



Housing market developments and household consumption

Daragh Clancy, Mary Cussen & Reamonn Lydon¹

Vol 2014, No. 9

Abstract

Changes in household consumption, which accounts for more than half of gross domestic demand expenditure, can have a significant impact on output and employment growth. This Economic Letter looks at the main drivers of household consumption, paying particular attention to the impact of the housing market. It highlights three inter-related ways in which housing affects consumption: (i) housing wealth effects; (ii) changes in credit usage and credit conditions; and (iii) activity effects. All three played a role in driving up durables consumption in particular during the housing boom of the early 2000s.

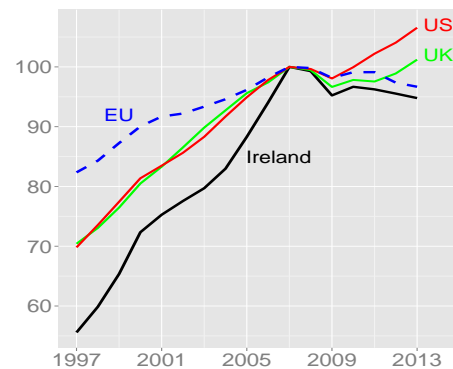
1 Introduction

Personal consumption in Ireland accounts for over half of gross domestic expenditure and, as such, changes in it can have a significant impact on employment and output growth. In order to gauge the roll consumption can play in the economic recovery, it is important to have an understanding of the factors that influence it.

This Economic Letter highlights some of the findings from a recent Central Bank research paper by Clancy et al. (2014), which examines how developments in the housing market affect consumption. Arguably, given the scale of the housing boom and bust, an understanding of this channel is particularly important.

Figure 1 shows annual consumption growth in Ireland relative to the EU, US and UK. It illustrates the relatively rapid growth from the mid-1990s, the large fall in 2009, and the stagnation since then.

Figure 1: Total personal consumption (2007=100)



Source: CSO, ONS, FRED, 2007=100

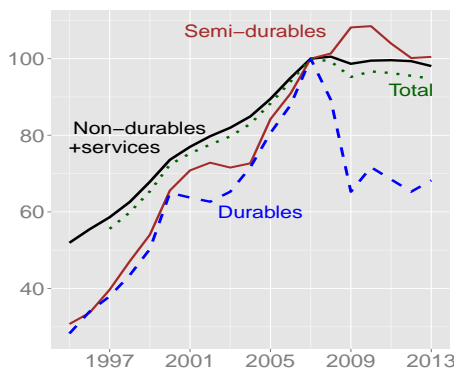
Recent National Accounts data show a return to positive growth, with consumption in the first half of 2014 up by 1.3 per cent on the same period

¹Corresponding author: reamonn.lydon@centralbank.ie. The views expressed in this paper are those of the authors only and do not necessarily reflect the views of the Central Bank of Ireland. We thank colleagues for comments on the research and participants at the 2014 Irish Economic Association annual conference.

in 2013.² We discuss these more recent developments in the conclusion.

Figure 2 shows the non-durable (including services), semi-durable (clothing and footwear), and durable components of overall consumption.³ Following over a decade of rapid growth, expenditure on durables plummeted by 35 per cent between 2007 and 2009. The rise and fall in expenditure on durables and semi-durables is also reflected in their share of total consumption, which fell from 15 to 12 per cent between 2007 and 2013.

Figure 2: Components of consumption (Ireland)



Source: CSO, 2007=100

2 Drivers of consumption

The life-cycle model is the standard economic framework for thinking about how households make consumption decisions. In this framework, consumption is financed from lifetime earnings, inherited assets or accumulated wealth. Capital markets are used to smooth the mismatch between current income and desired consumption at different stages of the life-cycle. In a recent working paper (Clancy et al., 2014) we use this framework to quantify how income, the housing market and credit all interact to affect consumption. The research combines both aggregate and household-level data – from the Household Budget Survey (HBS)⁴ – in order to identify the various effects.

²This note focuses on domestic consumption expenditure. It excludes spending by non-resident households in Ireland, and Irish households abroad, both of which declined by around one-fifth in 2009.

³Durables consist of: durable household goods, personal transport equipment and recreation/entertainment/education equipment and accessories.

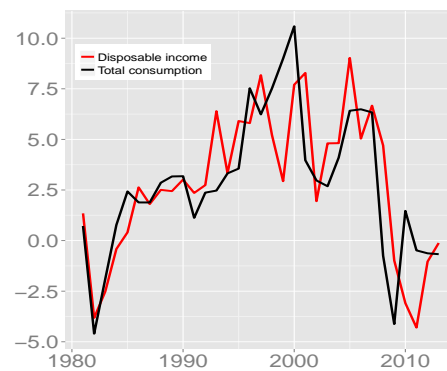
⁴The HBS micro is available in five-yearly waves. The paper uses the 1994/95, 1999/2000, 2004/05 and 2009/10 waves.

