

# Housing and the Economy: Policies for Renovation

Chapter from forthcoming:

Economic Policy Reforms 2011  
**Going for Growth**





PART II  
Chapter 4

## Housing and the Economy: Policies for Renovation<sup>1</sup>

*This chapter compares a number of housing policies for a range of OECD countries and concludes that badly-designed policies can have substantial negative effects on the economy, for instance by increasing the level and volatility of real house prices and preventing people from moving easily to follow employment opportunities. Some of these policies played an important role in triggering the recent financial and economic crisis and could also slow down the recovery. The chapter makes some recommendations for efficient and equitable housing policies that can also contribute to macroeconomic stability and growth.*

## Summary and conclusions

Badly-designed housing policies played an important role in triggering the recent economic and financial crisis. This chapter investigates how housing policies should be designed to ensure adequate housing for citizens, support growth in long-term living standards and strengthen macroeconomic stability.

Governments intervene in housing markets to enhance people's housing opportunities and to ensure equitable access to housing. These interventions include fiscal measures, such as taxes and subsidies; the direct provision of social housing or rent allowances; and various regulations influencing the quantity, quality and price of housing. Housing policies also have a bearing on overall economic performance and living standards, in that they can influence how households use their savings as well as residential and labour mobility, which is crucial for reallocating workers to new jobs and geographical areas. Indeed, as recent OECD analysis shows, effectively supervised financial and mortgage market development combined with policies that enhance housing supply flexibility are key for macroeconomic stability. The main conclusions of that analysis are summarised below, and each is then described in more detail in the remaining sections of this chapter:

- *Innovations in mortgage markets should be coupled with appropriate regulatory oversight and prudent banking regulations.* Financial liberalisation and mortgage innovations have increased access to credit and lowered the cost of housing finance. This has had positive implications for previously credit-constrained households, allowing them a better chance of owning their own home. But regulatory reforms in mortgage markets may also be behind a noticeable increase in house prices – by an average of 30% in OECD countries – and in house price volatility. Moreover, deregulation can pose risks for macroeconomic stability if it triggers a significant relaxation in lending standards and a subsequent increase in non-performing loans. This is why there is a need for regulatory oversight and prudent banking regulations.
- *Housing supply responsiveness to demand can be improved in many OECD countries, but care is needed to avoid volatility in residential housing investment.* Supply of new housing that is responsive to prices helps to avoid excessive volatility in house prices, but greater responsiveness can also translate into more volatile residential investment. Responsiveness can be increased by streamlining cumbersome construction licensing procedures, and – in countries with a shortage of land for residential construction – by encouraging the use of land through better linking the assessment of property value for tax purposes to the market value.
- *Housing policies can facilitate residential mobility, better match workers with jobs and help the labour market recover from the recent crisis.* For example:
  - Estimates suggest that increasing the responsiveness of housing supply from the low level that prevails in the Netherlands to the average OECD level would increase households' annual mobility rate by around 50%, possibly because a responsive supply evens out housing costs across regions.

- Easier access to credit is also associated with higher household mobility, because it provides access to more housing options and makes it easier to finance moving costs. However, high leverage rates can also pose risks to mobility as households with negative equity are often unable to move.<sup>2</sup>
- Easing the relatively strict rent controls and tenant-landlord regulations that are found in some Nordic and continental European countries could significantly increase residential mobility by improving the supply of rental housing and preventing the locking-in of tenants.
- Reducing the high costs involved with buying a residence that exist in some continental European countries could also enhance residential mobility. This would include tax restructuring and removing or curbing regulations that limit competition among intermediaries involved in housing transactions (*e.g.* notaries and real estate agencies).
- *Housing policies should be designed to be efficient and equitable:*
  - Remove tax distortions by taxing housing and alternative investments in the same way; this implies taxing imputed rents and allowing mortgage interest to be tax deductible. Tax treatment of owner-occupied housing is often favourable relative to other forms of investment, notably due to the fact that imputed rental income is generally not taxed, while mortgage interest is often deductible. Such tax treatment can have undesirable consequences for the allocation of savings and investment in housing and in other markets. Moreover, tax breaks tend to be capitalised in house prices, thereby preventing some financially-constrained households from owning their home. Mortgage interest deductibility also tends to favour the better off, since the propensity to own a house rises with income. However, most countries do not tax imputed rent; using recurrent property taxes as a substitute is not sufficient as these taxes are not large enough to offset the mortgage subsidy. In such circumstances a “second best” approach could be either to remove mortgage interest relief or to scale up recurrent property taxes by levying them on cadastral values that are aligned with market values.
  - Redesign regulations that bring rents far out of line with market values or tilt the balance of tenant-landlord relations disproportionately in favour of either party. Strict rental regulations are associated with lower quantity and quality of housing and their benefits for tenants are not certain. Indeed there is no clear evidence that average rents in countries with stricter controls are lower. Moreover, especially if they are poorly targeted, rental market regulations may have undesirable redistributive effects among different categories of tenants.
  - Use carefully-designed, targeted social housing systems and portable rent allowances to ensure housing for low-income households. Social housing systems which are directed to those most in need seem able to achieve their goals at a lower cost than less targeted systems, although they need to be carefully designed to avoid any adverse implications for social mix, mobility and associated labour market outcomes. Well-designed portable housing allowances may be preferable to the direct provision of social housing as they do not seem to directly hinder residential mobility.

## Housing policies and recent housing market developments

The extreme developments in housing markets were a key feature of the current economic crisis and the run up to it (*e.g.* OECD, 2010). In many OECD countries, the general increase in real house prices since the mid-1980s (Table 4.1)<sup>3</sup> came to an abrupt halt immediately before or as the crisis began (André, 2010). Large corrections in house prices in many countries reduced households' wealth and consumption, as well as residential investment. New OECD analysis shows that past developments in real house prices and residential construction were not only affected by macroeconomic factors such as income and interest rates, but also by structural features and policies in housing and housing finance markets. These shaped the size and pattern of housing demand shocks, the responsiveness of supply and consequently overall residential construction and price patterns. This section explores these policies and their impacts.

Table 4.1. **Changes in real house prices across OECD countries**<sup>1</sup>  
1980 (or earliest year available)-2008

Very large increases (90% or more)	Moderate to large increases (20% to 90%)	Stable or declining (less than 20% increase)
Australia	Austria	Chile
Belgium	Canada	Germany
Finland	Denmark	Hungary
Ireland	France	Israel
Netherlands	Greece	Japan
New Zealand	Italy	Korea
Norway	Slovenia	Portugal
Spain	Sweden	Switzerland
United Kingdom	United States	

1. Nominal prices deflated by the consumer price index.

Source: National statistical offices and OECD (2010), *OECD Economic Outlook: Statistics and Projections Database*.

### **Financial market liberalisation eased access to credit and increased owner-occupancy among credit-constrained households**

Housing finance markets have changed drastically over recent decades, reflecting a wave of financial reforms motivated by broader economic efficiency goals. Liberalisation significantly expands borrowing opportunities and lowers borrowing costs for housing, resulting in a substantial expansion in the supply of mortgage loans in many countries (ECB, 2009; Ellis, 2006). One key development has been the significant reduction in down payment requirements, enabling households to rely more on debt to finance housing investment. Requirements for high down payments tend to negatively affect lower income consumers and particularly younger households, who often have had less time to accumulate the necessary capital for a deposit. One measure of this down payment constraint is the maximum loan-to-value ratio – the maximum permitted value of the loan as a share of the market price of the property.<sup>4</sup> Estimates suggest that a 10 percentage point decrease in the maximum loan-to-value ratio is associated with a 12% rise in the home ownership rate among younger low-income households (*i.e.* owners aged 25-34 years in the second income quartile) compared to a typical household.<sup>5</sup>

### **The links between deregulation, house prices and house price volatility**

The expansion in the availability of credit has increased housing demand and real house prices in many countries. Financial deregulation is estimated to have increased real

house prices by as much as 30% in the average OECD country over 1980 to 2005. On the one hand, more competitive mortgage markets with more diverse funding sources, lenders and loan products are likely to strengthen economic resilience by facilitating housing equity withdrawal.<sup>6</sup> On the other hand, they also make it easier for investors to borrow to buy homes, which may make house prices more volatile. In fact, increases in permissible leverage (measured by the maximum loan-to-value ratio) tend to exacerbate real house price volatility in a large sample of OECD countries (Table 4.2). Greater house price volatility in turn can decrease macroeconomic stability and income certainty for households. It can also raise systemic risks as the banking and mortgage sectors are vulnerable to fluctuations in house prices due to their exposure to the housing market.

