

II.2. Institutional features and regulation of housing and mortgage markets ⁽³⁵⁾

The most recent cycle in the housing and mortgage markets in euro-area countries was particularly sharp in both its upward and its downward phases. However, its severity varied significantly across countries, reflecting differences in economic conditions, but also in underlying institutional structures. Discerning how institutional structures influence agents' incentives and shape demand and supply for housing and credit is crucial to understanding these cycles and designing optimal policy responses. This special topic presents an overview of different policy set-ups and discusses how the resulting incentives affected housing and mortgage market developments in the latest cycle. Four policy areas are considered: tax treatment of housing, macro-prudential policy and mortgage market features, land regulation, and rental regulation.

Introduction

As described in a previous edition of this report ⁽³⁶⁾, a myriad of institutional and regulatory factors shape private agents' incentives to own or supply dwellings. Given the complex interactions between these structural settings and their macroeconomic outcomes, evaluating the effect of specific measures on house prices or private debt is quite challenging. The complexity rests in the diversity of, and lack of coordination between, the various policy areas affected (e.g. taxation, prudential policy, housing market regulations), the variety of objectives being pursued, differing operating frequency and lags, and uneven EU integration.

The most recent housing and mortgage market cycle has been particularly marked in most euro-area Member States. Nevertheless, it featured significant differences across countries in the length and amplitude of the upward and downward developments. These diverging patterns partly reflect the differing institutional structures that shaped market participants' incentives. In order to

design optimal policy responses and prevent unsustainable developments in the future, it is important to understand the relevant institutional factors and the underlying mechanisms.

Regulatory features generally influence real estate and credit market incentives through:

- **housing demand incentives** related to tax treatment, such as recurrent taxes on dwellings, VAT, transaction costs, etc.;
- **housing supply factors** including land-use and planning regulation, regulation of the rental market and the overall business environment;
- **mortgage demand incentives** comprising mortgage characteristics (such as loan-to-value ratios, typical maturity or currency denomination) and tax incentives on mortgages; and
- **credit supply factors** such as restrictions imposed by bank prudential regulation and supervision.

The following sections explore demand and supply effects on the housing and credit markets across four policy areas: housing-related tax treatment, macro-prudential policy and lending practices, land regulation, and rental regulation.

The results indicate that, at the peak of the latest housing and mortgage cycle, higher demand incentives from tax treatment and lending tended to be associated with bigger changes in household indebtedness and house price misalignment. In addition, supply rigidity is likely to have played an aggravating role, further amplifying the effects of demand distortions.

Tax treatment

Taxation is one of the most influential policy areas in providing incentives for the housing and mortgage markets. Property taxes affect market participants' incentives to buy, rent, invest or build dwellings. Tax arrangements such as transaction and recurrent taxes or interest tax relief generally influence real estate and credit via demand channels. On the supply side, taxation may also affect land use via land taxes or charges on development. Finally, policymakers have taken a particular interest in property taxes in the current

⁽³⁵⁾ Section prepared by Carlos Cuerpo Caballero, Anda Patarau and Peter Pontuch.

⁽³⁶⁾ European Commission (2011), 'House price imbalances and structural features of housing markets' *Quarterly Report on the Euro Area* 3/2011.

context of economic recovery, as these are considered less detrimental to growth than other taxes. ⁽³⁷⁾

Empirical literature points to the importance of housing-related tax instruments, tax hikes being one of the few policy measures, other than interest rates, that have a measurable impact on house prices. ⁽³⁸⁾ In addition, tax arrangements favouring ownership over renting often go hand-in-hand with the taking-on of excessive debt. ⁽³⁹⁾ The removal of these skewed incentives could render housing markets more efficient and equitable and promote a better allocation of savings and investment.

