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Housing Price
and Investment Dynamics
in Finland

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Clara García**

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by Christophe André and Clara Garcia

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ABSTRACT/RÉSUMÉ

Housing price and investment dynamics in Finland

The Finnish housing market is volatile. After declining significantly as the global financial crisis unfolded, housing prices and investment recovered to reach new peaks. This paper uses a small econometric model to assess the role of fundamentals in housing price and investment developments. Current housing valuations and residential investment are broadly in line with the model estimates. Housing market volatility is exacerbated by fluctuations in the wider economy, which given its size and openness is vulnerable to external shocks. Structural features of the housing market also make it prone to volatility. The paper describes institutional characteristics of the Finnish housing market that bear on house price volatility and supply responsiveness. These relate to the structure of tenures, housing taxation and subsidies, social housing, financing, land-use planning, and competition in the construction industry.

JEL classification codes: R21, R31, R38, R52, E21, G21, H24, L74.

Keywords: Housing markets; house prices; housing policies; land-use planning; household wealth; mortgage markets; property taxation; construction; Finland.

Prix du logement et la dynamique d'investissement en Finlande

Le marché du logement finlandais est volatile. Après avoir diminué de manière significative durant la crise financière mondiale, les prix des logements et l'investissement résidentiel se sont redressés et ont atteint de nouveaux sommets. Ce document de travail utilise un petit modèle économétrique pour évaluer le rôle des fondamentaux dans les évolutions des prix des logements et de l'investissement résidentiel. Les valorisations actuelles des logements et l'investissement résidentiel sont globalement conformes estimations du modèle. La volatilité du marché du logement est exacerbée par les fluctuations de l'économie, qui compte tenu de sa taille et de son ouverture est vulnérable aux chocs extérieurs. Les caractéristiques structurelles du marché du logement le rendent également sujet à la volatilité. Le document décrit les caractéristiques institutionnelles du marché du logement finlandais qui influent sur la volatilité des prix et la réactivité de l'offre de logement. Celles-ci concernent la répartition entre propriétaires et locataires, la fiscalité du logement et les subventions, le logement social, le financement, l'aménagement du territoire, et la concurrence dans l'industrie de la construction.

Classification JEL : R21, R31, R38, R52, E21, G21, H24, L74.

Mots-clés : Marchés immobiliers ; prix des logements ; politiques du logement ; aménagement du territoire ; patrimoine des ménages ; marchés hypothécaires ; fiscalité immobilière ; construction ; Finlande.

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TABLE OF CONTENTS

HOUSING PRICE AND INVESTMENT DYNAMICS IN FINLAND	5
Introduction	5
Housing markets have remained volatile despite important policy improvements since the 1990s	5
Housing and business cycles are mutually reinforcing	11
Structural factors affect efficiency and volatility	13
The large rental market has a stabilising impact.....	13
Access to quality housing is supported through a range of public interventions.....	14
Social housing provides quality affordable dwellings, but rents could be set more efficiently	14
Subsidised construction dampens the construction cycle.....	15
Housing allowances linked to median rather than actual rents could be more efficient	15
Policies have reduced homelessness significantly	16
The structure of housing taxation may raise price volatility and discourage development.....	16
Tax breaks for housing tend to increase price volatility	16
Incentives for municipalities to promote development seem weak	17
Variable mortgage rates tend to increase volatility.....	18
Housing supply generally responds to demand, but shortages appear in growth areas	19
The housing stock is large, recent and generally affordable	19
Responsiveness of supply is high, but migration creates pressure in growth areas	19
Land use planning needs to provide building space in a sustainable way	20
More competition in the construction industry could enhance supply and lower costs.....	23
Conclusion.....	24
BIBLIOGRAPHY	25

Figures

1. Housing prices and residential investment.....	7
2. Price-to-rent and price-to-income ratios	8
3. Model predictions and counterfactuals for housing prices and residential investment.....	11
4. Real residential investment	12
5. Tenure structure across countries.....	14
6. Housing completions in Helsinki	15
7. Housing taxation	17
8. Housing prices and residential investment.....	20
9. Population density in capital cities	22
10. Markups in the construction sector	24

HOUSING PRICE AND INVESTMENT DYNAMICS IN FINLAND

Christophe André and Clara García¹

Introduction

As a small open economy, Finland is vulnerable to external economic shocks, which are transmitted to the housing market through income, employment and interest rate variations. Structural features of the housing market, such as the high reliance on variable mortgage rates, a tax system favouring home-ownership and supply rigidities in some parts of the country, notably the Helsinki region, make it prone to volatility. Housing market developments feed back into the wider economy, through construction activity and employment, and wealth effects on private consumption. Unsustainable developments in the housing market could also put financial stability at risk. Thus reducing excess volatility would facilitate macroeconomic management of the economy.

As the global financial crisis unfolded in 2008, house prices declined significantly and residential investment fell by a quarter. Since mid-2009, spurred by low mortgage rates, the market has recovered to reach new peaks in prices and investment. These developments raised concerns that a housing bubble might be forming, although these have dissipated more recently as the economic outlook has deteriorated and housing prices decelerated.

Against this background, this paper studies the determinants of housing prices and investment, using a small econometric model, and how volatility in the housing market could be better contained. The results suggest that income and population growth, the share of wages in net household disposable income and mortgage rates explain house price developments. Residential investment responds to housing prices and construction costs. The paper goes on to investigate feedback relationships between the housing market and the macroeconomy and to describe institutional features of the current Finnish housing market that bear on house price volatility and supply responsiveness. These relate to the structure of tenures, housing taxation and subsidies, social housing, financing and land-use planning.

Housing markets have remained volatile despite important policy improvements since the 1990s

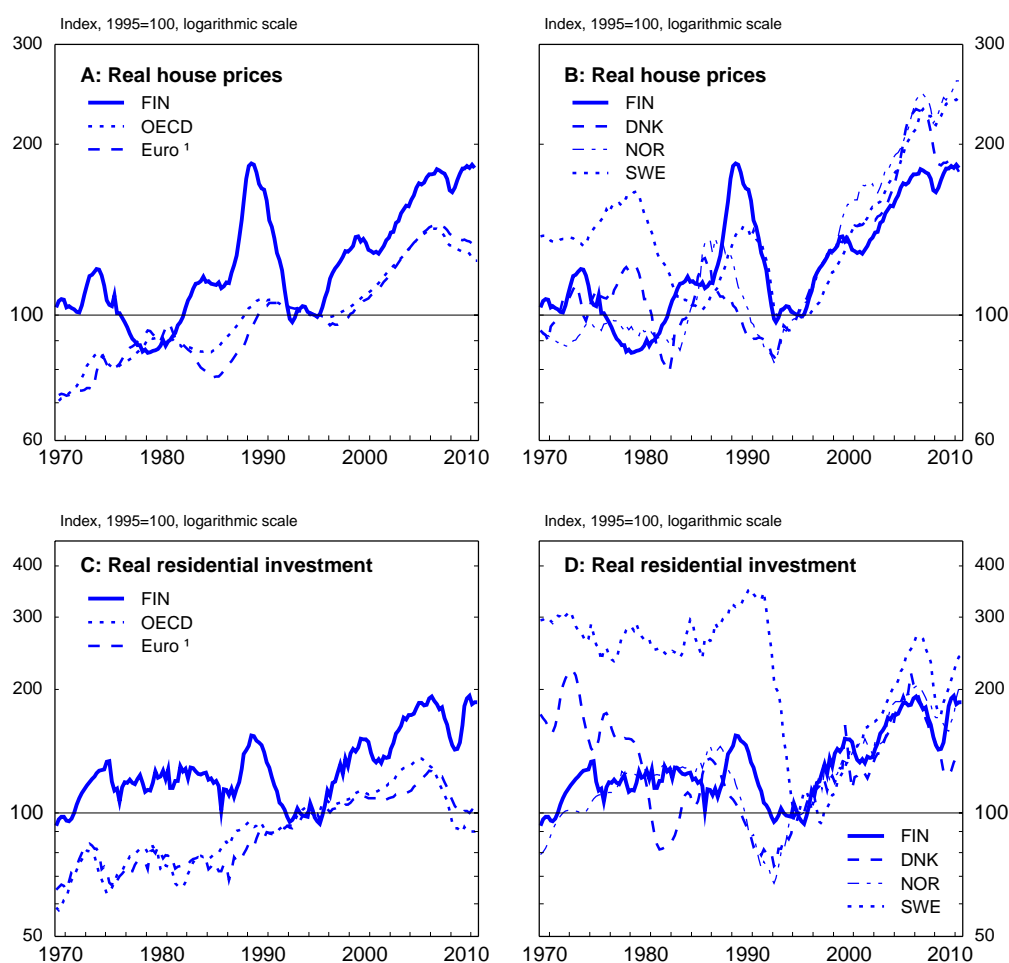
Over the past four decades, the Finnish housing market has shown high volatility (Figure 1). Like several other Nordic countries, Finland experienced an exceptional housing boom at the end of the 1980s, mainly as a result of financial deregulation and large capital inflows accompanied by inadequate supervision of the financial system (*e.g.* Honkapohja, 2009). Between the beginning of 1987 and mid-1989, real housing prices rose by more than 60% and real residential investment by around 40%. These increases were clearly unsustainable, but the housing market downturn was exacerbated by the recession

