Abstract The housing sector represents an important micro-economic and macro-economic component of the Irish economy. At a micro level purchasing a dwelling is probably the biggest personal financial commitment an individual will make. The necessary funding is usually borrowed over a long time period. Borrowing constraints mean that the full purchase price of the dwelling cannot typically be borrowed. Mortgage repayment can represent a significant proportion of after tax income. Expenditure by the personal sector on housing and household equipment and operation represents around a quarter of the value of personal consumption. The performance of the housing sector is also important for the macro-economy. The substantial increase in housing output means that investment in new house building now accounts for 30 per cent of overall investment volumes and has made a significant contribution to the volume of economic growth in recent years. Construction employment, at over 204,000 in 2004, now accounts for around 11.7 per cent of total employment. Figures from the latest Quarterly National Household Survey show that much of the increase in employment in 2004 is accounted for by the construction sector.

Keywords: Home ownership, Housing market and Affordability

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INTRODUCTION

The housing sector represents an important micro-economic and macro-economic component of the Irish economy. At a micro level purchasing a dwelling is probably the biggest personal financial commitment an individual will make. The necessary funding is usually borrowed over a long time period. Borrowing constraints mean that the full purchase price of the dwelling cannot typically be borrowed. Mortgage repayment can represent a significant proportion of after tax income. Expenditure by the personal sector on housing and household equipment and operation represents around a quarter of the value of personal consumption.

The performance of the housing sector is also important for the macro-economy. The substantial increase in housing output means that investment in new house building now accounts for 30 per cent of overall investment volumes and has made a significant contribution to the volume of economic growth in recent years. Construction employment, at over 204,000 in 2004, now accounts for around 11.7 per cent of total employment. Figures from the latest Quarterly National Household Survey show that much of the increase in employment in 2004 is accounted for by the construction sector.

Section 1 provides an overview of recent trends in some housing market indicators. Section 2 discusses the impact of these recent developments on the affordability. Section 3 examines the consequences of high house prices for migration. Section 4 provides an analysis of the growth in housing output and the consequences for the Irish economy. Section 5 concludes.
1. RECENT IRISH HOUSING MARKET TRENDS

Rapid growth in the housing sector in the late 1990s and the early part of this decade has focused much attention on the performance of this component of the economy. Between 1995 and 2004 new house prices rose by an annual average of 13 per cent in nominal terms or 9.7 per cent in real terms. Over the same time period personal disposable incomes increased by 9.7 per cent in nominal terms and by 6.4 per cent in real terms. All rents (public and private) as measured by the CSO as part of the consumer price index rose by 5 per cent in nominal terms and by 1.9 per cent in real terms.

Table 1: Price and Income Indicators, Nominal and Real Annual Percentage Change

<table>
<thead>
<tr>
<th>Nominal</th>
<th>New House Price</th>
<th>Personal Disposable Income</th>
<th>Consumer Price Index</th>
<th>All rents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-1980</td>
<td>21.6</td>
<td>19.8</td>
<td>15.3</td>
<td>5.6</td>
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<tr>
<td>1980-1985</td>
<td>8.2</td>
<td>12.9</td>
<td>13.4</td>
<td>10.2</td>
</tr>
<tr>
<td>1985-1990</td>
<td>6.4</td>
<td>6.6</td>
<td>3.7</td>
<td>5.3</td>
</tr>
<tr>
<td>1990-1995</td>
<td>5.1</td>
<td>6.2</td>
<td>2.7</td>
<td>4.9</td>
</tr>
<tr>
<td>1995-2000</td>
<td>15.2</td>
<td>10.9</td>
<td>2.5</td>
<td>5.7</td>
</tr>
<tr>
<td>2000-2004</td>
<td>10.5</td>
<td>8.8</td>
<td>4.2</td>
<td>5.5</td>
</tr>
<tr>
<td>1995-2004</td>
<td>13.0</td>
<td>9.66</td>
<td>3.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Real</th>
<th>New House Price</th>
<th>Personal Disposable Income</th>
<th>Consumer Price Index</th>
<th>All rents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-1980</td>
<td>5.7</td>
<td>4.0</td>
<td>15.3</td>
<td>-6.9</td>
</tr>
<tr>
<td>1980-1985</td>
<td>-4.6</td>
<td>-0.4</td>
<td>13.4</td>
<td>-2.7</td>
</tr>
<tr>
<td>1985-1990</td>
<td>2.7</td>
<td>2.8</td>
<td>3.7</td>
<td>1.6</td>
</tr>
<tr>
<td>1990-1995</td>
<td>2.4</td>
<td>3.4</td>
<td>2.7</td>
<td>2.2</td>
</tr>
<tr>
<td>1995-2000</td>
<td>12.4</td>
<td>8.2</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>2000-2004</td>
<td>6.1</td>
<td>4.4</td>
<td>4.2</td>
<td>1.2</td>
</tr>
<tr>
<td>1995-2004</td>
<td>9.70</td>
<td>6.4</td>
<td>3.1</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Sources: DoEHLG, Housing Statistics Bulletin, CSO, National Income and Expenditure Accounts, Consumer Price Index

