

Quarterly Economic Commentary

David Duffy
John FitzGerald
Kieran McQuinn
David Byrne
Ciara Morley

Summer 2014



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Summary Table

	2011	2012	2013	2014	2015
Output (Real Annual Growth %)					
Private Consumer Expenditure	-1.2	-1.2	-0.8	1.5	2.0
Public Net Current Expenditure	-2.1	-2.1	1.4	-0.5	-1.0
Investment	-2.9	5.0	-2.4	8.1	8.9
Exports	5.5	4.7	1.1	3.5	4.0
Imports	-0.6	6.9	0.6	3.0	3.3
Gross Domestic Product (GDP)	2.8	-0.3	0.2	3.0	3.7
Gross National Product (GNP)	-0.8	1.9	3.2	3.4	3.8

Prices (Annual Growth %)					
Consumer Price Index (CPI)	2.6	1.7	0.5	0.3	1.0
Growth in Average Hourly Earnings	1.8	0.9	1.1	1.3	1.3

Labour Market					
Employment Levels (ILO basis (000s))	1,849	1,838	1,881	1,921	1,973
Unemployment Levels (ILO basis (000s))	317	316	282	249	215
Unemployment Rate (as % of Labour Force)	14.6	14.7	13.1	11.5	9.8

Public Finance*					
General Government Balance (€ bn)	-21.9	-14.3	-12.2	-7.4	-4.7
General Government Balance (% of GDP)	-12.8	-8.3	-7.0	-4.1	-2.5
General Government Debt (% of GDP)	99.0	111.4	116.1	115.6	109.6

External Trade					
Balance of Payments Current Account (€ bn)	1.4	2.7	7.6	9.1	11.2
Current Account (% of GNP)	1.0	1.9	5.1	5.9	6.9

Demand					
Final Demand	2.7	2.4	0.5	3.1	3.6
Domestic Demand	-0.7	-0.6	-0.3	2.4	2.9
Domestic Demand (excl. Stocks)	-1.7	-0.2	-0.7	2.4	2.8

* Our public finance numbers do not take account of the latest revisions published by the CSO.

Summary

The release of the first set of macroeconomic estimates of the economy for 2014 confirms the relatively strong recovery in output envisaged for this year in earlier *Commentaries*. Estimates released by the Central Statistics Office (CSO) suggest that for Q1 2014 GDP is up 2.7 per cent on the previous quarter and 4.1 per cent year-on-year. These estimates also contain a significant upward revision of the quarterly growth rate for Q4 2014 from -2.4 to -0.1 per cent.

These trends, along with the observed growth in key domestic demand indicators, strong export performance and better than expected budgetary returns result in growth forecasts for GNP of 3.4 per cent in 2014 and 3.8 per cent in 2015. Given the difficulties associated with the measurement of GDP at present in an Irish context, we maintain GNP as our output point of reference. Accordingly, we expect further declines in unemployment through 2014, with the headline rate predicted to fall to 9.8 per cent in 2015.

To enhance our understanding of developments in the real economy, the forecasting approach adopted in the *Commentary* is now supplemented by the increasingly popular “Nowcasting” methodology. This provides a timelier estimate of what the growth rate within the economy is at present.

Notwithstanding the encouraging performance of the economy, we note certain issues which may impede the consolidation of the recovery. The weak growth prospects for the euro zone are a distinct concern; recent policy measures announced by the European Central Bank (ECB) are unlikely to provide the requisite stimulus necessary for a more significant rate of output growth. Given the high levels of debt observed in Europe, it is essential that policies aimed at increasing output growth become more central to decision-making at the Euro Area level.

Additionally, an increasing amount of domestic micro-level research highlights the negative effect of ongoing difficulties in the Irish financial sector on investment and consumption. The need for domestic financial institutions to repair impaired balance sheets, and the resulting pressures to deleverage, appear to be constraining the amount of finance available for the real economy.

In general, given the particularly low rate of investment, the high rate of unemployment and the weak levels of credit being extended, we believe the Irish economy is still somewhat below its potential level.

Some of these issues are especially pertinent to the domestic housing market. The present *Commentary* devotes a substantial amount of attention to the residential sector, with a special article and a number of notes on various housing issues. Our main conclusion is that despite the strong increases in house prices observed of late, particularly in the Dublin area, nationally house prices still appear to be undervalued in the Irish market. At present, there is no sign of a “bubble” in the domestic market and any recovery occurring at this point is almost a “credit-less” one. In the absence of a significant increase in supply, we expect house prices to increase by up to 7.5 per cent per annum in nominal terms over the period 2014 to 2017.

National Accounts 2013

A: Expenditure on Gross National Product

	2012	2013	Change in 2013		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	82.5	83.3	1.1	1.9	-0.8
Public Net Current Expenditure	25.9	26.0	0.1	-1.2	1.4
Gross Fixed Capital Formation	26.9	26.5	-1.4	1.0	-2.4
Exports of Goods and Services	182.5	184.1	0.8	-0.3	1.1
Physical Changes in Stocks	0.3	0.8			
Final Demand	318.1	320.7	0.8	0.3	0.5
less:					
Imports of Goods and Services (M)	147.1	147.7	0.4	-0.2	0.6
Statistical Discrepancy	1.7	1.8			
GDP at Market Prices	172.8	174.8	1.2	1.0	0.2
Net Factor Payments (F)	-30.3	-26.3			
GNP at Market Prices	142.4	148.5	4.3	1.1	3.2

B: Gross National Product by Origin

	2012	2013	Change in 2013	
	€ bn	€ bn	€ bn	%
Agriculture	3.0	3.0	0.0	0.3
Non-Agriculture: Wages, etc.	69.5	71.9	2.3	3.4
Other	63.7	61.1	-2.6	-4.1
Adjustments: Stock Appreciation	-0.1	0.6		
Statistical Discrepancy	-1.7	-1.8		
Net Domestic Product	134.5	134.8	0.4	0.3
Net Factor Payments	-30.3	-26.3	4.0	-13.4
National Income	104.1	108.6	4.4	4.2
Depreciation	23.0	23.7	0.6	2.6
GNP at Factor Cost	127.2	132.2	5.0	3.9
Taxes less Subsidies	15.2	16.3	1.1	7.0
GNP at Market Prices	142.4	148.5	6.1	4.3

C: Balance of Payments on Current Account

	2012	2013	Change in 2013
	€ bn	€ bn	€ bn
X – M	35.4	36.3	0.9
F	-30.3	-26.3	4.0
Net Transfers	-2.4	-2.5	0.0
Balance on Current Account	2.7	7.6	4.9
as % of GNP	1.9	5.1	3.3

National Accounts 2014

A: Expenditure on Gross National Product

	2013	2014	Change in 2014		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	83.3	85.0	2.0	0.5	1.5
Public Net Current Expenditure	26.0	25.9	-0.4	0.1	-0.5
Gross Fixed Capital Formation	26.5	29.4	10.9	2.6	8.1
Exports of Goods and Services	184.1	191.8	4.2	0.6	3.5
Physical Changes in Stocks	0.8	0.8			
Final Demand	320.7	332.9	3.8	0.7	3.1
less:					
Imports of Goods and Services (M)	147.7	153.6	4.0	0.9	3.0
Statistical Discrepancy	1.8	1.8			
GDP at Market Prices	174.8	181.1	3.6	0.6	3.0
Net Factor Payments (F)	-26.3	-26.6			
GNP at Market Prices	148.5	154.5	4.0	0.6	3.4

B: Gross National Product by Origin

	2013	2014	Change in 2014	
	€ bn	€ bn	€ bn	%
Agriculture	3.0	3.1	0.1	2.5
Non-Agriculture: Wages, etc.	71.9	74.2	2.3	3.2
Other	61.1	63.3	2.2	3.6
Adjustments: Stock Appreciation	0.6	0.6		
Statistical Discrepancy	-1.8	-1.8		
Net Domestic Product	134.8	139.4	4.6	3.4
Net Factor Payments	-26.3	-26.6	-0.4	1.4
National Income	108.6	112.7	4.2	3.8
Depreciation	23.7	24.0	0.3	1.4
GNP at Factor Cost	132.2	136.7	4.5	3.4
Taxes less Subsidies	16.3	17.8	1.5	8.9
GNP at Market Prices	148.5	154.5	6.0	4.0

C: Balance of Payments on Current Account

	2013	2014	Change in 2014
	€ bn	€ bn	€ bn
X – M	36.3	38.2	1.9
F	-26.3	-26.6	-0.4
Net Transfers	-2.5	-2.5	0.0
Balance on Current Account	7.6	9.1	1.5
as % of GNP	5.1	5.9	1.0

National Accounts 2015

A: Expenditure on Gross National Product

	2014	2015	Change in 2015		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	85.0	87.6	3.0	1.0	2.0
Public Net Current Expenditure	25.9	25.0	-3.3	-2.4	-1.0
Gross Fixed Capital Formation	29.4	32.9	11.7	2.6	8.9
Exports of Goods and Services	191.8	201.6	5.1	1.1	4.0
Physical Changes in Stocks	0.8	1.0			
Final Demand	332.9	348.1	4.6	1.0	3.6
less:					
Imports of Goods and Services (M)	153.6	160.2	4.3	1.0	3.3
Statistical Discrepancy	1.8	1.8			
GDP at Market Prices	181.1	189.7	4.7	1.0	3.7
Net Factor Payments (F)	-26.6	-27.9			
GNP at Market Prices	154.5	161.8	4.7	0.9	3.8

