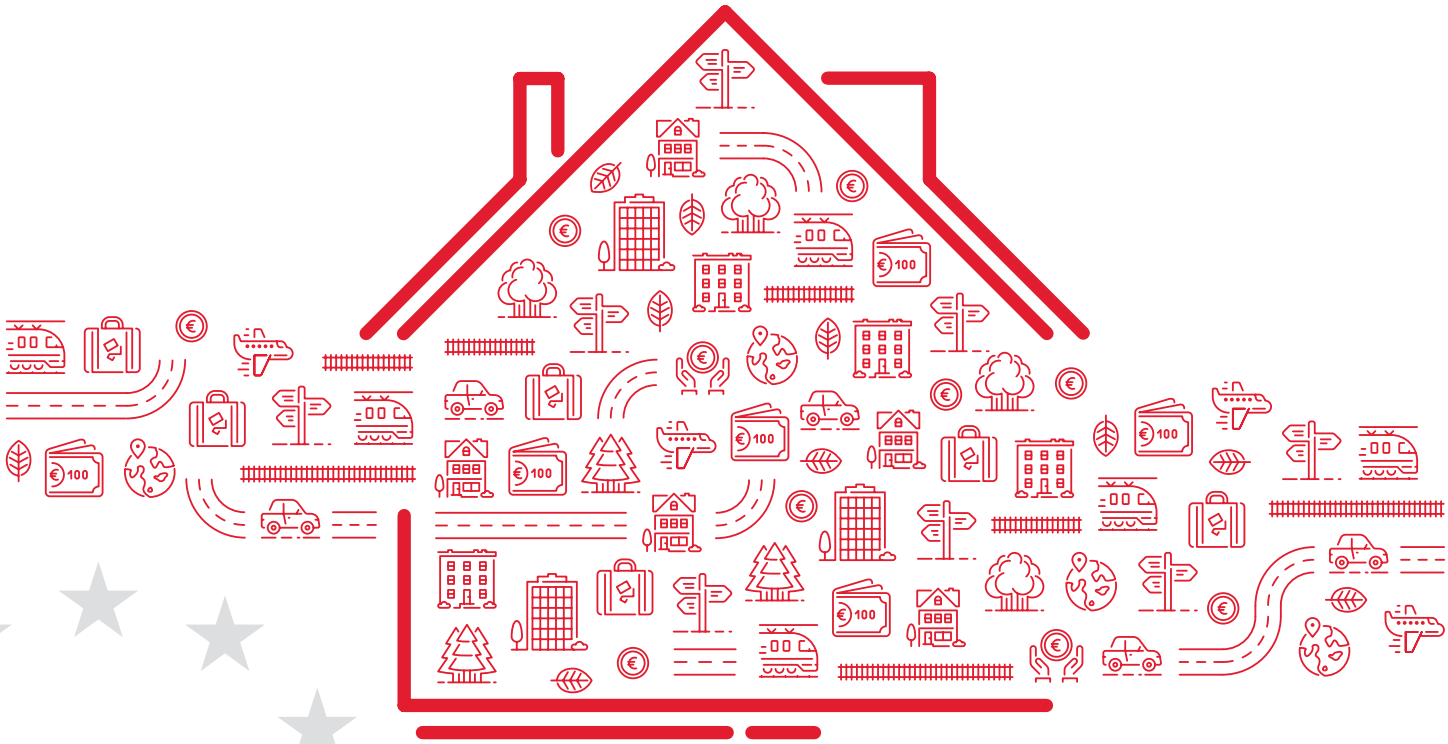
WORLD BANK REPORT
ON THE EUROPEAN UNION

Living and Leaving

Housing, Mobility and Welfare in the European Union



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European Union Countries and Regions

Northern Europe		Denmark	DK
		Finland	FI
		Ireland	IE
		Sweden	SE
		United Kingdom	UK
Continental Europe		Austria	AT
		Belgium	BE
		France	FR
		Germany	DE
		Luxembourg	LU
		Netherlands	NL
Southern Europe		Cyprus	CY
		Greece	EL
		Italy	IT
		Malta	MT
		Portugal	PT
		Spain	ES
Central and Eastern Europe (CEE)	North	Estonia	EE
		Latvia	LV
		Lithuania	LT
	Continental	Croatia	HR
		Czech Republic	CZ
		Hungary	HU
		Poland	PL
		Slovak Republic	SK
		Slovenia	SI
	South	Bulgaria	BG
		Romania	RO

Note: Figures throughout the volume use the country abbreviations shown. Some figures also refer to regional groups and subgroups as categorized in the report, *Golden Growth: Restoring the Lustre of the European Economic Model* (Gill and Raiser 2012).

Abbreviations

CEE	Central and Eastern European
EU	European Union
EUROMOD	European Union microsimulation model
GDP	gross domestic product
OECD	Organisation for Economic Co-operation and Development

Overview

Availability and affordability of decent housing has become an important economic and social concern in the European Union (EU). This has accelerated in recent years, as housing price increases in metropolitan regions have often outpaced wage increases. Across Europe, people are anxious about their ability to find and afford decent housing. In 26 of the 28 EU capitals, most respondents disagreed with the statement that finding good housing at reasonable prices is easy (EC, 2016a). Young people and newcomers to cities are especially affected, while older generations owning homes in prime locations have benefited from the rise in the value of these assets.

Housing is at the heart of growing economic divides in Europe. This is because productivity growth, which comes with higher wages and better jobs, is concentrated in cities and industrial clusters. Yet, cities are precisely where housing prices are prohibitive. Land and housing assets are a source of wealth inequality, have an important impact on spatial inequality, and could potentially determine the degree of intergenerational mobility within a society.

Housing is unaffordable in metropolitan centers because the construction of new homes has not kept up with demand. Housing shortages and the rise in home prices prevalent in many EU cities indicate that housing markets are not functioning effectively. While policy incentives (taxation benefits, easing of financing conditions) have favored homeowners since the 1970s, less attention and resources have been devoted to easing the potential barriers and market restrictions that would allow housing supply to respond to increases in demand. Across EU member states, policymakers should focus on ensuring that land use, rental and other regulations are consistent with incentives to spur residential construction.

Housing policy in the EU needs recalibration to avert a housing crisis in metropolitan areas. Three policy areas call for attention:

- *Enabling regulatory conditions.* For example, cities can earmark unused public lands for housing development and encourage the redevelopment of existing structures by permitting higher floor-space ratios, loosening height restrictions, or allowing greater density in specific target zones. Cities can also streamline their processes to speed up land-use approval and permit processes, creating a more predictable and less burdensome experience. In some member states, *improving property rights* and *land administration systems* is an additional area of priority.

- *Using public finance more strategically.* Governments should emphasize strategic investment projects in greenfield housing as a central part of their investment strategies, together with transportation to facilitate commuting to the centers of economic activity. Moreover, a shift in government incentives away from tax and benefit incentives that favor homeownership in favor of tenure-neutral, portable and progressive housing allowances would improve redistribution and efficiency.

- *Improving information:* There needs to be greater transparency in sales recorded at local real estate authorities, thus enabling a publicly available online house price registry with addresses, sales prices, and housing quality indicators, in line with other non-EU high-income economies. House purchase cost indicators could also be published, so as to benchmark the transaction costs in place at the local, regional, and national levels. This level of transparency could lead to greater competition across jurisdictions and thus contribute to more efficient, and equitable housing markets.

Housing Affordability Is at the Heart of Growing Divides

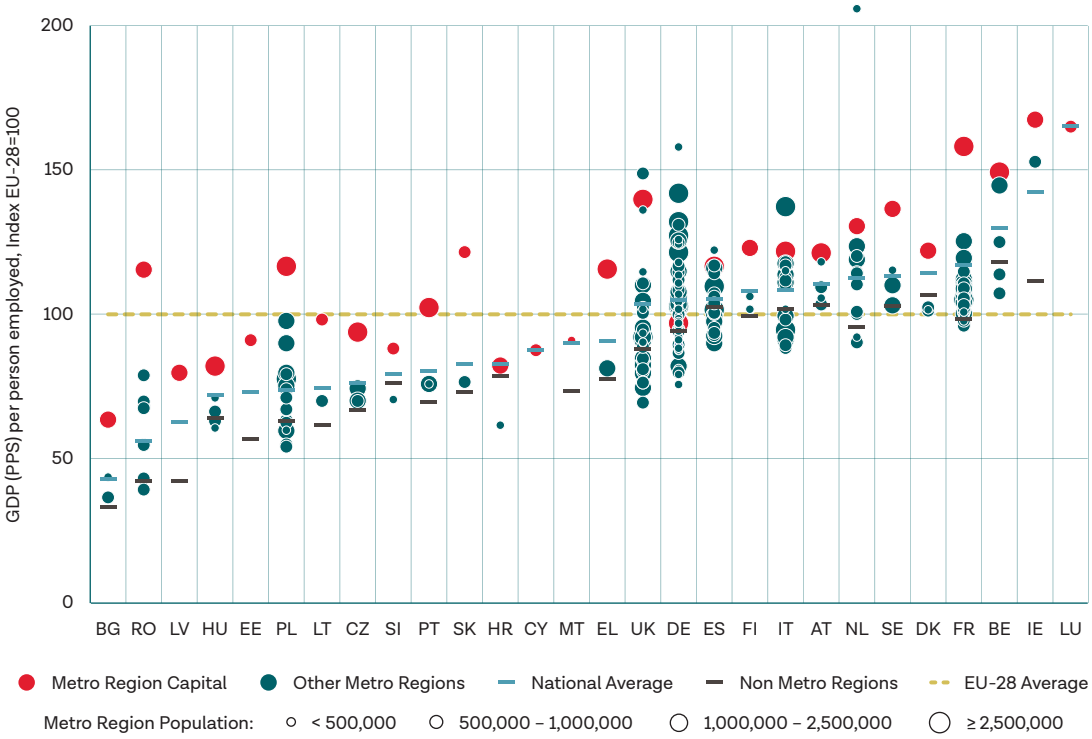
The European Union stands out as the region with the fastest convergence of living standards over the past four decades. The EU accelerated the development of poorer countries through its enlargement, the single market, and structural and investment funds. Trade and financing generated convergence in living standards between member states. This, together with a strong enterprise sector and innovation, drove Europe to account for about one-third of world gross domestic product (GDP) with less than one-tenth of the world's population. Through the accession process, convergence was particularly powerful for the EU's newest members. Despite the global financial crisis, Romania's GDP per capita increased from 35 percent of the EU average in 2005 to 58 percent in 2016, while Poland became a high-income country faster than any other country in the world except the Republic of Korea.

However, Europe is seeing growing divides, with widening productivity gaps between firms and growing inequality in labor incomes. Household income inequality has been on the rise in many parts of the EU since the 1990s, as real earnings of the poorest 10 percent of workers have declined (Ridao-Cano and Bodewig 2018). The impact of recession has been visible in communities, but the hardship has not fallen equally on all shoulders. Income inequality is gradually increasing in several EU countries as low-income people fall behind while capital income and wealth are increasingly more concentrated at the top of the distribution. Europe's jobs increasingly emphasize nonroutine, cognitive tasks that are complementary to what machines can do. As such, high-skilled workers see their incomes rise while low-skilled workers lose out as manual jobs become scarcer (Gorka et al. 2017). At the same time, although Europe's frontier firms are among the global elite, its lagging firms increasingly fall behind global competitors. This growing divide has a spatial dimension: living standards have diverged across regions within countries, driven by the coexistence of thriving locations with a high concentration of high-skilled workers and frontier firms alongside other places that languish (Ridao-Cano and Bodewig 2018).

The growing divide often plays out across regions within countries, as high-productivity jobs are concentrated in metropolitan regions where housing affordability is an entry barrier. Land and housing assets are the most important store of value for households across the EU. For many people, the location of their childhood home could determine whether they are able to participate and benefit from economic growth. This is because productivity growth, which comes with higher wages and better jobs, is concentrated in cities and industrial clusters where housing prices could be prohibitive. For instance, labor productivity in Bucharest is at the same level as in Vienna or Copenhagen, and more than two times the national average of Romania (Figure O.1).

In fact, the most productive metropolitan areas have also seen the highest increases in housing prices. Theory predicts that increases in productivity should lead to increases in labor demand, which in turn should lead to increases in employment and wages. Growing employment can be expected to raise the local cost of housing. Growth in housing prices relative to labor incomes will ultimately determine whether housing affordability becomes a growing problem. In the EU, the evidence for the post-crisis period suggests that wages and employment growth have indeed followed increases in productivity. However, housing prices are also the highest in large cities and centers of agglomeration, and where they are rising, they are rising faster in the most productive capital cities and agglomeration areas. For example, in Dublin labor productivity measured as GDP per person employed grew by 13 percent between 2012 and 2014, while real housing prices grew by 35 percent over the same period (Figure O.2).

Figure O.1 Labor Productivity Is Usually Highest in Capital Metro Regions



Source: EC and UN-Habitat 2016, based on 2013 Eurostat data.

Note: PPS = purchasing power standards. EU-28 = all 28 European Union member states. Labor productivity is measured by the volume index of GDP per capita in PPS. The EU-28 average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa.

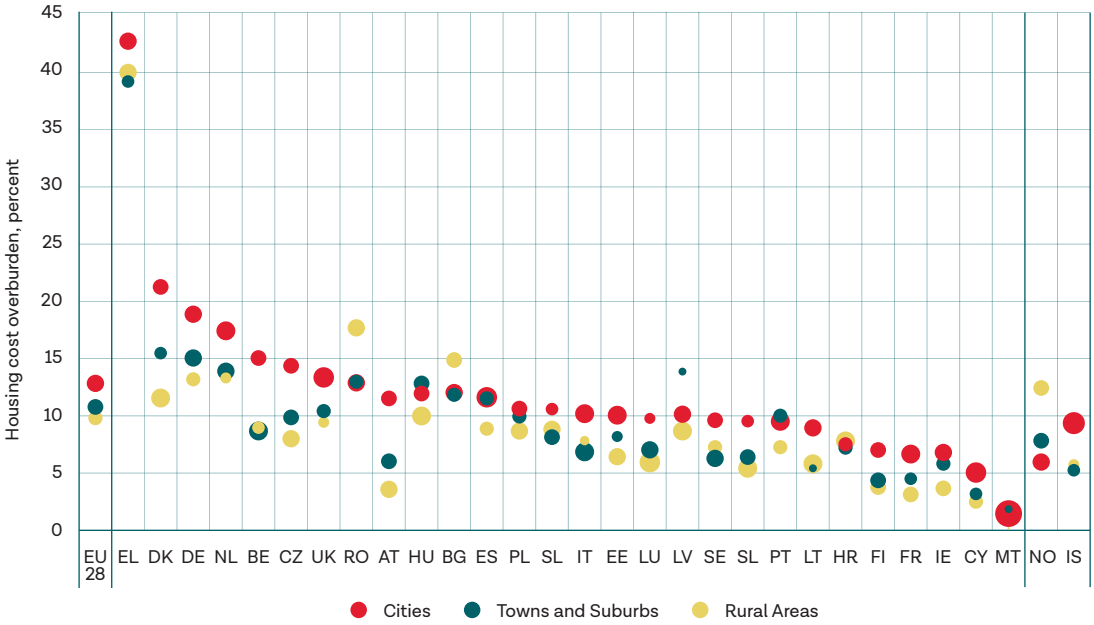
Figure O.2 Productivity Growth Is Associated with Housing Price Growth in EU Metro Areas, 2012–14

Sources: Eurostat data and EMF 2017.

Note: EU = European Union. PPS = purchasing power standards.

As a result, lack of affordable housing is a bigger problem in cities and agglomeration centers. For instance in Denmark, the share of households spending more than 40 percent of their disposable income on housing is 11 percentage points higher in cities compared to rural areas (Figure O.3). To the extent that productivity increases led to higher housing costs, a significant part of the wealth created by the dynamism of cities accrued not just to workers through the labor market but also to homeowners through the housing market, in the form of capital gains, thus deepening inequalities within cities and between homeowners in cities and the population living in other regions. The youth and newcomers are especially affected, while older generations owning homes in prime locations have benefited from important increases in the value of capital. As such, land and housing assets are a source of wealth inequality, have an important impact on spatial inequality, and could potentially determine the degree of intergenerational mobility within a society.

Figure O.3 Housing Affordability Is Most Problematic in EU Cities, 2014



Source: EC and UN-Habitat 2016, based on Eurostat data.

Note: EU28 = all 28 European Union member countries. Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing.

Bubble size is the share of national population living in the area

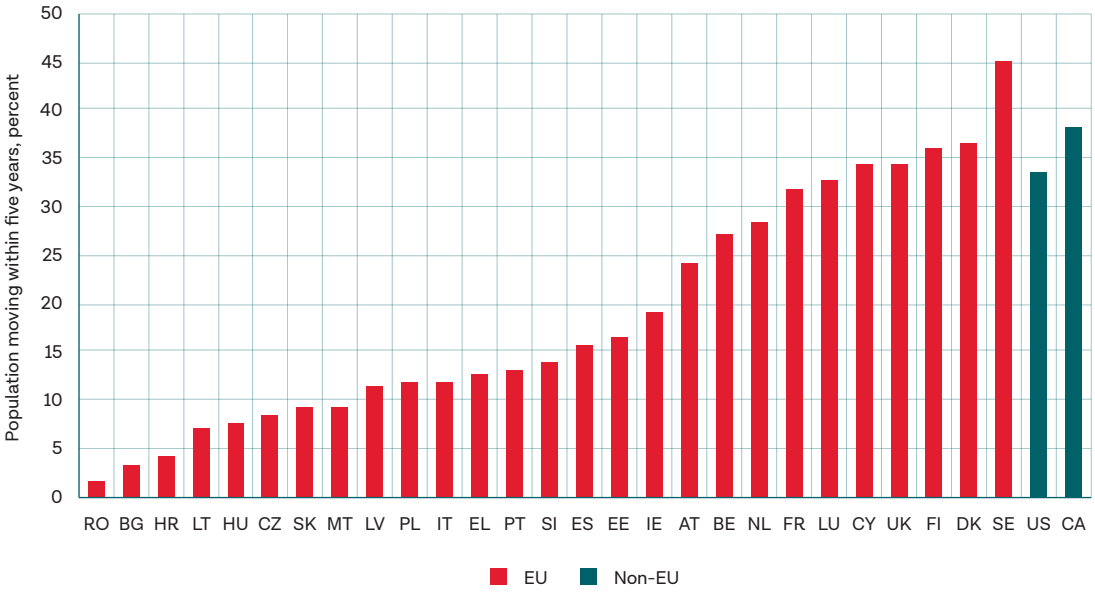
Across Europe people are anxious about their ability to afford decent housing. In all but two of the 28 EU capitals, most respondents disagreed with the statement that finding good housing at reasonable prices was easy (EC, 2016a). Housing is now seen as the most important national issue in Luxembourg and Ireland, and concern has risen in an additional 13 Member States since autumn 2017, led by the Netherlands and Malta (EC, 2018c). This report discusses the extent to which existing government policies and regulations support housing affordability and worker mobility in the EU. It also evaluates the extent to which existing tax incentives and housing benefit policies help with these objectives.

Restrictive Housing Policies Reduce Housing Affordability

Low housing affordability in agglomeration centers could effectively shut out tenants, newcomers, and the young from good job opportunities, thus limiting growth and inclusion. For people at the bottom of the distribution, often the only assets they have are their own skills, and the only way for them to hope for a better future is to move to a location where the returns to their labor are higher. For instance, EU high school graduates can earn better wages in locations where there are more college graduates, mostly owing to agglomeration externalities from thicker labor markets and knowledge spillovers. Labor mobility is not only important for individual workers seeking to maximize their labor incomes but also crucial for economic growth because overall productivity growth increases if labor productivity increases.

Within-country residential mobility is already quite low in many EU countries, particularly in Central and Eastern European countries and especially for homeowners (Figure O.4). The probability of moving is higher for younger, more educated, higher-income individuals. But mobility is also constrained by tenure type, being highest for tenants renting at market prices and lowest for outright homeowners, controlling for other individual characteristics. For instance, in Croatia, Hungary, Lithuania, Poland, and Romania, the probability of moving for outright homeowners is more than 50 percent lower than for tenants renting at market prices. Similarly, tenants paying reduced rents are less mobile, given their reluctance to relinquish their below-market rents and their generally more secure tenancies (OECD 2016).

Figure O.4 Domestic Five-Year Residential Mobility Is Relatively Low in EU Countries (especially in Central and Eastern Europe), Early 2010s



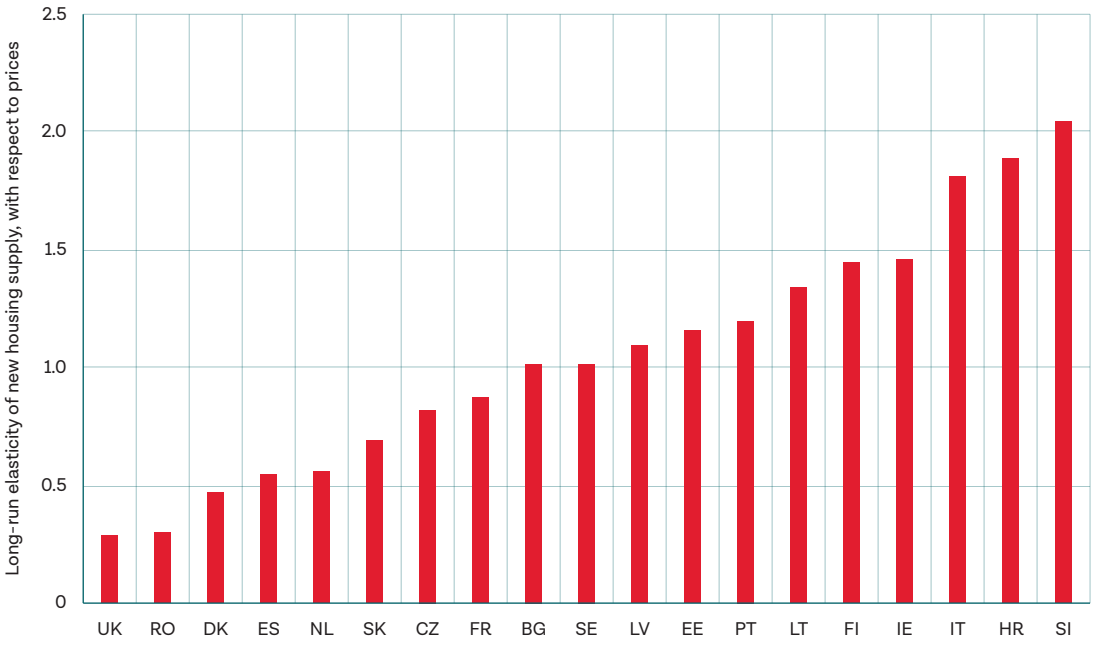
Sources: Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database; U.S. 2010–15 mobility data, Annual Social and Economic Supplement of the Current Population Survey, U.S. Census Bureau; and 2016 Census of Population, Statistics Canada.

A key element determining housing affordability is whether residential construction increases when housing prices increase. In a competitive environment, higher housing prices should be followed by an increase in the supply of housing, as developers see profitable opportunities to provide additional housing. If the responsiveness of housing supply to increases in prices is high, then the supply of hous-

ing will increase to meet the new demand, and housing prices will remain stable. To the extent that housing supply does not respond to higher prices, then increases in productivity will simply be met by ever-rising housing prices, implying that a growing share of productivity will be captured by homeowners through capital gains. To the extent that older generations own a large portion of the housing assets, this also means that younger generations will find it difficult to afford to live in the most productive locations.

The responsiveness in housing supply to higher housing prices varies widely across the EU and partly depends on regulatory requirements and the institutional environment. The estimates presented in this report show important differences in the responsiveness of housing supply to increases in housing prices across EU countries. For instance, in the UK, Denmark and Romania the responsiveness of new residential investment to a one percentage point increase in housing prices is less than 0.5 percent, while in Finland, Ireland, Italy and Slovenia it is more than 1.4 percent (Figure O.5). Moreover, these differences are associated with differences in the regulatory and institutional environment. For instance, restrictive rent controls and a larger number of registration procedures are associated with lower supply responsiveness (Figure O.6). In Denmark, for instance, rent regulations cover about 88 percent of rental dwellings (OECD, 2016). In contrast, rents are predominantly market based in Slovenia, outside of the non-profit sector. Similarly, better land administration is associated with higher supply responsiveness (Figure O.7). For instance, Estonia, Finland and Lithuania have high scores on the quality of land administration, while Romania and Bulgaria lag behind. Although these correlations imply no causal relationship, they do suggest that government policies and the regulatory environment can have important impacts on the responsiveness of residential investment to increases in prices. This is important because it means that strict regulatory restrictions could effectively redistribute the benefits of productivity growth from workers to homeowners.

Figure O.5 Responsiveness of Housing Supply to Price Increases, Selected EU Countries



Source: World Bank estimates of the long-run price elasticity of new residential investments based on the longest time-series data available in each country.

Note: The figure shows the increase in gross residential investment following a 1-point increase in the national housing price index. All elasticities are significant at least at the 5 percent level. For details, see annex 2A.

Figure O.6 Stricter Rent Controls Are Associated with Lower Housing Supply Responsiveness, 2017

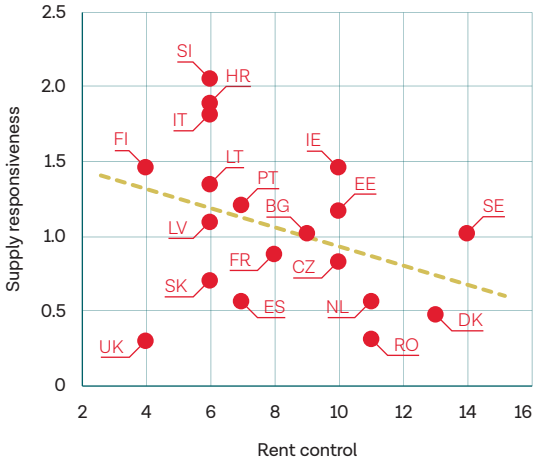
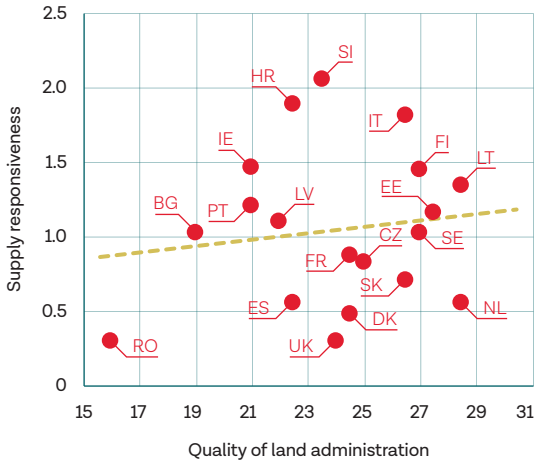


Figure O.7 Better-Quality Land Administration Is Weakly Associated with Higher Housing Supply Responsiveness, 2017

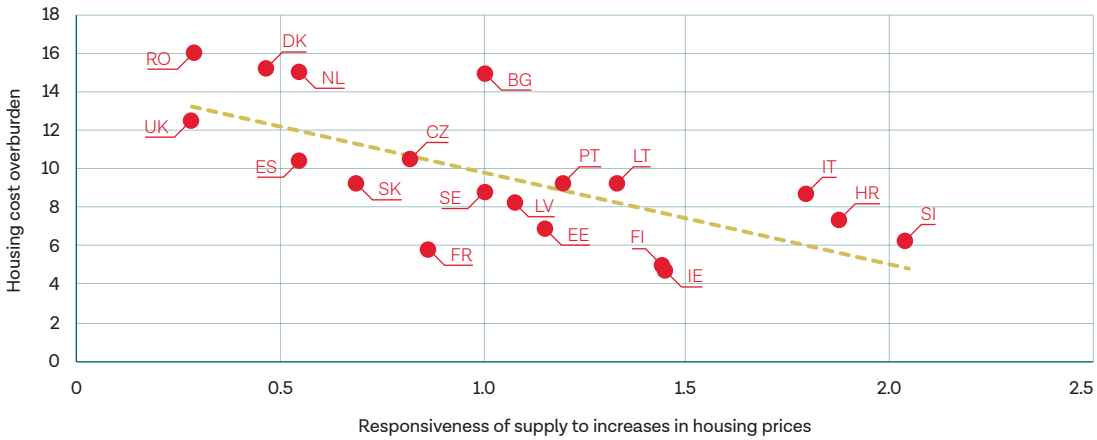


Sources: World Bank estimates of country-specific housing supply responsiveness; updates to Cuerpo, Kalantaryan, and Pontuch (2014) database on rental market regulations; and World Bank Doing Business database.

Note: For more details about the supply responsiveness estimates, see chapter 2.

Indeed, countries with low responsiveness in housing supply to increases in prices have more severe housing affordability constraints. There is a strong negative correlation between housing cost overburden rates and the responsiveness of residential investment to increases in housing prices (Figure O.8). Policies that loosen regulatory restrictions to allow for increases in the local housing stock help to keep housing prices in check and improve housing affordability. Focusing on loosening these regulatory restrictions would substantially improve the welfare of tenants, newcomers, and the young who may not have the resources to purchase a house. In contrast, policies that limit growth in the housing stock tend to result in housing price increases, thus favoring homeowners and older generations living in metropolitan centers.

Figure O.8 Low Housing Supply Responsiveness Is Associated with High Housing Cost Overburden, 2016



Sources: World Bank estimates of housing price elasticities and Eurostat data.

Note: Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing. For details on the housing price elasticity estimates, see chapter 2.

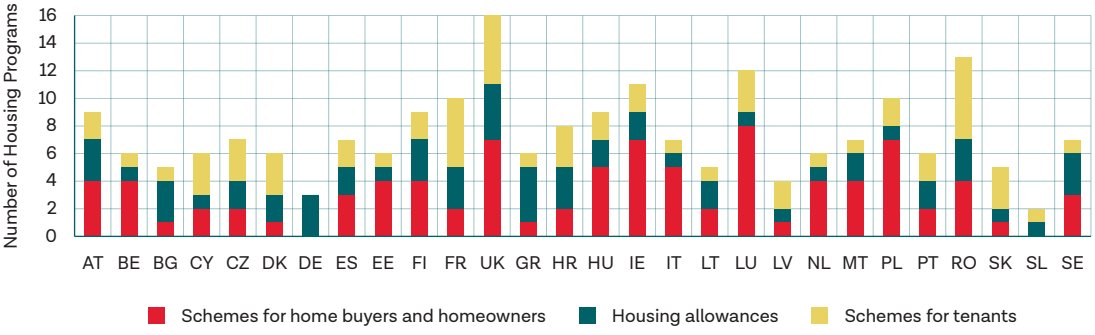
Strict rental regulations, high tenant protection, weak property rights, and low quality of land administration are also associated with low residential mobility. Rent controls and legislation that affords security in tenure can provide stable housing for the poor and vulnerable who benefit. However well intentioned, these policies and regulations often only reach a small minority of beneficiaries, to the detriment of a larger share of people who face higher housing costs—most likely because they restrict residential investment. As such, these policies are associated with lower mobility. High transaction costs lead to lower mobility, but the effect is larger for young people. Similarly, more generous unemployment benefits and greater access to credit are also associated with higher mobility.

Tax and Spending Policies Aimed at Improving Housing Affordability Have Had Starkly Different Distributional Impacts

Tax and spending policies have focused on homeownership, with relatively little attention and resources devoted to easing the potential barriers and market restrictions that would ease housing affordability and allow workers to move to where they are most productive. Governments in the EU have long intervened in housing markets with market and policy incentives (taxation benefits and easing of financing conditions). Many of these programs have favored homeowners since the 1970s, resulting in a long-term rise in homeownership across EU member states. In contrast, less attention and fewer resources have been devoted to easing the potential barriers and market restrictions that would allow housing supply to respond to increases in demand. A stocktaking exercise undertaken for this report identified a total of 208 tax and benefit programs across the 28 EU countries as of 2018 (Figure O.9). Many of these programs have sought to make housing more affordable, with varying degrees of success. Existing programs can be roughly categorized into policies associated with three main objectives:

- *Programs for home buyers and homeowners*, which make up most of the programs (90 programs across 26 countries)
- *Housing allowances*, typically as cash transfers, aimed at either homeowners or tenants (60 programs across 28 countries)
- *Programs for tenants*, which include social housing, incentives for housing development, and other programs aimed at reducing housing costs for tenants (60 programs across 27 countries).

Figure O.9 Tax and spending policies have focused on homeownership in EU Countries, 2018



Sources: World Bank, based on national and subnational legislation data from OECD, EUROMOD, EU, and IBFD Tax Treaties databases for 2018.

Note: EUROMOD = tax-benefit simulation model for the European Union (EU). IBFD = International Bureau of Fiscal Documentation. OECD = Organisation for Economic Co-operation and Development. Figure shows the total number of programs in each country as well as the composition by category.

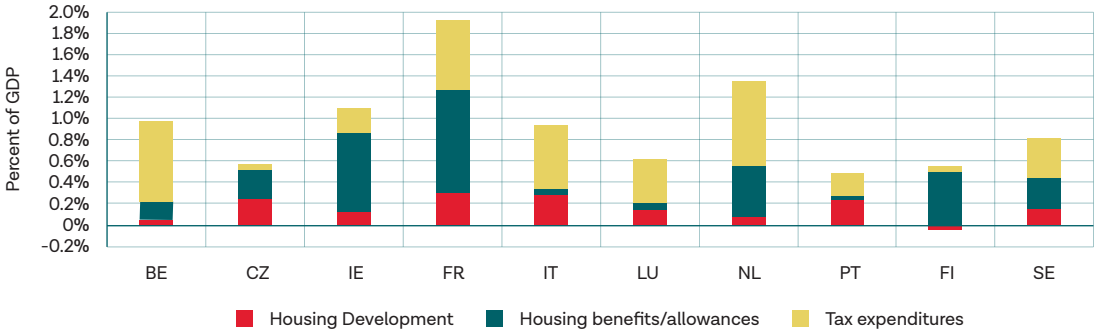
There are stark differences across countries in the mix of policies and the resources dedicated to each program – with France, Germany, Ireland, the Netherlands, and the United Kingdom dedicating more resources to housing allowances, typically in the form of means-tested cash transfers (demand interventions), while southern and eastern EU countries spend much more on housing development (supply interventions) (Figure O.10). Moreover, government spending on housing allowances has continued to increase in the countries where it is already relatively high, such as Denmark, Ireland, Finland, France, and the United Kingdom, while spending on housing development has declined. This shift toward demand-side interventions has also meant that funding for social housing has been declining. In contrast, in southern and eastern EU countries such as Bulgaria, Hungary, and Poland, spending on housing development has increased, while spending on housing allowances has continued to decline. There are also important differences with respect to spending on homeowners or home buyers relative to spending on tenants. This is particularly stark in countries that provide tax incentives for home buyers and homeowners. In these cases, when the forgone revenue from tax allowances,[1] credits, and deductions are considered as part of the public resources invested in housing, they are often much larger than all other spending combined (Figure O.11).

Figure O.10 The Composition of Spending on Housing Programs Varies across EU Countries, 2016

Sources: Eurostat COFOG and World Bank estimates of housing-related tax expenditures using EUROMOD version H1.0+.

Note: COFOG = general government expenditure by function. EU-28 = all 28 European Union countries. EUROMOD = tax-benefit simulation model for the European Union.

Figure O.11 Tax Expenditures Are Often Larger Than Total Spending on Housing Programs, 2016–17

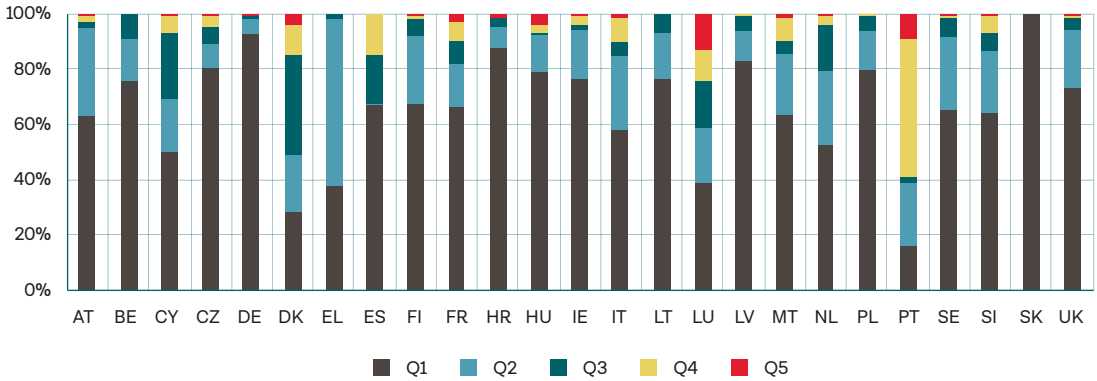


Sources: Eurostat COFOG and World Bank estimates of housing-related tax expenditures using EUROMOD version H1.0+.

Note: COFOG = general government expenditure by function. EUROMOD = tax-benefit simulation model for the European Union.

Housing allowances are the most progressive of interventions,[2] particularly when directed at low-income tenants (Figure O.12). The choice of policy mix has very different distributional impacts: tax relief for homeowners is concentrated in higher-income households, while home allowances are much more progressive. Unfortunately, it is not possible to analyze the incidence of all tax and benefit interventions associated with housing because household survey data do not identify the beneficiaries of many programs (such as recipients of mortgage guarantees or programs aimed at housing developers). This report analyzed the incidence of 60 out of the 208 programs across EU countries. While housing allowances are the most progressive, a large share of poor households does not receive housing allowances or benefits.

Figure O.12 Housing Allowances for Tenants Benefit the Bottom of the Distribution, 2017

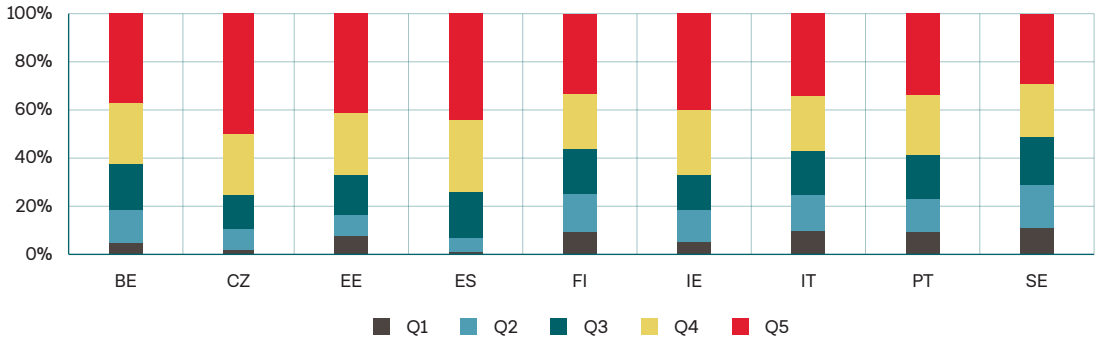


Source: World Bank estimates of housing-related tax expenditures using EUROMOD version H1.0+.

Note: Households are ordered by household disposable income. Each quintile represents 20 percent of households, ordered from poorest (Q1) to richest (Q5). EUROMOD is the tax-benefit simulation model for the European Union.

While mortgage subsidies have their place in overall housing market development, they do not meet the housing needs of the lowest income groups. Mortgage subsidies in the form of mortgage interest tax deductions and other incentive programs aimed at home buyers or existing owners are concentrated at the top half of the income distribution, making them ineffective at ensuring housing affordability for those who need it the most (Figure O.13). To the extent that fiscal resources are limited, government spending should be better targeted toward the most vulnerable. Tax relief systems for tenants are found to be more progressive than tax relief aimed at homeowners and home buyers, but they are also less effective than housing allowances.

Figure O.13 Mortgage Interest Tax Relief Benefits the Top of the Distribution, 2017



Source: World Bank estimates of housing-related tax expenditures using EUROMOD version H1.0+.

Note: Households are ordered by household disposable income. Each quintile represents 20 percent of households, ordered from poorest (Q1) to richest (Q5). EUROMOD is the tax-benefit simulation model for the European Union.

There Is Scope to Improve the Welfare Impact of Housing Policies and Regulations

The evidence suggests that there is scope to improve the welfare impact of housing policies and regulations. Below we present a list of policies to be considered.

Goal 1: Create Enabling Conditions to Allow Housing Supply to Expand

National, regional, and local policy makers should reduce the housing supply barriers erected by the different levels of governments. Overly restrictive land use and development regulation constrains housing growth and drives up prices. For instance, cities could encourage new construction or the redevelopment of existing structures by permitting appropriate floor-space ratios, building heights, and density in specific target zones. Low density and height restriction policies are popular with current homeowners, but they lead to housing affordability problems and exclude tenants, young workers, newcomers, and lower-income families from living within reasonable proximity to employment centers and in communities that provide economic opportunities. Moreover, to the extent that these policies prevent labor from moving to where it is most productive, they reduce economic growth. Cities can also streamline their processes to speed up land-use approval and permitting, creating a more predictable and less burdensome process.

In some member states, improving property rights and the land administration system is a priority. This is particularly relevant for central and eastern EU countries where property rights and the quality of land administration are weakest, and especially for Bulgaria, Croatia, and Romania. Reforms in this area are complex but could help improve the mobility of homeowners, who may otherwise be anchored to locations with few economic prospects. Formalizing property rights is also a critical precondition for progress in other areas of housing market development (for example, access to credit) that would be important to catalyze productivity growth in lagging regions and could have important spillover effects.

Governments could emphasize strategic investment projects in greenfield housing and transportation to facilitate commuting to the centers of economic activity. Governments could convert light-industry sites to residential areas, invest in greenfield housing projects and ensure that transportation investment and urban planning allow for commuting to the centers of economic activity. They could also earmark unused public lands for housing development, while cities can identify sites that are underutilized and provide incentives for development (such as expedited permitting, relief from parking requirements, or investment in public parking). Removing barriers to housing supply also requires the development of governance structures that represent all stakeholders and streamline execution. Housing strategies involve policies across financing, urban planning, infrastructure development, land-use regulation, building codes, delivery and contracting approaches. Ensuring efficient coordination mechanisms across these tasks is critical.

Goal 2: Don't Favor Homeownership over Renting, and Help Families Achieve Housing Stability

Better-targeted, tenure-neutral, portable housing allowances could help achieve the goals of affordable housing while minimizing unintended efficiency losses from constrained labor mobility. Tax relief directed at homeowners and home buyers is expensive, the cost of which often outweighs all other spending on housing. Moreover, it is also concentrated in the top half of the income distribution, mak-

ing it ineffective at ensuring housing affordability for those who need it the most. In addition, there is empirical literature that finds that mortgage interest deduction programs that are not targeted to low-income households do not actually increase homeownership but rather induce homeowners to buy larger and more expensive houses, shifting resources away from other more productive assets. A move away from tax and benefit policies that incentivize homeownership toward housing benefits and allowances that are portable and based on income regardless of homeownership status would improve housing affordability. If made portable, they could contribute to ensuring that workers can move to the places where they are most productive. Portable rental allowances could substitute for traditional rent controls that are often distortionary and create perverse incentives, ensuring that the intended beneficiaries receive allowances regardless of where they decide to live. Similarly, instead of incentive programs aimed at homeownership for the young, governments could consider providing housing benefits for targeted groups, such as the youth, potentially making benefits conditional on job search responsibilities.

More generally, striking the right balance between tenant and landlord incentives is important. For instance, creating security of tenancy and avoiding market segmentation between existing and new tenants while ensuring landlords' property rights can help mitigate rental market inefficiencies and correct for market failures without contributing to housing market imbalances. This is of course easier said than done, but what is clear is that easing rental market regulations can create incentives to invest in residential properties and facilitate a more responsive supply side, thus fostering mobility and improving affordability.

Goal 3: Improve Monitoring and Dissemination of Housing Data and Local-Level Information

Improved monitoring and dissemination of metropolitan and city-level data would be useful for evidence-based policy making and could help to reduce spatial inequalities. Better monitoring and dissemination of information at the metropolitan level on housing prices, employment, wages, housing policies and regulations, and other main indicators would help to inform policy makers at the national, regional, and local levels. Ideally, local, regional, and national governments should create a publicly available house price registry with information on addresses, sales prices, and quality (energy rating, square meters, and so on), with information as close to real time as possible, in line with other high-income countries. In addition, national and EU authorities could develop an index of house purchase costs that would allow for benchmarking across localities and regions. This level of transparency would reduce information asymmetries and provide incentives for more streamlined policies and regulations that could help housing markets become more efficient and equitable. For instance, public information on notary fees across metropolitan cities would encourage cities to reduce these fees to attract businesses and workers. Consistent, comparable information across countries and regions would go a long way toward ensuring that new initiatives are monitored and evaluated and that good experiences get the attention they deserve.

Notes:

[1] Note that tax allowances refer to provisions in the tax code that reduce the tax liability of individuals, thus reducing government revenue collection. They should not be confused with a housing allowance, which is a direct cash transfer.

[2] Housing allowances are progressive in absolute terms; that is, most of the spending on housing allowances goes to the bottom of the distribution. They are also progressive in relative terms, in the sense that that they make up a larger share of incomes at the bottom of the distribution.

Chapter 1:

Introduction

Why Focus on Immovable Assets?

EU households hold most of their wealth in the form of illiquid and immovable assets. These assets are an important source of wealth inequality, but they can also be a burden to the extent that homeowners may be unable to sell or collateralize them for productive investments. Homeowners are often anchored to the localities where they live, independently of how prosperous or dynamic those locations are. Consequently, internal mobility is reduced, and this undermines the ability of workers to move to where jobs are likely to be created and where they can maximize their incomes. For the young and for newcomers, housing affordability can be a real barrier to well-being.

Government policies and regulations on immovable assets have diverse, and sometimes conflicting, policy objectives. Governments have pursued a variety of objectives, including promoting urbanization and agglomeration economies, fostering homeownership, and providing affordable minimum housing. Economists have long argued that big cities enjoy agglomeration economies because urban scale makes it easier to ship goods, hire well-matched workers, or exchange ideas.[1] Promoting homeownership is sometimes justified as a way to give people a stake in society and induce them to care about their neighborhoods and towns and become civically engaged. Providing affordable housing is an important goal from the point of view of equity and regard for the most vulnerable. Each of these objectives is commendable on its own, but they could be at odds with one another.[2] For instance, the alignment of market and fiscal policy incentives favoring homeownership has led to a progressive dilution of private rental markets in the EU. In the absence of a thriving rental market, labor mobility has been slow, which has in turn limited the extent to which workers can put their skills to the most productive use. Similarly, rent controls aimed at making housing more affordable also reduce housing market stability because they dissuade housing developers from investing, thus restricting housing supply, increasing prices, and reducing labor mobility. In addition, there are instances where lack of an appropriate governance structure negates the intended policy objectives. For instance, the absence of formal property rights and sound land administration systems makes it difficult for homeowners to leverage their assets towards productive investments, impacting both productivity growth and household welfare.