**Table 4.2. The effect of policies on reducing real house price volatility<sup>1</sup>**

Real house price volatility can be reduced by...	Policy experiment
25%	A further improvement in banking supervision equivalent to that observed on average in OECD over the 1990-2005 period (based on an index sourced from Abiad <i>et al.</i> 2008).
20%	Reducing the maximum loan-to-value ratio by 10 percentage points. <sup>2</sup>
19%	Increasing the estimated supply elasticity from the level observed in Ireland to the level in Canada (see Figure 4.1).
11%	Reducing the tax relief on mortgage debt financing costs from the level observed in Netherlands to the level in Sweden (see Figure 4.7).

1. The policy experiments are roughly equivalent to the impact of a one standard deviation change in the policy variables of interest on real house price volatility. Estimates are based on random effects panel regressions for between 16 and 20 OECD countries, over the period circa 1980-2005. The dependent variable is the standard deviation in annual real house price growth and the model also controls for macroeconomic volatility and time fixed effects (see Andrews (2010) for details).
2. Over the sample period, loan-to-value ratios range from a minimum of 56% to a maximum of 110% in OECD countries.

Source: Abiad, A., E. Detragiache and T. Tressel (2008), "A New Database of Financial Reforms", *IMF Working Paper No. 08, Vol. 266*, International Monetary Fund; Andrews, D. (2010), "Real House Prices in OECD Countries – The Role of Demand Shocks and Structural and Policy Factors", *OECD Economics Department Working Papers*.

### **The link between banking supervision and house price volatility**

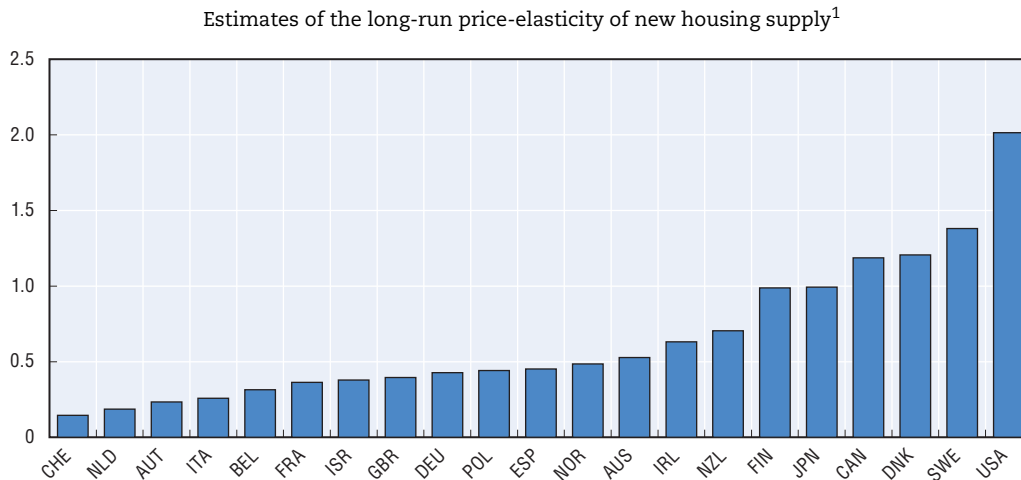
Inadequate banking supervision and, in turn, poorly underwritten residential mortgage contracts played a significant role in the run up to the recent financial crisis, which was characterised by a noticeable increase in house price variability. While easing credit constraints is generally desirable, in the absence of adequate regulatory oversight, policy changes that trigger a relaxation in lending standards can increase non-performing loans (i.e. loan that is in default or close to being in default), thereby jeopardising macroeconomic stability. For instance, lending standards in the United States were significantly relaxed during the housing boom: in 2001, only 8% of home purchasers had a down payment of zero, but by 2007 this figure had risen to 22% (US Census Bureau, 2007).<sup>7</sup> The OECD estimates that the quality of banking supervision can have a large impact on house price volatility. For the average OECD country, a further improvement in supervisory arrangements equivalent to that observed over the 1990-2005 period could reduce real house price volatility by around 25%, all other things being equal (Table 4.2).<sup>8</sup>

### **House prices increase more where housing supply is slow to respond to demand**

The price responsiveness of new housing investment determines the extent to which increases in demand for housing, for instance following easier access to credit, result in


higher prices rather than in more housing investment. According to OECD estimates, the long-run price responsiveness of new housing supply tends to be relatively strong in North America and some Nordic countries, while it is weaker in continental European countries and the United Kingdom (Figure 4.1; Caldera Sánchez and Johansson, 2011).

Figure 4.1. **Variations in responsiveness of new housing supply to prices, selected OECD countries**



1. Estimates of the long-run price elasticity of new housing supply where new supply is measured by residential investments. All elasticities are significant at least at the 10% level. A greater number indicates a more responsive supply. In the case of Spain, restricting the sample to the period 1995-2007, which would reflect recent developments in housing markets (such as the large stock of unsold houses resulting from the construction boom starting in 2000 and peaking in 2007-09), only slightly increases the estimate of the elasticity of housing supply from 0.45 to 0.58. Estimation period early 1980s to mid-2000s.

Source: Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", OECD Economics Department Working Papers, forthcoming.

StatLink  <http://dx.doi.org/10.1787/888932368669>

In the short to medium term, an increase in housing demand (*e.g.* caused by mortgage market deregulation, higher levels of activity and employment or migration inflows) would translate into smaller increases in real house prices if housing supply is more responsive. Responsive housing supply is especially important to avoid bottlenecks in different segments of the market. However, the flip side is that in flexible-supply countries, housing investment adjusts more rapidly to large changes in demand. This contributes to more cyclical swings in economic growth, as witnessed by recent developments.

Despite this trade-off, in the longer term a more flexible supply of housing is generally desirable as it allows a better match of housing construction to changes in housing demand patterns across the territory. Estimates show that the influence of supply responsiveness on the reaction to housing demand shocks is likely to be large, all else being equal. For example, if the responsiveness of new supply is reduced from the relatively high level estimated for Japan to the level in New Zealand (see Figure 4.1), the increase in house prices associated with a given increase in demand is at least 50% larger (Andrews, 2010). During recent decades very large price increases were observed in the United Kingdom and the Netherlands – in these two countries the responsiveness of new housing supply to housing prices is noticeably low (Figure 4.1). By contrast, other countries where supply tends to be more flexible, such as the United States, experienced more

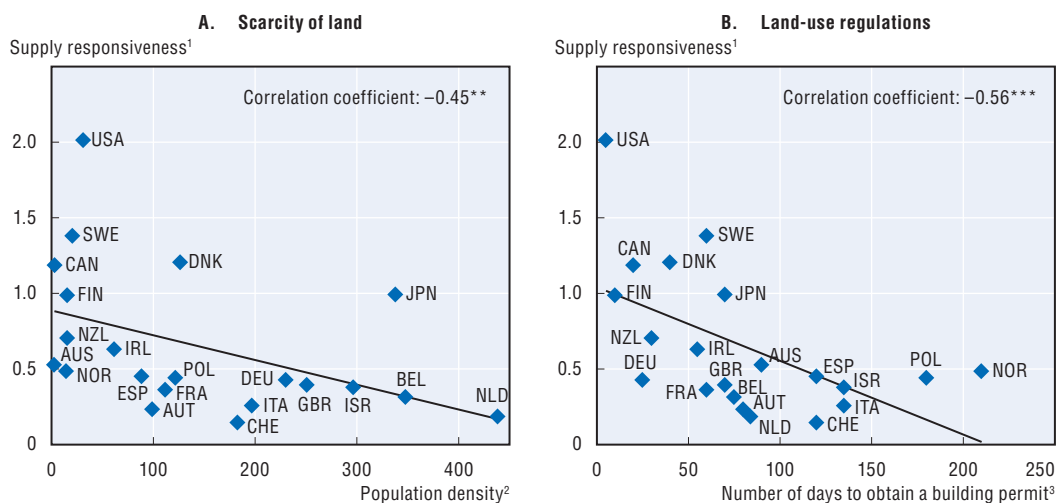


moderate price increases. Estimates also show that house prices are more volatile where housing supply is rigid, because variations in demand translate more fully into changes in prices (Table 4.2).

### How can public policies affect supply responsiveness?

Housing supply may be constrained by both policy and non-policy factors. Geographical and demographic conditions – such as physical limitations on land for development and the degree of urbanisation – can restrict housing supply in certain areas. Indeed housing supply responsiveness tends to decrease as population density increases (Figure 4.2, Panel A). But public policies also play a role via land-use and planning or rental regulations, with new housing supply responsiveness tending to be lower in countries where it takes longer to acquire a building permit (Figure 4.2, Panel B).

Figure 4.2. **Supply responsiveness is weaker where land is scarce and land-use regulations cumbersome**




1. OECD estimates of country-specific supply responsiveness.

2. Population density measured as population per km<sup>2</sup>.

3. The number of days to obtain a building permit is obtained from the *World Bank Doing Business Database*.

\*\*\* denotes statistical significance at 1% and \*\* at 5% confidence level.