B: Gross National Product by Origin

	2014	2015	Change in 2015	
	€ bn	€ bn	€ bn	%
Agriculture	3.1	3.2	0.1	2.5
Non-Agriculture: Wages, etc.	74.2	77.3	3.1	4.2
Other	63.3	67.4	4.0	6.4
Adjustments: Stock Appreciation	0.6	0.6		
Statistical Discrepancy	-1.8	-1.8		
Net Domestic Product	139.4	146.6	7.3	5.2
Net Factor Payments	-26.6	-27.9	-1.2	4.5
National Income	112.7	118.8	6.0	5.4
Depreciation	24.0	24.5	0.5	2.1
GNP at Factor Cost	136.7	143.3	6.5	4.8
Taxes less Subsidies	17.8	18.5	0.8	4.4
GNP at Market Prices	154.5	161.8	7.3	4.7

C: Balance of Payments on Current Account

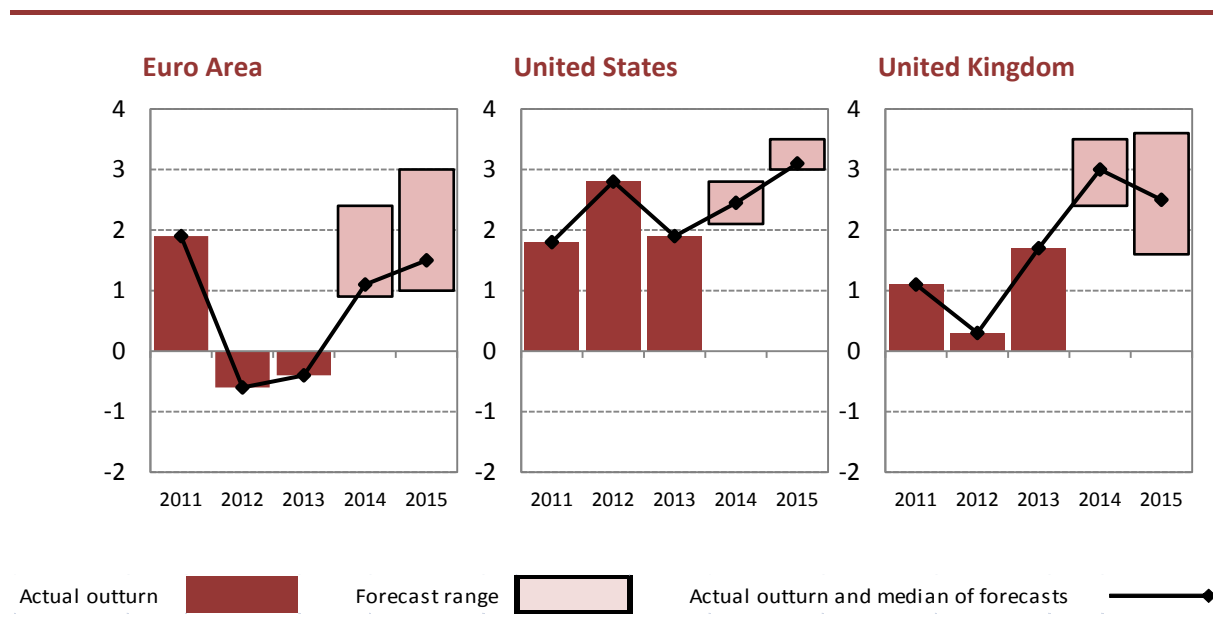
	2014	2015	Change in 2015
	€ bn	€ bn	€ bn
X – M	38.2	41.5	3.2
F	-26.6	-27.9	-1.2
Net Transfers	-2.5	-2.5	0.0
Balance on Current Account	9.1	11.2	2.0
as % of GNP	5.9	6.9	1.3

1

The International Economy

The outlook for Ireland’s main trading partners is somewhat mixed through 2014 and 2015. While the United States economy has been somewhat weaker than expected in the first half of 2014, growth of 2.5 per cent is forecast for 2014 with a forecast of 3.1 per cent for 2015. The recovery in the United Kingdom is expected to continue, with growth of 3.0 and 2.5 per cent forecast for 2014 and 2015 respectively. By contrast, the median growth forecasts for the Euro Area are quite modest at 1.1 and 1.5 per cent growth. As shown in Figure 1, there is considerable variation in forecasts for countries in the Euro Area with the outcomes for its individual members quite diverse. Legacy issues from the financial crisis, in particular ongoing difficulties in the banking sector, are some of the main reasons for the low growth outlook within the Euro Area. This is reflected in the low investment rates observed across many European countries.

FIGURE 1 Real GDP Growth (% change, year-on-year)



Sources: FocusEconomics, IMF, OECD, HM Treasury and Federal Reserve.

The Euro Area Economy

Real GDP in the Euro Area grew by 0.2 per cent quarter-on-quarter and 0.9 per cent year-on-year in Q1 of 2014. While this represents an improvement on previous quarters' growth rates, Euro Area growth remains weak with a somewhat uncertain outlook over the medium term. A number of studies have highlighted the prospect of modest longer-term European growth rates in the absence of significant policy initiatives or reforms, for example in product and labour markets. There is also a striking variation in output growth rates across Member States, with 11 of 18 States having quarter-on-quarter GDP growth in Q1. The Netherlands had the greatest fall at 1.4 per cent, while Ireland had the largest increase at 2.7 per cent. Employment in the Euro Area rose by 0.2 per cent year-on-year in Q1.

Annual inflation in the Euro Area, as measured by the *Harmonised Index of Consumer Prices*, remained stable at 0.5 per cent in June. Core inflation, excluding energy, food, alcohol and tobacco, rose from 0.7 per cent to 0.8 per cent. Following previous months of significant falling prices, which contributed to Europe's low inflation, energy prices remained stable in May and rose by 0.1 per cent in June.

In response to the low level of economic activity, the European Central Bank (ECB), at its June meeting, announced a package of new measures including: a cut in its main refinancing rate to 0.15 per cent, the introduction of a negative deposit rate of -0.1 per cent and preparatory work for a programme to purchase securitised SME loans. In addition, a new *Targeted Long-Term Refinancing Operation* (TLTRO) was announced, a counterpart to the Bank of England's *Funding for Lending (FLS)* scheme. The introduction of the €400 billion TLTRO, aimed at stimulating lending by banks to SMEs, has been prompted by the ongoing contraction in supply and demand for credit in the Euro Area. Loans to the private sector fell by 1.8 per cent in April, having fallen by 2.2 per cent in March. While packages to increase lending to the real economy are welcome, the adoption of lending targets such as those schemes undertaken in Ireland and the UK have not proven to be that successful. In particular, issues can arise with the definition of what constitutes "new lending" by financial institutions.

The ECB's latest measures also do not directly address the problem of low inflation in the Euro Area. The ECB projects that it will only be able to fulfil its mandate of just-under 2 per cent inflation by late-2016 at the earliest. Given this, it is more than likely that a more expansive policy response is required to achieve both its inflation target and greater rates of output growth. The implementation

of a full Quantitative Easing Programme would, through its influence on foreign exchange rates, benefit exporters in the Euro Area while also helping to return inflation to target through higher import prices. The President of the ECB, Mario Draghi, has highlighted the risk that an appreciated exchange rate poses to the sustainability of recovery in the Euro Area, and indeed we forecast the Euro's exchange rates with both the Dollar and Pound to remain appreciated throughout 2014 and 2015. An alternative plan for raising output growth is proposed by McQuinn and Whelan (2013),¹ who argue for a large Euro Area-wide investment programme aimed at reducing unemployment and raising the supply capacity of the European economy. This investment could be funded by the Euro Area as a whole.

The US Economy

Real GDP in the United States fell at an annual rate of 2.9 per cent in Q1 of 2014, revised from the second estimate of a 1 per cent fall. Estimates of investment were particularly affected by revisions, while falling exports and rising imports also contributed to lower GDP growth. This weak start to 2014 has prompted cuts to the forecast growth rate for the US in 2014, although the US economy is still expected to grow at a faster rate than in 2013.

The Labor Department's Non-Farm Payrolls survey showed average monthly job creation of 272,000 in the second quarter, significantly higher figures than in the final months of 2013 and during the start of 2014. While the strength of these job creation figures can in large part be attributed to seasonal factors, there was a fall in the seasonally-adjusted unemployment rate of 0.2 percentage points to 6.1 per cent in June, down from annual averages of 8.1 per cent and 7.4 per cent in 2012 and 2013 respectively. In addition, in May the total number of employed persons exceeded its pre-crisis peak for the first time.

As noted in the last *Commentary*, however, the current strength of the US labour market can be overstated. The labour force participation rate fell by 0.7 percentage points in the year to June, contributing to the improvement in the headline unemployment figure. At 62.8 per cent, this participation rate is the lowest observed in the US market since March 1978. Additionally, long-term unemployment remains high and the employment-population ratio was unchanged in the last year.