This study focuses on three channels through which government policies and regulations on immovable assets affect household welfare. Given the multiple transmission channels and interactions, this chapter presents a framework to discuss the links between immovable assets and welfare. Focusing on the most vulnerable in society, three channels were chosen for analysis in this report: housing prices and affordability, worker mobility, and the distributional impact of housing-related taxes and social benefits. The rest of the chapter discusses this framework and the motivation for the subsequent chapters.

Understanding the Links between Immovable Assets and Welfare

We use an assets framework to better understand the links between immovable assets and the welfare of households. The assets framework postulates that the capacity of households and individuals to generate income depends on (a) the stock of income-earning assets owned by each household member, (b) the intensity at which these assets are utilized to produce income, and (c) the returns to these assets (Bussolo and López-Calva 2014; López-Calva and Rodríguez-Castelán 2016), as illustrated in Figure 1.1. Household market income is then complemented by net taxes and transfers received by households, which may include net public taxes and transfers, domestic and international remittances, and in-kind transfers from other households. Income-earning assets may include (a) *human capital* such as educa-

tion and years of experience in the labor market; (b) *financial and physical assets* like ownership of machinery, housing, bonds, and stocks; (c) *social capital* such as the set of norms and social networks that facilitate collective action; and (d) *natural capital*, which can refer to land, soil, forest, and water. The returns to household assets consist of the nominal price of factors of production such as wages, interest rates, rents from property rentals, prices of land, and the time devoted to collective action. The intensity of use of assets includes, for instance, participation in the labor market, utilization of machinery, and exploitation of land through agricultural production.

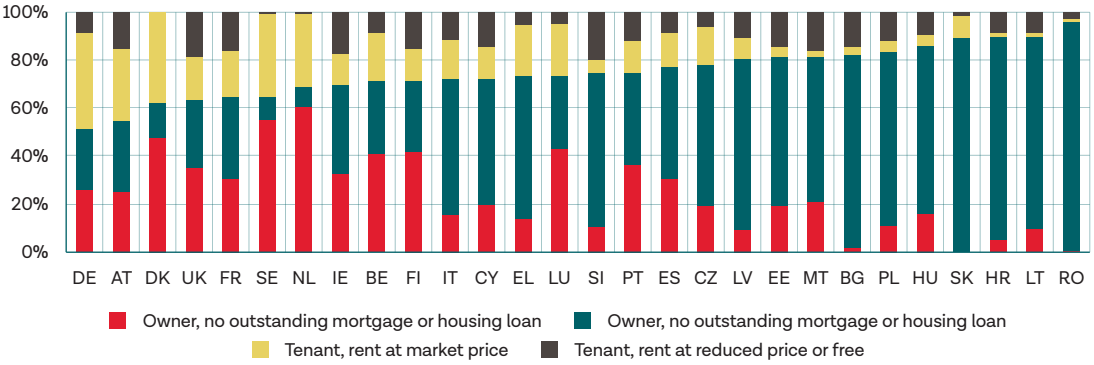
Figure 1.1 The Assets Framework

Source: López-Calva and Rodríguez-Castelán 2016.

Through the lens of the assets framework above, one could discuss many links between immovable assets and welfare. For instance, if an individual owns land, his or her ability to generate income from that asset will depend on whether the land is used for productive activity (and how intensely it is used) and what the return is from the use of that land. The income-generating potential of that land will also depend on whether that asset can be leveraged through the credit market to obtain a loan for productive purposes. Clearly, land and credit markets will matter in determining the returns to land assets and could also influence decisions on the intensity of use. Similarly, the income generation potential of an apartment will depend on the rental and credit markets as well as on the regulations in each of these spaces. Other important links have to do with the interactions between assets and the labor market and the extent to which people with immovable assets may feel tied to the locations of those assets or, alternatively, be more willing to relocate to maximize the returns to their human capital.

In deciding which of the potential links to explore in the European Union (EU) context, it is important to consider that home ownership is high in the EU, particularly in Eastern Europe. Home ownership rates across EU member states range from 52 percent in Germany to 96 percent in Romania (Figure 1.2). The share of homeowners without an outstanding mortgage or housing loan is also much higher in Eastern Europe, a legacy of the Communist regime, but this is also true in southern EU countries. In addition, eastern and southern EU countries have larger shares of tenants living in reduced-price housing than do northern and western EU countries.

Figure 1.2 Composition of Population's Housing Tenure Status in EU Countries, 2016



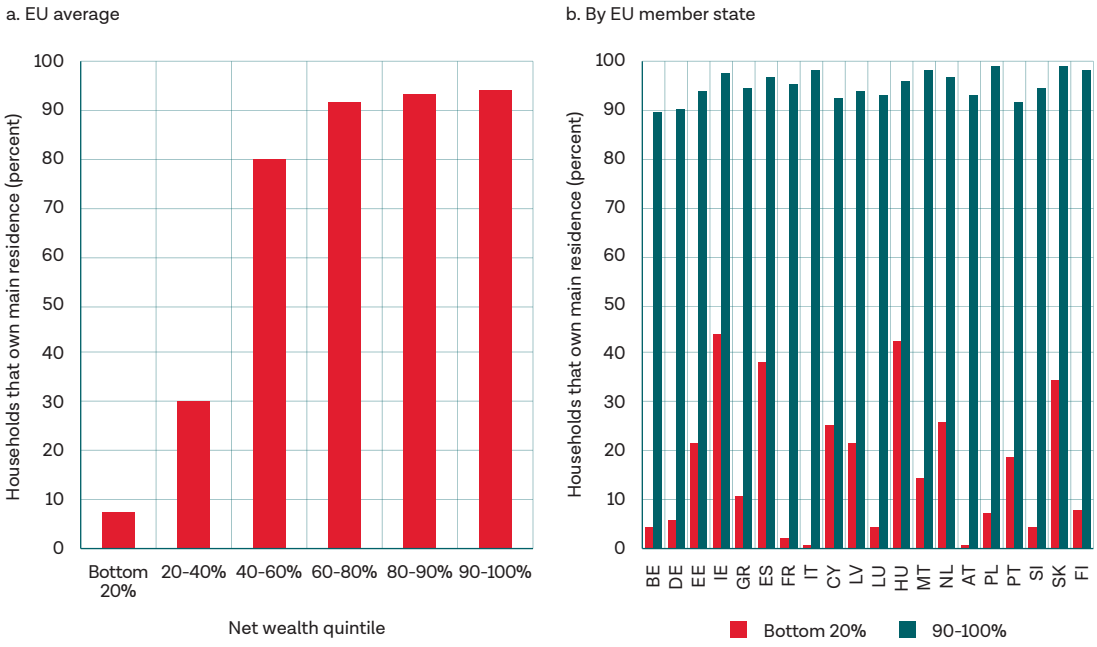
Source: Eurostat EU Statistics on Income and Living Conditions (EU-SILC) database.

Note: EU = European Union.

A first consideration is that housing represents the main source of wealth for most households in the EU. In 2014, the value of households' main residence accounted for 60.2 percent of total real assets in 20 of the 28 EU member states and as much as 49.5 percent of total household assets (HFCN 2016). In nearly 90 percent of cases, the value of a homeowner's residence represents the largest share of the household's total asset portfolio. Thus, policies and regulations that affect households' ability to obtain, use, and profit from their immovable assets will certainly matter for their ability to generate an income. In particular, government policy and regulation on property rights, land use rights, the depth of housing and rental markets, and households' ability to borrow resources against those assets will all be important determinants of household income.

A second consideration is that, in many EU member countries, home ownership is strongly correlated with income and net wealth. Households in the poorest income quintile have a home ownership rate of 47.6 percent, while for those in the top quintile it is 79 percent (HFCN 2016). The association between home ownership and net wealth is even stronger than for income in EU member states: only 8 percent of households in the lowest net wealth quintile are homeowners, compared with over 94 percent in the highest quintile (Figure 1.3, panel a). However, this euro area average masks starker differences across the distribution in countries like Austria, France, or Italy, where less than 3 percent of households in the bottom net wealth quintile own their home (Figure 1.3, panel b).

Figure 1.3 Ownership of Household Main Residence in the EU, by Net Wealth Distribution, 2014



Source: HFCN 2016.

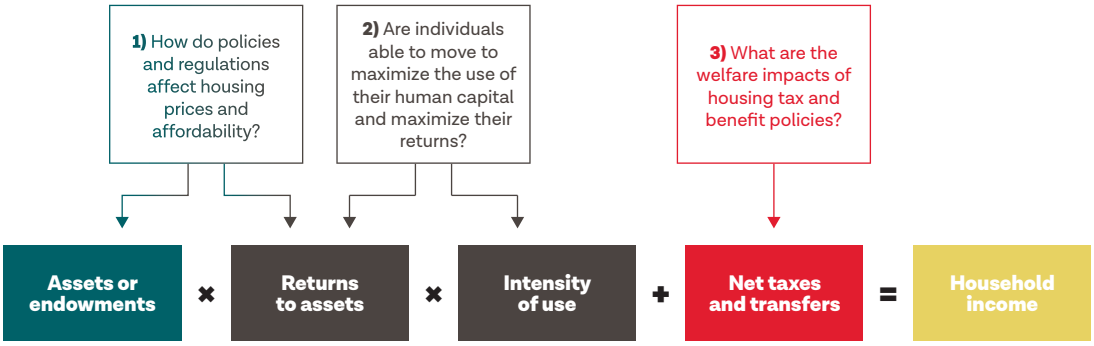
Note: The Eurosystem Household Finance and Consumption Survey (HFCN) was conducted in only 20 of the 28 European Union (EU) member states.

A third consideration is that EU governments implement many tax and spending interventions related to affordable housing at considerable cost. EU governments provide tax incentives and housing allowances with the aim of improving housing affordability. The size and coverage of these policy actions vary, with some governments emphasizing programs to foster homeownership, while others place greater emphasis on affordability.

Organization of the Report

Based on these considerations and focusing on the bottom of the distribution, this report explores three of the many potential links between immovable assets and welfare (Figure 1.4). These choices were strongly influenced by concern over the most vulnerable. Undoubtedly these topics are strongly interrelated, as detailed below.

Figure 1.4 Links between Immovable Assets and Welfare in the Asset Framework



Source: World Bank elaboration based on López-Calva and Rodríguez-Castelán 2016.

- *Housing prices and affordability.* Perhaps the most obvious link between immovable assets and welfare is related to housing affordability. This is an important concern to many EU households, but it is critical for the poorest members of society. How do policies and regulations affect housing prices and affordability? To what extent do existing regulations effectively limit the supply of housing and lead to higher prices and lower affordability? The discussion is guided by the notion that in the context of rising productivity, increases in labor demand will lead to increases in wages and employment. Productivity increases will also attract employment toward the most productive locations. However, whether these productivity increases translate into improved welfare outcomes for workers or for homeowners will largely depend on the responsiveness of residential construction to both increases in prices and the extent of labor mobility. *Chapter 2* assesses housing prices and supply constraints and questions whether policies and regulations deter residential construction, thus reducing affordability.

- *Mobility of workers.* For those at the bottom of the distribution, the main (and sometimes only) asset they can count on is their own human capital—that is, their ability to work and use their education, skills, and abilities. This means that their ability to move to where their labor is most productive and yields the highest return is most important. *Chapter 3* aims to better understand the likelihood of workers moving to where they are most productive and asks whether policies and regulations deter mobility. To the extent that more workers seek to move to agglomeration centers, housing affordability (as discussed in chapter 2) may become more difficult. At the same time, higher housing costs could dissuade workers from moving to begin with.

- *Distributional impact of housing-related taxes and social benefits.* Beyond the income-generating potential of individuals through their own labor, national, regional, and local governments have been playing an important role in providing tax and spending incentives to homeowners, tenants, and developers. What role do these policies play in terms of enhancing welfare and promoting inclusion? How consistent have these policies been in ensuring workers can move to where they are most productive? Understanding which tax and spending policies EU governments pur-

sue and who benefits from them is an important part of understanding the links between immovable assets and welfare in the EU. *Chapter 4* considers the impacts of tax and transfer policies related to housing and the impacts of these policies on household disposable incomes. The analysis undertakes a comprehensive stocktaking of housing-related tax and benefit policies across EU countries to reflect the policies in place in 2017–18. Then, the EU microsimulation model, EUROMOD, is used to assess the incidence of as many policies across EU member states as possible. *Chapter 5* summarizes the findings and provides broad policy implications.

One important caveat: unraveling the combined impacts of policies and regulations on immovable assets and welfare is not straightforward. It is important to note that there are major information and data restrictions at the city, metropolitan, and regional levels that hinder an empirical assessment of the impacts of regulatory and policy choices on a subject that is highly local. The regulatory and policy differences across and within countries are substantial. Moreover, real estate and mortgage markets that are relevant for immovable properties are local in nature. Until recently, there had been little concerted effort to produce, curate, and maintain consistent statistics at the local and metropolitan levels, so longer time trends on policy choices and outcomes are difficult to analyze.[3] For instance, long time-series data on employment, wages, and land and housing prices at the local and metropolitan levels are not readily available across the EU. Similarly, comparable measures of the restrictiveness of land use regulations, rental market regulations, and other policies are not consistently available across cities and metropolitan regions. Therefore, much of the following analysis uses national-level data, complemented with some initial snapshots of local information currently available.

Notes:

[1] For a review, see World Bank (2009).

[2] For instance, the United States does not have a comprehensive vision for housing policy. Many separate policies enacted by federal, state, and local government agencies affect housing markets (Schuetz 2018).

[3] Through the 2016 Pact of Amsterdam, the EU has recently made concerted efforts to better coordinate actions on an urban agenda (EC 2017b; EU Council 2016). The agreement gives cities an opportunity to come up with concrete actions in favor of better regulation, better funding, and better knowledge of EU and national policies. As a result, some data resources have become available; however, this effort is only beginning.

Chapter 2:

Housing Prices, Supply Constraints, and Affordability

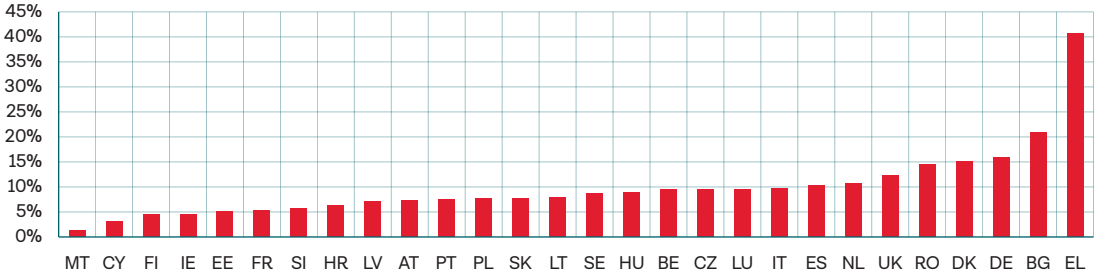
Many of the lower-skilled jobs of the future will be created in successful cities, but it is increasingly hard to live a decent life in one of these cities on a low wage. That is not just a problem for the janitor. It is a problem for the lawyer, the city and the economy itself.

—Sarah O'Connor, *Financial Times*, March 20, 2018

Introduction

Housing affordability is an important concern in the EU region. All families need a safe, stable, healthy place to live. Housing instability and persistent financial stress harm families' economic, physical, and emotional well-being. Yet as much as 11 percent of the population in the EU lived in a household where total housing costs represented more than 40 percent of total household disposable income in 2016.[1] Such a level is typically considered too much, as it leaves little room for other essential items. Eurostat uses this measure to refer to "housing cost overburden," and it is also the measure this report uses to signal the lack of housing affordability. The share of households facing a housing cost overburden in 2016 was substantially higher in Bulgaria, Denmark, Germany, Greece, Romania, and the United Kingdom than in other EU countries (Figure 2.1). The housing cost overburden is especially high for younger households.

Figure 2.1 Housing Cost Overburden in EU Countries, 2016



Source: Eurostat data.

Note: Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing.

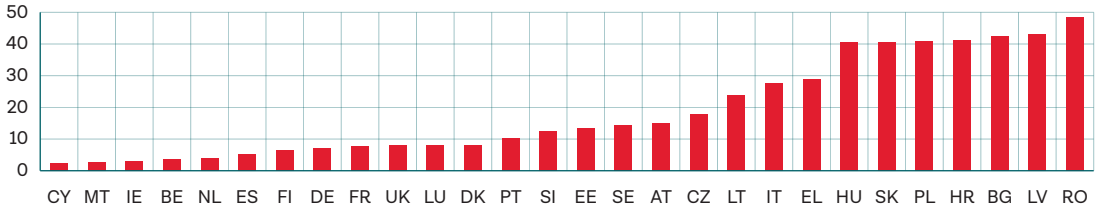
Moreover, the quality of housing leaves much to be desired. High rates of overcrowding are also symptomatic of high housing costs (Figure 2.2, panel a). Moreover, much of the housing stock is old and has not been properly maintained. It often lacks modern heating or insulation, which can lead to significant maintenance costs. Not surprisingly, a significant percentage of households express low levels of satisfaction with their dwellings (Figure 2.2, panel b). An average of over 8 percent of adults with dependent children in the EU are dissatisfied with their dwelling. This reaches more than 20 percent in Bulgaria and more than 15 percent in Estonia and Hungary.

How do policies and regulations affect housing prices and affordability? Housing prices of course depend on housing supply and demand, which in turn depend on economic growth, demographic changes, and the regulatory and policy environment. The affordability of housing depends on the growth of household incomes and the rate at which these incomes are growing relative to housing prices. Thus, housing affordability depends on the functioning of both the labor and the housing markets as well as the regulatory and policy framework.

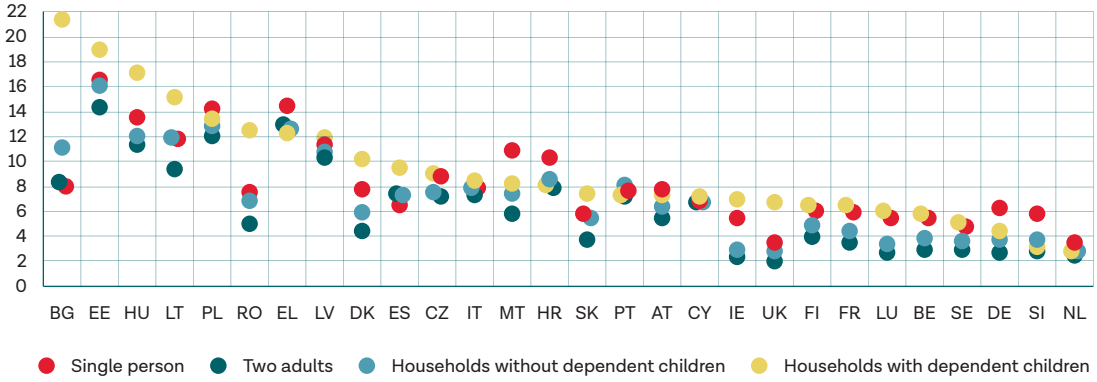
As productivity increases, labor demand should increase, thus leading to higher wages, higher employment, and higher housing prices. Although increases in productivity should lead to higher wages, they also lead to increases in employment, which in turn raise the local cost of housing. Thus, it is not surprising that cities and agglomeration centers where productivity growth and labor demand are strong also tend to have higher housing costs than those where these are weak. An interesting implication is that a significant part of the wealth created by the dynamism of cities with a strong labor market accrues not just to workers through the labor market but also to homeowners through the housing market, in the form of capital gains (Moretti 2014). For renters, however, the effect of a strong labor market is likely to be tempered by the increase in their monthly housing costs.

Figure 2.2 Indicators of Housing Quality in EU Countries

a. Overcrowding rate, 2016[a]



b. Percentage of persons with low satisfaction with their dwelling, by household type, 2012



Source: Eurostat EU Statistics on Income and Living Conditions (EU-SILC).

a. A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum number of rooms equal to: (a) one room for the household; (b) one room per couple in the household; (c) one room for each single person aged 18 or more; (d) one room per pair of single people of the same gender 12–17 years of age; (e) one room for each single person 12–17 years of age and not included in the previous category; and (f) one room per pair of children under 12 years of age. For more details about this dataset, see http://ec.europa.eu/eurostat/en/web/products-datasets/-/TESSI175.

Whether homeowners or workers benefit from increases in productivity in any location depends on how accommodating the supply of housing is and how mobile workers are. Increases in real estate prices can effectively redistribute wealth created by workers (as measured by higher labor productivity and then by increases in wages) to local homeowners (through higher housing values) (Moretti 2014). Under this framework, policies that allow for increases in the local housing stock following increases in local employment keep housing prices in check and therefore favor workers who don't own a house. In contrast, policies that limit growth in the housing stock tend to result in housing cost increases, thus favoring homeowners (Glaeser, Gourkyo, and Saks 2005). In this context, land use and development regulations are important tools that governments have at their disposal to redistribute the wealth created by productivity growth from homeowners to renters. This chapter tests the degree to which housing regulatory restrictions are indeed having impacts on housing prices and affordability across EU countries.

The results suggest that governments can contribute to housing affordability and equity by simplifying regulatory and administrative burdens that constrain the supply of housing. The analysis finds substantial variation in the supply responsiveness to higher prices across EU countries, with housing supply being less responsive in countries with higher regulatory and administrative burdens, such as stringent rent controls and multiple procedures to register property. In contrast, housing supply is more responsive in countries with high-quality land administration. Theory predicts that in the context of an increase in productivity, lower supply responsiveness will lead to housing supply shortages and higher housing prices.

The evidence suggests that productivity growth has been highest in cities and agglomeration centers across the EU, precisely where housing prices have grown fastest. Although increases in productivity have clearly led to increases in labor incomes, whether productivity growth has led to larger increases in housing prices is less clear. At the national level, we find no evidence that housing prices have been rising faster than wages, except for a few cases. However, data at the metropolitan level suggest that housing prices have indeed grown faster than wages in many cities and agglomeration centers. Moreover, disaggregated metropolitan-level data show that the housing cost overburden is more common in cities, and that it is especially prevalent among tenants, the young, and newcomers. More-disaggregated data would help to further drill down on this issue, but the tentative evidence implies that governments can influence housing prices and affordability by simplifying regulatory requirements to allow for increases in the local housing stock. By doing so, they will ensure that the gains from productivity growth accrue to the most vulnerable, including individuals who do not own a home, the young, and those looking for better opportunities, ensuring that they can work where they are most productive—a proposition that would enhance both inclusion and economic growth.

The rest of the chapter is structured as follows: First, the analysis estimates how accommodating the supply of housing has been to increases in prices, followed by analysis of the extent to which national-level housing regulations and policies might restrict the supply response. Then, recent trends in labor productivity across the EU are presented, and the trends in labor income growth are compared with changes in housing prices at the national and regional levels. Finally, the links between government regulations and housing affordability are discussed. In the absence of disaggregated regional housing price data for all EU countries, the analysis in this chapter focuses on national data, with efforts to report on regional numbers where possible.

How Responsive Is Housing Supply to Increases in Housing Prices?

In a competitive environment, higher housing prices should be followed by an increase in the supply of housing, as developers see profitable opportunities to provide additional housing. If housing supply is highly responsive to price increases, the housing supply will increase to meet the new demand, and housing prices will remain constant. To the extent that housing supply is inelastic, increases in housing demand will simply be met by higher housing prices, and therefore a growing share of labor productivity will be captured by the owners of housing in agglomeration centers instead of by workers wishing to relocate to those centers. Higher wages should serve as a magnet to pull people toward urban centers and regions with higher productivity. However, in the presence of restrictions on housing supply, the optimal geographic allocation of workers will not be reached. Large price differences between regions will make it harder for workers from lagging regions to move, because the credit hurdle is higher for them (Saks 2008).

Following Caldera Sánchez and Johansson (2011), this analysis uses a stock-flow model of the housing sector to estimate the elasticity of new housing supply with respect to prices. Under this framework, both demand and supply of housing are jointly estimated. The quantity of housing demanded in equilibrium (stock equilibrium demand) results from households acting as both consumers of housing services and investors in durable goods. The demand for housing depends on demographics, permanent income, and the user cost of housing, which in turn depends on interest rates, current and future expectations of real house prices, the relative price of owning versus renting, and policies such as housing taxation. The stock of housing in the long run is the result of the accumulation of residential investment over time less depreciation of the existing housing stock. Residential investment is the flow

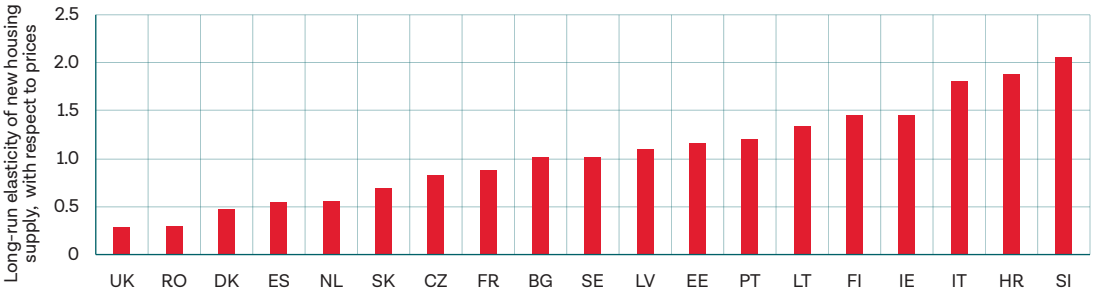
of housing that adjusts to the stock demanded, which is influenced by house prices, construction costs, demographics, and policies influencing the profitability of housing investment.

In the short run, prices are determined by the equilibrium between the supply of housing from a given stock and the demand by households, given that there is slow adjustment of the stock of housing to desired demand. The mismatch between the given stock of housing and household demand leads to investment in new housing and a long-run adjustment in the rate of growth in the housing stock. Because housing investment is lumpy, housing markets can clear rapidly only if prices react strongly to tensions between demand and supply. Because transaction costs make it difficult for households to react quickly to price signals, stock equilibrium is achieved only in the long run.

The empirical approach is in line with the stock-flow framework. The *supply* of owner-occupied housing is modeled as investment in housing, while the *demand* for owner-occupied housing is modeled as an inverse demand (that is, price) equation that responds to a given stock of housing in each period. Following Caldera Sánchez and Johansson (2011), the empirical strategy is based on a system of two equations that model the housing demand and supply in an error correction framework reflecting a long-run stock equilibrium (the error correction term) and a short-term gradual adjustment to that equilibrium (see annex 2A for details). Because housing data at the metropolitan level are not readily available for all EU countries, the responsiveness of housing supply to increases in housing prices are estimated at the country level for most EU countries.[2] For this purpose, quarterly data on housing prices, construction costs, the short-term interest rate, construction sector output, and population are used (see annex 2A for the data sources).

The results suggest that there are important differences in the responsiveness of housing supply to increases in housing prices across EU countries. The results of the model are in line with what one would expect: increases in gross domestic product (GDP) growth lead to increases in housing prices as reflected by the inverse demand function. On the supply side, housing supply declines with increases in construction costs. Most important to understanding the links to affordability is the responsiveness of housing supply to increases in housing prices. As expected, increases in housing prices in a previous quarter lead to positive and significant increases in residential investment across all countries, as developers see profitable opportunities with higher prices. Strikingly, however, there is substantial variation in this supply response across countries. Investment in housing is quite responsive to changes in housing prices in countries like Finland, Italy, and Portugal, where supply elasticities are above 1.0, implying that housing output changes proportionally more than prices (Figure 2.3). On the other hand,

Figure 2.3 Responsiveness of Housing Supply to Price Increases, Selected EU Countries



Source: World Bank estimates based on the longest quarterly, not seasonally adjusted data available in each country, starting in 1998 for some countries.

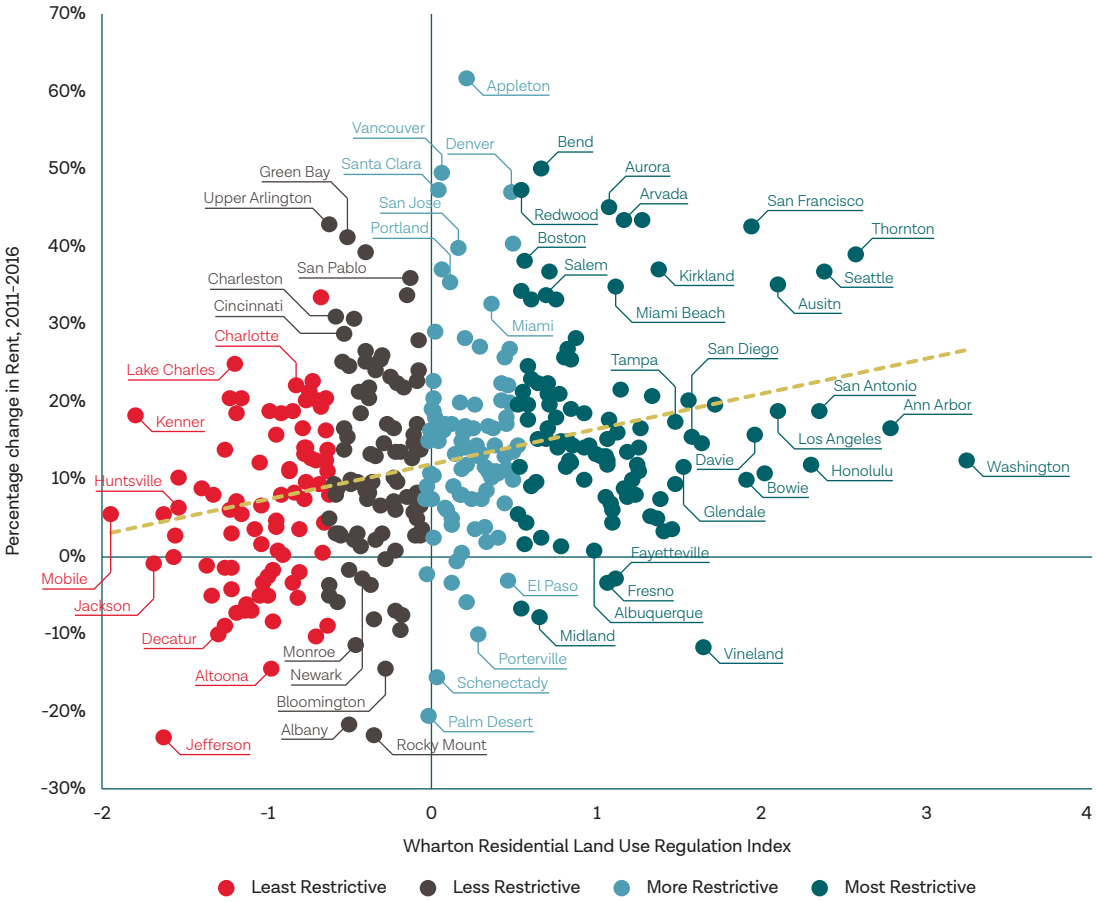
Note: Estimates are of the long-run price elasticity of new housing supply, where new supply is measured by residential investments. The figure shows the increase in gross residential investment following a one point increase in the national housing price index. All elasticities are significant at least at the 5 percent level. For further details, see annex 2A.

in countries like France, Romania, Spain, and the United Kingdom, elasticities are below 1.0, implying a much less responsive housing sector. In these countries, one would expect that housing prices would increase much faster in response to a demand shock. This question is analyzed further below. First, we ask whether the responsiveness of housing supply is influenced by policy.

Do Policies Influence the Responsiveness of Housing Supply?

Do housing regulations and policies influence the supply responsiveness to increases in prices? In the case of the United States, there is a growing literature on the impact of regulations on housing and rental prices. For instance, Hsieh and Moretti (2017) argue that stringent regulations in high-productivity areas hinder growth, as landowners compete with workers for the benefits of productivity. The idea is that the government can influence the extent to which workers benefit from increases in productivity through land and other regulations. For instance, recent data for U.S. metropolitan regions show that rents have grown much faster in cities with greater restrictions on land use (Figure 2.4).

Figure 2.4 Association of Rent Changes and Residential Land Use Regulation in U.S. Cities

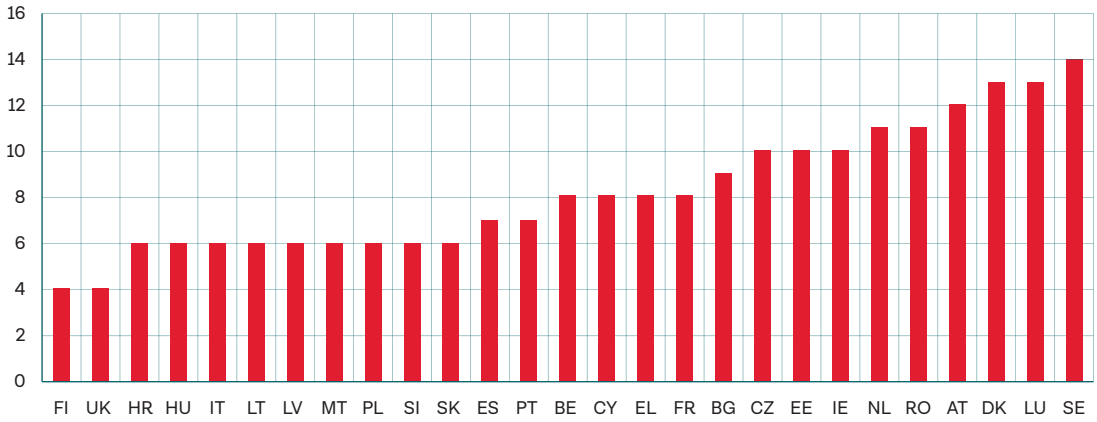


Source: Mikhitarian 2016, using data from the Wharton Residential Land Use Regulation Index (2008) and Zillow Rent Index (January 2011to January 2016) available at https://www.zillow.com/research/data/.

For EU countries, country-level policy and regulatory variables are collected from several different sources. Unfortunately, disaggregated data on the restrictiveness of residential land use or other policies for each metropolitan region in the EU are not consistently available. Therefore, the analysis below presents evidence at the national level, with some details at the local level, where available. The regulatory variables used for the analysis are detailed below.

- *Rental market regulations.* We update and extend a database of rental market regulations that was originally compiled by Cuerpo, Kalantaryan, and Pontuch (2014).[3] The database is a rich depository of information on rent control and tenant protection regulations in 27 EU countries. These indicators offer an advantage over those used in Caldera Sánchez and Andrews (2011) in that they are based on country-specific legal documents and reports by various specialized organizations (instead of on survey data), which could reduce measurement error. We extend the original database to include Croatia, the latest country to join the EU in 2013, and update it to reflect any recent policy changes.[4] The information is further used as an indicator that captures the degree of rental regulation. Rental regulation measures rent control (the level at which rent is set) and rent stabilization (regulating how the rent is raised over time). The rent control indicator aggregates information on rent level control and rent increase control and can take values from 0 to 16.[5] The higher the score, the stricter the degree of rent control in each dimension (Figure 2.5). Nordic countries (Denmark and Sweden) and some continental EU countries (Austria, Luxembourg, and the Netherlands) report high levels of rent control. There is wide variation in the level of regulation among central and eastern EU countries, where the level of rental market regulation is, on average, less stringent (except in Bulgaria), possibly because of the small size of the private rental sector.

Figure 2.5 Rent Control Indicator in Selected EU Countries, 2018



Source: World Bank calculation, updating the database compiled by Cuerpo, Kalantaryan, and Pontuch 2014.

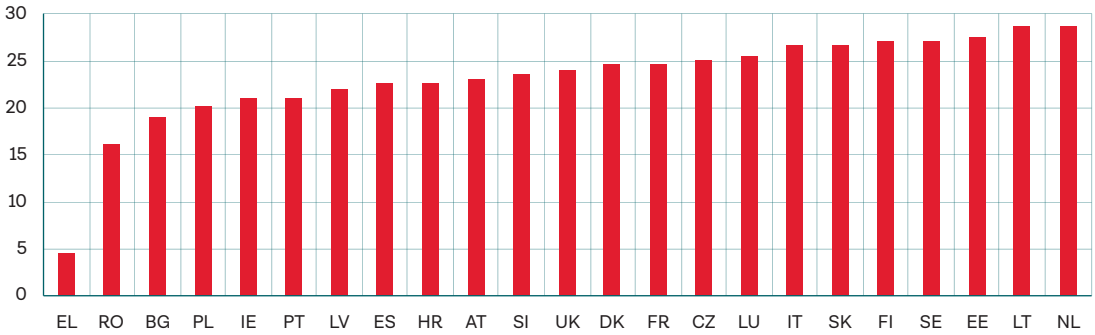
Note: EU = European Union. The rent control indicator aggregates information on rent level control and rent increase control and can take values from 0 to 16. Higher scores indicate stricter rent controls.

- *Ease of registering property and dealing with construction permits.* Data on the ease of registering property and obtaining construction permits come from the World Bank's *Doing Business* database. The ease of registering property includes indicators on the number of procedures required to register, the time these procedures take, and their cost relative to the value of the property. The annual *Doing Business* survey also records the procedures, time, and cost required for a small or medium-size business to obtain the necessary approvals to build a commercial warehouse and connect it to water and sewerage. Although these procedures likely differ from those required to

obtain a residential construction permit, the steps and time involved are likely highly correlated with the procedures needed for residential construction, so this information is used as a proxy.

- *Quality of land administration.* The institutional environmental variables include the quality of land administration, a composite indicator of which also comes from the World Bank's *Doing Business* database. This indicator captures the following dimensions: reliability of infrastructure (land titles are kept digitally); transparency of information (access to land ownership information); geographic coverage (coverage of land registry); land dispute resolution (legal framework); and equal access to property rights (gender disparities). The indicator ranges from 0 to 30, and a higher score indicates higher administrative capacity. Note that the quality of land administration is particularly low in Bulgaria and Romania, which scored 19 and 16, respectively, out of 30 (Figure 2.6). In Romania, neither the land registry division nor the cadastre division of the National Agency for Cadastre and Land Registration (NACLR) covers the full territory (World Bank 2017). Only 23 percent of properties are registered on average—53 percent of urban properties and 16 percent of rural properties. In 2015, the Romanian government approved the National Program for Cadastre and Land Registration, with the aim of completing the registration of real estate properties by 2023. Among old (pre-2004) EU member states, Greece stands out with a very low level of property protection (comparable to Croatia and Romania) and a quality indicator for land administration that scores a mere 5 out of 30, the lowest among all EU countries.

Figure 2.6 Quality of Land Administration in Selected EU Countries, 2017

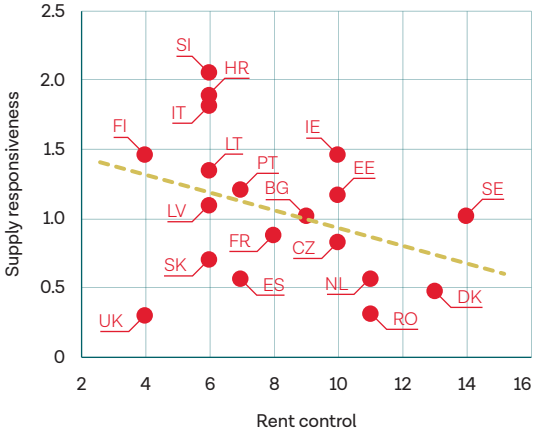


Source: World Bank *Doing Business* database.

Note: EU = European Union. The indicator assesses several dimensions of land administration—reliability of infrastructure, transparency of information, the land registry's geographic coverage, the legal framework of land dispute resolution, and gender equality in property rights—assigning an aggregate score ranging from 0 to 30. Higher scores indicate higher administrative capacity.

The supply responsiveness to increases in prices across countries is correlated to some regulatory indicators, including rent control and the number of procedures required to register property. First, the restrictiveness of rent controls is negatively correlated with housing supply responsiveness (Figure 2.7). In Denmark, for instance, rent regulations cover about 88 percent of rental dwellings (OECD, 2016), where the supply responsiveness is low. In contrast, rents are predominantly market based in Slovenia, outside of the non-profit sector, where supply responsiveness is relatively high. This is in line with previous studies that find rent regulations potentially discourage new construction by capping the price of rentals (Arnott 2003; Sims 2007). Second, the number of property registration procedures is negatively correlated with housing supply responsiveness (Figure 2.8). For instance, supply responsiveness is much higher in Poland than in Romania, which could partly be the result of lower registration requirements, thanks to 2015 building law amendments aimed at simplifying administrative obligations at all stages of construction. (For a comparison of Poland's and Romania's legal requirements and restrictions, see annex 2B).

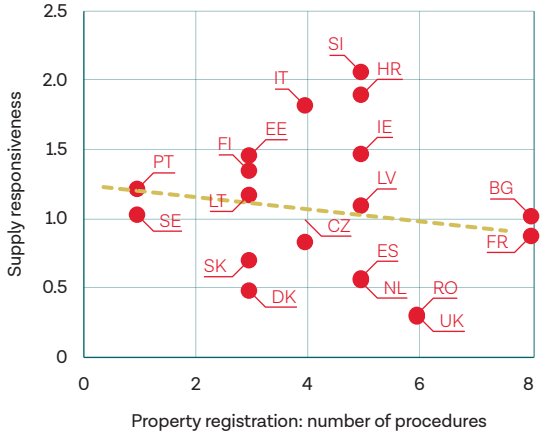
Figure 2.7 Stricter Rent Controls Are Associated with Lower Housing Supply Responsiveness



Source: World Bank estimates of country-specific supply responsiveness; updates to the Cuerpo, Kalantaryan, and Pontuch (2014) database on rental market regulations.

Note: EU = European Union. For details about how housing supply responsiveness is estimated, see annex 2A. The rent control indicator aggregates data related to rent level and rent increase controls and can take values from 0 to 16—higher scores indicating stricter rent controls.

Figure 2.8 Lower Housing Supply Responsiveness Is Associated with More Property Registration Procedures

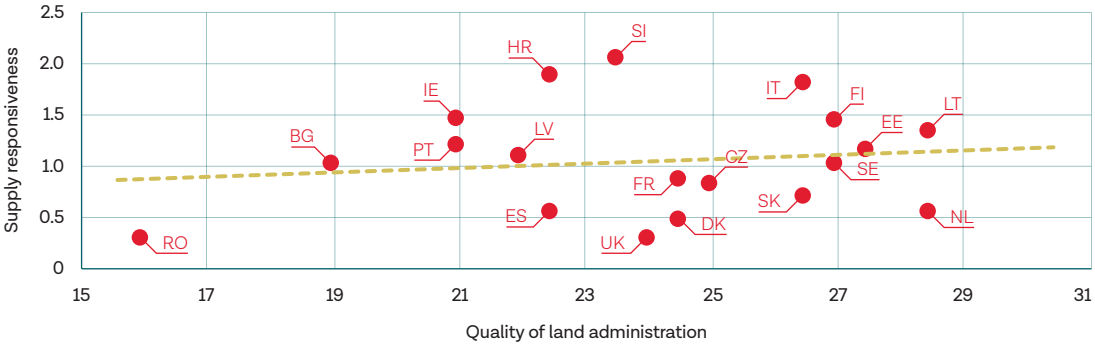


Source: World Bank estimates of country-specific supply responsiveness; World Bank *Doing Business* database.

Note: EU = European Union. For more details about the supply responsiveness estimates, see annex 2A.

There is a positive correlation between housing supply responsiveness and the quality of land administration (Figure 2.9), suggesting that the supply responsiveness to changes in prices is affected by the ability to reduce uncertainty through more effective institutions. For instance, Estonia, Finland and Lithuania have high scores on the quality of land administration, while Romania and Bulgaria lag behind. Although these correlations imply no causal relationship, they do suggest that government policies and the regulatory environment could be playing a role in determining the extent to which increases in productivity lead to improved standards of living for employees and self-employed workers, particularly low-skilled and younger individuals who are less likely to be homeowners.

Figure 2.9 Better Land Administration Quality Is Associated with Higher Housing Supply Responsiveness

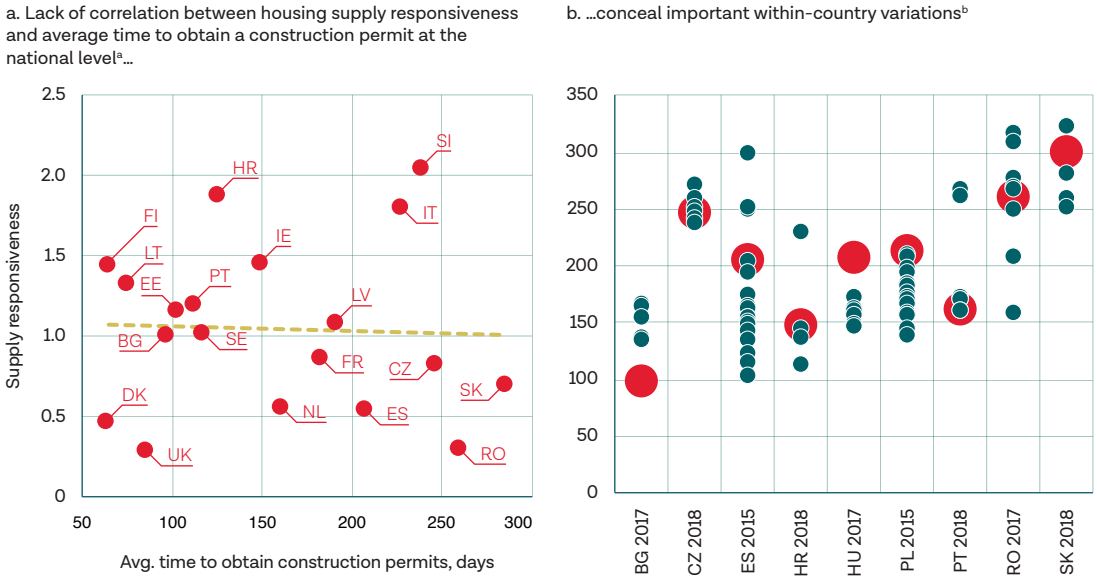


Source: World Bank estimates of country-specific supply responsiveness; World Bank *Doing Business* database.

Note: EU = European Union. The land administration indicator assesses several dimensions—reliability of infrastructure, transparency of information, the land registry's geographic coverage, the legal framework of land dispute resolution, and gender equality in property rights—assigning an aggregate score ranging from 0 to 30. Higher scores indicate higher administrative capacity. For more details about the supply responsiveness estimates, see annex 2A.

There is little or no correlation between the elasticity of supply and the difficulty in dealing with construction permits, but this could be because this association is not done at the local level. There is no correlation between the estimated supply responsiveness indicator and the cost of dealing with construction permits at the national level.[6] However, this could reflect the fact that the aggregate national figures (Figure 2.10, panel a) conceal important within-country variations, with capital cities being slower than other locations in granting construction permits (Figure 2.10, panel b). For instance, in Hungary, obtaining a permit can be completed two months faster in Pecs than in Budapest. In fact, Budapest has the most complex and slowest permitting process among the Hungarian cities, taking 20 procedures and 205.5 days. Because of a heavy workload, the Chief Architect Unit at the Mayor's Office takes a month to issue the urban planning approval—compared with two weeks on average in the other cities. Similarly, in Romania, dealing with construction permits takes half as much time in Oradea as in Timisoara, with the speed in Bucharest being somewhere in between (World Bank 2017). These variations within countries highlight the need for a more disaggregated analysis at the local level.