Source: OECD estimations based on Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", *OECD Economics Department Working Papers*, forthcoming; United Nations (2007), *Demographic and Social Statistics Database*; World Bank (2009), *World Bank Doing Business Database*.

StatLink  <http://dx.doi.org/10.1787/888932368688>

Housing supply can be made more responsive by designing and enforcing efficient land-use regulations, such as streamlining complicated construction licensing procedures and easing planning restrictions on multi-family construction (typically dwellings for rent) in order to increase the supply of private rental housing (Schuetz, 2007). Apart from improving land-use regulations, providing infrastructure and other public services along with housing – such as road junctions or water drainage – is also likely to influence supply (e.g. Barker, 2008). Moreover, well-designed taxes on vacant properties and undeveloped land can encourage the appropriate use of land for residential and business property in urban areas. For instance, linking the assessment of property value for tax purposes to the market value may increase incentives for developing vacant land as market prices also reflect its development potential (OECD, 2009).

## Housing policies, residential mobility and labour market dynamism

In the recovery from the current economic downturn, the ability of workers to move to expanding sectors and regions is crucial if countries are to return gradually to pre-crisis employment rates. Residential and labour mobility is a key ingredient in this adjustment process. In the OECD, on average around 6%<sup>9</sup> of households move residence every year. However, such residential mobility is lower in southern and eastern European countries than in English-speaking and Nordic countries, where households move twice as much (Figure 4.3, Panel A). In addition, there is also a link between residential mobility and reallocation of workers (Figure 4.3, Panel B). This suggests that residential mobility can make it easier for the labour force to adjust to changing employment availability, possibly speeding up the transition out of the current high rates of unemployment. These links between housing, mobility and the labour market are explored further in this section.

### **Home ownership and social housing tend to reduce mobility**

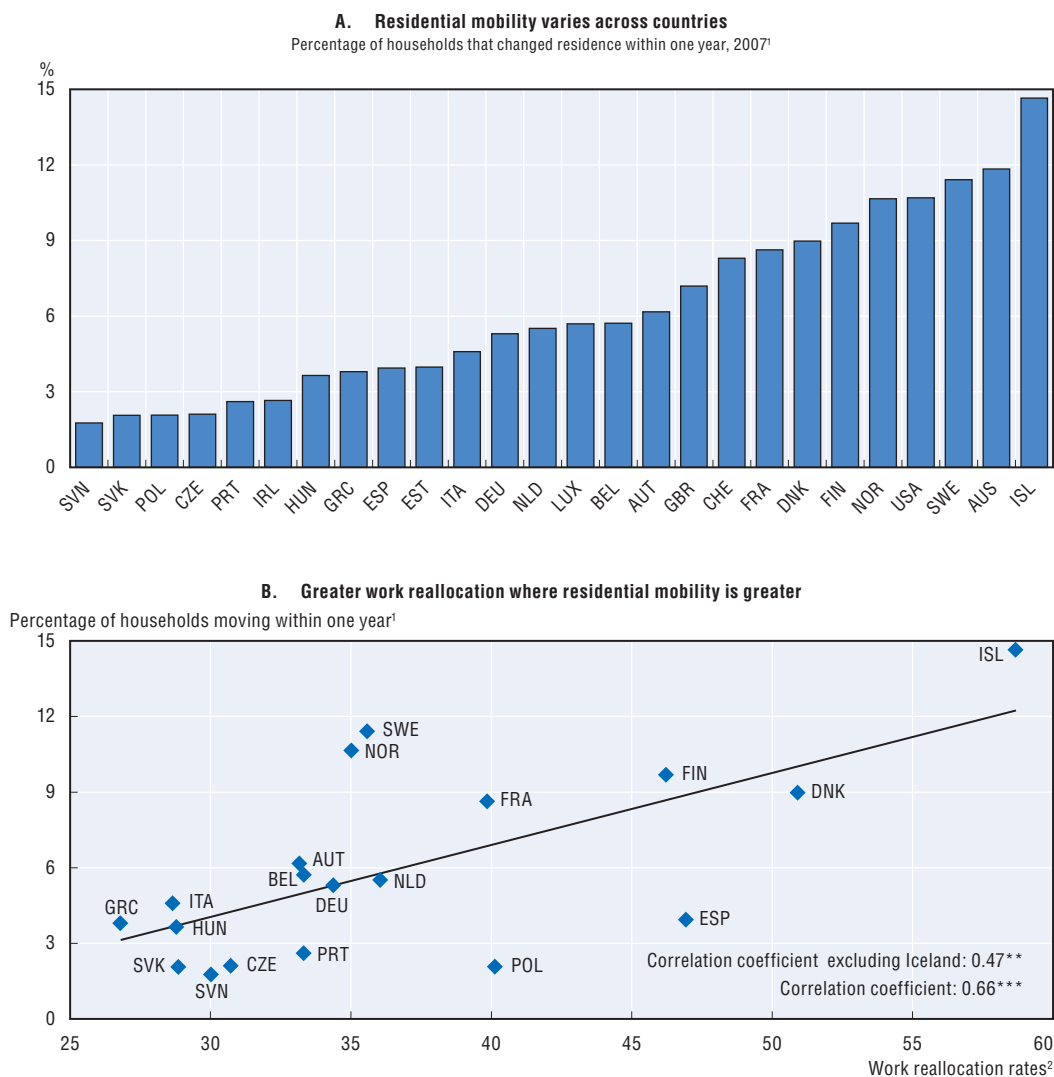
The type of housing tenure has an influence on mobility rates. OECD analysis shows that home owners tend to be less mobile than private renters, even after taking into account other household characteristics (*e.g.* age and income, and marital, migrant and employment status, etc.). This lower mobility among owner-occupants than renters is likely to be because owners face higher transaction costs when moving house. They thus tend to move house less often in order to spread these costs over a longer time period (*e.g.* Oswald, 1996; Coulson and Fisher, 2009). On average, an owner without a mortgage is estimated to be 13% less likely to move every year than a private renter, while a mortgage owner's yearly mobility rate is some 9% lower than that of a renter.<sup>10</sup> What explains the greater mobility rate among owners with a mortgage compared to those without a mortgage? This may reflect the fact that home owners with a mortgage have greater incentives to remain employed and/or to become re-employed more quickly because of their need to repay their mortgage. They would therefore try to reduce periods of unemployment by accepting jobs even if it requires moving residence (Flatau *et al.*, 2003).

Tenants in social housing are on average 6% less likely than private tenants to move every year. This is perhaps because they are reluctant to give up below-market rents and tenancies which are generally more secure (*e.g.* Menard and Sellem, 2010; Flatau *et al.*, 2003; Hughes and McCormick, 1981; 1985). This is particularly the case in Australia, France and the United Kingdom, which may possibly reflect that in these countries social housing is highly targeted to those who need it most (see below). Housing allowances do not seem to hinder residential and labour mobility to the same extent as direct provision of social housing, especially if they are portable (ECB, 2003; Hughes and McCormick, 1981; 1985). An additional advantage of housing allowances over direct housing provision is that in a majority of countries households can receive rent allowances for any rental dwelling, *i.e.* both social and private rental, which makes them more portable and further increases residential mobility.

### **Increasing mobility by making housing supply more responsive and lowering house purchase transaction costs**

An unresponsive supply reduces the availability of housing and can contribute to regional price differentials and housing market imbalances – other factors in reducing residential mobility. Large price differentials between areas, for instance caused by rapid changes in housing demand within a region combined with rigid housing supply, can

Figure 4.3. **Residential and labour mobility are important for the functioning of labour markets**




1. Mobility rates are annualised. The low mobility rate in some Eastern European countries (e.g. 2% in Slovenia implying a move every 50 years) does not seem reasonable and may reflect problems with the underlying data. However, this is difficult to verify as there is no alternative data source.

2. Work reallocation rates are country averages of reallocation rates (hiring and firing rates) expressed in percentage of total dependent employment. See OECD *Employment Outlook* (2010).

\*\*\* denotes statistical significance at 1% and \*\* at 5% confidence level.

Source: OECD calculations based on the following 2007 databases: European Commission (2007), Eurostat EU-SILC Database; Melbourne Institute (2007), The Household, Income and Labour Dynamics in Australia (HILDA) Survey; Swiss Foundation for Research in the Social Sciences (2007), Swiss Household Panel (SHP); US Census Bureau (2007), American Housing Survey (AHS); OECD (2010), OECD *Employment Outlook 2010: Moving beyond the Jobs Crisis*.

StatLink  <http://dx.doi.org/10.1787/888932368707>

reduce geographical mobility. This is because households in cheaper areas have to secure greater credit if they wish to move to the higher-priced region (Saks, 2008; Barker, 2004; Cameron and Muellbauer, 1998). In countries with a more responsive supply of new housing, residential mobility tends to be much higher. For example, increasing the responsiveness of supply from the Netherlands' low level (Figure 4.1) to the OECD average would raise the household annual mobility rate by around 2.3 percentage points all else being equal (Table 4.3).