1. OECD, Economics Department. The authors would like to thank Henrik Braconier, Robert Ford, Andrew Dean, Sari Sontag, Piritta Sorsa and Laura Vartia for useful comments and suggestions on earlier versions of this paper, Tommi Laanti and Janne Rantanen, for providing valuable information and data, Ane Kathrine Christensen for excellent econometric work on Box 2, Jérôme Brézillon for excellent statistical assistance, and Deirdre Claassen and Olivier Besson for excellent secretarial assistance.

which followed the collapse of the Soviet Union and the high interest rates after German unification, as monetary authorities unsuccessfully tried to defend the fixed exchange rate. By mid-1993, prices had fallen by nearly 50% and investment by close to 40%. The crisis triggered substantial changes in the Finnish housing system. Mortgage lending became more prudent and financial supervision was reinforced. A government guarantee scheme protecting financial institutions against a proportion of potential mortgage default losses was introduced in 1996 (Vartia, 2006). At about the same time, a number of measures shifted the balance away from owner-occupied to rental housing. Rent controls were abolished in 1995. Rent controls had resulted in under-supply of private rental housing and further welfare losses arising from higher moving and transaction costs than in an unregulated market (Lyytikäinen, 2008). While its share of the housing stock has increased since the early 1990s, the private rental sector suffers from the competition of a large social housing sector, where rents are on average 26% below the private rents in Helsinki and 9% in the rest of the country (EMF, 2011). Since 1993, mortgage interest has been deductible at a flat rate (28% in 2011, 30% for first-time buyers) rather than, as before, at the marginal tax rate on all types of income. As a result, the average deduction rate fell approximately by half and mortgage borrowing by high income households is estimated to have been significantly reduced (Saarimaa, 2010). State support for housing was reformed, with the creation of the Housing Fund of Finland (ARA), an off-budget State fund, in 1990. The Fund devised innovative finance solutions in a period of scarce public resources, pioneering the use of securitisation for funding public housing in Europe (ARA, 2005). This allowed avoiding a complete collapse of the construction industry and limited shortages that would have had lasting consequences on the housing conditions of the population.²

2. In 2008, the tasks of the Housing Fund of Finland were transferred to a new organisation called The Housing Finance and Development Centre of Finland (also shortened as ARA). An off-budget fund called the Housing Fund of Finland (VAR) still exists.

Figure 1. Housing prices and residential investment



1. Excluding Estonia and Slovak Republic.

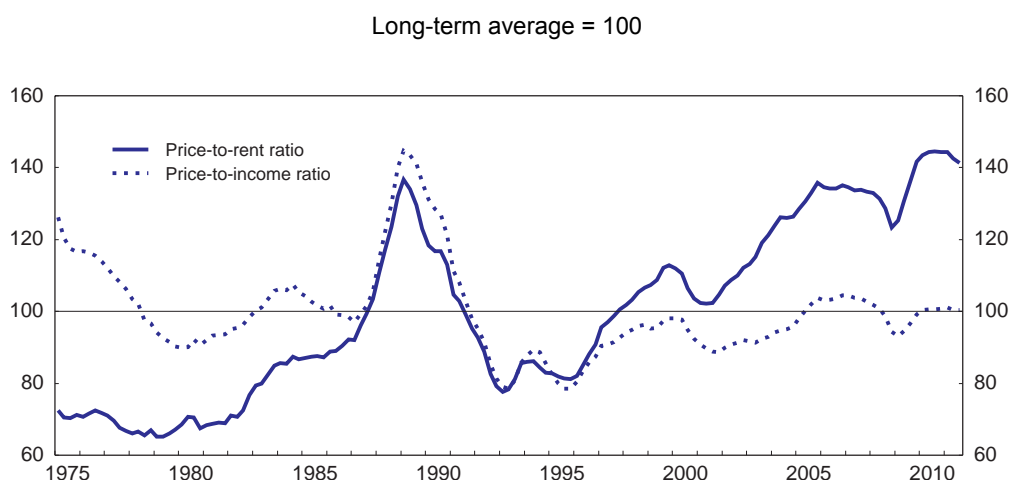
Source: National sources, BIS and OECD calculations.

Overall, the reforms of the early 1990s laid the ground for a more efficient housing market, which despite remaining volatility, has avoided the unsustainable developments seen in many OECD countries over recent years (André, 2010). Nevertheless, between 1995 and 2007, real housing prices and residential investment roughly doubled, in line with evolutions in other Nordic countries (Figure 1, Panels B and D). Real house prices subsequently declined by over 8% between the third quarter of 2007 and the first quarter of 2009, and residential investment fell by 25% between the first quarter of 2007 and the second quarter of 2009. However, the downturn was short lived and by mid-2009, prices and investment had reached new peaks. Such a rebound, spurred by low mortgage rates amid a stagnating economy raised concern that a bubble might be forming.³ Price-to-income and price-to-rent ratios show a mixed picture of potential overvaluation of the market. Across OECD countries, these ratios have generally tended to revert to their long-term average, even though they can be shifted by changes in economic or demographic variables and

3. Housing investments also benefitted from the substantial discretionary policy measures on housing sector during 2009-2010. In addition, residential property may be seen as a safe asset by some investors in times of financial uncertainty.

have often deviated from historical norms for protracted periods. The price-to-income ratio is currently close to its long-term average, but the price-to-rent ratio is about 40% higher (Figure 2).⁴ Low interest rates, by decreasing the user cost of housing, are pushing up the price-to-rent ratio. It is also worth keeping in mind that the rent index (rent component of the consumer price index) includes below-market rents, accounting for about half of all rents, which is likely to bias the price-to-rent ratio upwards.

Figure 2. Price-to-rent and price-to-income ratios



Source: Statistics Finland and OECD calculations.

Econometric estimates give a more precise evaluation of the extent to which housing prices and investment can be explained by fundamental determinants (Box 1). Housing prices respond positively to income and size of population aged 25 to 44, and negatively to mortgage rates and the housing stock. The share of wages in household income also has a positive influence on prices, implying that wage and investment income have different impacts on housing demand (Meen and Andrew, 1998). All else equal, a 1% increase in income *per capita* and population aged 25 to 44 raise housing prices by, respectively, about 2½ % and 2%. A one percentage point increase in the wage share increases prices further by 1¼ %. A 1% increase in the housing stock lowers prices by over 1%. A one percentage point drop in mortgage rates increases prices by nearly 3%. Investment responds strongly to house prices, a 1% increase in prices leading to a 1¼ % rise in investment, and to construction costs, a 1% increase in costs reducing investment by close to 2%.

The adjustment to equilibrium, as measured by the error correction coefficients, is fairly slow. Both for prices and investment, about a fifth of the deviation from equilibrium is cut in each quarter. However, short-term dynamics are more complex than a straight adjustment to long-term equilibrium. Short-term variations in income *per capita* and net financial wealth affect prices. In addition, price increases show inertia. The investment adjustment to equilibrium is influenced by short-term housing price dynamics. The model fits the data well, even when simulated dynamically (Figure 3, Panel A and B), with the largest deviations below 5% for house prices, and at 10% in the case of residential investment. It is worth keeping in mind, however, that key determinants such as mortgage rates and household income can be volatile and hence cause instability in the housing market, even in the absence of a bubble.

4. Price-to-income is the ratio of house prices to household net disposable income *per capita*. Price-to-rent is the ratio of house prices to the rent component of the consumer price index.