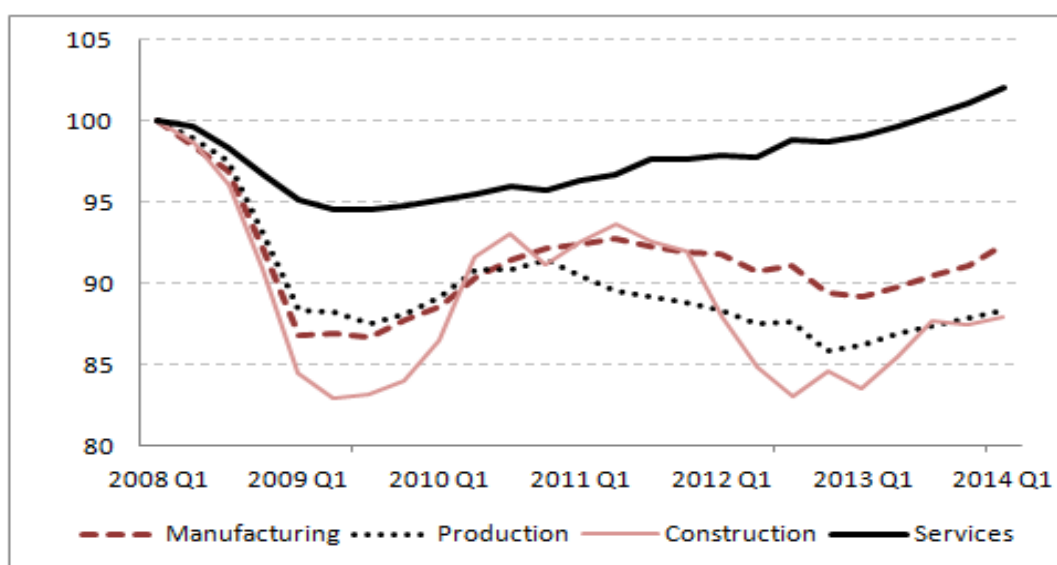
¹ McQuinn K. and K. Whelan (2013). "Europe's growth crisis", paper presented to the CEPR-Modena conference on 'Growth in Mature Economies', 7-8 November, Modena, Italy.

At its June meeting, the Federal Open Market Committee announced a further cut of \$10 billion from its monthly asset purchase programme. The Fed now purchases \$35 billion in bonds and mortgage-backed securities per month, down from a peak of \$85 billion. While Federal Reserve Chair, Janet Yellen pointed to “significant underlying strength” in the US economy, the Fed cut its growth forecast for real GDP from between 2.8 and 3 per cent to between 2.1 and 2.3 per cent.

The UK Economy

The United Kingdom economy grew by 1.7 per cent in volume terms in 2013, with GDP growth in each quarter for the first time since the financial crisis. Growth continued in the first quarter of 2014, with real GDP rising by 0.8 per cent. Figure 2 shows the paths of GDP output components, indexed to the pre-recession peak. Only the services sector has exceeded that peak, with industrial production, construction and agriculture still lagging behind. Industrial production grew in each of the last four quarters (by 2.4 per cent in total), with manufacturing, in particular, contributing strongly. With the exception of agriculture, all main GDP output components have shown growth thus far in 2014, suggesting a certain consolidation in the recovery. Estimates from the National Institute of Economic and Social Research (NIESR) suggest that, after 25 quarters, the UK economy exceeded its pre-recession peak in Quarter 2. Given that only the services sector has exceeded its pre-crisis level, this illustrates the extent to which UK economic activity is dominated by this sector.

FIGURE 2 GDP Output Components Growth (% change, Quarter-on-Quarter)



Sources: Office for National Statistics, *Quarterly National Accounts*.
 Note: 2008=100, chained volume measure seasonally adjusted.

The UK labour market has continued its recovery in the first half of 2014, with the unemployment rate falling to 6.5 per cent in Q2, compared with 6.9 per cent in the previous quarter and 7.8 per cent a year earlier. The inactivity rate fell from 22.5 per cent to 21.7 per cent over the year, representing the lowest rate in the UK market since 1990. The percentage of the working-age population in employment now stands at 73.1 per cent, the highest level since Q4 2004.

It is likely that there is still significant spare capacity in the UK's labour market despite improvements in headline numbers. While the labour market is recovering in terms of job creation, growth in wages and productivity remain weak. Year-on-year, pay excluding bonuses grew by 0.7 per cent in Q2, while the Consumer Price Index rose by 1.9 per cent in June. The current period of falling real wages in the UK is the longest in duration since the 1920s. Meanwhile, total hours grew by 1.5 per cent in Q1, outstripping growth in output and thereby implying negative productivity growth.

The Office for National Statistics' (ONS) *House Price Index* showed that house prices rose by 10.5 per cent in the year to May, with a particularly strong increase of 20.1 per cent rise in the London market. The existence of a potential property bubble in the UK has been the cause of much debate in the UK and internationally, with the International Monetary Fund (IMF), in particular, highlighting the risk developments in the housing market pose to the general economy. The lack of supply of new housing plays a significant role in the price increases, while the *Help to Buy* scheme, which subsidises mortgages to first-time buyers, has almost certainly fuelled demand-side pressures. Given recent statements concerning the dangers of an overheating property market by the Bank of England, the adoption of this scheme by Her Majesty's Treasury highlights a degree of policy incoherence in the UK concerning housing market developments.

The World Economy

The latest Global Economic Forecast from NIESR predicts growth in the world economy of 3.6 per cent in 2014 and 3.9 per cent in 2015. While this represents faster growth than in 2013, NIESR emphasises the split between growth in advanced economies and in emerging markets. China, Brazil and Russia face slower growth while prospects for growth are improving in advanced economies. Japan remains an exception among the advanced economies, with growth slowing once more. The Bank of Japan may thus opt to make its monetary policy more accommodative, while the scope for the same policy action may be limited in some emerging market economies due to the presence of high inflation. NIESR

also highlights potential risks to the global economy stemming from the unwinding of Quantitative Easing Programmes, particularly that of the United States.

The Ukrainian crisis continues to have a significant impact on both the Ukrainian and Russian economies. The Bank of Russia has cut its GDP growth forecast for 2014 to 0.5 per cent while raising its main interest rate further to 7.5 per cent. The Russian economy had already been weak before the crisis and the international response to the Ukrainian situation will have compounded these difficulties. From a wider European perspective, a major escalation in the crisis would almost inevitably lead to difficulties in European energy supply as 12 European Union states receive more than half of their natural gas from Russia, with four states entirely dependent on the Russian market.

The growth in non-OPEC supply of oil, particularly production in the United States, has contributed to falling volatility in oil prices. The growth in this supply helps to offset the impact of production interruptions in the Middle East, which have taken place in Libya and may potentially occur in Iraq as a result of new geopolitical tensions. However, the IMF and the Energy Information Administration forecast oil prices to fall in the medium term, particularly due to increasing supply from non-OPEC states.

Summary

The external economy continues to improve and is more favourable for Ireland than in recent years. We note, however, that there are caveats to the recent economic performances of some of Ireland's main trading partners; the US, UK and Euro Area. The Euro Area in particular faces significant issues in achieving a more sustainable output growth and inflation outlook. Given the openness of the Irish economy, the response of policy to these issues is of the utmost importance.

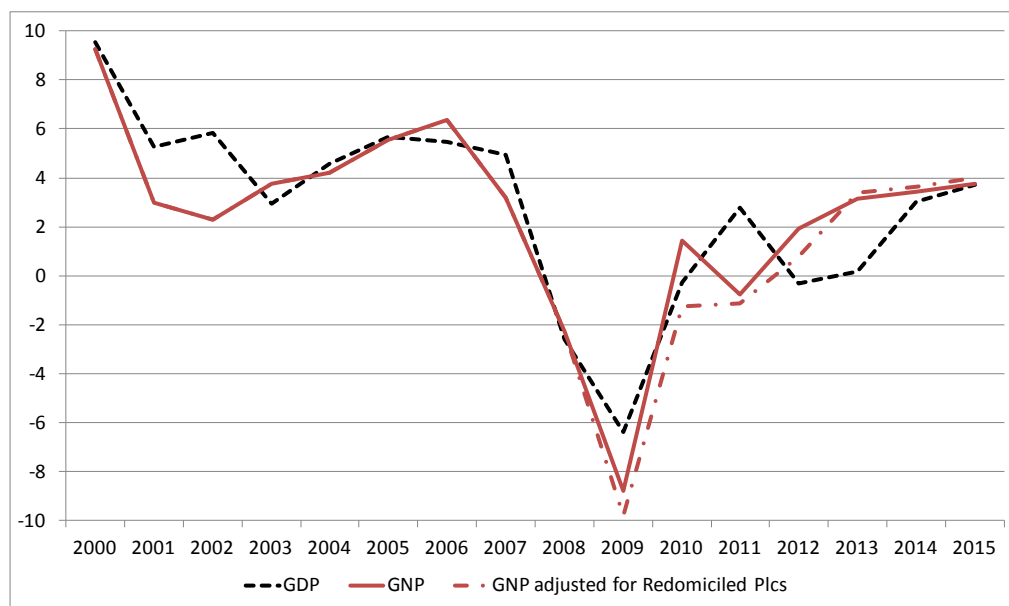
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Growth and Output

In early July the Central Statistics Office (CSO) published the detailed National Accounts for 2013 and previous years. This publication included a major revision to the system of National Accounts which affected the level of GNP and GDP back to 1995. Primarily because of the inclusion of expenditure on R&D as part of investment, the level of GDP for 2013 was raised by 6.5 per cent. A similar large upward adjustment occurred in the figure for GNP. While these are very large adjustments in the numbers, they did not, on their own, result in a major change to the historical growth rates. However, a wide range of other revisions, consequent on new and more up to date data, did change the growth rates for past years compared to the preliminary figures published in March.