Table 4.3. **How policies can increase residential mobility**<sup>1</sup>

The probability of moving each year can be increased by...	Policy experiments
2.3 percentage points...	Increasing the estimated price-elasticity of housing supply from the level in the Netherlands to the average level in the OECD (see Figure 4.1).
1.4 percentage points...	Decreasing the rent control from the level in Germany to the average level in the OECD (see Figure 4.5).
1.4 percentage points...	Decreasing the down-payment constraint ( <i>i.e.</i> increasing the loan-to-value ratio) by 20 percentage points from the level in Switzerland to the average level in the OECD.
1.1 percentage points...	Increasing access to credit ( <i>i.e.</i> increasing the share of private credit to GDP) from the level in the Slovak Republic to the average level in the OECD.
0.6 percentage points...	Decreasing tenure security ( <i>i.e.</i> tenant-landlord regulations) from the level in Portugal to the average level in the OECD (see Figure 4.5).
0.5 percentage points...	Decreasing transaction costs from the level in Greece to the average level in the OECD (see Figure 4.4).

Memorandum item: Average annual probability to move in OECD countries = 6%.

1. Policy experiments are roughly equivalent to the impact of a one and a half standard deviation change in the policy variables of interest on residential mobility. Estimates based on probit regression of household probability to move controlling for age, tenure status, education, employment, income and squared income, cohabitation status, total income and the national urbanisation rate.

Source: OECD calculations based on the following databases: European Commission (2007), Eurostat EU-SILC Database; Melbourne Institute (2007), The Household, Income and Labour Dynamics in Australia (HILDA) Survey; Swiss Foundation for Research in the Social Sciences (2007), Swiss Household Panel (SHP); US Census Bureau (2007), American Housing Survey (AHS); Caldera Sánchez, A. and D. Andrews (2011), "To Move or Not to Move: What Drives Residential Mobility in the OECD?", *OECD Economics Department Working Papers*, forthcoming.

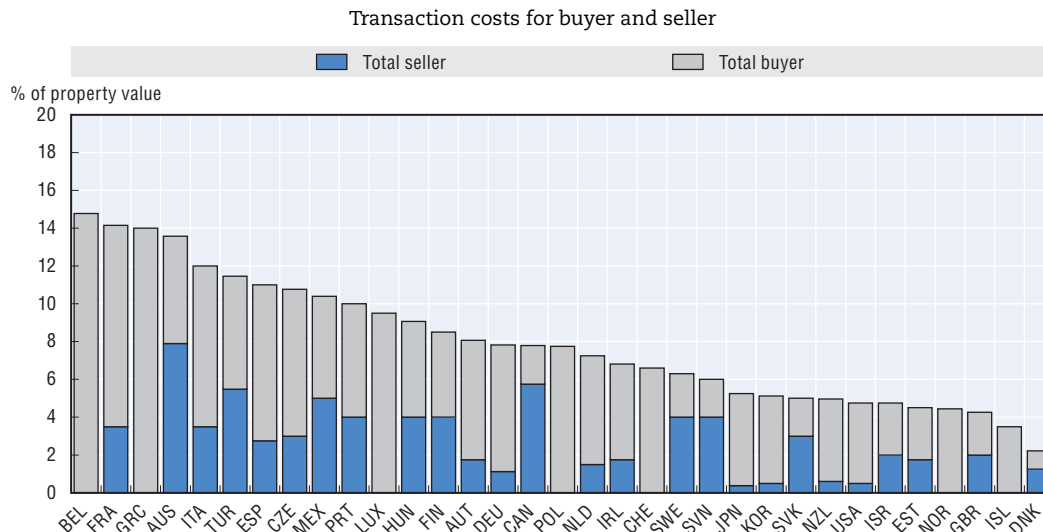
The costs involved in buying and selling houses can also reduce residential and labour mobility (Oswald, 1996; 1999; Haurin and Gill, 2002; van Ommersen and Leuvensteijn, 2005). Housing transaction costs differ considerably across OECD countries, ranging from at least 14% of property value in Belgium, France and Greece to less than 4% in Denmark and Iceland (Figure 4.4). These costs include a number of different types of costs and fees, such as transfer taxes (*e.g.* stamp duties, acquisition taxes etc.), fees incurred when registering the property in the land registry, notary or other legal fees, and real estate agency fees.<sup>11</sup>

In some cases, the fees paid to intermediaries can be set directly by government regulations (or by government-backed self regulations of the profession) or be influenced by legal barriers to entry into some markets (*e.g.* notarial real estate services). OECD estimates show that higher costs in property purchase are associated with lower residential mobility. For example, reducing transaction costs from the high level observed in Greece (Figure 4.4) to the average level among the countries included in the study would increase the annual probability of moving by around 0.5 percentage points (Table 4.3). In addition, transaction taxes are inefficient for raising revenue as the same tax revenue could in principle be obtained at a lower economic cost by taxing consumption instead (OECD, 2009). Policies can contribute to reduce these one-off costs by tax restructuring and/or lifting barriers to entry in the relevant professions, particularly where costs are excessively high and are likely to significantly reduce residential mobility, such as in Belgium, France, Greece and Italy.

### **Increasing mobility by relaxing rental regulations**

Rental markets are influenced by a range of regulations covering rents and tenant-landlord relationships. Rent control is comparatively strict in countries with a relatively large rental sector (*e.g.* the Czech Republic, Germany, the Netherlands and Sweden) (Figure 4.5, Panel A; and Johansson, 2011). While the causality is unclear, this might be explained by the fact that in countries with a larger rental sector there is more widespread

Figure 4.4. **How the transaction costs of purchasing property vary across OECD countries,<sup>1</sup> 2009**



1. Transaction costs refer to average costs. The estimates do not take into account the various tax breaks that exist in countries for certain dwellings implying that the estimated cost may overestimate the actual cost in some countries (for example in Italy) where such tax breaks are frequent. In addition, VAT when applied to certain costs is not included due to data limitations.

Source: Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", *OECD Economics Department Working Papers*, forthcoming.

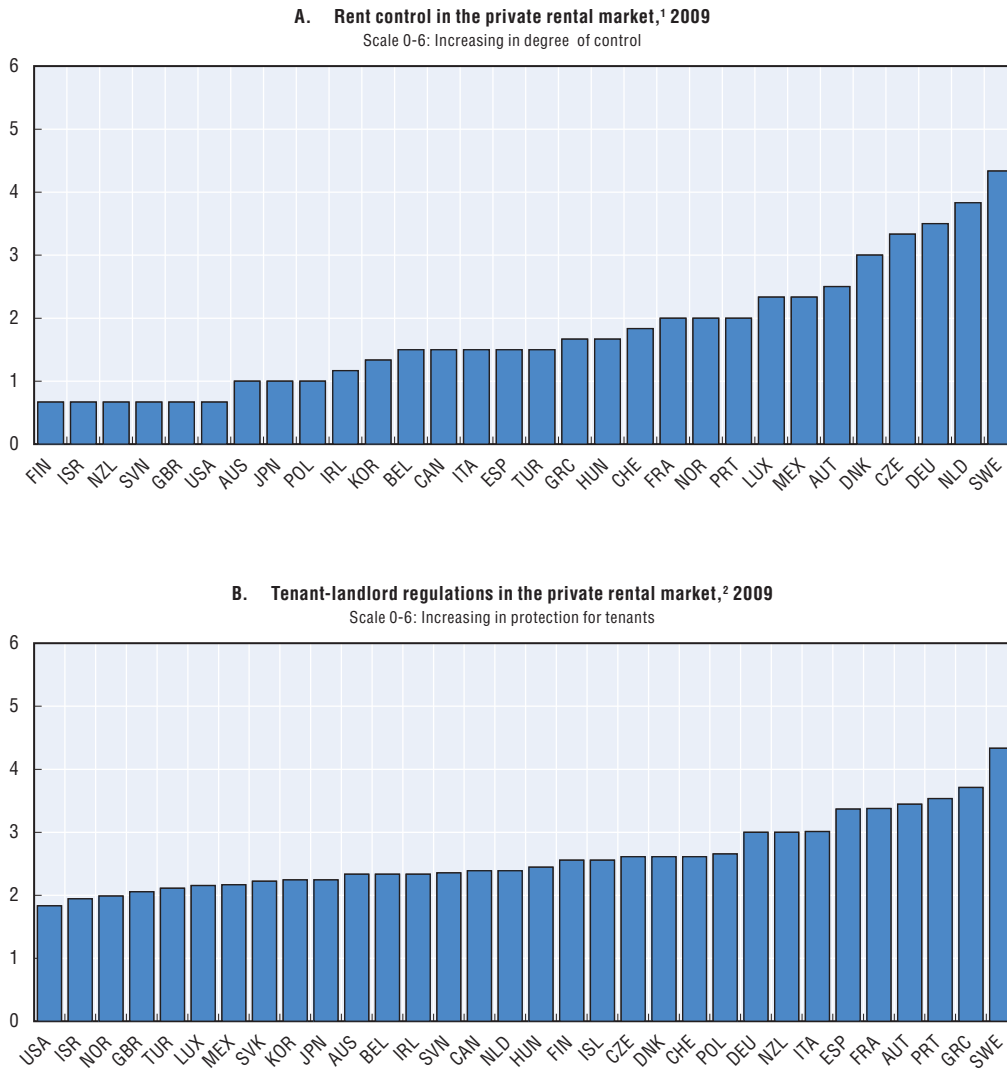
StatLink  <http://dx.doi.org/10.1787/888932368726>

demand for regulations governing its functioning. By contrast, rent control is lax in Finland, New Zealand, Slovenia, the United Kingdom and the United States. Most countries also regulate contractual aspects of tenant-landlord relations – such regulations tend to be comparatively strict in many continental European countries (Figure 4.5, Panel B), often going along with comparatively more stringent rent controls. One probable explanation is that if rent control is not coupled with security of tenure, in regimes where sitting tenants receive relatively more protection against rent increases landlords may have an incentive to evict tenants in order to raise rents (Arnott, 2003; Ellingsen and Englund, 2003).