Figure 2.10 Variations in Time to Obtain Construction Permits, between and within Selected EU Countries, Late 2010s



Source: World Bank estimates of country-specific supply responsiveness; World Bank Doing Business database.

Note: EU = European Union.

a. For more details about the supply responsiveness estimates, see annex 2A.

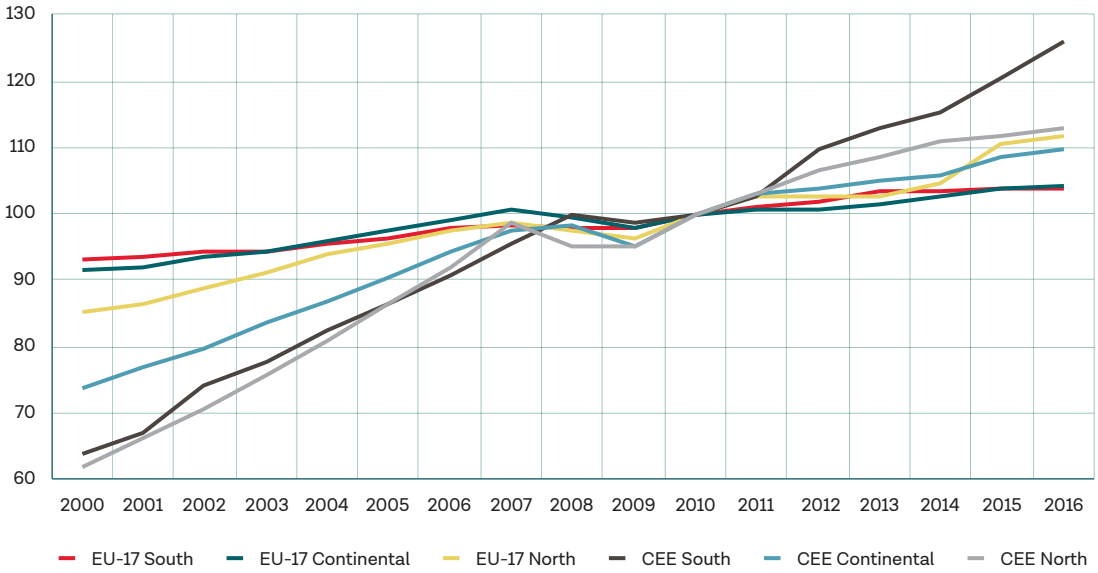
b. In panel b, blue dots denote subnational regions in each country; red dots correspond to capital regions.

These simple correlations show that restrictive regulatory policies and lower-quality land administration are associated with low supply responsiveness to price increases. As a result, countries with low supply responsiveness to prices could see increases in productivity being met by higher increases in real estate prices as housing shortages become more acute. The next section explores the extent to which increases in productivity have led to increases in labor incomes and how those labor income increases compare with increases in housing prices.

Have Labor Productivity Increases Led to Higher Labor Incomes?

Labor productivity has increased over the past 20 years in the EU. Labor productivity per hour worked has grown by 21 percent on average in the EU since 2000 and by 5 percent since 2010 (Figure 2.11).[7] This growth has been especially high in Ireland (43 percent growth between 2010 and 2016) as well as in central and eastern EU countries such as Bulgaria, Croatia, Latvia, and Poland (more than 14 percent growth between 2010 and 2016), and it was especially high in Romania (35 percent growth over the same period) (Eurostat 2013).[8]

Figure 2.11 Labor Productivity per Hour Worked, by European Country Group, 2000–16

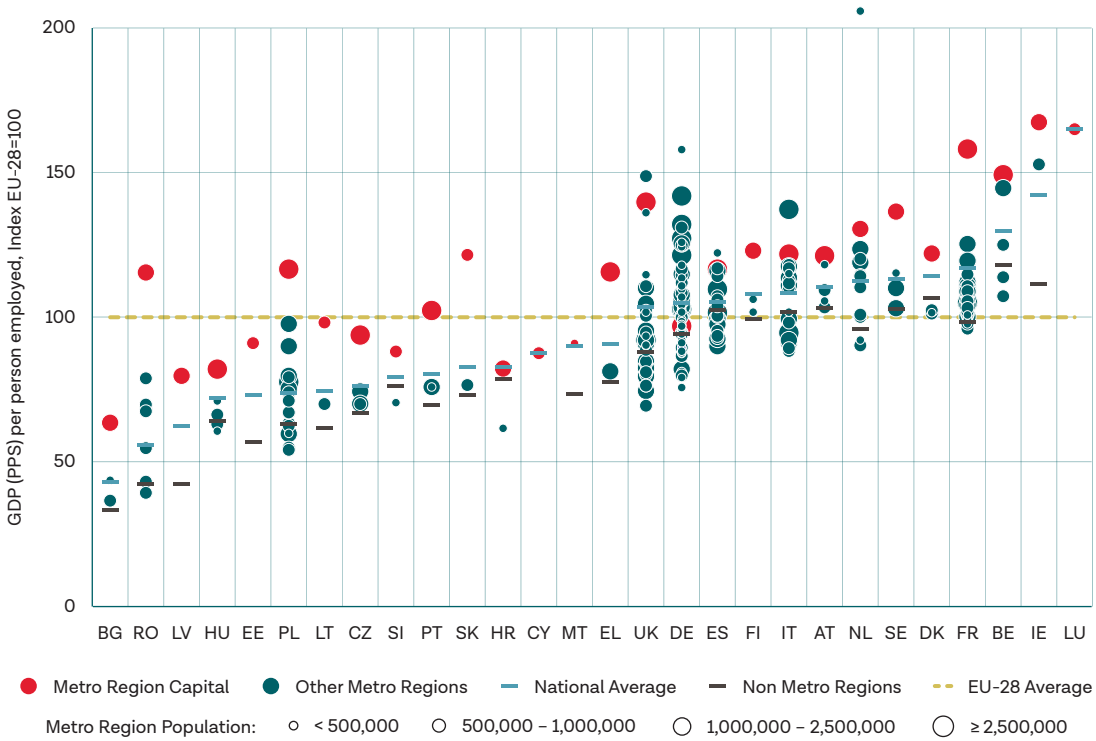


Source: Eurostat European System of Accounts (ESA) 2010 (variable tsdec310).

Note: "Labor productivity per hour worked" is calculated as real output (deflated GDP measured in chain-linked volumes) per unit of labor input (measured by the total number of hours worked) (Eurostat 2013). Index 2010 = 100. EU-17 = 17 member states of the European Union as grouped by Gill and Raiser (2012). CEE = Central and Eastern Europe.

Most of the growth in productivity is concentrated in the main cities. Across the world, good salaries, high productivity, and vibrant innovation are highly concentrated rather than being uniformly distributed across space (Glaeser and Xiong 2017; Moretti 2012). Higher labor productivity is mostly due to agglomeration externalities, including the presence of a thick labor market, a thick market for specialized service providers, and knowledge spillovers (Moretti 2014). Countries in the EU are no exception to this: 28 primary cities and 228 secondary cities amassed 23 percent of the EU's population, generated 63 percent of total GDP, and were responsible for 64 percent of GDP growth between 2000 and 2013 (EC and UN-Habitat 2016; Farole, Goga, and Ionescu-Heroiu 2018). Not only are there big differences in productivity levels across regions within EU countries (Map 2.1), but most of the centers of highest productivity also happen to be in capitals and other large cities. For instance, labor productivity in Bucharest is at the same level as in Vienna or Copenhagen, and more than two times the national average of Romania (Figure 2.12).

Figure 2.12 Labor Productivity in EU-28 Countries, by Location Type and Population Size, 2013



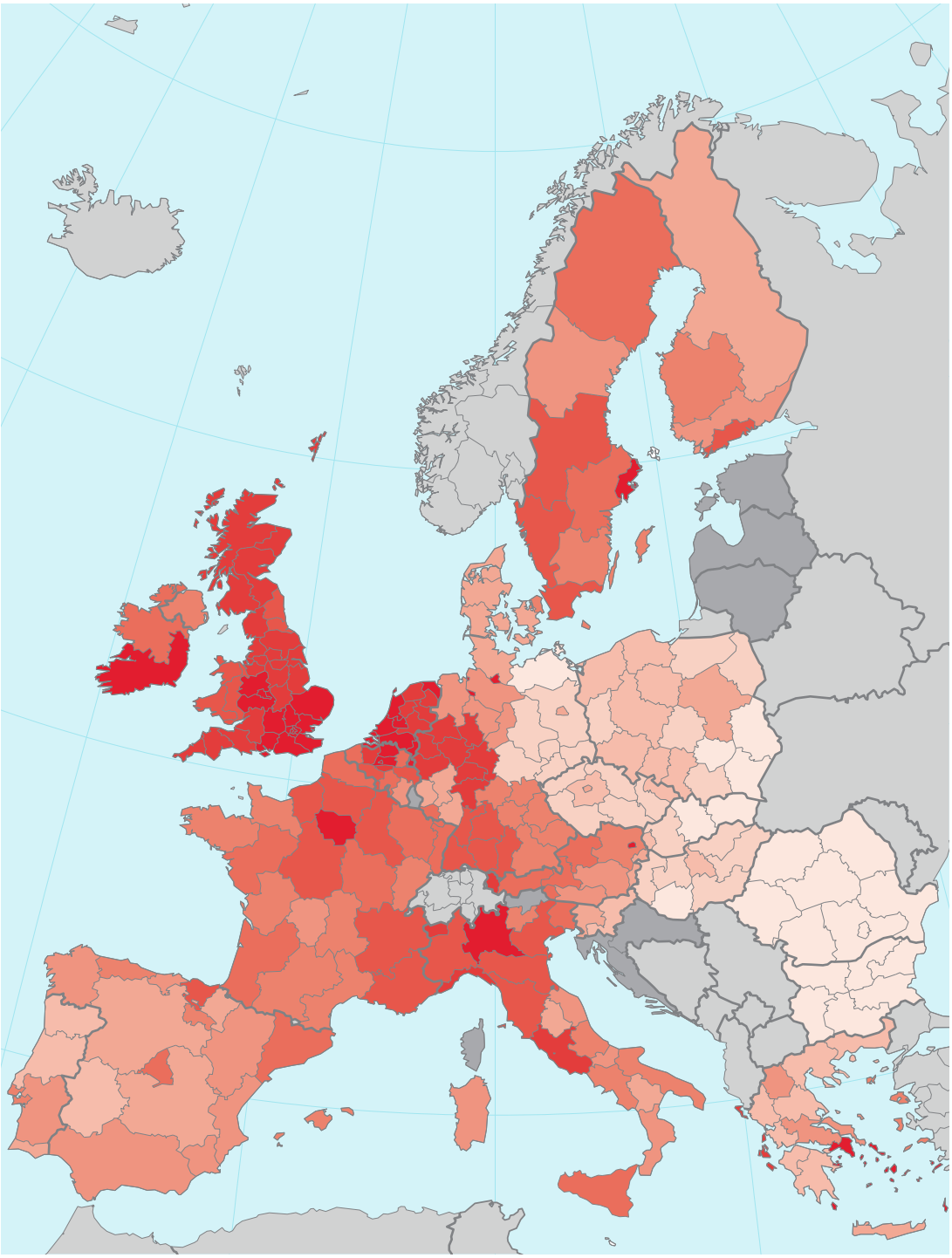
Source: EC and UN-Habitat 2016, based on Eurostat data.

Note: PPS = purchasing power standards. EU-28 = all 28 European Union member states. Labor productivity is measured by the volume index of GDP per capita in PPS. The EU-28 average set to equal 100. If the index of a country is higher than 100, this country's level of GDP per head is higher than the EU average and vice versa.

Labor productivity increases have led to increases in household incomes. As cities and their surrounding regions have experienced increases in productivity, labor demand has increased, leading to increases in employment and wages. There is some evidence of decoupling between productivity growth and wages in EU member states—in the sense that real wage growth has been slower than in the past compared with productivity growth (Schwellnus, Kappeler, and Pionnier 2017). However, recent estimates for the EU region find that a productivity growth increase of 1 percentage point was accompanied by a 0.3 percent increase of wages in the postcrisis period (2008–12), while the average number of hours worked also became more sensitive to increases in growth after the crisis (EC 2017a). As such, increases in labor productivity lead to increased household labor income because people receive higher real wages, because they work longer hours, or both. A standard Granger causality test[9] shows that labor productivity "Granger-causes" changes in real disposable incomes in 15 out of 16 EU countries for which data are available (Box 2.1).

Given the concentration of productivity growth in some cities and regions, it is not surprising that labor income is also highly uneven across regions. Comparing earnings in terms of purchasing power parity, there is quite a bit of variation across and within countries in the EU. Northern EU countries Austria, Belgium, and France had the highest levels of real labor incomes,[10] while southern EU countries Croatia, Greece, Romania, and Spain lag (Map 2.2). Labor income and employment are highest in the regions with the highest productivity (Map 2.3 and Map 2.4), and not surprisingly, those are also the regions with the highest inflows of migrants (Map 2.5).

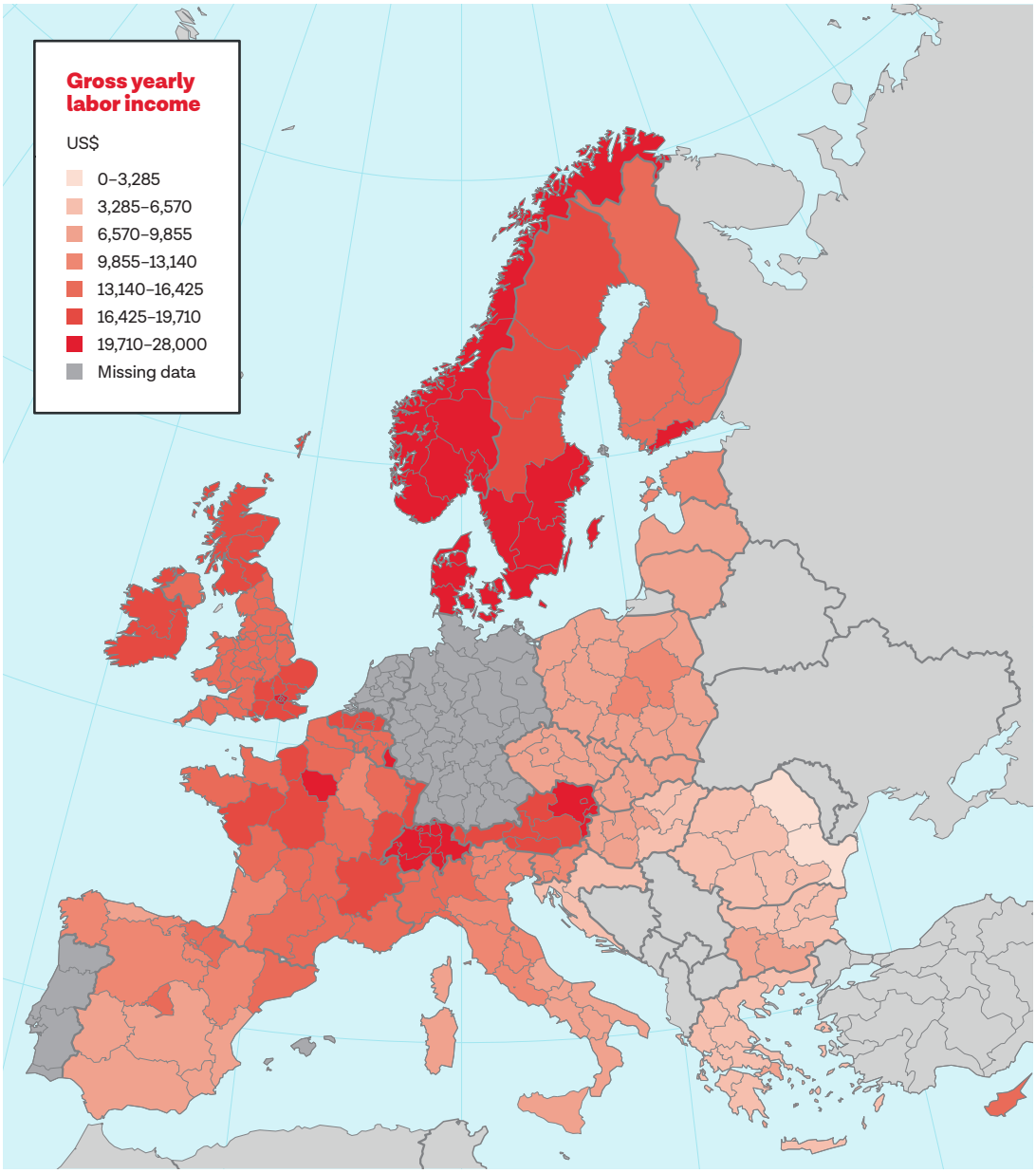
Map 2.1 Estimated Total Factor Productivity in EU Countries, by NUTS-2 Region, 2000s



Source: Beugelsdijk, Klasing, and Milionis 2018. Reproduced, with permission, under Creative Commons BY-NC-ND 4.0 International Public License.

Note: EU = European Union. NUTS-2 refers to the Classification of Territorial Units for Statistics, Level 2. Darker colors indicate higher total factor productivity (TFP), estimated for each region using standard development accounting to assess the relative contributions of differences in production factors versus TFP.

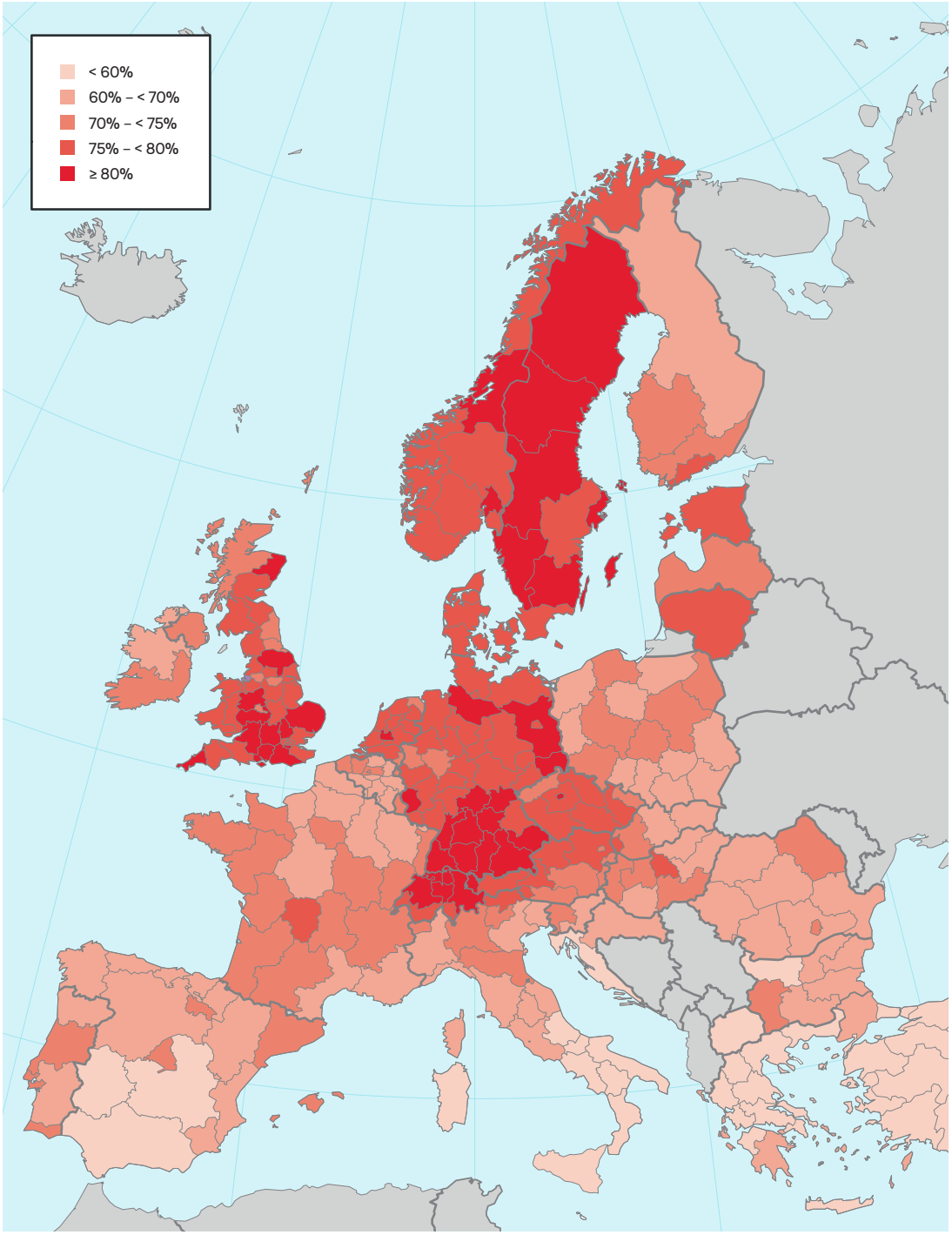
Map 2.2 Gross Labor Income in EU Countries, by NUTS-2 Region, 2015



Source: World Bank estimates based on Eurostat EU Statistics on Income and Living Conditions (EU-SILC) data.

Note: EU = European Union. NUTS-2 refers to the Classification of Territorial Units for Statistics, Level 2. Incomes are in purchasing power parity (PPP) terms.

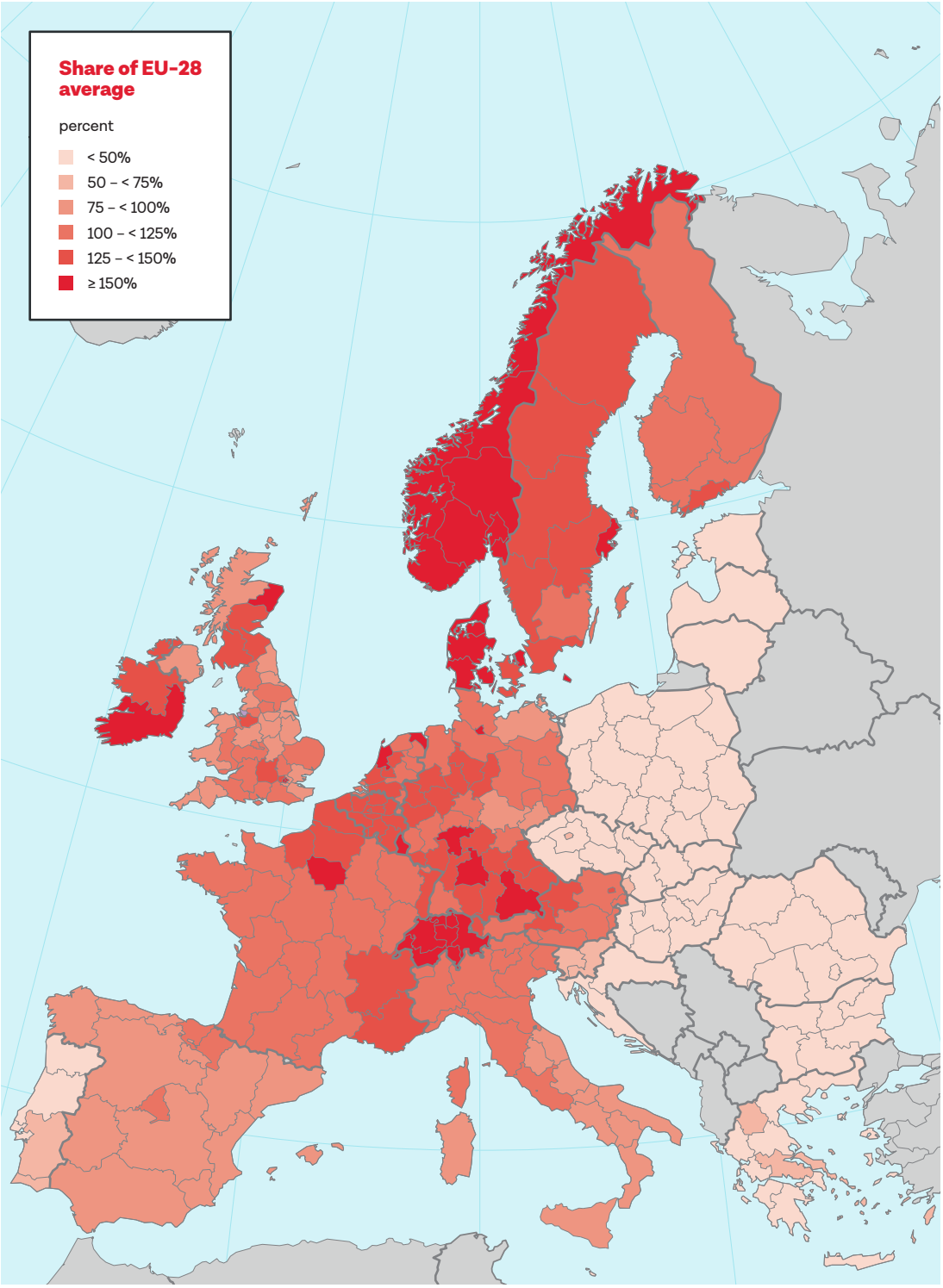
Map 2.3 Employment Rate, Persons Aged 20–64 Years in EU Countries, by NUTS-2 Region, 2016



Source: EU Statistical Atlas interactive map viewer, http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/.

Note: EU = European Union. NUTS-2 refers to the Classification of Territorial Units for Statistics, Level 2.

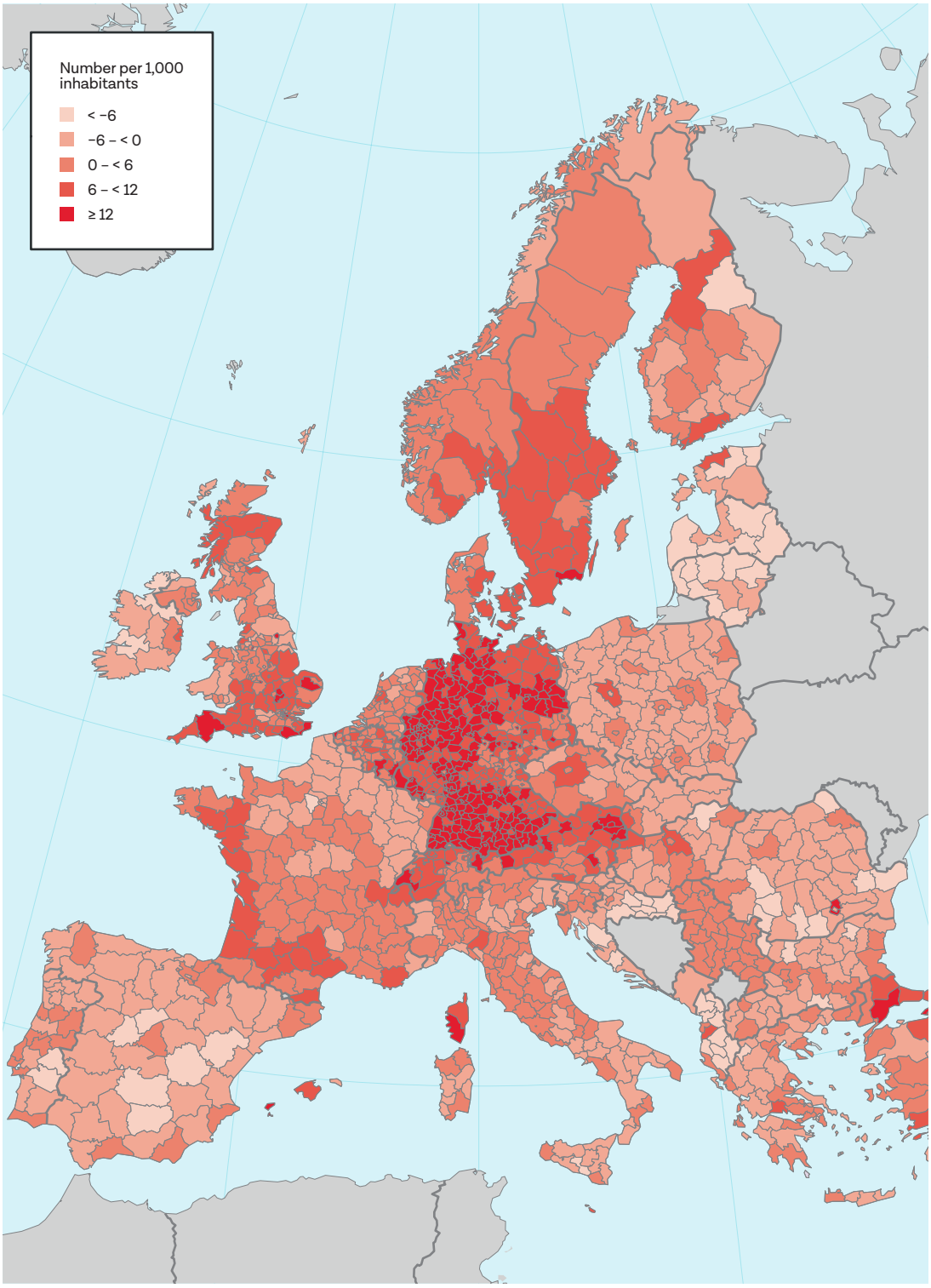
Map 2.4 Worker Productivity as Gross Value Added per Hour in EU Countries, by NUTS-2 Region, 2014



Source: EU Statistical Atlas interactive map viewer, http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/.

Note: EU-28 = all 28 European Union member states. EU-28 average = 100%. NUTS-2 refers to the Classification of Territorial Units for Statistics, Level 2.

Map 2.5 Crude Rate of Net Migration in EU Countries, by NUTS-3 Region, 2015



Source: EU Statistical Atlas interactive map viewer, http://ec.europa.eu/eurostat/statistical-atlas/gis/viewer/.

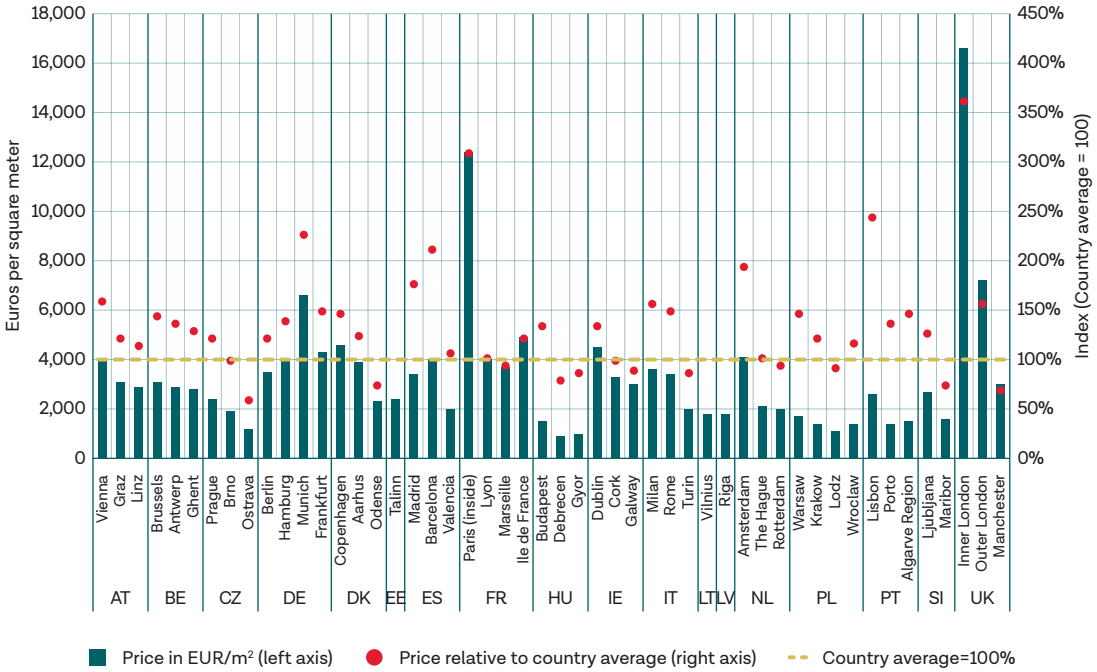
Note: EU = European Union. NUTS-3 refers to the Classification of Territorial Units for Statistics, Level 3.

Have Wages Kept Up with Increases in Housing Prices?

The key question is whether labor income growth is keeping up with housing price growth. Theory predicts that increases in productivity should increase labor demand, which in turn should lead to increases in employment that can be expected to raise the local cost of housing. Growth in housing prices relative to labor incomes will ultimately determine whether housing affordability becomes a growing problem. What is the evidence for the EU?

Regional housing price disparities exist and are important, in line with differences in labor demand across countries and regions. Across EU member states, housing prices are typically the highest in large cities and centers of agglomeration (Figure 2.13). This is true for London and Paris, but it is also true for smaller cities, such as Porto, Aarhus, and Krakow.

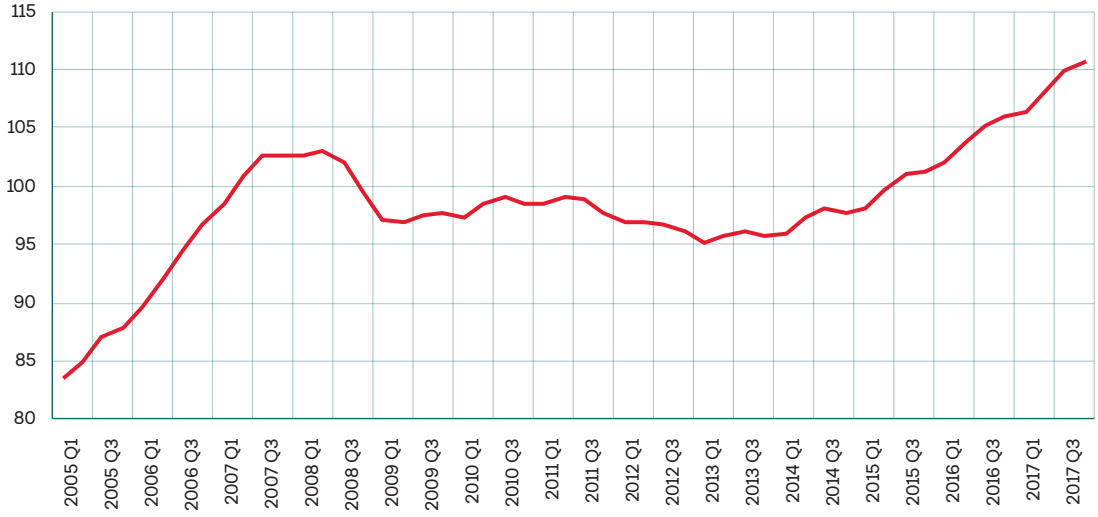
Figure 2.13 Average Transaction Price of a New Dwelling, Selected European Residential Markets, 2016



Source: Deloitte 2017.

Housing prices have started to rise in the EU. Housing prices rose by 4.5 percent in the fourth quarter of 2017 relative to the same quarter the previous year, continuing on an upward trajectory since 2015 that has now surpassed the levels observed before the financial crisis (Figure 2.14). However, there are important differences across countries and regions. In northern EU countries, housing prices have increased by more than 50 percent since 2010 (Figure 2.15). Moreover, in 2016, 11 countries registered an annual growth rate equal to or above the 6 percent "alarm" threshold adopted in the context of the European Commission's Macroeconomic Imbalances Procedure. They included Austria, Bulgaria, the Czech Republic, Hungary, Latvia, Malta, Portugal, Romania, the Slovak Republic, Sweden, and the United Kingdom (Pittini et al. 2017). More recently (fourth quarter of 2017), the EU's highest annual increase in house prices recorded by Eurostat was in Ireland (11.8 percent), followed by the Netherlands (8.5 percent), the Czech Republic (8.4 percent), Bulgaria (8.2 percent), and Latvia (8.1 percent).

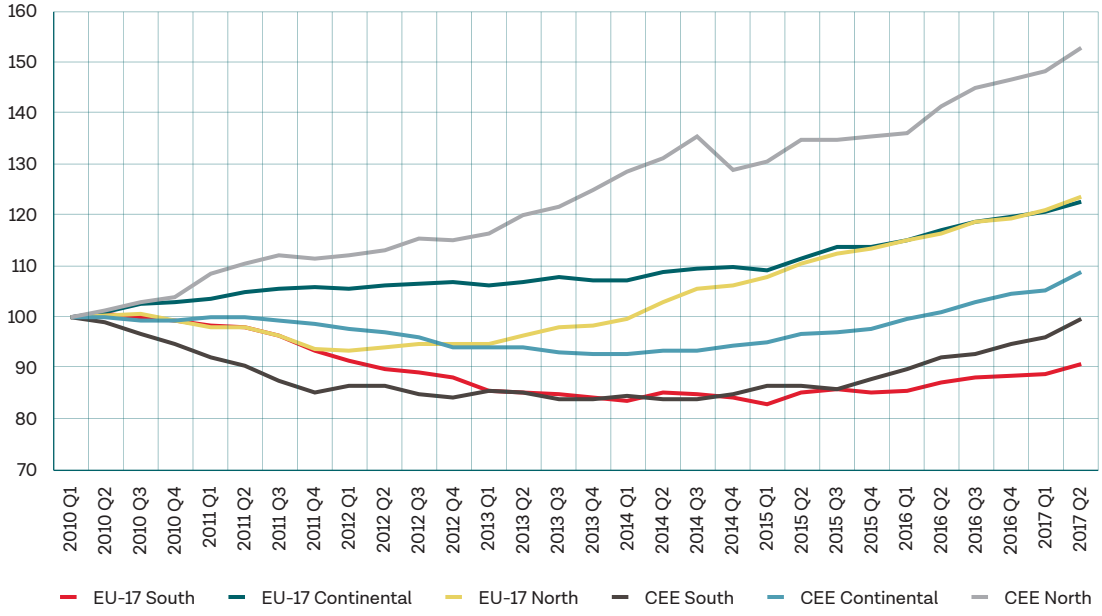
Figure 2.14 EU Housing Prices, 2005–17



Source: Eurostat data.

Note: Index: 2015 = 100. EU = European Union.

Figure 2.15 EU Housing Prices, by Country Group, 2010–17



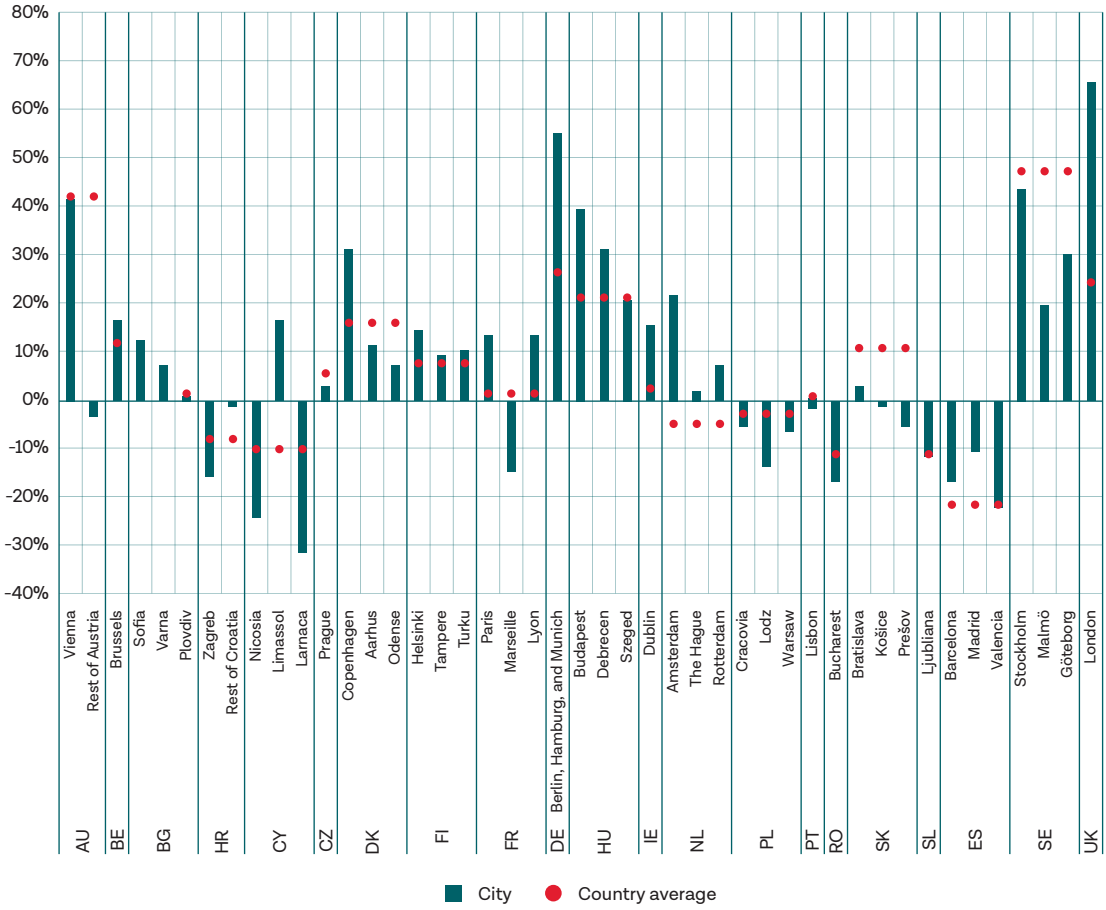
Source: Eurostat data.

Note: Index: 2010q1 = 100. EU-17 = 17 member states of the European Union as grouped by Gill and Raiser (2012). CEE = Central and Eastern Europe.

Moreover, changes in housing prices in capital cities and agglomeration areas are more extreme than in other regions, growing faster in countries where there is housing price growth, and falling faster where there is a decrease. Housing prices in agglomeration centers are growing faster than the average in countries where there is housing price growth, but they are also falling faster than average in places where prices are falling (Figure 2.16). For instance, between 2010 and 2016, housing prices in London

increased by nearly 40 percentage points more than the country average; prices in Amsterdam grew by 28 percentage points more; and prices in Berlin, Hamburg, and Munich increased by 30 percentage points more. Similarly, Budapest, Copenhagen, Dublin, and Paris all had double-digit percentage point increases over their respective country averages between 2010 and 2016. However, some countries experienced house price declines between 2010 and 2016. In these cases, the main metropolitan centers also saw larger declines than the country averages. For instance, house prices in Zagreb declined by 7 percentage points more than the rest of Croatia. Similarly, Bucharest saw a 5 percentage point sharper decline than the rest of Romania (EMF 2017).

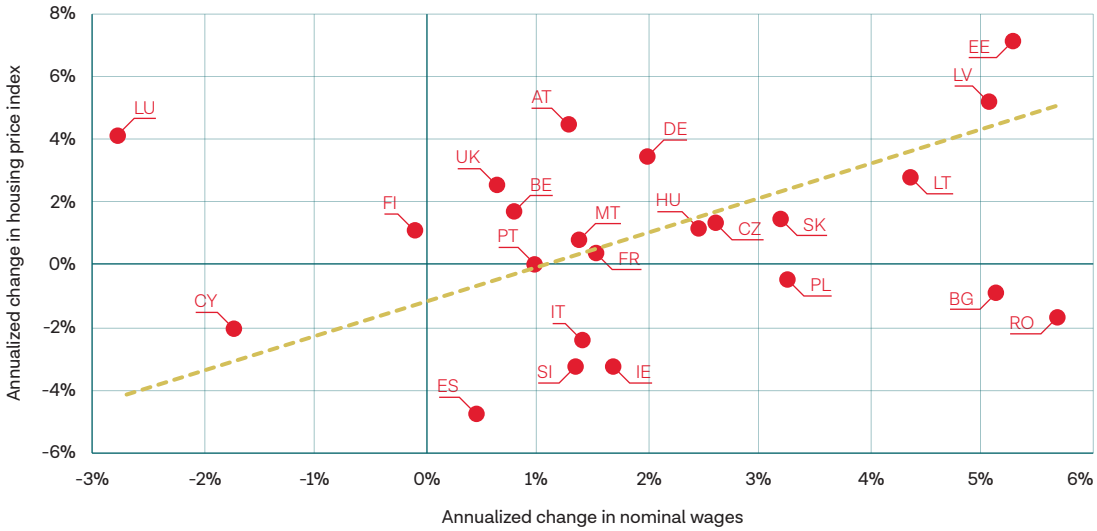
Figure 2.16 Housing Price Growth in EU Agglomeration Centers Relative to Country Averages, 2010–16



Source: EMF 2017.

When measured at the national level, housing price averages have generally not been rising faster than wages. Data at the national level suggest that wages have been growing faster than housing prices, albeit with a few exceptions, including Austria, Belgium, Estonia, Finland, Germany, and the United Kingdom (Figure 2.17). Similarly, the housing price-to-income ratio is lower in some EU countries than at the height of the housing bubble in 2006 (Figure 2.18), while house prices-to-rents have been declining in a number of countries (Figure 2.19). In many EU countries, wage growth has so far outpaced increases in housing prices. Moreover, Granger-causality tests using national-level data find that increases in labor productivity do not necessarily lead to increases in housing prices in EU countries (Box 2.1). This leaves some room for other factors that could be underlying the observed changes in housing prices, including policy efforts.

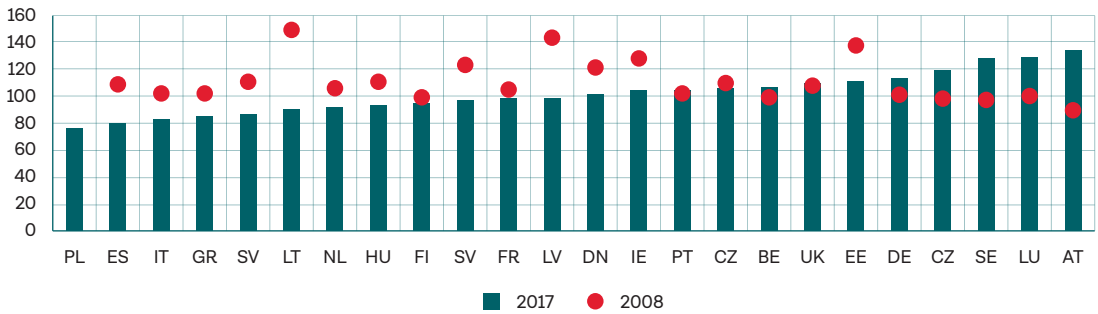
Figure 2.17 Association of Annual Changes in Nominal Wages and Housing Prices, Selected EU Countries, Circa 2010–15



Sources: Eurostat Housing Price Index; International Labour Organization mean nominal monthly earnings of employees, harmonized series.

Note: EU = European Union.