Box 1. Estimating housing prices and investment

Housing prices, residential investment and the housing stock have been estimated jointly to assess how they are affected by economic variables and whether their current levels are in line with fundamentals. The system is estimated in two steps, in an Engle-Granger type error-correction procedure (Engle and Granger, 1987). The long-term relations are estimated in a system of equations for prices, investment and a stock-flow relation, which is a quasi-identity relating housing investment to the housing stock. The system is estimated by weighted two-stage least squares over the period 1995-2010.^{1,2} The estimation procedure accounts for the price-quantity feedback, determines equilibrium levels of prices and investment, and describes short-term dynamics. The long-term relations are as follows:

$$\ln \text{HPR} = -24.13 + 2.63 \ln \text{YDRH/POP}_{-1} - 1.06 \ln \text{HS}_{-1} - 0.029 \text{MRR} + 1.28 \text{WSH} + 1.77 \ln \text{POP2544}_{-1} + \text{ect1}$$

(-2.3) (5.5) (-3.1) (-4.9) (3.7) (2.3)

$$R^2=0.97; s=0.036$$

$$\ln \text{IHV} = 22.60 + 1.31 \ln \text{HPR}_{-1} - 1.90 \ln \text{CCR}_{-1} + \text{ect2}$$

(1108.8) (23.6) (-7.69)

$$R^2=0.90; s=0.063$$

$$\text{HS} = -181678821.1 + 0.99 \text{HS}_{-1} + 0.22 \text{IHV}$$

(-3.6) (1468.4) (34.1)

$$R^2=1.00; s=46412036; t \text{ values are reported in parentheses.}$$

Where:

HPR = Real house prices

YDRH/POP = Household real net disposable income *per capita*

HS = Net real dwelling stock

MRR = Real mortgage rate

WSH = Share of wages in net household disposable income

POP2544 = Population aged 25 to 44

IHV = Gross fixed capital formation in housing

CCR = Real construction cost

ect1, ect2 = Error terms

The second stage estimates the dynamic adjustments to the equilibrium levels determined in the first step. Percentage changes in housing prices and investment are related to variations in other variables and to the deviations from the equilibrium level measured by the error terms in the level equations (*i.e.* the difference between the actual levels of housing prices and investment and those suggested by fundamentals). The short-term equations, estimated by ordinary least squares, are as follows:³

$$\Delta \ln \text{HPR} = -0.001 + 0.43 \Delta \ln \text{HPR}_{-1} + 0.81 \Delta \ln \text{YDRH/POP} + 0.14 \Delta \ln \text{NFWR}_{-1} - 0.17 \text{ect1}_{-1} - 0.04 \text{DU084}$$

(-0.8) (4.9) (5.7) (2.9) (-3.8) (-3.1)

$$R^2=0.63; s=0.011$$

$$\Delta \ln \text{IHV} = -0.01 + 0.86 \Delta \ln \text{HPR}_{-1} + 0.78 \Delta \ln \text{HPR}_{-2} - 0.23 \text{ect2}_{-1}$$

(-1.3) (3.6) (3.3) (-3.9)

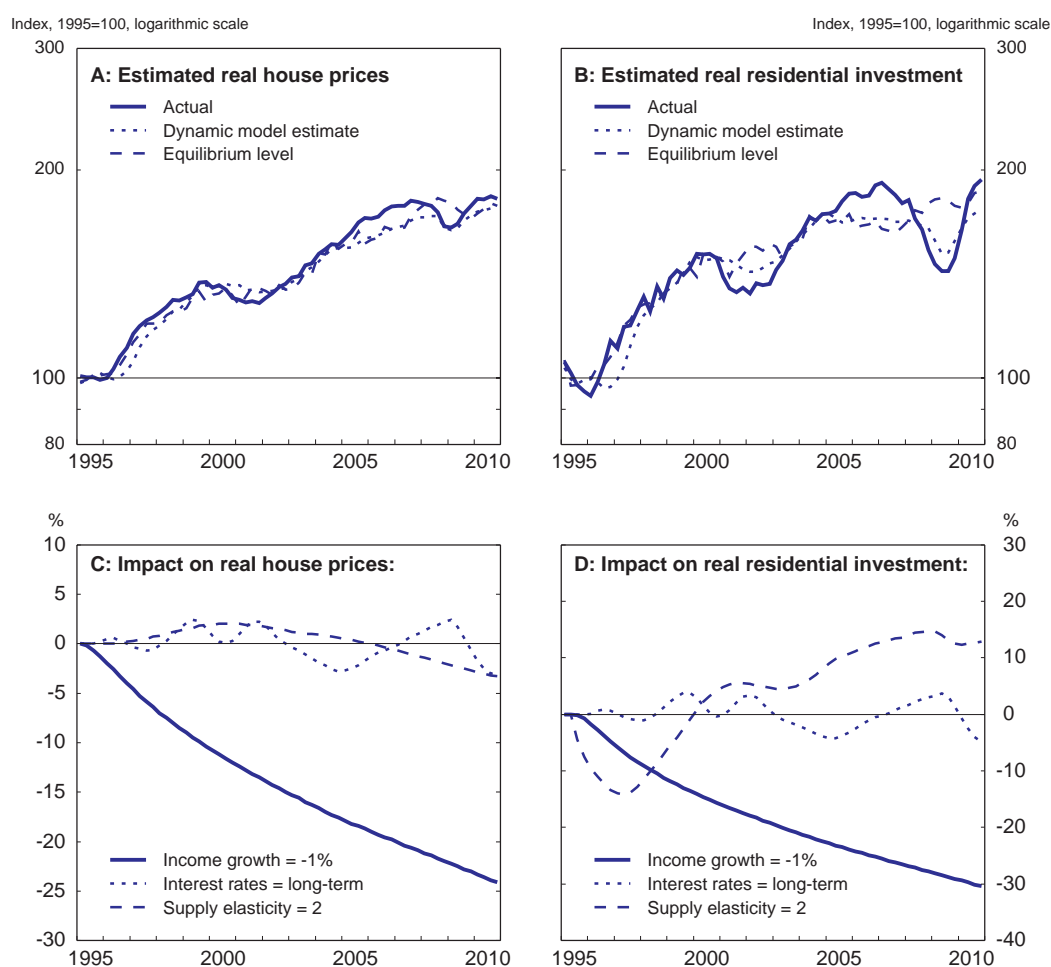
$$R^2=0.51; s=0.028$$

Where NFWR is real net financial wealth and DU084 is a dummy variable corresponding to the credit crunch in the last quarter of 2008. Δ denotes first order differences.

1. Alternative estimation methods, such as three-stage least square or GMM, give similar results. The use of instrumental variable methods is supported by statistical tests rejecting the exogeneity of regressors. The orthogonality condition test shows that the instruments are not correlated with the residuals.
2. The housing market experienced considerable structural change in the late 1980s and early 1990s, following mortgage market deregulation and economic shocks. Hence, the fit of the equations and the stability of the coefficients are better when the estimation starts in 1995 than on a longer period.
3. OLS estimators are used as no significant correlations in equation residuals were found.

Using the model described in Box 1, three counterfactual scenarios, involving alternative disposable income *per capita* growth, mortgage rates and supply responsiveness, were examined. The first scenario analyses the path of housing prices, had Finland experienced slower growth in income. A reduction in real net household disposable income growth by 1%, bringing income growth in line with the OECD average over the estimation period, would imply that real house prices would currently be 25% lower and real residential housing investment 30% lower (Figure 3, Panel C and D). The second scenario replaces variable mortgage rates by long-term government bond rates to explore the impact of the predominance of variable rates on price and investment volatility.⁵ Though variable rates increase volatility, the impact is moderate on average, reflecting fairly low volatility of short-term rates over the simulation period. Nevertheless, the scenario suggests that since 2009 volatility in variable rates amplified swings in house prices by over 5%. Finally, the effect of relaxing supply rigidities is considered, by increasing the elasticity of supply to housing prices from 1.3 to 2, corresponding to the highest level in the OECD estimated in Caldera Sánchez and Johansson (2011). In this scenario, residential investment falls more than in the baseline in response to declining prices in the mid-1990s, but recovers more strongly when demand picks up. Investment would now be about 15% higher and house prices around 3% lower than current levels.

5. Such a simulation is subject to the Lucas critique. The elasticity of housing prices to interest rates would presumably be different if the mortgage market was dominated by fixed rate products. Still, the simulation is informative, as households are likely to significantly discount potential future interest rates movements.

Figure 3. Model predictions and counterfactuals for housing prices and residential investment

Note: Impact measured as the percentage change of the scenario simulation with respect to the baseline.

Source: Statistics Finland and OECD calculations.