Strict regulations in rental markets can reduce residential mobility as tenants in rent-controlled dwellings will be reluctant to move if rents are below market levels and tenure security is greater than in the unregulated segment (*e.g.* Lind, 2001; Nagy, 1997; Ball, 2009). Similarly, strict tenant-landlord regulation resulting in high tenure security can lower the expected returns from residential rental supply, thereby reducing investment or encouraging hoarding or alternative uses of the existing stock by owners. Together, the negative effects of excessive rental regulation on supply and tenants' incentives to move may reduce turnover in the rental sector and lower residential mobility.


How can policies governing the rental market increase mobility? OECD analysis shows that residential mobility in countries with relatively strict rental regulation (measured in terms of both rent control and tenure security) is significantly lower than elsewhere. For example, reducing rent control from the high level observed in Germany (Figure 4.5, Panel A) to the average level among the countries included in the study would increase the annual mobility rate by around 1.4 percentage points (Table 4.3). In order not to deter mobility, regulations should also be harmonised across different segments of the housing

Figure 4.5. **Rental regulations compared, selected OECD countries, 2009**



1. This indicator is a composite indicator of the extent of controls of rents, how increases in rents are determined and the permitted cost pass-through onto rents in each country. Control of rent levels includes information on whether rent levels can be freely negotiated between the landlord and the tenant, coverage of controls on rent levels and the criteria for setting rent levels (market based, utility/cost based, negotiation based or income based). Controls of rent increases includes information on whether rent increases can be freely agreed by the landlord/tenant, whether rent increases are regularly indexed to some cost/price index or if increases are capped or determined through some other administrative procedure, including negotiation between tenant/landlord associations. The pass-through of costs onto rents includes information on whether landlords are allowed to pass on increases in costs onto rents (cost pass-through) and the extent of such pass-through i.e. the types of cost that can be passed on.
2. The indicator measures the extent of tenant-landlord regulation within a tenancy. It includes the ease of evicting a tenant, degree of tenure security and deposit requirements.

Source: Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", OECD Economics Department Working Papers, forthcoming.

StatLink  <http://dx.doi.org/10.1787/888932368745>

market, including social and private rentals, and consideration should be given to easing stringent rental regulations. For example, because rent regulations in social housing tend to be stricter than in the private sector, this may discourage mobility among social tenants because moving into the private market could reduce their rent and tenure advantages (Flatau et al., 2003).

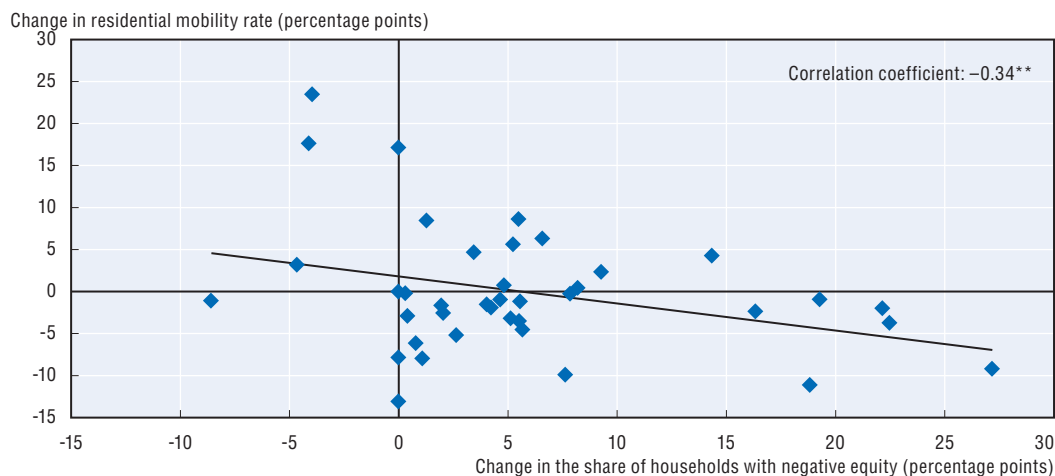
### Increasing mobility by allowing greater access to credit, but avoiding high leverage

Since changing residence involves financial costs, reducing the cost of credit and making it easier to access can aid mobility. This is confirmed by OECD evidence that easier access to credit (represented by the share of private credit in gross domestic product – GDP) and lower down-payment requirements (represented by higher maximum loan-to-value ratios) are associated with higher residential mobility (Table 4.3). This effect is particularly pronounced for younger households, possibly reflecting the fact that they have had less time to accumulate savings to pay for the costs of changing residence.

However, high leverage ratios can potentially undermine mobility (Ferreira *et al.*, 2008). If house prices decline significantly, households in negative equity may be unable to refinance their mortgage in order to move to a more prosperous region or may be unwilling to sell their home at a loss. For instance, mobility in the United States declined by approximately 15% between 2005 and 2009, and this decline was concentrated amongst home owners with mortgages, and particularly the most leveraged in this group. This partly reflected adverse labour market developments, but also to some extent the sharp rise in the number of households with negative equity. Residential mobility appears to have fallen more in those US states that experienced a larger rise in the share of households in negative equity (Figure 4.6).

Figure 4.6. **The impact of negative equity on residential mobility in the United States<sup>1</sup>**


Percentage point change 2007-09



1. The change in residential mobility rate is measured as the difference between the share of households that moved in the period 2006-07 and the period 2008-09.

\*\*\* denotes statistical significance at 1% and \*\* at 5% confidence level.

Source: Calculations based on US Census Bureau (2008), American Housing Survey (AHS).

StatLink  <http://dx.doi.org/10.1787/888932368764>

### Efficient and equitable policy interventions in housing markets

Whether public policy interventions in housing markets are achieving their desired objectives efficiently and equitably can sometimes be questioned. One policy objective is usually to repair market failures which may otherwise give rise to inefficiencies in housing markets. These market failures might include unequal market power between landlords and tenants or environmental and neighbourhood externalities associated with new housing developments. To address such imperfections, governments impose various regulations (*e.g.* rental and other regulations) on housing markets. Another purpose of

government interventions is to promote broader economic performance, for instance by encouraging the release of land for productive uses. Equity and social concerns also motivate interventions in housing markets and the link between housing and broader social outcomes guides socially acceptable standards of housing. These standards can be met by social housing, which is one way for governments to provide housing to disadvantaged households and to redistribute income. Finally, increasing home ownership is often a policy objective in many countries, motivated by the perception that it generates positive neighbourhood effects and raises social capital. However, the evidence for such effects is weak. Besides, some of the mechanisms that were at play in the recent crisis were linked to the owner-occupancy sector and may have been exacerbated by taxes favouring home ownership. This section outlines some of the policies that can be developed to ensure a more equitable and efficient housing sector.

### ***Tax owner-occupied housing in the same way as other investments***

In many OECD countries, owner-occupied housing typically has more favourable tax arrangements than other forms of capital investment. This unequal fiscal treatment between housing and other investments should be removed by ensuring that the difference between pre- and post-tax returns is the same for housing as for alternative uses of savings. Housing investments should ideally be taxed as part of income tax in the same way as other assets, by taxing imputed rental income, less depreciation allowances, while allowing for interest rate deductibility (i.e. tax net imputed rental income).