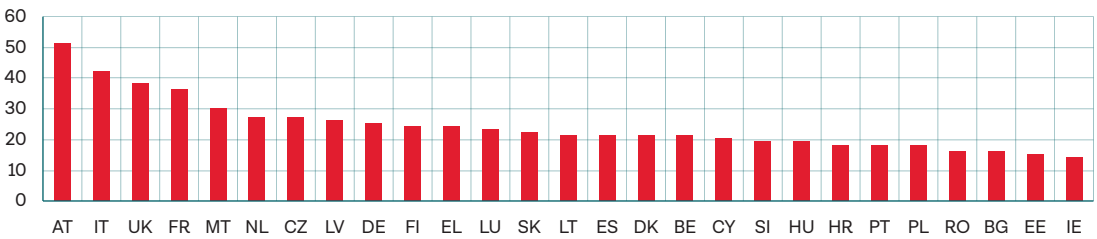
Figure 2.18 Price-to-Income Ratios in EU Countries, 2008 and 2017



Source: Organisation for Economic Co-operation and Development (OECD) housing indicator database, https://data.oecd.org/hha/housing.htm.

Note: Index: 2010 = 100. EU = European Union.

Figure 2.19 Housing Price-to-Rent Ratio in EU Countries, 2017



Source: Global Property Guide research database, https://www.globalpropertyguide.com/Europe/price-rent-ratio.

Note: EU = European Union. Figure shows number of years to recover investment, calculated by dividing the gross rental yield by 100 so the higher the yield, the lower the price-rent ratio.

Box 2.1 Do Increases in Productivity Increase Labor Incomes and Housing Prices?

In the absence of long time-series data on housing prices, wages, employment, and labor productivity at the local level, simple Granger causality tests were used to determine whether increases in productivity lead to increases in labor incomes and housing prices. A variable *X* is said to "Granger-cause" another variable *Y* if lagged values of *X* provide statistically significant information about future values of *Y*.

We fit a vector autoregression model (VAR) on labor productivity, real disposable income, and housing prices to see whether increases in labor productivity Granger-cause increases in housing prices. For each equation, we jointly test the null hypothesis that all the coefficients of the lags of each variable are equal to zero, against the alternative that at least one is not equal to zero. The "all excluded" row for each equation excludes all lags that are not the autocorrelation coefficients in an equation; it is a joint test for the significance of all lags of all other variables in that equation. We chose the optimal number of lags for each country by tracking Akaike's information criterion in the VAR model for a set of lags. The variables are as follows:

- *Real labor productivity per employed person:* GDP divided by total employment in all industries provided by Eurostat (index 2010 = 100)
- *Real disposable income:* gross household disposable income provided by Eurostat (in euros, millions) adjusted by the consumer price index
- *Real housing price:* quarterly housing index from the St. Louis Federal Reserve Bank country time series (index 2010 = 100).

The F-tests below (Table B2.1.1) show that increases in labor productivity "Granger-cause" increases in real disposable income in all countries for which we have data other than Spain. Increases in real disposable incomes Granger-cause increases in housing prices in 9 out of 16 countries, in line with the forces of demand that would put pressure on housing prices. However, there is less evidence that increases in labor productivity would lead to increases in housing prices, as increases in labor productivity Granger-cause increases in housing prices in only four countries: the Czech Republic, the Netherlands, Spain, and the United Kingdom.

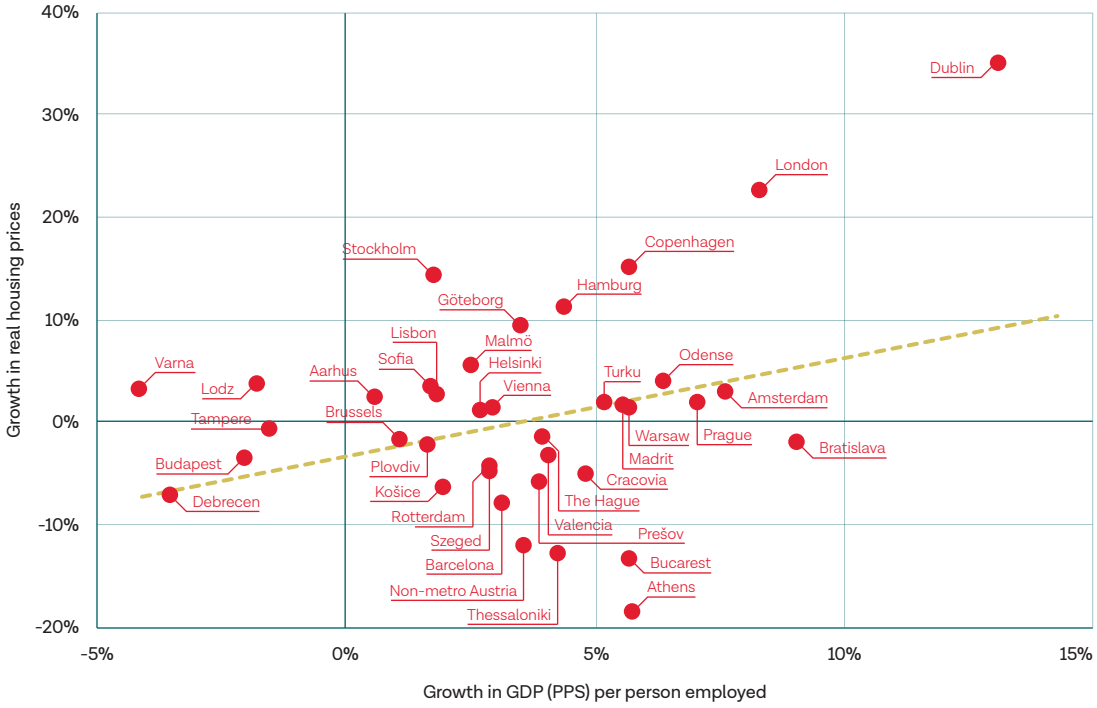
Table B2.1.1 Granger Causality Tests, Selected EU Countries

	AT	CZ	DK	EL	ES	FI	FR	UK
Labor productivity is caused by:								
Housing prices	0.27	2.14	11.06 ***	4.28 ***	6.57 ***	3.53 **	5.78 ***	13.58 ***
Real disposable income	1.39	1.54	3.40 **	2.52 *	5.43 ***	4.94 ***	1.57	0.90
All excluded	0.74	1.80	7.22 ***	3.29 ***	7.42 ***	11.64 ***	9.09 ***	10.23 ***
Housing prices are caused by:								
Labor productivity	1.95	3.99 **	0.20	1.98	5.49 ***	1.32	1.99	10.38 ***
Real disposable income	1.19	2.75 *	1.20	2.92 **	2.80 **	1.29	10.12 ***	2.21 *
All excluded	1.60	4.11 ***	1.18	3.82 ***	3.53 ***	2.50 **	23.48 ***	6.89 ***
Real disposable income is caused by:								
Labor productivity	2.71 **	3.21 **	2.56 *	4.52 ***	0.92	3.55 **	5.29 ***	6.00 ***
Housing prices	1.23	1.67	0.53	2.09	1.31	0.63	2.69 **	0.61
All excluded	1.83 *	3.22 **	1.79	7.74 ***	1.53	2.03 *	4.96 ***	7.12 ***
No. of lags	4	4	4	4	4	4	4	4
No. of observations	53	21	40	29	30	33	69	68

	IE	IT	NL	PL	PT	RO	SE	SI
Labor productivity is caused by:								
Housing prices	1.33	1.85	1.20	0.91	2.35 *	1.27	9.95 ***	10.67 ***
Real disposable income	1.23	7.71 ***	7.90 ***	5.43 ***	6.42 ***	0.59	3.37 **	3.61 **
All excluded	1.17	4.47 ***	8.53 ***	10.20 ***	3.46 **	1.26	7.42 ***	11.05 ***
Housing prices are caused by:								
Labor productivity	0.81	1.61	3.36 **	1.21	1.05	1.17	0.73	1.24
Real disposable income	1.47	2.66 **	6.34 ***	0.69	4.05 **	0.55	2.05 *	1.25
All excluded	0.98	3.44 ***	5.88 ***	2.26 *	2.50 **	2.43 *	6.56 ***	1.26
Real disposable income is caused by:								
Labor productivity	2.83 **	4.92 ***	4.21 ***	17.74 ***	8.82 ***	5.84 ***	8.33 ***	4.81 ***
Housing prices	12.04 ***	3.89 ***	2.85 **	2.50 *	21.21 ***	0.72	0.71	3.57 **
All excluded	7.27 ***	9.37 ***	5.41 ***	14.54 ***	16.02 ***	5.31 ***	5.84 ***	4.81 ***
No. of lags	4	4	4	4	4	4	4	4
No. of observations	33	57	58	13	21	15	69	25

Source: Own esimates based on data from Eurostat and Saint Louis Federal Reserve country time series.

Figure 2.20 Growth in Productivity and Housing Prices in Selected EU Cities, 2012–14



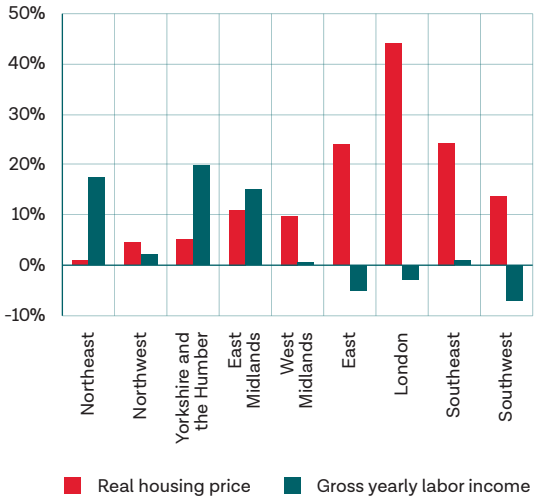
Source: Eurostat data (met_10r_3gdp, met_lfe3emp, prc_hicp_aind); EMF 2017.

Note: EU = European Union. PPS = purchasing power standards.

However, national averages do not reflect what occurs within countries or the differences between cities and the rest of the country. Unfortunately, long time-series data on productivity across EU cities are not consistently available. In addition, despite ongoing efforts to begin to regularly collect and report data for cities and metropolitan areas, housing prices have yet to be added to this effort.[11] With these caveats, there is some tentative evidence that productivity growth over the past few years has been correlated with higher housing prices across cities. For example, in Dublin labor productivity measured as GDP per person employed grew by 13 percent between 2012 and 2014, while real housing prices grew by 35 percent over the same period (Figure 2.20). Moreover, there are instances where housing prices have clearly increased faster than wages. For instance, in the United Kingdom between 2011 and 2015, housing prices increased by more than 20 percent in London, East England, and Southeast England, while real wages declined or, in the case of Southeast region, increased by less than 1 percent (Figure 2.21). On the other hand, in Yorkshire and Northeast England, real wages increased faster than housing prices. Similarly, in Bulgaria, housing prices have been growing faster than wages in Sofia, although this is not the case in all the country's other major cities.

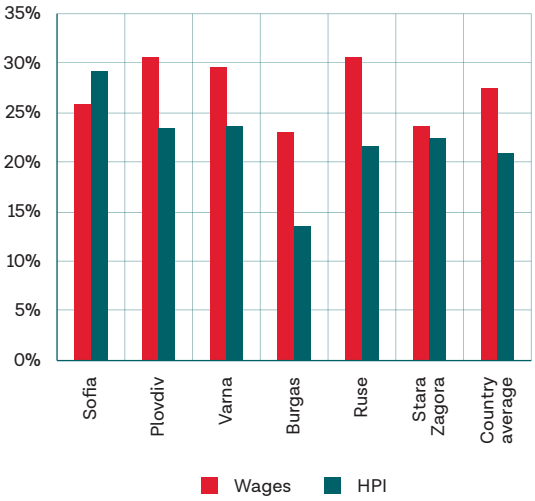
Figure 2.21 Growth in Housing Prices and Labor Incomes in England and Bulgaria, by Region or City

a. England, 2011–15



Source: U.K. Office for National Statistics (ONS), Housing Price Index, by English region 2018, https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/february2018.

b. Bulgaria, 2015–17



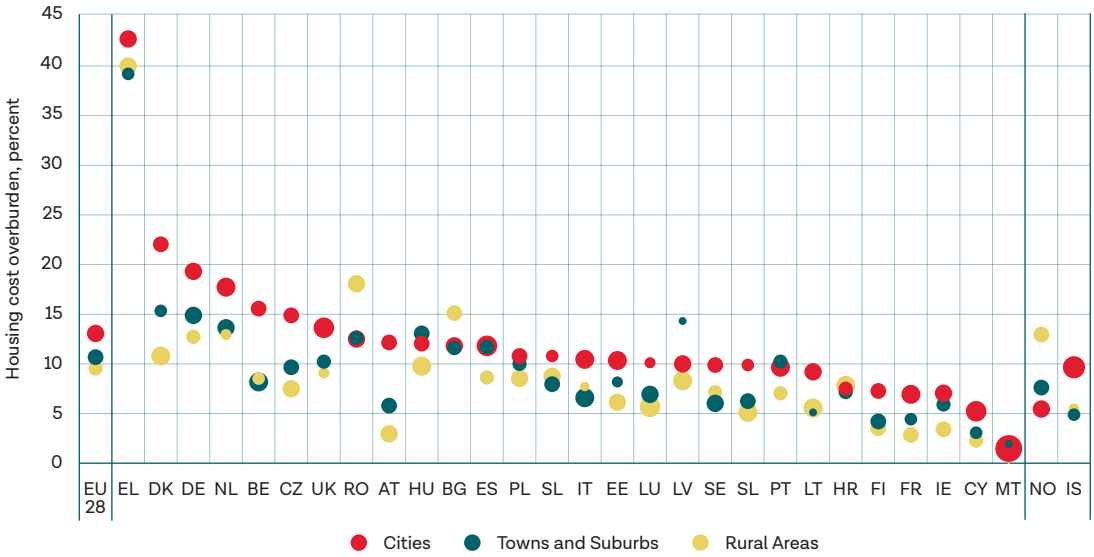
Source: Bulgaria National Statistical Institute data, http://www.nsi.bg/en/content/11223/statistical-data.

Note: The housing price index (HPI) in Varna excludes transactions in resorts.

What Does This Mean for Affordability?

There is evidence that housing affordability is a bigger problem in cities. To the extent that productivity increases lead to higher employment and attract workers to agglomeration centers, a significant part of the wealth created by the dynamism of cities with strong labor markets accrues not just to workers through the labor market but also to homeowners through the housing market, in the form of capital gains. These capital gains are an important channel for homeowners to benefit from the strength of their local economy. However, for newcomers and renters, the effect of a strong labor market is tempered by the increase in their monthly housing costs. A higher share of households in agglomeration centers face a housing cost overburden in cities across EU countries. For instance in Denmark, the share of households spending more than 40 percent of their disposable income on housing is 11 percentage points higher in cities compared to rural areas (Figure 2.22). In fact, 13 percent of city dwellers faced a high housing cost burden compared with 10 percent in rural areas in 2014, with within-country differences in excess of 5 percentage points in Austria, Belgium, the Czech Republic, Denmark, and Germany. In Greece, the share of population with a housing cost burden is very high, in part because of the income drop since the crisis. In 2014, about 43 percent of people living in Greek cities had a high housing cost burden, compared with 26 percent in 2008 (EC and UN-Habitat 2016).

Figure 2.22 Extent of Housing Cost Overburden, by Degree of Urbanization, 2014



Source: EC and UN-Habitat 2016, based on Eurostat data.

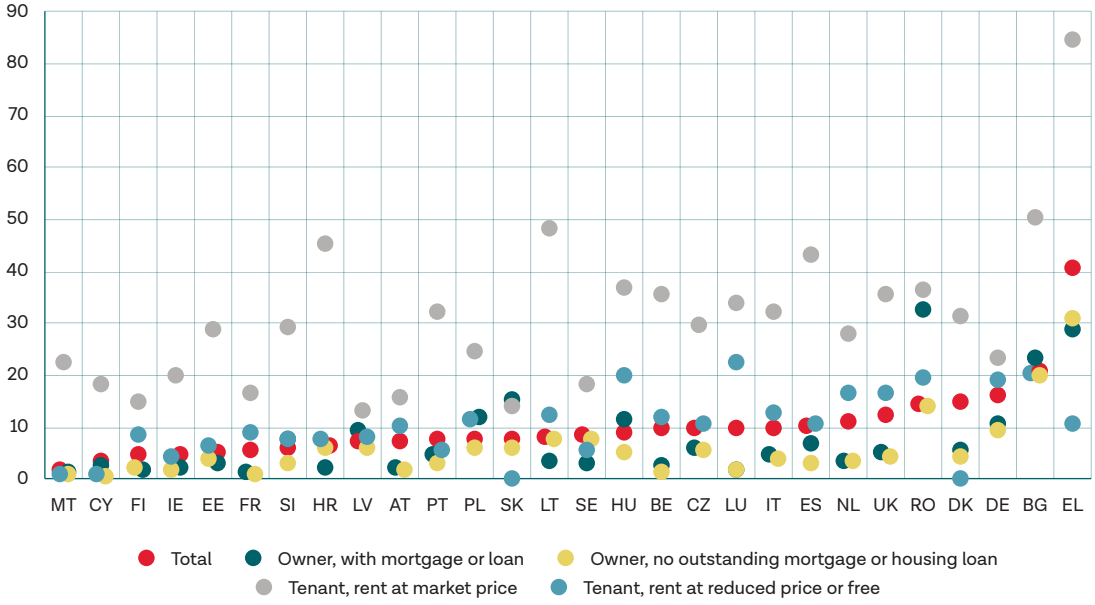
Note: EU28 = all 28 European Union member countries. Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing.

Bubble size is the share of national population living in the area

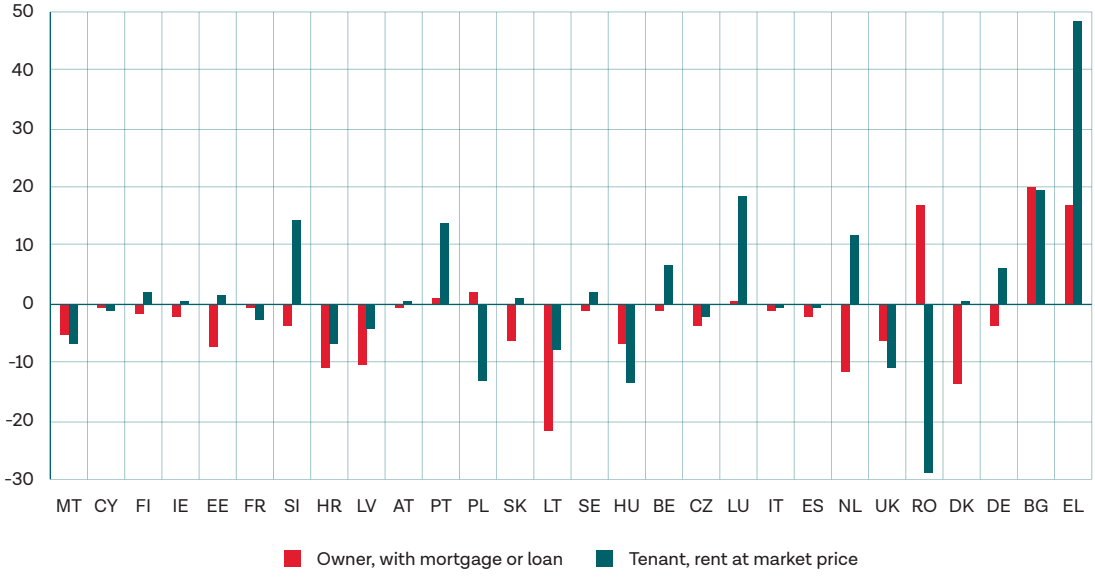
Moreover, housing cost overburden is more prevalent among tenants, the young, and newcomers. On an EU level, tenants paying rents at market prices face a 30 percent chance or greater of being overburdened compared with owners, whose likelihood of being overburdened is less than 10 percent (Figure 2.23, panel a). For instance, 50 percent of households who were tenants paying market prices were overburdened by housing costs in 2016, compared with 20 percent of homeowner households. Between 2010 and 2016, the share of households facing a housing cost overburden has increased more for tenants than for owners with a mortgage in most EU member states (Figure 23, panel b).

Figure 2.23 Housing Cost Overburden Rates in EU Countries, by Tenure Status

a. Percentage, 2016



b. Percentage point change, 2010–16



Source: Eurostat data, based on EU Statistics on Income and Living Conditions (EU-SILC) survey [ilc_lvho07c].

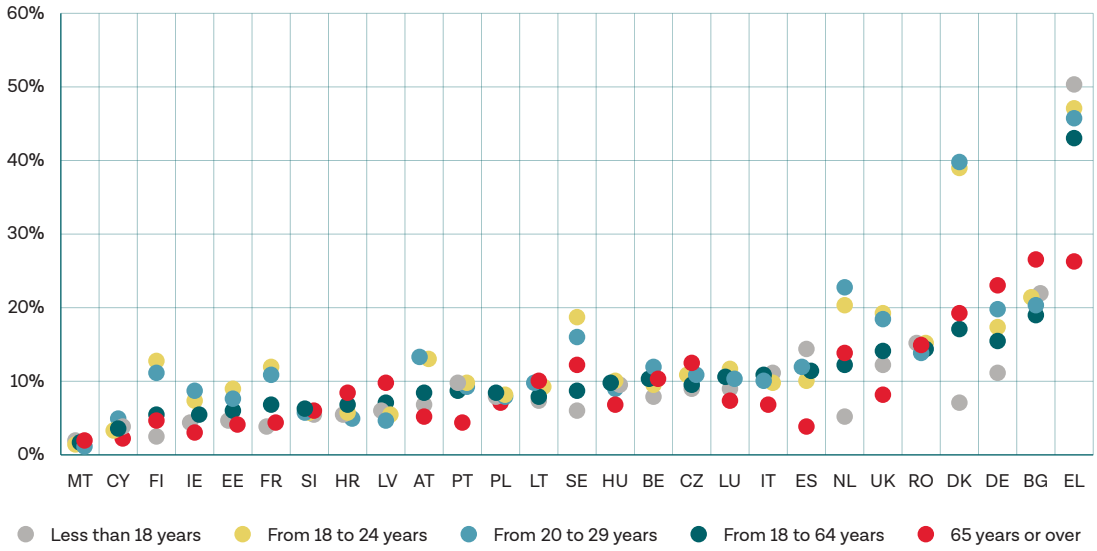
Note: EU = European Union. Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing.

The increase in the house price-to-income ratio in some countries and in the main urban areas raises concerns about intergenerational mobility. Among EU citizens aged 18–24 years and living below the poverty line, Eurostat data show that 43 percent were overburdened by housing costs in the EU in

2016—four times the EU population average (Figure 2.24, panel a). Similarly, foreign nationals (from both within and outside the EU) are more overburdened by housing costs, and experience more overcrowding, than nationals. Family help in accessing homeownership is persistent in many countries, even though younger cohorts have become homeowners sooner than older cohorts (Figure 2.24, panel b) and are more likely to do so through credit than through inheritance (Angelini, Lafferére, and Weber 2013). However, given demographic trends, wealth transfers from parents could become more important in determining access to homeownership, thus reducing intergenerational mobility.

Figure 2.24 Housing Overburden and Homeownership in the EU, by Age Group

a. Housing cost overburden, by age group, 2016[a]

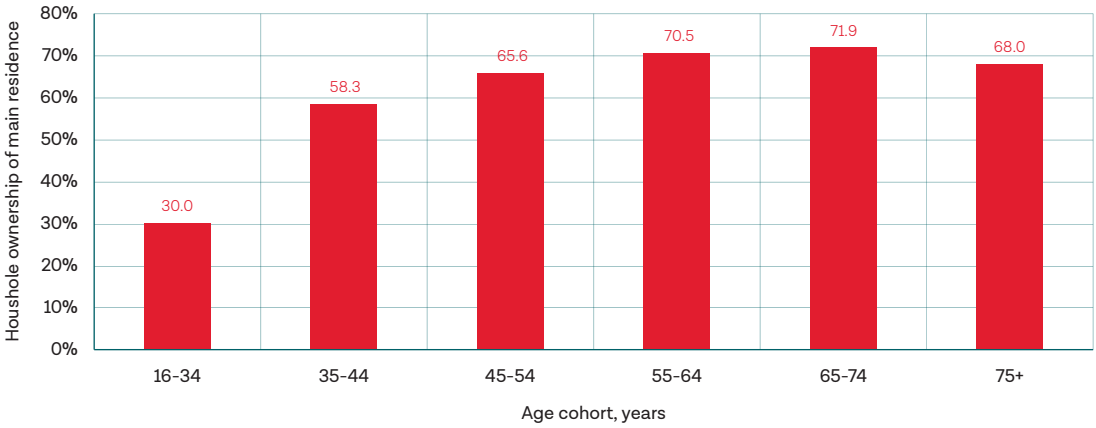


Source: Eurostat data, based on EU Statistics on Income and Living Conditions (EU-SILC) survey [ilc_lvho07c].

Note: EU = European Union.

a. Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing.

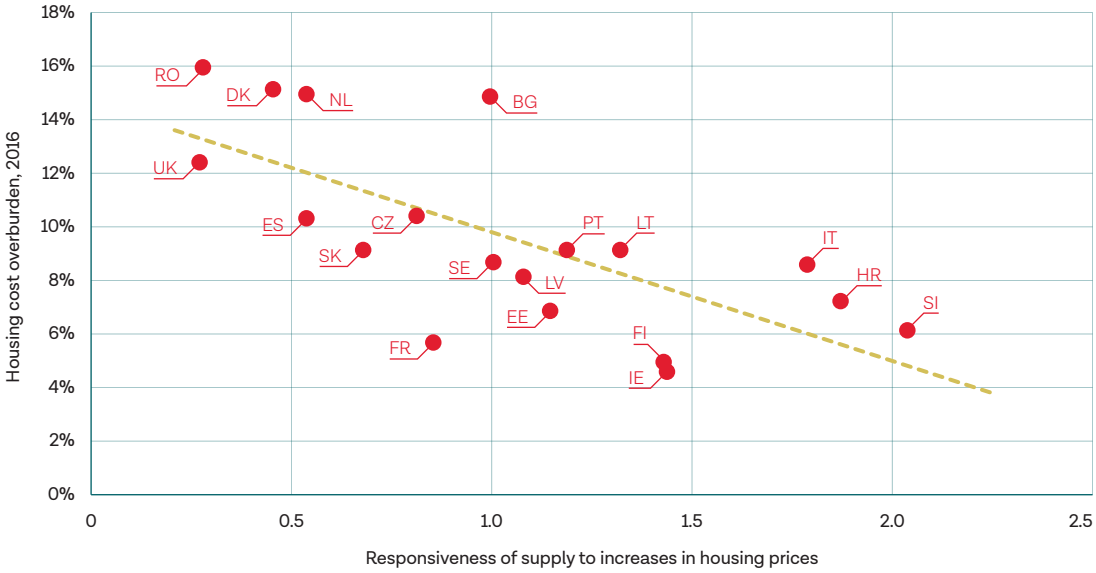
b. Ownership of household residence, by age cohort



Source: HFCN 2016.

Governments can influence the redistribution of wealth between homeowners and new workers searching for opportunity in cities. There is strong negative correlation between housing cost overburden rates and the responsiveness of residential investment to increases in housing prices (Figure 2.25). Policies that allow increases in the local housing stock following increases in productivity keep housing prices in check. Focusing on loosening these regulatory restrictions would substantially improve the welfare of tenants who may not have the resources to purchase a house, newcomers (including young nationals and migrants), and the young. In contrast, policies that limit growth in the housing stock tend to result in housing cost increases, thus favoring homeowners (Glaeser, Gourkyo, and Saks 2005).

Figure 2.25 Low Housing Supply Responsiveness Is Associated with High Housing Cost Overburden, 2016



Source: World Bank estimates of housing price elasticities; Eurostat data.

Note: Housing cost overburden is measured as the percentage of households spending more than 40 percent of their disposable income on housing. For more details about the supply responsiveness estimates, see annex 2A.

Increasing the housing supply will require governments to identify land and remove barriers for development. Access to land is a big constraint to housing development, but cities could focus their efforts on encouraging new building or the redevelopment of existing structures by permitting appropriate floor-space ratios, building heights, and density in specific target zones (Woetzel et al. 2017). Governments could also earmark unused public land for housing development or transform industrial sites. Moreover, cities surrounded by undeveloped or agricultural land could invest in greenfield housing projects on their outskirts. Although this would typically involve building roads and new infrastructure, such construction may be less expensive if the land is more affordable. Similarly, as part of a larger effort to improve real property asset management at the municipal level, local governments could identify suitable areas for urban regeneration, identify sites that are underutilized, and provide incentives for redevelopment (such as expedited permitting, relief from parking requirements, or investment in public parking).

Removing barriers to housing supply also requires developing governance structures that represent all stakeholders and streamline execution. Housing strategies involve policies across financing, urban planning, infrastructure development, land-use regulation, building codes, delivery contracting ap-

proaches, and so on. However, stakeholders from different parts of the system rarely work together to smooth out frictions and focus on the broader goal of getting more affordable housing built quickly. One option for improved coordination is a "delivery lab" model that brings together these different parts into a single delivery unit (Woetzel et al. 2017). Labs are designed to translate high-level housing strategies into detailed initiatives, implementation plans, and key performance indicators. In these settings, public and private sector stakeholders can address misperceptions and arrive at joint solutions. Widely distributed digital surveys and the use of analytic tools to track real-world use patterns can ensure that housing decisions are aligned with the needs of the community, thus reducing the influence of small, entrenched interest groups. Cities can streamline their processes to fast-track land use approval and permitting, creating a more predictable and less burdensome process. A "single window" clearance procedure that consolidates approvals from multiple agencies into one clear interface could substantially reduce the transaction costs of housing development, while digitizing permit applications and status tracking can help to reduce uncertainty.

Part of the answer may also relate to planning and management of the transport network, which can have a huge impact on the scope of a city's labor market. Urban planning and transport infrastructure can help to ensure that workers have additional housing options, both on the outskirts of existing cities and in neighboring towns and regions. Commuting suburbs and feeder towns can ensure greater inclusion in productive cities and support agglomeration economies.

Summary and Policy Implications

The evidence presented in this chapter shows that stricter regulatory requirements and weaker institutional environments are associated with low responsiveness of housing supply to increases in housing prices across EU member states. The evidence presented in this chapter shows marked variation in the responsiveness of housing supply across countries. Moreover, housing supply is less responsive in countries with higher regulatory and administrative burdens, such as stringent rent controls and a large number of procedures required to register property. In contrast, housing supply is more responsive in countries with better quality of land administration.

In the context of increases in productivity, lower supply responsiveness is associated with higher housing prices and lower affordability. Productivity growth has been highest in cities and agglomeration centers across the EU, precisely where housing prices have grown fastest. Although increases in productivity have clearly led to increases in labor incomes, whether productivity growth has also led to larger increases in housing prices is less clear. At the national level, we find no evidence that housing prices have been rising faster than wages, and increases in productivity do not lead to increases in housing prices, except in a few cases. However, data at the metropolitan level suggest that housing prices have indeed grown faster than wages for many cities and agglomeration centers. Moreover, disaggregated metropolitan-level data show that housing affordability is a bigger problem in cities and that affordability is especially problematic for tenants, the young, and newcomers.

These results indicate that governments can influence housing prices by simplifying regulatory requirements to allow for increases in the local housing stock. More-disaggregated data would help to further drill down on this issue, but the tentative evidence is that national, regional, and local governments can improve housing affordability by loosening regulatory restrictions to allow for increased residential investment. For instance, cities could encourage new construction or the redevelopment of existing structures by permitting appropriate floor-space ratios, building heights, and density. Cities can also streamline their processes to speed up land-use approval and permitting, creating a more

predictable and less burdensome process. Such efforts would be especially important for new workers searching for opportunity in cities and for poorer households who may not have the resources to buy a house. More broadly, these efforts would ensure that all citizens can live and work in the locations where they are most productive, enhancing individual welfare and improving overall economic growth by allocating labor to its most productive use.

This chapter has also highlighted the need for improved monitoring and dissemination of metropolitan- and city-level data for evidence-based policy making. Better monitoring and dissemination of information at the metropolitan level on housing prices, employment, wages, housing policies and regulations, and other main indicators would help to inform policy makers at the national, regional, and local levels. Sales records from local government recorders' offices should be publicly available along with property tax assessor data. Combined, these would provide detailed information on transactions and legal records (for example, deed transfers, foreclosures, property tax delinquencies, and so on) as well as property characteristics, geographic information, and prior valuations. This information could then be easily aggregated at the city or metropolitan level to improve monitoring of local-level prices. In addition, national and EU authorities could develop an index of house purchase costs that would allow for benchmarking across localities and regions. This level of transparency would reduce information asymmetries and provide incentives for more streamlined policies and regulations that could help housing markets become more efficient and equitable.

Beyond the housing supply response to changes in prices, whether homeowners or workers benefit more from increases in productivity also depends on how mobile workers are. We leave this discussion and the policies that might affect labor mobility to the next chapter.

Notes:

[1] Data on the extent of "housing cost overburden" and on the distribution of population by level of overall satisfaction with their dwellings in the EU are from the Eurostat database, http://ec.europa.eu/eurostat/data/database.

[2] Housing markets are typically local in nature, so ideally this model would be run using local-level data. However, the long time-series data required to run this model at the local level are unavailable. Nevertheless, country-level estimates of the price elasticity of housing supply are still useful because they give a sense of the overall responsiveness of housing supply across countries.

[3] We are extremely grateful to the authors of this paper for sharing the database on rental market regulations used in their report, "Rental Market Regulation in the European Union" (Cuerpo, Kalantaryan, and Pontuch 2014).

[4] To update the database, we rely on available references (Repelová 2013; Schmid and Dinse 2014; Schmid, Hertel, and Wicke 2005), complemented with additional online research in limited cases when a specific piece of information was not available.

[5] These include the coverage of rent controls, the criteria used for setting rent levels (market-based or otherwise), whether rents are agreed upon freely, how rent increases are determined, and under what conditions landlords are allowed to increase rents.

[6] The Doing Business survey records the procedures, time, and cost required for a small or medium-size business to obtain the approvals needed to build a commercial warehouse and connect it to water and sewerage. Although this is likely different from obtaining a residential construction permit, the steps and time involved are highly correlated with the procedures needed for residential construction.

[7] Labor productivity per hour worked (Eurostat 2013) is calculated as real output (deflated GDP measured in chain-linked volumes, reference year 2010) per unit of labor input (measured by the total number of hours worked).

[8] Country groupings follow Gill and Raiser (2012), combining history and geography, and are used throughout the report: EU-17 South (Cyprus, Greece, Italy, Malta, Portugal, and Spain); EU-17 Continental (Austria, Belgium, France, Germany, Luxembourg, and the Netherlands); EU-17 North (Denmark, Finland, Ireland, Sweden, and the United Kingdom); CEE (Central and Eastern Europe) South (Bulgaria and Romania); CEE Continental (Croatia, the Czech Republic, Hungary, Poland, Slovenia, and the Slovak Republic); and CEE North (Estonia, Latvia, and Lithuania).

[9] A variable "X" is said to "Granger-cause" another variable "Y" if, given the lags of "X", the lags of "X" are jointly statistically significant in the equation. For example, increases in labor productivity Granger-causes increases in labor income if lags of labor productivity are jointly statistically significant in the labor income equation.

[10] Labor incomes include total income from wages and salaries as well as self-employed income.

[11] Data that allow for comprehensive comparisons between house price growth relative to productivity and wages would be useful at the level of primary cities, secondary cities, and rural areas. These could be useful for cohesion policy at the European level but also would be extremely useful at the national level.

Annex 2A:
Price Responsiveness of Housing Supply in EU Countries

Following Caldera Sánchez and Johansson (2011), we build on a stock-flow model of the housing sector to estimate the elasticity of new housing supply with respect to price. The advantage is that it considers both the role of housing as a capital investment and as a consumption good, and distinguishes between the stock and the flow of housing investment. Because housing investment is lumpy, housing markets can clear rapidly only if prices react strongly to tensions between demand and supply. Indeed, stock equilibrium is achieved only in the long run, as transaction costs make it difficult for households to react quickly to price signals.

Building on the theoretical framework outlined in Caldera Sánchez and Johansson (2011) and on earlier Organisation for Economic Co-operation and Development (OECD) work (Hüfner and Lundsgaard 2007; Rae and van den Noord 2006), the following long-run price and investment equations are estimated in an error correction framework employing the Engle and Granger (1987) two-step estimation procedure. The following system of equations is estimated to obtain an estimate of the long-run price elasticity of new housing supply for each country:

$$p_t = \alpha_0 + \alpha_1 y_t + \alpha_2 R_t + \alpha_3 s_t + \alpha_4 d_t + \gamma_t + ECT_t^p \qquad \textbf{(2A.1)}$$

and

$$i_t = \beta_0 + \beta_1 p_{t-1} + \beta_2 cc_{t-1} + \beta_3 d_t + \gamma_t + ECT_t^i. \qquad \textbf{(2A.2)}$$

The dependent variable in the demand equation is real house prices (p_t), while the dependent variable in the supply equation is real gross residential investment (i_t). The coefficient of interest in these equations is β_1, which measures the long-run elasticity of housing investment, or new housing supply, with respect to prices. The explanatory variables in the price equation include real income (y_t), the real interest rate (R_t), the stock of residential dwellings (s_t), and a demographic variable (d_t) capturing the share of population aged 25–44 years, who are more likely to buy a dwelling. Finally, the equation includes a set of quarterly dummies γ_t to control for seasonal effects. The real interest rate is a simple measure of the user cost, which measures the opportunity cost of capital tied up in the property or taken on credit. The coefficients on the stock of housing and interest rates are expected to be negative, while the coefficients on income and demographics are expected to be positive.

The explanatory variables in the investment equation include real residential construction costs (cc_{t-1}), real house prices (p_{t-1}), and the same demographic variables included in the first equation (d_t), as the size and structure of the population are expected to influence the incentives to build. The coefficients on construction costs are expected to be negative, while the coefficients on prices and the demographic variable are expected to be positive. All the variables are in logs except the real interest rate. Both construction costs and real house prices enter lagged in the equation to reflect the nature of the construction industry (where there is typically a lag between price signals and investment in housing) and to avoid potential endogeneity. Finally, a set of quarterly dummies control for seasonal effects.

The estimated residuals, ECT_t^P and ECT_t^i are included as error correction terms in the following error correction equations explaining the short-term evolution of prices and investment:

$$\Delta p_t = \varnothing_0 + \varnothing_1 \Delta y_t + \varnothing_2 \Delta R_t + \varnothing_3 \Delta s_t + \varnothing_4 \Delta d_t + \varnothing_5 ECT^{P}_{(t-1)} + \gamma_t + \varepsilon_t \quad \textbf{(2A.3)}$$

and

$$\Delta i_t = \delta_0 + \delta_1 \Delta cc_{t-1} + \delta_2 \Delta p_{t-1} + \delta_3 \Delta d_t + \delta_4 ECT^{i}_{(t-1)} + \gamma_t + \vartheta_t , \quad \textbf{(2A.4)}$$

where ECT^{i}_{t} is the error correction term in the supply equation, that is, the residual from the long-run equation (2A.2), lagged one period. The coefficients $\varnothing_5$ and δ_4 measure the (quarterly) speed of adjustment to the long-term equilibrium and are expected to be negative, as disequilibrium in prices and investment in previous periods will adjust back to equilibrium over the next periods. Both systems of equations—the long-run relationships given by equations (2A.1) and (2A.2) and the short-run relationships given by equations (2A.3) and (2A.4)—will be estimated jointly using seemingly unrelated regressions (SUR) to account for heteroskedasticity and contemporaneous serial correlations in the error terms across equations.

Data

The estimation period is expected to vary across countries depending on data availability; however, the typical time frame is from the 1980s to the mid-to-late 2010s. Data definitions and sources are as shown in table 2A.1.

Table 2A.1 Variables Used in Housing Supply Responsiveness Estimations

Variable	Description	Source
Real house prices	Housing price, real, deflated by the consumer price index	FED (Saint Louis)
Consumer price index	Consumer price index	EUROSTAT
Real construction costs	Construction cost, real, deflated by the GDP deflator	EUROSTAT
Dwelling stock	Total dwelling stock	Estimate (see below)
Short term interest rates	Real short-term interest rate	EUROSTAT, OECD
Construction output	Gross fixed investment, housing	EUROSTAT
Population 25–44	Population between 25–44 years old	EUROSTAT
Total population	Population	EUROSTAT
GDP	GDP volume at 2011 PPP, US$	EUROSTAT
Disposable income	Net household disposable income, value	EUROSTAT

Note: FED (St. Louis) = St. Louis Federal Reserve Bank. OECD = Organisation for Economic Co-operation and Development. PPP = purchasing power parity.