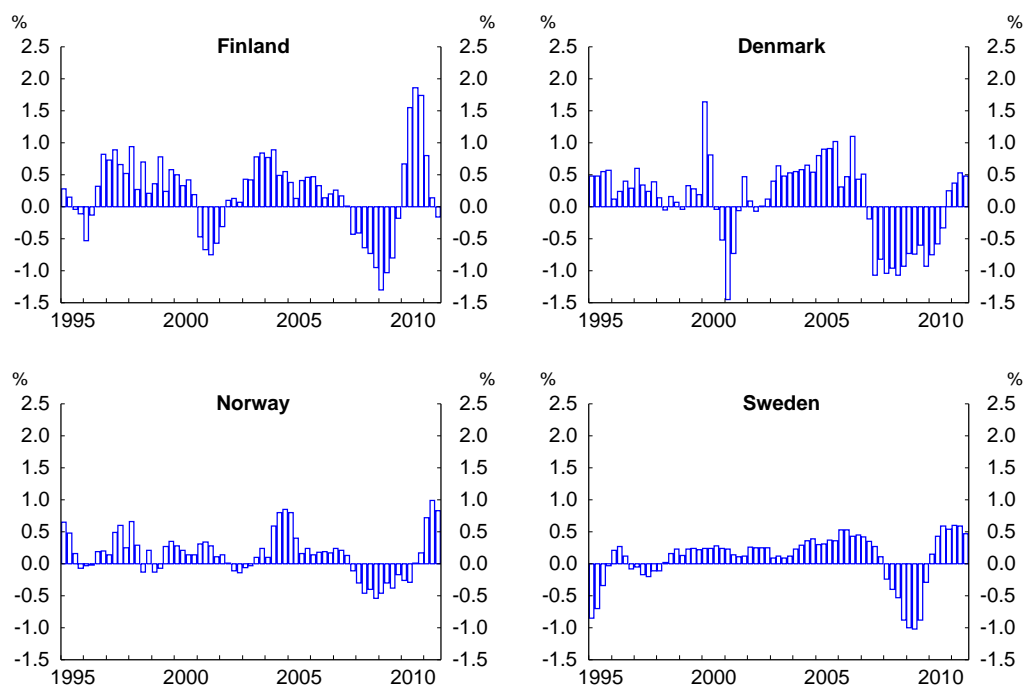
Housing and business cycles are mutually reinforcing

Developments in the housing market have a significant impact on the broader economy. Residential investment accounts for a modest – about 6½ % on average over the past 50 years – but volatile share of the economy. As in other Nordic countries, residential investment contributes significantly to GDP volatility (Figure 4). Construction is a labour intensive activity, accounting for around 7.5% of total employment in 2010, and hence its fluctuations have a sizeable effect on employment. Between 1990 and 1994, construction employment declined by more than 40%, contributing a fifth of the total decline in employment. Construction employment contracted by less than 10% during the latest recession, but this nonetheless represented nearly 18% of total job losses. Developments in private consumption and housing wealth are also closely related (Box 2). This is likely to be, at least partly, the result of a loosening of households' borrowing constraint when housing wealth increases. Even though the Finnish mortgage market does not facilitate housing equity withdrawal in the same way as in the main English-speaking

countries and the Netherlands, there is a significant positive impact of housing price appreciation on consumption loans (Oikarinen, 2008).⁶

Figure 4. Real residential investment

Contribution to year-on-year GDP growth



Source: OECD Economic Outlook database.

Box 2. How does private consumption relate to housing wealth?

This box examines the influence of increases in households' net wealth on private consumption. The model is estimated in two steps using ordinary least squares over the period 1987Q1-2009Q4. The long-term equation relates private consumption to household's disposable income, as well as to financial and housing wealth. The time frame has been chosen to account for the change in mortgage market regulation in 1987.¹ The results are as follows:

$$\ln C = 5.05 + 0.57 \ln Y + 0.02 \ln NHW + 0.21 \ln NFW + \text{ect}$$

(8.9) (18.9) (3.7) (22.6)

R² = 0.99; s = 0.015 ; t values are reported in parentheses.

Where:

C = Real private consumption

6. Housing equity withdrawal is new borrowing secured on dwellings that is not invested in the housing market (e.g. not used for house purchase or home improvements), so it represents additional funds available for reinvestment or to finance consumption spending (Bank of England).

Y = Real net household disposable income (excludes property income, which is bound to be correlated with financial assets).

NHW = Net real housing wealth (housing assets minus households' mortgages)

NFW = Net real financial wealth (financial assets minus non-mortgage financial liabilities)

ect = Error term

The inclusion of additional explanatory variables - inflation, unemployment, real short-term interest rates or combinations of them - does not have a statistically significant effect.

The second equation captures short-term dynamics and adjustment to temporary deviations from the long-term equilibrium measured by the error-correction term:

$$\Delta \ln C = 0.00 + 0.25 \Delta \ln Y + 0.11 \Delta \ln NHW + 0.08 \Delta \ln NFW - 0.15 \text{ect}_1$$

(2.9) (3.8) (5.7) (2.6) (-2.5)

$R^2 = 0.43$; $s = 0.008$; Δ denotes first order differences.

The marginal propensity to consume out of housing wealth varies over time, but its current value can be calculated as the product of the housing wealth elasticity to the ratio of consumption to housing wealth at the end of the sample. The long-run marginal propensity is about 0.02, which is fairly high compared to other continental European countries, where the impact of housing wealth on consumption is usually low or insignificant, except in the Netherlands.¹ However, it is much lower than in countries like Australia, Canada, the Netherlands and the United Kingdom (Catte *et al*, 2004). This reflects the wider range of mortgage products available in these countries, which facilitates withdrawing housing equity by households, for example through second mortgages or renegotiating mortgage loans when housing wealth increases. The short run marginal propensity to consume out of housing wealth (0.1) in Finland is high by OECD standards and higher than for financial wealth (0.05), showing that house price and private consumption volatility are closely related.

1. On the period 1979-1986, the coefficient of housing wealth is not statistically significant.

2. Measuring the marginal propensity to consume out of housing wealth at the sample average, rather than the end of the period yields a result of 0.01.

Structural factors affect efficiency and volatility

Some features of housing and mortgage markets are bound to influence levels and volatility of prices and investment. The availability of a fairly wide choice of housing options in different tenures is a positive factor for the stability of the housing system and its ability to provide decent housing for the largest part of the population. Conversely, property taxation, the mortgage market and constraints on supply in some areas of the country, notably the Helsinki region, are bound to increase volatility.

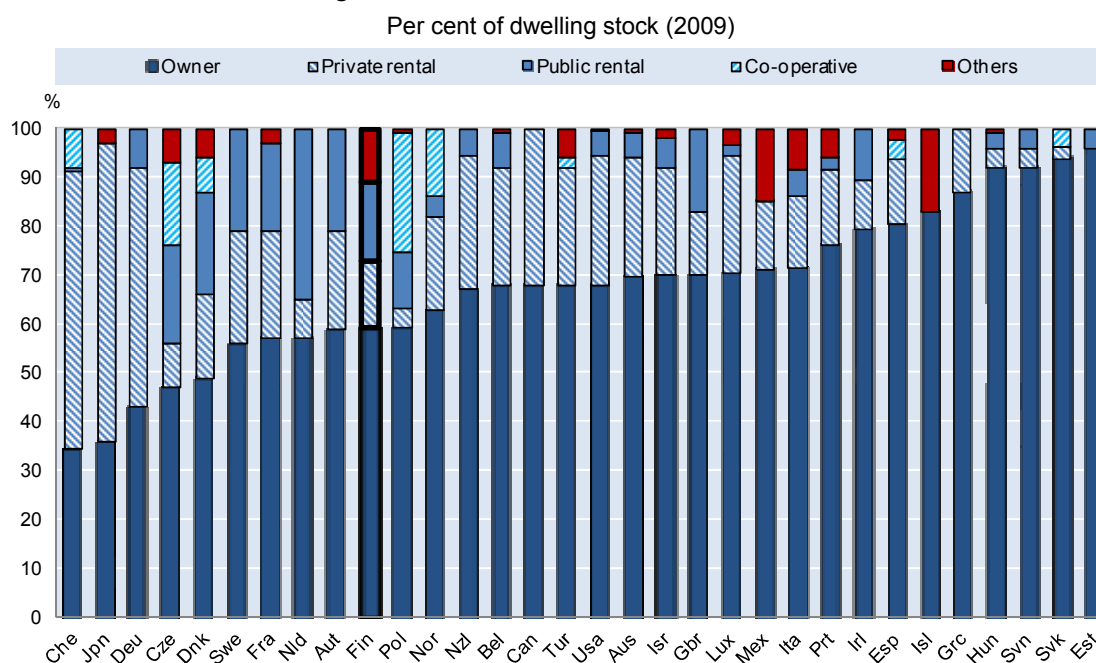
The large rental market has a stabilising impact

Finland has a more evenly divided tenure structure than many OECD countries (Figure 5). The homeownership rate came down from 67% in 1990 to 58% in 2000 and has remained more or less stable since then. High homeownership rates have been associated with unstable housing markets in many OECD countries over the past decade, suggesting that a better balance of tenures might be desirable. The private rental market expanded from about 12% of dwellings in 1990 to about 16% since the early 2000s, even if its growth might have been held back by competition from social housing and reluctance of institutional investors to enter the market.⁷ A dynamic private rental market forms an important part of the housing

7. The lack of appetite of institutional investors for housing investment is widespread across countries (for a recent review, see Scanlon and Kochan (eds), 2011). Underlying factors include high cash requirements,

market and can play a role in dampening overheating in the owner-occupied housing market (Priemus and MacLennan, 1998). Overall, the housing system is functioning fairly well. Finland enjoys quality housing in all tenures.

Figure 5. Tenure structure across countries



Source: Calculations based on OECD Housing Market questionnaire.