In practice, only a few countries tax imputed rents and those that do often substantially under-estimate the rental values. Even though most countries levy recurrent taxes on immovable property, these taxes sometimes apply to both owner-occupiers and tenants and are not a perfect substitute for taxes on imputed rents. In any case, the magnitude of these property taxes appears to be small in most countries, as reflected by their low contribution to fiscal revenues (OECD, 2009). In addition, the valuation of the administrative property value for tax purposes lags well behind the market value in many countries. At the same time, mortgage interest payments can be deducted from the personal income tax base in about half of the countries and a few countries have tax credits for owner-occupancy.<sup>12</sup> In these cases combining mortgage interest deductibility with levying of recurrent property taxes at a higher level, consistent with the taxation of financial income is a second-best solution, though local government control over property taxes makes it difficult in many cases to implement this approach in a co-ordinated way. An alternative second best solution would consist in removing mortgage interest deductibility. In any case, property valuations used for tax purposes need to be regularly updated. These updating schemes could include special arrangements to reduce liquidity constraints for people with low incomes and non-liquid assets.

One simplified measure of the favourable tax treatment of owner-occupied housing with respect to debt financing is to look at the difference between the market interest rate and the after-tax debt financing cost of housing (Fukao and Hanazaki, 1986; van den Noord, 2005).<sup>13</sup> The data show generous tax relief on debt financing costs in countries such as the Czech Republic and the Netherlands (Figure 4.7).

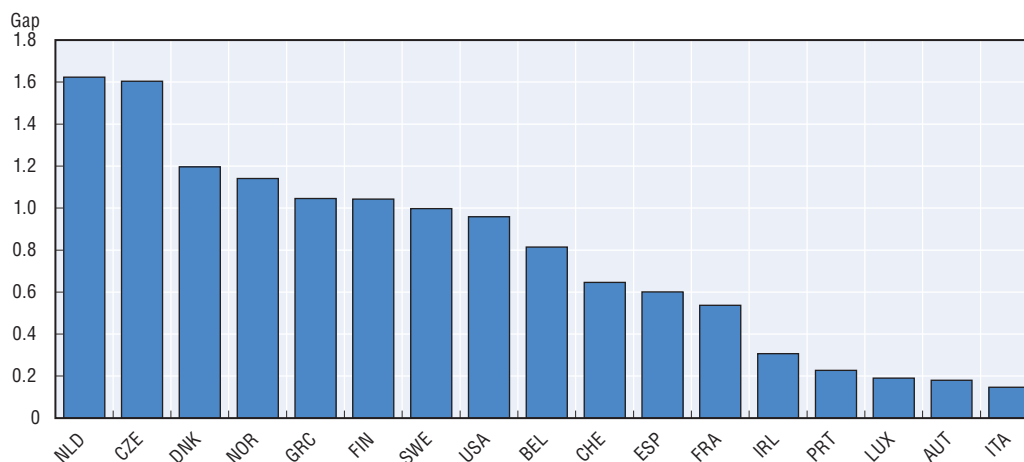
### ***Avoid taxes which favour home ownership***

Aside from influencing tenure choice, tax favouring of housing can lead to excessive housing investment and crowd out more productive investments, thereby adversely




Figure 4.7. **How different OECD countries apply tax relief on debt financing cost of homeownership,<sup>1</sup> 2009**

Gap between market interest rate and after tax debt financing cost  
(the larger the figure, the greater the tax relief)



1. This indicator takes into account if interest payments on mortgage debt are deductible from taxable income and if there are any limits on the allowed period of deduction or the deductible amount, and if tax credits for loans are available. For countries that have no tax relief on debt financing costs, this indicator takes the value of zero.

Source: Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", OECD Economics Department Working Papers, forthcoming.

StatLink  <http://dx.doi.org/10.1787/888932368783>

affecting productivity and growth (OECD, 2009). Moreover, taxes which favour home ownership may encourage speculative behaviour by lowering the cost of borrowing to finance housing investment. In turn, this can raise house price volatility with adverse consequences for macroeconomic stability. OECD analysis provides some evidence for this (Table 4.2).

By facilitating high leverage, the combination of tax favouring of housing and deregulation of mortgage markets can also push up house prices (Capozza *et al.*, 1996; Harris, 2010), particularly if housing supply responsiveness is rigid. This combination of policies would not necessarily expand housing opportunities for households. For example, the OECD estimates that if the extent of tax relief on mortgage debt financing was decreased from the level seen in Finland to that prevailing in France (Figure 4.7), the increase in real house prices associated with a given increase in housing demand (e.g. following easier access to credit) would be around 50% smaller, all else being equal (Andrews, 2010).

Policies such as mortgage interest deductibility also tend to be inequitable since they subsidise house purchases by higher income households who are more likely to own their home even without a subsidy. This reflects that in most countries, tax relief for debt financing costs is a deduction against earned income and not a credit, and thus is worth more to high-income earners. While housing tax reform is considered to be politically unpopular, highlighting the inequitable nature of mortgage interest deductibility could help to facilitate reform.

Moreover, there appears to be no cross-country evidence to suggest that greater mortgage deductibility coincides with higher overall home ownership rates. Instead, estimates suggest that through their indirect adverse effect on prices, generous housing

tax relief on debt financing costs does little to encourage home ownership by lower-income households (Andrews and Caldera Sánchez, 2011). Distributional effects are complex and where there is capitalisation of the effects of tax relief, first-time (often low-income) home buyers are likely to benefit less than existing owners.

### **Re-design rental regulations**

Rental regulations are generally aimed at correcting market imperfections. For instance, one motivation for standardising rental contracts is to prevent landlords from exploiting their market power or tenants from abusing landlords' property (*e.g.* if there are no sanctions for unpaid rent). Most studies generally conclude that on average rent controls generate only small benefits for tenants and that such regulations tend to be poorly targeted (*e.g.* Turner and Malpezzi, 2003; Ellingsen and Englund, 2003). Across the countries covered in this chapter, there is no clear evidence that rent levels are lower in countries with stricter rent controls.<sup>14</sup> Instead, rent regulations may redistribute income among different categories of tenants (Basu and Emerson, 2000). For instance, where rent is controlled landlords tend to inflate rents for new tenants in order to compensate for the loss of rent suffered during occupancy due to the control mechanisms. Thus, rent regulations may discriminate between those households who move often and those who stay and benefit from long rent-controlled tenancies.

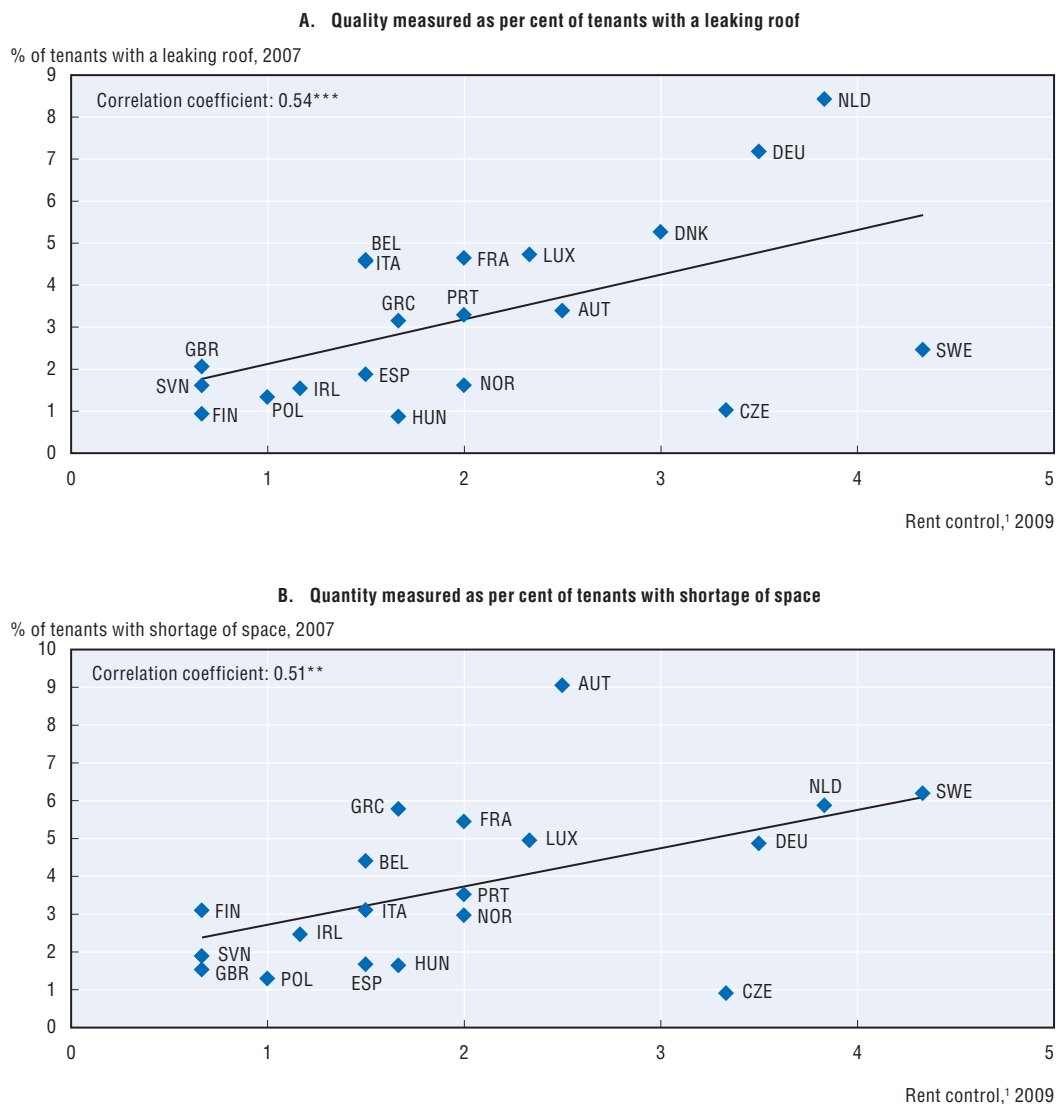
Moreover, as discussed earlier, if stringent rent regulations cap rent levels, they can potentially discourage new construction and maintenance by lowering the net return on these investments (Sims, 2007; Arnott, 2003). An illustrative correlation shows that across countries, stricter rent control tends to be associated with lower quantity and quality of rental housing, as measured by the share of tenants who lack space and who have a leaking roof (Figure 4.8). Below-market rents may also encourage households to spend effort and resources on obtaining cheap housing, which can lead to waste of resources and a misallocation of existing housing (Glaeser and Luttmer, 1997).