While the data for 2012 and 2013 have been revised, the published figures for GDP are still very much affected by unusual developments affecting multinational companies operating in Ireland. These problems, and their implications for the national accounts, are discussed in Box 1.

FIGURE 3 GDP and GNP Growth Rates, 2000-2015



Sources: Central Statistics Office.

The combination of these different national accounting problems, affecting sectors of the economy dominated by multinationals, makes GDP a very unreliable indicator of the change in the economic welfare of the Irish population. Thus, when trying to understand underlying movements in real income in Ireland in 2013, 2014 and 2015, it is the trend in GNP rather than GDP which warrants greater attention. The growth rate of GNP in 2013 was 3.2 per cent, up from 1.9 per cent in 2012 (Figure 3). For this year and next year we see growth continuing at a similar rate to 2013, with GNP forecast to grow by 3.4 per cent in 2014 and 3.8 per cent in 2015. (We also show the growth rate of GNP adjusted for redomiciled PLCs. This makes a difference for the period 2009-2012.) For GDP the outlook is much more uncertain because so much depends on the accounting practises of multinational firms rather than real economic activity, such as employment. On the assumption that some of the national accounting complications experienced in 2012 and 2013 are now behind us, we forecast that GDP will grow at a rather similar rate to GNP, by 3.0 per cent in 2014 and by 3.7 per cent in 2015.

This shows a reasonably robust recovery from the nadir of 2011 when GNP, adjusting for the profits of redomiciled PLCs, was 14 per cent below its peak in 2007. However, it will still leave the level of real GNP in 2015 well below its peak level in 2007. Also, with the growth in the population in the meantime, GNP per head has fallen even further.

Because GDP is the measure conventionally used when comparing economic growth across countries, what is a domestic success story may appear to much of the outside world as continued economic stagnation. The arcane issues underlying developments in the economy are difficult to explain to an international audience.

These unusual national accounting developments have a major impact on sectoral GDP on the output side of the national accounts, and also on exports and factor flows on the expenditure side of the accounts. This makes the short-term indicators used for forecasting trade and output particularly unreliable. To understand what is really going on in the economy we need indicators of the contribution of each sector to GNP. For Irish owned firms the contribution to GNP is equivalent to their gross value added. However, for foreign owned firms the contribution is confined to their wage bill and the corporation tax paid on their profits.

As we have outlined, the particular uncertainty associated with the GDP forecast must be emphasised. Depending on the accounting behaviour of relatively few multinational firms the growth in GDP could prove to be much lower than we are forecasting. Thus, the margin of error around our GDP forecast for 2014 could be much greater than that for our GNP forecast.

Given the difficulties associated with assessing movements in GDP, in Box 2 we outline a new forecasting methodology (nowcasting) which will now complement the traditional approach used in the *Commentary*. This will help to provide a timelier estimate of output growth in the economy using a large amount of information.

Box 1: Problems in Interpreting the National Accounts

By John FitzGerald

The process of globalisation is making the standard presentation of National Accounts more and more difficult to interpret. Because of the nature of its integration into the global economy, this particularly affects Ireland. However, it is now also affecting the accounts for a number of other EU countries, such as the Netherlands and the UK.

As a result of globalisation, the production process for goods and services is being gradually broken up into an increasing number of different separate stages or components, many of which are produced by firms in differing countries. This helps explain how world trade is growing much more rapidly than world GDP – as the production process is broken up the value of trade includes both the increasing number of inputs into a good or service sold to consumers and also the good or service itself. This means that the gross flow of goods and services, measured as exports, may be much greater than the value added related to those exports: only a small part of the production process is located in an individual country. This makes trade and gross output data unreliable indicators of movements in GNP in small economies that are highly globalised, such as that of Ireland.

In the case of the Irish national accounts there are a number of important ways that this process is affecting the numbers: patent expiry and the Pharmaceutical sector; value added in the Software and IT services sector; movement to Ireland of some specialised firms operating in the financial sector, referred to as redomiciled PLCs; and provision of air transport services.

The first of these problem areas involves the Pharmaceutical sector. As discussed in two recent papers, the pharmaceutical industry in Ireland is quite large and its gross output is large relative to GDP. As a result, the ending of patents on certain drugs has had a very large impact on Irish output, exports and GDP. At the same time this change has not greatly affected the welfare of people living in Ireland, measured by GNP.²

The second area where a sector's very large gross output and trade distorts the National Accounts is the broad Software and Computer Services sector. In 2013 the volume of gross value added (GVA) of the Software and Communication sector fell by 11.8 per cent, resulting in a fall of 5.2 in the GVA of the broader Distribution and Software sector. However, in the broader distribution sector GVA at current prices grew by over 7 per cent. This fall in the volume of GVA combined with the growth in GVA at current prices must be seen against the backdrop of a 4 per cent increase in the wage bill of the broader distribution sector. There was also a very big increase in the profits of that sector of over 10 per cent.

The national accounts provide no clue as to how GVA in volume could fall by so much when GVA at current prices actually rose in value. Whatever the explanation, this has seriously distorted the GDP figures for 2013. This makes it clear that something unusual affected the treatment of the volume of output of the sector in 2013. The fact that the wage bill, and hence employment, was rising rapidly in the sector indicates that the sector made a substantial positive contribution to GNP growth in 2013, while making a very substantial negative contribution to GDP in that year. Were it not for this fall in the output of the Software and Communication sector in 2013, GDP would have risen by 1.2 per cent rather than the actual rise of 0.2 per cent.

A third area where the national accounts are distorted by the behaviour of large foreign owned companies operating in Ireland is the case of so-called "redomiciled PLCs".³ In a note in the Spring 2013 *Commentary* we discussed the distortion of the current account of the balance of payments over the period 2008-2012 due to the behaviour of some PLCs that redomiciled to Ireland. These companies, whose beneficial owners were resident outside Ireland (generally in the UK), were receiving income in Ireland from abroad, which they were not fully remitting to

² See FitzGerald, J., (2013a). "The Effect on Major Accounting Aggregates of the Ending of Pharmaceutical Patents", ESRI Research Note 2013/2/1, published in *Quarterly Economic Commentary*, Autumn, Dublin: The Economic and Social Research Institute, and Dalton, M. and S. Enright, (2013). "The Impact of the Patent Cliff on Pharma-Chem Output in Ireland", Working Paper No. 1, 2013. Dublin: The Department of Finance.

³ See FitzGerald, J., (2013b), "The Effect of Re-domiciled PLCs on Irish Output Measures and the Balance of Payments," QEC Research Notes 2013/1/2, published in *Quarterly Economic Commentary*, Spring, Dublin: The Economic and Social Research Institute.

their owners in the UK (or elsewhere): instead they were taking the benefit as a capital gain. This added a significant amount to the credit side of the Irish current account of the balance of payments and it also added to the value and volume of GNP. As this income was not of benefit to people living in Ireland it provided a deceptive picture of what was happening to the economy. As a result, with the help of the CSO, over the last year we have been publishing figures for the current account and for GNP adjusting for these payments. However, as the size of these payments has not changed much since 2012, the growth in the current account surplus and in GNP in 2013 was not affected by any such distortion.

The fourth area where the National Accounts provide a potentially misleading impression of activity in the economy involves transports services. As discussed later in this *Commentary*, Ryanair are planning to acquire a large number of aircraft over the next four years to allow them to increase their provision of air transport services across Europe. In the National Accounts the import of aircraft is fully offset by an increase in investment so that the import of the aircraft does not directly affect GDP. However, there is a significant effect on the current account of the balance of payments as the imports are not offset by a corresponding export in the relevant year. The benefit from this investment, by Ryanair, in new aircraft will presumably come in subsequent years as these aircraft are put to profitable use around Europe. The increased business activity will result in a continuing higher export of transport services from Ireland in future years. This export item will include the profits needed to pay for the aircraft over time, as well as some additional profit for the shareholders. Thus, the increase in the current account deficit in 2013 and 2014 will be offset by higher export of services over the rest of the decade. This needs to be taken into account in interpreting movements in the balance of payments.

A further complication will arise with the National Accounts for next year. A change will be implemented which will alter the treatment of aircraft leasing in the National Accounts. Since it is reported that almost 20 per cent of the world's civil aircraft fleet is owned by leasing companies in Ireland,⁴ this new approach to the National Accounts could result in changes to the trade data that would dwarf the effects of Ryanair's purchase of aircraft over the next four years.

Ireland is not alone in facing these problems. A very similar phenomenon to the redomiciled PLCs is affecting the Netherlands current account, as UK firms have moved headquarters to Amsterdam. This helps explain how the Netherlands is currently running a current account surplus of between 9 per cent and 10 per cent

4

<http://www.irishaviationresearchinstitute.blogspot.ie/p/ireland-aircraft-leasing-companies.html>

of GDP. As with the redomiciled PLCs in the Irish current account, a significant part of this current account surplus in the Netherlands is of no direct benefit to the people of the Netherlands, being properly the income of entities resident in the UK.