Although there is evidence from Census 2002 of a marginal decline in the home-ownership rate, probably due to the recent period of high price growth, Ireland has one of the highest home-ownership rates at around 80 per cent, substantially above the EU average of approximately 60 per cent. The high owner-occupier rates in Ireland reflect in part the fiscal incentives that have encouraged home ownership. The result, from a macro-economic perspective, is that the performance of the housing sector is an important driver of the overall economy and the consumer sector.
One of the remarkable features of the current expansion has been the growth in output from the residential construction sector. Every year since 1994 the number of housing completions has reached a new peak. By 2004 the number of new house completions had reached just under 77,000, equivalent to nearly 5 per cent of the 2004 housing stock. This compares to 26,863 completions in 1994. This means that between 1995 and 2004 an additional 524,748 units were built, equivalent to 33.2 per cent of the 2004 housing stock.

**Figure 1: Annual Housing Completions**

![Figure 1: Annual Housing Completions](image)

Source: Department of the Environment, Heritage and Local Government, Annual Housing Statistics Bulletin, Various Issues

Despite the rapid house price inflation of recent years demand has remained strong in the housing market. The durable nature of housing as a good means that the demand for housing can simultaneously be the demand for housing services (shelter, etc) and the demand for housing as an asset (providing a capital gain or loss). The user cost approach has developed to reflect the opportunity cost of investing in the housing market. Thus, rising prices provide capital gains, making owner-occupancy attractive and so demand for housing can remain strong even in a period of rapid price growth.

The rate of return, or the user cost of housing, provides a measure of the cost of owning a house and aims to take account of capital appreciation. This can be crudely calculated as the mortgage interest rate minus the change in new house prices. More elaborate measures take account of tax, indebtedness and expectations. The user cost of new housing has been negative since 1996. This helps explain why demand for new dwellings continued to rise, even at a time of rapid price growth. New houses, although highly priced, were relatively cheap to live in because of low real interest rates and expected capital gains.

**Figure 2: User Cost of Housing**

![Figure 2: User Cost of Housing](image)

(Representative mortgage rate-house price inflation)
consequences for affordability. Although affordability is a relatively simple concept its measurement can be difficult as affordability is driven by house prices, mortgage amount, interest rates, after-tax household income and wealth.

Homeownership affordability measures can be broadly divided into those that measure the cost of repaying mortgage debt and those that measure the affordability of accessing the housing market. These different measures of affordability can provide a different picture of what is happening in the market. In terms of the cost of servicing a mortgage the reduction in Irish interest rates associated with EMU improved the affordability of homeownership. The fall in interest rates helped offset the impact of rapid house price increases on affordability, although affordability has also been helped by the availability of longer-term mortgages, see Figure 3.

However, the expectation is that interest rates will begin to increase over the next 2 years. Therefore, although Ireland and the Eurozone will continue to enjoy a low interest rate environment, interest rates will not stay at such a low level. If base rates were to increase by 1 percentage point and mortgage rates rose by the same amount, the proportion of incomes used for mortgage repayments would reach 30 per cent, similar to levels in the early 1980s. A 2-percentage point increase would push repayments, as a percentage of disposable income, above levels recorded since 1978. Any increase in interest rates will be against the backdrop of the majority of borrowers taking out variable rate or fixed mortgages with a fixed period of less than 1 year.