Despite its potentially adverse effects, well-designed rent control can be justified where the costs of moving are high and where insurance is not available for protecting tenants from sharp, unanticipated rent increases. However, rental regulations should strike a balance between landlords' and tenants' interests, provide reasonable security of tenure and avoid market segmentation between sitting and new tenants. A compromise could be a system in which rents can be varied for new contracts and for contract renewals, while rent increases are regulated in line with tenancy market developments within the duration of the contract, coupled with an adequate security of tenure.

### **Design social housing schemes carefully**

Social housing is one way for governments to provide low-cost housing to poorer households. In general it consists of rental dwellings, although home ownership can be common in some countries (*e.g.* Italy, Mexico and Spain). The importance of social rentals varies across OECD countries. In some countries it accounts for the majority of rentals (*e.g.* in Austria, the Czech Republic, Ireland, the Netherlands, the Nordic countries, Poland and the United Kingdom), while playing only a minor role in others (*e.g.* Hungary, Luxembourg, Portugal and Switzerland). Across the OECD, there are two types of system for providing social housing (Table 4.4): i) In the majority of countries social housing is targeted at certain households (*e.g.* low-income, young, elderly, etc.). In some of these countries, housing is allocated to eligible tenants (based on income thresholds) *via* some


Figure 4.8. **Strict rent control is associated with lower quality and quantity of housing**



1. This indicator includes control of rents, how increases of rents are determined and extent of cost pass-through onto rents.

\*\*\* denotes statistical significance at 1% and \*\* at 5% confidence level.

Source: Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", *OECD Economics Department Working Papers*, forthcoming; European Commission (2007), Eurostat EU-SILC Database.

StatLink  <http://dx.doi.org/10.1787/888932368802>

queuing system, with consideration given to the priority rating of tenants. Others place greater emphasis on the needs of the most vulnerable households. ii) In a few countries (i.e. Denmark, Luxembourg, the Netherlands and Sweden) social housing is open to all.<sup>15</sup>

The allocation and governance of social housing are complex. In principle, a targeted system is to be preferred as it can focus on households in greatest need of housing and therefore achieve its goals at a lower cost than less targeted social housing systems. However, highly targeted needs-based systems can encourage spatial segregation (Fitzpatrick and Stephens, 2007). Such residential segregation can result in significant disparities in the quality of and access to education, as well as in access to transport

**Table 4.4. In a majority of countries, social housing provision is targeted to special needs**

Based on eligibility and allocation criteria

Size: Percentage of social housing in the total dwelling stock	Broad-based system		Targeted system	
	No income limit waiting list		Income limits, waiting list with some combination of priority groups	Income limits, needs/priority based allocation
0-5%	Luxembourg		Estonia Korea Mexico Norway Slovak Republic Switzerland United States	Australia Italy Portugal Hungary Greece Slovenia
6-10%			Belgium New Zealand Ireland	Canada Germany Israel
11-20%	Sweden		Poland Spain	Czech Republic Finland France United Kingdom
More than 20%	Denmark Netherlands		Austria	

Source: Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", *OECD Economics Department Working Papers*, forthcoming.

networks and public services (e.g. Galster, 2007). This can have negative consequences for individual labour market outcomes and potential adverse effects on overall economic performance.<sup>16</sup> Thus, such programmes should be designed to avoid spatial concentration by ensuring that location of social housing is well integrated in the urban structure. It is also important to frequently reassess a household's eligibility for social housing, and to increase the rent or terminate the contract with advance notice if the household's situation has improved. This frees up social housing for needier households. An additional complication is that means-tested social housing systems may potentially reduce job-seeking incentives amongst the unemployed, or discourage low-wage workers from seeking higher paid jobs if social housing is withdrawn or rents are increased as earned income grows. The design and phasing out of social housing benefits should minimise any such adverse effects.

### **Consider rent allowances for enhancing housing opportunities**

The direct provision of social housing is only one way in which governments attempt to enhance housing opportunities for low-income households. Many countries also have some form of means-tested allowances for rental accommodation. The design, take-up and generosity of rental allowances vary widely across countries. They appear to be most significant in Ireland, the United Kingdom and some Nordic countries in terms of the value and coverage of subsidies. Where housing supply is constrained in the short run, however, part of the benefit of government rent allowances may shift from renters to landlords without necessarily enhancing housing availability for needy households. Indeed, there is some evidence that rent allowances are passed onto higher rents (e.g. Gibbons and Manning, 2003; Kangasharju, 2003; Susin, 2002). Thus, such allowances may entail fiscal costs without necessarily providing large improvements in housing

opportunities for low-income households, particularly if supply is rigid. Moreover, like social housing, rent allowances can undermine work incentives, particularly for second-earners, if benefits are phased out as earned income increases (e.g. Immervoll *et al.*, 2008). Even so, well-designed portable housing allowances – for instance, systems where the size of the subsidy is based on a norm rent and only to be used for housing costs – may be preferable to the direct provision of social housing as they do not seem to directly hinder residential mobility.

### Notes

1. This chapter is based on analysis in Andrews, D. Caldera-Sánchez, A. and Å. Johansson (2011), “Housing Markets and Structural Policies in OECD Countries” which provides extensive references to the literature on housing markets.
2. Negative equity is when the outstanding loan on a house is greater than the market value of the house.
3. The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
4. The loan-to-value ratio has risen in many OECD countries, for example from 80% to 100% in Belgium, France and Spain between 1990 and 2000. In some cases commercial banks may grant a mortgage above the maximum loan-to-value ratio if a mortgage insurance is taken out, but often this is costly.
5. The effect for older households is much smaller. The same estimates imply that on average, over all age groups, a 10 percentage point increase in the loan-to-value ratio raises aggregate home ownership by 3%.
6. Housing equity withdrawal is new borrowing secured on homes that is not invested in the housing markets, so it represents additional funds available for reinvestment or to finance consumption spending.
7. Loans with very high loan-to-value ratios also became more common in other OECD countries, such as in the Netherlands and the United Kingdom, although they generally constituted a much smaller share of the loan pool than in the United States.
8. The analysis of the effect of banking supervision takes into account the following factors: i) whether a country adopted a capital adequacy ratio based on the Basel standard; ii) the extent to which banking supervision agencies are independent of executives’ influence; iii) if banking supervisory agencies conduct effective supervisions through on-site and off-site examinations; and iv) if the banking supervisory agency covers all financial institutions without exception (see Abiad *et al.*, 2008 for more details).
9. The average refers to a simple average of the mobility rates of the countries included in the analysis, i.e. the rates are not weighted by the relative size of each country. The mobility rates are annualised.
10. These results should be interpreted with caution because causation cannot be easily established due to the possibility that households’ preferences for mobility influence the choice of tenure (so-called self-selection bias). See Caldera Sánchez and Andrews 2011 for details.
11. It is possible that some potential costs, such as litigation in the event of property purchase disputes, are not properly accounted for in this indicator.
12. In most OECD countries realised capital gains from the sale of principal homes are tax-exempt, or their taxation is deferred if reinvested in another principal home. The value of the house is, though, subject to inheritance tax in the majority of countries.
13. This indicator takes into account whether interest payments on mortgages are deductible from taxable income and, if so, any limits on the allowed period of deduction or the deductible amount and whether tax credits for loans are available. Obviously, other features of the tax system (notably recurrent taxes on property and the fiscal treatment of imputed rents) affect the cost of owner-occupancy.

