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**IRELAND'S HOUSING BOOM: WHAT HAS DRIVEN IT AND HAVE PRICES OVERSHOT?**

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**By**  
**David Rae and Paul van den Noord**

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## Abstract

### **Ireland's housing boom: what has driven it and have prices overshot?**

The Irish housing market is very buoyant. The housing boom is driven by strong economic growth, dynamic demographics and low interest rates. However, large tax advantages and relatively lenient credit policies by banks have also played their part, and prices may have become overvalued. To the extent that high house prices reflect favourable tax treatment, they may lead to economic inefficiencies by drawing excessive resources into residential construction. While a soft landing appears the most likely prospect, a disorderly correction of house prices would pose risks for macroeconomic and possibly financial stability. In this context, one policy lever available to the government would be a phased removal of the tax advantages associated with housing. In addition, banks should remain cautious in their lending and provisioning policies.

This paper relates to the 2006 Economic Survey of Ireland ([www.oecd.org/eco/surveys/ireland](http://www.oecd.org/eco/surveys/ireland)).

JEL classification: E2; R21; R31.

Key words: House prices; housing market; residential construction; property tax.

\* \* \* \* \*

## Résumé

### **L'envolée du marché irlandais du logement**

Le marché de l'immobilier est très dynamique en Irlande. L'essor du logement s'explique par la forte croissance économique, la dynamique démographique et la faiblesse des taux d'intérêt. Cependant, les importants avantages fiscaux et les politiques de crédit relativement libérales des banques ont aussi joué leur rôle et les prix sont désormais peut-être surévalués. Dans la mesure où les prix élevés de l'immobilier reflètent un régime fiscal favorable, ils peuvent conduire à des inefficiences économiques en attirant des ressources excessives dans la construction résidentielle. Tandis qu'un atterrissage en douceur apparaît très probable, une correction désordonnée de ces prix ferait peser des risques sur la stabilité macroéconomique, voire financière. Dans ce contexte, un des leviers d'action à la disposition des autorités serait une suppression graduée des avantages fiscaux associés au logement. En outre, les banques devraient être incitées à faire preuve de prudence dans leurs politiques de prêt et de provisionnement.

Ce document de travail se rapporte à l'Étude économique de l'Irlande 2006 ([www.oecd.org/eco/études/irlande](http://www.oecd.org/eco/études/irlande)).

Classification JEL : E2 ; R21 ; R31.

Mots clés : Immobilier ; marché du logement ; construction résidentielle ; taxe foncière.

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## Ireland's housing boom: what has driven it and have prices overshot?

by David Rae and Paul van den Noord<sup>1</sup>

House prices across the industrialised world have surged since the mid-1990s – with the notable exceptions of Germany and Japan which are both still grappling with the aftermath of real estate busts in the early 1990s. In many countries, housing demand is underpinned by an easy monetary stance (Otrok and Terrones, 2005), while over a longer period tight zoning regulations have exacerbated the upward movement in property prices in and around growth centres (Glaeser *et al.*, 2005). Yet Ireland stands out by its extraordinarily strong increase in house prices over the past decade. It is important to understand what has been driving this increase in order to judge the likelihood, timing and size of any fall. A sharp decline in house prices would be a concern for homeowners and could have serious consequences for macroeconomic and financial stability. Meanwhile, the booming market combined with the tax treatment of housing may be impacting on the economy's productive potential by diverting a large amount of resources into residential construction. It may also be acting as a brake on labour supply by making it more expensive for people to immigrate and settle in the country.

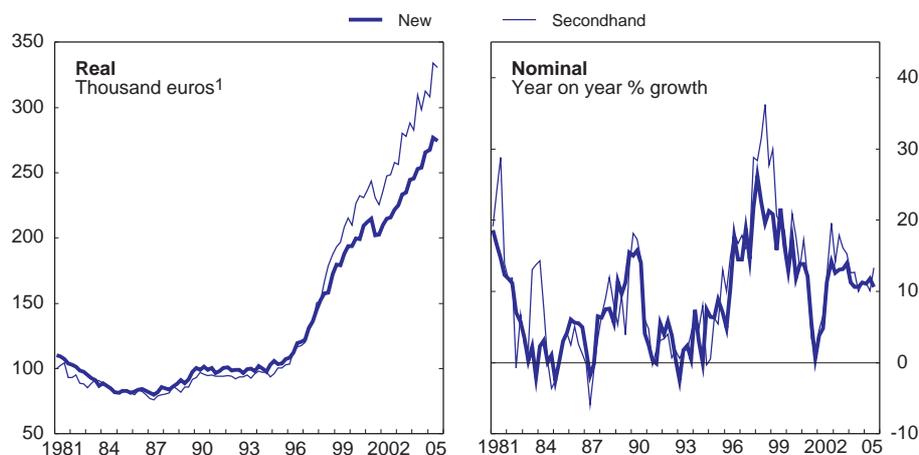
This paper argues that *most* of the increase in Irish house prices is justified by the economic and demographic driving forces. It should be remembered that in 1993 the average Irish house cost a mere € 75 000, which was extraordinarily low for a European country. Since then, remarkable growth in incomes, low interest rates, strong population growth, especially among the younger house-forming age groups, a surge in immigration and changing living patterns have all contributed to the boom. However, prices have probably over-shot to some extent, and taxation may have contributed to fuelling the speculative boom. Looking ahead, the most likely scenario is that prices stabilise and the housing market stays flat for some years. But there is some risk that house prices will fall, and the market is certainly exposed should the economy be hit by a negative shock. This chapter looks at the past and the future of the housing market and discusses the role that policy can play going forward.

### Forces driving the housing market

Ireland's house prices have risen dramatically since the mid-1990s. From 1995 to 2005 the price of second-hand houses more than tripled in real terms (Figure 1, left panel). House price inflation eased temporarily in 2001 but it has reignited since. Compared with other countries, the Irish housing boom has been extraordinarily vigorous: both in real and nominal terms the increase in house prices since the mid-1990s has been the highest in the OECD, with the United Kingdom and Spain ranking second and third respectively.

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1. This paper was originally prepared for the *OECD Economic Survey of Ireland* published in March 2006 on the responsibility of the Economic and Development Review Committee. The authors are grateful to colleagues in the OECD for their helpful comments, especially Boris Cournède, Peter Hoeller, Andrew Dean and Val Koromzay. Special thanks go to Desney Erb for her technical assistance. The authors can be contacted at [david.rae@oecd.org](mailto:david.rae@oecd.org) and [paul.vandennoord@oecd.org](mailto:paul.vandennoord@oecd.org).

**Figure 1. House price growth remains high**

1. Nominal prices deflated using the harmonised consumer price index (base 2005).

Source: Department of the Environment, Heritage and Local Government, *Quarterly Housing Statistics* and OECD, Main Economic Indicators database, May 2006.