**Figure 3: Affordability of Home Ownership**  
(annual mortgage cost as a % of personal disposable income)
In terms of access to the housing market, affordability measures show that the rise in house prices had resulted in a decline in affordability and access to the housing market remains difficult. The rise of house prices and the house price to income ratio suggests that saving for a deposit has become more difficult. As put by Gyourko and Tracey (1999), “While lower interest rates reduce the income necessary to purchase a home, they do not directly reduce the down payment requirements.” Mayer and Engelhardt (1996) find that savings for a deposit is the main constraint to homeownership. Green (1995) suggests that this ratio gives a sense of the deposit burden relative to incomes. In recent years the ratio of house prices to personal disposable income has been five-to-one. Given that the minimum deposit is 10 per cent this implies that households need to accumulate 50 per cent of one year’s disposable income to purchase a house. Figure 4 shows a deposit ratio, the required deposit as a percentage of disposable income, assuming a 90 per cent mortgage. This is similar to the access measure used in the UK and Australia.

**Figure 4: Required Deposit as a % of personal disposable income**

Figure 5 shows the first-time buyer share of loan approvals. The decline may be indicative of affordability becoming a constraint, particularly the size of deposit required.
Generally the focus of affordability has been on the affordability of home ownership. However, there is the broader issue of affordability in the rented sector. According to Fahey (2004) policy on affordable housing in Ireland has been preoccupied with the cost of home purchase for owner-occupiers, especially first-time buyers, and has overlooked the more severe affordability problems facing tenants in the private rented sector. He argues that to get a full picture of housing affordability in Ireland, it is necessary to look beyond the rise in house prices since the mid-1990s and take account of two other developments which have narrowed housing choice for low income households: the decline in the relative size of the social housing sector and the sharp rise in the level of private rents, both of which have emerged since the late 1980s. Fahey concludes that housing policy needs to adopt a broader, tenure-neutral view of housing affordability and pay more attention to affordability problems in the private rented sector.

2.1 Housing and Household Indebtedness

Figures contained in the Central Bank Quarterly Bulletin show that advances to the personal sector amounted to €68.6 million at the end of the third quarter of 2004. The growth in consumer spending, house prices and private sector credit have all contributed to concerns about the level of indebtedness of the personal sector. Estimates of loans to the personal sector\(^2\) as a percentage of personal disposable income give an indication of the gross level of personal debt. The level of debt remained broadly stable until 1993. However, since then the proportion of personal disposable income accounted for by personal debt has increased rapidly.

Figure 6: Household Debt, as a % of personal disposable income
Overall, the ratio of personal debt to personal disposable income increased from 43 per cent in 1990 to over 100 per cent by 2004. Much of this increase has happened in recent years. Between 1990 and 1997 the ratio of personal debt increased by 9 percentage points. In the period between 1997 and 2004 the ratio more than doubled. The vast majority of this increase has been in borrowings for housing purposes. House mortgage finance and other housing finance amounted to just over 29 per cent of personal disposable income in 1990. By 2004 this had risen to 86 per cent, an increase of 57 percentage points since 1990. In contrast, other personal debt (finance for investment and other advances) has risen from nearly 13.5 per cent of personal disposable income in 1990 to 20.7 per cent in 2004.

These figures relate to the gross level of household indebtedness. They do not take account of savings held by the household sector. However, the rapid rise in the ratio of personal debt to income suggests that the exposure of households to an economic shock has increased. The fact that this increase has been largely due to a rise in borrowing for housing purposes indicates the extent to which the economy is exposed to a shock affecting the housing market, such as a sharp upturn in interest rates or an employment shock. The personal sector has become a net borrower because the pressure of financing the very large investment in housing now exceeds household savings. This suggests that the household sector will continue to be a net borrower until around the end of the current decade, primarily due to the need to finance investment in housing. As a consequence, the indebtedness of the household sector will remain high until then. Thereafter, as the housing needs of the population are met, the population ages, and provision for retirement increases, the household sector is expected to become a net investor in financial assets.