Access to quality housing is supported through a range of public interventions

Access to quality housing is supported through supply-side direct subsidies (0.2% of GDP in 2009) and supply-side subsidies in the form of loan guarantees (3.5% of GDP), which allow the provision of affordable housing, and demand-side subsidies in the form of loan guarantees (1% of GDP) and means-tested housing allowances (1.2% of GDP). In addition, housing costs exceeding housing allowance ceilings can be reimbursed by the social assistance scheme.⁸ Furthermore, until 2008 the housing supply was also supported by the government granted loans (so called ARAVA-loans). The outstanding ARAVA-loan stock is still around 5% of GDP. Investment in housing is also encouraged through favourable tax treatment.

Social housing provides quality affordable dwellings, but rents could be set more efficiently

A large social housing sector provides quality accommodation to about 15% of Finnish households and has achieved a high degree of social mix, contrary to many countries where social housing has become associated with segregation, poverty and unemployment traps. Social housing has an important role to play to ensure wide access to decent housing, as achieving an adequate supply of dwellings for lower-income households exclusively through the private market has generally proved challenging in OECD countries.

cyclicality, relatively high perceived risk, costly regulation, low rental yields, reputational risk, high management costs and lack of scale.

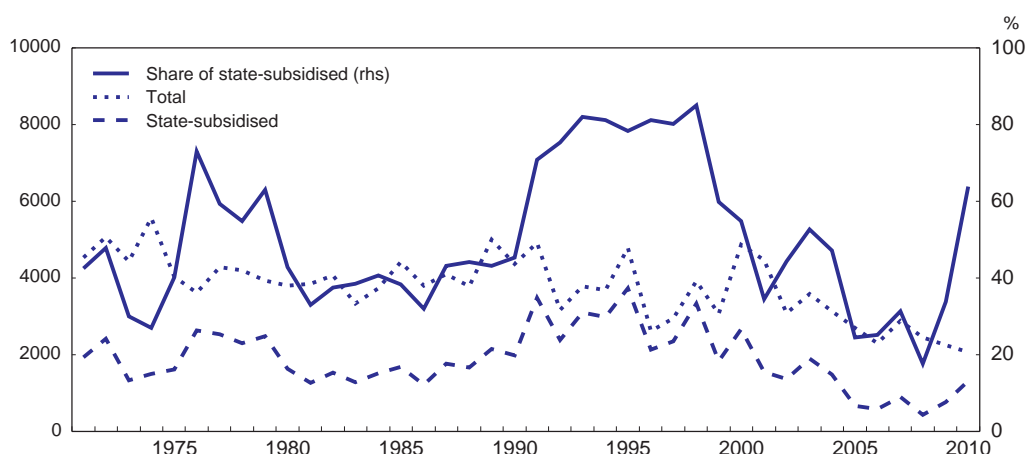
8. There are no statistics on reimbursements of housing costs by social assistance. However, these are estimated to represent a sizeable amount (Honkanen, 2010).

However, there seems to be room for improvement in cost-effectiveness, especially through better targeting to those most in need, as about 70% of households are currently eligible for subsidised housing (Ministry of Environment, 2002).⁹ Social rents are mostly determined with reference to historical costs and hence fail to reflect the user value to tenants. For example, rents for recently built dwellings in peripheral locations might be higher than for older buildings in the city centre. Social rents set with reference to market values, with a discount, would be more equitable and efficient.

Subsidised construction dampens the construction cycle

Subsidised construction has historically played an important role in the development of the housing stock, as evidenced by the fact that 42% of the 2005 dwelling stock had benefitted from ARAVA loans from the Housing Fund (ARA, 2005). Support to housing supply, mainly provided through Housing Fund loans, interest subsidies and guarantees, has been on a declining trend over recent years, both as a result of policy orientations and wider availability of competitive private sources of financing, at least before the 2008 global financial crisis. Nevertheless, supply-side support still plays an important counter-cyclical role. In Helsinki, the share of state-subsidised housing completions fell from around 80% during the 1990s recession to about 20% in 2008, before jumping back to 60% in 2010 (Figure 6). During the latest recession, the government also provided additional temporary assistance to the housing construction sector (about 0.1% of GDP per year in 2009 and 2010), including subsidies and credit guarantees for new rental property construction and renovation projects (OECD, 2010).

Figure 6. Housing completions in Helsinki



Source: City of Helsinki.

Housing allowances linked to median rather than actual rents could be more efficient

In Finland, means-tested housing allowances are available both for renters and owner-occupiers, though most recipients are in the former category. Special housing allowances exist for pensioners and students. About 16% of households receive a housing allowance (Virén, 2011). The general housing allowance amounts to 80% of the difference between actual housing costs (including utility charges and a fraction of mortgage interest payments for owner-occupiers) and a deductible amount taking into account income, family structure and geographical location, with a cap. Hence, the amount of the allowance is tied to actual rents. This increases the likelihood that a share of the allowance is capitalised into rents. Recent

9. Moreover, in 2008 the income limits have been eliminated and only net wealth limits are still effective.

estimates from the Bank of Finland suggest that one third, and perhaps even up to 50%, of the housing allowance feeds through into rents (Virén, 2011). Linking the allowance to the median rent in a specified geographical area could limit its capitalisation into rents. It would also address the problem created by social rents exceeding the housing allowance ceiling in some cases, mainly in the Helsinki region. This shifts costs to municipalities, creating a disincentive against the acceptance of social rental projects (Ministry of the Environment, 2002).

Policies have reduced homelessness significantly

Homelessness has been halved since the late 1980s, although it has increased somewhat since 2008. The homelessness rate has been around 1.5 per thousand inhabitants in recent years, which is low by OECD standards and in the same order of magnitude as in Denmark, Norway and Sweden (Benjaminsen and Dyb, 2008).¹⁰ A persistent problem is long-term homelessness, which is often associated with mental illness and alcohol and drug abuse. Since 2008, the government has moved from a “staircase” to a “housing first” strategy (Tainio and Fredriksson, 2009). While the former strategy tries to address health and behavioural problems in steps before providing a permanent dwelling, the latter uses housing as a basis for solving other problems. Such a strategy has achieved good results in the United States (Tsemberis *et al.*, 2004).

The structure of housing taxation may raise price volatility and discourage development

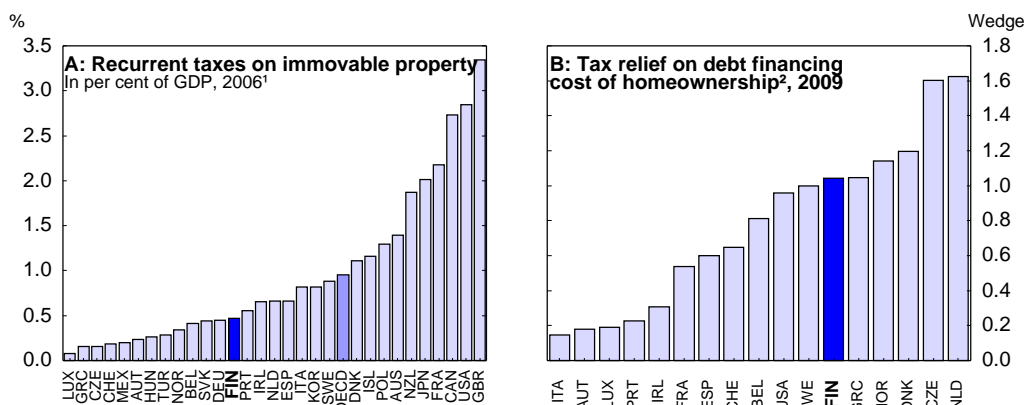
Tax breaks for housing tend to increase price volatility

The tax system encourages home-ownership, even though to a lesser extent than before the reforms of the 1990s. Owner-occupied housing is exempt from capital gains tax if the property has been held for more than two years, and property taxes are low (Figure 7, Panel A). There is no tax on imputed rents, although mortgage interests are tax deductible (Figure 7, Panel B). In the presence of backward-looking expectations, which seem prevalent in housing markets, a tax system which subsidises homeownership tends to increase house price volatility (van den Noord, 2005). The Programme of the Finnish government (Prime Minister’s Office, 2011) signals that mortgage interest deductibility will be reduced moderately and progressively over the parliamentary term. The current very low mortgage rates are facilitating the political acceptance of phasing out mortgage interest deductibility.

Property taxes are low by OECD standards, and are largely unrelated to market values of properties. Linking property taxes to regularly updated property valuations would provide an automatic stabiliser, reducing housing market volatility (Muellbauer, 2006). Furthermore, residential property taxes are currently regressive, as municipalities with high average incomes tend to set lower rates within the 0.5 to 1% range authorized by central government. OECD (2010) recommended increasing the lower bound and abolishing the ceiling on municipal property taxes, while adjusting property valuations to market values. An additional advantage of raising more municipal revenues through property taxes would be to encourage municipalities to zone more land for housing and speed up planning processes, enhancing the responsiveness of supply to demand.

