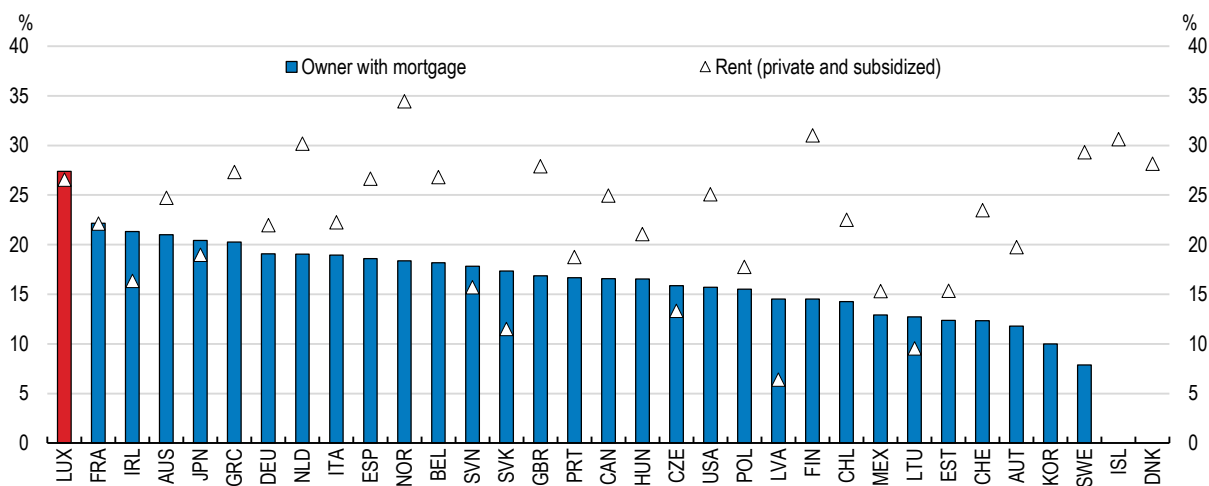
Source: OECD, Analytical house prices indicators database.

However, there are significant regional differences in housing prices. The prices per square meter, for both existing and newly built apartments, are the highest in the canton of Luxembourg, followed by the cantons of Capellen and Mersch and the lowest in the North region, comprising the cantons of Clervaux, Diekirch, Redange, Vianden and Wiltz (Figure 7). The regional variation (as measured by the coefficient of variation) has increased strongly for existing housing, from 15.8% in 2014 to 19% in 2017, while the variation in prices of newly built apartments remained broadly unchanged (Observatoire de l'habitat and STATEC, 2018).

Against this backdrop, the chapter looks at policies that would make the housing market more efficient and inclusive. The chapter starts with land-use policies that could stimulate the use of constructible land and the ways to improve co-ordination among municipalities as well as between municipalities and the central government. The chapter then turns to policies facilitating new construction, including ways to reduce high construction costs, and densification of urban areas, which could help curbing house price growth and make housing more affordable, while reducing urban sprawl and helping to achieve environmental objectives. The rest of the chapter focuses on policies to make housing more inclusive. The main policy levers considered are tax policies to restore tenure neutrality, policies to promote the supply of and fair access to social housing and improve social mix as well as strengthen the private rental sector.

Figure 6. Households' housing cost burden is high

Median of the mortgage burden (principal repayment and interest payments) or rent burden (private market and subsidized rent) as a share of disposable income, in percent, 2016 or latest year available



Note: In Chile, Mexico, New Zealand, Korea and the United States gross income instead of disposable income is used due to data limitations. No data on mortgage principal repayments available for Denmark due to data limitations.
 Source: Preliminary data from the OECD Affordable Housing Database.

Figure 7. The regional variation in housing prices reflects the distance from capital

Price in euros per m²



Note: The prices take into account transactions between 1st October 2016 and 30th September 2017. Capellen-Mersch includes Capellen and Mersch cantons; East includes the cantons Echternach, Grevenmacher, and Remich; North includes the cantons Clervaux, Diekirch, Redange, Vianden, and Wiltz.
 Source: Statec (2018), Logement en chiffres no. 7.

2. Increasing the supply of housing

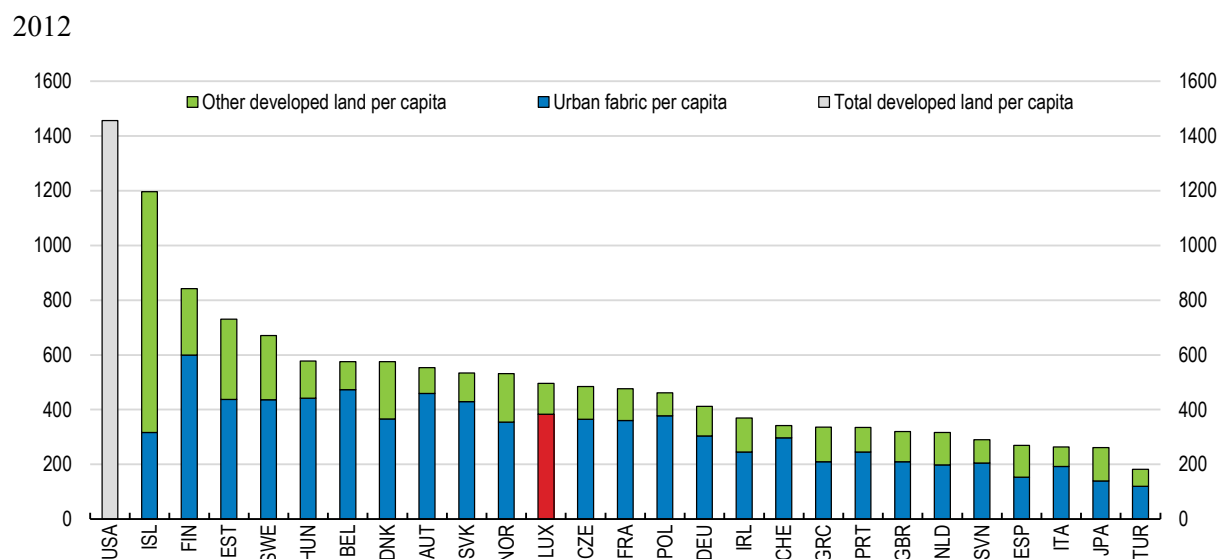
2.1. Spatial planning instruments fail to prevent land hoarding

The land available for housing construction appears sufficient and could be used to build up to 80 000 new dwellings (L'Observatoire de l'Habitat, 2019a). Indeed, the amount of developed land per capita is higher than in many OECD countries (Figure 8), despite the ongoing decrease in developed land per capita due to strong population growth, mainly driven by immigration (Figure 9).

However, the land available for housing construction is mainly in private ownership and many landowners do not have a strong incentive to sell or develop their land. Most of the land available for housing construction, some 92%, is privately owned, while the municipalities, public providers of housing and the state own the remaining 8%. According to a recent survey, urban areas and areas designed to be urbanised represent about 9% of the land surface (23.499 hectares). Some 12% of those areas (2.863 hectares) was unconstructed and could potentially be developed for housing (L'Observatoire de l'Habitat, 2019b).

The results are very similar to the previous survey conducted in 2013 (L'Observatoire de l'habitat, 2015). The slight increase in land available for housing is due to the allocation by some municipalities of previously unallocated land to residential areas, as required by new spatial planning rules. The unchanged amount of land available for housing construction underscores the need to mobilise land development, but it also seems consistent with the prevalence of land hoarding. At 16%, the unchanging share of available building land held by private companies, mostly developers, also points to land hoarding.

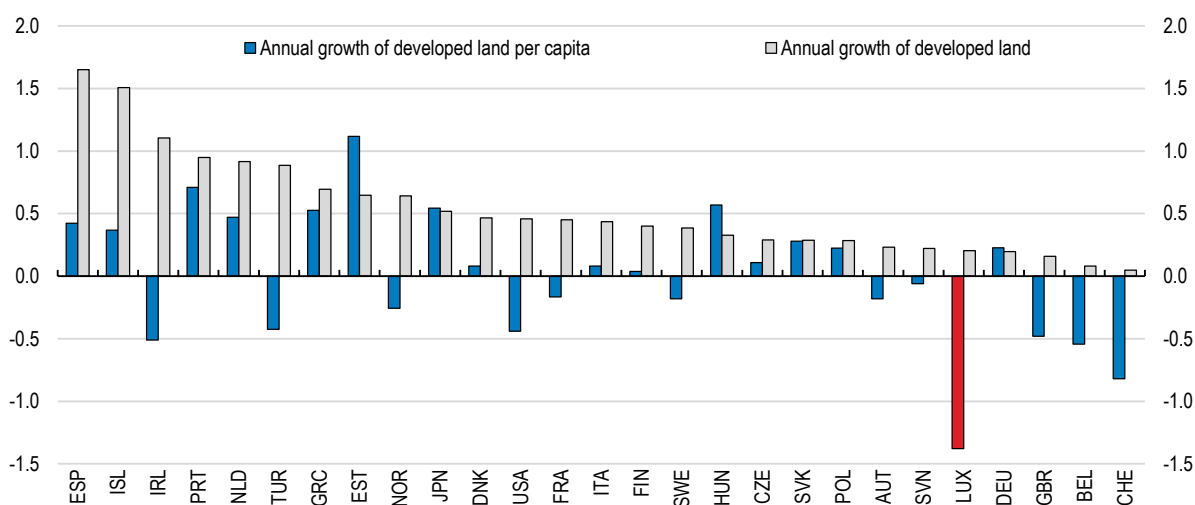
Figure 8. Developed land per capita is high



Source: OECD (2017), "A snapshot of land use across OECD Countries", in *The Governance of Land Use in OECD Countries: Policy Analysis and Recommendations*, OECD Publishing, Paris.

Figure 9. Growth rates of developed areas per capita is strongly negative

2000-2012



Source: OECD (2017), "A snapshot of land use across OECD Countries", in *The Governance of Land Use in OECD Countries: Policy Analysis and Recommendations*, OECD Publishing, Paris.

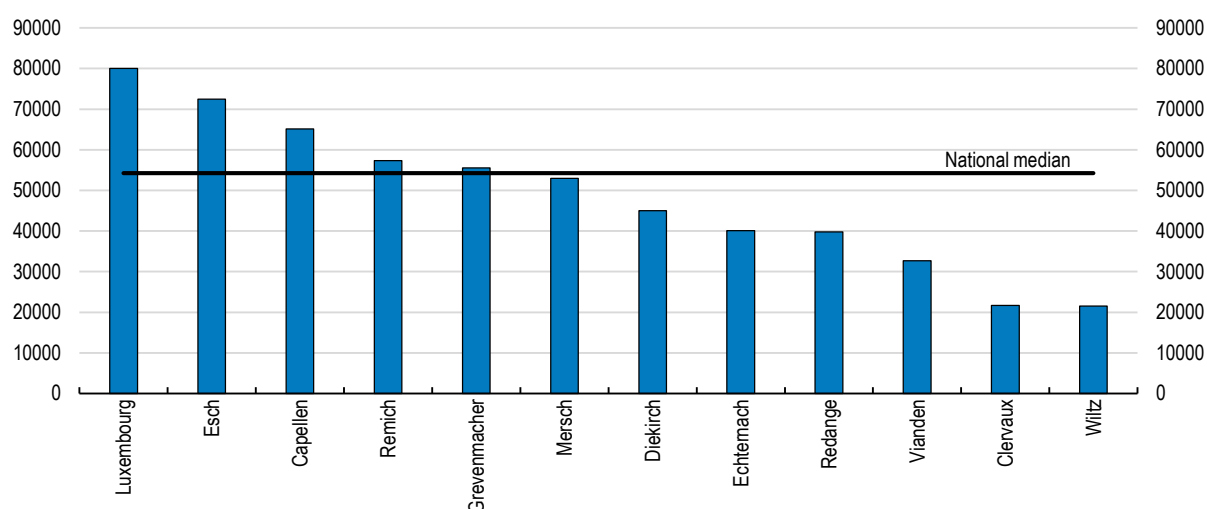
Some 33% of land available for housing construction (941 hectares) are the so-called “Baulücken”, plots of land enclosed in urbanised areas, already serviced and available for immediate development. The Ministry of Housing is encouraging municipalities to prioritise this fully serviced land for building, but given the high rate of private ownership, this effort mainly relies on soft measures, such as awareness-raising tools and personalised dialogue with the owners. As the programme is voluntary and the municipalities do not have strong incentives to participate, the results have so far been limited.

