The Net Worth of Irish Households

*By John Kelly**

ABSTRACT

The rapid increase in personal or household credit has received considerable attention in recent years. By contrast, relatively little attention has been paid to the evolution of household assets. In this article, an attempt is made to measure household wealth and to derive estimates for the evolution of households' net assets, or net worth, since EMU entry in 1999. The results are, on balance, positive. While personal credit grew more rapidly than personal deposits over the period, growth in other financial assets, especially claims on insurance companies and pension funds, more than compensated for this. Most of the increase in households' net worth, however, came from the rise in the value of the housing stock, driven by record levels of new house building and significantly higher prices. This favourable net worth position must be qualified in a number of ways. First, with regard to the distribution of liabilities and assets. In this respect, there are indications that in Ireland net worth may be relatively highly concentrated in older age groups. Second, with regard to the valuation of assets. With houses accounting for some 70 per cent of household assets, the level of house prices obviously has an important impact on net worth. If houses are overvalued, then so is net worth.

1. Introduction

The inexorable rise in personal or household sector credit — in terms of the overall amount outstanding, annual growth rates and its ratio to disposable income — has raised concerns. Borrowing to finance house purchase has been the main driving force behind the rise in personal debt, leading to a doubling of its ratio to personal disposable income — from almost 67 per cent to over 132 per cent — since Ireland joined EMU. The strong demand for housing has led to record levels of new house building and a sustained rise in house prices. Most attention has focussed on the rise in personal debt; relatively little attention has been paid to the rising value of the housing stock and other household assets.

The ratio of personal or household credit to personal disposable income is a widely accepted measure of personal indebtedness. It is easy to calculate and understand and provides a consistent basis for cross-country comparisons. But the ratio has some shortcomings also. First, it is not a comprehensive measure of personal debt; it only includes credit advanced by credit institutions (mainly banks). While it does include credit-card debt, borrowing in the form of store-card debt, credit union loans and hire-purchase debt is omitted. Second, the ratio essentially compares a stock (personal credit outstanding) with a flow (the

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amount of disposable income earned in one year). Arguably, it is also necessary to compare the stock of liabilities, or debt, with the stock of household assets, or household wealth.

In order to give a more complete picture, an attempt is made here to measure household wealth, so as to examine the evolution of households' net worth, i.e. their net asset position, since EMU entry in 1999. Some of the estimates are tentative. However, work in progress on Financial Accounts for Ireland makes it possible to produce a more complete balance sheet for households' financial assets than heretofore, while unpublished Department of the Environment, Heritage & Local Government (DEHLG) data are used in estimating the value of the housing stock. Trends in personal sector credit and mortgage lending are reviewed briefly at the outset.

2. Private and Personal Sector Indebtedness — A Review

Since the mid-1990s, Ireland has experienced high rates of growth in personal credit. This was driven by strong GDP growth, rising employment and EMU membership, which was seen as bringing a permanent reduction in interest rates. Mortgage credit accounts for over 80 per cent of personal credit and by end-2005 recorded annual growth of 28.5 per cent. This was well over twice the euro-area growth rate for mortgages.[1]

Table 1: Annual Completions of Housing Units[a] in Ireland, 1988-2005

Year	Number of Units Completed	Annual Growth (%)	Year	Number of Units Completed	Annual Growth (%)
1988	15,654	–15.2	**1997**	38,842	15.2
1989	18,068	15.4	**1998**	42,349	9.0
1990	19,539	8.1	**1999**	46,512	9.8
1991	19,652	0.6	**2000**	49,812	7.1
1992	22,464	14.3	**2001**	52,602	5.6
1993	21,391	–4.8	**2002**	57,695	9.7
1994	26,863	25.6	**2003**	68,819	19.3
1995	30,575	13.8	**2004**	76,954	11.8
1996	33,725	10.3	**2005**	80,957	5.2

[a]Housing units refers to both houses and apartments.
Source: Housing Statistics Bulletin, the Department of the Environment, Heritage & Local Government (DEHLG).