10. Precise comparisons are difficult because definitions differ across countries.

Figure 7. Housing taxation



1. 2005 for Austria, Belgium, Greece, Iceland, Japan, Mexico, Poland and Portugal.
2. 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: OECD, *OECD Going for Growth 2009* and calculations based on OECD Housing Market questionnaire.

Incentives for municipalities to promote development seem weak

Housing supply is generally responsive in Finland. Nevertheless, there seem to be shortages of land zoned for construction in some places. Municipalities play a key role in shaping urban development, even more so after the Land Use and Building Act 2000, which gives them responsibility over Master and Detailed Plans (Hentilä and Soudunsaari, 2008). Ensuring that municipalities face the right incentives to support the expansion of housing in high demand areas is essential, as benefits of development are often diffuse, indirect and long-term, while the associated costs are local, visible and short-term (Barker, 2006). In particular, infrastructure costs can be substantial for municipalities, especially where, as in Finland, they are responsible for providing a wide range of services to their residents. Concerns about the ability of public service provision to adapt to a growing population may also drive public resistance to development. For example a survey carried out in the United Kingdom shows that on average only about one in two English adults supports house building in their local area, but that the level of support would reach more than three quarters if residents were sure local services (e.g. doctors, hospitals and schools) would not suffer (NHPAU, 2010).

International evidence shows that where local authorities receive a large share of taxes paid by their residents – e.g. Germany, Switzerland and the United States – they tend to adopt a positive attitude towards development and compete to attract households (Evans and Hartwich, 2005). Municipal taxes account for a sizeable share of fiscal revenues in Finland, but a fiscal equalisation system limits gains of additional receipts that accrue to municipalities (Vartia, 2006). Lyytikäinen (2011) finds no evidence of tax competition in Finland, even above the tax equalisation threshold, where municipalities benefit significantly from expanding their tax base.¹¹ From the beginning of 2012, property taxes are excluded from the fiscal equalisation system, which enhances incentives for municipalities to facilitate development.

A three rate property taxation system was introduced in 2001 to encourage development on land zoned for housing. The reform allows municipalities to levy a tax on undeveloped residential lots at a rate

11. The tax equalisation system reallocates revenue from rich to poor municipalities. Municipalities with imputed revenue – based on municipal income tax base and average municipal income tax rates – above a tax equalisation threshold transfer about 60% of their revenue above the threshold to municipalities with imputed revenue below the threshold.

of 1% to 3% of the building site's value, compared to the general property tax rate of 0.5% to 1% (0.22% to 0.5% for dwellings). By 2007, nearly 30% of municipalities had adopted the three-rate system, including 14 municipalities of the Greater Helsinki region which were compelled to do so by a 2005 parliamentary amendment. By raising the cost of holding undeveloped land, the three-rate system has the potential to speed up development. However, its impact seems to be mixed. Lyytikäinen (2009) estimates an increase in single-family housing starts of roughly 12% in municipalities which have switched to the three-rate system (controlling for other factors). However, the study excludes most municipalities of the Helsinki region. Hannonen (2008) finds no increase in housing construction after the introduction of the three-rate system in Espoo, the second most populated municipality of the Helsinki Metropolitan Area (controlling for other factors). These results are not surprising, as large land price increases in Espoo outweighed the cost of the increase in the property tax. Overall, while increasing taxation on undeveloped residential land should have an impact on housing supply, it is likely to be limited in areas experiencing strong land price increases.

A number of other ways to increase incentives for municipalities to promote development have been proposed (Ministry of Environment, 2002; Vartia, 2006). Municipalities could be encouraged further to levy a larger share of their revenues through property taxes, which only represent about 2% of municipal revenue, even though such measures often prove politically difficult.¹² A larger share of municipal taxes could be left outside the fiscal equalisation system. A major issue regarding housing development is the provision of infrastructure, which can weigh heavily on municipal finances. Recognising the problem, since the mid-2000s the government has provided earmarked grants up to a maximum 35% of total expenses to municipalities to support the provision of infrastructure in growth areas (Vartia, 2006). Another way to finance infrastructure costs would be to increase the taxation of gains on building land. As gaining planning permission generates huge windfall gains in the form of increases in land prices, it seems legitimate for the government to capture part of these gains. Some OECD countries – United Kingdom, Ireland and Australia – negotiate in kind infrastructure or affordable housing contributions with developers. While such arrangements can generate social mix when social housing is included as in the United Kingdom, they also delay the planning process. Hence, monetary contributions may be more appropriate for Finland, where social mix is already fairly high.

Variable mortgage rates tend to increase volatility

Variable mortgage rates may dampen recessions, as interest rates usually come down during downturns, reducing households' interest burden. However, they increase house price volatility, as households tend to largely overlook the possibility of future rate increases and banks often take excessive risks, especially when competition is intense. Aggregate mortgage debt is relatively low by OECD standards, at less than 120% of household disposable income in 2009. Nevertheless, some mortgage loans might carry excessive risk. In March 2010, the financial supervision authority FIN-FSA recommended that banks assess households' repayment capacity on the basis of a 6% interest rate and loan duration of 25 years, rather than the current low rates and sometimes longer repayment periods. FIN-FSA also recommended caution in issuing mortgages with loan-to-value (LTV) ratios above 90%. Similar warnings have been issued by financial supervisors in Sweden and Norway, which have seen comparable evolutions in their housing and mortgage markets. FIN-FSA recommendations were motivated by consumer protection rather than worries about the sustainability of the banking system. Nevertheless, recent developments in other countries have shown that prudent mortgage lending is also essential from a financial stability point of view. Monitoring of bank practices by FIN-FSA shows that banks are following recommendations on assessment of repayment ability, but that issuance of high-LTV loans is still very

12. In 2000, the lower bound for general property tax was raised from 0.2% to 0.5% and for residential property tax from 0.1% to 0.22%.

common. A survey carried out in late 2010 found that more than half of first-time buyers had a LTV in excess of 90% and more than 40% had a LTV over 100% (FIN-FSA, 2011).

Housing supply generally responds to demand, but shortages appear in growth areas

The housing stock is large, recent and generally affordable

Finns enjoy, on average, good housing conditions by international standards. The overall number of housing units, at about 500 per 1000 inhabitant, is among the highest in the OECD, though this number is inflated by the ownership of summer cottages by nearly one fourth of households (Andrews *et al.*, 2011; Lapintie *et al.*, 2002). Dwellings are on average very new, with 60% of them built since 1970 (Ministry of the Environment, 2008). Overall, housing is affordable, though prices are high in Helsinki (see below). In 2009 less than 5% of the Finnish population lived in a household that spent more than 40% of its disposable income on accommodation, which places Finland in the bottom quartile among European Union countries. This holds true for all types of tenures, except tenants paying reduced rent, where the proportion is closer to the EU median. Moreover, Finland performs better than the other Nordic countries, particularly Denmark where the housing cost overburden rate is the highest in the EU at 24% (Eurostat Housing Statistics, 2009).¹³

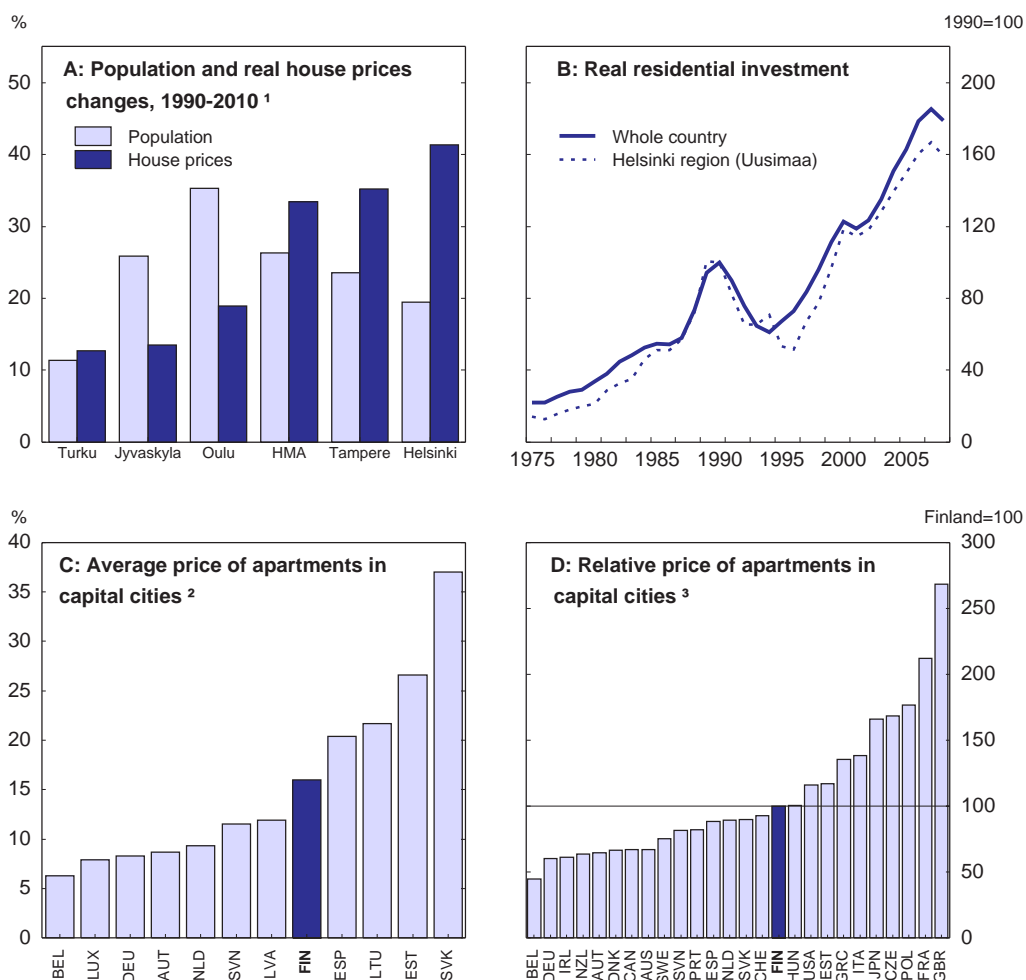
Responsiveness of supply is high, but migration creates pressure in growth areas