Land prices, which are the main component of total housing costs, have been growing strongly on average, by some 50% between 2010 and 2017 (L'Observatoire de l'Habitat, 2019b). Although the prices of land vary a lot across municipalities and tend to decrease with the distance from the capital (Figure 10), small urban centres, in particular in the rural northern half of the country, are becoming more attractive and the number of employees commuting between small rural towns and Luxembourg City has been increasing.

Strong land price growth further stokes the practice of land hoarding, where constructible land is kept undeveloped to capitalise on continuing price increases. As developers normally buy the land they develop and land owners face low opportunity costs of not developing the land themselves, the amount of undeveloped land in urbanised areas remains more or less constant. There are two main drivers behind land hoarding. First, holding unbuilt land is virtually cost free, given the low level of property taxes. Second, there are few constraints or real incentives for municipalities to implement the guidelines from the Master Programme for Spatial Planning in municipal Land Use Plans and to initiate new developments (Box 1).

Figure 10. Prices of land for construction vary strongly across the country

Median price of plots in a residential zone, per canton (2010-2014), in euros per acre



Source: Observatoire de l'Habitat (2015), La note 21.

Box 1. Spatial planning and its main instruments

In accordance with the Law of 17 April 2018 concerning spatial planning, one of the objectives of spatial planning is to ensure a sustainable use of land and compact urban development. The main spatial planning instruments defined by this law are the Master Programme for Spatial Planning, the Sectoral Master Plans, the Special Zoning Plans and the Conventions for territorial cooperation between the State and municipalities. At the municipal level, in accordance with the Modified Law of 19 July 2004 concerning municipal land use and urban development, there exist two additional spatial planning instruments, General and Detailed Land Use Plans. Those planning instruments are detailed below:

Master Programme for Spatial Planning (Programme directeur d'aménagement du territoire, PDAT) is the key instrument of national spatial planning, determining the general guidelines and priority objectives for the sustainable development of the national territory. The Master Programme for Spatial Planning of 2003 is currently under revision.

Sectoral Master Plans (Plans directeurs sectoriels, PDS) for four interconnected areas of spatial planning – housing, transport, landscapes and economic activity areas – underpin the Master Programme for Spatial Planning with legally binding instruments facilitating sustainable spatial development. The Sectoral Plan on Housing reserves plots of land for future housing construction and aims to ensure good connections to places of work. The adoption procedure for the four sectoral master plans was launched in May 2018 and is foreseen to be completed in 2020.

Special Zoning Plans (Plans d'occupation du sol, POS) are enforceable spatial planning documents prepared and approved by the central government. This zoning instrument can, under certain conditions, override the General Land Use Plan where the public interest calls for state intervention. Once approved, the municipalities are required to adjust their General Land Use Plans in accordance with the provisions of the Special Zoning Plan.

Conventions of territorial co-operation between the State and municipalities (conventions de coopération territoriale État-communes) promote inter-municipal and multi-level co-operation in areas of sustainable regional development and integrated planning. Following the expiration of one

convention at the end of 2018, there are currently three such conventions and the effectiveness of the instrument is being evaluated (OECD, 2019b).

General Land Use Plans (Plans d'aménagement général, PAG) are enforceable land use plans encompassing zoning at the municipal level, which have to be approved by both the municipal council and the Ministry of Interior. There are currently three co-existing PAG regimes, dating back to 1937 (51 municipalities), 2004 (8 municipalities) and 2011 (27 municipalities and 16 in the process of transition).

Detailed Land Use Plans (Plans d'aménagement particulier, PAP) elaborate the provisions of the General Land Use Plan for a particular municipal zone. It is prepared by the owner or developer of the land, the municipality (or a syndicate of municipalities) or the state and again approved by both the municipal council and the Ministry of Interior. There are two different types of PAPs, for new and existing districts. The new district PAP covers an area to be urbanized and defines the public space, building lots and future construction involved in the urbanisation project. The existing district PAP relates to an already serviced area and covers the rules for the integration of new buildings into the existing urban fabric.

A public consultation process launched by the government in 2018 aims at creating a shared development vision and reviewing the Master Programme for Spatial Planning. The process builds on collaborative workshops in four regions (North, Centre, East and South) and shall culminate in a revised Master Programme, incorporating the recommendations from a public participation exercise, to be adopted in 2020. This process is welcome and it should result in an up-to-date and complete set of spatial planning documents, including binding instruments for effective collaboration, both at the level of municipalities and between municipalities and the central government.

2.2. Improving co-ordination in spatial planning and infrastructure provision

The spatial planning decisions are characterised by a high level of municipal autonomy. The central government provides various subsidies to municipalities for housing construction. Some are directly linked to already approved construction projects; other are indirect, for example supporting municipalities to meet population increases agreed with the central government. However, these instruments do not create binding rules and cannot compel municipalities to act (IMF, 2018). For example, the additional financial incentives for municipalities introduced in 2008 have not been effective in increasing sufficiently new housing construction in municipalities with strong planned population increases.

Practices in OECD countries show that planning instruments at the national level may or may not be legally binding. For example, whereas the national spatial planning instruments of countries including Estonia, Korea, Czech Republic and Japan are legally-binding, similar instruments in most other countries serve advisory purposes to sub-national level planning. However, in most instances where national-level instruments are not legally binding on sub-national authorities, formal and informal mechanisms for the participation of national and sub-national authorities and sector agencies ensure that lower-level plans are consistent with higher-level goals and objectives (OECD, 2015).

For example in Germany, co-ordination between levels of government takes place through the counter-flow principle, in which lower levels of government have to adapt their plans to plans at higher levels, while at the same time providing input and shaping those higher-level plans. A special instrument for the co-ordination of important development projects is the Spatial Planning Procedure; while its outcome has no direct legal force, it must be considered in subsequent planning decisions by public authorities (OECD, 2017a).

Investment costs of infrastructure facilities induced by new housing construction are partly financed by municipalities and housing and community amenities represent more than 8% of local government

expenditure in Luxembourg, compared to average 3% in OECD countries (OECD, 2016a). Despite the existing financial support from central government, such financing and administrative costs of infrastructure investment may discourage municipalities from housing construction.

When a Detailed Land Use Plan for a new district is prepared, the promoter is obliged to build the public domain infrastructure indicated in the urban planning documents, such as green spaces, playgrounds or access roads. However, the promoter is not responsible for building schools, nurseries or roads extending out of the area. To internalise the impact of developers' building plans on the communities, indirect value capture instruments, such as negotiated developer obligations, are used in many OECD countries, including the Netherlands, Spain, France, the U.S. and Canada (Muñoz Gielen and Lenferink, 2018). Negotiated developer obligations are flexible, only lightly regulated in national legislation and with detailed regulation usually provided at the municipal level.

To ensure that the municipalities do not perceive housing development as a financial disadvantage, the central government could introduce a more equitable infrastructure financing mechanism using non-negotiable (i.e. legislated) or negotiated developer obligations. In addition to improving urban development by providing more clarity, such mechanism could provide a clear enumeration of the developer's or owner's responsibilities (OECD, 2007). Additionally, the effective use by municipalities of some land-use planning instruments, such as the tax on unused land and unoccupied dwellings, and the introduction of an instrument obliging owners of undeveloped constructible land to start building (the so-called *Baulandvertrag*), could be made a precondition for a part of the central government's financing to municipalities (Conseil économique et social, 2018).

The conventions of territorial co-operation between the state and municipalities provide some welcome examples of co-ordination among the municipalities, in a partnership with the state. Already in 2005, Luxembourg City and four other municipalities on its southwest edge (Luxembourg, Bertrange, Hesperange, Leudelange and Strassen) have signed an agreement with the central government adopting a regional approach to territorial development. Although other municipalities have not yet decided to co-operate at the same comprehensive level, a coordinated approach could help to achieve greater density in functional occupancy and transportation infrastructure as well as to create additional green spaces that could reduce individual car traffic.

The existing municipal fiscal equalisation system seems broadly aligned with the territorial development needs, but it could be improved further. Municipal revenues come from three main sources: grants and subsidies from the central government, which amount to 55% of revenues in 2013, taxes, mainly the municipal business tax, at 26% of revenues, and fees and charges for public services at 19% of revenues (OECD, 2016b). Although, the municipal business tax is collected by the central government and partly redistributed among municipalities, the bulk of equalisation is provided by the Communal Fund for Financial Grants through grants and subsidies for basic municipal tasks, which in per capita terms are the highest in the least populated municipalities (OECD, 2007). The strong reliance on the municipal business tax, which is a corporate income tax and represents more than 90% of municipal tax revenue, could intensify tax competition. Replacing corporate income taxes by higher property taxes could help reduce tax competition (Blöchliger and Pinero Campos, 2011).

2.3. New construction

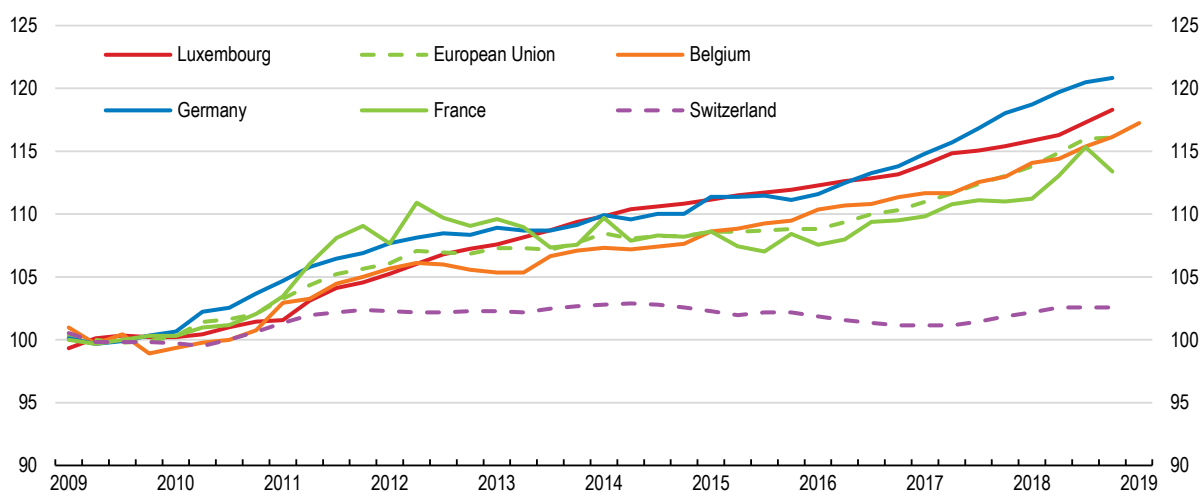
Building regulations (*Règlement sur les bâtisses*), which are set at the municipality level, are not standardised and may add to increases in building costs by hampering productivity in the construction sector (Figure 11). As discussed in the KPI, the construction sector includes some low productivity firms, resulting in a substantial positive differential between median and average productivity growth. The building regulations divide the municipal area into different zones (e.g. high density, low density, residential, industrial) and define the general rules and construction requirements, such as safety and building site rules, applicable to each zone. The building regulations also specify the extent of building

works that not require a building permit and the application documents in case a municipality requires a building permit. In order to standardise these requirements, the government programme for 2009-2014 foresaw preparation of a standard municipal building code (OECD, 2010); such a standardisation would be welcome.

The cost of new housing has also been increasing following the introduction of more stringent energy efficiency requirements, an investment that will ultimately reduce energy costs. From 2017, well before the EU deadline of 2021, all new residential buildings in Luxembourg must comply with the AAA class requirements regarding both thermal insulation and energy performance. In addition, there are strict rules for the use of space, such as the requirement that each new dwelling must include one or two parking spaces, often requiring expensive construction of underground parking (IMF, 2018). Finally, transaction costs are among the highest in the OECD, further limiting market dynamism (Figure 12).