Housing and construction-related borrowing accounted for virtually all of the increase in total private-sector credit (PSC) during 2002 and 2003 and although borrowing by other sectors recovered somewhat in 2004, concerns regarding credit growth tend to focus largely on the personal (or household) sector. But

1 In December 2005, the annual growth of credit extended to the private sector in the euro area was 9.4 per cent, while the annual rate of growth of lending for house purchase was 11.5 per cent (ECB, 2006). Comparable growth rates for Ireland were 28.8 per cent and 28.5 per cent, respectively.

the personal sector has also been accumulating assets, most notably in housing but also in life insurance and pension fund products. New houses built have reached new record levels in each of the past twelve years, as shown in Table 1, and one-third of the housing stock in Ireland is now less than ten years old. This increase in the physical stock of houses coupled with the rise in house prices has made a marked contribution to household assets.

Borrowing by the personal sector was reviewed as part of an article on PSC published in the Spring 2004 Quarterly Bulletin (Kelly, 2004) and updated trends in the ratio of personal credit and housing finance to personal disposable income are shown in Chart 1. The main developments are recalled in Table 2, which shows that the level of personal credit outstanding was €115 billion at end-2005, almost seven and a half times that of a decade earlier. In relation to household spending power, personal credit almost trebled, from 48 per cent of disposable income in 1995 to 132 per cent in 2005. Concerns have been expressed about the sustainability of these developments, but economic theory provides little guidance as to the level at which problems will occur. A personal credit/disposable income ratio above 100 per cent is not exceptional for a developed economy. In the UK, for instance, the debt-to-income ratio reached 129 per cent in Q2, 2003, a level similar to end-2005 in Ireland, and had increased to almost 150 per cent by end-2004 (Bank of England, 2003; 2005). In the US, the ratio is estimated to have risen to about 130 per cent at end-2005 (US Federal Reserve, 2006). There is general agreement, however, that such high levels of gearing raise households' vulnerability to economic shocks, such as an unexpected fall in incomes or a sharp rise in interest rates.

Chart 1: Personal Credit and Housing Credit as a Percentage of Disposable Income, 1999-2005

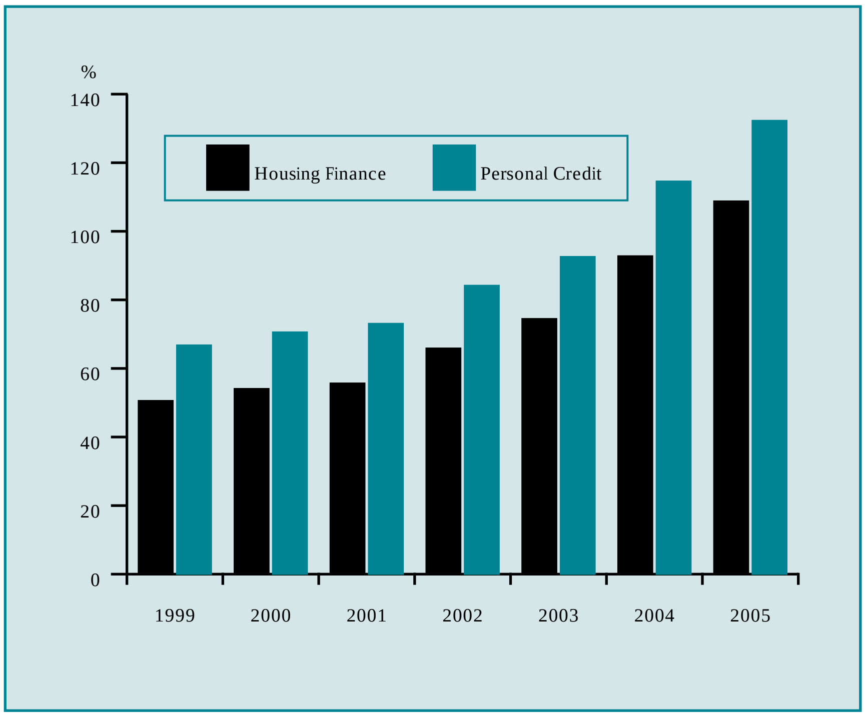


Table 2: Personal (Household) and Housing Credit[a] and Disposable Income, 1995-2005

Year	Personal Credit (€ million)	% of Personal Disp. Income	Housing Finance[b] (€ million)	% of Personal Disp. Income	% of Personal Credit
1995	15,624	47.7	12,030	36.7	77.0
1996	18,115	51.3	14,038	39.7	77.5
1997	21,911	56.2	16,787	43.0	76.6
1998	26,129	59.5	20,151	45.9	77.1
1999	32,935	66.8	24,936	50.6	75.7
2000	39,231	70.6	30,048	54.1	76.6
2001	45,594	73.1	34,705	55.7	76.1
2002	56,403	84.2	44,120	65.9	78.2
2003	68,539	92.6	55,189	74.5	80.5
2004	90,970	114.6[c]	73,636	92.8[c]	80.9
2005	115,361	132.3[c]	94,887	108.8[c]	82.3

[a]The credit data refer to end-November from 1995 to 1998 and to end-December from 1999 onwards.
[b]Items 15.1 and 15.2 from Table C8: Statistical Appendix to the Quarterly Bulletin.
[c]Personal disposable income data for 2004 and 2005 are internal CBFSAI estimates and may be subject to revision.
Sources: CBFSAI and CSO.