3. THE HOUSING MARKET AND MIGRATION

Examination of the contributions to population change in Ireland since 1971 show that the natural increase has been positive over the period. However, migration has had an important influence on the pattern of population change. Since 1996 there has been a substantial net inflow into the country contributing more to population growth than the natural increase. Thus, the Irish economy and the housing market have had to deal with a substantial net inflow of migrants. This has contributed to housing market demand. Analysis of the migration figures offers some explanation. The bulk of out-migration is from the 15-24 year age group, 53.5 per cent in 2004. This age group is younger than the main household formation age groups, so emigrants are either leaving the parental home or rented accommodation. The bulk of in-migration, 49.5 per cent, is in the 25-44 year age group, the key age group for independent household formation. Estimates in the Medium-Term Review (Bergin et al, 2005) and FitzGerald (2005) show that having made no contribution to housing demand per annum between 1991 and 1996 migration contributed an annual average of 6,000 units between 1996 and 2002, although in reality this may well be higher. Barrett, Bergin and Duffy (2005) show that migration into Ireland, which is predominately skilled, has had a positive impact on the economy, contributing 2.5 per cent to the level of GNP each year between 1998 and 2003.

However, the rise in house prices may be having negative impacts on migration. Duffy, FitzGerald and Kearney (2005) show that one consequence of high house prices has been to increase the slope of the labour supply curve. Traditionally Ireland has had an infinitely elastic labour supply curve due to an extremely open labour market. One of the results of the strong economic performance of the late 1990s was that the economy effectively reached full employment and a trade-off between wages and prices emerged. This resulted in the supply curve of labour becoming upward sloping. Full employment was also accompanied by infrastructural constraints as growth in output outpaced capacity. House prices rose sharply, so the decision to migrate to Ireland was
now influenced, not only by relative employment opportunities, but also by the rapid rise in house prices. This resulted in labour supply becoming more inelastic and the slope of the labour supply curve becoming steeper. Since many immigrants are in the household formation age group, and tend to be highly skilled, the boom in house prices in Ireland could reduce the attractiveness of Ireland for potential immigrants. This would, in turn, reduce potential labour supply in the medium-term and act as a brake on medium-term growth in output and employment. Thus, housing emerges as an important infrastructural constraint in the labour market.

Simulation results indicate that the housing constraint significantly reduces the medium-term growth potential of the economy and shifts the balance of labour market growth from employment to wages, with a consequent deterioration in competitiveness. The welfare effects differ for different groups, with unambiguous gains for current homeowners while immigrants, first time buyers and those with lower labour market skills are the net losers.

4. THE CONSEQUENCES OF HOUSING OUTPUT GROWTH

Recent Quarterly Economic Commentaries\(^4\) have argued that the growth in housing supply means that the Irish economy is now exposed not only to the more commonly referenced house price shock but also to a housing output shock. As the population is housed the growth in completions is not expected to be as strong and in time will moderate. A result of this will be lower investment growth and lower economic growth, other things being equal.

Duffy (2002) outlines the housing component of the ESRI macro-model which has the demand for housing driven by real personal disposable income, the real interest rate, a housing stock per capita variable and the proportion of the population in the key household formation age groups. A shock to any of these factors could contribute to a fall in housing supply.

At some point the strong growth in housing completions is expected to moderate or begin to decline. Current levels of housing completions are substantially above the levels required to meet the long-run housing needs. The underlying demographic demand for housing is estimated at around 30,000 units per annum when account is taken of population growth and changing headship. House building in Ireland is also substantially above the level of completions per head of population in other larger European economies. Housing output now represents a significant contribution to economic activity in Ireland. In order to examine the exposure of the economy to this sector the impact of a decline in housing output is examined as an illustration of the impact of such a shock. Housing completions are assumed to be 50 per cent lower in each year, modelled as an exogenous shock using the ESRI HERMES model.

Although unlikely to happen the effect of such a scenario would be to reduce total investment by around 14 per cent in the short term in the absence of any policy responses. The consequence would be to reduce activity levels in the Irish economy with the level of GNP lowered by three percentage points in the short term. Such a shock would have an adverse impact on the labour market, with employment being reduced by 52,000. Much of this would be due to a fall in employment in the building sector, a decline of around 40,000. The shock would also impact on emigration and immigration, resulting in a 12,000 reduction in the net inflow in Year 2. The impact of these effects would be to reduce personal consumption growth. The slower pace of economic activity would cause the unemployment rate to rise by around two percentage points and wages would show a small decline of 1.5 percentage points. We assume that the government would not raise taxes to offset the impact of slower growth on the public finances. As a

\(^4\) Autumn and Winter 2004
consequence there is a steady increase in the Exchequer Borrowing Requirement (EBR), which by Year 3 is 2 percentage points higher and the debt to GNP ratio rises by 7 percentage points by Year 3. If the government were to respond to the impact on the public finances by raising taxes or by cutting public expenditure then the impact of this shock would be increased. The shock ignores any wealth effects from a fall in housing prices. For example, if a fall in housing completions were caused by a fall in house prices then the effects shown in Table 3 would be more severe.