Figure 11. Construction prices have increased strongly

Index 2009=100

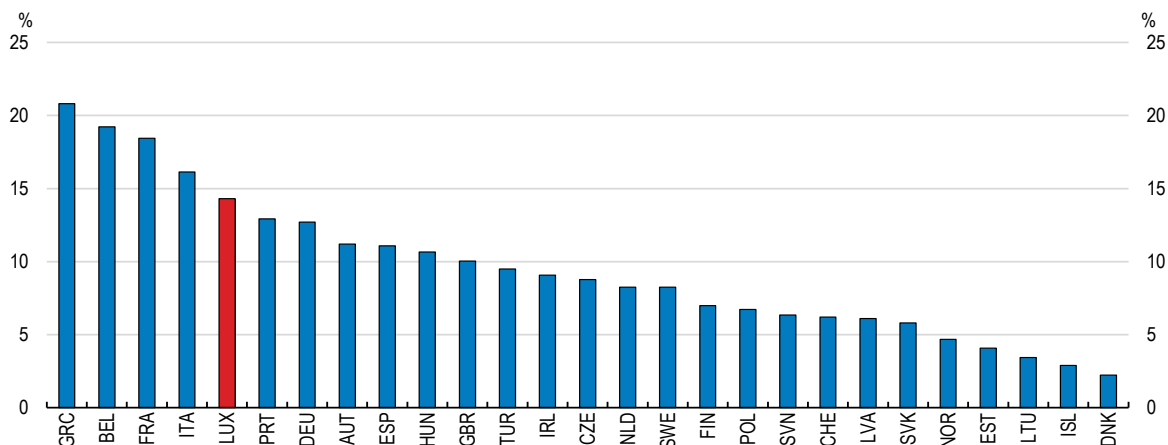


Note: Construction includes residential buildings, except residences for communities.

Source: Eurostat, Short-term business statistics.

Figure 12. Transaction costs are high

As a percentage of property value, 2017



Source: Global Property Guide.

Administrative barriers

The law of 3 March 2017 (the Omnibus law) has considerably simplified procedures related to construction, including streamlining the procedures for the preparation of the General Land Use Plan (PAG), shortening the deadlines for adjusting the Detailed Land Use Plan (PAP) and simplifying the procedure for the designation of an existing district. In some limited situations, the law has also introduced the concept of tacit consent, where an absence of reaction from the administration constitutes a positive answer. Furthermore, the law extended the right of municipalities to buy real estate put up for sale by private owners in preference of any other buyer (the pre-emption right) to all plots of undeveloped land within urban areas.

Municipalities and other public promoters

The state subsidises the construction of housing generously, distinguishing between public and private developers. Public developers, such as municipalities, the Housing Fund (*Fond du logement*) and the National Affordable Housing Company (*Société Nationale des Habitations à Bon Marché*, SNHBM), can get subsidies amounting to 50% of infrastructure and land for housing projects intended for sale and up to 70% of the acquisition and construction costs for rental projects. For municipalities, the maximum support for rental projects is capped at 75% and for all providers, the cap amounts to 100% for accommodation for applicants for international protection. The same conditions apply to rental housing built by non-profit associations, foundations, religious communities, civil hospices and social services. Private for-profit providers of housing are also eligible for support and the state usually participates in their projects through tailored agreements negotiated by the Ministry of Housing.

Furthermore, the 2008 Housing Pact (*Pacte logement*) provides additional incentives to municipalities to engage in construction of new housing, in exchange for additional financial support from the state (Box 2). However, despite the potentially high rate of subsidisation, the current framework has not been successful in stimulating sufficient supply of housing.

Some instruments of the Housing Pact are simply not used. Although municipalities were given the possibility to levy an annual specific tax on unused constructible land that have not been developed for more than three years as well as on unoccupied housing, only 8 municipalities chose to introduce it. In addition, some 80 municipalities have introduced a special property tax on building land for residential purposes (*impôt foncier B6*), but this instrument is based on the low cadastral valuations and the revenues from it are negligible.

To increase the costs associated with land holding, the central government could introduce a levy, possibly even increasing with time, or a recurrent tax on unused building land for residential purposes. In Ireland, for example, the 2015 Urban Regeneration and Housing Act introduced a register of vacant sites to stop property owners hoarding land suitable for development. Local authorities identified unused properties that in 2019 attract a levy of 3% of the land value, raising to 7% in 2020, if the land remains undeveloped.

To strengthen the incentives to develop constructible land, the draft law no. 7139 submitted to Parliament in May 2017 proposes a new instrument that would introduce an obligation to build on land zoned for housing construction within a certain period (the so-called *Baulandvertrag*). This contract between a municipality and the owner of the land zoned for housing construction obliges the owner to start construction on the land within a period of three years, or face penalties, including the right of the municipality to buy back the land. This welcome proposal could provide a useful policy instrument to decrease the amount of available unbuilt land.

Box 2. The Housing Pact

This voluntary instrument of co-operation between municipalities and the central government, aims at increasing the supply of housing and introduces new administrative measures, such as the pre-emption right and the right of emphyteusis (long-term lease).

The main conditions of the Pact with respect to participating municipalities are the following:

- Population growth of at least 15% over a period of 10 years.
- A capital grant by the central government of 4,500 euro for each additional person beyond the 1% growth threshold.
- A 50% supplement to the capital grant from the central government (6,750 euro) per person for selected communes (see below).
- The municipalities signing a convention with the government pledge to:
 - Draw up a list of housing and community facility projects, such as schools and day care centres, including completion schedules.
 - Promote and accelerate construction of the planned housing.
 - Set aside 10% of housing units, in each new development containing more than 25 housing units, for moderately priced housing.
 - Introduce a specific communal tax on certain buildings, in particular dwellings unoccupied for an extended time and on undeveloped land zoned for residential construction.

Some municipalities are eligible for supplementary payments. This includes 16 municipalities recognised as “centres of development and attraction” (CDA) and other municipalities, located either near a CDA or in the housing development priority zones of Nordstad and the Alzette Valley.

According to the third round of monitoring of the Pact in 2018, 63 municipalities of the 75 monitored municipalities with ten-year contracts have achieved the population growth objective. Since 2008, more than 32 thousand housing units were built, with the total state support to the municipalities of 360 million euro. The use of pre-emption right, however, remains relatively limited: municipalities and the Housing Fund applied the pre-emption right to some 16% of land put up for sale (22 ha out of the total 135 ha).

In addition to municipalities, there are two main public housing providers, the Housing Fund, a public institution financed by the Ministry of Housing, and the National Affordable Housing Company, a private joint stock company eligible for state subsidies. The 2017 reform of The Housing Fund (The law of 24 April 2017) aligned its governance with the EU rules on state aid and reserved one seat on the Board of Directors to municipalities to improve co-operation between the Fund and municipal administrations. In addition to building new housing, the Housing Fund manages the largest rental stock in Luxembourg. The National Affordable Housing Company similarly stepped up the supply of housing; it aims at doubling its stock of social rental housing by 2020. However, new housing construction generates financial losses for the National Affordable Housing Company, mainly because the regulated rents on social housing do not cover the growing costs of new land acquisition and construction.

While the construction costs are constantly increasing, partly reflecting the more stringent energy efficiency requirements, social housing rents, fixed by the Grand Ducal Regulation of 16 November 1998, have remained broadly unchanged. On average, the social rents charged by the National Affordable Housing Company represent 16% of net disposable income of its tenants, well below the overburden rate of 30%.

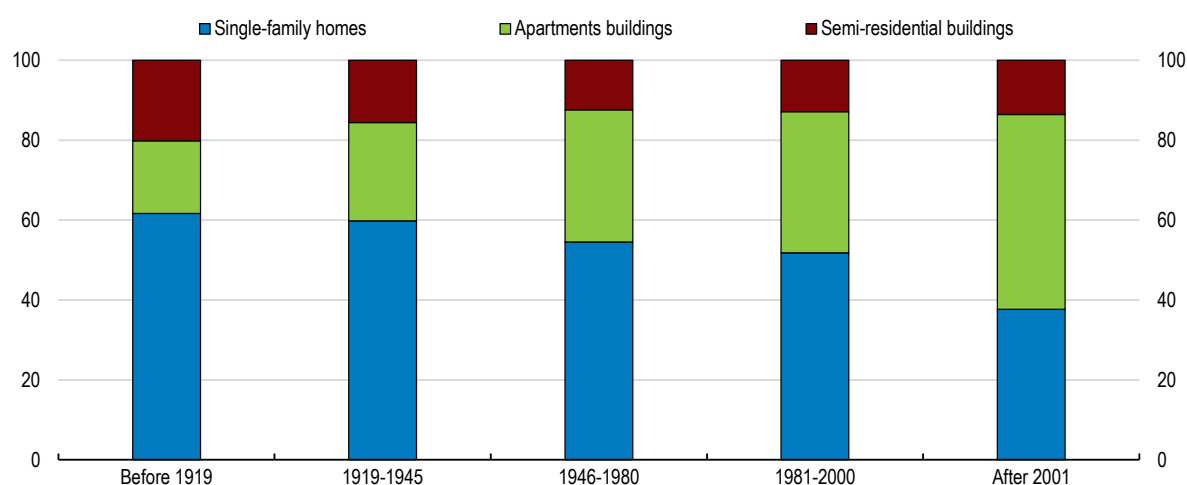
In order to make the financial situation of public providers sustainable, the calculation of social rents could be revised to take into account the energy efficiency of the building or to increase the part of social housing rent related to the surface of the dwelling. This component is very small, amounting to 0.86 euro per square meter, compared to the average market rent of 16 euro per square meter (OECD, 2012). Alternatively, the state could increase its financial support for the public providers of housing from 70% to 75% of the acquisition and construction costs, to match the level of support provided to municipalities, or directly finance new land acquisition by public providers.

2.4. *Densification measures*

The existing housing stock mainly consists of single-family houses (50.7% in 2017), followed by apartments (35%) and semi-residential, mixed-use buildings (14.3%), revealing the preference for low-density housing (STATEC, 2017a). Although the share of single-family houses in new construction has been gradually declining (Figure 13), the surface area of single-family houses is actually increasing. The existing housing stock is characterised by a high number of rooms per member of household, in particular in the sector of owner-occupied housing (Figure 14). This abundance of space further indicates the room for densification in most areas.

Figure 13. New construction is shifting towards apartment buildings

Share by type



Source: STATEC.

The environmental and social benefits of more compact urban development ought to be balanced against the potential cost of densification such as overcrowding and smaller living spaces. Although the subjective level of noise and pollution reported by inhabitants in Luxembourg is one of the highest in Europe (Figure 15), the density, even in the largely urbanised outskirts of Luxembourg City, is still moderate.

More than 30% of the urban population in Luxembourg in 2014 resided in areas of very low population density, defined as a density of 150-1 500 per km², which is the highest value among 29 OECD countries (Figure 16). While the only functional urban area in Luxembourg, according to the OECD definition, covers 82% of the country's surface, it is considerably more decentralised, resulting in population density some 28% below the OECD average for functional urban areas (OECD, 2018a). These indicators suggest that urban sprawl is a problem in Luxembourg and call for a densification policy as well as limits on the conversion of dwellings into offices in order to guarantee a desirable functional mix.