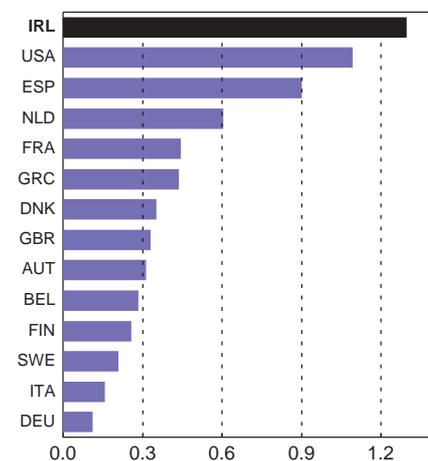
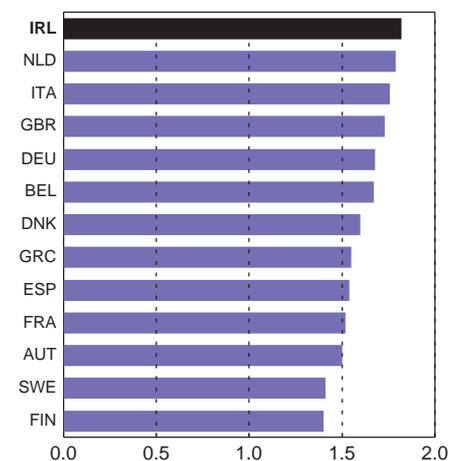
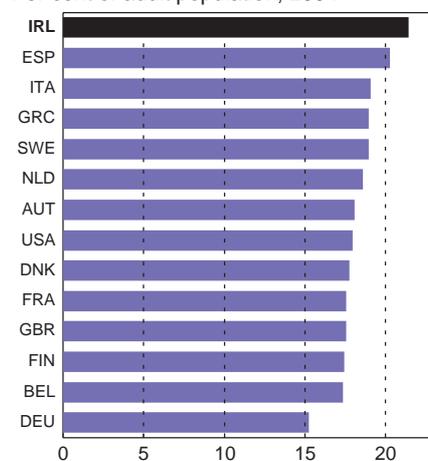
More favourable demand factors in comparison with developments elsewhere have surely played a role in shaping the buoyant price developments in Ireland. Growth in real disposable income since the mid-1990s has been stronger than in any other industrial country and real interest rates were among the lowest (Figure 2). The decline in inflation has also contributed by front-loading mortgage repayments. Furthermore, demographic trends were particularly favourable to housing demand in the 1990s, including strong population growth, a sharp fall in household size from a high level, a rapid acceleration in the growth of population in the household formation cohort and sizeable net immigration. Other demographic developments include the increase in the number of double income households and higher divorce rates. Another factor is the number of baby boomers investing in the buy-to-let market because of increasing worries about inadequate pension provisions for retirement.

In addition, the tax treatment of housing in Ireland has been more favourable for home ownership than in most other EU countries (van den Noord, 2005). This is reflected in a low user cost of capital. The user cost for homeowners is analogous to the cost of rental accommodation for tenants. It includes the after-tax mortgage interest rate net of capital gains, the opportunity cost associated with equity financing (usually the after-tax deposit rate), property tax (if any) and depreciation. There have been extended periods when the user cost has been negative, in particular in the late-1970s and from the mid-1990s onwards, implying a strong incentive to invest in housing.<sup>1</sup> The main driving factor keeping the user cost negative has been the untaxed capital gains (on owner-occupied homes), whereas the importance of income tax deductions has diminished with the gradual decline in marginal income tax rates and a series of other tax reforms (Box 1). Since taxation of capital gains has an important negative influence on the user cost, its absence could have acted as a catalyst for the upward spiral in house prices.

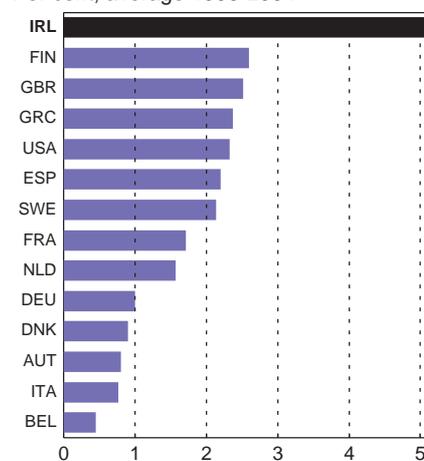
Figure 2. Forces shaping house prices

**Population growth**

Per cent, average 1996-2004

**Adult population per dwelling<sup>1</sup>**Persons, 2004<sup>2</sup>**Population at household formation age (25-34)**Per cent of adult population, 2004<sup>1</sup>**Growth in real disposable household income per capita**

Per cent, average 1996-2004



1. Adult population covers persons from age 20 onwards.

2. 2003 for Austria, Finland, France, Greece and Italy.

Source: OECD (2005), Labour Force Statistics and Economic Outlook 78 databases; European Mortgage Federation (2005), *Hypostat 2004*.

### Box 1. Tax breaks for housing and policy flip-flops

Ireland has some of the most generous tax provisions for owner-occupied housing, largely because it is the only OECD country that allows households a tax deduction for mortgage interest payments at the same time as *not* taxing property values, capital gains or imputed rent (Barham, 2004 and van den Noord, 2005).<sup>1</sup> The following provisions are the most important ones:

- Ireland introduced a residential property tax in April 1983. The rate was 1½ per cent for properties above a certain value and where the owner's income exceeded a certain rate. The 1994 Budget adjusted these price and income thresholds, but those measures were scrapped in the following budget, with a return to the previous system. The property tax was abolished altogether two years later. A private residence of up to one acre is exempt from capital gains tax, which is large enough to cover virtually all houses.
- Mortgage interest can be deducted against income tax. Prior to 1974 there was no limit as the full cost of mortgage interest could be deducted at the marginal tax rate. A ceiling was introduced in 1974 and increased on two occasions, in 1993 and 2003. Both these increases followed prolonged periods in which interest repayments normally exceeded the ceiling. Mortgage interest relief was phased in at the standard rate of tax (as opposed to the marginal rate) in 1994. This saw a reduction in the benefit accruing to homeowners with the deductibility rate falling from 48% in 1993 to 26% in 1997. Meanwhile, the imputed rental income is not taxed, unlike rental income to a third party.
- A package of tax measures was introduced in 1998 in an attempt to deflate what appeared to be a housing bubble. Stamp duty on new houses that were not owner-occupied was increased, while stamp duty on second-hand houses was reduced; capital gains tax on disposals of qualified residential land was reduced; and tax breaks for rental income were removed. These were successful in stopping house price inflation – possibly too successful, as they were reversed in the 2002 Budget. Meanwhile, another package of measures was introduced in 2000 in order to discourage investors from buying rental property. This included a 9% stamp duty on the purchase of property for rent. That also worked but had the predictable side effect of driving up rents, so it was abolished just a year later. Stamp duty was changed again in the 2005 Budget, this time lowering the tax for first-time buyers.

1. Finland, Portugal and Spain are the only other countries which, like Ireland, give a tax deduction for mortgage interest payments but do not tax imputed rent or capital gains on the principal owner-occupied dwelling. However, all three have municipal taxes on property values ranging from 0.4% to 1%. The size of the tax bias in Ireland has been reduced over time as the ceiling on mortgage interest deductibility has not kept pace with the increase in house prices. Updating the estimates by van den Noord (2005) shows an overall tax wedge of -0.57% for the first seven years and -0.36% thereafter, giving Ireland the fifth-largest tax bias in the EU15.

Access to mortgage finance is also less restrictive in Ireland than elsewhere, especially compared with continental Europe (Table 1). Financial market liberalisation during the 1980s and 1990s has supported demand by allowing a rapid expansion in credit. The full effects of liberalisation were beginning to be felt in the mid-1990s, just at the time when housing demand was growing fast. Loan-to-value ratios have risen from an average level of 60% in the 1980s to around 80% at present. The trend towards securitisation of bank loans is another factor. In general, securitisation makes interest rates on new borrowing more responsive to financial market developments. It also enhances competition, which lowers the costs of taking out a mortgage and makes it easier for households to access their capital through housing equity withdrawals (Catte *et al.*, 2004). The adoption of the euro has been another important influence in helping to increase the elasticity of supply of mortgages. The exchange rate risk disappeared, removing one of the obstacles to the freer flow of funds within the euro area. This means that the domestically-based Irish banks have a hugely expanded pool of funds available. The removal of the exchange rate risk premium, by lowering interest rates, has also acted to stimulate demand for mortgages. Finally, most mortgages in Ireland are variable rate loans, so the reduction in short-term interest rates (until recently) has further boosted demand.