⁵Our research uses real disposable income, which is equal to gross household income minus taxes plus welfare transfers.

Consumption and income

Figure 3 illustrates the close relationship between consumption and income growth⁵. Using aggregate data from 1980 to 2013, we estimate that a 10 per cent increase in income, leads to an increase in total consumption of around 8 percent. Looking at the household-level data, there is some evidence to suggest that spending on durable goods is more sensitive to changes in income than spending on non-durables and services. This is an intuitive result when one considers that durables spending is likely to include a larger discretionary element than other types of spending.

Figure 3: Consumption & Income (% change)



Source: Clancy et al. (2014).

Real per capita income and consumption.

In addition to *current* income, the lifecycle model suggests that *expectations* of future income will also affect consumption decisions now. In the paper, we consider several ways that such expectations might be captured in an empirical model, for example: survey data on expectations, the discounted value of outturn future income growth (the 'perfect foresight' approach), or using past outturns of income growth. However, whilst in isolation it is possible to show a strong positive correlation between each of these measures and consumption, when they are included in a model which also includes house prices/housing wealth, credit and unemployment, they have little incremental effect. This does not imply that expect-

tations do not matter, but rather it is likely that these effects are already captured in a range of other variables, such as house price growth and labour market developments.

Housing, credit and consumption

After income, housing and credit market developments have a significant bearing on aggregate consumption growth. This is particularly the case for spending on durable goods, which we find to be sensitive to changes in housing wealth, credit usage and housing market activity.

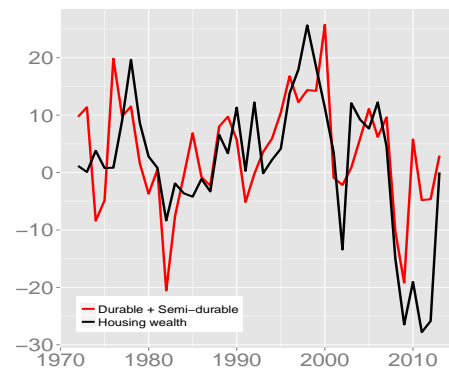
Housing wealth

At an aggregate level, changes in *overall* household wealth are in large part driven by changes in housing wealth – which is itself driven by changes in house prices and mortgage debt. We focus on *net* housing wealth, that is, the value of the property minus any outstanding secured debt. We find that a 10 per cent increase in housing wealth leads to around a 0.5 per cent increase in *total* consumption.⁶

Similar housing wealth effects have been estimated for a number of countries; see, for example, the cross-country evidence in Case et al. (2005). In our paper, we show that the bulk of the housing wealth effect is in terms of spending on durable and, to a lesser extent, semi-durable goods (12 per cent of consumption spending in 2013). We estimate separate consumption regressions for durables and non-durables, controlling for a range of household characteristics including income, and find that a 10 per cent increase in housing wealth leads to a 3 per cent increase in spending on durables.

Given the large decline in the value of housing assets since 2007, a housing wealth effect of this scale could account for the bulk of the drop in durable goods spending in recent years. Figure 4 illustrates the relationship between durables and semi-durables consumption and housing wealth. The periods when the two series diverge can usually be attributed to government policy; for example, changes in consumption taxes (1983), or the introduction of incentive schemes such as car scrappage (2010).

Figure 4: Durable + Semi-durable consumption & Housing wealth (annual % change)



Source: Clancy et al. (2014). Real, per capita.

Credit usage & consumption

We focus on ‘direct’ credit effects, specifically, how households’ *use* of credit affects their consumption patterns. At an aggregate level, there are other credit-related effects, such as those highlighted in McCarthy and McQuinn (2013), whereby changes in credit standards affect house prices, and, therefore, consumption via the wealth effect.

In the lifecycle framework, credit markets play an important role by allowing households to smooth their consumption over time. We find that households with more personal (i.e. non-mortgage) loans spend more on durable goods in particular, which, given the higher initial outlay associated with such purchases, is perhaps unsurprising. Specifically, we find that each additional loan is associated with a 15 per cent increase in durables spending, on average.

Turning to mortgage indebtedness, research by Dynan (2012) and Lydon (2013) has highlighted the extent to which excessive leverage or high levels of indebtedness hold back consumption. We find that households with negative equity spend four per cent less on average. Ex ante, the effect of leverage (mortgage debt-to-income ratio) on consumption are less clear. It could have a negative impact if more highly leveraged households divert income from consumption to repay debt. Conversely, positive effects might arise when households opt to pay a lower deposit for a house purchase or when they extract equity from their home to finance consumption (see Lydon and O’Hanlon, 2012). Higher or lower leverage ratios may also

⁶We also find that changes in financial wealth impact on consumption. The estimated wealth effect for total consumption is 0.065 (i.e. a 10 per cent increase in financial wealth increases consumption by 0.65 per cent).

