



ECFIN *Country Focus*

ECONOMIC ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

HIGHLIGHTS IN THIS ISSUE:

- *Finnish house prices increased by about 84% relative to consumer prices over the last 20 years.*
- *No clear evidence of housing market overvaluation.*
- *Risks related to household debt appear moderate, but require continuous monitoring.*
- *Policies should focus on removing unnecessary incentives for house purchasing and mortgage indebtedness.*

Finland's high house prices and household debt: a source of concern?

By Helena Marrez* and Peter Pontuch**

Summary

Finnish house prices have been on the rise for almost two decades, leading to a cumulative inflation-adjusted growth of 84% from the 1993 trough. The upturn has led to a progressive increase in valuation ratios that measure house prices against disposable income and rentals, although this has been more moderate compared to other Nordic countries. Rising house prices were mirrored by the increase in household debt, starting at relatively low levels and currently at the euro-area level. Overvaluation of the housing market, if it leads to a sharp adjustment, could represent a risk for financial stability and for the overall economy. Our analysis suggests, however, that the housing market has merely been responsive to structural changes in underlying supply and demand factors. The decreasing affordability and rising price-to-rental ratios were mostly driven by changes in financing costs, demographic developments, as well as by limitations to land supply and moderate construction activity. Although the level of Finnish household debt is a concern, especially given its rapid increase during the 2000s, risks appear relatively moderate at present. Even with substantial spikes in interest rates and unemployment, the deterioration in the quality of bank loan portfolios should be contained. Notwithstanding the moderate current risks, continued phasing-out of incentives encouraging debt-financed house purchases could help to avoid an unsustainable build-up in household indebtedness and to mitigate risks for future overheating of the housing market.

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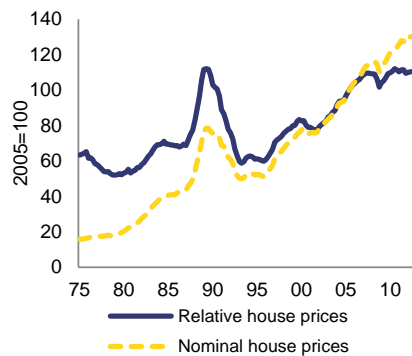
House price developments

■ *The Finnish housing market experienced a continuous rise in house prices from the last trough in 1993.*

Finnish house prices have been climbing for several years, with nominal house prices increasing by about 150% from their 1993 trough (see Figure 1). The pace of this sustained increase exceeded that of consumer prices and housing became significantly more expensive in inflation-adjusted terms. In 2012 house prices adjusted by the private consumption deflator (hereinafter referred to as "relative house prices") were 84% above the level of 1993. For comparison, the rise in house prices was lower than in Sweden, where inflation-adjusted house prices today stand about 140% above the level of 1993. The evolution of house prices in Finland also differs from the experience in Denmark, which was characterized by a strong decline in 2008 and onwards, though still showing an inflation-adjusted increase of 90% compared to 1993. Nevertheless, the cumulated increase of house prices in Finland might signal concerns with regard to the sustainability of developments in the housing market.

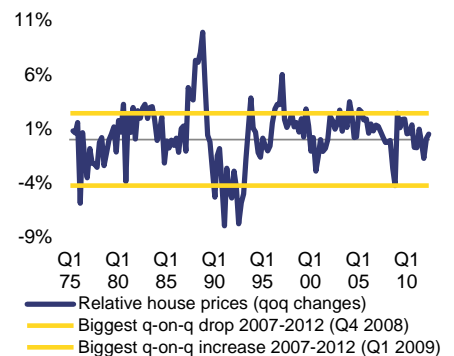
Compared to previous decades, and notably to the crisis period in the early 1990s, the Finnish housing market has been relatively stable over the past five years, with moderate quarter-on-quarter relative house price changes (Figure 2). In particular, there has been no significant reduction in house prices in the recent years, unlike in several other EU countries. Following a modest drop in 2008/09, house prices swiftly rebounded in 2010 and stabilized in 2011. As of 2012 Finland was among the few Member States still experiencing a positive, though moderate, growth in nominal terms.

Figure 1: Nominal and relative house prices 1975-2012¹



Source: Commission services.