**Table 1. Mortgage and housing market indicators**

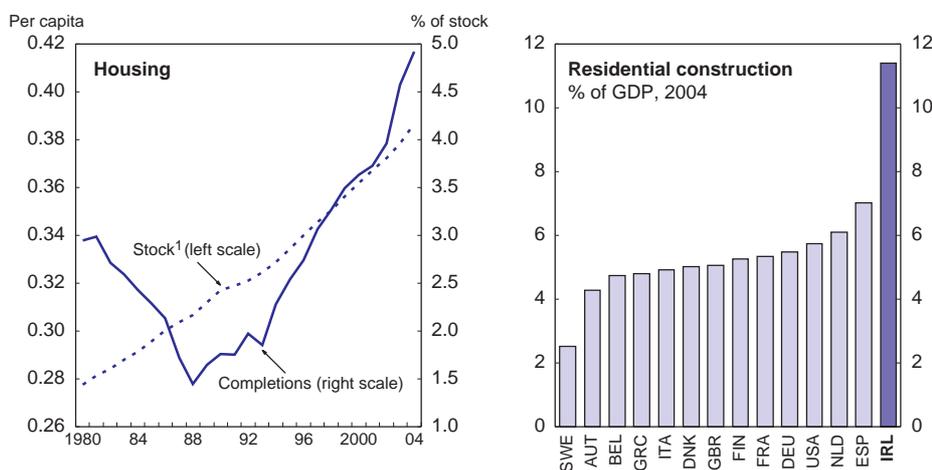
	Residential mortgage debt (% of disposable income, 2003) <sup>1</sup>	Typical loan-to-value ratios of new loans (%)	Typical loan term (years)	Variable interest rates (% of all loans, 2002) <sup>2</sup>	Securitisation of mortgages	Home ownership rate (% , 2002) <sup>2</sup>
<b>Ireland</b>	<b>106</b>	<b>70-100</b>	<b>20</b>	<b>85</b>	<b>Limited</b>	<b>77</b>
Australia	120	90-100	25	73	Yes	70
Austria	..	..	20-30	..	..	56
Canada	77	70-80	25	25	Yes	66
Denmark	188	80	30	15	Yes	51
Finland	71	75-80	15-18	97	Limited	58
France	40	80	15	20	Limited	55
Germany	83	70-80	25-30	72	Limited	42
Italy	20	50	15	56	No	80
Japan	58	80	25-30	..	No	60
Netherlands	208	87	30	15	Yes	53
New Zealand	129	..	..	..	..	65
Norway	24	70	15-20	..	No	77
Portugal	33	..	15	..	..	64
Spain	67	..	15	75	Yes	85
Sweden	98	80-90	<30	38	Limited	61
United Kingdom	105	75	25	72	Yes	69
United States	78	80	30	33	Yes	68

1. 2002 for Norway and Portugal, 2005 estimate for Ireland.

2. Or latest year available.

Source: OECD (2005), *OECD Economic Outlook*, No. 78, Paris; OECD (2004), *OECD Economic Outlook*, No. 75, Paris, June; Tsatsaronis, K. and H. Zhu (2004), "What Drives Housing Price Dynamics: Cross Country Evidence", *BIS Quarterly Review*, Bank for International Settlements, Basel, March; Ahearne, A.G. *et al.* (2005), "House Prices and Monetary Policy: A Cross-Country Study", *International Finance Discussion Papers*, No. 841, Board of Governors of the Federal Reserve System, September; Central Bank and Financial Services Authority of Ireland.

The rise in housing demand triggered a strong response in supply, which again is unprecedented by international standards (Figure 3). House construction and residential permits per capita are among the highest in the OECD. Around a third of the housing stock is younger than ten years old. Half of the stock is detached houses, with apartments accounting for just 6%. The enormous increase in housing supply was accompanied by significant increases in real construction costs and land prices. The significant cost increases did not deter the supply of housing, which was aided by more relaxed zoning rules. Yet, despite the massive increase in the housing stock, it will almost certainly increase further in the medium term (even ignoring the effect of population growth) given that in Ireland there are significantly more adults per dwelling than in other OECD countries. If preferences in Ireland were similar to those in other EU countries, this would, *ceteris paribus*, lead to falling numbers of (adult) persons per dwelling. This gap has undoubtedly been a factor in the buoyant demand for housing and a driving force behind the escalation of house prices, and is likely to act for several more years. Indeed, the high cost of accommodation in Ireland may be discouraging people from forming an independent household (Fitz Gerald, 2005).

**Figure 3. Residential construction is booming**

1. OECD estimate of stock of permanent dwellings, end of year.

Source: Department of the Environment, Heritage and Local Government (2005), *Annual Housing Statistics, Bulletin 2004*, The Stationery Office, Dublin and OECD (2005), *Economic Outlook 78* database.

### Are house prices overvalued?

The question of whether the fundamentals can fully explain the Irish housing boom can be addressed by different methods. One approach is to use an econometric model and see if house prices deviate from their long-term equilibrium level. Another is to treat housing as an asset that reflects the discounted present value of its future earnings. However, these indicators need to be complemented by other evidence such as price-to-rent ratios, measures of affordability and benchmarking against other countries. A range of evidence is discussed below.

#### *An econometric model of house prices*

Econometric models can be used to estimate the “fundamental” price, as determined by demand factors, such as real disposable income and real interest rates, and supply factors. A price level in excess of the fundamental price could be a sign that prices are inconsistent with demand and supply conditions and instead may be driven by irrational expectations of future capital gains. In such a house price bubble, home buyers consider that a house that would normally be too expensive for them (or much more expensive than renting) is worth buying because they will be compensated by significant further price increases (Meen, 2000 and Case and Shiller, 2003).

After tracking each other closely for many years, the prices of new and second-hand houses began to diverge in the mid-1990s. Since 1995, average second-hand house prices have risen by around 340%, compared with 240% for new houses. The different trajectories are not surprising as the two types of housing are not perfect substitutes (for example, the average new house is smaller and further from the city centre) and the supply of new houses can expand more rapidly than existing dwellings, the supply of which is less elastic. Because the markets are so closely related but are not perfect substitutes, the prices of new



***New prices: short run***

$$\Delta(p_t^n / p_t^c) = \underset{(2.21)}{0.1584} \Delta(p_t^n / p_t^c)_{t-3} + \underset{(2.56)}{0.1939} \Delta(p_t^n / p_t^c)_{t-6} + \underset{(5.57)}{0.7948} \Delta y_t + \underset{(2.74)}{0.4171} \Delta y_{t-4}$$

$$- \underset{(2.82)}{0.1708} ECM_{t-1}^{negative} - \underset{(1.03)}{0.0598} ECM_{t-1}^{pos} - \underset{(1.11)}{0.00326} + \underset{(4.14)}{0.0408} DUM$$

$$R^2 = 0.4927; \quad s.e. = 0.0199; \quad DW = 1.81$$

The main findings are that:

- The long-run income elasticity is estimated to be 1.5 for new houses and 1.7 for second-hand houses. Both estimates are higher than the ones estimated by Fitz Gerald *et al.* (2003) and IMF (2004), which are 1.07 (for new houses) and 1.20 (for a weighted-average of new and second-hand houses) respectively. The demographic variable affects second-hand house prices in the expected way, but is not significant in the equation for new houses.
- The interest rate semi-elasticity is around  $-2.0$  in both cases. This also is larger than estimates in other recent studies.
- The per capita housing stock has a significant negative impact on the price of second-hand houses.
- The short-run income elasticities are high in both equations, meaning that prices respond quickly to changes in household incomes.
- For new house prices, the error-correction coefficient is asymmetric. It implies that house prices rise more easily than they fall. More precisely, negative disequilibria (prices below fundamentals) tend to be corrected by a subsequent increase in prices. In contrast, if prices are above fundamentals they tend not to drop but to “wait for fundamentals to catch up” (see O’Donovan and Rae, 1997, for evidence of a similar effect in New Zealand).
- The error-correction coefficient for new house prices enters the equation for second-hand house prices with a positive sign. This means that disequilibrium in the market for new houses spills over into the market for second-hand houses.
- A dummy variable (DUM) was included to capture a confidence crisis in 2001 associated with the announced (but rapidly withdrawn) introduction of a flat-rate 9% stamp duty (to replace the existing progressive rate schedule with a top rate of 9%) and a 2% anti-speculative property tax. The coefficient implies that the policy change led to a temporary fall in house price inflation by around 10 percentage points, although it may also be picking up other factors such as the hit to confidence coming from the bursting of the high-tech bubble.
- In terms of the statistical properties of the equations: *a)* the fit is relatively good for such a volatile variable, with a standard error around 2% in both equations; *b)* the error-correction coefficients are relatively large and statistically significant, implying that the long run equations are cointegrated (this is confirmed by a direct ADF test of the residuals from the long-run equations); *c)* there are no signs of mis-specification from residual tests of autocorrelation, heteroscedasticity and non-normality; and *d)* the coefficient estimates are relatively stable over time.

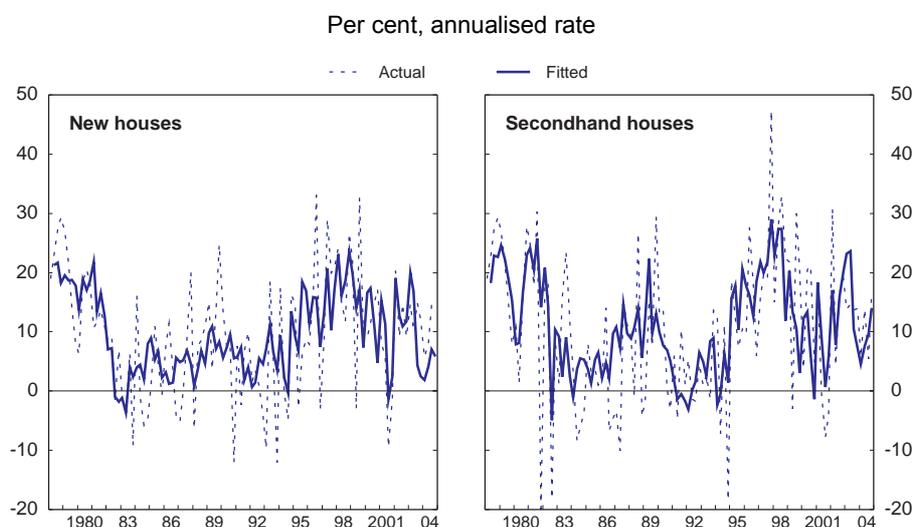
### Box 2. Description of the data

House prices are average sales prices recorded by the Department of Heritage and Local Government. They are not adjusted for quality or composition (an alternative quality adjusted index is constructed by TSB Permanent Bank but this starts only in 1996). They are deflated by the core HICP (HICP excluding food and energy). Series for the stock of dwellings and pre-tax mortgage interest rates have been provided by the Economic and Social Research Institute (ESRI). The total dwelling stock is based on summing up dwelling completion figures, adjusting for depreciation and benchmarking to census estimates in 1991, 1996 and 2002. This is split between new and second-hand houses as follows. The stock of new houses is estimated by summing completions (less depreciation) and assuming that 15% of new houses “fall” from the new to the second-hand market each year. That is, the half-life of a new house before it becomes part of the “established” or second-hand stock is approximately 4-5 years. The stock of second-hand houses is equal to the total stock (as estimated by ESRI) minus the new stock. The after-tax mortgage interest rate has been computed as the pre-tax mortgage interest rate multiplied by one minus the relevant marginal income tax rates as published in Barham (2004). The real after-tax rate is the nominal after-tax rate minus the core HICP inflation rate. Real disposable household income is taken from the OECD Economic Outlook database. Demographic variables (population by age) are from the Central Statistics Office.

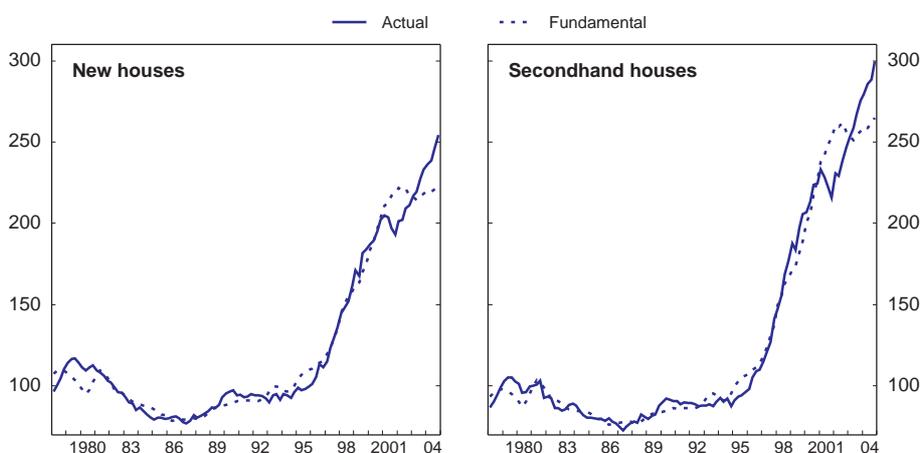
An extended three-equation model was also tested. This had an additional equation for dwelling investment because the housing stock is likely to be an endogenous variable, and in particular to be a function of house prices. The additional equation did not materially alter the estimates in the house price equations so the results are not reported here (available on request from the authors).

Actual and fitted values are shown in Figure 4. The long-run equation can be used to estimate the fundamental price levels. The result, shown in Figure 5, suggests that house prices have been above their fundamental level since early 2003. By the end of 2004, given interest rates prevailing at that time, second-hand house prices were around 10% overvalued and new house prices around 20% higher than their fundamental level. If long-term interest rates were to return to a more reasonable estimate of their long run level (*i.e.* 2 percentage points higher than at the end of 2004) then the overvaluation would be 16% and 26% respectively.

In sum, the model and similar econometric estimates suggest that prices have overshot their fundamental value. It is worth noting, however, that around 80 to 90% of the increase in house prices since 1995 is justified by the fundamentals – rising incomes, lower interest rates, demographic factors, etc. The remainder appears to be speculative froth. All econometric models are subject to considerable uncertainty, due to modelling error, omitted variable bias and so forth, but the estimate from this model is broadly consistent with a similar analysis conducted by the IMF (2004). Some alternative econometric models presented in the Irish Central Bank’s *Financial Stability Report 2005* show an estimated over-valuation ranging from essentially zero to more than 70%, highlighting that it is necessary to look at more than one indicator and to make judgements about which indicators may be more reliable than others. Alternative evidence is discussed below.