For housing stock data, we do not have access to quarterly data; however, we use new construction data and the stock data for a given year (2011 for most countries). Construction sector output allows us to build a measure of quarterly flow, and a depreciation rate allows us to build an estimate of the housing stock, as captured by equation (2A.5):

$$stock_n = \delta^N stock_1^N + \sum_{n=1}^{N-1} \delta^{N-n} flow_n . \quad \textbf{(2A.5)}$$

Table 2A.2 Long-Term Equation Results

	AT	BG	CZ	DK	ES	EE	FI	FR
Housing Price Index								
GDP	-59.79	169.00 ***	136.10 ***	325.40 ***	352.20 ***	317.90 ***	119.40 ***	241.30 ***
	(-1.70)	(8.13)	(8.02)	(8.79)	(19.49)	(19.63)	(9.88)	(6.35)
Short-term interest rate	0.48	7.27 ***	3.72 **	3.86 ***	4.08 ***	-2.05 ***	-3.33 ***	2.89 ***
	(0.73)	(7.11)	(3.03)	(4.58)	(4.21)	(-4.15)	(-9.95)	(4.05)
Dwelling stock	0.22 ***	-0.25 ***	-0.37 *	0.06	-0.66	-0.01 ***	-0.09 ***	0.00
	(8.76)	(-5.55)	(-2.13)	(0.90)	(-1.07)	(-17.31)	(-9.01)	(-0.26)
Population	-102.70	171.00 *	783.40 ***	362.80	784.30 ***	377.80 ***	-617.70 ***	-490.10 ***
	(-1.30)	(1.97)	(3.31)	(1.50)	(3.97)	(22.39)	(-7.34)	(-5.07)
Constant	603.40	-1,821.30 *	6,060.60 ***	-6,364.30 **	-7,104.60 ***	-7,304.90 ***	3,687.70 ***	1,823.20
	(0.72)	(-2.10)	(-3.48)	(-3.05)	(-4.46)	(-23.91)	(5.56)	(1.60)
Counstruction Output								
Lagged housing price index	0.02	1.01 ***	0.82 ***	0.47 ***	1.16 ***	0.55 *	1.44 ***	0.87 ***
	(0.26)	(10.79)	(5.11)	(11.37)	(10.93)	(2.49)	(4.33)	(18.29)
Lagged construction cost	0.26	0.34	2.84 ***	0.93 ***	-2.43 ***	-4.72 ***	1.46 ***	-1.51 ***
	(1.61)	(1.93)	(6.31)	(3.56)	(-4.79)	(-9.05)	(3.31)	(-20.34)
Population	163.70	-97.09	63.19	531.10 ***	1,852.70 ***	-167.70 *	783.20	-96.48
	(1.74)	(-1.12)	(0.30)	(3.80)	(-5.71)	(-2.18)	(1.46)	(-1.77)
Constant	-1,215.00	726.00	-199.70	-4,026.20 ***	11,624.20 ***	2,188.10 **	-6,005.80	1,123.50 *
	(-1.59)	(1.05)	(-0.11)	(-3.74)	(5.73)	(3.09)	(-1.48)	(2.08)
Observations	48	42	37	56	49	46	49	63
Seasonal dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	HR	IE	IT	LU	LV	LT	NL	NO
Housing Price Index								
GDP	54.98 **	130.20 ***	180.90 ***	40.34 **	363.10 ***	337.60 ***	268.50 ***	92.39 ***
	(2.96)	(9.13)	(12.32)	(3.25)	(18.71)	(19.66)	(9.29)	(4.12)
Short-term interest rate	0.47 **	-3.90	-0.95 **	1.30 **	-0.83 *	1.78 **	-0.99	0.18
	(3.26)	(-1.82)	(-2.93)	(3.02)	(-2.09)	(2.84)	(-1.59)	(0.68)
Dwelling stock	-0.21 ***	-0.59 ***	0.02 ***	-0.19	-0.13	1.33 *	0.08 ***	0.19 ***
	(-3.58)	(-8.98)	(9.19)	(-0.29)	(-0.41)	(2.27)	(6.06)	(4.96)
Population	266.80 ***	1316.00 ***	241.10 ***	125.10 **	515.80 ***	293.00 ***	818.70 ***	30.68
	(10.94)	(6.89)	(9.88)	(2.88)	(16.24)	(14.19)	(12.46)	(0.94)
Constant	-1,880.30 ***	-9,935.70 ***	-5,148.20 ***	-888.70 ***	-6,145.30 ***	-6,601.30 ***	-10,780.00 ***	-1,576.40 ***
	(-4.92)	(-6.98)	(-17.65)	(-8.08)	(-6.93)	(-6.93)	(-12.56)	(-4.74)
Counstruction Output								
Lagged housing price index	1.88 ***	1.45 ***	1.80 ***	0.22	1.09 ***	1.33 ***	0.55 ***	1.26 ***
	(5.50)	(7.30)	(21.33)	(1.17)	(13.41)	(8.12)	(4.96)	(9.20)
Lagged construction cost	0.19	4.62 ***	-1.26 ***	-0.75	-0.68 *	-1.19 *	-0.36	-0.77 ***
	(0.84)	(6.22)	(-20.46)	(-1.61)	(-2.41)	(-2.23)	(-0.62)	(-3.48)
Population	19.03	-1.534.20 ***	-246.10 ***	23.29	-176.40 **	-57.56	98.81	91.48
	(0.13)	(-15.59)	(-4.95)	(0.41)	(-2.79)	(-0.99)	(-0.71)	(1.86)
Constant	-251.50	10,957.80 ***	2,505.70 ***	32.03	1,268.70 **	542.60	939.50	-620.10
	(-0.23)	(14.92)	(5.07)	(0.13)	(2.96)	(1.23)	(0.75)	(-1.75)
Observations	30	49	68	41	45	67	70	69
Seasonal dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	PL	PT	RO	SE	SL	SK	UK
Housing Price Index							
GDP	100.20 *** (5.07)	183.20 *** (18.10)	136.50 * (2.48)	117.1 *** (17.28)	141.00 *** (4.77)	250.10 *** (5.24)	-12.15 (-0.38)
Short-term interest rate	-0.54 (-1.95)	-3.43 *** (-11.79)	-1.47 (-1.47)	-1.81 *** (-5.92)	0.96 (0.83)	2.53 (0.84)	3.92 *** (9.15)
Dwelling stock	-0.04 *** (-3.87)	-0.30 *** (-11.90)	-1.16 *** (-11.77)	0.24 *** (8.03)	-0.22 (-1.14)	-0.71 ** (-3.22)	0.15 *** (7.60)
Population	-1,281.50 *** (-16.89)	262.90 *** (12.96)	19.62 (0.42)	-30.9 (-0.63)	450.00 *** (6.65)	1216.30 *** (3.30)	-1,916.60 *** (-6.88)
Constant	11,638.60 *** (15.90)	-2,312.90 *** (-21.30)	8,218.60 *** (10.22)	-2,048.6 *** (-6.58)	-3,967.06 *** (-5.85)	-10,280.20 *** (-3.62)	15,352.60 *** (5.92)
Counstruction Output							
Lagged housing price index	1.60 (1.95)	1.20 *** (7.09)	0.30 * (2.36)	1.01 *** (12.29)	2.04 *** (7.29)	0.69 *** (7.94)	0.28 *** (7.12)
Lagged construction cost	5.08 *** (4.68)	-1.47 (-1.33)	0.63 * (2.01)	-0.34 ** (-3.03)	-2.99 *** (-5.27)	-1.58 *** (-5.02)	0.61 *** (6.88)
Population	1,712.00 (1.69)	329.80 *** (3.83)	92.88 ** (2.69)	-455.1 *** (-9.72)	-143.60 (-0.88)	79.80 (0.26)	-588.20 *** (-6.38)
Constant	-16,731.70 (-1.72)	-2,588.80 *** (-3.14)	-779.60 * (-2.51)	3,695.0 *** (9.92)	1,156.90 (1.09)	-410.80 (-0.18)	5,882.00 *** (6.44)
Observations	29	37	26	69	41	45	73
Seasonal dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 2A.3 Short-Term Equation Results

	AT	BG	CZ	DK	ES	EE	FI	FR	HR	IE	IT	LU
Housing Price Index												
GDP	-30.08	40.22	37.47 *	65.63 *	77.86 **	262.6 ***	59.19 ***	59.89	18.17	23.80	27.52 **	9.69
	(-1.26)	(1.92)	(1.98)	(2.04)	(2.58)	(6.81)	(3.56)	(1.87)	(1.06)	(1.76)	(3.10)	(0.78)
Short-term interest rate	0.22	10.21 ***	1.76	0.34	-0.14	-0.53	-0.54	1.36	0.37 *	0.64	-0.65	0.64
	(0.33)	(6.86)	(1.69)	(0.34)	(-0.21)	(-0.25)	(-1.13)	(2.32)	(2.26)	(0.47)	(-1.89)	(1.21)
Dwelling stock	0.05	-0.17	-0.08	0.30 *	0.01	1.78	-0.16 **	0.00	-0.20	-0.23 *	0.04 ***	-0.19
	(0.34)	(-1.68)	(-0.54)	(2.51)	(1.51)	(0.94)	(-2.68)	(0.18)	(-1.64)	(-2.08)	(5.37)	(-0.18)
Population 25-49	448.0 *	-2.14	10.33	-80.55	-210.4	454.6	-602.7 **	-31.67	-21.47	437.20 *	-68.98	27.52
	(2.02)	(-0.03)	(0.08)	(-0.78)	(-1.08)	(1.54)	(-3.03)	(-0.73)	(-0.13)	(2.10)	(-0.93)	(1.01)
Error correction term	-0.33 **	-0.29 *	-0.09	0.05	0.12	-0.22	-0.63 ***	-0.02	-0.56 ***	-0.06	-0.21 **	-0.26
	(-3.25)	(-2.56)	(-0.86)	(0.77)	(1.11)	(-1.75)	(-3.85)	(-0.63)	(-3.33)	(-0.86)	(-3.20)	(-2.17)
Constant	0.67	-1.75	-0.04	-5.11 ***	-6.18 ***	-8.66 ***	-2.62 **	-3.17	0.17	0.52	-1.34 ***	0.45
	(0.63)	(-1.88)	(-0.05)	(-3.33)	(-3.84)	(4.08)	(-2.63)	(-1.76)	(0.11)	(0.47)	(-3.40)	(0.47)
Counstruction Output												
Lagged housing price index	0.32	0.74 ***	0.44	0.28	-0.61	0.46 *	1.58 ***	0.54 **	0.29	1.45	1.58 ***	0.08
	(1.35)	(4.48)	(0.90)	(1.29)	(-1.07)	(2.30)	(3.88)	(2.88)	(0.71)	(2.34)	(3.65)	(0.17)
Lagged construction cost	0.05	-0.14	1.23	1.28	-0.77	0.60	0.52	-0.68	0.02	3.75 **	-1.69 *	-3.80 *
	(0.08)	(-0.28)	(0.85)	(1.26)	(-0.61)	(0.60)	(0.65)	(-1.84)	(0.22)	(2.83)	(-2.31)	(-2.03)
Population 25-49	-278.7	132.90	340.8	37.63	-281.3	-818.3 *	151.30	21.18	-386.9	-1,236 ***	-85.40	-134.1
	(-0.79)	(1.24)	(0.92)	(0.24)	(-0.73)	(-2.01)	(0.20)	(0.33)	(-0.91)	(-3.56)	(-0.41)	(-1.73)
Error correction term	0.04	-0.01	0.16	0.01	0.02	(0.00)	0.04	0.03	-0.02	0.02	0.00	0.00
	(0.96)	(-0.95)	(2.22)	(0.82)	(1.66)	(-0.17)	(1.25)	(1.05)	(-0.74)	(0.89)	(-0.18)	(-0.02)
Constant	11.79 ***	-4.89 ***	4.90 **	6.36 ***	19.86 ***	-20.21 ***	11.07 ***	8.40 ***	-5.33 ***	3.96	7.09 ***	9.79 ***
	(14.07)	(-3.33)	(3.22)	(5.62)	(8.20)	(-7.97)	(12.45)	(14.01)	(-4.29)	(1.18)	(8.19)	(5.71)
Observations	47	41	36	55	45	48	48	57	29	48	67	40
Seasonal dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	LV	LT	NL	NO	PL	PT	RO	SE	SL	SK	UK
Housing Price Index											
GDP	246.70 ***	232.4 ***	18.47	12.17	32.43	140.4 ***	86.35 **	51.55 ***	23.75	150.3 ***	57.72 **
	(5.73)	(8.26)	(0.99)	(1.09)	(1.24)	(6.12)	(2.66)	(3.38)	(0.82)	(5.30)	(2.69)
Short-term interest rate	-0.78	-0.09	1.20 *	0.81	-0.21	-2.92 ***	-0.22	-1.44 ***	3.27 ***	0.67	2.12 **
	(-1.41)	(-0.09)	(2.42)	(1.59)	(-0.31)	(-5.91)	(-0.42)	(-3.35)	(3.38)	(0.44)	(3.02)
Dwelling stock	1.05	0.17	0.04	0.03	0.02	-0.28 ***	-0.17	0.15 *	0.17	0.66	0.04
	(0.98)	(0.14)	(1.36)	(0.13)	(0.32)	(-4.15)	(-0.53)	(2.37)	(0.51)	(1.90)	(1.51)
Population 25-49	136.30	-7.32	115.50	-140.9	-503.4	445.4 **	42.00	98.92	-61.36	-126.1	-473.3
	(0.48)	(-0.08)	(1.19)	(-1.10)	(-3.04)	(2.66)	(1.43)	(0.68)	(-1.01)	(-0.76)	(-1.28)
Error correction term	-0.22 **	-0.11	0.01	-0.11	-0.07	-0.37 *	-0.46 **	-0.15	-0.11	-0.22 ***	-0.06
	(-2.71)	(-1.71)	(0.21)	(-1.30)	(-0.83)	(-2.40)	(-2.65)	(-1.96)	(-1.77)	(-3.58)	(-1.05)
Constant	-15.55 ***	10.52 ***	-0.75	-2.14	-4.73	3.04 ***	-0.13	-6.96 ***	0.48	1.28	-1.96 *
	(-5.21)	(5.71)	(-0.63)	(-1.84)	(-1.23)	(4.47)	(-0.08)	(-3.65)	(0.68)	(0.97)	(-2.52)
Counstruction Output											
Lagged housing price index	0.87 ***	0.48 *	1.07 **	0.55 ***	0.68	0.76 ***	-0.06	0.34	-0.61	0.13	0.51 **
	(4.50)	(2.02)	(2.79)	(3.49)	(0.54)	(4.89)	(-0.17)	(1.21)	(-1.10)	(0.52)	(3.28)
Lagged construction cost	0.49	2.05 **	0.35	-0.01	6.22	0.42	-0.78	1.09	0.43	1.64	0.35
	(0.77)	(2.73)	(1.31)	(-0.01)	(1.47)	(0.98)	(-1.69)	(1.06)	(0.68)	(1.02)	(0.85)
Population 25-49	-931.0 *	-397.6	-260.3	-142.6	-120.1	-262.8	31.54	61.31	122.0	332.3	-247.9
	(-2.35)	(-1.96)	(-0.78)	(-0.80)	(-0.10)	(-1.55)	(0.56)	(0.18)	(0.48)	(0.96)	(-0.54)
Error correction term	0.00	-0.01	-0.01	-0.01	0.10	0.01	-0.15	-0.02	0.10	-0.03	0.00
	(0.08)	(-0.11)	(-0.43)	(-0.54)	(0.47)	(1.31)	(-0.76)	(-0.85)	(1.83)	(-0.74)	(0.06)
Constant	-5.45	-6.81 *	8.71 ***	12.14 ***	22.28 ***	-0.66	28.39 ***	13.34 ***	-4.84	0.09	-1.91 *
	(-1.77)	(-2.35)	(6.94)	(17.40)	(8.45)	(-0.82)	(12.96)	(9.11)	(-1.79)	(-0.05)	(-2.15)
Observations	44	62	69	68	28	36	25	65	40	44	72
Seasonal dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Annex 2B:
Legal Requirements and Restrictions on Housing Construction in Poland and Romania

Law or Regulation Category	Poland	Romania
Main building regulations	• The **Building Law** *Amended mid-2015* simplifying administrative obligations related to all stages of construction, including building permits, notification of construction works and changes in construction projects. Despite the reform to simplify building permits aimed at improving the regulatory and business environment, the administrative burden for obtaining construction permits is still high. Investors are required to carry out extensive legal and administrative paperwork, often without the possibility to file for requests electronically. *From January 2017:* Building Law is amended to improve the legal situation for entrepreneurs and administrative procedures related to contraction works and permits • The law of planning and area developments (**Spatial Development Law**) • The **Environmental Impact Law** • The **Water Law** • New building regulations for provisions of the **Urban and Construction Code** (came into force in January 2018). The first stage is related to regulating issues concerning ordinary citizens, simplifications and investment facilitations, where more than 140 acts are subject to change from January onwards. Among the main objectives, the Code is to restore and ensure effective space management, the so-called spatial order, public space available to all citizens, and stimulate public participation in spatial planning. • **Developer's Act**: measures protecting residential developers, including obligatory escrow account for clients' payments, as well as wide scope of information obligations	• Law on **Building Permits** (50/1991; 125/1996; 453/2001) *Amended in October 2016* (together with the Law on Territorial Planning and Urbanism by Law 197/2016): Possibility to issue building permits in 15 days from the submission date in cases of urgency, as opposed to the standard of 30 days. As the Building Permits Law does not define "urgency," companies may face difficulty and uncertainty. Moreover, fines for breach of the conditions stated in the construction permits have been increased substantially. • **Law on Construction Quality** (10/1995) • **Housing Law** (114/1996 and Ordinance 44/1998) • Government Decision on **General Urban Regulatio**n (525/1996) • Law on **Territorial Planning and Urbanism** (350/2001) • Law on **Protection on the National Cultural Heritage** (1998)
Policy schemes	• **National Housing Program**, implemented by the Ministry of Infrastructure and Construction, with the following recent measures: a) **Apartment for Young People**: Co-financing (10% to 30%; depending on the number of children) of mortgage for a first apartment by young couples or single individuals below the age of 35 + subcharges based on the rate applicable for a given location + additional 5% for early repayment of the loan b) **Emergency Housing Program**: Support to very low-income people. Co-financing in the range of 30–50% to local authorities for the construction, purchase or refurbishment of rental housing "Sheltered Housing": social assistance that prepares individuals to lead an independent life Support program "for life" (came into force in July 2017): help for disabled people, families, and women during pregnancy Fund of Apartments to Rent	• **First Home Program** launched in June 2009: guarantees of up to 50% of the value of the mortgage offered by adhering banks • **National Housing Agency** increasingly supports the construction of new social dwellings by two main programs: a) **Rental Housing Units for Young People:** Construction of rental dwellings for young people aged 18 to 35 who cannot afford to buy or rent a property at market price b) **Mortgage-financed dwellings program:** Construction of dwellings that can be purchased through a mortgage, aiming to increase the stock of privately owned properties. • **National Program for Public or Social Buildings** launched by the National Company for Investment: finances the construction of public or social buildings, such as cultural institutions, hospitals, schools, sport halls, etc.

Law or Regulation Category	Poland	Romania
Time and cost of obtaining building permits and licenses	*Building warehouse:* Involves 12 administrative procedures; on average 153 days. The procedures and the overall time for obtaining a building permit was reduced as the process is streamlined. Construction requires a number of **administrative permits**: • Planning in the form of a local master plan or individual decision, setting the conditions of development • Building permit, except for certain categories, such as most single-family residential houses, which only require a formal notification to the construction authority • Additional permits depending on local conditions (e.g., water law permit, permit of the monument protection office, permit for cutting down trees). *The amendments to Construction law in 2015:* **Abolished the requirement for a building permit** to build a house, reducing red tape + SME owners (except retail objects) no longer need an occupancy permit of retail space.	*Building warehouse:* Involves 20 administrative procedures; on average 171 days; estimated cost is 2.0%. Construction requires a number of **administrative permits**: • Urban planning certificate • Building permit (30 days). Final assessment takes 90 days + additional 75 days for water and sewage connection.
Current status	• *Investment conditions* **Total investment** by the broad construction sector **increased** considerably between 2010 and 2015, marking a growth rate of 2.7% for period 2010–16 (9.9% for narrow construction and 29.2% for real estate activities). Investment in dwellings recovered after the economic crisis and increased by 7.5% over 2010–16. **Investment in infrastructure** dropped considerably after 2011. **Renovation spending by households** decreased after the economic crisis, despite the fact that incomes have continued to grow. Numerous strategies in terms of large infrastructure, notably: • National spatial development concept 2030 • National development policy • 2020 transport development policy. **Inflow of EU structural funds** continues to be an important driver of infrastructural development. Polish construction sector composed by mostly small companies and several large players; production in construction overall dropped by 12.2% over 2010–16; housing prices increased. • *International competitiveness* Ranked **39th** of 138 economies in the 2017 Competitiveness Index in terms of **internationalization** (problematic areas are the proportion of SMEs exporting to and importing from outside the EU and to non-EU countries). Ranked **41st** out of 190 in dealing with **construction permits**. Ranked **44th** out of 137 in terms of **infrastructure**. Ranked **45th** with respect to quality of **railroad infrastructure**. • *Outlook* **Strong economic growth** since 2014 and still predicted to grow due to social transfers, low interest rates, and the spending of EU funds. **Boost** in total investment by the broad construction sector.	• *Investment conditions* Considerable **decline of construction sector** since 2008, in terms of workforce, number of companies, and production. For instance, total investment in construction sector dropped between 2008 and 2009 (by 42.5%). Though it has been recovering, it is still below the level in 2008 (still 29.0% below the 2008 level in 2016). **Decline** in total investment by the **narrow construction** subsector dropped (by 42.5% between 2008 and 2009), but subsequently been **recovering**. **Total inland infrastructure investment** declined (dropping from 3.3% in 2008 to 2.1% in 2014). **Household renovation spending** increased since 2008. • *International competitiveness* **62nd** of 138 economies in the 2017 Global Competitiveness Index. Ranked **86th** in 2016 Global Competitiveness Report in terms of **financial market development** (best indicators were soundness of banks, ease of access to loans; barriers for doing business are access to financing and inefficient government bureaucracy and tax rates). Ranked **88th** in terms of **infrastructure** out of 138 (poor performance in terms of the quality of roads, air transport, port infrastructure). Ranked **95th** out of 190 in 2016 in dealing with **construction permits**. Building a warehouse requires 20 administrative procedures (OECD average: 12.1); building permit takes usually 30 days. **Highest homeownership rate** in the EU (96.4% population owning own property in 2015), but high housing cost overburden rate leading to poor housing quality. • *Outlook* **Considerable decline since 2008** of the Romanian **construction sector in terms of workforce, number of companies, and production**. However, the outlook for 2017 and following years is indicative of a **gradual recovery** across the industry.

Law or Regulation Category	Poland	Romania
Current status	Boost demand for housing: • Increased investments of savings in real estate • Housing subsidy program, "Apartment for Young People" • Increase in building permits • Growing housing loans to households • Increased mortgages • Most buildings owner-occupied (83.7%) • Housing quality still below EU average (high overcrowding rate). Downside: Low interest rates and more relaxed credit policy pose a risk in terms of an unsustainable increase in the price of real estate, because (1) banks are more willing to grant mortgages, and (2) low interest rates deter people from saving in banks, incentivizing them to look for alternative investments like real estate.	The improved macroeconomic situation will be accompanied by positive growth in the construction sector. One of the main drivers of the recovery is the house-building segment, as supported by governmental housing schemes, increasing household spending power, and a more attractive mortgage market.

Sources: Bejan, Armasu, and Botonogu 2014; EC 2016b, 2017c, 2018a, 2018b; Radu 2015; World Bank 2015b.

Note: EU = European Union. OECD = Organisation for Economic Co-operation and Development. SMEs = small and medium-size enterprises.

Chapter 3:

The Impact of Housing Policies and Regulations on Mobility

Opportunities are limited for those stuck in the wrong place, and the wider economy suffers.

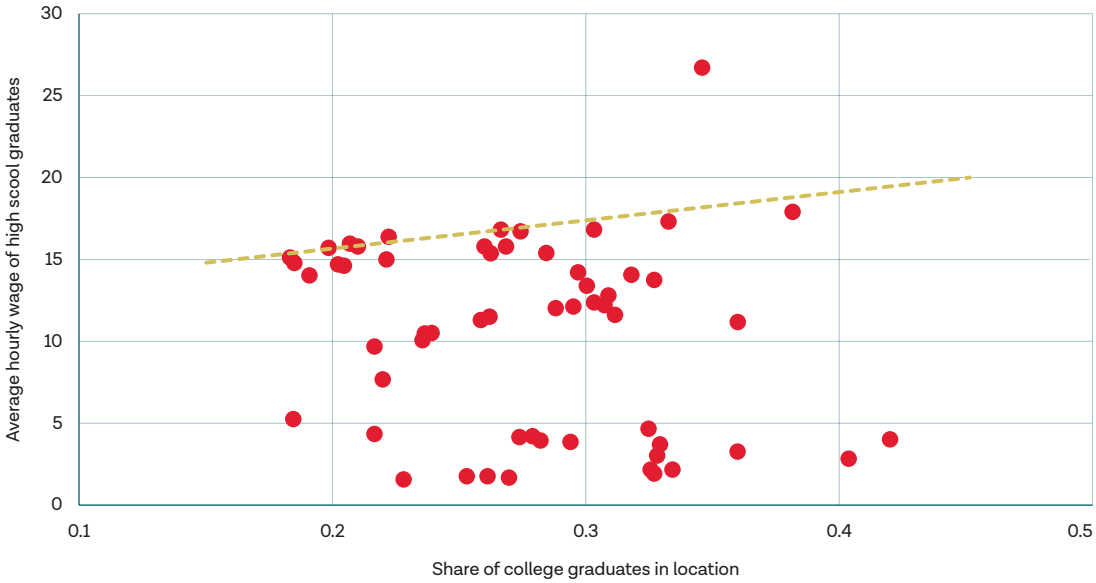
—"The Right Way to Help Declining Places," *The Economist*, October 21, 2017

Why Housing and Labor Mobility?

This chapter examines the impact of housing market regulations and institutional factors on residential mobility in European Union (EU) countries. Excessive regulations pertaining to land use and rental markets and insecurity over property rights can severely affect the development of housing markets and their ability to respond to local demands, because such regulations influence housing supply and thus the capacity of households to relocate. The existing literature has mainly focused on the aggregate housing characteristics of movers, while few works have explored the role of housing market policies for mobility. This chapter attempts to help fill that gap. The analysis builds on and extends Caldera-Sánchez and Andrews (2011), which showed that, among Organisation for Economic Co-operation and Development (OECD) countries, residential mobility is higher in countries with lower transaction costs, more responsive housing supply, lower rent controls and tenant protection, and greater access to credit. We extend the analysis to all EU countries, using regulatory information that is not survey-based but collected from country-specific legal documents. An important contribution is the attempt to establish a link between institutional factors that influence the functioning of the housing market (measured as the level of property rights protection and the quality of land administration) and residential mobility—a relationship that few have attempted to evaluate empirically.

As described in the asset framework in chapter 1, labor mobility provides the basis for the link between housing markets and labor markets. The relocation of workers toward more productive jobs increases returns to labor by fostering agglomeration—that is, the concentration of economic activity. Moving for better jobs can pay off for skilled as well as unskilled workers, driven by a positive relationship between human capital and the productivity of workers (Moretti 2012). Figure 3.1 illustrates the correlation between the fraction of college-educated workers and the wages of high-school graduates in EU countries. The correlation implies that the more that places can attract highly skilled workers, the more they generate human capital spillovers that also benefit unskilled workers because skilled and

Figure 3.1 More College-Educated Workers Are Associated with Higher Wages for High School Graduates in the EU, 2010



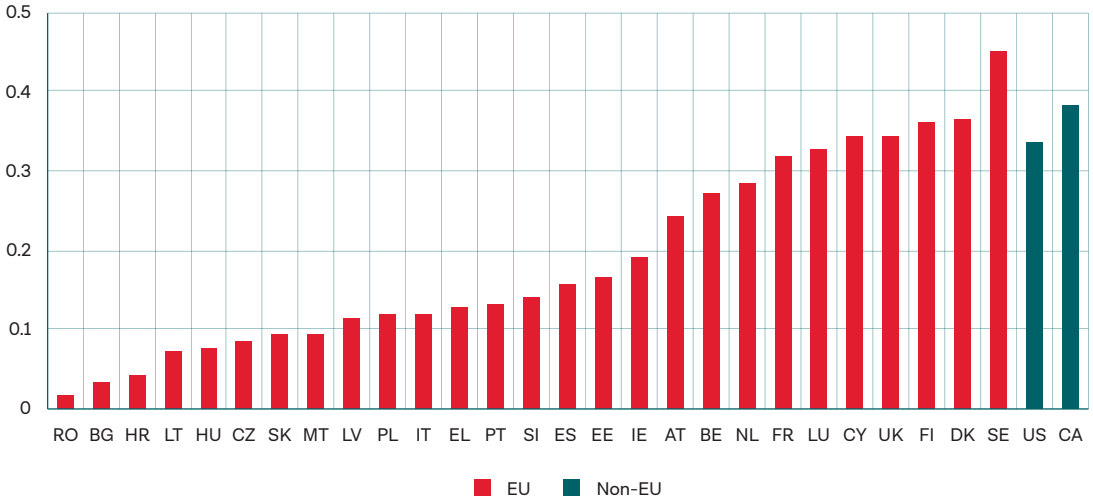
Source: World Bank estimates using European Union Structure of Earnings Survey (EU SES) 2010 data.

Note: EU = European Union. Correlation controls for country effects.

unskilled workers tend to complement each other. A better-educated labor force facilitates local employers' adoption of new technologies, and an increase in a location's overall human capital generates human capital spillovers. Formal and informal interactions create knowledge spillovers that can work as an important engine of growth by enhancing innovation and productivity (Moretti 2012).

However, as has been well-documented in the literature, residential mobility is low in the EU overall compared with Canada and the United States, and it is particularly low in Central and Eastern European (CEE) countries, which could limit agglomeration and productivity gains. Data on five-year residential mobility rates from EU countries show substantial variations across countries. Residential mobility is defined as a change in dwellings. With 1.8 percent, Romania has the lowest five-year mobility rate in the EU. The mobility rates in Bulgaria and Croatia are also very low, at 3.5 percent and 4.1 percent, respectively. The highest mobility is found in Sweden, where 45.1 percent of the population reports to have moved in the past five-year period (Figure 3.2).[1] This share is even higher than those reported for the United States (33.7 percent) or Canada (38.2 percent).

Figure 3.2 Five-Year Residential Mobility in EU Countries, Canada, and the United States, early 2000s

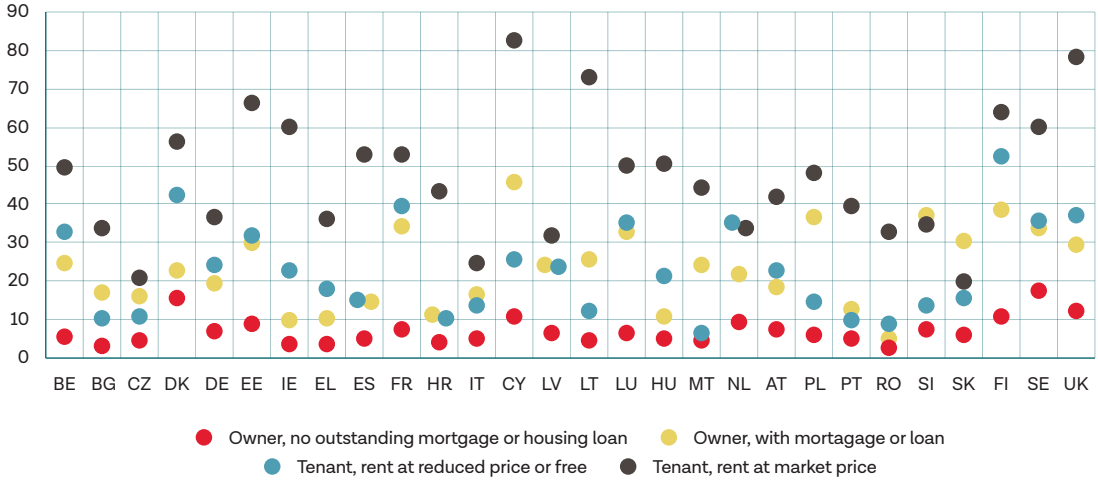


Sources: Estimates from Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database; U.S. 2010–15 mobility data, Annual Social and Economic Supplement of the Current Population Census; 2016 Census of Population, Statistics Canada.

Note: EU = European Union.

Although overall mobility is low in the EU, there is wide variation among different population groups even within the same country, and household tenure status emerges as an important determinant. Across all countries, outright owners are the least mobile, and market tenants are the most mobile (Figure 3.3). Owners with a mortgage and tenants who pay below-market rent rank in between these two extremes, with mobility patterns of the former being closer to market tenants in some countries. Data on intention to move similarly show that residents in CEE countries are much less likely to move, on average, than residents of other EU member states (Figure 3.4). Notably, among countries with the lowest willingness to move, a large share of those who do intend to move were looking for opportunities abroad (Figure 3.5). This is likely because of a lack of opportunities in those countries, reflecting the large wage differential with major destination countries in Western Europe, and may at least partly explain the lack of internal mobility. Although the decision between external and internal mobility is likely made jointly, especially in the context of free labor mobility within the EU, we focus on internal mobility primarily because of limited information in the household surveys.

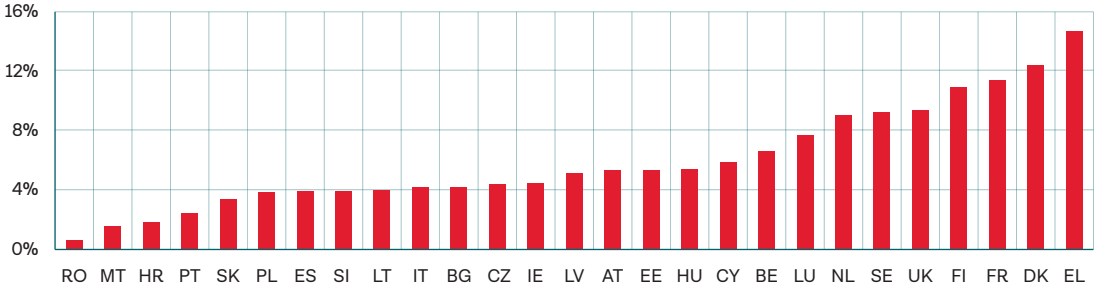
Figure 3.3 Residential Five-Year Mobility Rate, by Tenure Status, in EU and Selected Non-EU Countries, 2012



Source: World Bank calculation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database.

Note: EU = European Union.

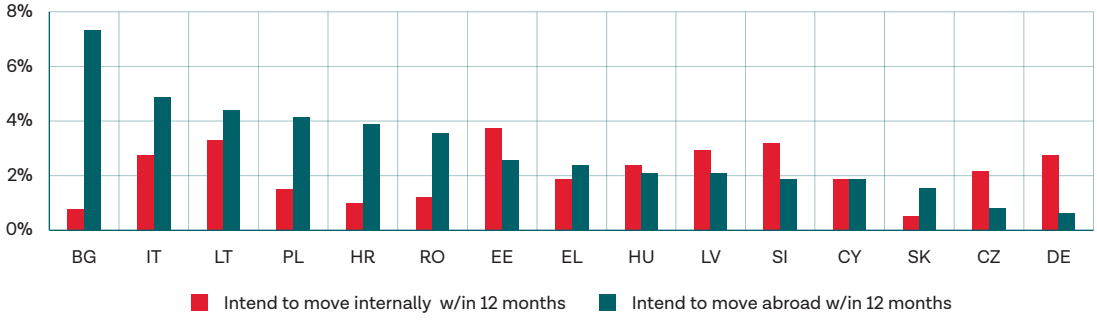
Figure 3.4 Planned Mobility Is Also Low in New EU Member States, 2012



Source: World Bank calculation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database.

Note: EU = European Union. Figure shows share of the adult population that plans to move in the next 12 months.

Figure 3.5 People in EU Countries with Low Internal Mobility Are More Likely to Want to Move Abroad, 2015/16



Source: World Bank calculation using data from Life in Transition Survey 2016 (EBRD 2016).

Note: EU = European Union. Data available only for the select EU countries shown here.

What Challenges Come with Low Mobility in the EU?

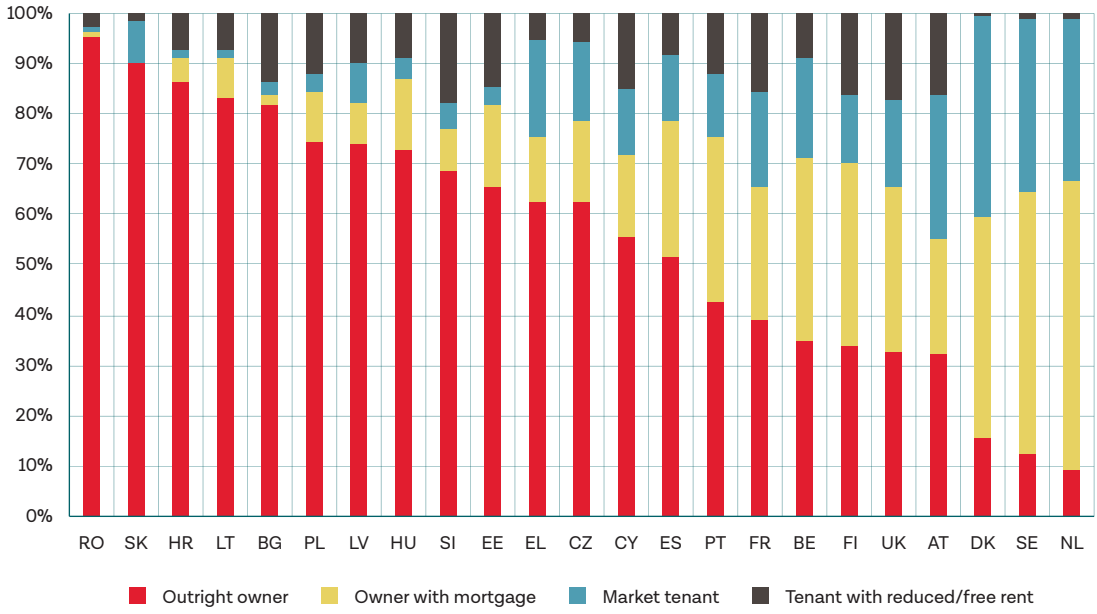
The existing literature suggests that countries with high rates of homeownership also have higher aggregate unemployment. At the household level, the lack of mobility can affect household welfare if unemployed workers cannot easily relocate for their job search. A growing body of literature has investigated the empirical observation that countries with high homeownership rates also have higher aggregate unemployment rates. This may have been manifested through tenure-specific mobility rates, given that homeowners on average move less frequently than renters. The high transaction costs and the consequent lower propensity of homeowners to move provides a basis for linking unemployment to housing tenure. Oswald (1996, 1999) argued that high rates of homeownership lead to low employment, high unemployment, and lower wages—going so far as to suggest that "...the housing market lies at the heart of Europe's unemployment problem" (Oswald 1999). This conjecture became known as the "Oswald hypothesis" in the literature and received renewed attention in the aftermath of the financial crisis amid declining labor mobility, worsening housing affordability, and a slowdown in productivity growth in the United States. In what was referred to as the "house lock" phenomenon, it was suggested that homeowners were locked into their homes because of declining house values and negative equity holdings (Goetz 2013; Winkler 2011). The link between labor immobility and housing market imperfections has been previously recognized in EU member states as well (Fidrmuc and Huber 2007; Janiak and Wasmer 2008).

However, the empirical literature is less conclusive about the impacts of tenure status on labor outcomes. This is partly because causality between tenure status and mobility is difficult to establish owing to the potential endogeneity of tenure status (Hoj 2011; Horsewood and Dol 2013; Valleta 2013). More recently, Blanchflower and Oswald (2013) argued that sharp rises in unemployment are preceded by a rise in the homeownership rate, but that did not mean that owners themselves are disproportionately unemployed. Rather, the housing market can produce negative externalities upon the labor market because a rise in home ownership leads to lower labor mobility, greater commuting times, and fewer new businesses. These patterns appear gradually, which may explain why the relationship is difficult to establish.

Instead, aggregate shocks may persist on account of negative externalities produced by housing market imperfections at the regional level, which can affect overall economic performance. The low mobility in the EU presents a puzzle in light of the traditional Harris-Todaro model, which predicts higher migration in the presence of high regional disparities. However, when factor mobility is limited and labor markets are less efficient, the effect of shocks may persist. A common comparison between the United States and continental EU member states typically suggests that the high labor mobility in the United States plays an important role in reducing unemployment and wage differentials between regions (Blanchard and Katz 1992), whereas in the EU, labor mobility contributes little to closing persistent economic differences between regions. Instead, adjustments to shocks at the regional level occur through lower labor force participation (Decressin and Fatás 1995).

In this context, the housing markets in central and eastern EU countries present some unique challenges with potential implications for labor movements. The enduring legacy of communism, which conferred private property rights through existing occupancy norms during the transition period, led to very high rates of outright homeownership that persist today. While the rate of outright homeownership among old EU member states is only 9.1 percent in the Netherlands and 33 percent in the United Kingdom, in new member states it ranges from 55.6 percent in Cyprus to 95.5 percent in Romania (Figure 3.6). The mortgage-free homes helped absorb the welfare shock during the early transition years for many people who lost their jobs or were forced into early retirement.

Figure 3.6 Composition of Population's Housing Tenure Status in EU Countries, 2016



Source: World Bank estimation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) database 2016.

Note: EU = European Union.

However, the housing stock has not been well maintained, and housing markets have been slow to emerge in CEE countries. This has led to an overall low availability of vacant housing stock, effectively constraining housing supply, which in turn affected the availability of affordable housing (as described in chapter 2). The low quality of housing stock makes relocation even more difficult. The housing market in CEE countries only started to energize with economic growth in the 2000s that was brought about with these countries' accession to the EU. The skewed tenure distribution and other housing market imperfections have been put forward as a potential explanation for the relatively low mobility in EU member states (Bornhorst and Commander 2004).

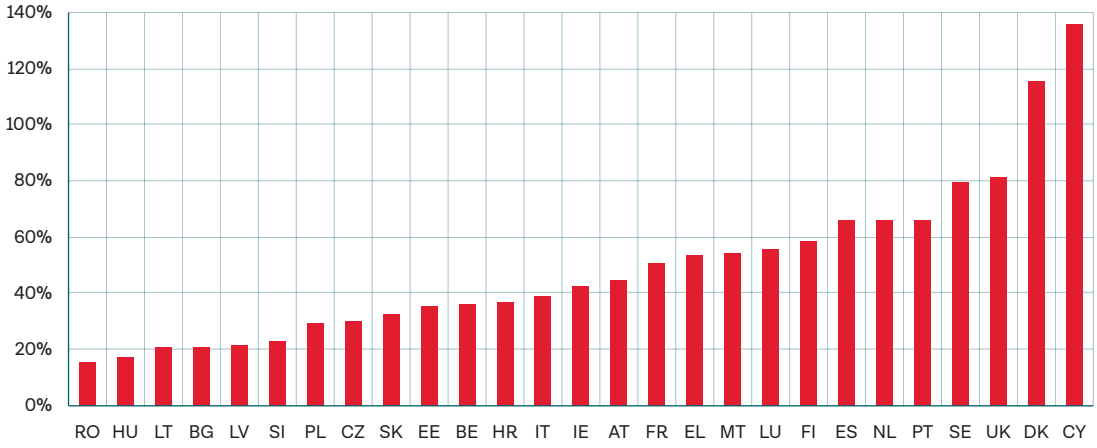
What Policies and Institutional Frameworks Are Relevant?

The legal and institutional framework that governs housing markets is weak in some EU countries. Because housing assets are fixed in location, housing markets are profoundly affected by the operation of land markets and infrastructure. Two regulatory areas affect the functioning of housing and real estate markets: contract law and land-use and development regulation. Contract law deals with the system that defines and facilitates the transfer and allocation of property rights and settles disputes. Formally these functions are associated with such instruments as contracts of sales and leases, operating agreements, mortgages, and deeds of trust. Land-use regulation includes the legal system that governs the rights to certain uses in certain locations and provides standards of development and operation of those uses. Formally these functions are associated with zoning ordinances, building and housing codes, subdivision regulations, private deed restrictions, and environmental regulations (Malpezzi 1999).

Underlying the operation of the legal and institutional framework are the security of property rights and the quality of land administration. These vary substantially across EU countries, but the challenge is particularly severe in some CEE countries. For example, informal property rights are still the norm in Romania, with only 15 percent of rural and 51 percent of urban real estate being registered as of 2015 (World Bank 2015a). A system of the rule of law that establishes institutions that enforce property rights to land and other assets is a critical precondition for economic development because it is a prerequisite for many market activities: informal property rights preclude the selling, transferring, or renting of real estate; may affect how housing supply responds to local demand conditions and thus the affordability of housing; and impact the efficiency and sustainability of urban expansion. Evidence from around the world reveals that greater tenure security leads to significant benefits in terms of equity, land value, investment, and credit (Deininger 2003). As discussed in the chapter 1, housing typically constitutes the largest asset held by households, but a lack of clarity over property rights and a properly functioning real estate market could limit the ability of households to convert the asset into usable wealth, which may affect mobility decisions. Moreover, a cadastre that is complete and systematic in coverage, is accessible and transparent, and has a legal framework to resolve disputes essential for land and housing markets to properly function. Increasing the security of property rights involves tackling legal and institutional issues: On the legal side, the definition of property rights to land and how they can be acquired must be clear and equitable. On the institutional side, procedures need to be formulated, institutions need to be accessible, and services should be provided effectively and at low cost. This requires administrative infrastructure and appropriate resources (Deininger 2003).

The slow emergence of long-term housing finance has further interfered with the smooth functioning of housing markets and households' tenure decisions. The level of financial intermediation in some EU countries remains very low even today, with residential loans amounting to less than 20 percent of gross domestic product (GDP) in Hungary and Romania (Figure 3.7). In fact, the residential mortgage market in the EU is dominated by five countries (Box 3.1): France, Germany, the Netherlands, Spain, and the United Kingdom. Housing is typically the largest asset owned by the household, and ownership is associated with a financial opportunity cost. Thus, housing finance is an important input in the provision of housing because a better-functioning housing finance system can lower housing prices relative to incomes.[2] Underperforming mortgage markets reinforce financial constraints from low housing equity and can deter residential mobility.

Figure 3.7 Household Mortgage Portfolio, as a Percentage of GDP, in EU Countries, 2015



Source: European Credit Research Institute database.

Note: EU = European Union.

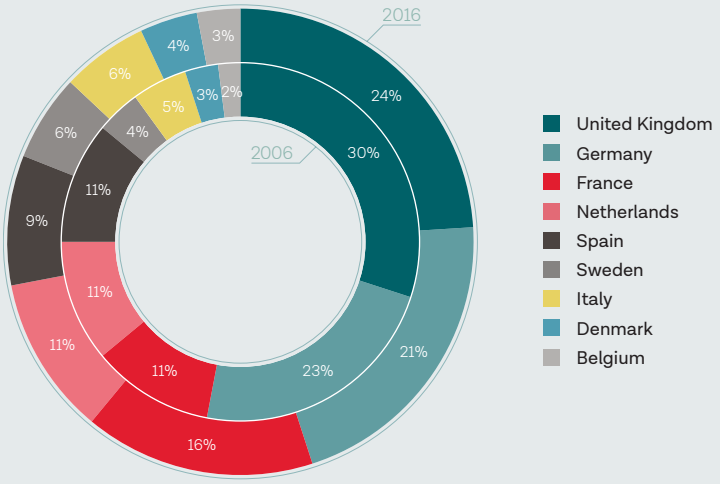
Box 3.1 The Residential Mortgage Market in the EU

In recent years, housing and mortgage markets have been increasingly present in the public debate in a wide range of contexts, from social and demographic challenges to macroprudential tools put in place to guarantee financial stability. In the EU, the majority of mortgage lending activities have been dominated by (in this order) the United Kingdom, Germany, France, the Netherlands, and Spain, which together accounted for 81 percent of the overall outstanding residential mortgages in the EU in 2016, down from 86 percent in 2006 (Figure B3.1.1). The market structure for different mortgage interest rates is highly fragmented in the EU, but the low-interest environment has led to a general tendency toward fixed over variable rates.

The loan-to-value (LTV) ratio can be defined as the ratio between the principal balance on the mortgage and the appraised value of the property serving as security for the loan itself. The LTV is a key risk indicator for mortgages used to determine both the default probability of a mortgage and its expected loss given default (LGD) and is commonly referred to in financial regulation and bank credit policy. The LTV is typically used at loan origination, and for ongoing credit risk monitoring, to assess the amount of equity a borrower has in his property. A higher LTV indicates less equity and more risk.

At loan origination, the LTV is often used alongside other indicators such as the debt-to-income (DTI) ratio, which compares the debt burden to the borrower's income. Such ratios are often considered to be more accurate measures of loan affordability and are useful indicators of how vulnerable a borrower is to changes in economic circumstances (for example, a job loss or higher interest rates). LTV limits are widely used in prudential regulation, often alongside limits on the DTI. In most EU countries included in the subsample considered, the lower the LTV, the better the performance of the loan.

Figure B3.1.1 Outstanding Residential Mortgages in the EU, 2006 and 2016



Source: EMF 2017.

Moreover, policy incentives have favored homeownership, leading to a long-term rise in homeownership in EU member states. The progressive dilution of private rental markets in the EU was heavily affected by the alignment of market and policy incentives (taxation benefits and easing of financing conditions) favoring ownership as the best option to meet accommodation needs (Cuerpo, Kalantaryan, and Pontuch 2014). This has resulted in a long-term rise in home ownership across EU member states (Table 3.1). In the past few decades, homeownership rates have increased sharply across EU member states: in Poland, the share went from 56 percent in 1990 to 81 percent in 2010 (Horsewood and Dol 2013). This trend is not confined to CEE countries: the share in Spain increased from 64 percent in 1970 to 85 percent in 2010, and in Finland it rose from 59 percent to 74 percent over the same period.

Table 3.1 Postwar Growth of Homeownership in EU Countries, 1970–2010/11
Percentage of housing stock

	1970	1980	1990	2002	2010/11
Austria	41	48	55	56	57
Belgium	55	59	67	71	78
France	45	51	54	55	58
Germany	—	—	38	42	43
Netherlands	35	42	44	53	56
Denmark	49	52	51	51	54
Finland	59	61	67	58	74a
Norway	53	59	59	77	85
Sweden	35	41	42	42	66a
Greece	—	70	77	83	80
Italy	50	59	67	80	80
Portugal	—	57	58	64	75
Spain	64	73	76	85	85
Ireland	71	76	81	77	75
United Kingdom	49	56	68	69	66
Bulgaria	—	—	78	92	87
Estonia	—	—	37	95	—
Latvia	—	—	39	82	84
Lithuania	—	—	—	84	93
Slovenia	—	—	68	82	78
Czech Republic	—	—	62	64	79
Hungary	—	—	89	92	92
Poland	—	—	56	55	81

Source: Horsewood and Dol 2013.

Note: — = not available. EU = European Union. Dates are approximate. Table includes only countries for which comparable data were available between at least 2002 and 2010/11.

a. Includes co-op housing.

Policy interventions in rental markets have traditionally attempted to strike a balance between equity and efficiency-related concerns. Generally, the policy goals are, on the one hand, to ensure sufficient supply of affordable accommodation, urban integration, and stable living conditions, and on the other, to avoid market segmentation and ensure effectiveness in contract enforcement. However, given the potential consequences of rent controls for housing market stability and household finances (Cuerpo, Kalantaryan, and Pontuch 2014) and the negative effects on labor mobility, the use of rent control policies for redistribution purposes needs to be exercised with caution.

Effects of Housing Market Regulations and Institutional Factors on Residential Mobility in EU Countries

Methodology

We undertake two types of analysis of the factors that influence residential mobility. First, following Caldera-Sánchez and Andrews (2011), for each EU country we estimate the effect of individual and household characteristics (such as type of housing tenure, income, and age) on the probability of change in residence in the past five years. This exercise is important to determining whether the effects of household attributes on mobility vary across countries (as discussed in Box 3.2). Second, we estimate the extent to which country-level regulations and policies affect the likelihood of mobility. This second step is aimed at capturing systematic differences between old and new EU member states that are often apparent in descriptive statistics.[3] The types of policies analyzed include rental market regulations (degree of rent control and tenant protection), aggregate transaction costs, and institutional factors that affect the broad functioning of the housing market. In addition, the effect of broader policies influencing housing affordability, such as access to credit and unemployment benefits, will also be assessed.

Box 3.2 Methodology for Residential Mobility Analysis

We undertake two types of analysis to analyze the factors that influence residential mobility. First, following Caldera-Sánchez and Andrews (2011), the following model of the decision to move is estimated country-by-country:

$$P_{ic} = \Phi(\beta_0+\beta_1 H_{ic}+u_{ic}), \qquad \textbf{(B3.2.1)}$$

where Φ is the normal distribution, i denotes individual, c denotes country, and P_{ic} denotes the probability that an individual i in country c moves. The explanatory variables include a vector of demographic and socioeconomic individual characteristics (H_{ic}) that are likely to influence residential mobility and individual random shocks (u_{ic}). We focus exclusively on household heads because in almost all cases there is concurrence in the decision at the household and individual level.