Other features of Irish personal sector indebtedness include:

- Housing now accounts for a higher proportion of personal credit than it did a decade ago, rising from 77 per cent in 1995 to over 82 per cent in 2005. This means that unsecured debt has declined as a proportion of total personal debt since the credit boom began in 1995 and suggests that widespread borrowing for consumption was not a factor behind the expansion in personal credit.[2]
- Ireland ranks ninth in the euro area in terms of the proportion of total PSC accounted for by personal sector credit.
- Up to last year, interest rates in Ireland for house purchase were amongst the lowest in the euro area. The lower average rates are in part explained by the fact that about 83 per cent of residential mortgages are at variable interest rates, while almost three-quarters of the remainder are fixed for three years or less. However, this means that the vast majority of Irish borrowers are exposed to higher debt service costs as interest rates rise.

3. The Personal Sector's Balance Sheet

While trends in credit have attracted most attention, the asset side of the household balance sheet has also been growing strongly and must be taken into account to get a complete picture. First, the personal sector maintains a significant volume of deposits with credit institutions. While there has been substantial growth in these, it has, however, failed to keep pace

2 The Irish personal sector has maintained a broadly constant personal savings ratio of the order of 11-13 per cent of income between 1999 and 2004. Bank estimates, however, suggest that the savings ratio rose to about 15 per cent in 2005.

with borrowing. Personal credit exceeded deposits for the first time in 1998; by 2005 it had grown to 182 per cent of deposits, despite the boost given to the latter by the introduction of SSIAs. Since 1999, personal deposits have grown by 130 per cent but personal credit has expanded by 250 per cent.

Second, in addition to deposits, the personal sector has built up a sizeable stock of financial assets through investments with insurance corporations and pension funds (ICPFs) and through their holdings of securities.[3] These financial assets, moreover, have consistently exceeded residential mortgage borrowing. Greater awareness of the need for pension provision and the recovery in equity markets from 2003 onwards have led to a marked growth in households' estimated holdings with ICPFs. The decline in personal sector assets with ICPFs in 2002 is largely related to a drop in the value of equities held in life and pension funds. Individual households may not have been aware of the decrease in the equity value of their holdings, especially in pension funds and, in consequence, this seems to have had little or no wealth effect on consumer behaviour. The securities category includes short-term paper, bonds, certificates of deposit and financial derivatives, as well as shares and other equity directly held by households.

Table 3: Personal (Household) Sector Liabilities/Assets, 1999-2005

€ million	1999	2000	2001	2002	2003	2004	2005
Credit	**34,752**	**42,448**	**50,043**	**60,296**	**73,065**	**94,905**	**120,059**
of which:							
Mortgages, adjusted for securitisations	26,186	32,546	38,343	47,212	59,242	77,029	98,956
Other housing finance	567	719	810	801	474	542	629
Finance for investment	1,188	1,432	1,590	1,821	2,019	2,633	3,856
Other personal	6,811	7,751	9,300	10,462	11,330	14,701	16,618
Deposits	**27,531**	**31,303**	**37,442**	**42,815**	**47,865**	**53,688**	**63,393**
of which:							
SSIAs	0	0	238	1,534	3,130	4,826	6,823
Net balance with credit insts.	**–7,221**	**–11,145**	**–12,601**	**–17,481**	**–25,200**	**–41,217**	**–56,666**
Insurance cos. and pension funds[a]	66,620	84,937	67,204	63,727	87,617	97,566	118,000[e]
Holdings of Securities[a]	n.a.	n.a.	55,063	58,593	62,897	47,391	52,600[e]
Net financial assets	**59,399**	**73,792**	**109,666**	**104,839**	**125,314**	**103,740**	**113,934**
Housing assets	222,426	266,847	297,302	338,948	408,808	473,671	546,096
Net Asset Position	**281,825**	**340,639**	**406,968**	**443,787**	**534,122**	**577,411**	**660,030**
% Change		**20.9**	**19.5**	**9.0**	**20.4**	**8.1**	**14.3**

[a]Data for ICPFs and Holdings of Securities are taken from work in progress on Quarterly Financial Accounts. They may be subject to revisions and, consequently, should be viewed as broad estimates at this stage.
Source: CBFSAI Quarterly Bulletins and unpublished CBFSAI data.