The counterpart to these large distortions in the Irish and Netherlands current accounts has been an understatement of credit items in the UK current account. While the Irish and the Dutch economies are small relative to that of the UK, the size of the distortion to the current account surpluses in Ireland and the Netherlands is large enough to make a significant impact on the UK current account deficit. The counterpart to the overstatement of current account surpluses in Ireland and the Netherlands could be an overstatement of the UK current account deficit by up to 2 percentage points of GDP.

The fact that these problems are now affecting a number of EU economies suggests that Eurostat needs to develop the European system of National Accounts to provide additional material that will properly identify developments in economic welfare affecting those living in individual economies. Ideally, it would be desirable to publish data on where GNP arises by sector. This would deal with some of the problems identified in this Box.

Output

As discussed above, allocating the growth in output across sectors of the economy is very difficult under current circumstances. This problem particularly affects the tradable sector of the economy – manufacturing and distribution and software. Agriculture saw very rapid growth in output in 2013 (Table 1). However, this was a recovery after a very bad year in 2012. Our forecast for that sector in 2014 and 2015 is for a return to relatively low growth of just over 1 per cent a year.

TABLE 1 Industry and Output

	2012	2012	2013	2014	2015
	Value	Volume Change			
	€ bn	%	%	%	%
Agriculture	3.8	-12.6	16.5	1.2	1.2
Industry	39.6	-2.1	-2.3	2.0	2.5
Distribution, Transport, Software and Communications	41.0	1.0	-5.2	2.0	3.5
Public Administration and Defence	6.5	-2.6	-2.2	-1.0	-0.5
Other Services	65.7	2.7	2.4	3.1	4.7
GVA at Factor Cost	157.5	-0.5	-0.4	2.6	3.8

Sources: Central Statistics Office and ESRI Forecasts.

While the latest indicators suggest exceptional growth in gross output in manufacturing this year, much of this is coming from the Pharmaceuticals sector. Thus, we see a much less dramatic growth in GVA arising in the industrial sector: 2.0 per cent in 2014 and 2.5 per cent in 2015.

The fall in output in distribution and software in 2013 appears to have been primarily due to changing accounting practises by some key multinationals in the IT sector. Once again, we anticipate some legacy effects pulling down growth in 2014 to only 2 per cent. However, for 2015, with the effects of the “patent cliff” coming to an end, we are assuming that these accounting effects will have played out and that the output of the sector will grow by around 3.5 per cent.

The fall in public administration output is a function of falling numbers arising from a further tough Budget for 2014, with carryover effects into 2015. The Other Services sector, which is large in size, is expected to show vigorous growth both this year and next year, making an important contribution to the growth in economy-wide GVA at factor cost.

Box 2: Where Is the Economy At? An Application of the Nowcasting Approach

By David Byrne and Kieran McQuinn

Providing an accurate and timely estimate of the rate of output growth within the economy is an integral component of the *Commentary*. In seeking to estimate the economy’s performance at any point in time, we now complement the traditional forecasting model used in the *Commentary* with the nowcasting methodology. This approach, following the work of Giannone, Reichlin and Small (2005)⁵, enables forecasters to use information from a large panel of potentially relevant macroeconomic indicators to generate estimates of economic performance. In particular, it allows forecasters to address two key issues in producing timely and accurate forecasts.

Typically, the output variable of interest (GDP/GNP) is only released after the close of the reference period i.e., the first estimate of Irish quarterly GDP is released between 10 to 11 weeks after the end of the reference quarter. However, in the interim period, many monthly conjunctural indicators become available which provide within-quarter information that could be used to provide a more accurate assessment of the current state of the economy.

⁵ Giannone, D., Reichlin, L. and D. Small (2005). “Nowcasting: The real-time informational content of macroeconomic data”, *Journal of Monetary Economics*, Vol. 55, No. 4, pp. 665-676, May.

A further issue confronting forecasters is that the panel of indicator variables potentially available is unbalanced at the end of the sample (commonly referred to as a “jagged” edge structure). These indicators are released in a non-synchronous manner and with varying publication lags. Traditional econometric models will generally only use balanced datasets i.e., where all series would end in the same period.

The nowcasting approach enables empirical models to use available high frequency information with respect to the reference period in question and extracts the predictive component of output from a large number of data series. It also exploits the jagged edge structure to enable the most up-to-date information be used for the current period (the estimate for the current period is labelled the “nowcast”). In an international context, nowcasting techniques are increasingly being used by central banks and other institutions which generate macroeconomic forecasts. Applications of the nowcasting approach in an Irish context can be observed in Liebermann (2012)⁶ and D’Agostino, McQuinn and O’Brien (2011).⁷

In Table B1 we summarise quarter-on-quarter growth rates in GDP for the first three quarters of 2014. The observation for Q1 2014 is the most recent actual observation for GDP released by the CSO. The entry for Q2 2014 is the backcast (this is when the nowcasting approach is used to generate historical estimates of GDP when there are still no official estimates available) and for Q3 we report the nowcast estimate. The latter estimate suggests that the economy at present has grown by 1.6 per cent between Q2 and Q3 of this year.

TABLE B2.1 Irish Quarter-on-Quarter GDP Growth Rates for Q1 2014 to Q3 2014

Period	Nature of Estimate	Estimate %
Q1 2014	Actual	2.7
Q2 2014	Backcast	2.1
Q3 2014	Nowcast	1.6

Source: Own estimates.

⁶ Liebermann, J. (2012). “Short-term forecasting of quarterly gross domestic product growth”, Article 01, Central Bank of Ireland *Quarterly Bulletin* January.

⁷ D’Agostino, A., McQuinn, K. and O’Brien, D. (2012). “Now-casting Irish GDP”, *OECD Journal: Journal of Business Cycle Measurement and Analysis*, OECD Publishing, CIRET, Vol. 2, pp. 1-11.

3

Exports of Goods and Services

The value of goods exports has increased by 10.4 per cent in the first quarter of 2014. This is the largest increase, quarter-on-quarter, since the issue of the pharmaceutical patent cliff⁸ arose in early 2012. Statistics from the CSO, comparing April 2013 with April 2014, confirmed an 18 per cent drop in the exports of medical and pharmaceutical products and a 9 per cent drop in the export of organic chemicals in value terms, both of which had become primary drivers in Ireland's exports in recent years. Despite this, however, we believe the growth experienced in the first quarter of the year is evidence that Irish exports are starting to regain a steady footing following the negative impact of the pharma patent cliff. The figures may also suggest that goods exports are beginning to rely on a broader range of sectors with year-on-year growth in the export of Food and Live Animals and Miscellaneous Manufactured Articles up 12 per cent and 15.4 per cent respectively. Sterling has also strengthened by 5 per cent against the Euro in the first six months of the year which may be a contributory factor for the growth of goods exports.

The release of new data from the CSO confirms strong growth in the value of total service exports in Q1 of 2014 of just over 5 per cent when compared to Q1, 2013. Much of this growth can be attributed to increases in Business Services exports although collectively quarter-on-quarter growth in many of the subsectors of service exports is down.

The terms of trade has increased to 76.8 index points in April 2014 from 76.1 in March 2014. Terms of trade refer to the amount of imports a unit of exports can buy. If we see the price of exports rise more slowly than import prices, for example, then the terms of trade will deteriorate since a larger volume of exports are needed to pay for a given volume of imports. Over the period 2007 through 2011 the value of GNP was negatively affected when adjusted for the terms of trade. This was largely due to a fall in export prices over the period, alongside rising import prices. Based on our expectations for both imports and exports we forecast that Ireland's terms of trade will show signs of improvement in 2014 and 2015 following several years of deterioration.

⁸ This is discussed in detail in FitzGerald, J., (2013). "The Effect on Major Accounting Aggregates of the Ending of Pharmaceutical Patents", ESRI Research Note 2013/2/1, published in *Quarterly Economic Commentary*, Autumn, Dublin: The Economic and Social Research Institute.

With the international environment expected to show continued recovery in 2014 and with the difficulties surrounding the pharmaceutical patent cliff showing signs of abating, we forecast strong improvements in the volume growth of merchandise exports through to 2015. The recent Annual Report from Enterprise Ireland, reporting €17.1 billion in exports sales for 2013, which represents an increase of 8 per cent on 2012, provides support for the continued, expected strong performance in this sector.⁹ Indications from the first six months of 2014 are also very positive with job commitments by Irish exporting companies up more than 20 per cent on the same period last year.

Recent data from the National Accounts show more moderate service sector growth than previously anticipated in 2013 and so forecasts provided in the Q1 *Commentary* have been revised downward with service sector exports expected to grow by a more modest 3 per cent. However, we predict growth will continue to strengthen, at approximately 4 per cent, into 2015 based in part on data from Enterprise Ireland which documents growth in internationally traded services of 14 per cent in 2012 and a further 5 per cent in 2013. On the basis of these forecasts we are projecting an increase in the volume of total exports of 3.5 per cent in 2014 and 4 per cent in 2015.

TABLE 2 Exports of Goods and Services

	2012	2012	2013	2014	2015
	Value	Volume Change			
	€ billion	%	%	%	%
Merchandise	85.8	1.0	-4.1	4.0	4.0
Services:					
Tourism	3.0	-3.3	9.5	4.0	4.0
Other Services	87.3	7.1	3.8	3.0	4.0
Total Services	90.3	6.7	4.0	3.0	4.0
Exports of Goods and Services	176.7	4.7	1.1	3.5	4.0

Sources: Central Statistics Office and ESRI Forecasts.