A ‘first-best’ solution for the neutral tax treatment of owner-occupied housing, as compared with alternative investments, is to tax imputed rents and capital gains fully while deducting mortgage interest payments. ⁽⁴⁰⁾ In reality, however, imputed rents are seldom taxed ⁽⁴¹⁾ and substitutes are sought in the form of transaction and recurrent property taxes. Recurrent property taxes levied at low tax rates on out-of-date tax bases, combined with interest tax relief, generally result in a bias towards home ownership. A second-best approach thus involves phasing out mortgage interest tax relief and/or scaling up recurrent property taxes, preferably in a first step by aligning the tax base with market levels. ⁽⁴²⁾

Currently, only very few euro-area countries tax imputed rents ⁽⁴³⁾ and even when they do, the tax rate or tax base is generally low. Transaction taxes and recurrent property taxes are applied to properties in most euro-area countries. However,

more than half the euro-area Member States have been using outdated cadastral values ⁽⁴⁴⁾ and almost half have been applying some form of mortgage interest tax relief in combination with suboptimal forms of property taxation. Though not the sole driver of home ownership, mortgage interest tax relief appears to have a positive effect on house prices and undesirable impacts on low-income households. ⁽⁴⁵⁾

To capture property tax incentives in the euro-area and other EU countries, an index is computed combining three categories of housing-related tax instruments:

- transaction taxes;
- recurrent property tax; and
- mortgage interest tax relief. ⁽⁴⁶⁾

The resulting index, which can lie between 0 and 3 (with higher values indicating tax incentives skewed towards owner-occupied housing and debt), is presented in Table II.2.1. It should be noted, however, that the composite index is not an exhaustive measure of the tax treatment of owner-occupied housing and should therefore be interpreted with care. ⁽⁴⁷⁾

A few conclusions follow from the reading of the composite index. In 2011, when the institutional pattern prevailing at the peak of the latest housing

⁽³⁷⁾ Johansson, Å., Heady, C., Arnold, J., Brys, B. and Vartia, L. (2008), ‘Tax and Economic Growth’, OECD *Economics Department Working Papers* No 620; European Commission (2013), ‘Tax reforms in EU Member States’, *European Economy* 5/2013.

⁽³⁸⁾ See Kuttner, K and I. Shim (2013), ‘Can non-interest rate policies stabilise housing markets? Evidence from a panel of 57 economies’ *BIS Working Papers* No 433, November 2013.

⁽³⁹⁾ P. van den Noord (2005), ‘Tax incentives and house price volatility in the euro area: theory and evidence’, *Économie internationale* 101.

⁽⁴⁰⁾ See Crowe, C., G. Dell’Ariccia, D. Igan, D and P. Rabanal (2013), ‘How to Deal with Real Estate Booms: Lessons from Country Experiences’, *Journal of Financial Stability* 9, Johannesson-Linden, Å and Gayer, C. (2012), ‘Possible reforms of real estate taxation: Criteria for Successful Policies’ *European Economy Occasional Papers* 119 and OECD (2011), ‘Housing and the Economy: Policies for Renovation’, *Economic Policy Reforms 2011 Going for Growth*. Imputed rent is the rental value of owner-occupied housing, i.e. it is part of the owner’s income.

⁽⁴¹⁾ About one third of OECD countries, even less in the euro area.

⁽⁴²⁾ Crowe *et al.* 2013.

⁽⁴³⁾ The Netherlands and Luxembourg on main dwellings, Belgium, Spain and Italy for other than main dwellings.

⁽⁴⁴⁾ Cyprus, Germany, Greece, Italy, Portugal, Austria, Belgium, Estonia, France and Luxembourg (also Denmark, Lithuania, Sweden and the UK outside the EA). Of these, in five (Austria, Belgium, Estonia, France, Luxembourg), as well as the UK and Sweden outside the euro area, there is no indication of upcoming reform. See European Commission (2012, 2013): ‘Tax reforms in EU Member States’, *European Economy* 6/2012 and 5/2013.

⁽⁴⁵⁾ OECD (2011) shows that mortgage interest deductibility can have regressive effects given the rising propensity to own a house with income and the fact that it is usually a deduction against earned income, rather than a tax credit.

⁽⁴⁶⁾ Using information from Johannesson-Linden and Gayer (2012), the European Commission’s ‘Taxes in Europe — Tax reforms’ database and IBFD, ‘The European Tax Handbook’ 2010 and 2013, scores are assigned from 0 to 3 for the tax incentives for owner-occupied housing: 0-none, 1-low, 2-medium and 3-high. The composite index is computed as a weighted average of the three scores, with transaction costs being 20% and recurrent property taxes and interest tax relief each 40% of the total. The lower weight of the first category accounts for the fact that these taxes apply only on current transactions and are therefore less important for the taxation of owner-occupied housing.