**Figure 4. Actual and fitted house price growth****Figure 5. Actual and fundamental house prices**

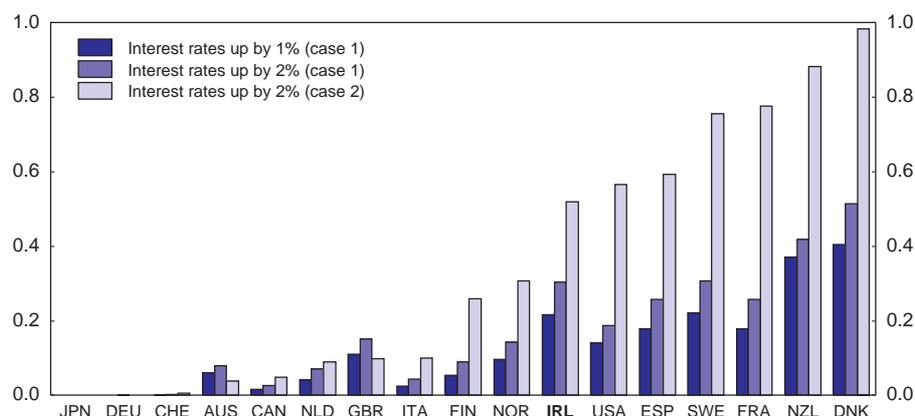
In thousand euros, real prices<sup>1</sup>



1. Nominal prices deflated using the harmonised consumer price index.

### ***The probability that house prices are approaching a peak***

Another way to look at the issue is to build a model that tries to predict house price peaks. Van den Noord (2006) constructs a cross-country probit model for 17 OECD countries in which the probability that real house prices are at a peak depends on past price increases, a measure of the deviation of prices from their trend, and real long-term interest rates. Historically, this model has performed reasonably well at predicting peaks. House prices have been moving up strongly in real terms since the mid-1990s in the majority of OECD countries, not just Ireland, and the current upswing is the longest of its kind in the OECD area since the 1970s. In the current cycle, real house prices have peaked in only two countries so far (Finland in 2000 and Australia in 2004), while they have slowed considerably in two other countries (the United Kingdom and the Netherlands). In most other countries, including Ireland, real house prices have

**Figure 6. The probability that real house prices are nearing a peak<sup>1</sup>**

- Case 1 refers to a 100 basis point increase in interest rates from mid-2006 levels, at current real house prices. Case 2 assumes that real house prices continue to increase (or decrease) for another year at the pace observed in 2005 before the interest rate shock is applied. To call a peak it is required that real prices fall over a period of at least six quarters after having risen by at least 15% cumulatively over a period of six quarters.

Source: van den Noord, P. (2006), "Are House Prices Nearing a Peak? A Probit Analysis for 17 OECD Countries", *Economics Department Working Papers*, OECD, Paris, forthcoming.

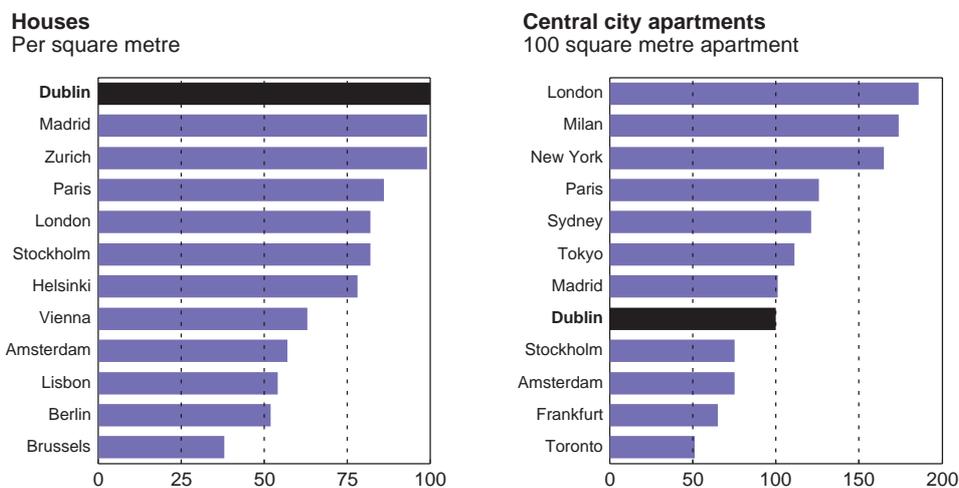
kept growing at a rapid pace or even accelerated. Simulations with the probit model suggest that housing markets in most countries would be resilient against a 1 or 2 percentage points hike in long-term interest rates if it kicked in at current real house price levels, the main exceptions being Denmark and New Zealand (Figure 6). However, the picture changes considerably if real prices are assumed to increase for another year at their observed 2005 pace in each country. In that situation, an increase in interest rates would raise the probabilities of a peak nearing to 50% or more also in Ireland, the United States, France, Spain and Sweden.

### ***International comparisons***

It is difficult to compare prices across countries because the size, quality, location and amenities of houses can differ substantially. Comparisons are a little easier if they are restricted to the major cities, but this does not solve the problem entirely. Bearing this in mind, the available evidence suggests that average prices in Dublin are higher than in comparable cities. In a comparison of average sale prices in 2004 across a dozen European cities, the price per square metre was higher in Dublin than everywhere else (Figure 7, left panel). Some further evidence comes from cost-of-living comparisons conducted by various private-sector consultancies. These usually focus on prices or rents of inner-city apartments typically bought or rented by business executives. Here Dublin does not stand out so dramatically (Figure 7, right panel).<sup>2</sup> This may be because rents are not especially high in Ireland but it may also reflect urban sprawl. Anecdotally at least, there is not a great deal of diversity in the housing stock. The centres of the main cities have not been taken over by apartment complexes and there is relatively little high-density in-fill housing. If preferences change and Irish people become more comfortable living in downtown apartments or in higher-density housing with no garden, then the distribution of prices may become more uneven: house prices in the central city may rise significantly relative to prices in the suburbs and city fringes. There is some evidence this may be happening already (Policy Exchange, 2005).

**Figure 7. Average house prices**

Dublin = 100, 2004



Source: OECD calculations based on data from ERA Immobilier (left panel) and The Economist Intelligence Unit (right panel).

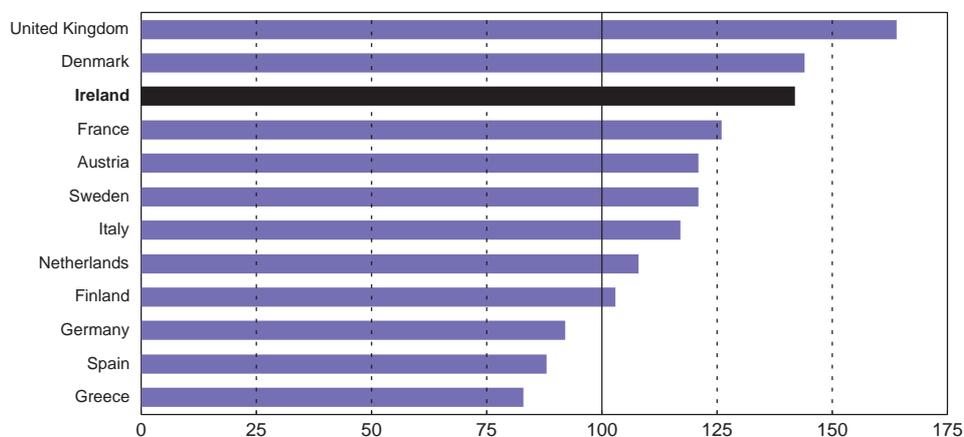
Another way to compare across countries is to look at broadly defined housing costs across countries. Figure 8 shows relative housing costs for several European countries, including house prices and rents as well as household operation and maintenance costs such as water, electricity and gas. In 1995, Ireland was less expensive than the United Kingdom but almost tied for second place with Denmark.