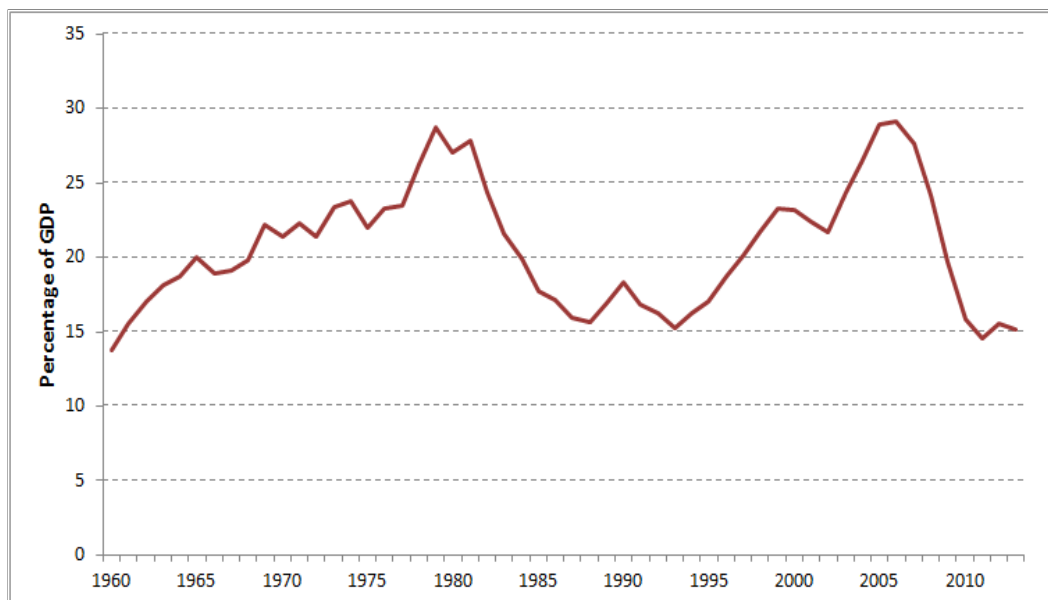
⁹ While data from Enterprise Ireland may be limited, it does provide some valuable information on the composition of exported goods and services and allows us to distinguish between foreign and indigenous exporters.

4

Investment

Over the past three years, the rate of investment in the domestic economy has been at an all time low. As a percentage of GDP, the investment rate, as can be seen from Figure 4, is presently just above 14 per cent. Up to 2008, the long-run average rate in the economy was over 26 per cent. This particularly low rate suggests that any new additions to the national capital stock are likely to be merely replacing that level of stock which is lost through natural depreciation. This significant decline in investment, which is observed across a number of European countries, may be one of the most profound long-term consequences of the financial crisis of 2007/08. The need to restructure balance sheets amongst European financial institutions has almost certainly led to restrictions in the quantity of finance available for investment purposes. For example, recent research by Gerlach, O’Connell and O’Toole (2014)¹⁰ highlights the impact of credit constraints on the employment and investment decisions of Irish small and medium sized enterprises (SME’s).

FIGURE 4 Irish Investment Rate 1961-2014 (%)



Source: Central Statistics Office.

¹⁰ Gerlach P., O’Connell B. and O’Toole, C. (2014). “Do credit constraints affect SME investment and employment?” *The Economic and Social Review*, forthcoming.

The recent National Accounts show that the volume of investment declined in 2013 by 2.4 per cent to €26.3 billion. The data suggest a mixed performance across the different components of investment. Housing investment rose by 3.5 per cent and investment in other building and construction was 30 per cent higher in volume terms. In contrast, investment in roads, a much smaller component of investment, fell by over 39 per cent to €632 million. Taking building and construction as a whole, investment rose by 14.1 per cent in 2013.

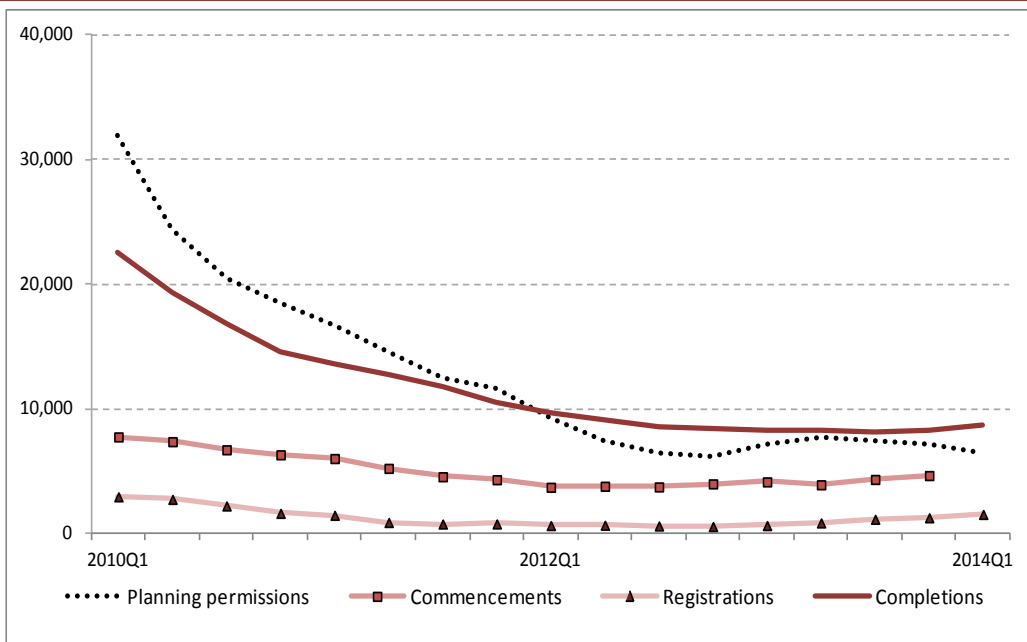
A similarly diverse performance is evident in investment in machinery and equipment. Total machinery and equipment investment increased by 1.8 per cent. Investment in transport equipment fell by over 38 per cent. However, this reflects the timing of aeroplane purchases. Investment in agricultural equipment rose by 10 per cent and investment in other machinery and equipment was nearly 50 per cent higher.

Based on our forecasts for economic and employment growth, we expect investment to increase steadily during 2014 and 2015 albeit from a very low base. Housing completions in 2013 amounted to 8,301 units, a decline of 2.2 per cent on the 2012 level of output. Data available for the first five months of the year indicate a pick-up in activity, with completions up by over 30 per cent. Data on planning permissions, registrations and commencements (Figure 5) suggest that the sector has stabilised. More recent data indicate that house completion levels should grow again this year and next. In particular, we forecast that the number of housing completions in 2014 and 2015 to be 10,500 and 15,000 respectively.

A key factor determining the level of housing completions will be the availability of credit. Our forecast assumes that credit continues to be a constraint in the short term. The envisaged increase in supply is still somewhat below the structural demand for housing in the Irish market. In the special article in this *Commentary*, McQuinn notes that this amount is generally regarded to be between 25,000 and 30,000 units per annum. Consequently, were the supply-side of the housing market to return to a more long-run equilibrium position in the shorter term, the increase in investment would be considerably more significant.

In the absence of a significant pick-up in housing investment, McQuinn, using a recently developed forecasting model of Irish house prices, suggests prices will grow an average of 6.5 per cent per annum in real terms over the period 2014 to 2017. Thus, the current situation of rising house prices and rising rents is likely to remain a feature of the Irish housing market over the immediate future.

FIGURE 5 Housing Market Indicators



Source: Central Statistics Office and the Department of Environment.

With the momentum from strong growth in other building and construction investment last year expected to carry into this year, we are forecasting investment in other building and construction to grow strongly in both 2014 and 2015. Part of this increase will be driven by continuing positive Foreign Direct Investment (FDI) flows, coupled with economic improvement, and the undertaking of previously deferred activity. If our forecasts prove to be correct, investment in total building and construction will reach €12.6 billion in 2014 and €14.5 billion in 2015.

In recent years we have seen investment in machinery and equipment heavily influenced by the timing of aircraft purchases. While the timing of such purchases remains uncertain, on the basis of current published figures we estimate that they could add over 6 per cent to the value of investment in machinery and equipment in 2015. Accordingly, our forecasts for the volume of machinery and equipment investment are for growth of 5.7 per cent in 2014 and 6.9 per cent in 2015.

These forecasts imply growth in the overall volume of investment of 8.1 per cent in 2014 and 8.9 per cent in 2015. With the value of total investment forecast to grow by 10.9 and 11.7 per cent respectively, this implies that the investment deflator will average approximately 2.5 per cent each year, see Appendix Table A2. However, this growth must be placed in the context of the very low rate, by

historical standards, of investment in the economy. If credit becomes more readily available to the real economy, particularly for those in the Construction sector, then the growth in investment over the short term could be higher than we have forecast.