The overall responsiveness of housing supply in Finland, as estimated in Box 1, is high. Nevertheless, imbalances between supply and demand have appeared in some areas, as the geographical distribution of population has evolved. Since the late 1990s, structural changes in the economy, in particular the fast growth of the information technology industry, have induced large migrations towards growth centres, in particular the Helsinki region, Oulu, Jyväskylä, Tampere and Turku. Combined with growing incomes, migrations boosted housing demand in growth centres, leading to price increases as supply struggled to respond, especially in the Helsinki Metropolitan Area and Tampere (Figure 8, Panel A).

Despite high demand, housing investment has been increasing at a slower pace in the Helsinki region than in the rest of the country since the 1990s (Figure 8, Panel B). Another indication of tight supply is provided by the comparison of apartment prices in Helsinki and foreign capital cities (Figure 8, Panel C and D). Supply pressures in growth areas, notably the Helsinki region, could be alleviated through improved land-use planning and enhanced competition in construction and related industries.

13. The housing cost overburden rate is the percentage of the population living in households where the total housing costs (net of housing allowances) represent more than 40% of disposable income (net of housing allowances).

Figure 8. . Housing prices and residential investment



- 1990 and 2010 correspond to the high points of the cycle. HMA refers to Helsinki Metropolitan Area, which comprises Espoo, Helsinki, Kauniainen and Vantaa.
- Per square meter, as a percentage of the median disposable income of the relevant capital city.
- Deflated by the national net household disposable income per capita. Prices refer to 120 square meters prime apartments, located in the centre of the most important city of each country, either the administrative capital, financial capital and/or centre of the rental market.

Source: Statistics Finland, Eurostat, Global Property Guide and OECD calculations.

Land use planning needs to provide building space in a sustainable way

Land use planning systems have to balance economic, social and environmental objectives. Striking the right balance between these objectives is difficult, especially as interest groups with strong focus on a single dimension – e.g. property developers, environmental groups – can wield strong influence over the planning process. Finnish land use planning has allowed the development of a housing system which is fairly responsive to housing demand, environmentally conscious and has promoted social mix. Nevertheless, planning procedures have been criticised for lacking flexibility and being slow (Vartia, 2006). Shortages of dwellings have appeared in growth areas. Adverse effects of urban sprawl on the environment are also a concern (Puustinen and Kangasoja, 2009).

The Finnish land use planning system is similar to that of other Nordic countries and emphasises the role of local government, even though it is more hierarchical than in Denmark and Sweden. Municipalities are responsible for local Master and Detailed Plans, which however need to take into account Regional Plans, designed by a regional council made up of representatives of municipalities and ratified by the Ministry of the Environment. National land use guidelines, covering in particular transports, provision of services, recreation areas, natural resources and cultural heritage, are informative and mainly embodied in regional plans (Hentilä and Soudunsaari, 2008). Other European countries, such as Germany, Austria and Switzerland also devolve a large share of planning responsibility to the local level, though with more regional legislation than in Nordic countries. Similarly, zoning decisions are essentially a local prerogative in the United States. More centralised planning systems are in place in Australia, Ireland and, until recently, the United Kingdom. In France and the Netherlands, planning responsibilities are more evenly shared between national and local authorities. Centralisation of planning can bring some advantages in terms of national coherence in development, consistency with other national policies and the design of infrastructure. Nevertheless, decentralised planning systems tend to be associated with higher supply responsiveness, even though local resistance to development (NIMBYism) may arise in some cases.¹⁴

The Land Use and Building Act 2000, in line with practice in other Nordic countries, promotes an interactive planning process, which encourages active participation of citizens. Such a planning process allows planning development in a way which is consistent with residents' aspirations. The participation of citizens in planning is likely to improve their willingness to accept more construction compared to planning imposed by a higher administrative level. Finnish municipalities have pushed through innovative planning processes, made possible by the development of information and communication technologies. For example, Tampere has developed a planning game on the internet (Lapintie *et al.*, 2002) and Oulu has used international architectural competition to redevelop an old harbour and industrial district, Toppila Shore (Hentilä and Soudunsaari, 2008). Fallpakka and Viikki, in the Helsinki area, are widely seen as positive examples of environmentally-friendly development close to protected natural areas (Yli-Pelkonen and Niemelä, 2006). The Finnish land-use planning system has also been credited with promoting social cohesion, by ensuring the creation of mixed neighbourhoods (Ministry of the Environment, 2002). Against these positive outcomes, increased participation of citizens has been criticised for delaying planning considerably, in particular through lengthy appeal procedures against decisions on building permits and local plans (Vartia, 2006). Other weaknesses of the planning system seem to be a lack of qualified personnel in some municipalities and insufficient cooperation between municipalities. The planned reform of municipalities, which aims at creating economically robust municipalities through mergers could go a long way in addressing these issues.

The lack of building land in high growth areas, especially the Helsinki Metropolitan Area (HMA), is a constraint on housing construction (Vartia, 2006, Puustinen and Kangasoja, 2009). The resulting lack of affordable housing hampers the attractiveness and competitiveness of the city and results in shortages of labour, especially key workers like nurses or bus drivers (Puustinen and Kangasoja, 2009). The growing scarcity of land is illustrated by the steady rise in the share of land in HMA housing prices since the early 2000s, from less than 40% to close to 50% (Oikarinen, 2010). Such a high share of land value in housing prices is not unusual for large cities. For example, land shares as high as three quarters have been reported for central areas of Vancouver, Canada (Rosenthal and Helsley, 1994) and Sydney, Australia (Evans and Hartwich, 2005). Helsinki, like Sydney, has a shortage of building land resulting from land use regulations more than from natural scarcity of land. The city of Helsinki owns about two-thirds of the land within the municipality. About 60% of new planning involves long-term leases of land for projects with social objectives, while the remaining 40 % entails sale of land to private developers. The Helsinki land-use

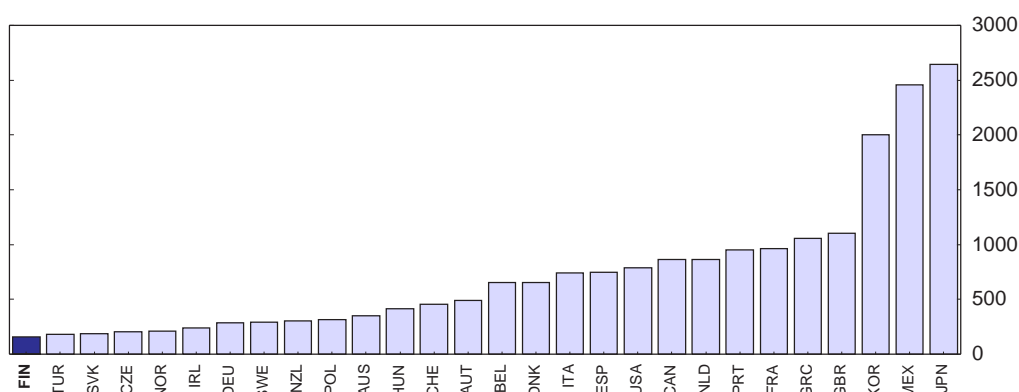
14. Assessing the impact of the type of planning system on the flexibility of housing supply requires caution, as numerous factors affect supply decisions and planning may be influenced by external factors, such as responsibilities for financing infrastructure and the tax system.

system is unusual, although Amsterdam presents some similarities (Dornette and van Veen, 2005). It has a number of advantages. It is used as an urban planning tool to achieve social goals. Land is leased at reduced rates in exchange for the respect of price and quality norms (HITAS system).¹⁵ It generates steady income flows for the municipality, may limit speculation and land-price increases, and allows the municipality to capture land-value gains.¹⁶ Nevertheless, restrictive land allocation by the municipality and the preference of developers for land ownership may have restricted housing expansion (Ministry of Environment, 2002).