Second, we estimate the extent to which country-level regulations and policies affect the likelihood of mobility. The following specification is estimated for a pooled dataset of all EU countries:

$$P_{ic} = \Phi(\beta_0+\beta_1 H_{ic} + \gamma_c + \Pi_c + u_{ic}), \qquad \textbf{(B3.2.2)}$$

where Π_c denotes the specific policy variable of interest and γ_c is a dummy variable that indicates whether the country is a new EU member state.[a]

a. "New" EU member states are those that gained accession since 2004: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic, and Slovenia.

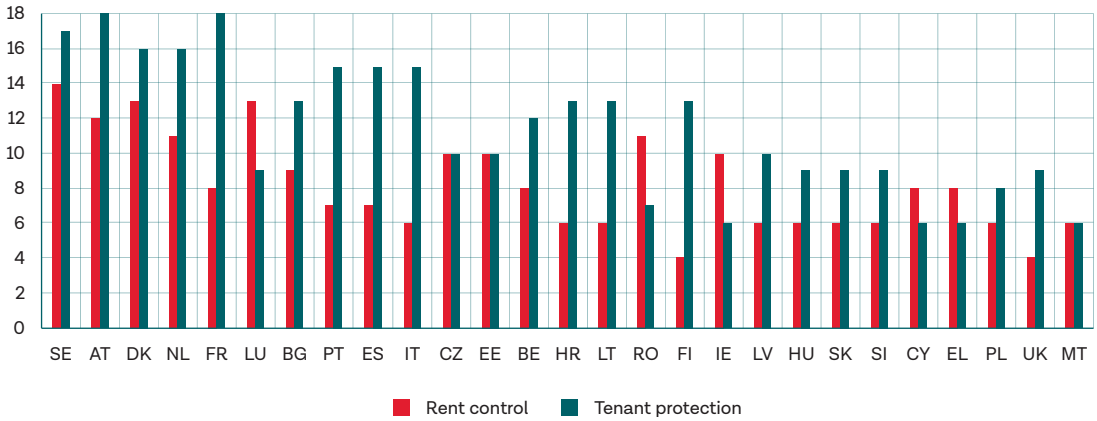
Data Sources

The analysis used household survey data as well as data on regulatory and policy variables from several sources. Although there could be conceivably some variations within countries along certain regulatory and institutional dimensions as well as in the level of enforcement, we cannot account for such variations because of data limitations.[4]

The main source of household survey data is the 2012 round of the EU-SILC. Eurostat's EU Statistics on Income and Living Conditions (EU-SILC) survey is widely used to study the income and living conditions of the EU population.[5] Although the 2012 survey data are a little outdated, they do contain an ad hoc housing module that asked questions on change of dwelling in the preceding five years, which is used to define past residential mobility and can be linked to individual, household, and housing characteristics. Importantly, the defining characteristics described in the beginning of this chapter are still valid: the distribution of housing tenure, among others, appears to have changed little in the past five years, reflecting the rigidities in the housing market and its regulatory and institutional environment. Because of data limitations, we cannot further differentiate among the different types of moves, such as local residential moves and long-distance moves.[6] Among different housing tenures, we further distinguish between outright homeowners and owners with a mortgage. For example, Cyprus has an overall homeownership rate of 72 percent: 56 percent of its residents are outright owners, and only 16 percent have a mortgage. In contrast, in Sweden, where homeownership is at an overall comparable 65 percent, only 8 percent are outright owners and 57 percent hold a loan. The household profiles of these two groups are different in several EU countries because the ownership of most outright homeowners in Eastern Europe was likely conferred during the transition. Mobility patterns are distinctively different for this group, with outright homeowners exhibiting the lowest propensity to move—even lower than among owners with a mortgage.

Information on country-level policy variables is collected from several different sources. We take advantage of a database of rental market regulations that was originally compiled by Cuerpo, Kalantaryan, and Pontuch (2014) (as discussed in chapter 2). The tenant-landlord relation indicator measures the level of tenant protection by adding the responses to questions related to deposit requirements, justified reasons for tenant eviction, eviction notification requirements, and duration of contracts, and this indicator can take on values from 0 to 24.[7] The resulting indicators are shown in Figure 3.8 for each country. Nordic countries (Denmark and Sweden) and some continental EU countries (Austria, France, Luxembourg, and the Netherlands) report high levels of rent control and tenant protection. There is wide variation in the level of regulation among new member states, and with the exception of Bulgaria, the level of rental market regulation appears to be on average less stringent in new member states, which could be because of the small size of the private rental sector.

Figure 3.8 Rent Control and Tenant-Landlord Relations Indicators in EU Countries, 2017

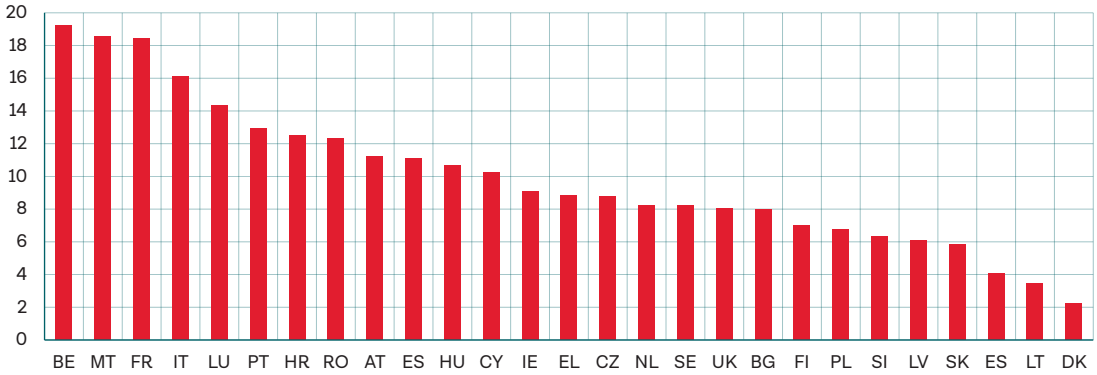


Source: World Bank calculation, updating the database compiled by Cuerpo, Kalantaryan, and Pontuch 2014.

Note: EU = European Union. The rent control indicator aggregates the responses to questions on the related to rent level and rent increase control and can take values from 0 to 16. Higher scores indicate stricter regulation. The tenant-landlord relation indicator, scored from 0 to 24, measures tenant protection by adding the responses to questions related to deposit requirements, justified reasons for tenant eviction, eviction notification requirements, and duration of contracts.

Transaction cost data measures the "round-trip" cost incurred in buying and reselling a property, expressed as percentage of the property value. Such data come from Global Property Guide's in-house research, published online.[8] To ensure comparability across countries in the cost measure, some assumptions are made about the property being transacted.[9] Transaction costs include registration costs, real estate agent fees, legal fees, and sales and transfer fees (Figure 3.9). Housing transaction costs are very high in some continental EU member states, Croatia, and Romania, while they are lower in the Nordic countries, the United Kingdom, and some other CEE countries (Latvia, Lithuania, Poland, the Slovak Republic, and Slovenia).

Figure 3.9 Residential Property Transaction Cost, as a Percentage of Property Value, in EU Countries



Source: Global Property Guide research database, https://www.globalpropertyguide.com/.

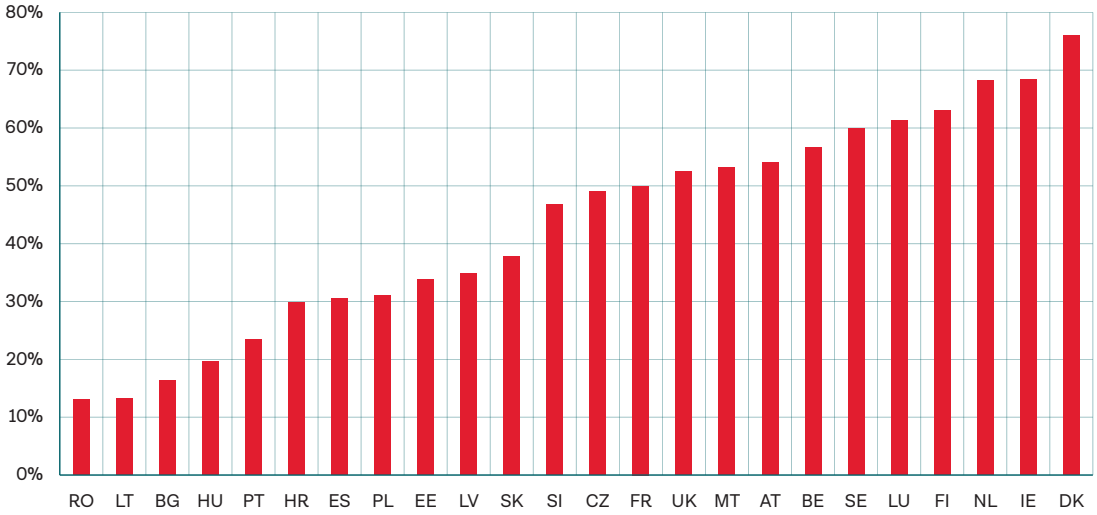
Note: EU = European Union. Figure reports the "round-trip" transaction cost (total cost of buying and reselling a residential property), including all costs (except the sale price itself), expressed as a percentage of the property value. Data for Germany are not available.

Households' access to credit is measured using data on total outstanding residential loans (as a percentage of GDP).[10] According to 2015 data from the European Credit Research Institute, the size of the mortgage portfolio varies significantly across countries, from just 15 percent in Romania to 136 percent in Cyprus (Figure 3.7), which largely reflects the extent to which housing markets are developed.

Because stringent labor market institutions can affect labor mobility, we include a measure of the generosity of unemployment benefits. Unemployment benefits are an important tool for dealing with labor market shocks. They insure against individual income shocks during temporary periods of unemployment by providing income assistance. The effect of these benefits on mobility could go either way: the resources could decrease the incentive to search for a new job, or they could help finance a job search and moving costs. Among the different aspects of the unemployment benefits system, we use the long-term unemployment benefits net replacement rate for a single person with social assistance who has been unemployed for five years (Figure 3.10).[11] This is a conservative proxy for what would be received on average so as to estimate a lower bound of the effect unemployment benefits might have. The data are taken from the OECD Benefits and Wages database and cover most EU countries.

Two indicators of the institutional environment are used: the first is the protection of property rights. Scores on both these indicators for all EU countries, based on 2015 data, are shown in Figure 3.11. Data on the level of protection of property rights come from a subcomponent of the Index of Economic Freedom, published by the Heritage Foundation.[12] The property rights indicator reflects an assessment of individuals' ability to accumulate private property, secured by clear laws that are fully enforced by the state. It measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws. It also assesses the likelihood that private property will

Figure 3.10 Long-Term Unemployment Benefits Net Replacement Rate, Selected EU Countries, 2015



Source: Organisation for Economic Co-operation and Development (OECD) Benefits and Wages database, http://www.oecd.org/els/benefits-and-wages-statistics.htm.

Note: EU = European Union. Figure shows the net benefits replacement rate for a single person with social assistance who has been unemployed for five years.

be expropriated and analyzes the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts. Scores range from 0 to 100, with higher scores indicating that property rights are better protected. Among the EU countries, Bulgaria has the lowest score (30), which indicates the country has weak protection of property ownership, a highly inefficient court system, and extensive corruption, with the judiciary being strongly influenced by other branches of government and possible expropriation. Denmark has the EU's highest score: 95. If a country has a score of at least 90, it means that private property is guaranteed by the government, the court system enforces contracts efficiently, and the justice system punishes those who unlawfully confiscate private property. It also means that corruption is nearly nonexistent and expropriation is highly unlikely.[13]

A second measure of the institutional environment is the quality of land administration, the data for which come from the World Bank's *Doing Business* database. As described in chapter 2, this is a composite indicator that captures the following dimensions: reliability of infrastructure (land titles are kept digitally), transparency of information (access to land ownership information), geographic coverage (coverage of land registry), land dispute resolution (legal framework), and equal access to property rights (gender disparities). The indicator ranges from 0 to 30, and a higher score indicates higher administrative capacity.

Both institutional indicators reveal a stark divide between old and new EU member states: with the notable exceptions of Greece and Italy, one can almost draw a line in Figure 3.11 to divide the two groups of countries. Institutional constraints appear to be particularly severe in Bulgaria, Croatia, and Romania, where the property rights scores are as low as 30 to 40 out of the maximum 100. The quality of land administration is particularly low in Bulgaria and Romania, which scored 19 and 16, respectively, out of 30. Among the old (pre-2004) EU member states, Greece stands out: its low level of property rights protection (scoring 40 out of 100) is comparable to Croatia and Romania, and its land administration quality scored a mere 5 out of 30, the lowest among all EU countries. Interestingly, Malta has high property rights protection but scores poorly on the quality of land administration.

Figure 3.11 Institutional Measures of the Housing Market in EU Countries, 2015

Sources: Index of Economic Freedom, Heritage Foundation, https://www.heritage.org/index/; World Bank Doing Business database, http://www.doingbusiness.org/data.

Note: EU = European Union. "Property rights protection" scores range from 0 to 100, with higher scores indicating that property rights are better protected. "Quality of land administration" scores range from 0 to 30, and a higher score indicates higher administrative capacity. Data for Germany are not available.

Housing Markets and Mobility: Results

What Are the Individual and Household-Level Correlates of Mobility?

As a first step to examine the determinants of residential mobility, we explore the impact of individual and household-level characteristics that influence mobility and whether they vary across countries. The results from country-by-country regressions of mobility in the past five years on demographic and socioeconomic characteristics are presented in annex 3A (Table 3A.1). Because mobility is measured as a binary variable equal to 1 if the individual moved in the past, the models are fitted using probit models. Marginal effects that represent the impact of a change in the explanatory variable on the probability to move estimated at the mean are shown, and all estimates are population weighted. Household-level characteristics include type of housing tenure. Individual-level characteristics include marital status (measured as a dummy equal to 1 if the individual is married or in a union) and a migrant dummy (for whether the person was born in the country). We also include dummies for income quintiles; education (primary or less, upper secondary, tertiary); and age groups. The reference individual (or the omitted categories for categorical variables) has the characteristics of a person who is expected to be the most mobile: a tenant paying market rent, younger than 35 years old, single (never married), completed primary education, and per capita household income in the fifth income quintile.[14]

In all EU member states except the Netherlands, mobility is highest for market tenants, followed by homeowners with mortgage and nonmarket tenants. Outright homeowners have the lowest mobility among all tenure types, controlling for other individual characteristics. This is likely because homeowners face higher transaction costs when they have to move. The marginal effect on mobility of being an outright homeowner is negative and particularly large in Croatia, Hungary, Lithuania, Poland, and Romania: in these countries, a greater than −0.5 marginal effect implies that the outright homeowners'

probability of moving is more than 50 percent lower than among private renters. The magnitude of these estimates is far greater than any reported for OECD countries in Caldera Sánchez and Andrews (2011). Owners with a mortgage are less likely to move than tenants but more likely than outright homeowners. This could be because they have an incentive to remain employed or be reemployed so they can service their debt (Vladyslav 2011). The reduced residential mobility among nonmarket tenants is generally attributed to their reluctance to relinquish their below-market rents and their generally more secure tenancies (OECD 2016), given that housing expenditures are the single largest item in a household's budget. Rigidities tend to be worse when the allocation mechanism in the social housing sector is rigid (Hoj 2011).

The effects of individual and household-level characteristics are mostly as expected: the probability of moving is higher for younger, more educated, higher-income individuals. This is consistent with the life-cycle view of mobility, which posits that housing demands vary across one's life and that household formation and increases in household size suppress mobility. Young workers, being at the start of their working lives, have the most to gain from moving. Additionally, people who are living in smaller households, who are more educated, who are migrants, and who earn higher incomes turn out to be more mobile. Being married or in cohabitation increases the probability of moving, and separated, divorced, or widowed people have the highest mobility in most countries. It is somewhat less intuitive why mobility would be lower among single (never married) persons than among married or cohabitating individuals. This also marks a departure from the results obtained by Caldera Sánchez and Andrews (2011) except for Portugal and the Slovak Republic, where the results from our analysis agree with theirs in that married people are more likely to move. The difference could be possibly because they do not distinguish between different types of single people: single (never married) and separated, divorced, or widowed.

Do Housing Market Regulations and Institutional Factors Affect Mobility?

To examine the impact of country-level policies, observations from all EU countries are pooled together. Annex 3A (Table 3A.2) shows marginal effects from probit regressions on past mobility, controlling for the same individual characteristics, a dummy variable that indicates whether the country is a new EU member state, and the set of policy variables (regulatory and institutional factors) previously described. The policy variables are entered one at a time owing to multicollinearity.

The results show that residential mobility is negatively affected by stricter rent control and tenant protection. Security in tenure and regulation of rent levels and increases lead to fewer movements. These are some of the most prominent housing policy areas. Rent controls are in theory a source of inefficiencies but could provide stable housing for the poor and vulnerable. However, reduced mobility among tenants paying submarket rent could lead to reduced labor mobility, and more broadly, reduce the supply of properties on the market. It also reduces the landlords' incentives to maintain the properties in good condition. For this reason, OECD (2011) recommends that rent controls be less restrictive and that rental allowances be more targeted and portable. In Finland, deregulation of the rental market decreased owner-occupancy from 65 percent in 1993 to 58 percent in 2005. Around the same time in other euro area countries, strict regulations hindered households and investors from purchasing and renting out residential property (ECB 2009).

Mobility is also higher in countries where transaction costs are lower, as suggested by Oswald (1996), and where there is easier access to credit. Studies have suggested that high transaction costs can lead to suboptimal housing consumption decisions by locking in homeowners (Hoj 2011). Financial deregulation (for example, lowering down payment requirements) can help ease credit constraints faced by households and increase residential mobility by promoting access to housing finance to a wider set of the population. This could be especially beneficial for young workers (Vladyslav 2011). However, finan-

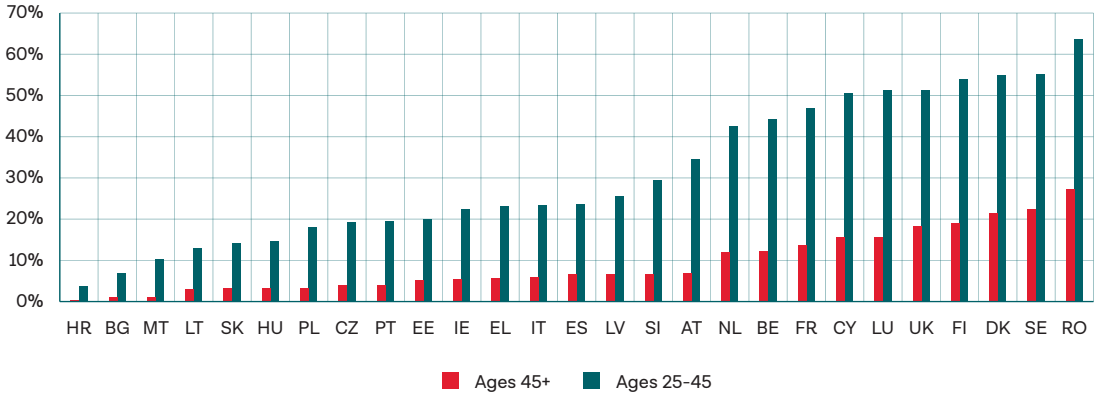
cial deregulation and the increased supply of mortgage loans need to be accompanied by appropriate regulatory oversight because they can lead to a substantial increase in real house prices, greater house price volatility, and macroeconomic instability, as witnessed during the latest financial crisis.

Higher average long-term unemployment benefits are associated with higher mobility. This finding departs from the line of studies that find that a rise in the benefit replacement ratio is associated with higher unemployment (Nickell, Nunziata, and Ochel 2005). However, Tatsiramos (2009) and Caldera Sánchez and Andrews (2011) also find a positive relationship between the level of unemployment benefits and residential mobility rates, which suggests that more generous benefits help job seekers finance their moving and job search costs.

Security of property rights and better quality of land administration lead to higher residential mobility. Our results suggest that institutional foundations, as measured by property rights protection and quality of land administration (coverage of registration system, reliability of administrative infrastructure, accessibility of information, and so on) can help promote residential mobility. Previous literature on property rights and the real estate cadastre has documented this relationship, but empirical analyses were mainly focused on low- and middle-income country contexts.[15] This chapter contains one of few empirical analyses that relate the institutional functioning of housing markets and their impact on residential mobility in more-developed settings. In fact, this is an area where the policy direction is also unambiguous, and countries such as Bulgaria, Croatia, Greece, and Romania could particularly benefit.

Finally, we compare the mobility of younger people to that of older people. Lower mobility of young workers can be of concern because this group commonly moves from job to job at this stage of their careers in search of better compensation, better working conditions, and better fits in terms of interests and skills. Across all EU countries, there are substantial differences in the level of mobility between the young (aged 25–44 years) and the old (aged 45 years or older). For example, younger Swedes have a 64 percent likelihood of having moved in the previous five years, compared with 27 percent of older Swedes. In Romania, Bulgaria, and Croatia—the countries with the lowest overall mobility rates—only around 0.1 percent of older people have moved over the same reference period, compared with 4 percent, 7 percent, and 10 percent, respectively, of younger people (Figure 3.12). With the caveat that these data do not capture external migration, we note that the mobility rate of the young people in these countries is comparable to or even lower than the mobility rate of the older population groups

Figure 3.12 Five-Year Residential Mobility of Young and Old People in EU Countries, 2012



Source: World Bank estimation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012.

Note: EU = European Union. Figure shows the percentage of each age group moved within the preceding five years. Data for Germany are not available.

in most other EU countries. We next examine whether the mobility of the younger population is also disproportionately affected by institutional factors. This could be the case if, for example, younger people face more barriers in accessing housing mortgages or financing housing-related transaction costs.

Except for rental market regulations, institutional factors have a larger impact on the mobility of younger people relative to older people. Annex 3A (Table 3A.3) shows the regression results, which now include a dummy variable for older individuals and an interaction term with the dummy for each policy variable. As shown previously, high transaction costs lead to lower mobility, but the effect is larger for young people. Better access to credit, more generous unemployment benefits, better property rights protection, and better land administration can lead to higher mobility, especially for young people. In other words, reforms in these areas could particularly help mobilize the younger population for whom the lifetime returns from moving are likely to be larger. On the other hand, stronger rent control and tenant protection reduce mobility but relatively less so for younger people.[16]

To summarize, for CEE countries, and especially the ones with very low residential mobility, the results stress the importance of institutional factors—that is, protection of property rights and quality of land administration. In our set of countries, the ones that clearly stand out are the Nordic countries at one extreme and Bulgaria, Croatia, and Romania at the other extreme. Denmark, Finland, and Sweden consistently have a low share of outright homeowners, low real estate transaction costs, high access to credit, high property rights protection, the highest quality of land administration, and high residential mobility rates—notably despite having high rent control and tenant protection.[17] On the other hand, Bulgaria, Croatia, and Romania have very high rates of outright homeownership, higher transaction costs (except in Bulgaria), very low access to credit, very low protection of property rights, low quality of land administration, relatively high rental market regulation, and very low residential mobility rates. Importantly, some of these factors (such as access to credit) could be impeded by the lack of formal property rights that would let owners put up the property as collateral. Although the regressions confirm an average relationship between residential mobility and the policy variables across all EU countries, rental market regulations do not appear to be particularly binding in these countries given that they are already relatively lax. We repeat the aforementioned caveat that the low residential mobility in some of these countries may reflect high rates of external migration, which would lead to underestimation of overall mobility. The decision to migrate either internally or externally is likely a joint one, but the data do not allow for such analysis.

Conclusions and Policy Implications

In the context of the asset framework introduced in chapter 1, housing markets can affect household welfare through their impact on labor mobility. This link is of particular importance in EU countries where residential mobility has been persistently low. In some CEE countries, a very high homeownership rate and an underdeveloped housing market could have contributed to the particularly low residential mobility rates.

This chapter provides an overview of various regulatory factors and the institutional framework that govern housing markets and empirically examines their impact on residential mobility. The observations and takeaways from our analysis can be summarized as follows:

- Housing assets are profoundly affected by the operation of land markets and regulations, but the legal and institutional framework that governs housing markets is especially weak in some countries.

- There is wide variation across EU countries in rental market regulations, housing transaction costs, access to mortgage finance, and institutional factors that influence the operation of the housing and real estate market, such as the security of property rights and the quality of land administration.

- There is a notable contrast between Nordic countries and CEE countries: among the former, Denmark, Finland, and Sweden consistently have a low share of outright homeowners, low real estate transaction costs, high access to credit, high property rights protection, the highest quality of land administration, and high residential mobility rates—notably despite having high rent control and tenant protection. Among the CEE countries, Bulgaria, Croatia, and Romania have very high rates of outright homeownership, higher transaction costs (except in Bulgaria), very low access to credit, very low protection of property rights, and low quality of land administration despite relatively high rental market regulation. Importantly, some of these factors (such as access to credit) could be impeded by the lack of formal property rights that would let owners use the property as collateral.

- The observed differences in residential mobility across countries are associated with differences in national policies regarding housing markets. Specifically, higher mobility is associated with low rent control, low tenant protection, low transaction costs, high access to housing finance, better property rights protection, and better quality of land administration.

- Among CEE countries, rental market regulations do not appear to be particularly binding for residential mobility, given that those regulations are already relatively lax, but mobility rates remain very low.

- Institutional factors (that is, weak protection of property rights and low quality of land administration) are closely linked to and negatively affect mobility because they influence the broader functioning of the market. This is an area where the policy direction is unambiguous, and Bulgaria, Croatia, Greece, and Romania could particularly benefit.

- Institutional factors disproportionately affect the mobility of younger people relative to older people. The mobility of younger people is comparable to or even lower than the mobility of older people in most EU member countries, though with the caveat that we do not capture external migration in the data.

These results point to the need to move toward tenure-neutral policies. Market and policy incentives (taxation benefits and easing of financing conditions) favoring ownership as the best option to meet accommodation needs has resulted in a long-term rise in homeownership across EU member states. Policy interventions in rental markets have traditionally attempted to strike a balance between equity and efficiency-related concerns: on the one hand, ensuring sufficient supply of affordable accommodation, urban integration, and stable living conditions and, on the other hand, avoiding market segmentation and ensuring effectiveness in contract enforcement. However, given the potential consequences of rent controls for housing market stability and household finances (Cuerpo, Kalantaryan, and Pontuch 2014) and the negative effects on labor mobility, the use of rent control policies for redistribution purposes needs to be exercised with caution. Instead, rental allowances could be made portable such that interference from housing market interventions is minimized. More generally, striking the right balance between tenant and landlord incentives—that is, creating security of tenancy and avoiding market segmentation between existing and new tenants while ensuring landlords' property rights—can help mitigate rental market inefficiencies and correct for market failures without contributing to housing market imbalances (Cuerpo, Kalantaryan, and Pontuch 2014). Moreover, because shortages

in rental housing can undermine mobility, easing rental market regulations can create incentives to invest in residential properties and facilitate a more responsive supply side, which would go a long way in fostering mobility.

Finally, the importance of improving the protection of property rights and the land administration system needs to be stressed. This is particularly relevant for CEE countries, and especially for Bulgaria, Croatia, and Romania. Reforms in this area are complex but could help improve the mobility of homeowners. Formalizing property rights is also a critical precondition for progress in other areas of housing market development (for example, access to credit) and could have important spillover effects.

Notes:

[3] The mobility rates for Cyprus exhibit a wide range: the five-year mobility rate for Cyprus is shown as 34.3 percent, one of the highest in the EU. However, the country's 2011 Population Census shows one-year residential mobility as only 5 percent.

[4] Given the prospect of rising global interest rates, prudential policy aimed at limiting the expansion of risky mortgage lending is important. In general, large systemic risks across the EU have not been detected, but there are some risks for some countries. See, for instance, IMF (2017), which notes that further macroprudential actions may be needed to address pockets of vulnerability in Belgium's housing market.

[5] New EU member states include the 13 countries that joined since 2004: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic, and Slovenia.

[6] It would be useful to break down the relative impact of different factors limiting mobility in urban versus suburban versus rural areas (for instance, are certain issues more binding depending on where one lives in the country?) but unfortunately this kind of analysis is constrained by data limitations.

[7] EU-SILC data for Germany have not been released to undertake this analysis.

[8] A question on the reason for residential mobility shows that a large share of the moves were for family-related reasons. This is consistent with evidence from other countries. Long-distance moves were typically more likely for job-related reasons (Caldera Sánchez and Andrews 2011).

[9] For example, one question on rent control is "What is the degree of rent control?" Possible responses are (scores in parentheses): no rent control (0), low coverage of rent control on some tenants (1), high coverage of rent controls on some tenants (2), and high coverage of rent controls on all tenants (3).

[10] Global Property Guide is an independent online resource that provides financial information for the residential property buyer. For more information, see the website: https://www.globalpropertyguide.com/.

[11] "Roundtrip Transaction Costs – Bulgaria Compared to Europe," Global Property Guide Regional Statistics (accessed November 11, 2017), http://www.globalpropertyguide.com/Europe/Bulgaria/roundtrip-cost. Assumptions include that the property is being paid for in cash, that the property is old (that is, not newly built), and that the property is worth US$250,000.

[12] We do not use the loan-to-value ratio (LTV), which is intended to be a risk tool that is generally set by regulatory constraints and may not be closely correlated with access to finance.

[13] Caldera Sánchez and Andrews (2011) use the same measure. The unemployment benefit system has four aspects: level of benefits, duration of entitlement, coverage of the system, and the strictness of system operation. Previous literature suggests that shorter entitlement periods, higher coverage, and stricter operation of the benefit system all lead to shorter unemployment durations (Nickell, Nunziata, and Ochel 2005).

[14] "Property rights" is one of 12 freedoms in 186 countries covered by the index, which defines "economic freedom" as "the fundamental right of every human to control his or her own labor and property" and defines "economically free societies" as those where "governments allow labor, capital, and goods to move freely and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself." For more information, see https://www.heritage.org/index/.

[15] For a full description of the index's property rights component, see https://www.heritage.org/index/property-rights.

[16] Information on urban-rural location is missing for the Netherlands and Slovenia. To maintain consistency in the specification across countries, we do not include an urban dummy.

[17] The topic has been primarily studied in low- and middle-income country contexts. See, for example, Mullan, Grosjean, and Kontoleon (2011), who show that tenure insecurity reduces migration in China.

[18] The last result departs from Caldera-Sánchez and Andrews (2011), who find that rent controls and tenure security have a stronger negative effect on younger households.

[19] The rental sector in Sweden is very different from the rest of EU member states and the United States in that there is technically no social housing and no rent-regulated housing stock. Publicly owned housing accounts for nearly 20 percent of the country's housing stock and is available to everyone regardless of age, income, or other characteristics. Rent levels primarily reflect the age of the dwelling and whether there has been a major renovation; location and demand do not affect rent very much, leading to long queues for older apartments in central locations. Rent control is strong and pervasive: apartment rents are typically determined through annual negotiations between landlords and tenant representatives. This system is designed to provide substantial protection for tenants while creating an efficient process for landlords to handle rent increases. Rent in private rental units is effectively set at levels comparable to low-rent public housing. Rent increases are moderated significantly by this collective bargaining process (Lind 2017; Terner Center 2017).

Annex 3A:
Supplementary Tables

Table 3A.1 Country-Level Correlates of Residential Mobility in EU Countries

Variable	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland
Outright owner	−0.316***	−0.385***	−0.391***	−0.533***	−0.265***	−0.283***	−0.174***	−0.475***	−0.290***
	[0.031]	[0.039]	[0.122]	[0.123]	[0.054]	[0.039]	[0.045]	[0.056]	[0.033]
Owner with mortgage	−0.116***	−0.188***	−0.087	−0.365***	−0.135***	−0.066**	−0.196***	−0.306***	−0.112***
	[0.024]	[0.023]	[0.099]	[0.139]	[0.027]	[0.030]	[0.031]	[0.043]	[0.021]
Tenant (reduced or free)	−0.143***	−0.103***	−0.212**	−0.471***	−0.186***	−0.151***	0.013	−0.247***	−0.015
	[0.024]	[0.031]	[0.101]	[0.129]	[0.039]	[0.046]	[0.043]	[0.043]	[0.027]
HH size	−0.066***	−0.036***	−0.026*	−0.107***	−0.034***	−0.054***	−0.061***	−0.021*	−0.036***
	[0.014]	[0.011]	[0.014]	[0.022]	[0.011]	[0.011]	[0.019]	[0.013]	[0.010]
Age: 35–44	−0.259***	−0.289***	−0.134***	−0.169***	−0.164***	−0.188***	−0.203***	−0.152***	−0.228***
	[0.026]	[0.028]	[0.051]	[0.059]	[0.035]	[0.031]	[0.033]	[0.036]	[0.027]
Age: 45–54	−0.444***	−0.392***	−0.302***	−0.491***	−0.222***	−0.240***	−0.391***	−0.330***	−0.352***
	[0.032]	[0.036]	[0.072]	[0.076]	[0.047]	[0.036]	[0.041]	[0.059]	[0.040]
Age: 55–64	−0.543***	−0.494***	−0.317***	−0.563***	−0.270***	−0.410***	−0.521***	−0.402***	−0.390***
	[0.037]	[0.045]	[0.078]	[0.089]	[0.059]	[0.050]	[0.053]	[0.073]	[0.046]
Male	0.014	−0.023	−0.035	−0.067	0.006	−0.023	−0.022	−0.051*	−0.025*
	[0.019]	[0.020]	[0.033]	[0.044]	[0.014]	[0.024]	[0.024]	[0.027]	[0.015]
Married/in union	0.042	0.082**	0.090	0.239***	0.041	0.111***	0.155***	0.064	0.077***
	[0.029]	[0.033]	[0.057]	[0.068]	[0.025]	[0.034]	[0.048]	[0.041]	[0.028]
Separated/ divorced/widowed	0.107***	0.096***	0.128**	0.125	0.025	0.113***	0.207***	0.072*	0.110***
	[0.030]	[0.035]	[0.063]	[0.077]	[0.024]	[0.036]	[0.049]	[0.043]	[0.030]
Employed	−0.030	0.009	0.044	0.043	−0.005	−0.016	−0.014	0.010	−0.033**
	[0.023]	[0.025]	[0.035]	[0.047]	[0.013]	[0.031]	[0.031]	[0.031]	[0.016]
Education: primary or less	−0.099***	−0.047*	−0.031	−0.033	−0.019	−0.071	−0.042	−0.128***	−0.064***
	[0.032]	[0.025]	[0.055]	[0.067]	[0.016]	[0.050]	[0.036]	[0.045]	[0.023]
Education: upper secondary	−0.088***	−0.022	0.011	−0.071	−0.030**	−0.048*	−0.058**	−0.040	−0.023
	[0.021]	[0.020]	[0.038]	[0.054]	[0.014]	[0.026]	[0.026]	[0.025]	[0.015]
First income quintile	0.133***	−0.026	−0.031	−0.034	0.035	−0.009	0.007	0.027	−0.002
	[0.039]	[0.034]	[0.063]	[0.066]	[0.023]	[0.038]	[0.053]	[0.042]	[0.028]
Second income quintile	0.064**	−0.048	−0.019	−0.019	0.003	−0.052	−0.049	−0.043	0.023
	[0.032]	[0.031]	[0.048]	[0.074]	[0.019]	[0.037]	[0.044]	[0.036]	[0.026]
Third income quintile	0.064**	−0.048*	−0.071	0.042	0.005	−0.005	−0.032	−0.045	−0.005
	[0.030]	[0.026]	[0.057]	[0.060]	[0.018]	[0.032]	[0.035]	[0.035]	[0.022]
Fourth income quintile	−0.012	−0.067***	−0.011	−0.068	0.017	−0.036	−0.017	−0.030	−0.010
	[0.026]	[0.025]	[0.045]	[0.067]	[0.018]	[0.030]	[0.030]	[0.033]	[0.020]
Born in country	−0.108***	−0.071***	−0.124	−0.028	−0.092***	−0.115**	0.009	0.021	0.029
	[0.027]	[0.025]	[0.163]	[0.061]	[0.026]	[0.046]	[0.047]	[0.039]	[0.043]
Observations	4,714	4,41	3,991	4,086	3,722	6,354	3,193	4,071	5,751
Pseudo R-squared	0.23738	0.23399	0.19164	0.26639	0.39321	0.17119	0.16616	0.23062	0.20417

Variable	France	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta
Outright owner	−0.335*** [0.026]	−0.434*** [0.041]	−0.526*** [0.036]	−0.382*** [0.077]	−0.319*** [0.024]	−0.415*** [0.040]	−0.745*** [0.099]	−0.372*** [0.043]	−0.490*** [0.055]
Owner with mortgage	−0.162*** [0.016]	−0.277*** [0.053]	−0.399*** [0.039]	−0.323*** [0.066]	−0.110*** [0.024]	−0.159*** [0.047]	−0.431*** [0.094]	−0.095*** [0.025]	−0.366*** [0.059]
Tenant (reduced or free)	−0.113*** [0.016]	−0.156** [0.061]	−0.222*** [0.044]	−0.161*** [0.036]	−0.160*** [0.026]	−0.082** [0.040]	−0.547*** [0.097]	−0.081* [0.047]	−0.435*** [0.066]
HH size	−0.042*** [0.008]	−0.042* [0.023]	−0.037*** [0.011]	−0.020* [0.011]	−0.054*** [0.009]	−0.052*** [0.011]	−0.050** [0.023]	−0.035** [0.015]	−0.088*** [0.026]
Age: 35–44	−0.217*** [0.019]	−0.169*** [0.050]	−0.174*** [0.030]	−0.070*** [0.024]	−0.202*** [0.023]	−0.186*** [0.035]	−0.204*** [0.067]	−0.200*** [0.031]	−0.306*** [0.049]
Age: 45–54	−0.345*** [0.027]	−0.275*** [0.058]	−0.331*** [0.033]	−0.196*** [0.048]	−0.290*** [0.026]	−0.283*** [0.037]	−0.296*** [0.080]	−0.346*** [0.039]	−0.443*** [0.064]
Age: 55–64	−0.440*** [0.032]	−0.420*** [0.062]	−0.426*** [0.036]	−0.253*** [0.062]	−0.379*** [0.031]	−0.352*** [0.040]	−0.255*** [0.075]	−0.464*** [0.049]	−0.460*** [0.068]
Male	0.008 [0.011]	0.009 [0.043]	−0.011 [0.025]	−0.024 [0.019]	0.016 [0.017]	0.018 [0.025]	−0.052 [0.041]	0.033 [0.022]	0.007 [0.035]
Married/in union	0.122*** [0.023]	0.090 [0.059]	0.071* [0.037]	0.017 [0.023]	0.086*** [0.023]	0.105*** [0.037]	0.048 [0.083]	0.086** [0.041]	0.089 [0.057]
Separated/ divorced/widowed	0.117*** [0.023]	0.046 [0.076]	0.097** [0.038]	0.053* [0.030]	0.091*** [0.027]	0.133*** [0.035]	0.001 [0.077]	0.116*** [0.042]	0.048 [0.061]
Employed	−0.016 [0.015]	−0.035 [0.040]	−0.002 [0.026]	−0.056*** [0.018]	0.028 [0.021]	0.010 [0.028]	0.060 [0.053]	−0.056** [0.028]	0.074 [0.048]
Education: primary or less	−0.095*** [0.018]	−0.142*** [0.050]	−0.043 [0.037]	−0.057** [0.023]	−0.132*** [0.024]	−0.084* [0.045]	−0.091 [0.086]	0.001 [0.030]	−0.022 [0.043]
Education: upper secondary	-0.065*** [0.013]	-0.113** [0.048]	-0.066** [0.028]	-0.025 [0.018]	-0.084*** [0.021]	-0.020 [0.029]	-0.053 [0.043]	-0.019 [0.027]	0.009 [0.050]
First income quintile	0.023 [0.022]	−0.014 [0.060]	0.014 [0.042]	−0.109*** [0.031]	−0.026 [0.028]	0.013 [0.040]	0.184** [0.086]	0.069 [0.050]	−0.028 [0.054]
Second income quintile	−0.009 [0.019]	0.033 [0.061]	0.004 [0.037]	−0.094*** [0.026]	−0.014 [0.027]	−0.006 [0.041]	0.109 [0.073]	−0.020 [0.039]	−0.084 [0.054]
Third income quintile	−0.012 [0.017]	−0.059 [0.059]	0.019 [0.034]	−0.065*** [0.024]	−0.020 [0.024]	−0.035 [0.038]	0.077 [0.069]	−0.087*** [0.033]	−0.137*** [0.052]
Fourth income quintile	−0.000 [0.016]	−0.083 [0.059]	0.030 [0.032]	−0.085*** [0.026]	0.008 [0.022]	−0.049 [0.037]	0.068 [0.064]	−0.040 [0.031]	−0.106** [0.046]
Born in country	−0.005 [0.019]	−0.110** [0.052]	−0.122 [0.079]	−0.008 [0.021]	−0.098*** [0.025]	−0.001 [0.035]	−0.005 [0.079]	−0.041* [0.023]	0.012 [0.079]
Observations	8,771	3,83	8,924	3,328	14,415	4,59	3,845	5,047	3,334
Pseudo R-squared	0.22837	0.23811	0.19163	0.37260	0.15653	0.17397	0.22832	0.19266	0.28015

Variable	Netherlands	Poland	Portugal	Romania	Slovak Republic	Slovenia	Spain	Sweden	United Kingdom
Outright owner	−0.094 [0.079]	−0.524*** [0.027]	−0.402*** [0.046]	−0.523*** [0.091]	−0.274*** [0.045]	−0.273*** [0.055]	−0.470*** [0.031]	−0.158*** [0.034]	−0.214*** [0.031]
Owner with mortgage	−0.106*** [0.030]	−0.152*** [0.036]	−0.339*** [0.040]	−0.305* [0.164]	0.067 [0.044]	0.027 [0.047]	−0.361*** [0.030]	−0.084*** [0.016]	−0.185*** [0.026]
Tenant (reduced or free)	0.482*** [0.131]	−0.333*** [0.033]	−0.317*** [0.045]	−0.446*** [0.114]	−0.162* [0.088]	−0.281*** [0.060]	−0.321*** [0.036]	−0.115 [0.102]	−0.120*** [0.019]
HH size	−0.046** [0.018]	−0.080*** [0.011]	−0.053*** [0.017]	−0.044 [0.035]	−0.046*** [0.012]	−0.054*** [0.012]	−0.043*** [0.011]	−0.021** [0.009]	−0.019*** [0.005]
Age: 35–44	−0.290*** [0.036]	−0.246*** [0.024]	−0.252*** [0.037]	−0.189*** [0.068]	−0.244*** [0.040]	−0.133*** [0.036]	−0.188*** [0.024]	−0.171*** [0.026]	−0.086*** [0.013]
Age: 45–54	−0.519*** [0.036]	−0.429*** [0.031]	−0.366*** [0.047]	−0.373*** [0.077]	−0.448*** [0.047]	−0.280*** [0.046]	−0.294*** [0.032]	−0.283*** [0.043]	−0.167*** [0.025]
Age: 55–64	−0.673*** [0.046]	−0.479*** [0.033]	−0.522*** [0.063]	−0.422*** [0.099]	−0.539*** [0.056]	−0.382*** [0.061]	−0.390*** [0.042]	−0.356*** [0.054]	−0.210*** [0.032]
Male	−0.035 [0.026]	0.025 [0.020]	0.010 [0.025]	0.017 [0.053]	0.007 [0.030]	−0.005 [0.025]	0.030 [0.018]	0.005 [0.010]	0.010 [0.007]
Married/in union	0.144*** [0.045]	0.151*** [0.035]	0.073* [0.040]	−0.058 [0.109]	0.129*** [0.043]	0.160*** [0.036]	0.045 [0.029]	0.027 [0.020]	0.045*** [0.015]
Separated/ divorced/widowed	0.155*** [0.039]	0.163*** [0.039]	0.087* [0.048]	−0.089 [0.089]	0.186*** [0.048]	0.182*** [0.051]	0.094*** [0.033]	0.133*** [0.032]	0.049*** [0.014]
Employed	0.019 [0.034]	0.033 [0.025]	0.008 [0.029]	−0.070 [0.078]	0.009 [0.039]	0.057* [0.033]	−0.017 [0.020]	0.003 [0.016]	−0.011 [0.008]
Education: primary or less	−0.127*** [0.041]	−0.113*** [0.043]	−0.079** [0.033]	0.020 [0.063]	−0.172** [0.079]	−0.103** [0.044]	−0.093*** [0.022]	−0.073*** [0.022]	−0.048*** [0.012]
Education: upper secondary	−0.065** [0.027]	−0.069*** [0.023]	−0.046 [0.037]	−0.123** [0.051]	−0.072** [0.032]	−0.077** [0.032]	−0.050** [0.021]	−0.053*** [0.013]	−0.038*** [0.008]
First income quintile	−0.095* [0.055]	0.034 [0.033]	−0.008 [0.042]	0.054 [0.067]	0.029 [0.047]	0.054 [0.043]	−0.012 [0.031]	0.002 [0.022]	−0.016 [0.012]
Second income quintile	−0.040 [0.047]	−0.022 [0.032]	−0.002 [0.040]	−0.063 [0.088]	−0.017 [0.043]	0.062 [0.041]	0.020 [0.034]	−0.009 [0.018]	−0.018* [0.011]
Third income quintile	−0.064* [0.037]	−0.018 [0.030]	−0.087** [0.040]	0.018 [0.075]	0.022 [0.039]	0.019 [0.039]	0.002 [0.027]	−0.031* [0.016]	−0.029*** [0.010]
Fourth income quintile	−0.002 [0.035]	−0.064** [0.028]	−0.079** [0.034]	−0.079 [0.062]	−0.037 [0.039]	−0.029 [0.040]	−0.076*** [0.025]	−0.011 [0.014]	−0.013 [0.010]
Born in country	−0.029 [0.046]	−0.002 [0.170]	−0.094** [0.041]	−0.826*** [0.236]	−0.142* [0.083]	−0.116*** [0.035]	−0.101*** [0.030]	−0.019 [0.015]	0.008 [0.013]
Observations	4,676	10,092	4,167	5,083	4,329	4,358	9,623	3,92	6,731
Pseudo R-squared	0.20625	0.29728	0.27544	0.22724	0.24019	0.16726	0.27444	0.20286	0.22920

Source: World Bank estimation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database.