Developments in the household sector's balance sheet are brought together in Table 3 for the period 1999 to 2005. The figures for mortgage credit have been adjusted to include

3 'Financial Assets of the Household Sector', Financial Accounts Technical Note, Statistics/QFA/O11, Internal CBFSAI note.

securitised mortgages which, although they are no longer on credit institutions' balance sheets, still have to be repaid by borrowers (see Box 3 in Kelly (2004) for a full description of the treatment of securitised mortgages). As might be expected, the most marked rise in household assets has been through the increase in the value of houses. This reflects both an increase in the stock of houses and rising house prices.

The estimated value of housing assets is based on an unpublished DEHLG series for the housing stock, which incorporates an estimate for annual depreciation. The stock of existing houses and new houses built each year are valued separately, at the average price for second-hand and new houses, respectively. This method yields a value of almost €550 billion for the housing stock at end-2005. This figure is in line with estimates produced by most private-sector economists; AIB estimates are somewhat higher at about €580 billion at end-2005, while IIB estimates are somewhat lower, at €500 billion in April 2006. Goodbody Stockbrokers estimate that the value of the housing stock amounted to about €430 billion at end-2004.[4] The ESRI estimate for the value of the housing stock is significantly lower, however, at €412 billion in 2005 (Duffy, 2006).

The overall message flowing from Table 3 is one of a strong rise in the net worth (net asset position) of the Irish personal sector. While the net balance with credit institutions moved starkly negative over the seven-year period since Ireland joined EMU, growth in other financial assets, especially households' claims on ICPFs, more than compensated for this. The result was that net financial assets almost doubled over the period, despite the very strong growth in residential mortgage borrowing. The really large boost to households' net worth, however, came from the rise of some €324 billion in the value of housing. Once this is added to the change in net financial assets, the result is that households' net worth has increased by some €380 billion over the period.

Table 4: Personal Sector Debt and Asset Ratios, 1999-2005

Per cent	1999	2000	2001	2002	2003	2004	2005
Liquidity ratio	79	74	75	71	66	57	53
Debt/disposable income[a]	71	76	80	90	99	120	138
Net financial assets/disposable income	121	133	176	157	169	131	131
Housing assets/disposable income	451	480	477	506	552	597	626
Net worth/disposable income	**572**	**613**	**653**	**663**	**721**	**727**	**757**

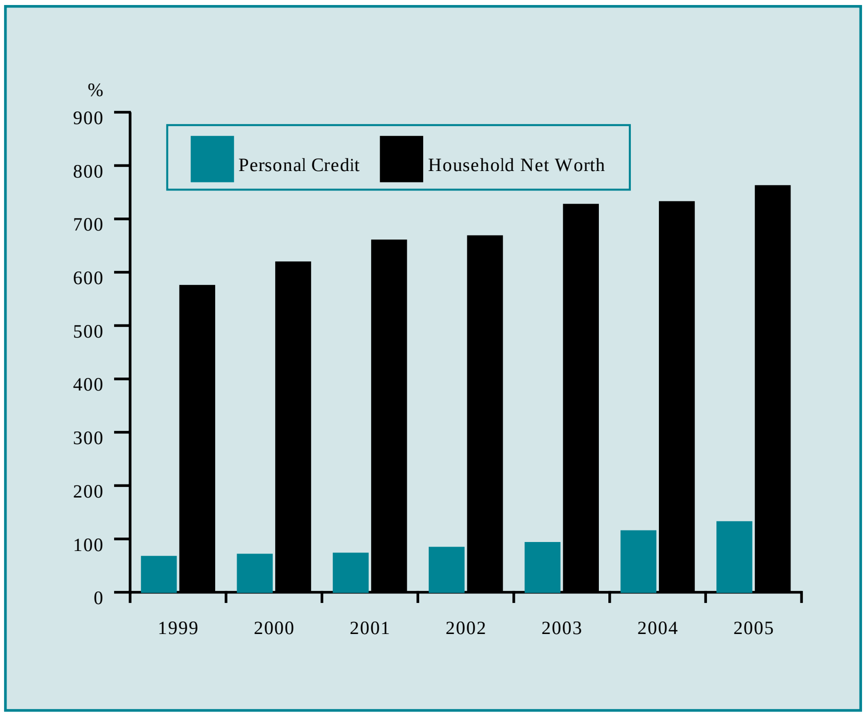
[a] These ratios are higher than those in Table 2 because of the inclusion of securitised mortgages here.