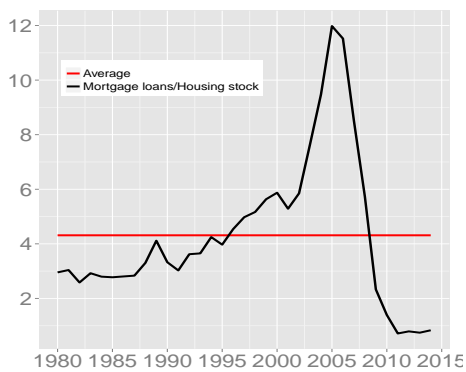
be a proxy for a household's propensity to save. Overall, we find positive consumption effects, but only at fairly high leverage ratios (greater than 3.5). Compared to previous results, such as the estimated wealth effects, the leverage effects are relatively small, with more highly leveraged households spending up to three per cent more on average, when compared to households with lower leverage ratios.

Housing market activity

Housing market activity, which can be measured as the number of housing transactions or the number of new homeowners in the population, affects consumption in two ways. Firstly, as shown in Lydon and O'Leary (2013), at the end of each housing transaction chain, there is an asset owner who realises the full value of their equity, thereby releasing potential funds for consumption.

The second channel, which is discussed in the paper, is the house-purchase complementarity effect. The basic idea is that new homeowners are likely to spend more on housing-related durable goods, such as white goods, electrical equipment and household furnishings. We find strong evidence for this in the data, with new homeowners (defined as those who have lived in their home for less than one year) spending at least 30 per cent more on average on durable goods.⁷ Unsurprisingly, the *type* of durable goods are more likely to be housing-related, such as white goods and furnishings – as opposed to, say, personal transport goods (cars). There is no difference in this result between outright homeowners and those with a mortgage.

Figure 5: Mortgage loans (% housing stock)



Source: IBF (2005 –), DoE (1980 – 2004).

⁷Because we observe the 'new' homeowner at any time during the first year after moving in, a large part of the spend on durable spending may actually go unobserved. We therefore view this 30 per cent figure as a lower bound.

In aggregate terms, these complementarity effects are not insubstantial, particularly when one considers the rise-and-fall in housing market activity which accompanied the housing boom and bust (Figure 5). Furthermore, as Figure 6 shows, new home-ownership rates are strongly procyclical. The proportion of new mortgage home-owners in the population increased from 3 to 11 per cent between 1994 and 2004, before falling back to 6 per cent in 2009/10. The proportion has, in all likelihood, fallen further since then, given the persistence of historically low levels of mortgage transactions over the last four years.

Figure 6: % of New homeowners in the population



Source: Clancy et al. (2014) using HBS data.

Conclusion

The sharp fall in consumption in 2008/09, and subsequent stagnation through to end-2013 was driven by a combination of a sharp declines in personal incomes, housing wealth and credit usage. Income growth was the primary driver of the modest consumption growth (1.3 per cent) observed in the first half of 2014. In addition to income growth, we would expect developments in the housing market to eventually exert an influence on consumption, as they did in the past. However, while transactions remain at historic lows and house prices well below peak, we believe there is limited scope for substantial housing wealth or activity effects in the short-run. How quickly activity return to more 'normal' levels depends on how quickly credit and housing supply – of both new and existing houses – respond to the well-documented underlying demand for housing (see Morgenroth, 2014).

References

Browne, Frank, Conefrey, Thomas & Kennedy, Gerard, (2013). "Understanding Irish house price movements - a user cost of capital approach," Research Technical Papers 04/RT/13, Central Bank of Ireland.

Case, K.E., J.M. Quigley and R.J. Shiller (2005). "Comparing Wealth Effects: The Stock Market Versus The Housing Market", *Advances in Macroeconomics*, Vol. 5, Issue 1, pp. 1 - 10.

Clancy, Daragh, Cussen, Mary and Reamonn Lydon (2014) "Housing Market Activity and Consumption: Micro and Macro Evidence". Central Bank of Ireland Technical Paper RT 13/14.

Dynan, Karen (2012). "Is the Household Debt Overhang Holding Back Consumption". *Brookings Papers*, Spring 2012.

Lydon, R. and B. O'Leary (2013). "Housing Equity Withdrawal Trends in Ireland", Central Bank of Ireland, *Quarterly Bulletin*, pp. 90-103, No.1.

Lydon, R. and N. O'Hanlon (2012). "Housing Equity Withdrawal, Property Bubbles and Consumption", *Statistical and Social Enquiry of Ireland*, Vol. XLI, 2011/12, pp 112-141.

McCarthy, Y. and K. McQuinn, (2013). "Credit Conditions and in a Boom and Bust Property Market", Central Bank of Ireland, Research Technical Paper, 8/RT/13.

Morgenroth, E. (2014) "Projected Population Change and Housing Demand: A County Level Analysis", ESRI Research Note.