Although the sea-side location of the city only allows development within a half circle around the centre, land suitable for development is widely available within reasonable distance of the centre. Moreover, the density of the city is low in an international perspective (Figure 9). This could leave room for increasing density, which would limit commuting and hence carbon emissions. Between 1998 and 2008, while the number of jobs in the HMA has increased by 3% per year, the total number of people commuting to work has increased by 7% per year and the number of people commuting from outside the region by 9% per year (YTV, 2008). The increase in commuting can be attributed to difficulties to find suitable dwellings in Helsinki and high prices, but also to aspirations for more space and living closer to the countryside, especially for families. Moreover, the arguments in favour of densification policies are mixed (Box 3).

Figure 9. Population density in capital cities ¹

Number of inhabitants per square kilometre



1. Except for Australia (Sydney), New Zealand (Auckland) and United States (New York City).

Source: OECD.

Box 3. To what extent is densification desirable ?

Densification is widely discussed across OECD countries, especially in relation with climate change mitigation policies. There is abundant international evidence that demand for space increases with income and in many countries better-off families tend to move out of city centres to live closer to the countryside (Whitehead, 2008). This aspiration may be even stronger in Finland, where “cultural identity is still very much tied to the countryside, and especially to

15. In 2008, HITAS units accounted for about 14% of total owner-occupied housing in Helsinki (City of Helsinki, 2008).

16. Land rents are adjusted annually on the basis of a living cost index. Every 30 years, rents on 100-year leases are revised to take into account increases in the market value of land (Dornette and van Veen, 2005).

nature, forests and lakes” (Lapintie *et al.*, 2002).

Against this background, policies aimed at increasing building density by limiting urban sprawl are bound to have significant socio-economic and well-being costs. Such policies might even miss their target if they induce a loss of green areas in cities, which may induce some households to move to greener outer areas. On the other hand, high density is often assumed to be friendlier to the environment as it would induce less use of transports. However, recent studies on the United Kingdom are challenging this view (GO-Science, 2010; Solutions, 2009). A negative relationship between density and energy consumption could be due to reverse causality, where low energy prices have been a major cause for urban sprawl. A carbon tax, congestion charges and development and promotion of use of public transports would be more effective than encouraging densification through the planning system in achieving efficient energy use. Such measures would also help mitigate problems associated with high density, such as congestion and pollution, with their negative effects on health and well-being.

Hence, densification as a general proposal should be taken with caution. In the United Kingdom, which had probably the most ambitious densification objectives among OECD countries, density targets have been criticised for leading to the provision of too many flats when households prefer houses. Therefore, they were abandoned in 2010. This is not to say, however, that building at higher density in specific areas is not desirable. The viability of infrastructure development – e.g. schools, health centres, transports – requires a minimum population base. For example, the minimum density thresholds for efficient public bus and light rail transport in the United Kingdom have been estimated at respectively 25 and 60 dwellings per hectare (Hall, 2006). Planning for relatively dense areas along public transport corridors can limit the carbon footprint of development, compared to more spread out expansion associated with greater car use. Encouraging development within cities through planning or other means, especially on brownfield, may be warranted for other reasons. Higher building costs and risks associated with building on brownfield land and urban regeneration might deter private developers, while renovation provides large externalities in terms of attractiveness of the city and quality of life. Urban renovation is particularly challenging in old industrial centres undergoing transformation towards a service based economy, like Tampere, where planning has supported the redevelopment of former industrial sites into new businesses and offices (Lapintie *et al.*, 2002).

Promoting housing development around public transport networks can strike a balance between the need to restrain carbon emissions and people’s aspirations for space and living closer to the countryside. The revised national land use guidelines issued in February 2009 focus on meeting the challenges created by climate change by creating more coherent urban structures and reducing the volume of traffic, promoting energy savings and the use of renewable energy and dealing with risks associated with climate change, notably flooding. The guidelines for the Helsinki region have been almost totally revised, with the aim of ensuring that the supply of land for new homes allows accommodating population growth in a sustainable way, with the region well served by public transport, rail in particular (Ministry of the Environment, 2009). Development along the guidelines should allow to meet housing demand in a sustainable way.

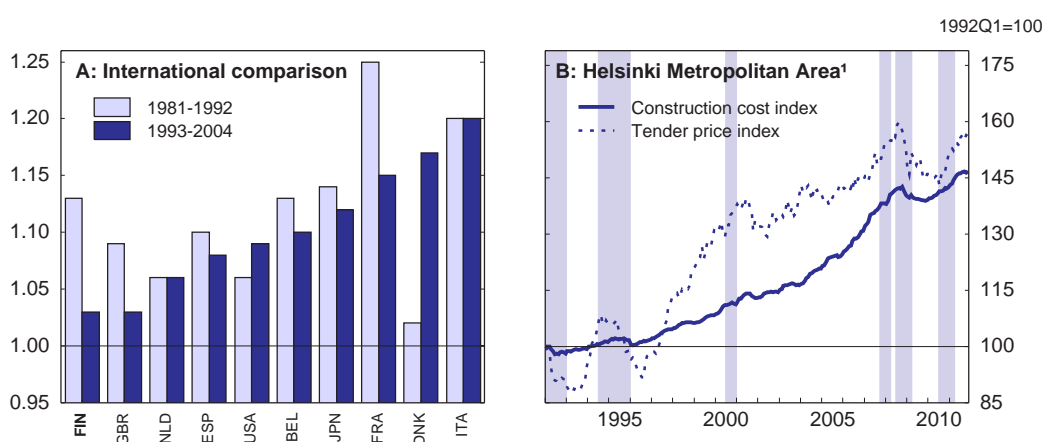
More competition in the construction industry could enhance supply and lower costs

Providing sufficient affordable, diversified and innovative housing requires a competitive construction sector. Competition may be hampered by concentration and market power of developers and construction firms, as well as by regulatory constraints. Market power of developers can be assessed by looking at profit margins. Low margins for the whole country contrast with some evidence of market power in the HMA. Mark-ups in the Finnish construction industry estimated by Bouis and Klein (2009) over the period 1993-2004 are low in international comparison and have declined both in absolute and relative terms compared to the period 1981-92, despite greater concentration after the early 1990s recession (Figure 10, panel A). However, profits margins in the HMA vary over the housing price cycle (Figure 10, panel B and Oikarinen, 2010). The cyclical nature of profit margins points to less competition in the HMA than in the country as a whole, even though comparisons should be taken with caution, as estimation methodologies differ. The lack of building land and the size of construction projects are likely to limit competition in the HMA. Restricted access to land favours large developers, which can devote more resources to securing access to land and gaining planning permission, and bear the higher risks of development in areas where land prices are high and volatile. Furthermore, the number of companies operating on large building sites is

limited. While there were about 130 active construction companies in Finland in 2008, only seven have a turnover in excess of 200 million euros (OECD, 2008).

Public regulations – for example regarding safety, health and the environment – tend to increase costs and stifle competition by discouraging entry into the market, especially for foreign firms (FCA, 2008). The construction product industry – e.g. concrete, paints – is more concentrated than the building industry. Prices lack transparency, as complex discount systems prevail. The market is often dominated by two firms and entry into the market is unattractive to foreign players because of the small size of the country and specific national standards. Supranational standardisation, in the context of the reform of the European Union Construction Products Directive, is seen by the Finnish Competition Authority as essential to increase competition in the construction product industry (OECD, 2008).

Figure 10. Markups in the construction sector



1. The shaded areas indicate a decline in real house prices during at least two consecutive quarters.

Source: Statistics Finland; Rapal Oy; Bouis, R. and C. Klein (2009).

Conclusion

The Finnish housing system provides quality owner-occupied and rental accommodation, at generally affordable costs, though shortages appear in growth areas, especially the Helsinki region. Finland has avoided the unsustainable housing market developments seen in many OECD countries over recent years. Housing prices and investment seem to be broadly in line with fundamentals. Nevertheless, the housing market remains volatile, partly reflecting the volatility of the wider economy, as housing prices and investment are strongly affected by variations in household income and interest rates. Housing and business cycles are mutually reinforcing through construction activity and employment, and wealth effects on private consumption. This feedback loop potentially complicates macroeconomic stabilisation and financial stability may also be put at risk by adverse developments in the housing market. A number of structural factors have an impact on volatility and efficiency. A more evenly divided tenure structure than in many OECD countries and public interventions to ensure access to quality housing seem to have a stabilising effect, though some adjustments in social rents setting and the design of housing allowances could improve efficiency. Conversely, the structure of housing taxation and the prevalence of variable mortgage rates may raise price volatility. Supply rigidities in growth areas – especially the Helsinki region – mainly linked to land-use planning and limited competition in the construction industry generate affordability problems, weighing on well-being and competitiveness.

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