4 See 'The Irish Housing Market and Personal Sector Finances', AIB Global Treasury, October 2005; 'Household Debt', Goodbody Stockbrokers, October 2005; and Hughes, A. and D. Duffy, 'In Too Deep', ESRI/IIB Bank, June 2006.

In order to place the growth in net worth in context, the monetary changes in Table 3 are expressed as percentages of disposable income in Table 4, where a measure of the personal sector‘s liquidity, expressed as a ratio of deposits to credit, is also shown in the first row. In addition, personal credit and household net worth are shown as a percentage of disposable income in Chart 2.

While the net financial assets ratio peaked in 2001 and showed little change between 2000 and 2005, as might be expected in the light of house-price developments, the housing assets ratio rose strongly in all years except 2001. The overall outcome was that the ratio of net worth to disposable income increased in every year of the period; by end-2005 net worth had risen to 7.6 times disposable income, up from 5.7 times in 1999. By comparison, the net worth ratio for the US peaked at six times income in 1999 (Credit Agricole, 2006), and was equivalent to about 5.6 times income at end-2005 (US Federal Reserve, 2006). Net worth in the UK, measured on a comparable basis, was equivalent to 6.8 times disposable income in 2004.

Chart 2: Personal Credit and Household Net Worth as a Percentage of Disposable Income, 1999-2005



While Table 3 contains the main elements of Irish households' balance sheets, it is incomplete in a number of ways:—

- Loans and deposits with credit unions are omitted. Unpublished data compiled by the Registrar of Credit Unions (RCU) suggest, however, that personal shares and deposits with credit unions exceed personal loans, so that the personal sector has a positive **net asset** position with credit unions.

- On the liabilities side, only borrowing from credit institutions is included. Credit advanced by hire purchase and leasing companies, sub-prime mortgage lenders etc is not taken into account.
- Several items are also omitted from the assets side because of difficulties in obtaining reliable data. For instance, no account is taken of the personal sector's currency holdings or, more importantly, of assets held abroad.
- Purchases of residential property abroad by Irish residents have been widely commented on in recent years. The CSO broadly estimates that there was a net outflow from Ireland of about €1 billion in 2005 for the purchase of such property.[5] (This amount does not include funds borrowed in the country of location of these properties.) Much of this investment outflow may have been financed by borrowing secured on principal dwelling houses in Ireland. Homes abroad are classified as financial assets and the investment is categorised as notional direct investment within the balance of payments framework. In terms of stocks, the value of investment in residential property abroad was tentatively estimated by the CSO at close to €13 billion (net of foreign borrowing) at end-2005.
- Finally, a complete set of Financial Accounts for Ireland has not yet been published. The data for assets with ICPFs and for securities holdings are broad estimates taken from work in progress and may, therefore, be subject to revisions.
- Overall, it appears that the underestimation of assets may be greater than that of liabilities. This means that net worth estimates in Table 3 should be viewed as lower bounds.

4. Liquidity, Distribution and Valuation Issues

The overall positive message from Table 3 must be qualified in a number of ways. First, while households net financial assets have grown, liquid assets have declined relative to debt. Second, the balance sheet data do not take any account of the distribution of assets and liabilities. The satisfactory overall net worth position conceals the fact that new entrants to the housing market probably have quite low net worth, while older age groups have significant net financial assets and housing equity. Third, with housing accounting for some 70 per cent of total personal assets, a fall in house prices could result in a significant contraction in the net worth of households.