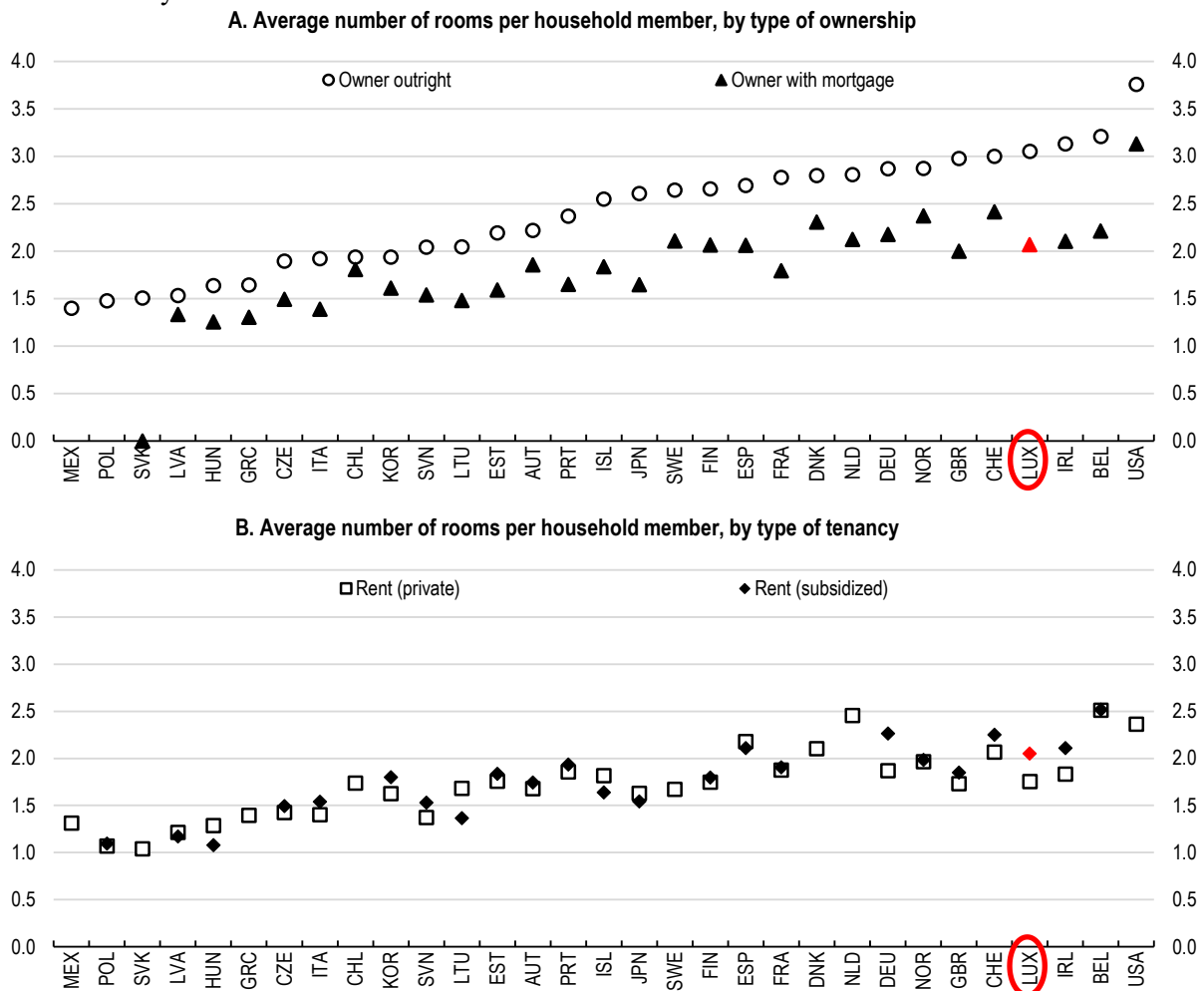
To encourage the use of public transport, the densification of the existing urban and suburban space must be concentrated within the immediate vicinity of transport network hubs, in particular railway stations. In that way, densification could lead to shorter trips and encourage alternative means of travel, which tends to be more competitive with car travel over short distances. Empirical evidence shows that the propensity

to use public transport (modal split) is very sensitive to the density of urban fabric determining the average travel distance and to the availability of public transport (OECD, 2007).

Recent sustainable mobility strategy emphasises both the multimodal and cross-border dimension and plans to double the number of park and ride facilities, including at the borders, by 2025 (Ministère du Développement durable et des Infrastructures, 2018). The strategy is welcome and should include coherent policy for automobile parking in the cities and control over the flow of automobiles, such as congestion charges. As the main transportation flows involve cross-border travel, infrastructure projects will have to be prepared with support and participation of the neighbouring regions and will require close involvement of border municipalities, public and private providers of rail and road transport.

To overcome existing municipal resistance to densification, the Housing Pact targets could be extended to include additional objective criteria, such as numerical targets for social housing construction for municipalities and more frequent use of the Special Zoning Plans (POS). Municipalities in the U.S. and Canada often deal with the opposition from existing homeowners by “density bonusing” that allows developers to build above a zone’s density of height restrictions in exchange for cash contributions towards various social amenities or transit improvements (Cheung, 2014).

Figure 14. Average number of rooms per household is high for all tenures
2016 or latest year available



Note: Limits to comparability across countries exist due to the definition of rooms.

Source: Preliminary data from the OECD Affordable Housing Database.

3. Making the access to housing more equitable

This section looks at policies to make homeownership equally attractive as other forms of providing housing services, the so-called tenure neutrality, and ensure more equal access to housing. Tax stimulation of homeownership tends to be regressive and can lead to overinvestment in housing and stoke housing prices growth. Lower affordability associated with house price increases can be addressed by a well-functioning rental market, both public and private.

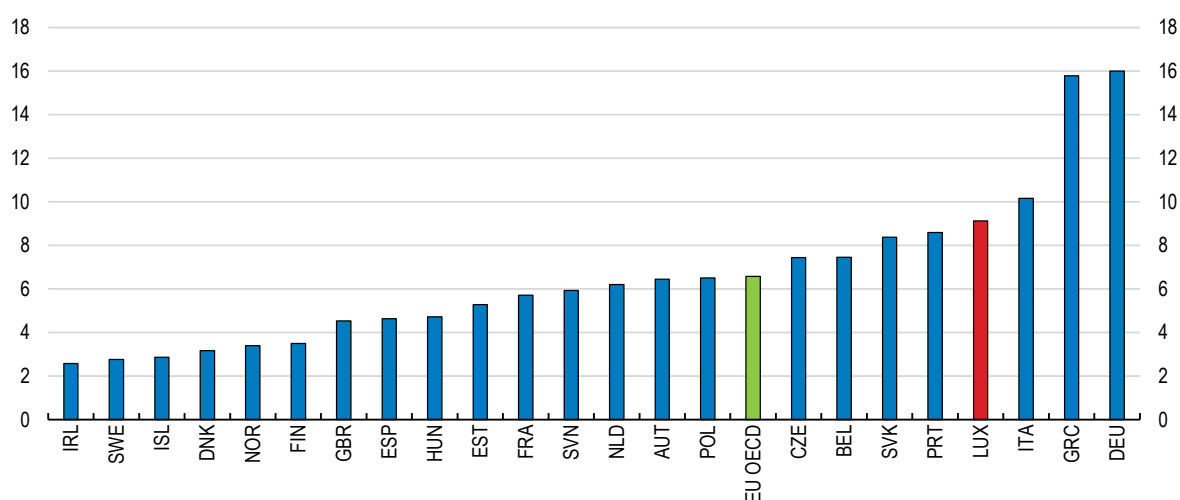
3.1. Tax preference for homeownership

At 73.8%, the rate of home ownership is higher than the euro area average and the rates in neighbouring countries. Meanwhile, the private rental market is more than five times the size of the social rental sector (Figure 17).

The tax system favours homeownership compared to other housing tenures, such as renting. Although tax neutrality with respect to other assets is difficult to achieve and tax systems in many OECD countries are biased towards owner-occupied housing, the tax subsidy in Luxembourg is particularly large. Imputed rents are not taxed, homeowners may reduce their income tax obligation by mortgage interest (up to a generous ceiling increased in 2017), enjoy other tax credits on transaction costs related to real estate purchases and the construction works related to primary residence are taxed at the super-reduced VAT rate of 3%. Moreover, the contributions to housing saving schemes are tax deductible for savers below the age of 40 and a reduced tax rate has been applied on capital gains from the sale of land and buildings between July 2016 and December 2018 (Box 3).

Figure 15. Perceived noise and pollution levels are high

Percentage of households reporting neighbourhood noise and pollution, 2012

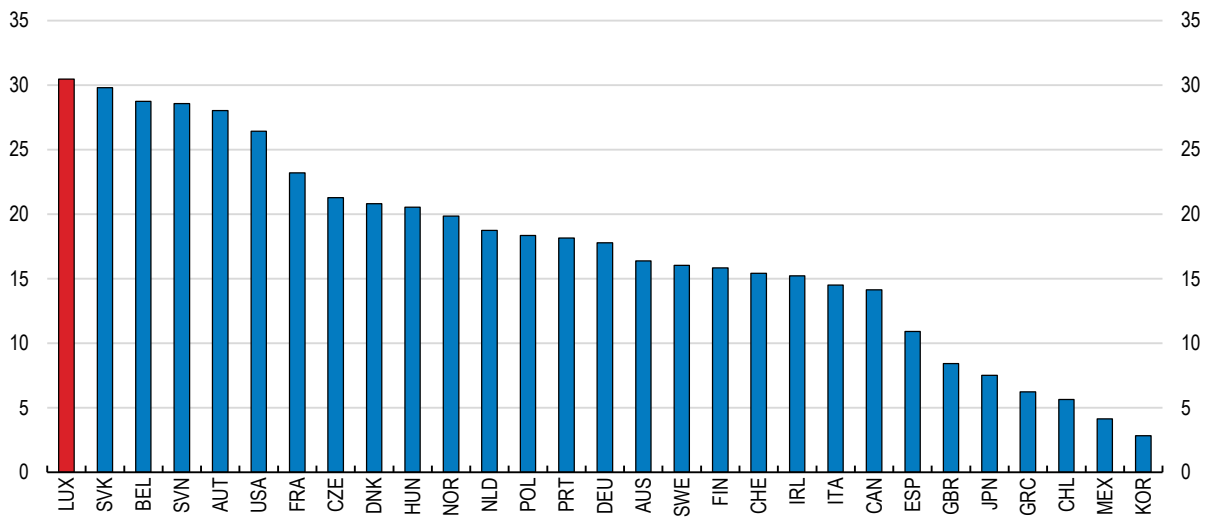


Note: EU OECD refers to European OECD countries.

Source: Salvi del Pero, A. et al. (2016), "Policies to promote access to good-quality affordable housing in OECD countries", OECD Social, Employment and Migration Working Papers, No. 176,

Figure 16. Urban sprawl is high

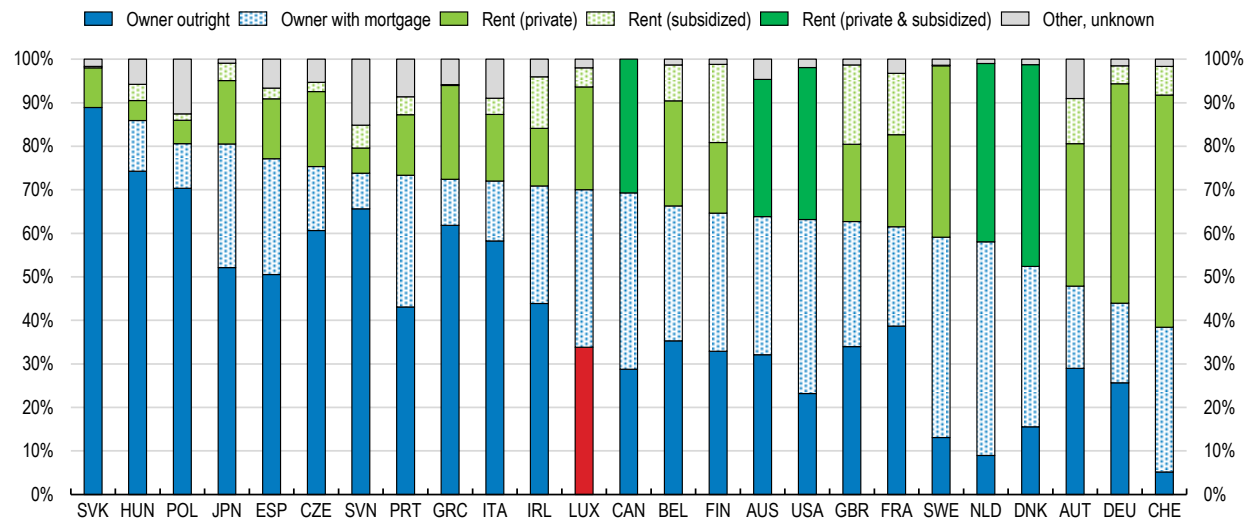
Percentage of urban population living in areas with a density of 150-1 500 people per km², 2014



Source: OECD (2018), Rethinking Urban Sprawl.