***Owning versus renting and the “great ratios”***

In a majority of countries, the ratios of prices to rents and prices to disposable income do not have strong trends when considered over long periods of time. The ratios may rise sharply during housing booms, but they usually fall back again through a combination of falling real house prices (*i.e.* a lower numerator) and rising rents or incomes (the denominator rising to catch up). In Ireland’s case, the increase

**Figure 8. Housing costs are high by international standards**

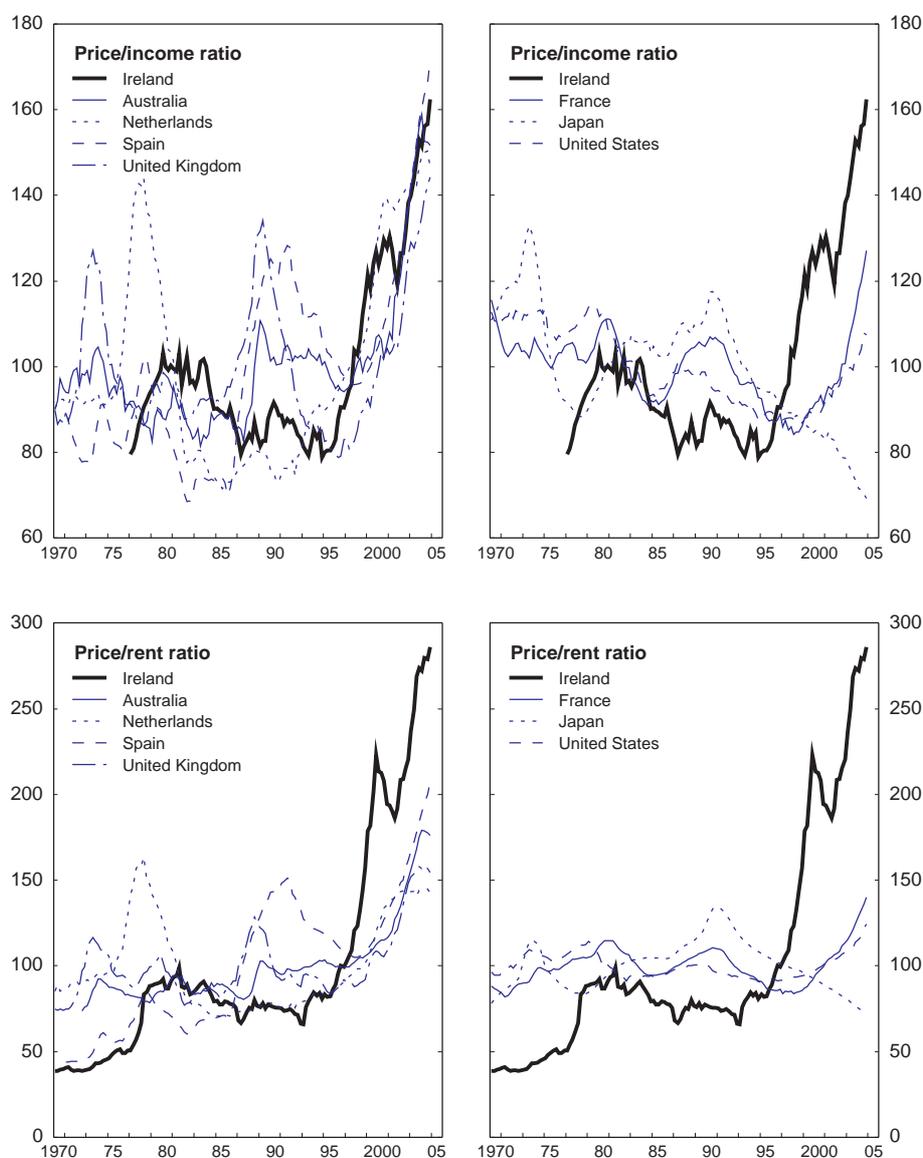
Housing costs including household maintenance, index Belgium = 100



Source: Eurostat.

**Figure 9. House prices are generally high relative to rents and income**

Sample average = 100



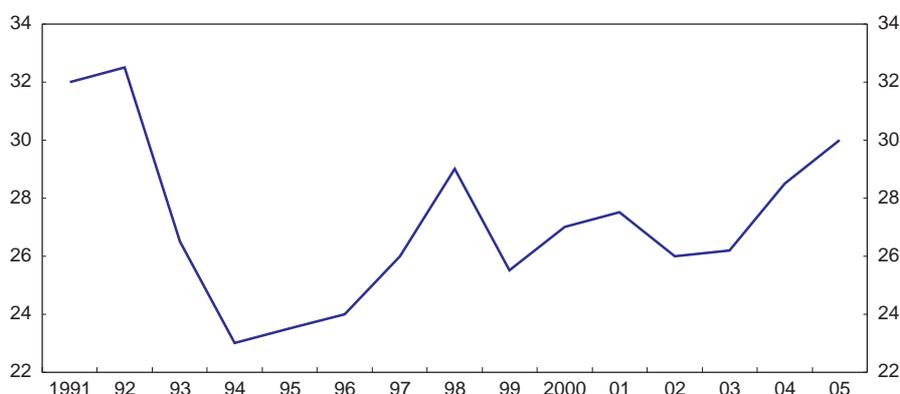
Source: OECD (2005), *OECD Economic Outlook*, No. 78.

in these two ratios far outstrips the cycles that have been seen in other countries before the most recent global housing boom (Figure 9), although the increase in the price-to-income ratio is in line with some other countries that have also enjoyed booming house prices in the last five years.

### ***The forward-looking present value approach***

In theory, permanently lower interest rates should lead to permanently higher price-to-rent and price-to-income ratios. Therefore, *some* increase in these ratios, as identified in the previous paragraph, is justified by the decline in Irish real interest rates. Whether the run-up is *fully* justified can be assessed using the forward-looking present value approach. It determines the fundamental house price as the present

**Figure 10. Mortgage repayment burden for a first-time buyer**  
Mortgage repayments as a proportion of disposable income



Source: Irish Central Bank.

discounted value of expected future rental income from the property and has the advantage over econometric models that it relates the fundamental price to expectations of the future rather than comparing it to past developments. Real incomes have now converged to the euro area average but house prices have substantially overshoot the European average. This would imply that people expect growth in Irish incomes to remain above the euro area average for some time to come, and this is probably a fair assumption. If the annual rental income on private housing remains at € 13 000 and assuming a discount rate of 2%, the present value model would give a fundamental house price that is close to current levels. That is, this model concludes that current prices can be justified so long as interest rates remain at their current low level. However, assuming a more reasonable discount rate that reflects long-term expectations of interest rates of around 4%, the present value model yields a 20% overvaluation.