Liquidity

A crude liquidity ratio was shown in Table 4 by comparing the level of personal deposits to credit. This ratio has declined from 79 per cent in 1999 to 53 per cent in 2005. Some equity

5 Comments at CSO Press Conference on National Accounts and Balance of Payments, 30 March 2006.

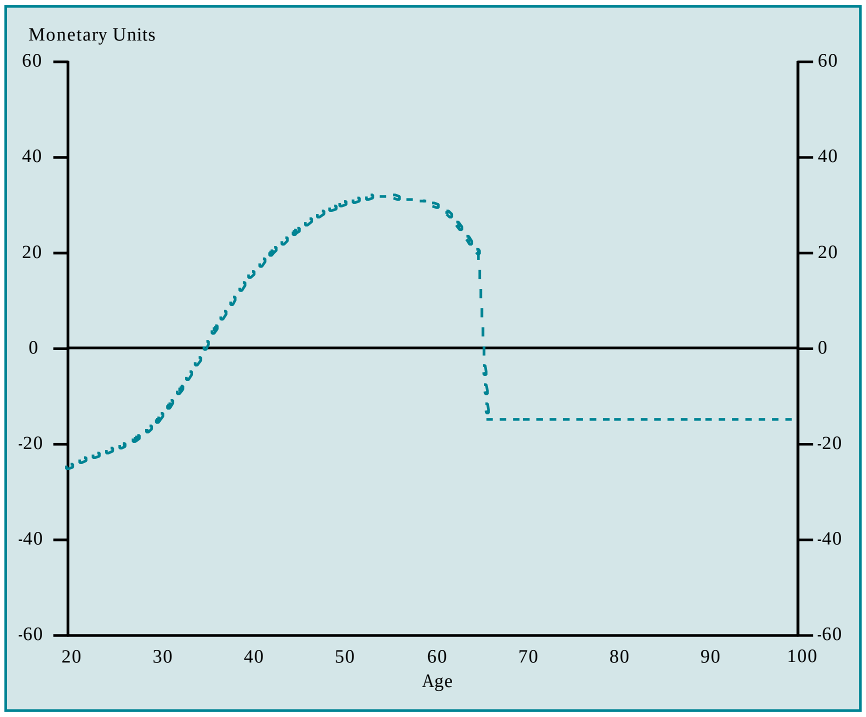
holdings and other securities may also be relatively liquid, but these have declined in value since 2001. Overall, therefore, the personal sector is considerably less liquid now than when Ireland joined EMU. The policy relevance of liquidity, however, is dwarfed by the distribution issue. Even if deposits equalled loans, their distribution across the personal sector would be very different.

Distribution of Household Assets and Liabilities

Households' financial decisions are driven by the fact that income generally varies over time. People typically aim to 'smooth' consumption, and use financial services related to borrowing and saving to achieve the best lifetime pattern of consumption possible. The desire for smooth consumption can be explained by economists' assumption of diminishing marginal utility — see, for instance, Weinberg (2005).

Life-cycle models provide a useful framework for considering trends in household borrowing and saving (Ando and Modigliani, 1963). People borrow early in their careers when income is low relative to lifetime income. By mid-career, incomes are higher and savings reach a peak. After retirement, incomes fall and previously accumulated savings and possibly asset sales may be used to fund lifestyle. The resulting life-cycle profile of savings typically displays a 'hump' shape, as shown in Chart 3. As most households experience a rising income through working life, debt will tend to be relatively high for younger households. Low nominal interest rates and an easing in liquidity constraints have made it easier for young households to borrow (Debelle, 2004).

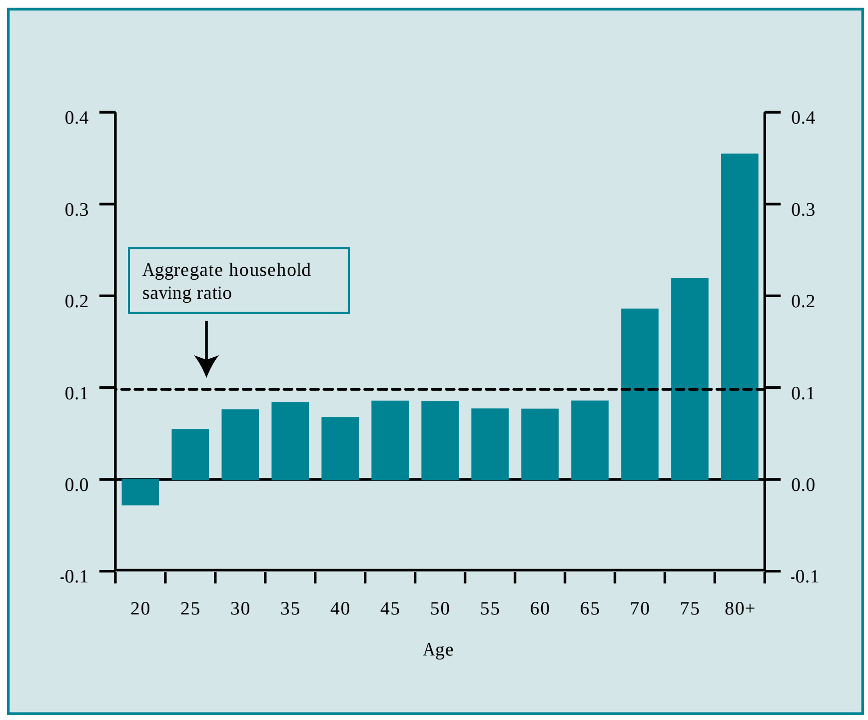
Chart 3: Household Saving According to the Life-Cycle Model