Figure 2: Quarter-on-quarter changes in relative house prices 1975-2012

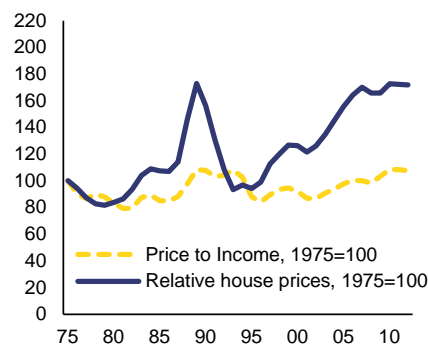


Source: Commission services.

■ *The price-to-income increase was moderate compared to Sweden and the UK.*

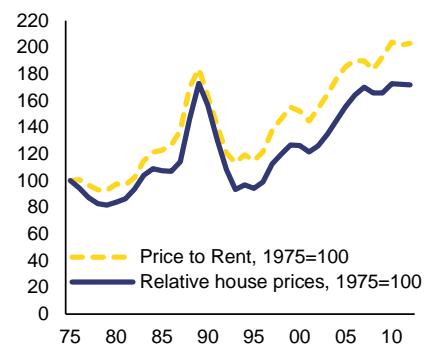
Affordability of housing decreased in the upswing phase from 1995 to 2012, as shown by the ratio of house prices to household income, which increased by about 33% over this period (see Figure 3). This appears as relatively moderate compared to, for instance, the increase of 69% in Sweden and 96% in the UK, and is equal to that in Denmark, which has experienced a reduction in house price since 2007. Looking at a longer period, real household incomes in Finland have been broadly keeping up with house price increases, although the price-to-income ratio is currently above its long-term average.² The price-to-rental ratio has increased more markedly in recent years³, due to the relative stability of rental prices and a fall in the costs of ownership, most notably mortgage costs (see next sections and the box for more details).

Figure 3: Price-to-income ratio, 1975-2012



Source: Commission services.

Figure 4: Price-to-rent ratio, 1975-2012



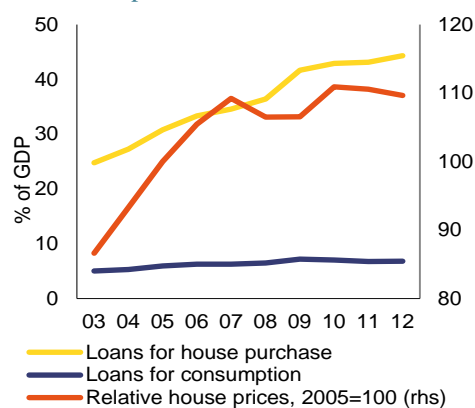
Source: Commission services.

Household debt related to housing stands at 44% of GDP, up from 25% of GDP 10 years ago.

Household debt developments

The sustained increase in house prices was mirrored in the accumulation of household debt. Private sector debt (households and non-financial corporates, but excluding the financial sector) reached 184% of GDP in 2012 (est.). Although below the levels observed in the other Nordic EU countries, i.e. 239% in Denmark and 255% in Sweden, this ratio is above the EA17 level of 164%. Finnish household debt amounted to 65% of GDP in 2012, almost equal to the EA17 level of 64%, and below Danish and Swedish levels of 141% and 84%, respectively.

Figure 5: Relative house prices and housing and consumption loans, 2003-2012



Source: Commission services.

The biggest part of household debt is related to housing, with mortgage loans increasing together with house prices. When the Finnish economy recovered from the crisis in the early 1990s, house prices started to increase. With relative prices trending upwards, the total loan amount for housing, expressed as a percentage of GDP, started to rise as well (figure 5). In contrast, consumer loans remained between 5% and 7% of GDP. The rising amount of loans for house purchases reflected households' need and willingness to take on debt in order to be able to acquire a dwelling at higher prices.

In summary, the observed evolution of house prices and the rise in household debt in Finland do not point to a housing boom-bust dynamics, as experienced for instance by Spain and Ireland. Still, the sustained increase of house prices over the past two decades, which pushed household debt up from low initial levels, could be a cause for concern. An accumulation of household debt driven by rising house prices can be problematic and as such cannot continue indefinitely. Furthermore it creates vulnerabilities for aggregate activity and financial sector stability, should a sudden house price adjustment occur. As shown by the recent experience of other non-vulnerable Member States (e.g., Denmark and the Netherlands), deleveraging of households reinforced by falling house prices represents a significant drag on growth even in the absence of an outright housing market bust.