### *Affordability*

The concept of housing “affordability” is popular in public discussions and with the real estate industry, perhaps because of its simplicity. While it is not particularly useful for assessing house price over-valuation, it is a useful measure of cash flow pressures. In 2005, the average mortgage repayment burden for a first time buyer was estimated to be 30% of disposable income (Central Bank, 2005), which is higher than in 1994/95, but is actually slightly lower than it was in 1991, when interest rates were much higher (Figure 10). Thus, the repayment burden is not out of line with past levels – provided, of course, that interest rates remain low.

### *Other evidence*

The effects of increased housing wealth and equity withdrawal on household saving have never been strong in Ireland. The savings rate has been fluctuating around 9% throughout the housing boom. However, this does not imply that no housing equity is released, but rather that it may be recycled back into the housing market. This shows up especially in the buy-to-let market and in the rapid growth in the number of secondary or otherwise mostly vacant homes. This suggests that demand is driven, at least in part, by expectations of capital gains, which may confirm the impression of over valuation emerging from some of the quantitative indicators.

The buy-to-let market is small but has been growing fast.<sup>3</sup> New buy-to-let mortgages constituted 20% of all mortgage transactions in 2004 while 30% of second-hand dwellings sold during the first half of 2004 were previously held as investment properties. The buy-to-let market is dominated by small, mostly inexperienced investors, whose primary objective is to provide for retirement. With property investors

taking such an active part in the market, the question is to what extent they have driven up house prices. Attracted by the substantial capital gains and small carrying costs, many investors have entered the buy-to-let market, possibly displacing first time buyers and contributing significantly to housing demand and house prices. The main concern – and another indication of overshooting prices – is the growing divergence between property prices and rental income. Indeed, rents actually fell from 2002 to early 2005. The position of those in the buy-to-let segment of the market will continue to be sustainable only if interest rates stay low. However, if mortgage rates were to rise many of these investment positions would be loss making.

Demand for second homes appears to be another important factor in the housing market. Although housing supply has risen tremendously in recent years, a surprisingly large proportion of it appears to be satisfying demand for second-home properties (in 2005, around 15% of homeowners aged 35-54 owned a second home). As in the case of the buy-to-let market, some properties may have been acquired with the expectation that house prices would continue to grow at a fast pace for the indefinite future. More generally, an important element of the boom over the last decade has been the growth in the number of dwellings that are vacant, for whatever reasons, for most of the year. Fitz Gerald *et al.* (2003) calculated that the number of vacant dwellings in Ireland had increased by 80 000 from 2000 to 2003, which is equivalent to half the houses constructed over that period. On the basis of modelling work in that paper it was estimated that this additional demand would have added between 15 and 20% to house prices over the same period, which roughly corresponds to the overvaluation estimated in the econometric model above.

## Key policy issues

### *Risks to financial stability*

An over-valued housing market may have implications for financial stability, but that depends on many factors. The first point to note is that an overvaluation does not imply that prices will drop, at least if the degree of overvaluation is moderate. The housing market is unlike other asset markets in that house price dynamics are not symmetric. Prices rise quickly during booms, but in a market slump most people prefer to take their house off the market rather than sell at a loss. Hence, a *small* fall in prices followed by several years of a flat market is more likely than a sharp drop in house values. Put another way, the price level may remain fairly high as the market waits for the underlying fundamentals to catch up. Another factor working in favour of this benign scenario is that, in the past, house price slumps have usually been triggered by a hike in interest rates, and while interest rates in the euro area are back on an upward path, the increase is likely to be relatively mild – a hike in rates has usually been the trigger for price slumps in the past. But even if they are not overvalued, concerns about stability still arise. If the fundamental drivers were themselves subject to severe negative shocks – such as a slowdown in the expected growth rate of disposable income – then house prices could still fall substantially. This would be particularly difficult for households that are highly leveraged in the buy-to-let and secondary home markets. The sensitivity of these markets to changes in financial conditions may be illustrated by the hit to confidence and the subsequent halt in real house price growth in 2001-02 when the budget announced an increase in the stamp duty and the introduction of an anti-speculative property tax (Box 1). The potential magnitude of the problem is difficult to gauge. Average debt levels are high and are growing rapidly (Table 1), but there is little up-to-date information on how this is distributed across households. The current level of rents is not adequate to cover debt service costs for new or very recent investors (*i.e.* those with a loan-to-value ratio of at least 80%), so their financial position will be squeezed if prices do not rise as fast as they had hoped. Even if house prices level off, there is a potential macroeconomic and financial stability issue that could arise from decline in residential construction. As noted in Chapter 1, the rate of house building will need to fall to some extent to return to its sustainable long-run level. International experience shows that this process is seldom smooth: when the investment rate turns down, it usually falls sharply (Box 3).

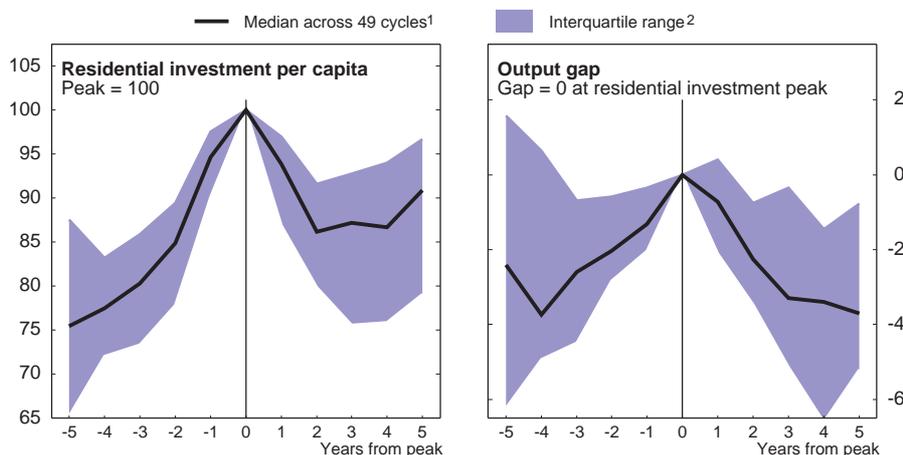
### Box 3. Has residential construction ever had a soft landing?

Residential investment is characterised by a pronounced boom-bust cycle. This box looks at how often a construction boom has been followed not by a slump but by a soft landing.

Between 1960 and 2004, 49 residential construction booms have occurred in 23 countries for which data is available. A boom is defined (rather generously) as a rise in the level of real per capita residential investment of at least 15% over a five-year period. In order to avoid identifying false peaks and data blips, a peak is defined as the highest point in a window of the preceding four years and the subsequent three years. By construction, the latest peak that can be identified is 2002; the analysis therefore omits the housing booms that are currently underway. In the cycles that have been identified, the average increase in real per capita residential investment from trough to peak is around 40%. The largest occurred in Korea from 1973 to 1978 (where investment rose by 160%). The trough-to-peak increase has exceeded 50% in 16 cases.

The downturn that follows is usually rapid. On average in the first year after the peak, 40% of the increase during the trough-to-peak upswing is reversed, with another 40% lost in the second year (Figure 11). Investment stabilises at that level for two years, before beginning to recover about five years after the peak.

Figure 11. Has there ever been a soft landing?



1. In each cycle, real per capita residential investment is scaled so that the peak equals 100.
2. The shaded area shows the middle two quartiles (*i.e.* half the countries fall in this range).

Source: OECD (2005), Economic Outlook 78 database.