Figure 17. Housing tenure is dominated by homeownership

Share of households in different tenure types, percentage, 2016 or latest year available



Note: Tenants renting at subsidized rent are lumped together with tenants renting at private rent in Australia, Canada, Denmark, Mexico, the Netherlands and the United States, and are not capturing the full extent of coverage in Sweden due to data limitations. Data for Japan only available on the respondent level due to data limitations.

Source: OECD Affordable Housing database.

Box 3. Tax measures and other demand subsidies promoting homeownership

Tax deductibility of mortgage interest covers interest expenses on primary residence located in Luxembourg or abroad (interest expenses on a secondary residence are not deductible). The annual amounts were increased by the 2017 tax reform (from 1.500 euro for the first six years of occupancy to 2.000 euro).

The super-reduced VAT rate on housing of 3% is applied on the construction or renovation of the main residence, either by direct application or by reimbursement, up to the ceiling of 50.000 euro.

Tax credit on fees associated with notarial deeds (Bëllegen Akt) applies to the registration and transcription fees for acquisition of main residence, which amount to some 7% of the value of the land and buildings. The tax credit is capped at 20.000 euro per person, but can be doubled in the case of purchase by a couple.

Acquisition premium and construction premium depend on income, family situation and the type of housing bought and range from 250 to 9.700 euro.

Interest subsidy is calculated according to family status and taxable income, ranging from 0.58% to 2.45%, with the aim of reducing the payments burden on low-income households.

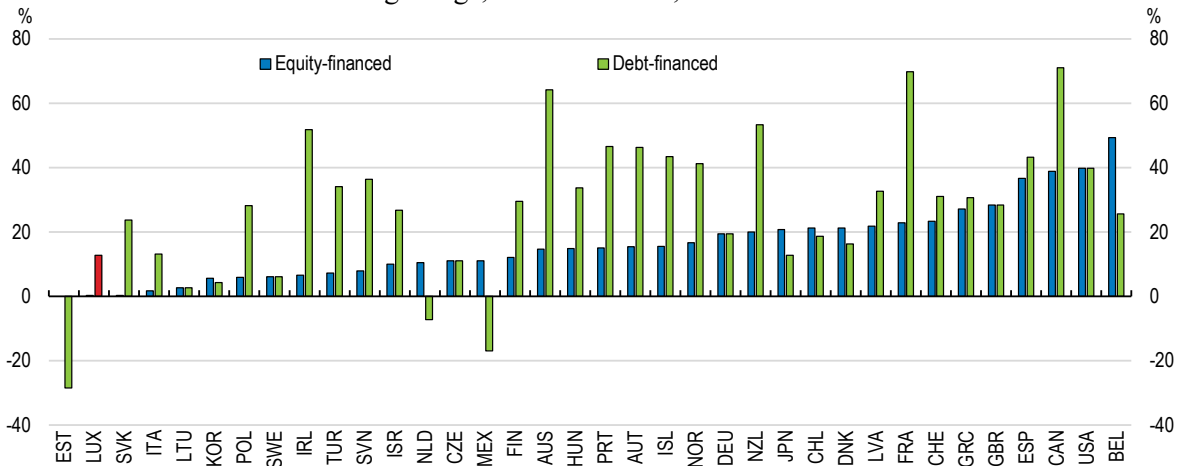
Bonification of interest provides a 0.5% reduction on interest payments per dependent child to families with mortgage. This interest subsidy paid by the state to the mortgage holder cannot exceed the effective rate of the mortgage loan or the maximum rate of 3.45%.

Housing saving schemes contributions are tax deductible. Taxpayers below 40 profit from a doubled tax deductible limit for contributions paid under the housing savings schemes.

Moreover, a reduced tax rate, at $\frac{1}{4}$ of the full rate, has been applied to capital gains from the sale of land and buildings between July 2016 and December 2018. There are also various subsidies for enhancing energy efficiency, premium for refurbishing of old dwellings, assistance covering partly the costs of an architect and engineer and a possibility for the state to guarantee the housing loan of a private person (Ministère du logement, 2018).

Marginal effective tax rates (METRs) on owner-occupied residential property, financed by both equity and debt, are among the lowest in the OECD (Figure 18). The METRs are calculated as the difference between the pre- and post-tax rates of return on a marginal investment divided by the pre-tax rate of return on that investment. Marginal effective tax rate on owner-occupied housing is typically lower than on other assets, since imputed rents are not taxed and interest payments are deductible in many countries.

Figure 18. Marginal effective tax rates on owner-occupied residential property are low
Personal tax rate at 100% of average wage, actual inflation, 2016



Source: OECD (2018), Taxation of Household Savings.

Equity considerations cannot really justify the favourable tax treatment of owner-occupied housing, which is unlikely to benefit low-income households the most. This is particularly true for the deductibility of mortgage interest, which is generally regressive, as high-income households are much more likely to finance their house with mortgage debt (Fatica and Prammer, 2018). In addition, and similarly to other demand subsidies, in the presence of supply restrictions, the tax relief could be capitalised in house prices, redistributing income from new entrants in the housing market to insiders (Andrews, Caldera Sánchez and Johansson, 2011).

Housing should be taxed similarly to other investment. The first best would be to tax imputed rental income, less depreciation allowances, while allowing for interest rate deductibility (Andrews, Caldera Sánchez and Johansson, 2011). However, in Luxembourg as in many OECD countries, imputed rents are not taxed and owner-occupied housing is highly tax-favoured compared to other forms of household savings, with the exception of retirement plans (OECD, 2018b).

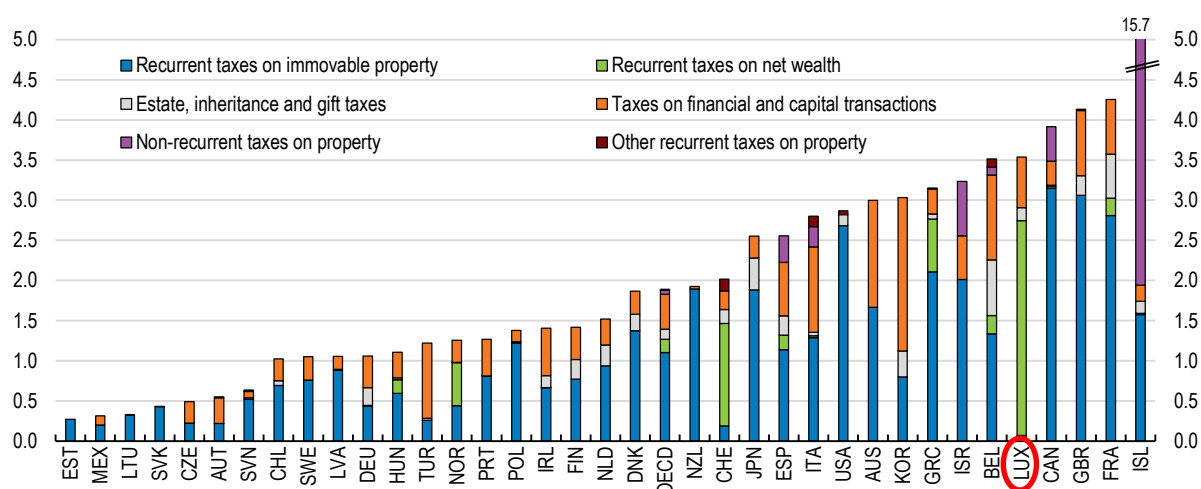
Taxation of owner-occupied property should become less regressive by gradually phasing out mortgage interest rate deductibility. If removing mortgage interest rate deductibility is not an option, the rebate could be granted as a capped tax credit, rather than a tax deduction.

More progressivity could also be achieved by introducing a recurrent progressive tax schedule to the owner or by allowing deferral of the recurrent tax on immovable property until the death of the taxpayer or sale of the property for older taxpayers. For example, in France, the largest recurrent tax on immovable property (taxe d'habitation), before its gradual phasing out, has become progressive since 2000 thanks to income and family-related tax relief.

Luxembourg is one of the few OECD countries that applies recurrent taxes on net wealth of corporations, which generate more than 2% of GDP in tax revenues (Figure 19). Well-designed capital income taxes at the individual level combined with inheritance taxes are in principle preferable to net wealth taxes (OECD, 2018c). In combination with higher recurrent taxes on private immovable property, they could be used to increase both efficiency and equity.

Figure 19. Taxes on property consist mainly of net wealth taxes

Revenues as a percentage of GDP, 2016

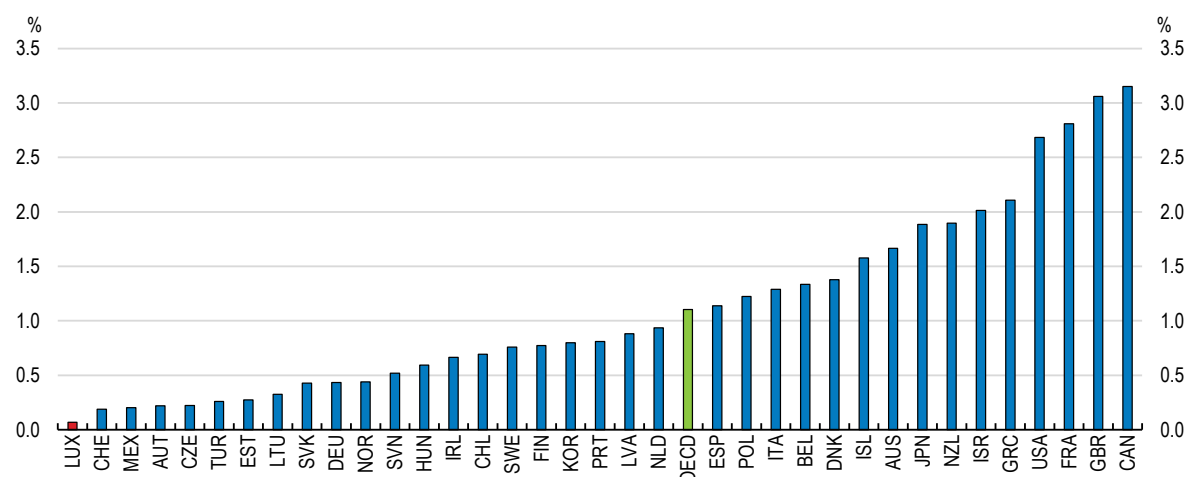


Source: OECD Global Revenue Statistics Database.

Recurrent taxes on immovable property are low, partly because the tax rates are applied to obsolete valuations that are far below the current market level (Figure 20). The main recurrent tax on immovable property in Luxembourg is the property tax (*impôt foncier*). It is a fiscal revenue of the municipalities, who are free to set the tax rate in a wide range, but it represents only a small fraction of municipal revenues that are dominated by revenues from the municipal business tax (*impôt commercial communal*) and transfers from the intra-municipal equalisation mechanism.

Figure 20. Recurrent immovable property taxes are low

Share of recurrent immovable property tax revenue in GDP, 2016



Source: OECD Global Revenue Statistics Database.

Given the soaring prices of land and real estate in Luxembourg, the land value tax, and more broadly recurrent immovable property taxation (*impôt foncier*), should be used as a more important fiscal resource and an indirect tool of territorial development. The municipalities, in search of tax revenue, would take care to maximise land rent by making good public decisions. Appropriate differentiation between tax rates

for built and non-built areas could encourage or discourage construction as necessary and help achieving the key objectives of balanced spatial planning (OECD, 2007). In expanding the tax base, a land-value tax, which targets the price of land rather than the value of constructions built on it, could also be considered, because the valuation of land generally reflects the demand for a location, which depends on quality, which in turn is closely related to public infrastructure and the supply of community services.