Source: Moreno-Badia (2005).

Recent research by the International Monetary Fund (IMF), however, has found that the pattern of household savings in Ireland does not conform to this life-cycle model (Moreno-Badia, 2005). In particular, savings rates for mid-career households, aged 45-60, are relatively flat, when savings should be at their peak according to the life-cycle model. In addition, household savings in Ireland do not turn negative after retirement age. Quite the opposite, in fact; savings ratios continue to increase with age. Irish household savings ratios, based on the 1999/2000 Household Budget Survey, are shown in Chart 4.

Chart 4: Adjusted Median Saving Ratio, HBS 1999/2000



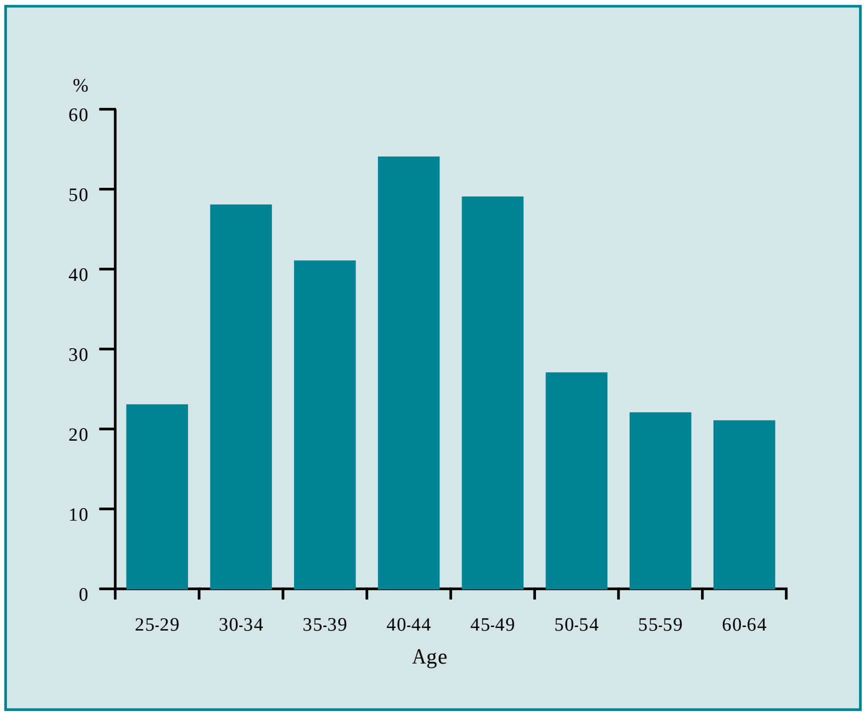
Source: Moreno-Badia (2005).

Although the IMF analysis only relates to savings behaviour, since households with low savings rates have little financial wealth, it suggests that household assets in Ireland may be very concentrated in older age groups. By contrast, there are also indications that borrowing is in general mostly undertaken by those aged between 25-50. A survey of financial products, undertaken for the Financial Regulator, confirms this to be the case. As may be seen from Chart 5, almost half of the 35-49 age group have a mortgage, as do over a third of 25-34 year olds. From Table 2 it can be seen that mortgages account for some 82 per cent of personal credit. It seems reasonable, therefore, to conclude that household debt is concentrated in those younger and middle age groups.

These distributional differences, allied to recent demographic developments in Ireland, help to explain some of the trends in Table 3. First, the 25-45 age group in Ireland is growing much more rapidly than in other developed countries. This gives rise

to a stronger demand for accommodation, which in turn contributes to a faster growth in personal credit here than elsewhere. Second, since over four-fifths of personal credit is for house purchase, it has a counterpart in the housing stock, and is reflected in record levels of completions. The 1999/2000 Household Budget Survey found that 82 per cent of Irish households are homeowners. However, it also found that only 36 per cent of households hold some form of wealth other than housing. This underlines the importance of house prices for the net worth of the majority of the population.