⁽⁴⁷⁾ The index does not capture taxes on capital gains, rented accommodation or other alternative investment income. Moreover, as recurrent property tax revenues also reflect, in unknown portions, commercial property taxation, the revenue level cannot be interpreted exclusively as residential tax burden.

cycle still applied, the group with high tax incentives in favour of ownership included five euro-area countries. Of these, Finland and the Netherlands (together with non-euro countries Sweden and the Czech Republic) had the least desirable combination of low revenues from recurrent property taxation and high mortgage interest tax relief. Remarkably, in several cases, only limited (or no) reforms have been undertaken to reduce the tax incentives for owner-occupied housing.

As for the rest, a general shift towards less favourable tax treatment of ownership can be observed after 2011. Spain, Greece, Ireland and Portugal have made considerable changes to housing-related taxation, in particular by phasing out mortgage interest tax relief.

Table II.2.1: **Composite index of tax incentives for owner-occupied housing**

2011	Composite Tax Index	Incentives	Latest data (2012-2013) (2)	Composite Tax Index	Incentives
France	0.0	None	France	0.0	None
Cyprus	0.6	Low	Greece	0.0	None
Belgium	0.8	Medium	Spain	0.0	None
Greece	0.8	Medium	Italy	0.4	Low
Italy	0.8	Medium	Cyprus	0.6	Low
Latvia	0.8	Medium	Portugal	0.6	Low
Spain	0.8	Medium	Belgium	0.8	Medium
Austria	1.0	Medium	Ireland	0.8	Medium
Germany	1.0	Medium	Latvia	0.8	Medium
Portugal	1.0	Medium	Slovenia	0.8	Medium
Ireland	1.2	Medium	Austria	1.0	Medium
Luxemburg	1.2	Medium	Germany	1.0	Medium
Slovenia	1.2	Medium	Luxembourg	1.2	Medium
Malta	1.4	High	Finland	1.4	High
Slovakia	1.4	High	Malta	1.4	High
Netherlands	1.6	High	Slovakia	1.4	High
Estonia	1.8	High	Estonia	1.8	High
Finland	1.8	High	Netherlands	2.0	High
p.m.: non EA			p.m.: non EA		
UK	0.4	Low	UK	0.2	Low
Poland	0.6	Low	Poland	0.6	Low
Romania	0.6	Low	Romania	0.6	Low
Hungary	1.2	Medium	Denmark	1.2	Medium
Lithuania	1.4	High	Hungary	1.2	Medium
Denmark	1.6	High	Czech Rep.	1.4	High
Bulgaria	1.8	High	Lithuania	1.4	High
Czech Rep.	2.0	High	Bulgaria	1.8	High
Sweden	2.0	High	Sweden	2.0	High
Croatia	n.a.	n.a.	Croatia	n.a.	n.a.

(1) The index is a weighted average of tax incentive scores for transaction tax, recurrent property taxes and mortgage interest tax relief.

(2) Latest data for recurrent taxes: 2012.

Source: DG ECFIN calculations.

Less favourable tax treatment of ownership can also be seen in Finland, mainly due to reduced mortgage interest tax relief, and in Slovenia and Italy, due to a scaling-up of recurrent property taxes. (48) Moreover, with cadastral value updates recently started or already under way in several countries, tax incentives are expected to correct further.

(48) Latvia and Ireland (and, outside the euro area, Lithuania) scaled up recurrent property taxes as of 2013, but the effect is not yet visible in the 2012 revenue data used here.

Macro-prudential regulation and mortgage market features

Prudential regulation can directly impact mortgage market outcomes, with second-round effects on house prices. (49) As compared with taxation, it has the advantage of a lower political cost (its effects are less direct and can be more easily focused on new transactions) and enabling a mix of automaticity and relative flexibility (‘guided discretion’). However, the use of such tools is not without its problems, in particular due to:

- the challenge of implementing counter-cyclical measures in an upswing (e.g. fear of triggering an adjustment, political pressures);
- the inherent difficulty of calibrating them; and
- the possibility of circumvention if tools are applied in isolation or do not cover all market segments.