Such a reform of the property tax would release additional fiscal resources to municipalities, allowing them to capture part of the value associated with soaring land prices. While making users pay the real value of services, it would improve the efficiency of public goods and services provision and the quality of territorial development, while helping to release unused land for construction that is currently taxed at low rates and kept mainly for the purposes of speculation.

Any increases in recurrent taxes on immovable property need to be accompanied by regular updating of property values, if needed in combination with special arrangements for households with low incomes and less liquid assets. For instance, Denmark has recently introduced a new system for housing valuation, which involves proportional taxation, while maintaining a progressive element for the most valuable homes (OECD, 2019a).

Housing is the largest source of household's wealth and hence a fundamental driver of wealth accumulation and inequality dynamics. Luxembourg is close to the OECD average in terms of both the main residence ownership and wealth inequalities (Claveres et al, 2019 and Box 4). However, ownership of other real estate property, such as holiday homes, rental homes, land or office space rented to business, is above the euro area average (Ziegelmeyer, 2015) and strongly concentrated in the top 10% of the net wealth distribution (Figure 21). As in many other OECD countries, second residences form an increasing share of the gross wealth of those with higher net wealth levels. This suggests that, from the equity perspective, the taxation of second homes is likely to be progressive with respect to income and should be higher than the taxation of the principal residence (OECD, 2018b).

Box 4. Housing and inequality in Luxembourg and the Greater Region

Across OECD countries, housing is the main asset in households' portfolios and thus a main driver of the wealth distribution. Indeed, higher wealth inequality is generally associated with a lower rate of homeownership. While Luxembourg displays levels of both homeownership and wealth inequality close to the OECD average, there is a larger difference between homeownership rates in the top and bottom income quintiles. In the top income quintile, 86% of households are homeowners, while the OECD average is 85%. In the bottom income quintile, some 38% of households are homeowners, compared to the OECD average of 50%.

Housing is an especially important asset for households in the middle income and wealth quintiles. In Luxembourg, housing net wealth represents 62% of the total wealth of households in the middle net wealth quintile. However, housing is much less prominent at the top of the wealth distribution: the share of housing in the portfolios of households in the top percentile of the wealth distribution is 18%, well below the OECD average.

Participation in the mortgage market in Luxembourg is high. On aggregate, 29% of households have a mortgage on their main residence, compared to 17% in Germany, 19% in France and the OECD average of 25%. Moreover, the access to mortgage is better in the middle of the income distribution. Unlike in most OECD countries, in Luxembourg households in the middle income quintile are almost as likely to have a mortgage as those in the top income quintile. Middle income quintile households are 2.1 times more likely to have a mortgage than in France and 2.6 times more likely than in Germany.

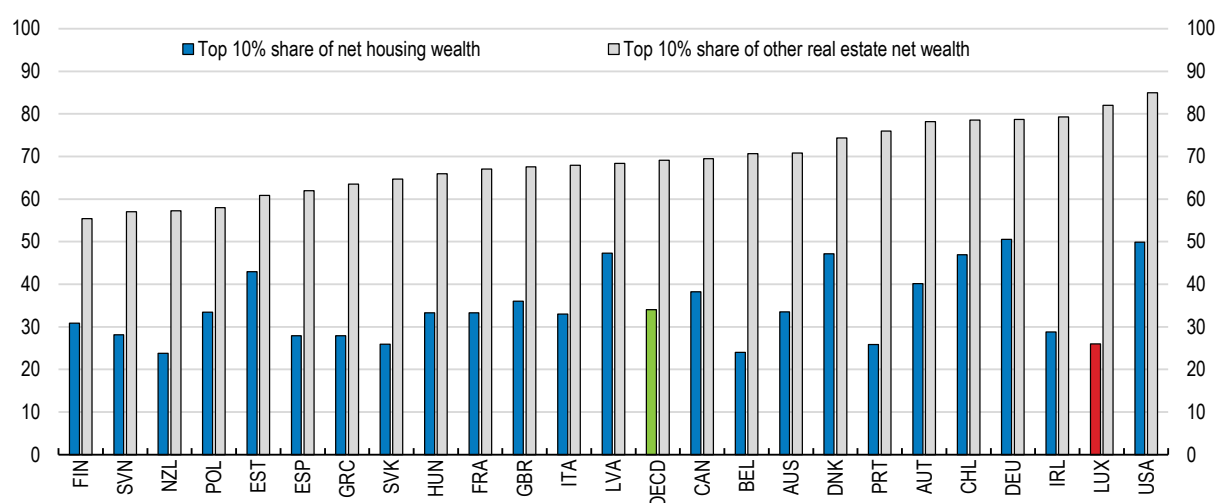
Cross-border workers account for more than 40% of total employment. It is thus important to compare housing choices and housing wealth between residents and cross-border workers, two

groups that access the same labour market, but choose, possibly driven by differences in housing prices, as well as by varying tax treatment and rental market regulation, to access separate housing markets. Among cross-border workers, the homeownership rate, mainly due to the gross income difference, is higher than in the respective national samples, by some 15 percentage points (p.p.) for Germany and France and by 3 p.p. for Belgium. Cross-border households also tend to become homeowners at a younger age than their respective national counterparts. Among residents in Luxembourg, the overall homeownership rate of 65% masks a marked difference between native-born households (80%) and foreign-born households (50%).

Resident and cross-border employed households differ substantially in both levels and distribution of wealth. The median net wealth of employed households residing in Luxembourg is significantly higher than that of cross-border commuters from Belgium, France and Germany. This difference in net wealth is largely driven by higher values of main residences in Luxembourg; indeed, the real estate price data reveals a significant price discontinuity at the Luxembourg border. Furthermore, in France and Germany the median net wealth of commuters is significantly higher than that of their national counterparts. The wealth gaps between homeowners and renters, although present in all countries studied, are more pronounced in Luxembourg.

Figure 21. Other real estate is predominantly owned by top 10%

Top 10% share of net housing wealth and of other real estate wealth, percentage



Note: The figure shows the share of net housing /net other real estate wealth held by households at the top of the net wealth distribution. Other real estate property includes second residences (holiday homes), rental homes, land and other real estate held for investment purposes.

Source: OECD Wealth Distribution Database.

3.2. Measures to expand the stock of social housing

The stock of social housing is one of the lowest in the OECD (Figure 22). The limited stock partly reflects the preference of public providers who used to allocate about one third of constructed units to renting and two thirds for sale (Ministère du logement, 2018) and the past practice of allowing re-sale of subsidised housing on the unregulated market (European Social Housing Observatory, 2007). However, efforts to increase the share of social rental housing are underway. Since 2017, the sale of social housing has taken the form of a long-term lease. This policy is welcome, as it effectively captures the value of developed land, which remains a property of the public housing providers.

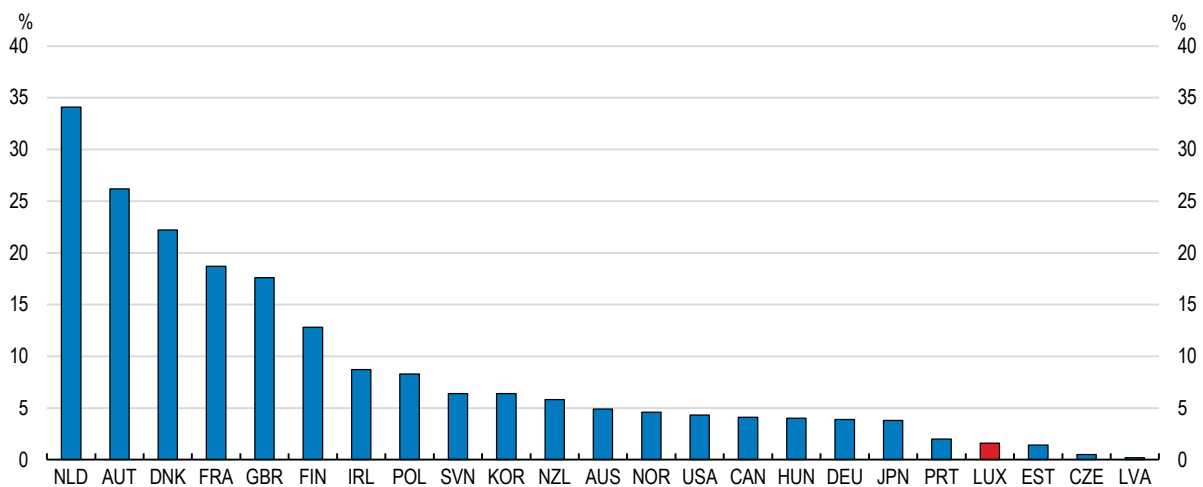
Although the stock of unoccupied housing is not particularly high by the OECD standards, it is higher than in other small countries facing housing supply limitations, such as Switzerland and the Netherlands (Figure 23).

Social rental agencies can mobilise unoccupied housing stock and alleviate the lack of social housing by improving private rental access for low-income households (Salvi del Pero et al., 2016). For example, in Italy, special contracts between tenants and property owners (*contratti convenzionati*) allow for below-market rents and longer duration than standard private rental contracts, in exchange for rental income tax relief. In Ireland, property owners renting to tenants supported by housing assistance can claim full tax relief on their mortgage interest since 2018.

Social rental housing in Luxembourg is provided mainly by national and municipal public agencies (Figure 24). The Social Housing Agency (*Agence Immobilière Sociale, AIS*) and other social rental agencies act as intermediaries between private property owners and vulnerable tenants providing guarantees of rent payments and maintenance costs to the property owners and support services to tenants. For example, the Social Housing Agency targets households that may not qualify for social housing or are on the long waiting lists and in co-operation with social services drafts a personal and professional development plan of the tenant, aiming at achieving sufficient financial autonomy to enter the private rental market after three years, the fixed and non-expandable length of the Social Housing Agency contract.

Figure 22. Social rental housing stock is low

Number of social rental dwellings as a share of the total number of dwellings, latest year available

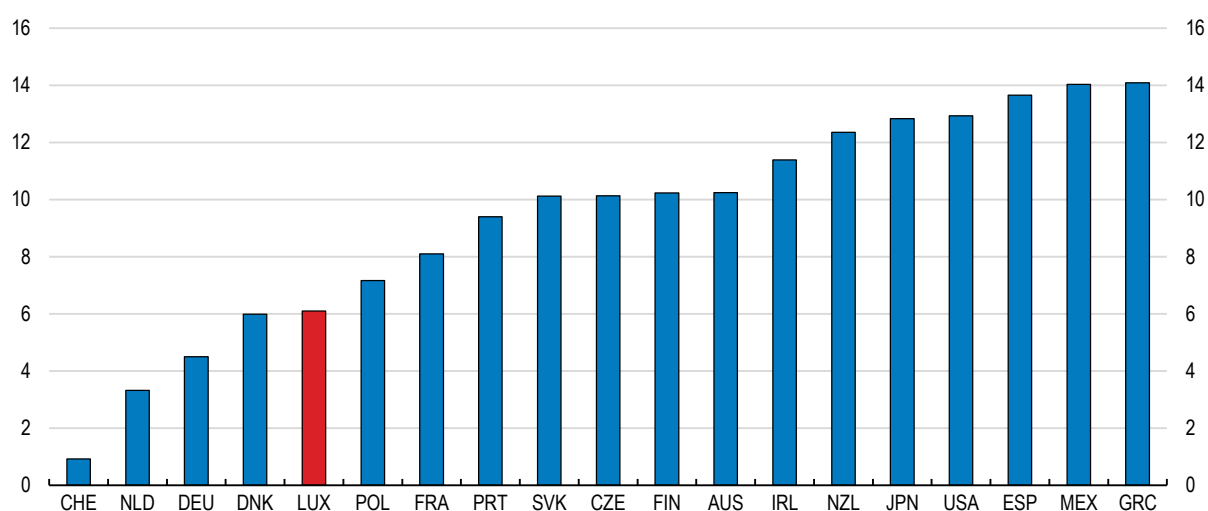


Note: Data refer to 2011 for Canada, Hungary, Ireland, and Luxembourg; 2012 for Germany; 2013 for Denmark, Estonia, Japan and Poland; 2014 for Australia, Austria, France, Norway and the United Kingdom; 2015 for the Czech Republic, Finland, Korea, Latvia, the Netherlands, New Zealand, Portugal, Slovenia and the United States.