Structural housing demand and supply factors

The comparison of valuation ratios with their historical average provides first-order information on potential housing market mispricing. However, these need to be interpreted in the context of any important structural shifts affecting housing demand or supply. For Finland, important factors include a booming population in the Helsinki area on the one hand and restrictive land allocation procedures and lags in the construction sector on the other hand.

The Helsinki area, where prices increased most, has experienced strong population growth which, in combination with a relative shortage of land, seems to be a driving force. Figure 6 highlights that prices in the capital increased much more than in the rest of the country during the upswing, and resisted strongly to downward pressures post-2010.

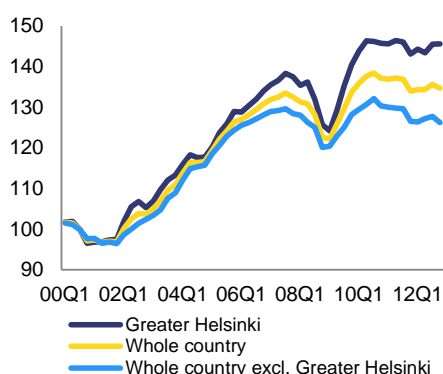
Restricted availability of building land significantly contributed to limiting house supply, especially in growth areas such as the Helsinki metropolitan area. This lag in supply

■ *Over the past twenty years of upward trending house prices, supply seems to have been lagging behind housing demand.*

might be surprising, since even the largest Finnish cities are not densely constructed by international standards (Ministry of Environment, 2012). The Ministry of Environment, in charge of land planning decisions, appears to apply stricter principles of quality of living and sustainability in its land availability decisions. Besides, procedures to allocate building land take time. Due to the involvement of different levels of government, decisions can lag behind the increase in demand, especially in regions where the latter grows strongly. Moreover, multiple possibilities to appeal against land allocation decisions exist and can represent additional frictions in land supply (Vartia, 2006).

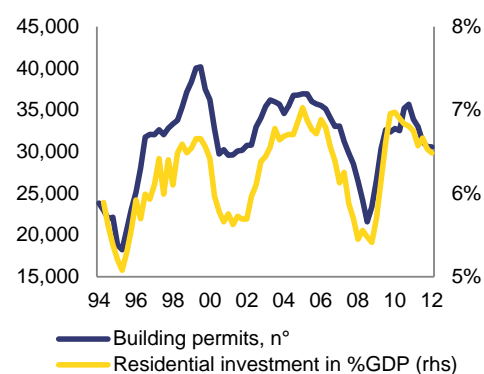
The above frictions could explain why the gradual rise of house prices was not accompanied by a construction spike, given that residential investment remained moderate by international standards over the past two decades. After the real estate crisis in the early 1990s, residential construction had to catch up in the 2000s. The average residential investment as a share of GDP was 6.3% over 2000-2012, somewhat above the levels of Germany, France and Denmark (between 5% and 6%), and significantly above Sweden (3.1%) In contrast, Member States that underwent a housing boom had an average residential investment close to or above 9%, peaking around 13%. The number of building permits granted in the period 2000-2012 was highest in 2005 (Figure 7); nevertheless this level still remained below the peak reached in 1999. Over the last two years residential investment has held up well compared to the euro area, with Finland now posting the highest rate in the euro area following a contraction in several Member States.

Figure 6: Inflation-adjusted prices of apartments and attached houses, 2000=100, 2000-2012.



Source: Statistics Finland

Figure 7: Residential building production (n° dwellings), 1994-2012



Source: Commission services.

BOX: ARE FINNISH HOUSE PRICES IN LINE WITH RENTS?