TABLE 3 Gross Fixed Capital Formation, % Change in Volume

	2012	2012	2013	2014	2015
	Value	Volume Change			
	€ billion	%	%	%	%
Housing	3.0	-22.6	3.5	7.1	17.2
Other Building	6.0	12.7	18.3	13.7	9.3
Total Building and Construction	9.4	-1.5	14.1	11.7	11.6
Machinery and Equipment	17.6	8.8	-11.2	5.7	6.9
Total	26.9	5.0	-2.4	8.1	8.9

5

Prices, Consumption and Incomes

Prices

In June, annual inflation in Ireland stood at 0.4 per cent as measured by the Consumer Price Index (CPI) and 0.5 per cent by the Harmonised Index of Consumer Prices (HICP). The CPI annual inflation rate in June is 1 per cent if mortgage interest repayments are excluded, reflecting the impacts of low interest rates and the prevalence of tracker mortgages in the Irish market¹¹. Mortgage interest repayments fell by 10 per cent in the year to June, contributing to an inflation rate of just 0.3 per cent in the Housing, Water, Electricity, Gas and Other Fuels division of the CPI. This serves to mask the 8.7 per cent increase in private rents and 2.5 per cent increase in the price of electricity, gas and other fuels, for instance. Similarly, the CPI services sub-index shows annual inflation of 2.1 per cent rather than a rise of 3.3 per cent when mortgage interest repayments are excluded. The growth in services prices is attributed, in particular, to the rising cost of insurance premiums and the impact of the Local Property Tax.

Provisional figures for June indicate that annual Euro Area inflation (HICP) was a stable 0.5 per cent, compared with the May figure. Services inflation of 1.3 per cent is the largest contributor to Euro Area inflation, with food, alcohol and tobacco prices falling by 0.2 per cent and stable prices for non-energy industrial goods. Since August 2013, falling energy prices had played a significant part in the low inflation in the Euro Area. However, energy prices were stable in May and rose by 0.1 per cent in June. Our forecasts for the CPI, HICP and Personal Consumption Deflator for 2014 and 2015 are included in Table 4. Inflation is to remain low in 2014 before rising moderately in 2015.

¹¹ See also Box 3 by McQuinn (this issue) for a discussion of tracker mortgages and mortgage interest payments.

TABLE 4 Inflation Measures

	2012	2013	2014	2015
	Annual Change			
	%	%	%	%
CPI	1.7	0.5	0.3	1.0
Personal Consumption Deflator	0.6	1.7	0.5	1.0
HICP	1.9	0.5	0.4	1.2

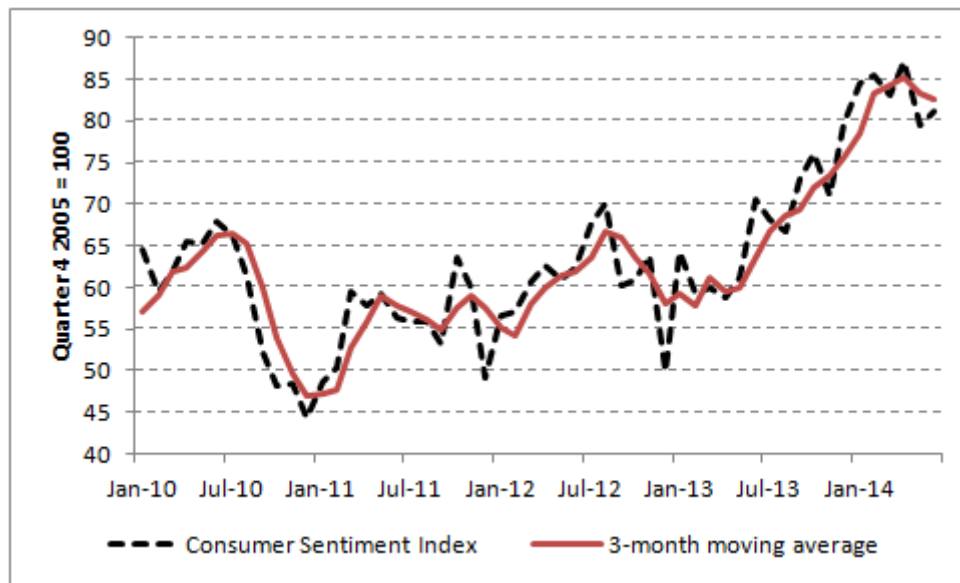
Source: Central Statistics Office and ESRI Forecasts.

Consumption

In Table 5 we forecast growth in consumption of 2 per cent in 2014 and 3 per cent in 2015, to €85 billion and €87.6 billion respectively. As discussed below, we forecast Personal Disposable Income to rise as a result of the continuing improvement in the labour market, supporting the growth in consumption. In addition, the first half of 2014 has seen growth across a number of consumption indicators. Retail sales, for instance, have shown strong growth thus far in 2014, following a relatively weak year in 2013. In volume terms, retail sales grew by 6.2 per cent on an annual basis in May. Excluding the Motor Trades, retail sales rose by 3.4 per cent in May with respect to the same month in 2013. The CSO provides retail sales indices for 13 business sectors (NACE REV 2 classification), with 9 of 13 showing annual volume increases in May. Motor Trades had the strongest growth, at 20.3 per cent, followed by Furniture and Lighting and Electrical Goods with 16.2 per cent and 10.5 per cent respectively.

Car sales have been particularly buoyant in the first half of 2014: 62,280 new private vehicles were licensed in the first six months of the year, a 25.8 per cent increase on the first half of 2013. There was a 44 per cent increase in the registration of new goods vehicles. As noted in the previous *Commentary*, while 2013 was weak in terms of sales of new vehicles, there was strong growth in both second-hand (imported) private vehicles and goods vehicles. Growth in second-hand vehicle registrations has continued in 2014 despite the increase in sales of new vehicles; second-hand registrations were 21 per cent higher than in 2013 in the year to June.

FIGURE 6 Consumer Sentiment



Sources: ESRI/KBC Ireland.

The KBC Ireland/ESRI *Consumer Sentiment Index* increased to 81.1 in June, from 79.4 in May. The 3-month moving average, a representation of the trend in the Index, fell in both May and June following 12 months of consecutive growth. As shown in Figure 6, consumer sentiment is at its highest level in several years. Topics covered by the *Consumer Sentiment Index* include how consumers view the outlook for the economy and for unemployment, the environment for household purchases, how they expect their personal finances to develop over the coming year and how their finances compare with last year. Two sub-indices are produced in addition to the headline Index, one of which focuses on expectations for the future while the other focuses on views of current economic conditions. While both sub-indices have risen in tandem with the *Consumer Sentiment Index*, consumers' views of the current state of the economy appear to be considerably more volatile than their expectations of an improving economy over the next year.

The *Quarterly Financial Accounts* produced by the Central Bank of Ireland show that household debt fell by €2.4 billion to €166 billion in Q4 of 2013. This is a continuation of household deleveraging described in previous *Commentaries*. Household debt began to fall in the fourth quarter of 2009 and now has fallen to the lowest level since the fourth quarter of 2006. The household debt to Gross Disposable Income ratio and debt to total assets ratio provide two measures of the sustainability of household debt in Ireland. Debt to Gross Disposable Income fell by 3.5 percentage points to 191.8 per cent, driven predominantly by the fall in

household debt. The value of household assets increased in the fourth quarter, contributing to a 0.8 percentage point fall in the ratio of debt to assets to 24.4 per cent. These measures now lie at levels equivalent to Q3 2006 and Q3 2008, respectively. In Table 5, we forecast the Savings Ratio to remain elevated in 2014 and 2015, reflecting the impact of household deleveraging.

The Nationwide UK (Ireland)/ESRI *Savings Index* surveys the savings behaviour and attitudes of Irish consumers. When asked their first preference for how to use any surplus money, the largest share of respondents (46 per cent) indicated they would pay-off debt, tallying with the deleveraging observed in the *Quarterly Financial Accounts*. Saving for the purpose of deleveraging may be viewed as distinct from the use of a regular savings account, for instance. Results from the *Savings Index* show that the proportion saving either regularly or occasionally in the latter form fell to 58.2 per cent in June from 59.2 per cent in May.

Using micro-level, household data, McCarthy and McQuinn (2014)¹² examine the implications of certain legacy effects of the recent financial crisis, such as deleveraging on the behaviour of mortgaged Irish households. In particular they find that the decision to deleverage amongst households has negative implications for consumption. They also note the role played by house prices and expectations of house price movements on consumption.

Incomes

The *Earnings, Hours and Employment Costs Survey* (EHECS) produced by the CSO shows that Average Weekly Earnings rose by 0.2 per cent quarter-on-quarter in Q1 2014 but fell 0.4 per cent on an annual basis. Year-on-year, earnings fell by 0.4 per cent and 2.1 per cent in the previous two quarters respectively. While earnings rose by 0.7 per cent in the private sector in the first quarter, public sector weekly earnings fell by 1.8 per cent. In particular, earnings fell in six of seven sub-sectors of the public sector. The largest fall came in the Defence sector, with a 2.8 per cent drop in earnings over the year, with *Health* (-2.7 per cent) and *Education* (-2.6 per cent) also showing significant yearly falls in income.

There was also a 0.7 per cent decrease in the number of persons employed in the public sector over the year to Q1 with the 4 per cent decrease in numbers in the Health sector representing the largest fall. There has been a 7.7 per cent (31,500) decrease in public sector numbers in the four years to Q1 2014. The falling

¹² McCarthy Y. and K. McQuinn (2014). "Consumption and the Housing Market: An Irish Perspective", ESRI *Budget Perspectives* 2015, Paper 1, June, Dublin: The Economic and Social Research Institute.

numbers in the public sector may also help to explain the aforementioned falling Average Weekly Earnings. If those leaving employment earned above the average wage then this change in the composition of the public sector workforce would lower the average earnings in this sector.