14. Clearly households in rent-controlled dwellings benefit from lower rent, but because of poor targeting, many of these households have incomes which do not justify such controls. Therefore, these controls may achieve little in the way of income redistribution and they have large efficiency costs (O'Sullivan and de Decker, 2007; Ellingsen, 2003).
15. However, even in these countries often local governments reserve a number of dwellings for individuals with special needs (e.g. the Netherlands, Sweden).
16. For instance, there is evidence of adverse neighbourhood effects on educational achievement of children through peer group effects (e.g. Gibbons, 2002).

### **Bibliography**

- André, C. (2010), "A Bird's Eye View of OECD Housing Markets", *OECD Economics Department Working Papers*, No. 746.
- Andrews, D. (2010), "Real House Prices in OECD Countries – The Role of Demand Shocks and Structural and Policy Factors", *OECD Economics Department Working Papers*, No. 831.
- Andrews, D. and A. Caldera Sánchez (2011), "Drivers of Homeownership Rates in Selected OECD Countries", *OECD Economics Department Working Papers*, forthcoming.
- Andrews, D., A. Caldera-Sánchez and Å. Johansson (2011), "Housing Markets and Structural Policies in OECD Countries", *OECD Economics Department Working Papers*, forthcoming.
- Arnott, R. (2003), "Tenancy Rent Control", *Swedish Economic Policy Review*, Vol. 10.
- Ball, M. (2009), *European Housing Review*, Vol. 2009, RICS (Royal Institution of Chartered Surveyors).
- Barker, K. (2004), "Delivering Stability: Securing our Future Housing Needs", *Barker Review of Housing Supply – Final Report*, March.
- Barker, K. (2008), "Planning Policy, Planning Practice, and Housing Supply", *Oxford Review of Economic Policy*, Vol. 24 (1).
- Basu, K. and P.M. Emerson (2000), "The Economics of Tenancy Rent Control", *Center for Analytical Economics Working Papers*, No. 00-01, Cornell University, March.
- Cameron, G. and J. Muellbauer (1998), "The Housing Market and Regional Commuting and Migration Choices", *Scottish Journal of Political Economy*, Vol. 45, September.
- Caldera Sánchez, A. and D. Andrews (2011), "To Move or Not to Move: What Drives Residential Mobility in the OECD?", *OECD Economics Department Working Papers*, forthcoming.
- Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", *OECD Economics Department Working Papers*, forthcoming.
- Capozza, D., R. Green and P. Hendershott (1996), "Taxes, Mortgage Borrowing, and House (Residential Land) Prices", *Economic Effects of Fundamental Tax Reform*, H.J. Aaron and W.G. Gale (eds.), Brookings Institution Press, pp. 171-198.
- Coulson, N. and L. Fisher (2009), "Housing Tenure and Labor Market Impacts: The Search Goes On", *Journal of Urban Economics*, Vol. 65, No. 3, May.
- ECB (European Central Bank) (2003), "Structural Factor in the EU Housing Markets," European Central Bank, March.
- ECB (2009), "Housing Finance in the Euro Area", *Occasional Paper Series*, No. 101, March.
- Ellingsen, T. and P. Englund (2003), "Rent Regulation: An Introduction", *Swedish Economic Policy Review*, Vol. 10.
- Ellis, L. (2006), "Housing and Housing Finance: The View from Australia and Beyond", *Reserve Bank of Australia Research Discussion Paper*, No. 2006-12, December.
- Ferreira, F., J. Gyourko and J. Tracy (2008), "Housing Busts and Household Mobility", *NBER Working Paper*, No. 14310, September.
- Fitzpatrick, S. and M. Stephens (2007), "An International Review of Homelessness and Social Housing Policy", Department for Communities and Local Government, November.
- Flatau, P. et al. (2003), "Homeownership and Unemployment: The Roles of Leverage and Public Housing", *NBER Working Paper*, No. 10021, October.

- Fukao, M. and M. Hanazaki (1986), "Internationalisation of Financial Markets: Some Implications for Macroeconomic Policy and for the Allocation of Capital", *OECD Economics Department Working Papers*, No. 37.
- Galster, G. (2007), "Neighbourhood Social Mix as a Goal of Housing Policy: A Theoretical Analysis", *European Journal of Housing Policy*, Vol. 7, No. 1.
- Gibbons, S. (2002), "Neighbourhood Effects on Educational Achievement: Evidence from the Census and the National Child Development Study", *Discussion Paper LSE18*, Centre for the Economics of Education, London School of Economics.
- Gibbons, S. and Manning, A. (2003), "The Incidence of UK Housing Benefit: Evidence from the 1990s Reforms", *Centre for Economic Performance Working Paper*, No. 597, London School of Economics and Political Science.
- Glaeser, E.L., E.F.P. Luttmer (1997), "The Misallocation of Housing Under Rent Control", *NBER Working Paper*, No. 6220, October
- Haurin, D. R. and H.L. Gill (2002), "The Impact of Transaction Costs and the Expected Length of Stay on Homeownership", *Journal of Urban Economics*, Vol. 51, No. 3, May.
- Harris, B. (2010), "The Effect of Proposed Tax Reforms on Metropolitan Housing Prices", *Tax Policy Center Working Paper*, April.
- Hughes, G. and B. McCormick (1981), "Do Council Housing Policies Reduce Migration Between Regions?", *The Economic Journal*, Vol. 91, December.
- Hughes, G. and B. McCormick (1985), "Migration Intentions in the UK: Which Households Want to Migrate and Which Succeed?", *The Economic Journal*, Vol. 95, No. 380a (Supplement).
- Immervoll, H., et al. (2008), "An Evaluation of the Tax-Transfer Treatment of Married Couples in European Countries", *EPRU (Economic Policy Research Unit) Working Paper*, No. 08-03.
- Johansson, Å. (2011), "Housing Policies in OECD Countries: Survey-based Data and Implications", *OECD Economics Department Working Papers*, forthcoming.
- Kangasharju, A. (2003), "Maksaako Asumisttuen Saaja Muita Korkeampaa Vuokraa" (Do the Receivers of Housing Allowance Pay a Higher Rent?), Government Institute for Economic Research (VATT), *Discussion Paper 101*.
- Lind, H. (2001), "Rent Regulation: A Conceptual and Comparative Analysis", *European Journal of Housing Policy*, Vol. 1, No. 1, April.
- Menard, S. and F. Sellem (2010), "How Does Social Housing Affect the Rate of Equilibrium Unemployment?", February, [www.jma2010.fr/fichiers/364/MENARDESELLEM.pdf](http://www.jma2010.fr/fichiers/364/MENARDESELLEM.pdf).
- Nagy, J. (1997), "Do Vacancy Decontrol Provisions Undo Rent Control?", *Journal of Urban Economics*, Vol. 42, No. 1, July.
- van den Noord, P. (2005), "Tax Incentives and House Price Volatility in the Euro Area: Theory and Evidence", *Economie Internationale*, Vol. 101(2005), No. Q1.
- OECD (2009), *Economic Policy Reforms 2009: Going for Growth*, OECD Publishing.
- OECD (2010), *OECD Economic Outlook*, Vol. 2010/2, OECD Publishing.
- van Ommeren, J. and M. Van Leuvensteijn (2005), "New Evidence of the Effect of Transaction Costs on Residential Mobility", *Journal of Regional Science*, Vol. 45, No. 4.
- O'Sullivan E. and P. De Decker (2007), "Regulating the Private Rental Housing Market in Europe", *European Journal of Homelessness*, Vol. 1, December.
- Oswald, A. (1996), "A Conjecture of the Explanation for High Unemployment in the Industrialised Nations: Part I", *University of Warwick Economic Research Paper*, No. 475.
- Oswald, A. (1999), "The Housing Market and Europe's Unemployment: A Non-Technical Paper", *University of Warwick Non-Technical Papers*, [www.andrewoswald.com](http://www.andrewoswald.com).
- Saks, R. (2008), "Job Creation and Housing Construction: Constraints on Metropolitan Area Employment Growth", *Journal of Urban Economics*, Vol. 64, No. 1, July.
- Schuetz, J. (2007), "Land Use Regulations and the Rental Housing Market: A Case Study of Massachusetts Communities", *Working Paper Joint Center for Housing Studies*, Harvard University, March.

- Sims, D. (2007), "Out of Control: What Can We Learn from the End of Massachusetts Rent Control?", *Journal of Urban Economics*, Vol. 61, No. 1, January.
- Susin, S. (2002), "Rent Vouchers and the Price of Low-Income Housing", *Journal of Public Economics*, Vol. 83, No. 1, January.
- Turner, B., and S. Malpezzi (2003), "A Review of Empirical Evidence on the Costs and Benefits of Rent Control", *Wisconsin Real Estate Program Working Paper*, No. 03-03, Wisconsin School of Business, University of Wisconsin-Madison.
- US Census Bureau (2007), American Housing Survey (AHS), [www.census.gov/hhes/www/housing/ahs/ahs.html](http://www.census.gov/hhes/www/housing/ahs/ahs.html).