■ *Fundamentals explain most of the valuation gap obtained from price-to-rent ratios.*

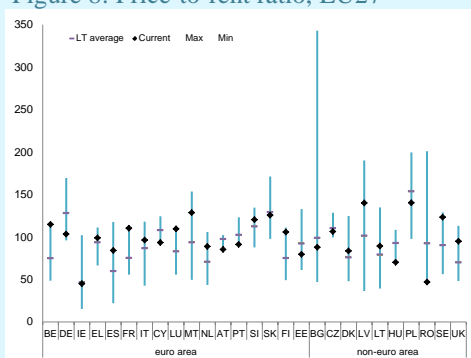
This box provides a further assessment of Finnish house prices based on their implicit relationship to rent levels. Renting is the alternative decision to owning a house, and rent levels therefore provide implicit backstops to house prices. We assume that if house prices go beyond these limits, households are more likely to switch between buying and renting, or selling and renting out, pushing prices back to levels in line with rents. In equilibrium, agents should be indifferent between buying and renting: movements in the price-to-rent ratio could be interpreted as a sign of bull (higher ratio) or bear (lower ratio) markets.

Following the OECD definition of price-to-rent (see Girouard et al. 2006) as the nominal house price index divided by the rent component of the consumer price index, we build these series for all EU Member States. We use the experimental nominal house price index from Eurostat, which we backward link to data from other sources (ECB, OECD, BIS). The rental price is obtained as the rent component of the consumer price index.

Figure 8 provides a first look at potential over/undervaluation in the EU27 by representing the 2011 Q4 price-to-rent with respect to the long-term average (using the whole data history available for a given Member State), highlighting the sample min and max values. The Finnish price-to-rent ratio has been above the long-term average for

almost a decade. It reached a peak in 2010 and it receded slightly only in the second half of 2011 (as shown in figure 4 above).

Figure 8: Price-to-rent ratio, EU27



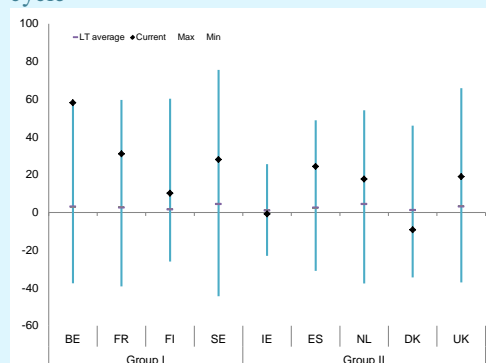
Source: EUROSTAT, OECD, ECB, BIS

The simple analysis of price-to-rent ratios suffers, however, from an important drawback. Taking the long-term average as a benchmark equilibrium value implicitly assumes stationarity of the series, which contradicts the empirical evidence (see Krainer and Wei (2004)). To address this issue we follow Bolt et al. (2011) and estimate equilibrium prices using a theoretical relationship between house prices and rents.

The user cost of owning a house, known as the imputed rent, is a function of a number of components which include mortgage payments, foregone interest that the owner would have earned by investing in a financial asset (an opportunity cost) and various other costs like taxes and maintenance costs. These are offset by a number of benefits that accrue by owning a house, like possible tax-deductibility benefits, and possible expected capital gains from owning a house.

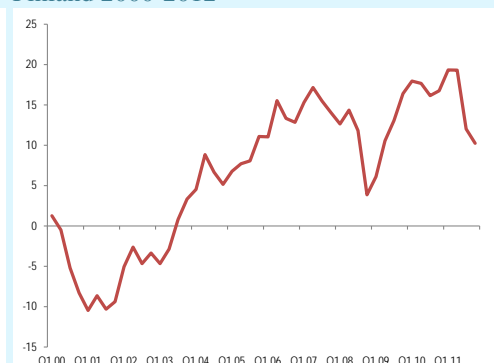
We assume that house prices are equal to the present value of future housing services (rental yields) and expected returns. In an equilibrium situation, households should be indifferent between owning a house and renting one; therefore the imputed and actual rent for one unit of housing should be the same. We develop a linearized relationship between the price-to-rent ratio and the expectation of future fundamental determinants. We obtain fitted values of the price-to-rent ratio from a vector auto-regressive model, allowing us to derive the fundamental price level (see European Commission (2012) for additional details about the method).

Figure 9: House valuation gap over the last cycle



Source: Staff calculations.

Figure 10: Fundamental house price gap for Finland 2000-2012



Source: Staff calculations.

In the results in Figure 9 we split countries having experienced a run-up in prices into 2 groups, according to whether they have (group II) or have not (group I) undergone a house price correction since the onset of the crisis. In group I Finland currently has the lowest gap with respect to the long-term average. Figure 10 shows that a correction occurred in late 2011, driven by a significant fall in long-term interest rates in that period.