Table 3: Effect of a 50 per cent Decline in Housing Completions (Cumulative Per Cent Difference from Base)

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNP</td>
<td>-3.0</td>
<td>-3.0</td>
<td>-2.8</td>
</tr>
<tr>
<td>Total Employment</td>
<td>-3.0</td>
<td>-2.8</td>
<td>-3.4</td>
</tr>
<tr>
<td>Consumption Deflator</td>
<td>-0.0</td>
<td>-0.7</td>
<td>-0.8</td>
</tr>
<tr>
<td>Non-Agricultural Wages</td>
<td>0.1</td>
<td>-1.5</td>
<td>-1.5</td>
</tr>
<tr>
<td>Unemployment Rate*</td>
<td>2.5</td>
<td>2.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Net outflow (net migration, actual change)</td>
<td>0</td>
<td>-11,800</td>
<td>-11,600</td>
</tr>
<tr>
<td>Consumption</td>
<td>-3.5</td>
<td>-4.0</td>
<td>-3.7</td>
</tr>
</tbody>
</table>

Note: Percentage points from base.

The results of these shocks highlight Ireland’s exposure to the level of housing completions. If housing output were to suddenly revert to a level consistent with the demand from population growth and changing headship this would represent a sharp decline in housing output. Although housing completions have increased steadily in recent years, the annual change can be volatile, increasing or decreasing sharply as seen in the 1980s. It is evident that Ireland has become more exposed to a housing output shock as well as the more frequently mentioned exposure to house prices.

One of the components of housing demand is the demand for second homes. This has also been the subject of recent work at the Institute (see FitzGerald 2005), using unpublished CSO data to derive estimates of the stock and changes for second or vacant dwellings in Ireland over the last thirty years. The analysis shows that second or vacant dwellings accounted for around a sixth of the dwellings built between 1996 and 2002. This highlights the exposure of residential construction output to the market for second dwellings and as a consequence the exposure of the economy to this sub-component of housing demand.

5. CONCLUSIONS

Previous work** shows that the demand for housing is driven by demographic factors, personal disposable income and the interest rate. The recent Quarterly Economic Commentary (Spring 2005) forecasts suggest that a sharp fall in employment leading to a fall in personal incomes or a sharp rise in interest rates is unlikely in the short run. Furthermore, the prospect of a sharp fall in Irish economic activity due to a world recession is unlikely in the immediate future.

The increase in the number of housing completions has implications for the economy. Investment

** Duffy (2002) and Murphy (1998)
in new dwellings is now an important contributor to the economy. Research on the factors driving housing supply would provide some important insights into what is now a major contributor to economic growth.

Headship rates suggest that there may exist a group of buyers who have been unable to purchase a dwelling and become homeowners. In the event of price moderation this pool of pent-up demand may underpin demand and prices. The fact that headship rates (the proportion of the population who are heads of independent households) remain low in Ireland relative to experience elsewhere in the EU suggests that there will be a continued need for significant new building in Ireland over the coming decade. This suggests that there is a floor on how far house prices could fall in the event of a shock.

Currently affordability as measured by the proportion of income accounted for by mortgage repayments is only slightly above its long-run average. However, a continued rise in house prices or an upward change in interest rates could start to place household finances under pressure. Data constraints mean that affordability measures in Ireland are usually based on aggregate data. Therefore they should be treated with some caution. They do not take account of the dispersion of income or house prices across the economy and so affordability will be more difficult for some groups not represented by the national average.

Despite concerns of a house price crash, the housing market appears to be correcting itself. House price growth is moderating and the expectation is that this will continue. However, it is also the case that some households have become financially stretched in order to achieve homeownership. If house prices were to rise rapidly or interest rates to increase sharply then this would give rise to serious affordability issues.
References


Central Statistics Office (2002), Census