Of the instruments acting on housing credit, those affecting credit *supply* by increasing the cost of lending (e.g. liquidity and solvency rules) are more uniformly regulated in the EU than others. In addition to the minimum core capital requirement applicable to all credit institutions, the Capital Requirements Directive IV package includes capital buffers to be set against specific criteria. The main merit of these tools is to increase the resilience of the financial system, in particular banks’ capacity to absorbing losses. Recent research on large panels of developed and developing economies indicates that supply-side measures acting on the cost of lending (e.g. reserve and capital requirements, dynamic loan-loss provisioning) empirically appear to have a limited effect on credit and house price developments. (50) Conversely, *demand*-side policies such as loan-to-value (LTV) and debt-service-to-income (DSTI), which are not uniformly regulated,

(49) Other pieces of EU regulation appear relevant for housing and mortgage markets: e.g. the Mortgage Credit Directive seeks to foster responsible lending and borrowing via EU-wide creditworthiness standards.

(50) See Crowe *et al.* (2013), Kuttner and Shim (2013) on calibration challenges and the fact that effectiveness can be country-specific. Effectiveness could in particular vary depending on economic and institutional development, independence of monetary policy and the exchange rate regime.

appear more effective in controlling credit growth. ⁽⁵¹⁾

Demand-side prudential instruments, together with typical lending practices based on interest rates and loan maturity, are therefore analysed more closely (see Table II.2.2). These aspects are only a selection that does not attempt to capture the full complexity and diversity of financial products. The conclusions as to their effects are based on the assumption that permissive LTV and DSTI ratios, the use of variable interest rates and longer typical maturities encourage risky debt-taking for home-purchasing purposes. ⁽⁵²⁾ An incentive bias for risky debt-taking is then calculated primarily from typical maturity and prevailing interest rate type, with typical LTV ratios as a qualifier. On this basis, in the past cycle, euro-area countries such as Spain, Slovenia and Portugal, had a prevalence of variable interest rates. Moreover, typical maturities were particularly long in some euro-area countries, such as Ireland, Malta and Portugal. Finally, several euro-area countries (e.g. Ireland, Belgium and the Netherlands) presented high typical LTV ratios.

In addition, in the most recent house-price cycle, prudential authorities in the EU:

- made limited use of counter-cyclical LTV maxima, either not applying them in the upswing or using them pro-cyclically in the downturn ⁽⁵³⁾;
- in many cases left the decision on LTV ratios to the market, through financial institutions ⁽⁵⁴⁾; and
- hardly employed DSTI caps.

Looking ahead, implementation of the various legislative packages under the Single Rulebook is expected to contribute to more prudent lending and borrowing, as the new measures will make it possible to pursue bank resilience as well as preventing unsustainable developments. Implementation will also lead to a more

harmonised application of some supply-side instruments, reducing the scope for idiosyncrasy in EU mortgage and housing markets.

Table II.2.2: **Incentives for risky debt-taking from prudential regulation and lending practices**

	Typical maturity	Prevailing interest rate type	Typical LTV
Austria	Medium	Medium	Medium
Belgium	Low	Low	High
Cyprus	Medium	High	Medium
Estonia	n.a.	High	Low
Finland	Medium	High	Medium
France	Medium	Low	Medium
Germany	Medium	Low	Medium
Greece	Low	Low	Medium
Ireland	High	High	High
Italy	Low	Medium	Low
Latvia	n.a.	n.a.	High
Luxembourg	Medium	High	Medium
Malta	High	High	Medium
Netherlands	Medium	Low	High
Portugal	High	High	Medium
Slovakia	n.a.	n.a.	Medium
Slovenia	Medium	High	Low
Spain	Medium	High	Medium
<i>p.m.: non EA</i>			
Bulgaria	n.a.	Medium	Medium
Croatia	n.a.	n.a.	n.a.
Czech Republic	n.a.	Medium	Low
Denmark	n.a.	Medium	Medium
Hungary	n.a.	Medium	Low
Lithuania	n.a.	n.a.	Low
Poland	n.a.	High	Medium
Romania	n.a.	n.a.	High
Sweden	n.a.	High	Medium
United Kingdom	n.a.	High	Medium

(1) The incentive bias indicators are based, respectively, on the typical mortgage maturity in 2007, the prevalence of variable rate loans using various data sources between 2003 and 2006, and the typical LTV ratios as of 2011.

Source: Staff calculations, input data from Warnock, V. C., and F. E. Warnock (2008): Markets and Housing Finance, Journal of Housing Economics 17(3), Task Force of the ESCB Monetary Policy Committee (2009): Housing finance in the euro area, ECB Occasional Paper 101 (2009), EBA stress tests 2011 and transparency exercise 2013.