Chart 5: Proportion of Population with a Mortgage



Value of Housing Stock

Irish house prices have been rising strongly for over a decade. While this has also been a feature of many developed economies, the OECD has noted that ‘‘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’’ (OECD, 2006). Countries in which house prices have gone up most will have had faster growth in household net worth. But the risks of a fall in house prices may also be greater there. This naturally leads to the question as to whether, at current prices, Irish houses may be overvalued.

There is little agreement on the extent to which the rapid rise in Irish house prices may have resulted in overvaluation. Different models produce different measures. On the basis of asset price valuation models, the Financial Stability Report 2005 reported estimates of overvaluation ranging from 11 per cent to as high as 70 per cent (FSR, 2005). Econometric evidence, by contrast,

suggests relatively modest overvaluation. According to the OECD, ''around 80 to 90% of the increase in house prices since 1995 is justified by the fundamentals'', which suggests that house prices were perhaps 10-20 per cent overvalued in mid-2005 (OECD, 2006).

If house prices are overvalued, there are two ways in which the housing market can adjust to equilibrium: either house prices can grow more slowly than income; or house prices can fall. In mid-2005, it appeared that the Irish housing market might follow the former relatively benign route; house price inflation was on a downward trend and fell to an annual rate of close to 6 per cent between July and September, while nominal income growth was of the order of 8-9 per cent. More recently, developments have been less favourable. House price inflation reaccelerated towards the end of 2005 and by May 2006 had reached an annual rate of 14.5 per cent.[6] With almost all models showing prices already in overvalued territory, this trend has increased the risk that house prices may have to fall at some stage in the future, in order to reach equilibrium.

Given the overwhelming importance of housing in household assets, as a purely illustrative exercise, the impact of a 20 per cent fall in house prices on net worth was considered. At end-2005, housing assets amounted to €546 billion. A 20 per cent fall in average house prices would reduce this by €109 billion and bring households' net worth down to some €550 billion. This lower net worth would be equivalent to 6.3 times disposable income; this is still higher than it was in 1999 and higher than the US achieved at its peak. It must be emphasized, however, that this is just an arithmetic calculation. A fall in house prices is unlikely to occur in isolation and the events behind it could have much wider negative effects on the economy.

5. Conclusions

The balance sheet for Irish households shows that exceptionally strong growth in financial liabilities has been more than matched by growth in financial assets. Added to this, there has been strong investment growth in real assets, namely, the housing stock, which has resulted in a steady increase in the ratio of households' net worth to personal disposable income between 1999 and 2005. While the measurement of net worth presented here is not comprehensive, it is more likely that the net worth of households is underestimated rather than overestimated.

Growth in household credit has attracted significant attention, with the ratio of personal sector credit to disposable income having almost trebled to 132 per cent in the decade to 2005. But by far the greatest part of credit growth is accounted for by

6 Permanent tsb/ESRI House Price Index, 28 June 2006.

residential mortgages. The counterpart in the real economy has been record investment in new housing. This and rising house prices have added some €324 billion to household net worth over the period. It has also helped Ireland to move closer to the European average in terms of houses per thousand of population.

The Irish household net worth position at end-2005 looks extremely healthy, at almost eight times personal disposable income. This compares with a peak of six times income in the US in 1999. However, this overall positive picture must be qualified in a number of ways, most importantly with regard to the distribution of net worth and the valuation of assets. Available evidence suggests that the distribution of net worth may be quite uneven in Ireland, with younger and even middle aged households having relatively low net worth and older households tending to save more than in other countries. This concentration of net worth means that a greater proportion of the population may be vulnerable to an economic downturn than if Ireland conformed to the typical life-cycle savings pattern.

In addition, the net worth position is highly dependent on asset prices. Equity prices impact on ICPFs and securities holdings and past experience shows that these can be subject to large fluctuations. The most important assets in households' balance sheets are, of course, houses. Rapidly rising house prices have boosted the net worth of Irish households. In order to achieve a 'soft landing', however, house-price increases must slow significantly in the near future. This could imply a relatively long period of stable or falling real house prices and a possible decline in the ratio of net worth to disposable income.

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