Source: OECD Affordable Housing Database.

Figure 23. The stock of vacant dwellings could be reduced further

Percentage of vacant dwellings, out of the total dwelling stock, latest year available

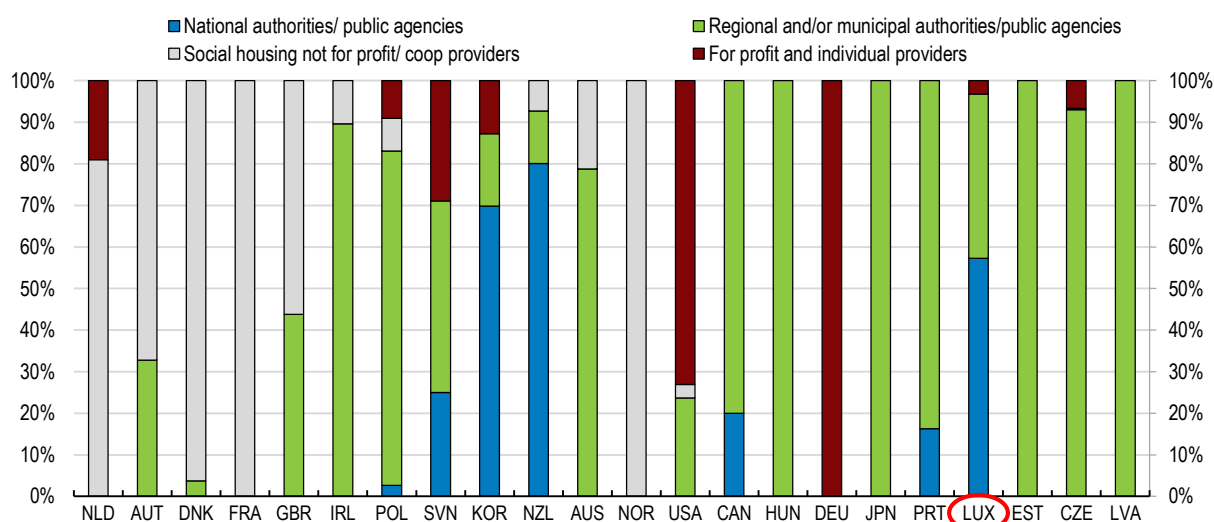


Note: For Luxembourg, the number of vacant dwellings is adjusted for dwellings mobilised by the social rental agencies. Data refer to 2010 for Mexico; 2011 for Australia, the Czech Republic, Germany, Greece, Luxembourg, Poland, the Slovak Republic, and Spain; 2013 for Ireland, Japan and New Zealand; 2014 for France and Switzerland; 2015 for Denmark, Finland, the Netherlands, Portugal and the United States.

Source: OECD Affordable Housing Database and Eurostat Census Hub, Census 2011.

Figure 24. Providers of social rental housing are mainly public bodies

Share of total social rental housing stock by type of providers, 2015 or latest year available



Note: There is no social rental housing in Chile, Greece, Mexico, Sweden and Turkey. Information is missing for Belgium, Finland, Iceland, Israel, Italy, Lithuania, the Slovak Republic, Spain and Switzerland. Data refer to 2011 for Canada, Hungary, Ireland, Luxembourg and Malta; 2012 for Germany; 2013 for Denmark, Estonia, Japan and Poland; 2014 for Australia, Austria, France, Norway and the United Kingdom.

Source: OECD Affordable Housing Database.

The Ministry of Housing subsidises part of the management cost of social rental agencies, up to 100 euro per month and dwelling, while setting the maximum rent that social rental agencies may charge. Property owners who rent their unoccupied housing unit through a social rental agency have 50% of the ensuing rental income exempted from personal income tax.

The financial support for social rental agencies should be stepped up. Although the Social Housing Agency has started by managing the stock of unused state-owned service dwellings, the tax advantage and the guarantees provided by the social rental agencies are slowly expanding the supply (Ministère du logement, 2018).

The municipalities could contribute to the mobilisation of unoccupied dwellings by providing social rental agencies with up-to-date information. As property owners are required by law to declare unoccupied housing within a fixed period to the municipal administration, including the size of the unoccupied area, the number of rooms and the last rent, the municipalities could use this information to set up a real-time database of unoccupied dwellings (Conseil économique et social, 2018).

To expand the supply of social housing, the State could also directly finance purchases of land available for residential construction using the government budget. Evidence from countries and metropolitan areas suffering from affordable housing shortages suggests that building on state-owned land could help alleviate the situation (van Veen, 2005; Lawson, 2009). Newly acquired land should remain in public ownership and made available for social housing construction, for example by the Housing Fund and the SNHBM, through long-term lease. The new government's Coalition Agreement envisages to set up a committee for the acquisition of housing land and to finance its acquisitions through a new dedicated fund, financed by the state budget, which is welcome. The recent re-focussing of public providers on the provision of social rental housing, rather than social housing for sale, would help reinforce such policy.

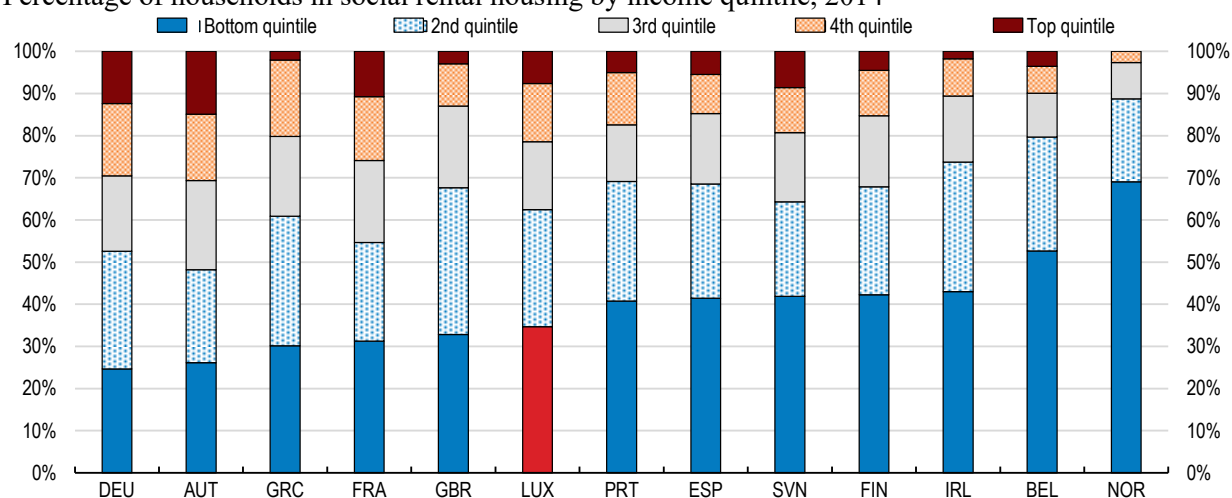
3.3. Social housing should be targeted to those most in need

The provision of social housing is insufficiently targeted and does not appear to protect the low-income households from the shortage of affordable housing and socio-economic segregation. Waiting lists of public social housing providers are long and turnover low. While rents in the protected sector are on average 30% below market rents (Ministère du logement, 2018), the admission criteria are flexible, at the cost of lower transparency, and the waiting times may vary considerably, due to the discretion in matching households' specific needs. Consequently, the equity of access to social housing may not be warranted.

More than 20% of the subsidised housing tenants came from the two highest income quintiles in 2014, compared to about 10% in the best performing OECD countries (Figure 25). The presence of households in the highest quintiles of the income distribution among subsidised housing tenants reflects the fact that tenants whose income conditions improve are charged higher rent, following the annual check of their income situation, but are not asked to leave the subsidised accommodation. However, as the stock of subsidised housing is limited, tenants whose situation has improved ought to move to other forms of housing, especially if they are better off than those on the waiting lists.

Figure 25. Income distribution of subsidised rental housing tenants include many high earners

Percentage of households in social rental housing by income quintile, 2014



Note: Subsidised rental housing covers all housing rented at below-market-rate, including social rental housing, employer-provided housing and housing where rent levels are fixed by law.

Source: OECD calculations based on OECD Affordable Housing Database.

While potential hardship associated with increased flows and turnover of tenants, including relocation costs and potential disincentives for economic advancement, needs to be acknowledged and possibly mitigated, the existing tenants are in better position to face them than the social housing candidates on waiting lists. Rents in the social housing sector should also increase more steeply with income to encourage the recipients of social housing in higher income quintiles to switch to the private rental sector, and hence vacate the social housing in favour of those who need it most.

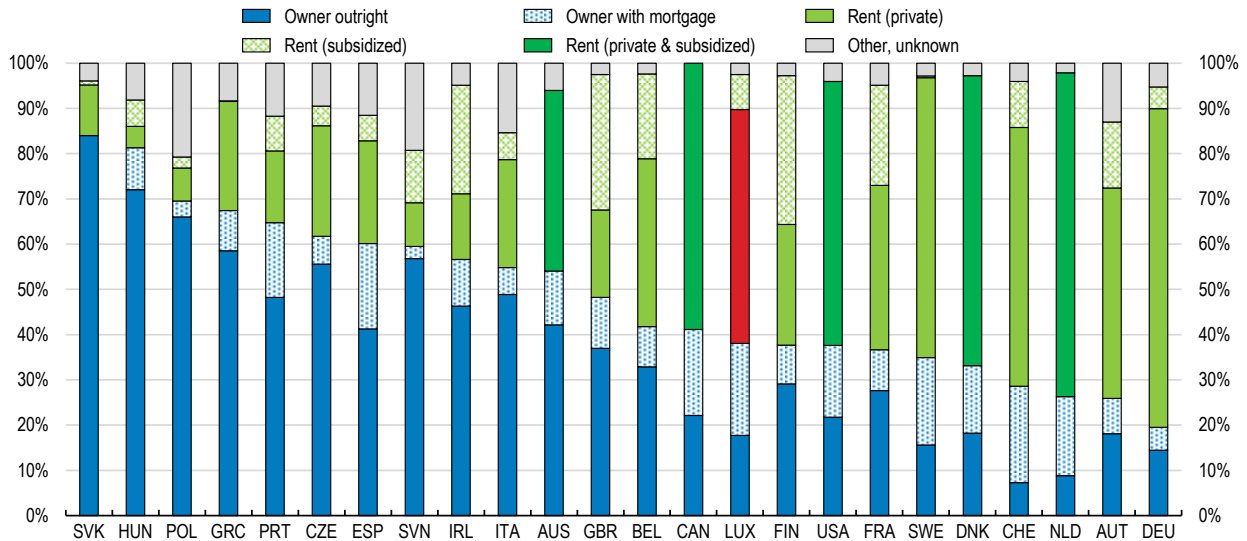
The rents in the social housing sector are cost-based and their price increases are capped at the country level. As a result, the price differences between the social and private rental housing, on average some 30%, are higher in the most densely populated areas, such as Luxembourg City and Esch-sur-Alzette, but much lower in the less-populated North region.

3.4. Affordable private rental sector

The policies stimulating homeownership can have important effects on the investment decisions, which well-functioning rental markets may partly mitigate. In Luxembourg, the private rental market provides housing to many low-income households, who are disproportionately represented compared to other OECD countries (Figure 26).

Figure 26. Many low-income households rely on the private rental sector

Share of different tenure types across households in the bottom quintile of the income distribution, percentage 2016 or the latest year available



Note: Tenants renting at subsidized rent are lumped together with tenants renting at private rent in Australia, Canada, Chile, Denmark, Mexico, the Netherlands and the United States, and are not capturing the full extent of coverage in Sweden due to data limitations.

Source: Preliminary data from the OECD Affordable Housing database.