Land regulation

Housing market outcomes are also affected by supply-side considerations. The impact of demand shocks on prices or quantities depends heavily on the price-elasticity of supply. There is unequivocal empirical evidence of a positive correlation between house price adjustment and variability, on the one hand, and supply rigidity in the face of demand pressures, on the other. Studies on a pool of EU and OECD countries indicate that, controlling for demand conditions, house-price adjustment is relatively larger in more supply-inelastic locations. ⁽⁵⁵⁾ Diverging housing supply

⁽⁵¹⁾ Kuttner and Shim (2013) find that, of the two, DSTI measures seem to be more effective.

⁽⁵²⁾ Although credit demand is not necessarily higher on average with flexible-rate mortgages, the inherent interest rate risk could be seen as a potential source of instability in the recovery phase.

⁽⁵³⁾ Exceptions are Romania and Spain, which introduced LTV ratio caps already in 2004, and Croatia in 2006.

⁽⁵⁴⁾ Given the very few cases of actual regulatory caps, the typical LTV ratios are used in this assessment.

⁽⁵⁵⁾ Gattini, L. and Ganoulis, I. (2012), 'House Price Responsiveness of Housing Investments Across Major European Economies', *ECB Working paper Series*, No 1461, and Caldera, A. and Johansson, A. (2011), 'The Price Responsiveness of Housing

responsiveness to a given demand shock might thus have been partly responsible for house-price level dispersion in EU countries over the last cycle.

However, the additional house price stability coming from a more responsive construction sector must be weighed against the macroeconomic costs associated with excessive movements in residential investment. Where housing supply is elastic, rapid developments in the construction sector may be associated with the build-up of imbalances affecting the current account, the labour market and, more generally, a misallocation of productive resources.

Two main factors determine the availability of developable land, which in turn is a major driver of housing supply elasticity:

- physical constraints, i.e. geographical and demographic features; which are a given characteristic of a country.
- policy aspects, e.g.:
 - (i) land and planning regulation;
 - (ii) public services and infrastructure provision, including social housing policy; and
 - (iii) competition policy affecting the construction sector.

Stricter planning regulation has a negative impact on supply responsiveness by limiting the availability of land, increasing land-price volatility, delaying investment decisions and creating uncertainty and possible speculation. Empirical evidence of the impact of planning regulation on supply elasticity of this impact is nevertheless scarce due to inherent methodological difficulties. ⁽⁵⁶⁾

Disregarding market structure, strict planning regulation (as, for instance, in Austria, Belgium, the Netherlands and Italy) and physical constraints (as in Belgium or the Netherlands, where land-use

intensity is higher) will account for a steeper supply curve. ⁽⁵⁷⁾ Both types of constraint thus tend to reduce the responsiveness of housing investment and act as propagation channels for housing demand shocks. ⁽⁵⁸⁾

In sum, both overly rigid and very elastic housing supply curves should be watched carefully. On the one hand, excessive upward pressures on house prices from land planning should be avoided in high-demand environments, in particular if geographical restrictions stiffen supply. In this case, upward price pressures have an adverse impact on housing affordability and, more importantly, tend to be mirrored in household indebtedness. This in turn increases countries' vulnerability to aggregate shocks, e.g. via the financial channel (even when wealth effects of housing are relatively mild). On the other hand, large swings in construction accompanying very elastic supply should also be averted as they tend to reinforce the housing cycle and may further exacerbate macroeconomic imbalances. The macroeconomic consequences are particularly serious in the downturn phase, as the reallocation of productive resources is generally accompanied by spiking unemployment.

Rental market regulation

The existence of a developed rental market, and hence the availability of rental housing as a genuine alternative to ownership, is another institutional feature shaping the housing market. From an economic perspective, the moderating role of rental markets resides in their capacity to ease households' credit constraints, ⁽⁵⁹⁾ but they also reduce friction in the labour markets by encouraging mobility. ⁽⁶⁰⁾

Rental market regulation sets incentives for landlords and tenants, with an implicit target balance between social fairness and economic efficiency. Country-specific factors often interfere with policy-making and result in heterogeneous configurations across Member States. Existing

Supply in OECD Countries', *OECD Economics Department Working Papers*, No 837.