All in all, the analysis using imputed rents suggests that the Finnish valuation gap is still somewhat above the long-term average, but was significantly reduced in late 2011. It is important to note that our method uses long-term fixed rates as a proxy of mortgage costs. Finnish mortgages are mostly based on short-term variable interest rates.

Therefore, future movements in the valuation gap could prove to be more abrupt than in a predominantly long-term interest rates market. In effect, households might underestimate potential increases of currently very low interest rates and over-react to any future rate increases.

(The estimation routine, provided by Marco van der Leij, University of Amsterdam, is gratefully acknowledged.)

Assessment of lending practices and housing-related taxation policies

In addition to fundamental changes affecting demand and supply, the housing market is influenced by various other factors, most importantly housing policy, lending practices and financing conditions. European Commission (2011) discusses the general effects of various policies and lending practices on a possible build-up of housing imbalances. Policies aimed at encouraging home ownership, especially for the low-income population, may have a negative impact on house price stability. By contrast, fostering a stable and properly functioning rental market, particularly when focusing on lower-income households, might reduce the occurrence of housing imbalances. Furthermore, variable mortgage interest rates appear to increase the risk of housing market imbalances. In addition, high loan-to-value (LTV) ratios and tax incentives for house purchases may also have adverse effects on market stability. The Finnish social housing scheme grants housing allowances to low-income households irrespective of renter or home-owner status (Vartia, 2006). Because of this equal treatment, the Finnish institutional setting does not seem to excessively encourage home ownership by low-income households. On the other hand, the other factors (variable rates, high LTVs and tax deductibility) do prevail in Finland.

The decline in interest rates in recent years has reduced the cost of ownership, making it more affordable to buy a house, and consequently has supported price rises. The decline in market interest rates, with the twelve-month Euribor end of 2012 at only 0.6%, reduced interest rates on housing loans to a record-low level in Finland. As more than 90% of mortgage loans in Finland are based on variable interest rates, predominantly the 12-month Euribor rate, customers face the risks of interest rate increases in the future. Households' expectations on interest rates developments might underestimate the possibility of interest rate increases, hereby increasing i) their current willingness to accept higher house prices and debt levels, but also ii) the likelihood of an over-reaction to future rate increases. Especially when interest rates stand at a low level for a prolonged period of time, as observed today, borrowers might not be prepared for interest rate increases on their mortgage loans.

Non-binding recommendations of the Finnish Financial Supervisory Authority (FSA) to minimise risks are not always followed by financial institutions. The FSA issued recommendations regarding the assessment of mortgage loan applicants' housing and repayment affordability and regarding loan-to-value ratios in excess of 90%, in order to minimise negative risks for households. The borrower should not use more than 40% of disposable income to service the loan (calculated on the maximum duration of 25 years), and extra careful evaluation of repayment capacity is to be carried out if the loan-to-value ratio exceeds 90%. While this recommendation is broadly followed for loans to borrowers who are already home-owners, a study on lending practices in private home mortgages finds that for first-time buyers the loan-to-value ratio is higher or equal to 100% for almost half of all loans granted. Where high loan-to-value ratios were approved for customers with relatively low incomes, banks were only partly able to give satisfactory explanations regarding additional incomes and personal guarantees, indicating that loans had been awarded in several cases notwithstanding the recommendations in force (Palmroos and Nokkala, 2011). Talks are on-going to turn the recommendation into a regulation, under which the Finnish Financial Supervisory Authority would decide on the maximum loan-to-value ratio for mortgage loans, which at its tightest could be even set at 80%.

■ *Declining interest rates combined with the predominance of variable-interest-rate loans encouraged borrowing.*

- *Consequences of future interest rate increases are likely to be moderate.*

Given the current low-interest-rate environment, high indebtedness tied to variable rates represents vulnerability for the future. For one third of all mortgage loans these risks are, however, attenuated by clauses that provide for the possibility of lengthening maturity in such cases, made possible by the fact that 80% of mortgage loans in Finland carry a maturity of 25 years or less. The FSA estimates that less than 5% of households would have to use more than 40% of their net disposable income for loan servicing as long as the interest rate remains under 4%. The share would rise to 20% if the interest rate were to rise to 6%. Mäki-Fränti (2011) finds that an interest rate increase of 5 percentage points would result in only 3% of households owning a house facing difficulties to pay for a minimum consumption basket while still servicing their loans. This would translate into a relatively moderate increase in delinquency rates that would be unlikely to threaten the stability of the financial system. On the other hand, approximately one-fifth of households have very little margin to adjust to a substantial loss of income (e.g., due to unemployment); therefore unemployment currently represents a greater risk factor.