Note: EU = European Union. HH = household. Data for Germany were unavailable.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3A.2 Impact of Regulatory and Institutional Factors on Mobility in EU Countries

Dependent variable: moved in past 5 years	Rent control	Tenant protection	Transaction cost	Total credit to households (% GDP)	UI net replacement rate[a]	Property rights protection	Quality of land administration
Policy variable	−0.007 [0.001]***	−0.003 [0.001]***	−0.004 [0.001]***	0.303 [0.018]***	0.003 [0.000]***	0.005 [0.000]***	0.005 [0.001]***
Outright owner	−0.407 [0.009]***	−0.396 [0.009]***	−0.388 [0.009]***	−0.402 [0.009]***	−0.395 [0.009]***	−0.398 [0.009]***	−0.379 [0.009]***
Owner with mortgage	−0.236 [0.008]***	−0.213 [0.007]***	−0.238 [0.008]***	−0.213 [0.007]***	−0.215 [0.007]***	−0.211 [0.007]***	−0.228 [0.007]***
Tenant (reduced or free)	−0.164 [0.009]***	−0.157 [0.008]***	−0.165 [0.009]***	−0.164 [0.008]***	−0.155 [0.008]***	−0.158 [0.008]***	−0.157 [0.009]***
HH size	−0.046 [0.003]***	−0.044 [0.003]***	−0.045 [0.003]***	−0.045 [0.003]***	−0.045 [0.003]***	−0.045 [0.003]***	−0.045 [0.003]***
Age: 35–44	−0.225 [0.007]***	−0.216 [0.007]***	−0.225 [0.007]***	−0.215 [0.007]***	−0.215 [0.007]***	−0.214 [0.007]***	−0.221 [0.007]***
Age: 45–54	−0.362 [0.009]***	−0.343 [0.009]***	−0.371 [0.009]***	−0.340 [0.009]***	−0.342 [0.009]***	−0.340 [0.009]***	−0.363 [0.009]***
Age: 55–64	−0.440 [0.011]***	−0.415 [0.011]***	−0.462 [0.011]***	−0.409 [0.011]***	−0.413 [0.011]***	−0.410 [0.011]***	−0.453 [0.011]***
Male	0.008 [0.006]	0.007 [0.005]	0.010 [0.006]*	0.005 [0.005]	0.006 [0.005]	0.005 [0.005]	0.008 [0.006]
Married/in union	0.099 [0.010]***	0.094 [0.009]***	0.103 [0.010]***	0.090 [0.009]***	0.093 [0.009]***	0.091 [0.009]***	0.102 [0.010]***
Separated/divorced/ widowed	0.117 [0.010]***	0.113 [0.010]***	0.118 [0.010]***	0.110 [0.010]***	0.112 [0.010]***	0.110 [0.010]***	0.118 [0.010]***
Employed	0.008 [0.007]	0.000 [0.007]	0.002 [0.007]	0.003 [0.007]	0.006 [0.007]	0.004 [0.007]	0.003 [0.007]
Education: Lower secondary or less	−0.154 [0.008]***	−0.165 [0.008]***	−0.131 [0.008]***	−0.164 [0.008]***	−0.160 [0.008]***	−0.162 [0.008]***	−0.130 [0.008]***
Education: Upper secondary	−0.075 [0.006]***	−0.082 [0.006]***	−0.074 [0.006]***	−0.079 [0.006]***	−0.077 [0.006]***	−0.079 [0.006]***	−0.072 [0.006]***
First quintile	0.016 [0.010]	0.020 [0.010]**	0.005 [0.010]	0.023 [0.010]**	0.021 [0.010]**	0.023 [0.010]**	0.006 [0.010]
Second quintile	0.006 [0.009]	0.010 [0.009]	−0.004 [0.010]	0.012 [0.009]	0.011 [0.009]	0.012 [0.009]	−0.003 [0.009]
Third quintile	−0.013 [0.008]	−0.009 [0.008]	−0.021 [0.009]**	−0.007 [0.008]	−0.008 [0.008]	−0.007 [0.008]	−0.020 [0.008]**
Fourth quintile	−0.015 [0.008]*	−0.012 [0.008]	−0.021 [0.008]***	−0.010 [0.007]	−0.011 [0.008]	−0.011 [0.008]	−0.021 [0.008]***
Born in country	−0.032 [0.010]***	−0.028 [0.009]***	−0.040 [0.010]***	−0.027 [0.009]***	−0.026 [0.009]***	−0.026 [0.009]***	−0.040 [0.010]***
New EU MS[b]	−0.059 [0.008]***	−0.139 [0.007]***	−0.065 [0.007]***	−0.146 [0.007]***	−0.173 [0.008]***	−0.166 [0.008]***	−0.137 [0.007]***
Observations	128,965	128,965	128,965	128,965	128,965	128,965	128,965
Pseudo R-squared	0.25614	0.25039	0.26382	0.25032	0.25039	0.24978	0.26201

Source: World Bank estimation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 database and policy variables collected from sources described in the "Data Sources" subsection of chapter 3.

Note: EU = European Union. EU MS = EU member state. HH = household. UI = unemployment insurance.

a. The UI net replacement rate refers to benefits for a single person with social assistance who has been unemployed for five years.

b. New EU member states include the 13 countries that joined since 2004: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic, and Slovenia.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3A.3 Impact of Regulatory and Institutional Factors on Residential Mobility of Young and Old Age Groups, EU Countries

Dependent variable: moved in past 5 years	Rent control	Tenant protection	Transaction cost	Total credit to households (% GDP)	UI net replacement rate[a]	Property rights protection	Quality of land administration
Policy variable	−0.004 [0.001]***	−0.002 [0.001]**	−0.005 [0.001]***	0.319 [0.019]***	0.004 [0.000]***	0.006 [0.000]***	0.006 [0.001]***
Policy variable * Old	−0.007 [0.002]***	−0.002 [0.001]*	0.002 [0.001]*	−0.065 [0.023]***	−0.002 [0.000]***	−0.002 [0.000]***	−0.003 [0.001]***
Old (> 45 years)	−0.201 [0.016]***	−0.224 [0.019]***	−0.277 [0.015]***	−0.209 [0.013]***	−0.170 [0.010]***	−0.082 [0.022]***	−0.179 [0.028]***
Outright owner	−0.460 [0.014]***	−0.455 [0.014]***	−0.446 [0.014]***	−0.414 [0.014]***	−0.391 [0.014]***	−0.382 [0.014]***	−0.447 [0.014]***
Owner with mortgage	−0.242 [0.010]***	−0.240 [0.010]***	−0.239 [0.010]***	−0.239 [0.010]***	−0.232 [0.010]***	−0.233 [0.010]***	−0.238 [0.010]***
Tenant (reduced or free)	−0.177 [0.010]***	−0.170 [0.010]***	−0.164 [0.010]***	−0.157 [0.010]***	−0.150 [0.010]***	−0.152 [0.010]***	−0.167 [0.010]***
HH size	−0.058 [0.003]***	−0.058 [0.003]***	−0.057 [0.003]***	−0.053 [0.002]***	−0.052 [0.002]***	−0.050 [0.002]***	−0.056 [0.003]***
Male	−0.001 [0.006]	−0.002 [0.006]	−0.001 [0.006]	0.001 [0.005]	0.002 [0.005]	0.003 [0.005]	0.001 [0.006]
Married/in union	0.088 [0.008]***	0.088 [0.008]***	0.089 [0.008]***	0.086 [0.007]***	0.089 [0.007]***	0.087 [0.007]***	0.090 [0.008]***
Separated/divorced/ widowed	0.072 [0.009]***	0.072 [0.009]***	0.072 [0.009]***	0.069 [0.008]***	0.071 [0.008]***	0.068 [0.008]***	0.073 [0.009]***
Employed	0.014 [0.007]**	0.015 [0.007]**	0.018 [0.007]***	0.021 [0.006]***	0.018 [0.006]***	0.018 [0.006]***	0.013 [0.007]**
Education: Lower secondary or less	−0.190 [0.010]***	−0.188 [0.010]***	−0.184 [0.010]***	−0.162 [0.010]***	−0.139 [0.009]***	−0.137 [0.009]***	−0.188 [0.010]***
Education: Upper secondary	−0.091 [0.007]***	−0.091 [0.007]***	−0.090 [0.007]***	−0.078 [0.007]***	−0.075 [0.007]***	−0.074 [0.006]***	−0.093 [0.007]***
First quintile	0.039 [0.010]***	0.039 [0.010]***	0.039 [0.010]***	0.031 [0.009]***	0.020 [0.009]**	0.019 [0.009]**	0.037 [0.010]***
Second quintile	0.021 [0.009]**	0.021 [0.009]**	0.021 [0.009]**	0.015 [0.009]*	0.005 [0.009]	0.005 [0.009]	0.020 [0.009]**
Third quintile	−0.001 [0.008]	−0.001 [0.008]	−0.000 [0.008]	−0.005 [0.008]	−0.012 [0.008]	−0.012 [0.008]	−0.002 [0.008]
Fourth quintile	−0.005 [0.008]	−0.005 [0.008]	−0.004 [0.008]	−0.008 [0.008]	−0.013 [0.008]*	−0.013 [0.007]*	−0.005 [0.008]
Born in country	−0.026 [0.009]***	−0.025 [0.009]***	−0.023 [0.009]**	−0.025 [0.009]***	−0.035 [0.009]***	−0.031 [0.009]***	−0.026 [0.009]***
New EU MS[b]	−0.140 [0.007]***	−0.160 [0.008]***	−0.164 [0.008]***	−0.041 [0.008]***	−0.116 [0.007]***	−0.051 [0.007]***	−0.130 [0.007]***
Observations	128,965	128,965	128,965	128,965	128,965	128,965	128,965
Pseudo R-squared	0.22816	0.22737	0.22790	0.23425	0.24138	0.24305	0.22792

Source: World Bank estimation using Eurostat EU Statistics on Income and Living Conditions (EU-SILC) 2012 data and policy variables collected from sources described in the "Data Sources" section of chapter 3.

Note: EU = European Union. EU MS = EU member state. HH = household. UI = unemployment insurance. Each policy variable is interacted with a dummy that indicates whether the individual is "old" (aged 45 years or older).

a. The UI net replacement rate refers to benefits for a single person with social assistance who has been unemployed for five years.

b. New EU member states include the 13 countries that joined since 2004: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, the Slovak Republic, and Slovenia.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Chapter 4:

Housing Tax and Benefit Policies

What Is the Role of Housing Tax and Benefit Policies?

EU governments have used a variety of policies aimed at improving housing affordability, promoting homeownership, and protecting the most vulnerable from homelessness. The literature on housing distinguishes between supply- and demand-side interventions. Historically, the housing shortages many European countries faced in the wake of World Wars I and II were tackled by large government investments and building subsidies, often including the construction of public or social housing. Although the mix of policies and incentives has been varied across European Union (EU) countries, there has been a noticeable shift from supply- to demand-side policies over recent decades in northern and western EU countries, with many now spending more on housing allowances than on supply-side subsidies or building new homes. Declining housing investments have been particularly prevalent in countries with a comparatively large rental sector, including Denmark, France, the Netherlands, and Sweden (Pittini et al. 2017). In contrast, supply-side interventions and spending on housing investments have been more prevalent in eastern and southern EU countries.

Tax incentives to both suppliers and individual households have played a powerful role in the development of housing and rental markets. For instance, Finland, Greece, Italy, the Netherlands, and Sweden have in the past offered tax relief on mortgage interest in the form of deductions or credits (Matsaganis and Flevotomou 2007), while Germany has historically provided tax incentives for land owners, thus providing incentives to develop the rental market (Kemp and Kofner 2010). In contrast, Denmark, Ireland, and the United Kingdom have placed greater emphasis on cash transfers to low-income households or, in the case of present-day Ireland and Italy, tax relief for renters.

This chapter aims to assess the impact of housing-related tax and transfer policies on household disposable income. The focus is on three policy questions: What are the tax and benefit policies related to housing across EU countries? Who benefits from these tax and benefit policies? And can these policies be improved from a distributional standpoint? As a first step—and given the broad number of tax and spending interventions—a comprehensive stocktaking of housing-related tax and benefit policies across EU countries is conducted to reflect policies in place in 2017–18. Then, the European microsimulation model, EUROMOD, is used to assess the incidence of as many policies across EU member states as possible. Given data restrictions, the focus is on benefits received either as tax expenditures (tax relief in the form of tax credits and deductions) or as housing subsidies, allowances, social housing, or rental support. Throughout the analysis, emphasis is placed on whether homeowners, home buyers, or tenants benefit from existing programs.

The results show stark differences across EU member states in the mix of policies, with housing allowances being the most progressive. The stocktaking exercise identified a total of 208 programs across the 28 EU member states. The resources dedicated to each type of program vary widely, with France, Germany, Ireland, the Netherlands, and the United Kingdom dedicating more resources to housing allowances, while southern and eastern EU member states spend much more on housing development than on housing allowances. When the forgone revenue from tax credits and deductions are considered as part of the public resources invested in housing, they are often larger than all other spending combined. The evidence presented suggests that tax relief directed at homeowners and home buyers is expensive, outweighing all other spending on housing. Moreover, it is also concentrated in the top half of the income distribution, making it ineffective at ensuring housing affordability for those who need it the most. Similarly, subsidized lending programs are less likely to be progressive because these programs would favor households who are subject to credit. In contrast, housing allowances are highly progressive, particularly when directed at tenants. However, a large share of poor households in the

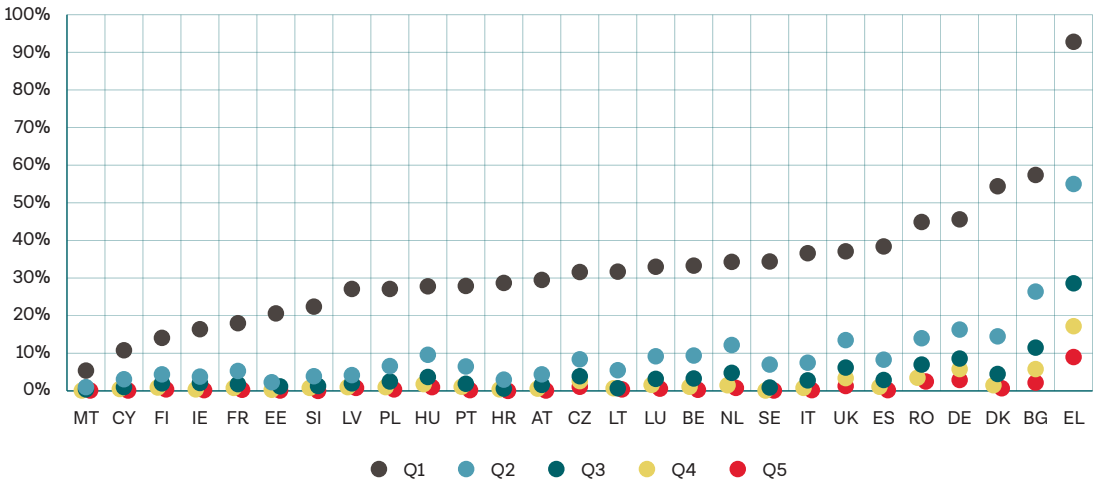
EU does not receive housing allowances. Other programs for tenants include social housing, subsidies and tax relief for housing development, and tax relief for tenants. The coverage and composition of social housing varies substantially across EU countries. Tax relief programs for tenants are found to be progressive and largely concentrated at the bottom of the distribution in Ireland (where eligibility is contingent on the rental amount), Italy, and to some extent Portugal, but not so in Luxembourg and Spain where these programs are being phased out.

The rest of the chapter is organized as follows: The next section discusses results of the stocktaking exercise. Then, programs for home buyers and homeowners (including mortgage guarantees, tax relief, and outright grants) are described in more detail along with their incidence. This is followed by a description of housing allowances and their incidence, distinguishing between benefits to owners and tenants. Next, social housing and programs for tenants (in the form of social housing, tax relief, and other types of benefits) are discussed along with their incidence. The last section summarizes and concludes.

A Stocktaking of Housing Tax Expenditure and Benefit Policies

Housing affordability is a concern in all EU member states, especially among poorer households and among tenants renting at market prices. The housing cost overburden is especially prevalent among poorer households (Figure 4.1) and tenants paying market prices in the EU (as discussed in chapter 2).[1] The bottom income quintile is two to three times more likely than the second quintile to be overburdened, and the difference is magnified when compared with the top three quintiles. It is also true that housing cost overburden is more prevalent among tenants, particularly among tenants paying rents at market prices, who in most countries face a 30 percent chance or greater of being overburdened compared with owners, whose likelihood of being overburdened is less than 10 percent.

Figure 4.1 Housing Cost Overburden Rate in EU Countries, by Disposable Income Quintile, 2016



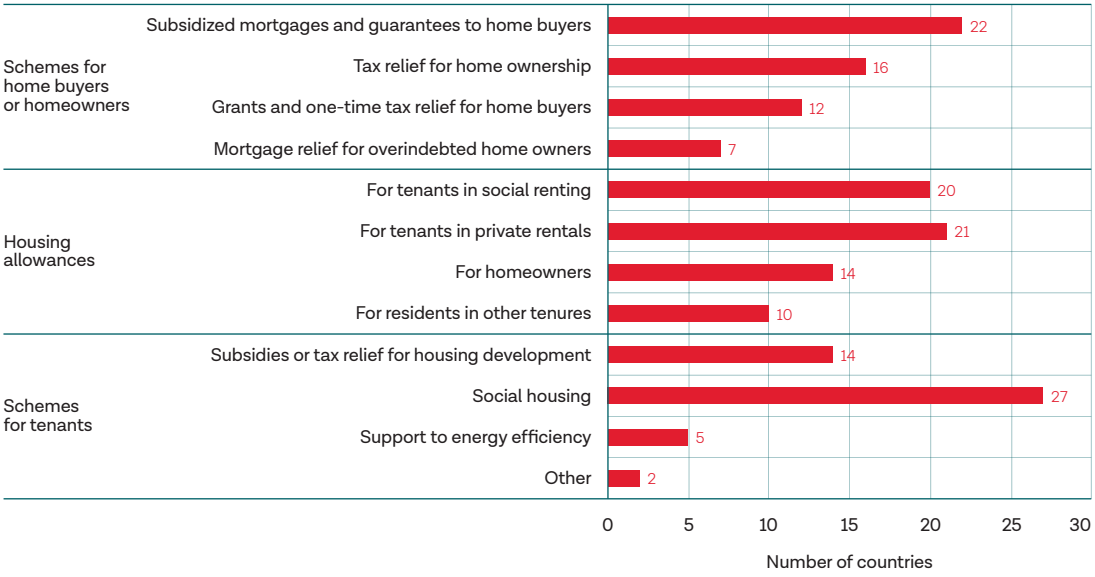
Source: Eurostat based on the EU Statistics on Income and Living Conditions (EU-SILC) survey 2016 [ilc_lvho07b].

Note: Housing cost overburden is measured as the percentage of households spending more than 40 percent of their total disposable income on housing costs. EU = European Union. Q1 is the poorest income quintile and Q5 the richest. Data were not available for the Slovak Republic.

What are the tax and benefit policies being implemented to prevent housing cost overburden? To answer this question, a stocktaking of tax and benefit policies related to housing in the EU was undertaken. This effort updated a similar exercise by the Organisation for Economic Co-operation and Development (OECD) in 2016—updating policies to 2018—and included non-OECD EU member states in the stocktaking (Salvi del Pero et al. 2016). The exercise consisted of a review of national legislation in all 28 EU member states, a review of tax policies using the International Bureau of Fiscal Documentation (IBFD) Tax Treaties database, a review of policies described in EUROMOD for 2017, and a review of earlier research undertaken by the OECD and the European Commission. This effort identified 208 programs across the 28 EU member states, as detailed in the online appendix.[2]

The stocktaking exercise identified multiple types of policies aimed at improving housing affordability in the EU. These can be roughly categorized into policies associated with three main objectives: programs for home buyers and homeowners (90 different programs across 26 countries); housing allowances in the form of cash transfers from the government aimed either at homeowners or tenants (58 programs in 28 countries); and programs for tenants, including social housing (60 different programs across 28 countries). Social housing is available in nearly all countries, followed by programs for home buyers and homeowners, and then by housing allowances for tenants (Figure 4.2).

Figure 4.2 Policies for Affordable Housing in EU Countries, 2018

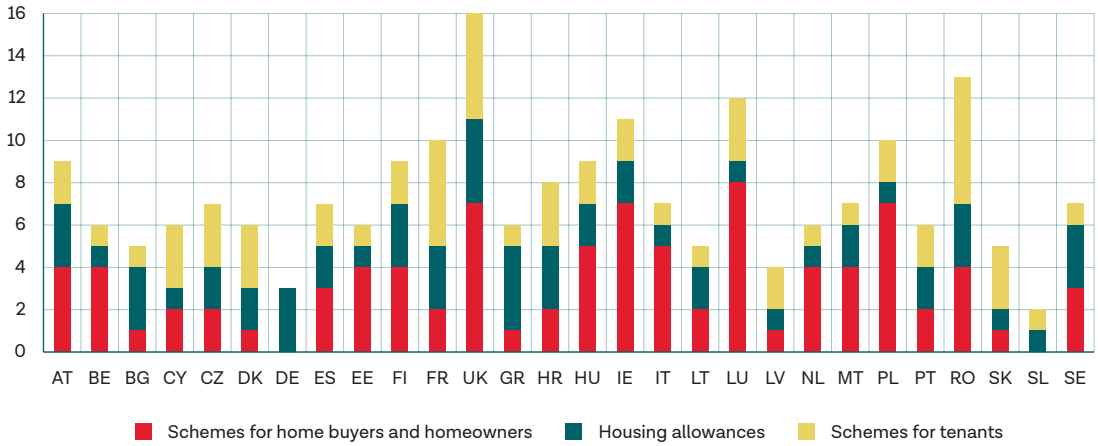


Sources: World Bank stocktaking based on national and subnational legislation data from OECD, EUROMOD, EU, and IBFD Tax Treaties databases.

Note: EU = European Union. EUROMOD = tax-benefit simulation model for the European Union. IBFD = International Bureau of Fiscal Documentation. OECD = Organisation for Economic Co-operation and Development. Figure refers to the number of countries with each type of program. Countries often have multiple programs in each category. Data not available for Estonia.

The number of programs by country varies tremendously. Most EU member states have multiple programs in each of the categories above. Although social housing is the most common across countries, the largest number of programs are those aimed homeowners and home buyers. For instance, although Romania has 3 different kinds of social housing programs, it has as many as 6 different programs for young homeowners.[3] Similarly, 5 out of 9 programs in Hungary, 7 out of 10 programs in Poland, and 7 out of 16 programs in the United Kingdom are aimed at home buyers and homeowners (Figure 4.3). However, there are some notable exceptions, such as Denmark, France, Germany, and the Slovak Republic, which have more programs providing housing allowances and housing support aimed at tenants.

Figure 4.3 Number of Housing Programs in EU Countries, by Type, 2018

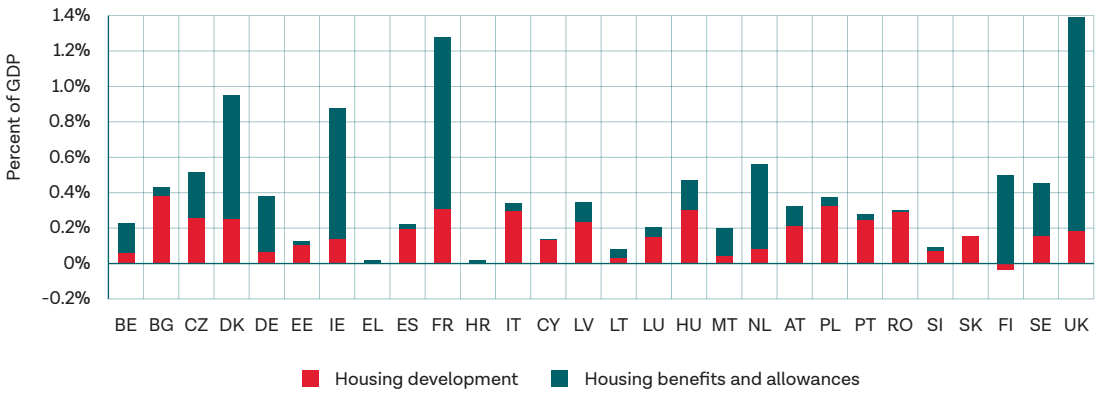


Sources: World Bank stocktaking based on national and subnational legislation data from OECD, EUROMOD, EU, and IBFD Tax Treaties databases; World Bank 2015a.

Note: EU = European Union. EUROMOD = tax-benefit simulation model for the European Union. IBFD = International Bureau of Fiscal Documentation. OECD = Organisation for Economic Co-operation and Development. Figure shows the total number of programs in each country as well as the composition by category.

EU member states have very different preferences with respect to the resources dedicated to housing development versus those dedicated to housing allowances. Although on average EU member states spend more on housing allowances, there are stark differences across countries. France, Germany, Ireland, the Netherlands, and the United Kingdom clearly prefer to dedicate resources to housing allowances while spending much less on housing development (Figure 4.4). In contrast, southern and eastern EU member states spend much more on housing development than on housing allowances. The composition of spending has become starker over time as the former set of countries have been reducing their spending on housing development in favor of housing allowances. For example, Eurostat data show that the Netherlands reduced its spending on housing development by 0.03 percent of gross domestic product (GDP) while raising household allowances by 0.13 percent of GDP between 2006 and 2016. In contrast, Bulgaria raised its spending on housing development by 0.29 percent of GDP between 2006 and 2016 while reducing housing allowances by 0.26 percent of GDP.

Figure 4.4 Composition of Spending on Housing Programs in EU Countries, 2016

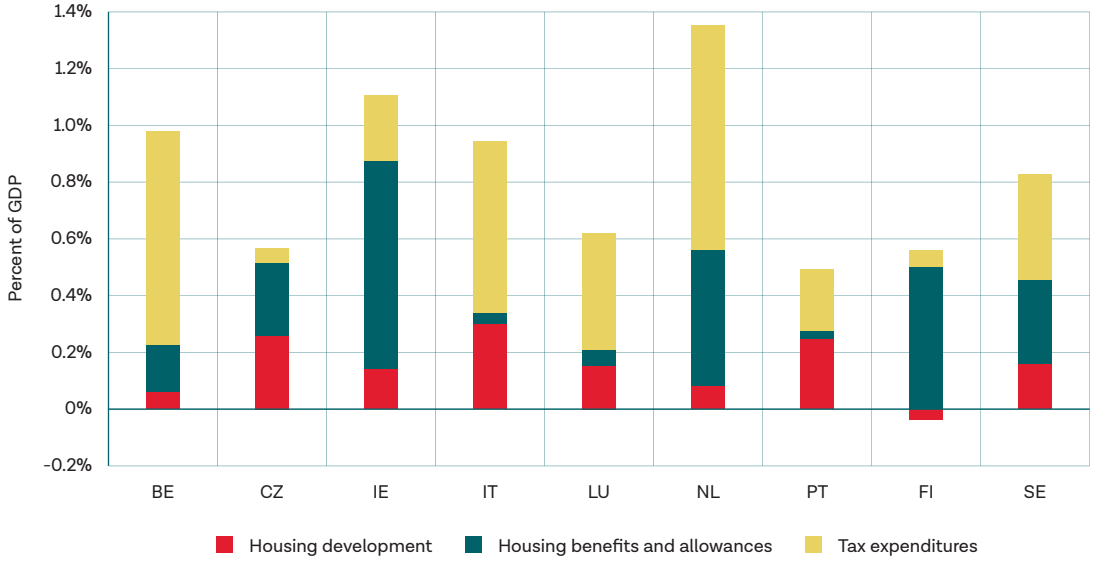


Source: Eurostat COFOG data.

Note: COFOG = general government expenditure by function. EU-28 = all 28 European Union member states.

When the forgone revenue from tax expenditures is considered as part of the public resources devoted to housing, it is often larger than all other public spending on housing combined. Using EUROMOD's microsimulation tool, it is possible to calculate the cost of tax deductions and tax credits across EU member states by simulating a counterfactual scenario without these programs. A rough estimate of the value of tax expenditures for the countries that have such programs and for which data are available suggests that their cost can be larger than the spending on housing development and housing allowances combined (Figure 4.5).[4] For instance, the cost of these tax expenditures in Belgium, Italy, Luxembourg, and the Netherlands is larger than the combined spending on housing allowances and housing development, and in fact in Belgium it is more than three times as large.

Figure 4.5 Composition of Total Spending on Housing in Selected EU Countries, 2016



Source: Eurostat COFOG data and World Bank estimates of housing-related tax expenditures using EUROMOD version H1.0+.

Note: COFOG = general government expenditure by function. EUROMOD = tax-benefit microsimulation model for the European Union (EU).

What are the distributional impacts of each of these programs? To answer this question, we use the EU-wide microsimulation model, EUROMOD, in the sections that follow. EUROMOD captures the full range of institutional features of tax and benefit systems in the EU member states. These include the appropriate income aggregate relevant for computing income-tested benefits; precise characterization of thresholds, floors, ceilings, and relevant tax rates; and specific eligibility rules, clawback rates, or income disregards used in computing benefit entitlements. Thanks to this considerable level of detail, it is possible to obtain a comprehensive picture of tax burdens and benefit entitlements. However, not all programs can be analyzed, because household surveys do not identify the beneficiaries of many programs. For instance, households who receive mortgage guarantees or mortgage relief are typically not identified and the benefit amounts received not captured. Similarly, programs aimed at housing developers, either through tax incentives or other programs, are not identified, so it is difficult to trace who the beneficiaries are. It is possible to analyze the incidence of 60 out of the 208 programs across EU member states, most of which are in the form of housing allowances and tax relief (Table 4.1). In addition, it is possible to identify the beneficiaries of social rental housing, but no information on the subsidized amounts per household is readily available. As a result, measures of social housing coverage across the income distribution are presented for all 28 EU member states, without additional information on the relative size of these benefits.

Table 4.1 EU Housing Tax and Benefit Programs Analyzed

	Number of programs	
	Total	**Incidence analysis**
	208	60
I. Schemes for home buyers / homeowners	90	17
1. Grants and one-time tax relief for home buyers	18	1
2. Subsidized mortgages and guarantees to home buyers	32	0
3. Mortgage relief for over-indebted home owners	8	0
4. Tax relief for home ownership	32	16
II. Housing Allowances	58	43
III. Schemes for tenants	60	0
Social rental housing	30	0
Subsidies/tax relief for development of affordable housing	23	0
Support to energy efficiency	5	0
Other	2	0

Source: World Bank stocktaking.

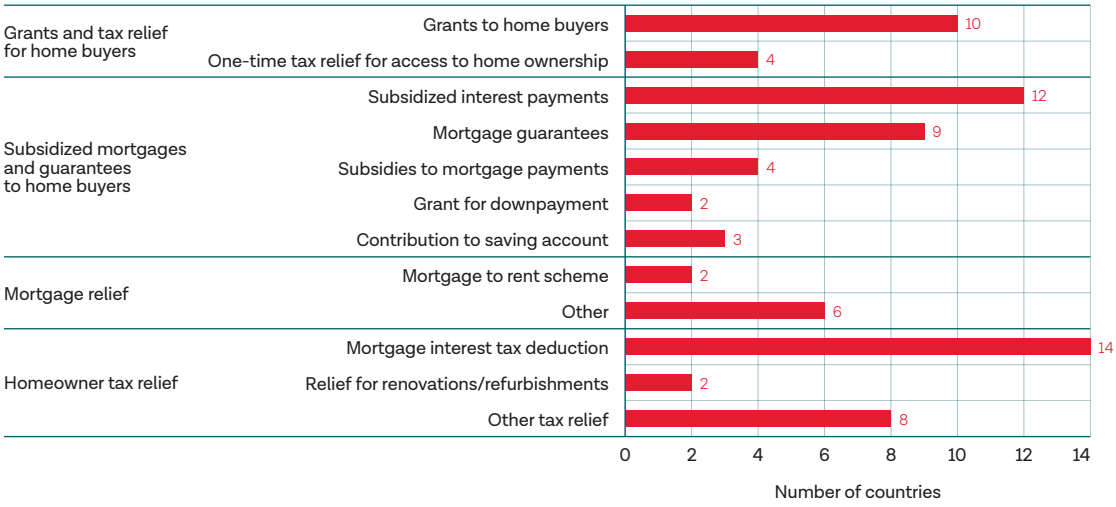
Note: Programs analyzed are based on data from EUROMOD, the tax-benefit microsimulation model for the European Union (EU). For a full list of programs, see the online appendix at http://www.worldbank.org/en/region/eca/publication/living-and-leaving.

Programs for Home Buyers and Homeowners

Programs for home buyers and homeowners are largely captured in the form of subsidized lending in the EU. Existing programs for homeowners include subsidized mortgages and guarantees, grants or tax relief for homeowners, and mortgage relief for overindebted homeowners. The most common programs for home buyers and homeowners are in the form of subsidized mortgages and guarantees, with 32 programs across 22 countries, including subsidized interest payments (12 countries) and mortgage guarantees (9 countries) (Figure 4.6). Tax relief for homeownership is also common, with 32 programs across 16 countries, of which mortgage interest tax deductions (14 countries) are the most popular. Finally, outright grants to home buyers are also made available in 10 countries.

Home buyer programs exist in nearly all EU member states, but identifying these programs and their beneficiaries in household survey data is challenging. This may be because the programs are too small to be able to obtain a large enough sample of beneficiaries, or simply because there is no way to identify beneficiaries in household surveys. For instance, none of the household surveys identifies beneficiaries in the 10 countries that provide grant programs for home buyers, the 22 countries that provide subsidized mortgages, or the 7 countries that provide mortgage relief. Therefore, it is difficult to know the coverage and incidence of these programs. Indeed, it is only possible to identify beneficiaries of tax relief programs, and even then, not in all instances. For instance, among the four countries that provide one-time tax relief for home buyers, only Belgium's (Abattement) can be identified. For countries

Figure 4.6 Number of EU Countries with Programs for Home Buyers and Homeowners, 2018



Source: World Bank stocktaking based on national and subnational legislation from OECD, EUROMOD, EU, and IBFD Tax Treaties databases.

Note: EU = European Union. EUROMOD = tax-benefit simulation model for the European Union. IBFD = International Bureau of Fiscal Documentation. OECD = Organisation for Economic Co-operation and Development.

that provide tax relief to existing homeowners, it is possible to identify beneficiaries in some but not necessarily all tax programs. For instance, although we can identify beneficiaries in the two tax relief programs for homeowners available in Belgium and Ireland, we can identify beneficiaries in only one of the three programs available in Italy. Overall, EUROMOD can identify only 16 out of 32 tax relief programs across 16 countries where they exist.[5] This highlights the fact that the incidence results of these 16 programs are only a glimpse of the overall impact of the 90 programs that distribute benefits aimed at homeowners and home buyers.

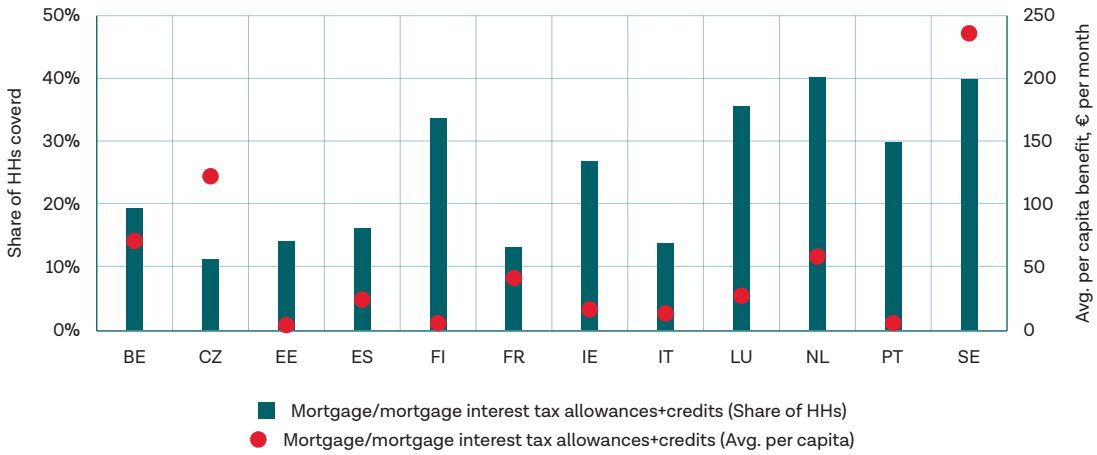
Subsidized lending is not likely to be progressive. To the extent that subsidized lending programs require beneficiaries to go through some prescreening to qualify for a loan, they are likely to be more regressive because these programs would favor households who are subject to credit. Only 9 of the 22 countries with subsidized mortgages use an income threshold to ensure that this support is targeted at the bottom of the distribution, and several require that the dwelling is new or that recipients can cover maintenance costs (as shown in the online appendix).[6]

Obtaining estimates on the cost of the existing tax relief programs for EU member states is fraught with difficulties. Although recent EU legislative measures recognize the relevance of accounting and measuring the impact of tax expenditures,[7] EU member states' practices— including methods, details, and timeliness—differ notably (Kalyva et al. 2014). Most EU countries report their tax expenditures, but the variety of approaches and definitions used makes a cross-country comparison based on these data extremely complex if not impossible using the statistics released at the national level. This chapter presents estimates based on a counterfactual benchmark tax-benefit system simulated with a microsimulation model. As Barrios et al. (2016) argue, an important advantage of microsimulation models is that they do not carry any normative implication on the benchmark tax system, yet they are able to derive the macro-fiscal impact of tax reforms through appropriate statistical weighting of the microdata used to reflect individual and household-specific characteristics. Moreover, in contrast to more-aggregated approaches, microsimulation models embed the interaction between different tax instruments and benefit entitlements.

Rough estimates of the cost of tax expenditures for homeowners emphasize that these are costly programs in EU member states, although there is considerable variation across countries. Evidence from comparing the existing tax systems with counterfactual microsimulations that remove housing tax allowances and deductions suggest that tax expenditures directed at homeowners amount to an average of 3 percent of tax revenue from income and property taxes, equivalent to 0.4 percent of GDP. The total cost of these programs ranges from 0.5 percent of income tax revenue (0.06 percent of GDP) in Finland to 6 percent of tax revenue (0.8 percent of GDP) in Belgium. However, there is quite a bit of heterogeneity across instruments. Housing tax credits in Italy represent 3.6 percent of revenue (0.4 percent of GDP) while mortgage interest deductions are only 0.9 percent of revenue (0.1 percent of GDP). Belgium has no housing tax credits and instead provides tax allowances and mortgage interest tax deductions representing 6 percent of income tax revenues (0.8 percent of GDP). In the Netherlands, where imputed rent allowances and mortgage interest allowances are considered jointly, this share stands at 11 percent of revenues (0.8 percent of GDP). These results are in line with earlier simulations using EUROMOD (Barrios et al. 2016).[8]

The coverage and benefit level of tax relief programs aimed at assisting home buyers and homeowners vary across EU member states. The share of households who enjoy this type of tax relief ranges from a low of 11 percent in the case of the Czech Republic's mortgage interest tax deduction scheme to a high of 40 percent in the case of Sweden. The average benefit level (amounts of tax burden saved per capita) varies tremendously: from around €1 per month in Estonia, Finland, and Portugal to just under €250 per month in Sweden (Figure 4.7).

Figure 4.7 Tax-Relief Coverage and Benefit Level for Home Buyers and Homeowners, Selected EU Countries, 2017



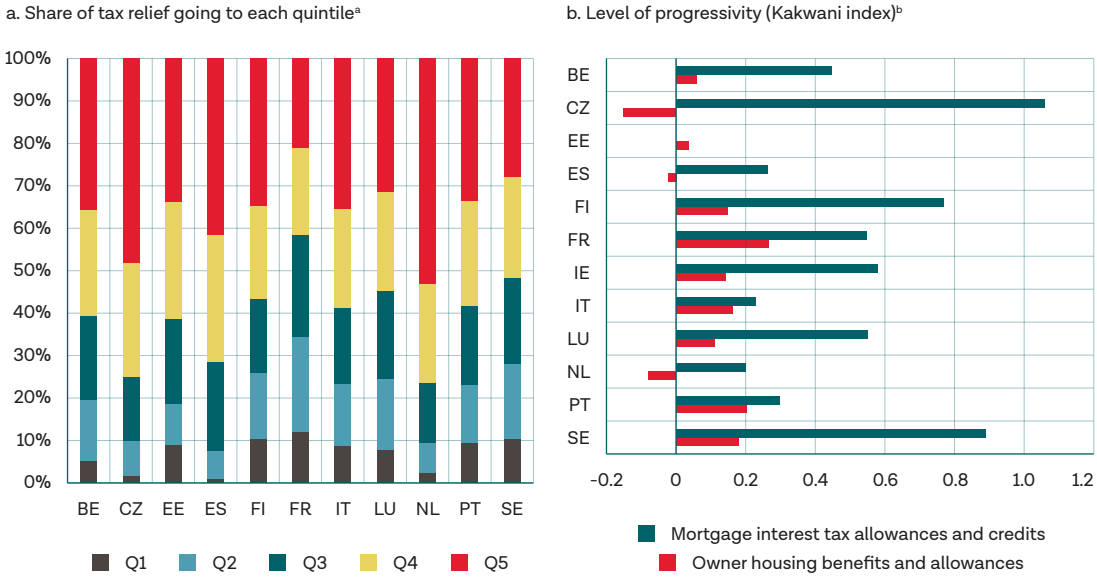
Source: World Bank estimates using EUROMOD version H1.0+

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). HHs = households. "Mortgage and mortgage interest tax allowances + credits" refers to mortgage interest tax allowances, mortgage interest tax credits, and mortgage tax credits. The total is considered, though in practice only one country has more than one of these programs. For a full description of each program, see the online appendix available at http://www.worldbank.org/en/region/eca/publication/living-and-leaving.

Because the benefits of tax relief for homeowners are concentrated in the top half of the income distribution, they are ineffective at reducing inequality and not particularly progressive. Subsidized lending programs, in the form of mortgage tax relief and mortgage interest tax relief, are simulated in EUROMOD in the form of tax allowances or credits. The key result from the incidence analysis is that nearly two-thirds of all benefits go to the top two quintiles of the income distribution, whereas only

around 25 percent goes to the bottom two quintiles (Figure 4.8, panel a). In fact, less than 30 percent of all beneficiary households in these countries come from the bottom 40 percent of the distribution. Not surprisingly, the Kakwani index[9] is relatively low in all cases, highlighting that these programs are not particularly progressive and in some instances turn regressive, particularly when compared with other programs such as housing allowances aimed at homeowners (Figure 4.8, panel b). These results are in line with the literature, which notes that wealthier households are less likely than poorer households to face liquidity or credit constraints to purchasing and maintaining a dwelling (Matsaganis and Flevotomou 2007). As such, and despite the fact that most mortgage interest tax relief is capped at some maximum, the distributional impact of subsidized lending is typically captured by better-off households because (a) access to these benefits is a function of creditworthiness, which tends to discriminate against lower-income households with little to no credit history (and insufficient resources for a down payment); and (b) wealthier households own more valuable property and qualify for larger mortgages, and thus they can deduct substantially more on average than poorer households and can lower their tax burden (in absolute terms) more noticeably.

Figure 4.8 Concentration and Progressivity of Mortgage Interest Tax Relief, Selected EU Countries, 2017



Source: World Bank estimates using EUROMOD version H1.0+

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU).

a. Quintiles are defined by market income plus pensions (before taxes and nonpension transfers), Q1 being the poorest and Q5 the richest.

b. The Kakwani index is defined as the difference between the Gini coefficient for market income and the concentration coefficient of the tax relief (Kakwani 1993).

Beyond the distributional impacts of mortgage-related tax relief, the empirical literature finds that tax expenditures do not actually increase homeownership. Tax relief for homeowners is generally motivated by the perceived externalities of homeownership: namely, that it gives people a stake in society and induces them to care about their neighborhoods and towns (promoting civic engagement) and to engage in long-run investments (Glaeser and Shapiro 2003). Although homeownership is positively correlated with political activism and social connection—and homeowners take better care of their properties, leading to higher values for surrounding houses—there is little causal evidence for the existence of externalities due to owning rather than renting a home. In fact, Gruber, Jensen, and

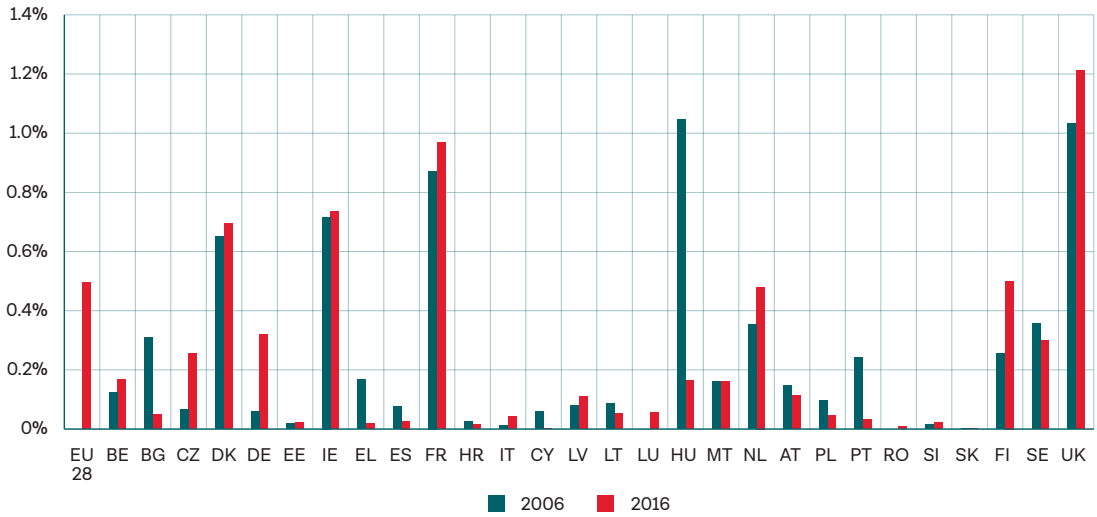
Kleven (2017) find that introducing a large and sharp reduction in the mortgage deduction for top-rate taxpayers, while reducing it much less or not at all for lower-rate taxpayers, had no effect on homeownership. Focusing on the late-1980s tax reform implemented in Denmark, the study finds that the mortgage deduction had a precisely estimated zero effect on homeownership, with this result holding even in the very long run. The study also finds that the mortgage deduction had a sizable impact on housing demand at the intensive margin (inducing homeowners to buy larger and more expensive houses) and that the largest effect of the mortgage deduction was on household financial decisions, inducing households to increase indebtedness. These findings raise serious doubts about the desirability of mortgage deductions, particularly if they are not targeted to low-income households, even in the presence of positive externalities from homeownership.

Housing Allowances

Housing allowances are also widespread in the region. There are 58 housing benefit and allowance programs in the 28 EU member states. Often these allowances (which can be dependent or independent of tenure status) are means-tested, benefiting low-income homeowners and tenants by design. However, they can also be categorical: aside from general housing allowances, some programs are targeted to specific groups throughout the region (for example, students, pregnant women, pensioners, and so on). All EU member states currently have some form of housing allowance.[10] In addition, several countries also provide heating and utility benefits.