⁽⁵⁶⁾ See for instance Glaeser, E.L., Gyourko, J. and Saks, R.E. (2005), 'Why is Manhattan so expensive? Regulation and the Rise in Housing Prices', *Journal of Law and Economics* 48 (2), and Saiz, A. (2010), 'The Geographical Determinants of Housing Supply', *The Quarterly Journal of Economics*, 125 (3).

⁽⁵⁷⁾ Saks, R.E. (2008), 'Job Creation and Housing Construction: Constraints on Metropolitan Area Employment Growth', *Journal of Urban Economics*, 64 (1).

⁽⁵⁸⁾ As confirmed by Saiz (2010) or Hilber, C. and Vermuelen, W. (2010), 'The impacts of restricting housing supply on house prices and affordability', *Report for the UK DCLG*.

⁽⁵⁹⁾ Arce, O. and López-Salido, D. (2011), 'Housing Bubbles', *American Economic Journal: Macroeconomics* 3 (1).

⁽⁶⁰⁾ Andrews, D., Caldera-Sánchez, A. and Johansson, A. (2011), 'Housing Markets and Structural Policies in the OECD', *OECD Economics Department Working Papers* No 836.

regulation is subject to considerable inertia and should be understood in its historical context. ⁽⁶¹⁾ Political considerations, rather than market developments, appear to be the main driver of change in tenancy law.

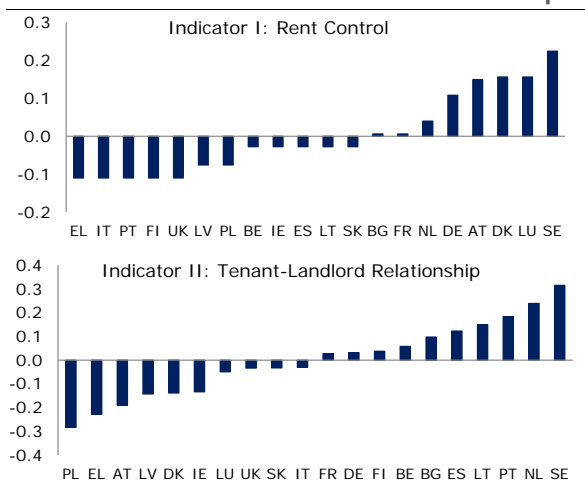
Most empirical studies assess the impact of rental market regulation on rents and new construction and usually find uncertain overall effects on quantities and prices. There is little evidence of welfare gains from rent controls, despite the direct effect on rent levels, especially when associated efficiency losses and redistribution concerns are taken into account. ⁽⁶²⁾ Lastly, regulated rents tend to restrict rental housing supply by limiting the profitability of rental investment, partially offsetting the drop in rents and fostering potential lock-in effects for sitting tenants. ⁽⁶³⁾

If rents are regulated only within a rental term and set to the market level for new leases, efficiency losses may be more moderate. However, in such settings it is in landlords' interest to increase contract rotation (e.g. via eviction processes, biased tenant selection or low maintenance investment), while tenants tend to opt for long tenancies as the fixed costs of moving increase. ⁽⁶⁴⁾ Moreover, the resulting duality between new and existing tenants implies adverse distributional effects for the former without affecting aggregate rent levels. In practice, landlords will tend to frontload expected rent increases into new rents to compensate for the fact that rents are regulated within tenancies. ⁽⁶⁵⁾

Recent DG ECFIN work develops a quantitative indicator of rental market regulation using various features affecting tenancy contract negotiation. ⁽⁶⁶⁾ Factor analysis identifies two dominant dimensions in rental regulation – rent controls and the tenant-landlord relationship – enabling the construction of two indicators (Graph II.2.1).

The analysis then finds that rent controls have a significant destabilising impact on the aggregate housing market. Specifically, these measures increase the volatility of house prices in the face of different shocks (e.g. shifts in population, disposable income, residential investment and interest rates). This implicitly reflects the adverse effects of rent control measures on the size of the rental market and on decisions as to whether to rent or buy, forcing more people to enter the property market. In contrast, qualitative aspects of the tenant-landlord contract negotiation do not have a first-hand impact on housing market dynamics.

Graph II.2.1: Indicator of regulation of rent control and tenant-landlord relationships



(1) Lower composite indicator values reflect lower degrees of rent control and tenant protection, respectively. Data refer to the private rental market. Data for CZ, CY, HU, MT, RO, SI and SK are not complete along the different sub-indicators.