Conversion of existing owner-occupied dwellings to rental dwellings is a fast way to increase the private rental supply, and if the rules for conversion or temporary renting of owner-occupied housing are relaxed, it may help adapt the housing stock to changing market circumstances. Transaction taxes can also form a barrier for investments in the private rental sector. Earlier OECD research recommended lowering of high transaction taxes, and replacing these by increasing taxation on ownership (Boulhol, 2011).

The recipients of many homeownership subsidies (prime de construction, prime d'acquisition, interest subsidy and interest bonification), are not allowed to rent out part of their dwelling, unless the tenant is enrolled as post-secondary student in Luxembourg. Similarly, a homeowner profiting from a tax credit on notarial deeds (Béllegen Akt) cannot rent out the dwelling for two years. These rules on partial rental could be relaxed, to improve access to the private rental sector for vulnerable groups of tenants, such as interns and employees on fixed term contracts, and to provide low-income homeowners with additional income. In addition, the tax treatment of the net income of owner-occupiers from the rental at home could be made more favourable, as is the case with the existing tax exemption on rental income from social rental management companies (Mellouet, 2018).

In addition to tax measures, demand subsidies, such as housing allowance, can also be used in strengthening an affordable private rental sector. Housing allowances can have fewer distortion effects on residential mobility than social housing and do not stoke the spatial mismatch. Subsidies may also improve equity in access, if designed as entitlements, as they can be more easily withdrawn from households that become no longer eligible for them.

However, housing allowances do not automatically guarantee quality standards and security of tenure, which may require additional instruments, such as tenancy law or social rental agencies. In addition, housing allowances may not effectively address the issue of housing affordability, as they might be captured by rental prices. This problem occurs when allowances are based on actual rents and especially in a presence of housing supply restrictions (André, 2010). The capture rate is estimated at around 16% in

the U.S., but much higher in the U. K. and France, where it is estimated at 50% and 78%, respectively (Gibbons and Manning, 2006; Fack, 2006). For example, France has recently decided to decrease progressively the housing allowances by 2020.

In general, housing support in Luxembourg should be better targeted, as less than 10% of total public support related to rental and owner-occupied housing is clearly earmarked based on socio-economic or environmental criteria (Mellouet, 2018). For example, housing allowances in Luxembourg do not include any spatial differentiation, such as coupling the allowance to local reference rents, as in Germany. However, considering the heterogeneity of housing and rental prices in Luxembourg, this may be useful in making them more effective (de Boer and Bitetti, 2014).

Box 5. Recommendations

Recommendations to reduce land hoarding and improve the co-operation between government and municipalities

Key recommendations:

- Increase the opportunity cost of unused land by reforming recurrent taxes on immovable property. One option is to increase land value taxes on land zoned for construction.
- Make part of government financing of municipalities conditional on municipalities penalising landowners and developers for non-use of building permits.
- Increase residential density, in particular around transport network hubs, namely by building higher buildings.

Additional recommendations:

- Establish a housing observatory at the level of the Greater Region, collecting and analysing territorial and cross-border data on housing.
- To ensure effective co-operation by all stakeholders, the central government should introduce binding spatial planning instruments and explore the use of binding targets in spatial planning.

Recommendations to increase housing tenure neutrality

Key recommendations:

- Make owner-occupied property taxes more progressive, for example by phasing out or at least reducing mortgage interest deductibility.
- Turn recurrent taxes on immovable property (impôt foncier) into a more important fiscal resource and an indirect tool of territorial development, e.g. by regularly aligning the tax base with the market price of the property.

Additional recommendations:

- Abolish the resort to temporary tax exemptions of capital gains on home sales as a policy instrument.
- Make taxation of unoccupied dwellings in Luxembourg progressive with respect to income and higher than the taxation of main residences.

Recommendations to improve the supply of social and private rental housing

Key recommendations:

- To increase the stock of social rental housing while preserving social mixity, directly finance new land acquisition by public providers of social housing.
- Use recurrent means testing to better target the provision of social housing.
- Link housing allowances and rents in the social housing sector to reference rents at the local level.

Additional recommendations:

- Increase financial support for social rental management agencies, while municipalities provide access to an up-to-date database of unoccupied dwellings.
- Introduce numerical targets for social housing construction in each municipality.
- Make public providers of social housing focus on rental housing, rather than social housing for sale.
- Relax the rules on partial rental and conversion of existing dwellings into rental housing and consider a tax exemption or tax credit on partial rental income.

References

- André, C. (2010), “A Bird’s Eye View of OECD Housing Markets”, *OECD Economics Department Working Papers*, No. 746, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5kmlh5qvz1s4-en>.
- Andrews, D., A. Caldera Sánchez and Å. Johansson (2011), “Housing Markets and Structural Policies in OECD Countries”, *OECD Economics Department Working Papers*, No. 836, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5kgk8t2k9vf3-en>.
- BCL (2018), *Revue de la stabilité financière 2018*.
- Blöchliger, H. and J. Pinero Campos (2011), *Tax competition between sub-central governments*, <https://doi.org/10.1787/5kgb1mfm6jnw-en>.
- Boulhol, H. (2011), “Making the French Housing Market Work Better”, *OECD Economics Department Working Papers*, No. 861, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5kgcd9w73qvf-en>.
- Calmfors, L. et al. (2005), *EAG European Economic Advisory Group at CESifo: Report on the European Economy 2005*.
- Cheung, C. (2014), “Deconstructing Canada’s Housing Markets: Finance, Affordability and Urban Sprawl”, *OECD Economics Department Working Papers*, No. 1145, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5jz0zbg20h34-en>.
- Claveres, G., T. Y. Mathä, G. Pulina, J. Stráský, N. Woloszko and M. Ziegelmeyer (2019), “Housing and inequality: The case of Luxembourg and its cross-border workers”, *OECD Economics Department Working Papers*, forthcoming, OECD Publishing, Paris.
- Conseil économique et social (2018), *Evolution économique, sociale et financière du pays 2018*, <https://ces.public.lu/dam-assets/fr/avis/avis-annuels/avis-17418-aa-2018-.pdf>.
- de Boer, R. and R. Bitetti (2014), “A Revival of the Private Rental Sector of the Housing Market?: Lessons from Germany, Finland, the Czech Republic and the Netherlands”, *OECD Economics Department Working Papers*, No. 1170, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5jxv9f32j0zp-en>.
- Eichberger, A., C. Seidenberger and U. Blanda (2008), *Wohnungsbedarfprognose 2001-2021*.
- European Commission (2018), *The 2018 Ageing Report: Economic and budgetary projections for the EU member states (2016-2070)*.
- European Social Housing Observatory (2007), *Housing Europe 2007: Review of social, co-operative and public housing in the 27 EU member states*.
- European Union (2019), *Commission Staff Working Document: Country Report Luxembourg 2019*.
- European Union (2015), *People in the EU: who are we and how do we live?*, Eurostat, <http://dx.doi.org/10.2785/406462>.

- Fack, G. (2006), “Are housing benefits an effective way to redistribute income? Evidence from a natural experiment in France”, *Labour Economics*, Vol. 13/6, pp. 747-771.
- Fatica, S. and D. Prammer (2018), “Housing and the tax system: How large are the distortions in the euro area?”, *Fiscal Studies*, Vol. 39/2, pp. 299-342, <https://doi.org/10.1111/1475-5890.12159>.
- Gibbons, S. and A. Manning (2006), “The incidence of U.K. housing benefit: Evidence from the 1990s”, *Journal of Public Economics*, Vol. 90/4-5, pp. 799-822.
- Glumac, B., M. Herrera-Gomez and J. Licheron (2018), *A residential land price index for Luxembourg: Dealing with the spatial dimension*.
- IMF (2018), *Luxembourg: Selected Issues*.
- Knoll, K., M. Schularick and T. Steger (2014), *No price like home: Global house prices, 1870-2012*, <https://www.dallasfed.org/~media/documents/institute/wpapers/2014/0208.pdf>.
- Lawson, J. (2009), “European Housing Strategies, Financing Mechanisms and Outcomes”, Conference Paper, OTB Research Institute for Housing, Urban and Mobility Studies, Delft University of Technology.
- L’Observatoire de l’Habitat (2019a), *Le potentiel foncier destiné à l’habitat au Luxembourg en 2016*.
- L’Observatoire de l’Habitat (2019b), *Les prix de vente des terrains à bâtir en zone à vocation résidentielle entre 2010 et 2017*.
- L’Observatoire de l’habitat (2015), *Le potentiel foncier destiné à l’habitat au Luxembourg en 2013*, <https://statistiques.public.lu/fr/publications/autresacteurs/series-ceps/noteobservatoirehabitat/2015/20-2015/20-2015.pdf>.
- L’Observatoire de l’habitat (2010), *Des actifs résidents devenues frontaliers*, http://observatoire.liser.lu/pdfs/Note14_A4.pdf.
- Mellouet, S. (2018), *Logement au Luxembourg: IDEA apporte sa pierre à l’édifice*.
- Ministère du Développement durable et des Infrastructures (2018), *Modu 2.0: Strategie für eine nachhaltige Mobilität*.
- Ministère du logement (2018), *Politique du logement au Luxembourg*.
- Muñoz Gielen, D. and S. Lenferink (2018), “The role of negotiated developer obligations in financing large public infrastructure after the economic crisis in the Netherlands”, *European Planning Studies*, Vol. 26/4, pp. 768-791, <http://dx.doi.org/10.1080/09654313.2018.1425376>.
- Observatoire de l’habitat and STATEC (2018), *Le logement en chiffres no. 7*, http://observatoire.liser.lu/pdfs/Logement_chiffres_2017T2.pdf.
- OECD (2019a), *OECD Economic Surveys: Denmark 2019*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-dnk-2019-en.
- OECD (2019b), *Regional Outlook 2019: Regional development policy in Luxembourg*.
- OECD (2018a), *Rethinking Urban Sprawl: Moving Towards Sustainable Cities*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264189881-en>.

- OECD (2018b), *Taxation of Household Savings*, OECD Tax Policy Studies, No. 25, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264289536-en>.
- OECD (2018c), *The Role and Design of Net Wealth Taxes in the OECD*, <https://doi.org/10.1787/9789264290303-7-en>.
- OECD (2017a), *Land-use planning systems in the OECD: Country fact sheet Germany*.
- OECD (2017b), *National Urban Policy in OECD Countries*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264271906-en>.
- OECD (2016a), *OECD Regions at a Glance 2016*, OECD Publishing, Paris, https://dx.doi.org/10.1787/reg_glance-2016-en.
- OECD (2016b), *Regional Policy Profile: Luxembourg*, <https://www.oecd.org/regional/regional-policy/profile-Luxembourg.pdf>.
- OECD (2015), *Developing an inventory and typology of land-use planning systems and policy instruments in OECD countries*.
- OECD (2012), *OECD Economic Surveys: Luxembourg 2012*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-lux-2012-en.
- OECD (2010), *Better regulation in Europe: Luxembourg*.
- OECD (2007), *OECD Territorial Reviews: Luxembourg 2007*, OECD Territorial Reviews, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264038585-en>.
- Peltier, F. (2011), *Projection des ménages privés et des besoins en logements 2010-2030*, <https://statistiques.public.lu/catalogue-publications/economie-statistiques/2011/55-2011.pdf>.
- Salvi del Pero, A. et al. (2016), “Policies to promote access to good-quality affordable housing in OECD countries”, *OECD Social, Employment and Migration Working Papers*, No. 176, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5jm3p5gl4djd-en>.
- STATEC (2017a), *Regards sur le stock des bâtiments et logements*.
- STATEC (2017b), *Statistique des bâtiments achevés 1970-2016*, <https://data.public.lu/en/datasets/construction-batiments-acheves/#> (accessed on March 2019).
- van Veen, I. (2005), “Public ground lease in Amsterdam and the effects on housing”, mimeo, <http://www.tink-iris.nl/downloads/public-ground-lease-and-the-effects-on-housing.pdf>
- Ziegelmeyer, M. (2015), *Other real estate property in selected euro area countries*.