On average, EU member states are spending more on housing allowances than in the past, but there are stark differences across countries. Housing allowances amount to 0.5 percent of GDP on average across EU member states, ranging from no spending in Cyprus and the Slovak Republic to 1.2 percent of GDP in the United Kingdom (Figure 4.9). Spending on housing allowances has been increasing over the past decade in most countries, but there are some cases (Bulgaria, Cyprus, Greece, Hungary, Portugal, Spain, and Sweden) where it has declined.

Figure 4.9 Spending on Housing Allowances as a Percentage of GDP, EU Countries, 2006 and 2016

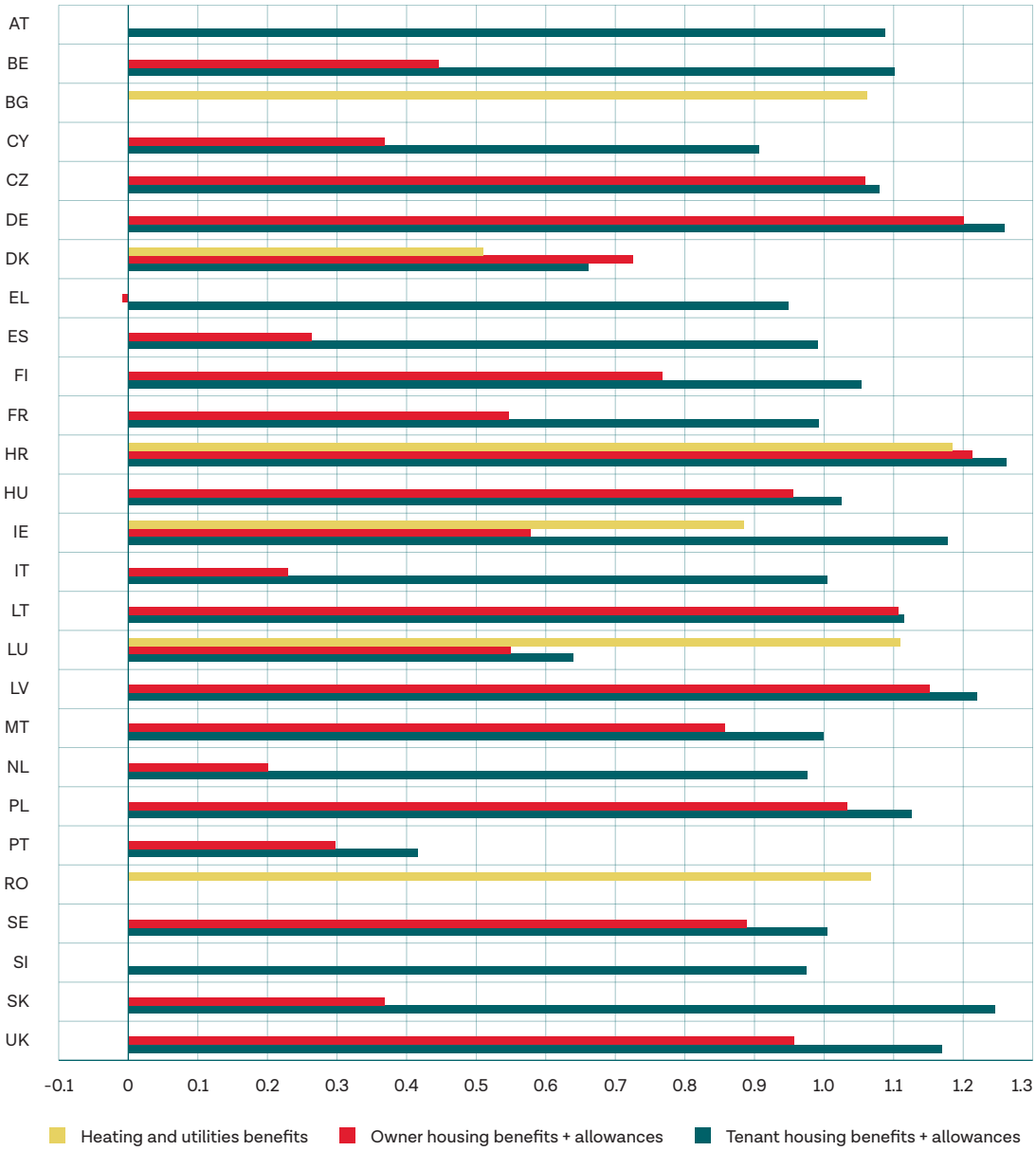


Source: Eurostat data.

Note: EU-28 = all 28 European Union member states.

Housing allowances[11] are highly progressive—and more so than all other housing policies. The progressivity of these policies can be observed with the Kakwani index, which is close to or greater than 1 in most countries, indicating that these programs are not only progressive (in the sense that they make up a high share of the budgets of the poor) but also are pro-poor (in the sense that most of the benefits are concentrated at the bottom of the distribution) (Figure 4.10). In most EU member states, housing allowances directed at tenants are more progressive than those directed at homeowners.

Figure 4.10 Incidence of Housing Allowances in EU Countries, 2017 (Kakwani index)

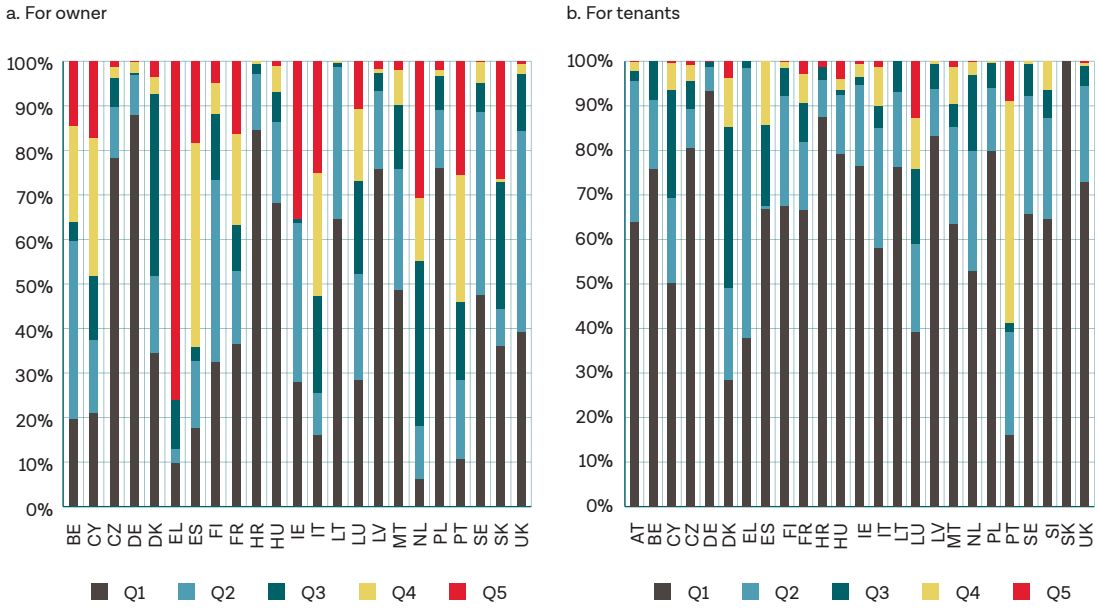


Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). The Kakwani index is defined as the difference between the Gini coefficient for market income and the concentration coefficient of the tax relief (Kakwani 1993). Data are not available for Estonia.

Housing allowances are concentrated at the bottom of the distribution. The concentration of housing allowances is varied, surpassing 90 percent of benefits going to the bottom 40 percent of the distribution in some countries (including Austria, Finland, Germany, Hungary, Ireland, Lithuania, Latvia, Poland, Slovenia, Sweden, and the United Kingdom) and as little as 43 percent and 46 percent of all benefits going to the bottom 40 percent of the distribution in Portugal and Denmark, respectively. About 85 percent of tenant beneficiary households and 60 percent of homeowner beneficiaries belong to the bottom 40 percent of the income distribution on average (Figure 4.11). However, over 90 percent of benefits directed to tenants go to the bottom 40 percent of the distribution in most countries, while as little as 13 percent of benefits directed to homeowners go to the bottom 40 of the distribution in Greece. Heating and utility benefits also tend to disproportionately target poorer households and have a higher level of progressivity than housing allowances to homeowners—in some cases, twice as high (for example, in Luxembourg).

Figure 4.11 Concentration of Housing Allowances in Selected EU Countries, by Disposable Income Quintile, 2017

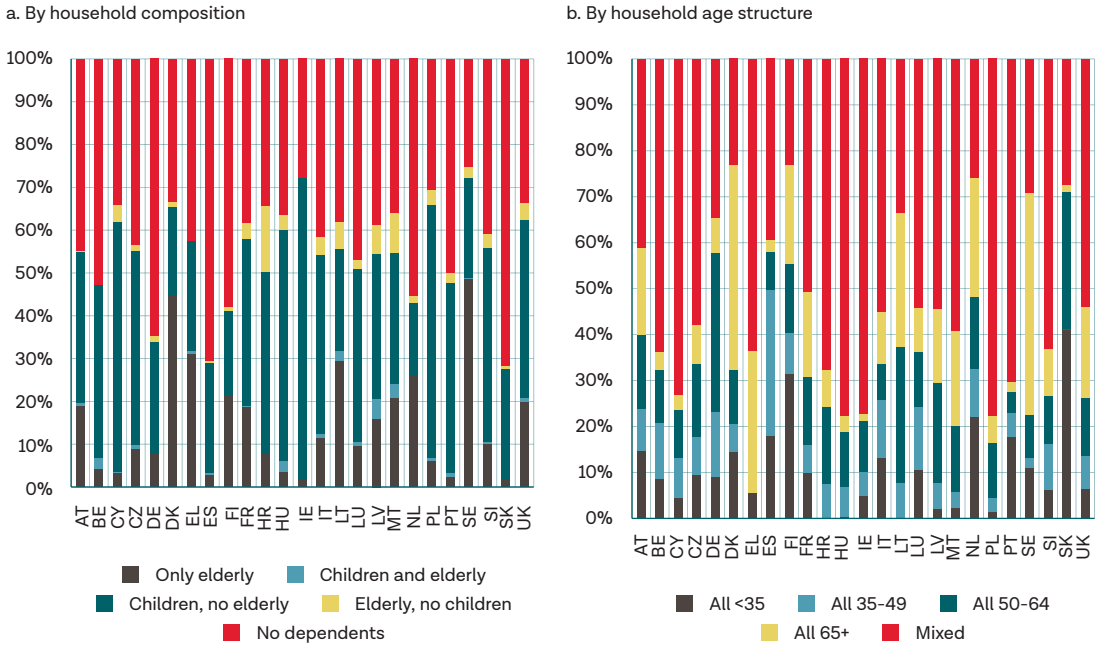


Source: World Bank estimates using EUROMOD version H1.0+

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Q1 represents the poorest income quintile and Q5 the richest. Data are unavailable for Bulgaria, Estonia, Romania, and Slovenia.

Housing allowances are concentrated in multigenerational households, often either those with no dependents or those with child dependents. On average, 46 percent of housing allowances are concentrated in multigenerational households, but there are important exceptions (Figure 4.12). For instance, 48 percent of allowances in Sweden, 45 percent in Denmark, and 31 percent in Greece go to households with only elderly members. Although, on average, 34 percent of allowances are concentrated in households with children, there is wide variation in this. For instance, while 70 percent of allowances are concentrated in households with children in Ireland, this is true for only 17 percent of allowances in the Netherlands. In fact, benefits in some countries are concentrated in households with no dependents. For instance, over 70 percent of allowances in the Slovak Republic and Spain and over 50 percent of allowances in Belgium, Denmark, Finland, the Netherlands, and Portugal are concentrated in households with no dependents.

Figure 4.12 Distribution of Housing Allowances in EU Countries, by Demographic Structure, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Data are unavailable for Bulgaria, Estonia, Romania, and Slovenia.

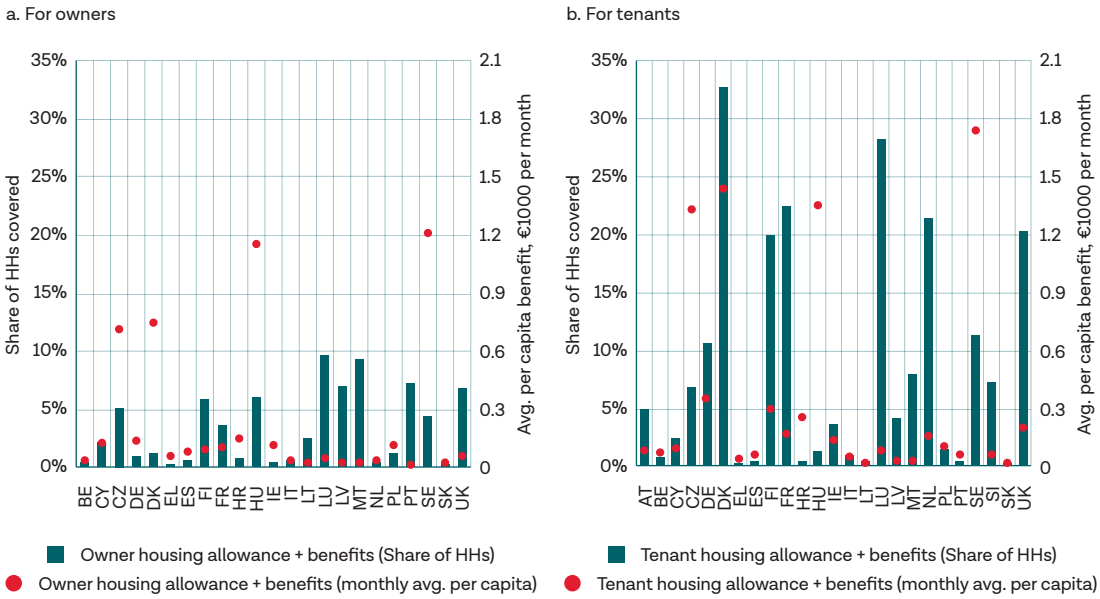
Despite the progressivity of housing allowances relative to other housing policies, coverage is relatively low. Coverage of these programs is varied across countries: Coverage of housing allowances range from less than 1 percent of homeowners to as much as 9 percent in Luxembourg and Malta (Figure 4.13). Similarly, coverage ranges from less than 5 percent of tenants in most countries to more than 30 percent of tenant households in Denmark. The amounts per beneficiary are also varied, ranging from less than €10 per month in Lithuania, Malta, and Portugal to more than €1,000 per month in Hungary and Sweden for both homeowners and tenants as well as for tenants in the Czech Republic and Denmark. Heating benefits are also quite varied, reaching less than 5 percent of households in Hungary, just under one-third of households in Ireland and Romania, and up to 90 percent of all households in Denmark.

A large share of poor households in the EU does not receive housing allowances. Less than half of the poorest quintile receives housing allowances in all but 10 EU member states (Figure 4.14), with Cyprus, Estonia, Lithuania, Poland, the Slovak Republic, and Spain covering only 7 percent of the poorest quintile. In contrast, Denmark and Luxembourg cover as much as 90 percent of households in the bottom quintile. In addition, even though these allowances are typically targeted, there are large leakages in some cases. For instance, 66 percent of top-quintile households receive allowances in Belgium, 72 percent in Denmark, 91 percent in Italy, and 54 percent in Portugal.

Given the low progressivity and high cost of homeowner tax relief, two simulations redistributing the existing tax expenditures to the bottom 40 percent of the distribution through cash transfers were conducted. In both cases, homeowner tax relief is eliminated from all households at the stage of calculating taxable income (for deductions) and tax burden (for credits). The additional revenue is then used to provide housing transfers targeted to the bottom 40 percent of the income distribution. The first simulation spreads the additional tax revenue to ensure full coverage of the bottom 40 percent.

The second simulation redistributes the additional revenue by randomly allocating a housing benefit to as many households in the bottom 40 percent as possible, with the benefit amount being equal to the average housing benefit among the originally covered bottom 40.

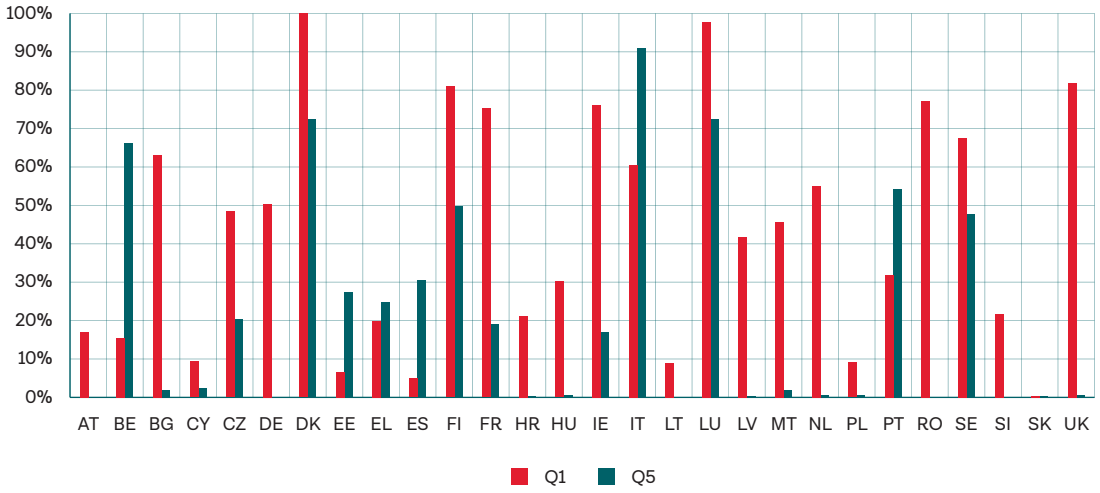
Figure 4.13 Coverage of Housing Allowances in EU Countries, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). HHs = households.

Figure 4.14 Share of Households Receiving Housing Allowances in EU Countries, by Poorest and Richest Income Quintile, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Q1 is the poorest income quintile and Q5 the richest.

The results find that replacing tax expenditures with targeted transfers would increase the coverage of targeted benefits dramatically among the bottom two quintiles but would have no noticeable effect on poverty or inequality. In Simulation 1, which redistributes homeowner tax relief to achieve full coverage among the bottom 40 percent of the income distribution, coverage among the bottom 40 becomes universal (by construction) (Figure 4.15, panel a). However, given the initially low coverage in most countries, the average benefit amount is reduced in some cases (Figure 4.15, panel b). Poverty (using a US$21.70 purchasing power parity [PPP] per day line for high-income countries) is reduced by less than 0.1 percentage points in all countries except for Luxembourg, where the decline is 1 percentage point (Figure 4.15, panel c). The Gini coefficient of inequality is reduced in most cases but by a negligible amount (Figure 4.15, panel d). In Simulation 2, coverage is not universal, but it increases substantially in most cases. The average benefit per capita is either the same as the baseline or slightly higher, and poverty and inequality decrease but by negligible amounts.

Figure 4.15 Simulated Redistribution of Homeowner Subsidies as Housing Allowances, Selected EU Countries, 2018

Source: World Bank estimates based on EUROMOD.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Q1 is the poorest income quintile and Q5 the richest. HHs = households. p.p. = percentage points. Simulation before redistribution refers to the scenario after homeowner subsidies are removed but before these are redistributed as housing allowances. "Simulation 1" refers to the equal redistribution of housing allowances to all the uncovered bottom 40 percent of the income distribution (B40). "Simulation 2" refers to the random redistribution of housing allowances to the uncovered B40 in the amount of the average to the covered B40.

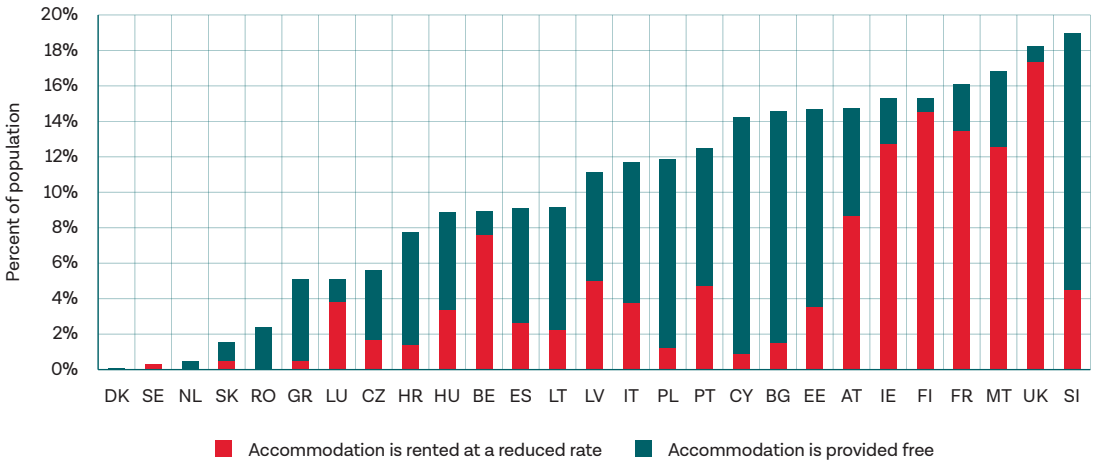
Social Housing and Other Programs for Tenants

Programs for tenants are less common and usually take the form of subsidies and tax relief for home developers. The stocktaking exercise identified 60 programs for tenants across 27 EU countries. Of these, there were 23 programs across 14 countries providing subsidies or tax relief to housing developers to incentivize them to build affordable housing, 30 social rental housing programs across 27 countries, and 5 programs aimed at supporting energy efficiency. Unfortunately, subsidies or other forms of tax relief aimed at developers rather than households are not easy to quantify or assign to beneficiary households.

Social Housing

Social housing includes reduced or free rent, with its coverage and composition varying substantially across countries. Social and affordable housing providers offer rents significantly lower than the market. For example, rents in social housing are about 60 percent of market rents in France and the United Kingdom. The coverage of social housing (free or subsidized housing) is around 10 percent on average in the EU, with shares ranging from less than 1 percent (in Denmark, the Netherlands, and Sweden) to 19 percent in Slovenia, mostly in the form of free housing (Figure 4.16). However, this low coverage reflects limited funding, as the social housing sector is under pressure to respond to increasing demand. The number of households on waiting lists for social housing has been increasing. For instance, in France the number of people registered increased from about 1.2 million in 2010 to about 1.9 million in 2016. In Ireland the number almost doubled between 2008 and 2010, and it's currently over 96,000 (Pittini et al. 2017).

Figure 4.16 Coverage of Social Housing in EU Countries, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

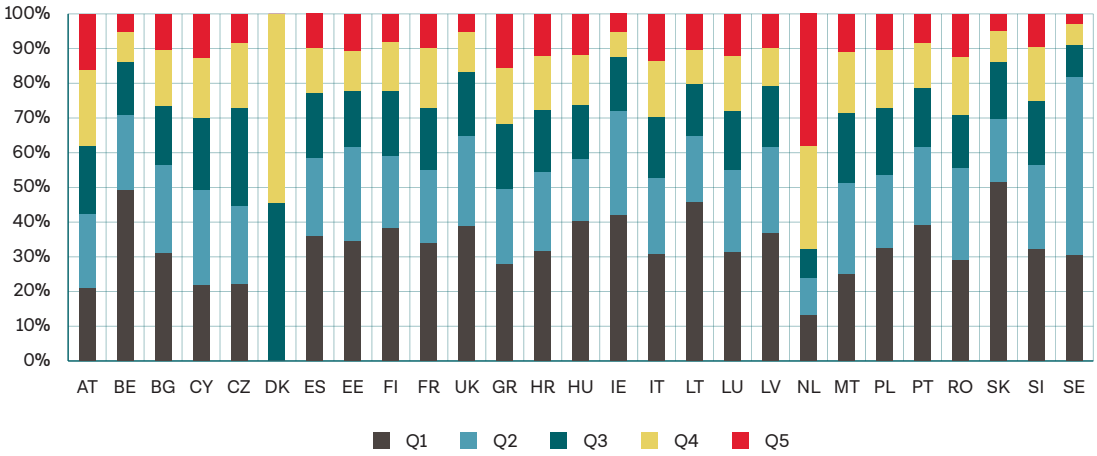
Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Data for Germany are not available.

The supply of new social housing has been declining. Social housing construction played a countercyclical role in the aftermath of the crisis in Austria, Belgium, France, and the United Kingdom, because these countries increased the yearly production of new homes between 2005 and 2015 (Pittini et al. 2017). However, in most cases the new supply of social housing has been affected by budget cuts: for instance, the production of public housing in Italy between 2005 and 2014 almost halved (to 4,600 units),

in Spain it declined from more than 15,000 to 2,500 units, and in Ireland it fell from 1,300 to 350 units over the same period (Housing Europe 2015). In general, with few exceptions, social housing providers have increasingly had to rely on private finance. Even in EU member states with a relatively large share of social housing, there is a trend toward focusing on lower-income households, either through regulatory changes (as in the Netherlands) or de facto as the sector tends to house increasingly poor households (as in France) (Pittini et al. 2017).

As a result, the overwhelming share of social housing allowances goes to poorer households in the EU, although there are some exceptions. Coverage of social housing is substantially higher among the bottom 40 percent of households in the income distribution than in the top 60 percent in some countries (Belgium, Ireland, and the United Kingdom, for example), while in other countries this type of benefit reaches a non-negligible share of households in the top of the distribution (Figure 4.17). One extreme example is the Netherlands, where 76 percent of social housing beneficiaries belong to the top three quintiles (38 percent belong to the top 20 percent). Austria, the Czech Republic, and Greece also display a substantial share of beneficiaries from the top three quintiles. Unfortunately, it is difficult to quantify the size of the benefit of social rental housing because it is frequently provided on an in-kind basis and therefore difficult to impute its monetary value.

Figure 4.17 Social Housing Coverage in EU Countries, by Household Income Quintile, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

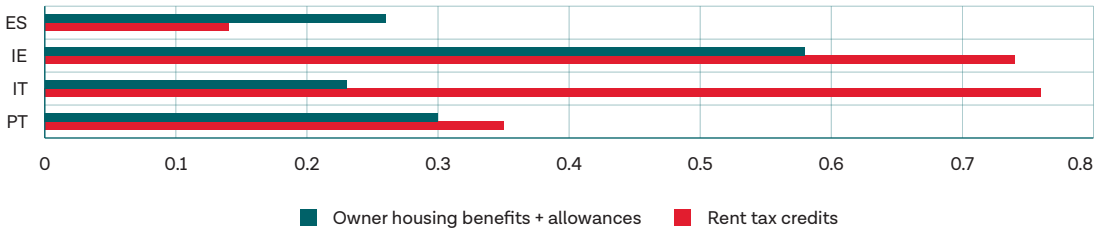
Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). Q1 is the poorest income quintile and Q5 the richest. Data for Germany are not available.

Some critics have noted that increased targeting of social housing toward the poor raises sustainability concerns and can potentially hamper the social mix. To the extent that social housing is focused only on low-income households, some critics note that there are economic sustainability concerns for the social landlords (Poggio and Whitehead 2017). This is particularly visible where the social housing sector is small and public finances have been significantly constrained. Moreover, critics contend that it risks hampering the social mix, which in many countries is an essential part of the mission of social housing providers (Pittini et al. 2017). In fact, this concern led the Belgian region of Wallonia to recently increase income ceilings for the allocation of public housing to allow access to some middle-income households. In some cases, this has led to the emergence of an intermediate "affordable" housing segment (for example, "affordable housing" in the United Kingdom or the "housing sociale" sector in Italy). The idea is that this intermediate sector should cater to people who need affordable housing options but do not meet the standard criteria for social housing (Pittini et al. 2017).

Tax Relief for Tenants

Beyond programs for housing developers and social housing, there are other programs for tenants in the form of tax relief, though simulating them is less straightforward. Rent tax credits can be simulated in four EU member states: Ireland, Italy, Portugal, and Spain. These programs are much less costly than tax expenditures aimed at homeowners and home buyers. They amount to an average of 1.1 percent of income tax revenue, ranging from 0.08 percent of GDP in Italy to 0.13 percent of GDP in Portugal. The progressivity of these programs (measured by the Kakwani index) is similar to that of housing allowances, with the exception of Italy, suggesting that they are fairly progressive (Figure 4.18). Tax relief aimed at tenants cover 6–26 percent of households, but the size of these benefits are low—less than €15 per capita per month (Figure 4.19, panel a). The share of rent tax credit benefits going to the top three quintiles is highest in Portugal and Spain (more than 60 percent), with the same share going to the bottom two quintiles in Ireland and Italy (Figure 4.19, panel b).

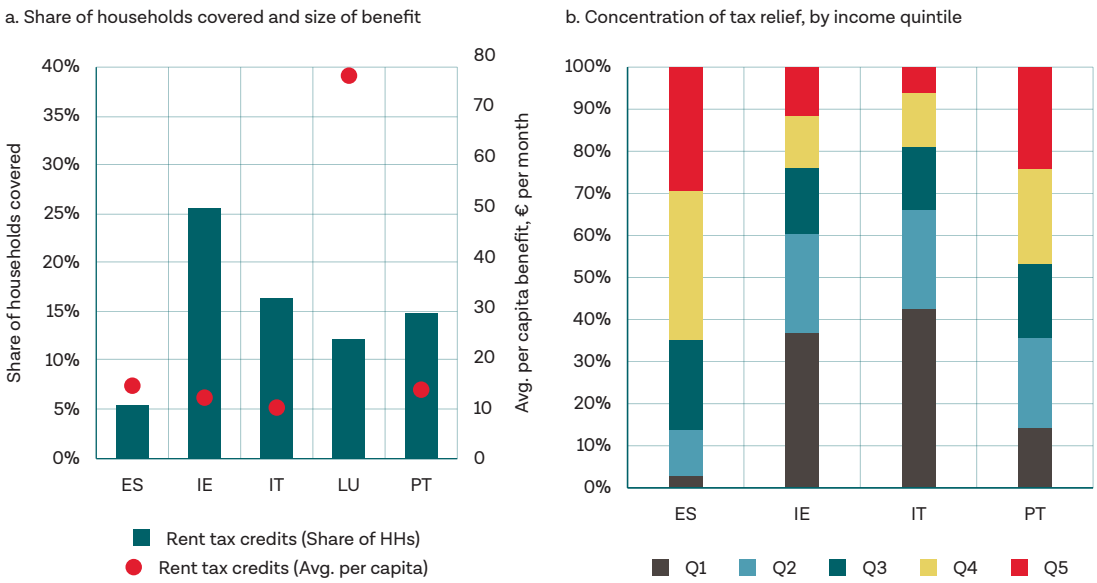
Figure 4.18 Progressivity of Tax Relief for Tenants in Selected EU Countries, 2017 (Kakwani index)



Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). The Kakwani index is defined as the difference between the Gini coefficient for market income and the concentration coefficient of the tax relief (Kakwani 1993).

Figure 4.19 Tax Relief for Tenants in Selected EU Countries, 2017



Source: World Bank estimates using EUROMOD version H1.0+.

Note: EUROMOD is the tax-benefit microsimulation model for the European Union (EU). HHs = households. Q1 is the poorest income quintile and Q5 the richest.

Summary and Policy Implications

Housing affordability is a concern in all EU member states, and it is especially important among tenants who are renting at market prices. The housing cost overburden is especially prevalent among poorer households. The bottom quintile is between two and three times more likely to be overburdened relative to the second quintile, and the difference is magnified when compared with the top three quintiles. Housing cost overburden is also more prevalent among tenants, particularly among those paying rents at market prices. Tenants in most EU member states face a 30 percent chance or greater of being overburdened by housing costs than homeowners, whose likelihood of being overburdened is less than 10 percent.

Most EU member states have multiple programs, with programs for home buyers and homeowners being the most prevalent, but the resources assigned to different programs are strikingly different across countries. A stocktaking exercise identified a total of 208 programs across the 28 EU member states. Programs can be roughly categorized into programs for home buyers and homeowners, housing allowances, and programs for tenants. Most EU member states have social housing programs, followed by programs aimed at home buyers and homeowners, including various forms of tax relief and subsidized mortgages. However, the resources dedicated to each type of program vary widely, with France, Germany, Ireland, the Netherlands, and the United Kingdom dedicating more resources to housing allowances, while southern and eastern EU countries spend much more on housing development.

Tax relief for home buyers and homeowners is expensive and concentrated in the top half of the distribution. The stocktaking exercise identified 90 programs across 26 EU member states focused on homeowners and home buyers. In 16 countries, this includes tax relief for homeowners, and in 12 countries it includes grants and tax relief for home buyers. The evidence presented in this chapter suggests that tax relief directed at homeowners and home buyers is expensive, outweighing all other spending on housing. Moreover, it is also concentrated in the top half of the income distribution, making it ineffective at ensuring housing affordability for those who need it the most. In addition, there is empirical literature that finds that mortgage interest deduction programs that are not targeted to low-income households do not actually increase homeownership but rather induce homeowners to buy larger and more expensive houses, shifting resources away from other more productive assets. Further, there is no causal evidence with respect to the existence of positive externalities associated to owning—as opposed to renting—a home. These findings raise serious doubts about the desirability of tax relief for home buyers and homeowners.

In contrast, housing allowances are highly progressive. About 85 percent of tenant beneficiary households and 60 percent of homeowner beneficiaries belong to the bottom 40 percent of the income distribution on average. Housing allowances are often concentrated in multigenerational households with children. However, a large share of poor households in the EU do not receive housing allowances; in fact, less than half of the poorest quintile receives housing allowances in all but 10 EU member states. Given the low progressivity and high cost of homeowner tax relief, simulations redistributing the existing tax expenditures to the bottom 40 percent of the distribution through cash transfers were conducted. The results suggest that replacing tax expenditures with targeted transfers would increase the coverage of targeted benefits dramatically among the bottom two quintiles but would have no noticeable effect on poverty or inequality.

Programs for tenants are less common and usually take the form of subsidies and tax relief for home developers. The stocktaking exercise identified 60 different programs for tenants across 27 EU member states. In 14 countries these include subsidies and tax relief for housing development, and in 27 countries they included social housing. The coverage and composition of social housing varies substantially

across EU countries. Reduced funding for these programs has led to greater focus on targeting poorer households. However, there are some important exceptions to this, with most social housing beneficiaries belonging to the top 60 percent of the distribution in the Czech Republic and the Netherlands. Beyond programs for housing developers and social housing, there are other programs for tenants in the form of tax relief, which are found to be progressive and largely concentrated at the bottom of the distribution in Ireland and Italy, but not so in Portugal and Spain.

The evidence suggests that there is scope to improve the distributional impact of tax and benefit policies. First, tax relief to homeowners and home buyers could be downsized in favor of policies that are neutral to different kinds of tenure. Similarly, to the extent that subsidized lending programs require beneficiaries to go through some prescreening to qualify for a loan, they are likely to be more regressive, because these programs would favor households who are subject to credit. The most progressive policy across EU member states involves housing allowances, which are targeted to the bottom of the distribution. A move away from tax and benefit policies that incentivize homeownership toward housing benefits that are portable and based on income would also go a long way in supporting mobility. Moreover, given the low coverage of housing allowances, this would go a long way toward helping the bottom of the distribution to obtain affordable housing. In addition, governments could consider providing housing or rent subsidies for targeted groups, such as the young who are more likely to move, potentially making benefits conditional on job search responsibilities.

Notes:

[1] Housing cost overburden is measured as the percentage of households spending more than 40 percent of their total disposable income on housing costs.

[2] The results of the stocktaking exercise are available at http://www.worldbank.org/en/region/eca/publication/living-and-leaving.

[3] Romania has a social housing program meant for families who cannot otherwise afford to buy or rent housing, a special program for evicted tenants following restitution to the initial owners, and a social housing program aimed at the Roma community. At the same time, there are programs to grant public land to the youth, subsidized lending and savings (Bauspar) programs, and mortgage guarantees (Prima Casa program) (World Bank 2015a).

[4] These estimates use the proportion of the simulated forgone revenue relative to tax collections on income and property observed in the household survey and apply that ratio to actual tax collections reported by Eurostat.

[5] Note that, in the case of the Netherlands, it is difficult to disentangle the mortgage interest deduction because it depends on imputed rent taxation. We include it here with the caveat that simulating changes due to the mortgage interest allowance also removes the imputed rent allowance. In the case of Poland, mortgage interest deductions are one of three available programs, but they are being phased out in a way that makes their identification less straightforward. Finally, although Lithuania has a mortgage interest allowance in the tax code that is simulated in EUROMOD for 2017, the share of households that benefit is less than 3 percent, and the amounts are less than €1 on average, so we have excluded Lithuania altogether.

[6] For the online appendix, see http://www.worldbank.org/en/region/eca/publication/living-and-leaving.

[7] See EU "Council Directive 2011/85/EU of 8 November 2011 on Requirements for Budgetary Frameworks of the Member States," of which Article 14.2 notes that EU "Member States shall publish detailed information on the impact of tax expenditures on revenues."

[8] International experience suggests that mortgage interest deductions are a significant subsidy to ownership in high-income countries. In the United States, the mortgage interest tax deduction was expected to amount to US$65 billion in 2017, equivalent to about 10 percent of the fiscal deficit that year (JCT 2017).

[9] The Kakwani index is defined as the difference between the Gini coefficient for market income and the concentration coefficient of the tax relief (Kakwani 1993).

[10] We cannot identify and simulate these benefits in Bulgaria, Estonia, or Romania.

[11] Most housing allowances simulated in EUROMOD do not distinguish between owners and tenants. However, input data define households as owners or tenants, and we split benefits across these two tenure statuses.

Chapter 5:

Housing Policies to Enhance Welfare

Summary of the Evidence

The evidence presented in this report shows that stricter regulatory requirements and weaker institutional environments are associated with low housing supply responsiveness and lower affordability across EU member states. Housing supply is less responsive in countries with higher regulatory and administrative burdens, such as stringent rent controls and a large number of procedures required to register property. In contrast, housing supply is more responsive in European Union (EU) member states with higher-quality land administration. In the context of increases in productivity, housing prices have grown faster than wages in some cities and agglomeration centers, making housing affordability especially problematic. It is most problematic for tenants, the young, and newcomers.

Governments can influence housing prices by simplifying regulatory requirements to allow for increases in the local housing stock. National, regional, and local governments can improve housing affordability by loosening regulatory restrictions to allow for increased residential investment. Continued monitoring and detailed, location-specific information would help to redistribute the gains from productivity growth in cities, ensuring more inclusive spaces. Such efforts would be especially important for new workers searching for opportunity in cities and poorer households who may not have the resources to buy a house. More broadly, these efforts would ensure that all citizens can live and work in the locations where they are most productive, thus enhancing individual welfare and improving overall economic growth by allocating labor to its most productive use.

Moreover, differences in residential mobility across EU member states are associated with differences in housing regulations, the strength of property rights, and the quality of land administration. Specifically, higher mobility is associated with low rent control, low tenant protection, low transaction costs, high access to housing finance, better property rights protection, and better quality of land administration. Among Central and Eastern European (CEE) countries, rental market regulations do not appear to be particularly binding for residential mobility, given that those regulations are already relatively lax, but mobility rates remain very low. However, weak protection of property rights and low quality of land administration constrain mobility because they influence the broader functioning of the market. This is an area where the required policy direction is unambiguous, and Bulgaria, Romania, Croatia, and Greece could particularly benefit.

Most EU member states have multiple housing programs, with social housing and programs for home buyers and homeowners being the most prevalent, but the resources assigned to different programs is strikingly different across countries. Most countries have social housing programs, but this is quickly followed by programs aimed at home buyers and homeowners, including various forms of tax relief and subsidized mortgages. However, the resources dedicated to each type of program vary widely. France, Germany, Ireland, the Netherlands, and the United Kingdom dedicate more resources to housing allowances, while southern and eastern EU countries spend much more on housing development than on housing allowances. Tax relief directed at homeowners and home buyers is expensive. For countries that provide such relief, it can outweigh all other spending on housing. Moreover, it is concentrated in the top half of the income distribution, making it ineffective at ensuring housing affordability for those who need it the most. Similarly, subsidized lending programs are likely to be less progressive because beneficiaries need to be subject to credit, which would tend to favor households with higher incomes. In contrast, housing allowances are highly progressive, but a large share of poor households in the EU do not receive housing allowances. The supply of new social housing has been declining, leading to long waiting lists given increased demand in the context of rising housing prices.

EU tax policies are largely focused on homeowners rather than renters. In some countries, home buyers and homeowners receive direct grants, mortgage guarantees, and tax relief. The size of these

benefits dwarfs housing allowances to low-income renters. Although some western EU countries are shifting away from supply-side interventions, this is not the case in southern and eastern EU countries. The empirical literature finds that mortgage interest deduction programs that are not targeted to low-income households do not actually increase homeownership but rather induce homeowners to buy larger and more expensive houses, shifting resources away from other more productive assets. Further, there is no causal evidence with respect to the existence of positive externalities associated to owning—as opposed to renting—a home. These findings raise serious doubts about the desirability of tax relief for home buyers and homeowners.

Recommendations

The evidence suggests that there is scope to improve the welfare impact of housing policies and regulations. Below we present a list of policies to be considered.

Goal 1: Create Enabling Conditions to Allow Housing Supply to Expand

National, regional, and local policy makers should reduce the housing supply barriers erected by the different levels of governments. Overly restrictive land-use and development regulation constrains housing growth and drives up prices. For instance, cities could encourage new construction or the redevelopment of existing structures by permitting appropriate floor-space ratios, building heights, and density in specific target zones. Low density and height restriction policies are popular with current homeowners, but they lead to housing affordability problems and exclude tenants, young workers, newcomers, and lower-income families from living within reasonable proximity to employment centers and in communities that provide economic opportunities. Moreover, to the extent that these policies prevent labor from moving to where it is most productive, they reduce economic growth. Cities can also streamline their processes to speed up land-use approval and permitting, creating a more predictable and less burdensome process.

In some member states, improving property rights and the land administration system is a priority. This is particularly relevant for central and eastern EU countries where property rights and the quality of land administration are weakest, and especially for Bulgaria, Croatia, and Romania. Reforms in this area are complex but could help mobilize homeowners. Formalizing property rights is also a critical precondition for progress in other areas of housing market development (for example, access to credit) that would be important to catalyze productivity growth in lagging regions and could have important spillover effects.

Governments could emphasize strategic investment projects in greenfield housing and transportation to facilitate commuting to the centers of economic activity. Governments could convert light-industry sites to residential areas, invest in greenfield housing projects, and ensure that transportation investment and urban planning allow for commuting to the centers of economic activity. They could also earmark unused public lands for housing development, while cities can identify sites that are underutilized and provide incentives for development (such as expedited permitting, relief from parking requirements, or investment in public parking). Removing barriers to housing supply also requires developing governance structures that represent all stakeholders and streamline execution. Housing strategies involve policies across financing, urban planning, infrastructure development, land-use regulation, building codes, delivery, and contracting approaches. Ensuring efficient coordination mechanisms across these tasks is critical.

Goal 2: Don't Favor Homeownership over Renting, and Help Families Achieve Housing Stability

Better-targeted, tenure-neutral, portable allowances could help achieve the goals of affordable housing while minimizing unintended efficiency losses from constrained labor mobility. Tax relief directed at homeowners and home buyers is expensive, the cost of which often outweighs all other spending on housing. Moreover, it is also concentrated in the top half of the income distribution, making it ineffective at ensuring housing affordability for those who need it the most. In addition, there is empirical literature that finds that mortgage interest deduction programs that are not targeted to low-income households do not actually increase homeownership but rather induce homeowners to buy larger and more expensive houses, shifting resources away from other more productive assets. A move away from tax and benefit policies that incentivize homeownership toward housing benefits and allowances that are portable and based on income regardless of homeownership status would improve housing affordability. If made portable, they could contribute to ensuring that workers can move to the places where they are most productive. Portable rental allowances could substitute for traditional rent controls that are often distortionary and create perverse incentives, ensuring that the intended beneficiaries receive allowances regardless of where they decide to live. Similarly, instead of incentive programs aimed at homeownership for the young, governments could consider providing housing benefits for targeted groups, such as the young, potentially making benefits conditional on job search responsibilities.

More generally, striking the right balance between tenant and landlord incentives is important. For instance, creating security of tenancy and avoiding market segmentation between existing and new tenants while ensuring landlords' property rights can help mitigate rental market inefficiencies and correct for market failures without contributing to housing market imbalances. This is of course easier said than done, but what is clear is that easing rental market regulations can create incentives to invest in residential properties and facilitate a more responsive supply side, thus fostering mobility and improving affordability.

Goal 3: Improve Monitoring and Dissemination of Housing Data and Local-Level Information

Improved monitoring and dissemination of metropolitan and city-level data would help to reduce spatial inequalities. Better monitoring and dissemination of housing prices, employment, wages, housing policies and regulations, and other main indicators would help to inform policy makers at the national, regional, and local levels. Ideally, local, regional, and national governments should create a publicly available house price registry with information on addresses, sales prices, and quality (energy rating, square meters, and so on), with information as close to real time as possible, in line with other high-income countries. In addition, national and EU authorities could develop an index of house purchase costs that would allow for benchmarking across localities and regions. This level of transparency would reduce information asymmetries and provide incentives for more streamlined policies and regulations that could help housing markets become more efficient and equitable. For instance, public information on notary fees across metropolitan cities would encourage cities to reduce these fees to attract businesses and workers. Consistent, comparable information across countries and regions would go a long way toward ensuring that new initiatives are monitored and evaluated and that good experiences get the attention they deserve.

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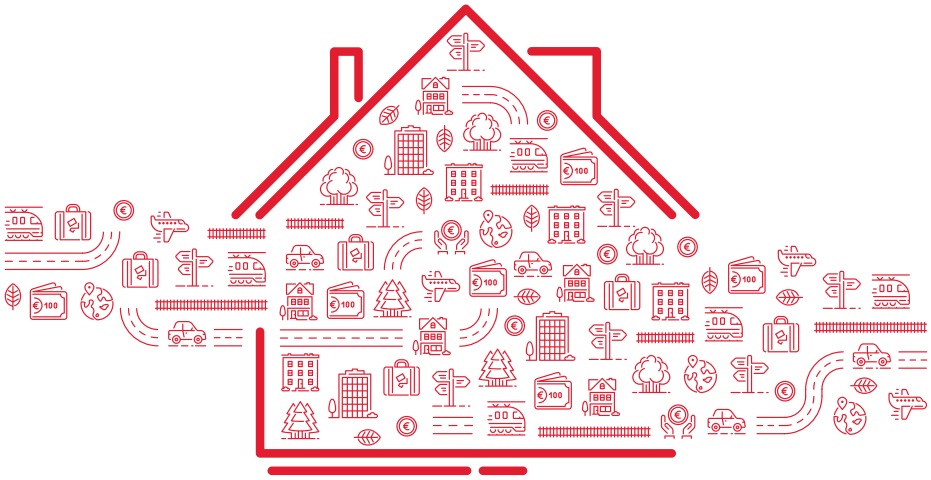

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