Source: Staff calculations

Conclusion and policy takeaways

Non-interest rate policies relevant for housing markets are formulated and implemented at very different levels, ranging from powers with some EU-wide reach and still in development (macro-prudential), to mostly national (tax policy), regional and local competence (some land regulations). Such a set-up generates a complex incentive structure shaping the dynamics of national housing and mortgage markets.

As regards the **tax treatment** of owner-occupied housing in relation to other investment, incentives in favour of home ownership and indebtedness can be kept moderate through higher reliance on property taxes in the overall fiscal mix, preferably using recurrent property tax, revenue-based on

⁽⁶¹⁾ Ellingsen, T. and Englund, P. (2003), 'Rent Regulation: An Introduction', *Swedish Economic Policy Review*, Vol. 10.

⁽⁶²⁾ Arnott, R. (1995), 'Time for revisionism on rent control?', *Journal of Economic Perspectives*, 9 (1).

⁽⁶³⁾ ECB (2003), 'Structural factors in EU housing markets'; Lind, H. (2003), 'Rent regulation and new construction: With a focus on Sweden 1995-2001', *Swedish Economic Policy Review*, Vol. 10.

⁽⁶⁴⁾ Arnott, R. (2003), 'Tenancy Rent Control', *Swedish Economic Policy Review*, Vol. 10.

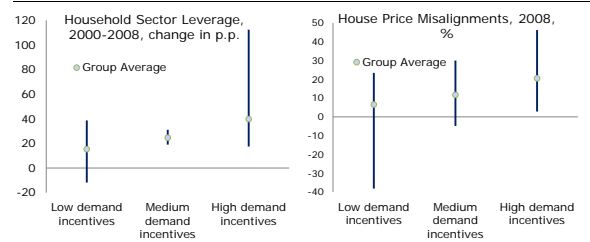
⁽⁶⁵⁾ Andrews *et al.* (2011).

⁽⁶⁶⁾ Cuerdo, C., Kalantaryan, S. and Pontuch, P. (2014), 'Rental Market Regulation in the EU', *European Economy Economic Papers* 515, April 2014.

updated cadastral values. As regards the **mortgage market**, implementation of the recent EU financial regulatory packages is expected to ensure more prudent lending and borrowing, and a more uniform application of some supply-side instruments. **Land regulation** should take into account broader housing market objectives linked to dwelling availability and affordability, and be considered jointly with physical obstacles to land development. Lastly, **rental market regulation** should seek to minimise the use of rent controls and to balance tenants' and landlords' incentives by ensuring both security of tenancy and landlords' property rights.

The effect on housing and credit developments of demand-stimulating tax and lending incentives for home ownership is illustrated in Graph II.2.2 for all EU countries. Using the analysis in the previous sections (Tables II.2.1 and II.2.2) to create three categories, the graph suggests that high demand incentives tended to be associated, over the last cycle, with bigger changes in household indebtedness and house price misalignments. Moderating these demand-shifting factors appears desirable to improve the efficiency of incentives for housing and credit market participants, and thereby stabilise market outcomes.

Graph II.2.2: **Impact of demand incentives on household credit and house prices**



Source: (1) Min., max. and average values for three groups of countries according to the degree of demand distortions in housing and mortgage markets.

(2) House price misalignment in 2008 is the average of the price-to-rent, price-to-income and fundamental model price gaps. See European Commission (2011), *Assessing the dynamics of house prices in the euro area*, Quarterly Report on the Euro Area 4/2012 for methodological details.

(3) Low demand incentives group are countries with low or medium incentives on the taxation and prudential dimension (FR, BE, EL, AT, DE, HU, IT); Medium incentives are the high-low combinations (LT, CZ, CY, PL, RO, UK); High overall distortions require high distortions in one dimension and at least medium in the other one (BG, DK, NL, SK, ES, IE, LU, LV, PT, SE, SI). Source: Eurostat, DG ECFIN calculations

Demand incentive structures should be weighed in combination with housing supply considerations. Supply restrictions should be minimised in countries in which residential development is relatively less responsive, as they may further amplify the effects of demand distortions. Therefore, when devising policies pertaining to land planning or rental markets, policymakers should bear in mind their broader implications for housing market stability and consider them within the context of existing tax treatment and lending incentives in favour of home ownership.