How common are soft landings? If a soft landing is defined as a relatively small reduction in the investment rate, they are not especially common. There have been only four cases where the decline in per capita residential investment has been smaller than one-third of the increase that occurred during the boom years (these are the Netherlands after 1978, Belgium after 1990, the United Kingdom after 1998 and Finland after 2000). Soft landings are more common if they are defined as *gradual* declines, *i.e.* where it takes at least three years to hit the trough. There have been around 20 examples of these. But all of these were comparatively deep declines. If a soft landing is defined as something that is *both mild and gradual*, there has not been a single case out of the 49 boom-bust cycles.

It is also revealing to look at the behaviour of monetary policy before and after the construction peaks. Of the 34 booms for which there is also data on short-term interest rates, monetary policy tightened before the investment peak in only a little over half of all cases. Thus, there appear to be factors other than a tightening of monetary policy that have been responsible for many of the downturns.

Stress testing by the central bank suggests that the banking system has adequate capacity to absorb a modest fall in residential construction and house prices. However, it is more exposed to a negative shock that reduces residential and commercial property prices simultaneously as more than half of the banking sector's loan book relates to property. Hence, it would be worthwhile for banks to err on the side of caution. Loan provisions are currently in line with international norms, despite Ireland's financial risks possibly being higher than in other countries.<sup>4</sup>

### *Longer-term economic efficiency*

Aside from the question of whether house prices are currently overvalued, there are also issues of longer-term welfare related to the housing market. Given the high price level, the share of the average household budget that is spent on housing is high by international standards. This suggests there may be over-investment in housing and a corresponding under-investment in more productive assets.

The scarcity of accommodation in Ireland is partly a matter of misallocation of resources. To the extent that the increased stock of dwellings is absorbed as secondary or vacant dwellings, there are fewer dwellings available to meet the rise in the number of households driven by the changing age structure of the population. This has also put pressure on the resources of the building industry. Moreover, as noted by Fitz Gerald (2005) the high demand for secondary homes makes it more expensive for individuals to live and run businesses in the regions. The provision of the necessary infrastructure for new dwellings, such as sewerage and water connections, is very expensive, especially in urban areas. Where such dwellings are held vacant for investment purposes,<sup>5</sup> there is not an occupier to generate tax revenues to help defray the costs. Moreover, the government's social housing policy may be putting undue pressure on property prices (Box 4).

#### **Box 4. Housing support may not be provided in the most cost-effective way**

The government has substantially increased expenditure on housing support for people on low incomes. In 2004, public social expenditure on housing was more than 1½ per cent of national income – around four times the OECD average. It is unclear whether this money is well spent. There are around 15 different schemes but the government appears to have a strong preference for encouraging home ownership rather than providing rent assistance (Fahey, 2004). In 2004, only 16% of total expenditure went towards rent subsidies (housing benefits); approximately two-thirds went to capital expenditure, especially the construction and maintenance of local authority housing. Local authorities rent out 107 000 units at an average rent of just € 32 per week, so it is no surprise that there is a long waiting list for such housing. Expenditure on social and affordable housing schemes in 2004 amounted to € 1.88 billion and benefited 12 145 households. This subsidy is therefore equivalent to € 155 000 per household. Instead of building new houses for these families, that sum could cover all their rent for 10 to 15 years depending on the type and location of the rental accommodation. In its latest attempt to encourage home ownership, the government announced in 2005 that a further 10 000 houses would be built under its Affordable Housing scheme. People who would otherwise have to spend more than 35% of their net disposable income on a mortgage can apply to buy one of 10 000 new houses at up to a third off market value. The scheme is income tested, and is available to households earning up to around 130% of the average wage. This is in addition to the tenant purchase scheme under which social housing tenants can buy their properties at a considerable discount.

Policy needs to shift to a more tenure-neutral stance. The private rental sector, which currently is small by European standards, could expand if the government shifted more resources towards rent assistance instead of constructing houses and selling them or renting them and controlling the system through queues. Constructing houses and selling them at a low price seems especially ineffective as government assistance only takes into account a household's current, but not permanent income. It has aspects of a lottery, and its irreversibility makes it impossible to adapt to changes in situation or to households' often transitory needs. It is also a high-cost measure, so that less is available for lower cost, but more effective measures. Subsidising low-rent housing, while not suffering from irreversibility to the same extent, still often does not cater to the poorest households as it can be difficult to dislodge renters whose incomes have risen above the threshold for being placed in a low-rent flat. In addition, the owners of social housing parks usually have little incentive to maintain the property. Providing assistance by a housing benefit or housing vouchers would be entirely tenure neutral if households were free to use their means-tested benefits to cover rent or a mortgage. Means-tested housing benefits necessarily increase marginal effective tax rates on low-income earners but Ireland has relatively low marginal rates (at least on first earners) and therefore has more scope than most countries to deliver its housing policy through the income support system and let households make their own choices about whether to own or rent from the private or social sectors.

Furthermore, the level of house prices could reduce the growth potential of the economy by discouraging potential migrants, shifting the balance of labour market growth from employment to wages, with a consequent deterioration in competitiveness. Rises in house prices lead to unambiguous welfare gains for current home owners while immigrants, first time buyers and those with lower labour market skills miss out.

### ***Tax policy issues***

Some landowners are reaping large capital gains as a result of the major investment in infrastructure by the state and the rezoning of land for development. It would be appropriate for part of this windfall to be siphoned off by taxation to partly fund the infrastructure investment that creates the gain in the first place. The higher development levies that have been implemented go some way in this direction but they do not affect existing home owners. In contrast, the state is intervening in a number of different ways to encourage demand for housing, thereby pushing up the price. The tax relief on mortgage payments and the under-pricing of infrastructure encourage higher demand and higher prices, especially for land. Restrictive zoning, while popular with existing suburban residents, fuels an artificial shortage and encourages urban sprawl. Hence there is a strong argument for a property tax. But this has so far proved unacceptable to the public. As a softer alternative, some have advocated a property tax on vacant or second dwellings only (Fitz Gerald, 2005). This would help defray infrastructure costs, reduce demand and therefore reduce price pressures, thereby enhancing the productive potential of the wider economy. A very important side effect is that it would reduce the share of this potentially most volatile element in the housing stock.

#### **Box 5. Summary of recommendations**

- Phase out the strong bias towards housing that is embedded in the tax system. For example, mortgage interest should not be tax deductible unless a tax on imputed rental incomes or a broader capital gains tax is introduced.
- Introduce a property tax in order to fund local infrastructure and services, and as a way of redistributing some of the windfall gains that accrue to people living close to new roads and public transport links.
- Encourage banks to be sufficiently prudent in their lending and loan-loss provisioning practices.
- Social housing policy should become more tenure-neutral by scaling back house building and providing more by way of income support and/or housing vouchers.

## Notes

1. For Ireland, the user cost is computed by Barham (2004) following the method of Poterba (1984).
2. The figures in the right-hand panel come from the Economist Intelligence Unit and are based on a 100 m<sup>2</sup> apartment close to the city centre. They are highly correlated with the Union Bank of Switzerland's cost of living comparison in different cities (correlation coefficient of 0.78).
3. In 2004, around 8% of the housing stock was for private rental.
4. Loan loss provisions fell from 1.4% of loans in 2000 to 0.7% in the second quarter of 2005 (Central Bank, 2005). This level is in line with other European countries (Hoeller *et al.*, 2004).
5. There was a strange tax loophole until 2002 which meant that it could be worthwhile for a landlord who owned multiple properties to buy an additional property and keep it vacant.

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