In case of payment difficulties, borrowers can negotiate with their bank a temporary hold on their mortgage loan by limiting their monthly payments to the interest due, which lengthens the maturity of the loan. This is an accepted practice in case of serious reasons beyond the borrower's control, such as unemployment or illness. It is a contractual renegotiation, under which the bank can also decide to renegotiate its margin on the loan. If both parties do not come to an agreement, the bank can take judicial steps towards a forced sale of the property, a procedure that takes approximately 2-3 months. In the current environment however, most households in payment difficulties choose to renegotiate their contract or to sell their house themselves on the market at a profit given the still high house prices, without going through a forced sale procedure. This could, however, change if house prices were to fall significantly and push more borrowers into negative equity.

- *The tax bias towards home ownership is being reduced.*

The Finnish taxation policies are generous towards home owners. Property taxation in itself is low and no taxation applies on capital gains from selling an owner-occupied property held for more than two years. Moreover, mortgage interest payments are tax-deductible. Tax deductibility of interest payments on mortgage loans encourages household indebtedness by favouring home ownership over renting. In order to reduce incentives towards home ownership, the Finnish government reduced the share of deductible interest payments from 100% in 2011 to 85% in 2012 and has decided on further reductions to 80% in 2013 and to 75% in 2014. This progressive phasing-out of interest deductibility will reduce the incentives in the medium term, while limiting sudden shocks to house markets in the short term by avoiding an abrupt abolition of the tax deductibility. A continuation of this trend, at least on new loans, would contribute to correcting the incentive bias for house purchase.

Risks for spillovers from public to private debt through worsening financing conditions currently also appear limited, given the strong fiscal position and a relatively low public debt level. Indeed, public and private interest rates have fallen in the crisis rather than increased.

All in all, prevailing lending practices and policies still tend to encourage home ownership and household indebtedness in Finland. Despite the fact that risks from household indebtedness currently seem moderate, this situation warrants continuous monitoring.

Conclusions

No clear evidence of unsustainability has been found in Finnish house prices. Affordability declined only gradually and the increased price-to-rental ratio is in part explained by changes in financing costs. Over the last decade, construction activity did not keep up with increasing demand and housing investment remained moderate by international standards. These factors, in combination with a relative shortage of land, seem to be the main driving force behind house price increases. Based on the indicators observed, the risk of a sudden drop in house prices seems moderate.

The high level of household debt in Finland is a source of concern. Although current risks appear relatively moderate, private debtors with high mortgage loans are vulnerable to

shocks, such as interest rate increases or rising unemployment. An increase in delinquency rates would follow such shocks, but external estimates suggest that the extent of such a rise would be limited. The Finnish banking sector is in good health and should be able to absorb it.

Given the factors limiting housing supply, rising housing demand could exert overheating pressures in the medium term and lead to further increases in household indebtedness. Henceforth, the evolutions in the mortgage market deserve close attention, even though Finland's financial system and households' financial positions appear stable at present. Policies that currently bias households' preferences towards house purchases, most notably tax incentives on mortgages, could be progressively phased out.

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¹ House Price Indices (HPIs) measure the evolution of prices in the residential property market. The HPI captures price changes of all kinds of residential property purchased by households (flats, detached houses, terraced houses, etc.), both new and existing. Only market prices are considered; self-built dwellings are therefore excluded. The land component of the residential property is included. All transactions are included (both cash and mortgage). The focus is on the measurement of price developments of all residential properties purchased by households, irrespective of their final use; so dwellings bought by households for uses other than owner-occupancy are included (for investment, e.g. to rent it out). The focus is on dwelling acquisitions, so all purchases of new and existing dwellings are to be considered, including those existing dwellings transacted between households. Relative house prices are deflated by households' final consumption expenditure deflator.

² Recent OECD research finds the price-to-income ratio at its long-term average (OECD (2012)).

³ The OECD estimates the price-to-rent ratio at 35% above the long-term average (ibid.).