Average Weekly Earnings rose in 7 of 13 economic sectors in the year to Q1 2014. The Construction sector had the biggest increase, with 10.2 per cent, while the Professional, Scientific and Technical, Industry and Financial, Insurance and Real Estate sectors also had significant earnings growth.

We use the ratio of forecast growth in the wage bill to growth in non-agricultural employment to forecast growth in Average Earnings of 1.3 per cent in each of 2014 and 2015. It is worth noting, however, that the sectoral breakdown of employment growth in the *Quarterly National Household Survey* (QNHS) has been affected by sample changes from the 2011 Census¹³. While the reported growth in total employment is unaffected, the division of employment growth between agricultural and non-agricultural employment likely is biased towards agriculture. This would lower non-agricultural employment growth, raising our Average Earnings forecast. QNHS results for Q1 of 2014 showed an increase in employment of 2.3 per cent year-on-year. While this represented a slower rate than in previous quarters, the labour market is expected to continue to recover throughout 2014. As a result, we forecast Current Transfers to fall in 2014 and 2015, with Personal Disposable Income growing in both years (see Table 5).

TABLE 5 Personal Disposable Income

	2012	2013	2014	2015
	€bn	€bn	€bn	€bn
Agriculture etc.	3.0	3.0	3.1	3.2
Non-Agricultural Wages	69.5	71.9	74.2	77.3
Other Non-Agricultural Income	17.8	19.1	20.3	22.1
Total Income Received	90.3	94.0	97.6	102.6
Current Transfers	23.6	23.4	22.8	22.5
Gross Personal Income	114.0	117.4	120.4	125.1
Direct Personal Taxes	23.1	24.2	25.9	26.9
Personal Disposable Income	90.9	93.1	94.4	98.1
Consumption	82.5	83.3	85.0	87.6
Personal Savings	8.4	9.8	9.4	10.6
Savings Ratio	9.3	10.5	10.0	10.8
Average Tax Rate (%)	20.6	20.6	21.5	21.5

Sources: Central Statistics Office and ESRI Forecasts.

¹³ See Conefrey T. and Linehan S., 2014. "Recent Employment Recovery", Central Bank of Ireland *Quarterly Bulletin* 02, April.

6

Public Finances

Now that we are over halfway through the year, the information prepared by the Department of Finance in the Exchequer Returns provides a reasonable guide to what is likely to be the eventual outturn on the public finances for the full year. The end-June numbers suggested that, once again, the public finances will come in ahead of target for the year, with revenue from most categories of taxation growing ahead of the expectations when the Budget for 2014 was prepared. Particularly notable was the fact that, in the first six months of the year, social insurance contributions were up almost 9 per cent year-on-year, around 3 percentage points more than had been expected. Because this category of revenue is even more closely related to employment than is income tax, it is a good indicator of the improving labour market situation.

Once again health expenditure is likely to come in higher than planned. The lack of budgetary discipline in this sector has been a continuing problem, although it has been counter-balanced each year by tight discipline in all other main spending areas, including education and social welfare. Also, as in previous years, expenditure on debt interest is likely to be less than envisaged at Budget time. Since 2010 a feature of Budgets has been that debt interest forecasts have been rather high, leaving room for outperformance over the course of the year.

Table 6 sets out our forecast for the outturn for the public finances for 2014 and 2015.¹⁴ As we have discussed, for 2014 the outturn for tax revenue is likely to be substantially higher than envisaged at Budget time (by about €1 billion) and this is taken into account in our revised forecast. On the expenditure side we are assuming that any overrun on health expenditure is made up in savings on other aggregates. The result of these revisions, and the new CSO estimate of a higher level of GDP in the National Accounts, is that government borrowing for this year is likely to come in at 4.1 per cent of GDP, well below the Budget commitment of 4.8 per cent of GDP.

¹⁴ The official 2013 figures are still not finalised. While the *National Accounts for 2013* were published in early July, the tables covering the public finances will not be available until August. Hence, we have had to estimate the outturn figures for 2013 based on the latest published figures, including the Department of Finance's *Stability Programme Update*.

TABLE 6 Public Finances *

	2013	2014	2014	2015	2015
	€bn	€bn	% change	€bn	% change
Income					
Taxes on income incl. Social Insurance	28.5	30.4	6.8	31.7	4.1
Taxes on expenditure	19.0	20.3	6.9	21.1	3.8
Gross trading and investment income	3.4	3.2	-5.4	2.9	-9.5
Other Income	3.4	3.1	-7.1	3.6	14.7
Total receipts : Current	54.4	57.2	5.2	59.3	3.8
Total receipts : Capital	1.5	1.7	18.1	1.7	0.0
Total receipts - Current and Capital	55.8	58.9	5.5	61.1	3.7
Expenditure					
Subsidies	1.5	1.4	-9.8	1.4	0.0
National debt interest	7.6	7.8	3.6	8.0	1.8
Transfer payments	27.1	26.5	-2.2	26.2	-1.1
Expenditure on Goods and Services	27.3	27.0	-1.2	26.6	-1.5
Total expenditure - Current	63.4	62.6	-1.3	62.1	-0.9
Total expenditure - Capital	4.7	3.7	-20.9	3.6	-1.9
Total expenditure - Current and Capital	68.1	66.3	-2.6	65.7	-0.9
General Govt. Balance	-12.2	-7.4		-4.7	
As % of GDP	-7.0	-4.1		-2.5	

* Our public finance numbers do not take account of the latest revisions published by the CSO.

Sources: Central Statistics Office and ESRI Forecasts.

As discussed in our Spring 2014 *Quarterly Economic Commentary*, because of the continuing uncertainty that surrounds any forecasts for the economy a year ahead, it is best to delay making a decision on how much fiscal adjustment will be needed in 2015 until the end of September. At that stage it will be possible to have a better idea of the outturn for 2014 and, as a result, there will be a clearer picture as to whether the economy is following the path envisaged in our forecasts in this QEC.

For the present, it is appropriate that the Department of Finance prepares for the €2 billion fiscal adjustment in 2015 envisaged in the government's medium-term plan. However, if our forecasts for this year prove to be correct, such a large adjustment may not be necessary to get below the target deficit for 2015 of 3 per cent of GDP. On current trends, an adjustment of €1 billion, or maybe a bit less, may prove to be appropriate when the September Exchequer Returns become available and the Budget for 2015 is finalised. Within this framework, cuts in some taxes would only be possible if other taxes are raised and expenditure is further cut so as to achieve the necessary budgetary adjustment. It will be Budget 2016 at the earliest before the fiscal adjustment may be complete and the

government may be able to bring in a neutral fiscal policy, involving no further overall cuts in expenditure or increases in taxes.¹⁵

In preparing this *Commentary*, we make a stylised assumption that the government will implement a cut in borrowing in 2015 amounting to €1 billion; this is not intended to be normative. The composition of the adjustment includes the expected imposition of water charges for 2015, the carryover from the Haddington Road Agreement combined with some very limited further cuts in public service numbers, a small increase in excise taxes and a small cut in subsidies. In addition, we are assuming that the stamp duty levied on private sector pension funds remains at the current rate in 2015.

Until Irish Water is set up as a fully capitalised self-financing entity domestic water charges are included under government miscellaneous revenue in the National Accounts. For national accounting purposes they are then netted off government consumption on the expenditure side of the National Accounts. In turn, this is reflected in a fall in the price deflator for this aggregate.¹⁶

For 2015 we have assumed that the average rate of tax paid on personal income remains unchanged. This would involve very limited indexation of tax bands and allowances to take account of an expected small increase in average earnings for those in employment. We have made no provision for any additional tax cuts in this scenario. Of course, it would be possible to provide for some additional tax cuts if they were offset by cuts in expenditure elsewhere, while staying within the assumed envelope of budgetary cuts.

As discussed in a separate note in this *QEC*, the dramatic rise in unemployment at the beginning of the crisis put huge additional pressure on the public finances. Transfer payments, which had accounted for 13 per cent of GNP in 2007, peaked at 20 per cent of GNP in 2011. The ring-fencing of the social welfare budget by successive governments meant that the increases in taxation and the cuts in other expenditure required to restore order to the public finances had to be even greater than would otherwise have been the case. However, now that unemployment is beginning to fall, the developments in the social welfare budget

¹⁵ Using the official EU methodology in their latest Stability Programme Update, the Department of Finance have estimated that approximately a further €2 billion adjustment would be needed to reduce the structural deficit in 2016. However, as discussed in Bergin, A. and J. FitzGerald “The Structural Balance for Ireland” in the Spring 2014 *Commentary*, this methodology provides a very unsatisfactory measure of the structural balance for Ireland. Using an alternative more appropriate methodology, the article suggests that no further fiscal adjustment might be needed in 2016 to eliminate the structural deficit.

¹⁶ An increase in revenue serves to reduce the net expenditure – hence the negative effect on the price deflator.

are beginning to have the opposite effect on the public finances, helping to speed the necessary reduction in borrowing: as the numbers unemployed are expected to continue falling in 2015, this will result in significant savings on transfer payments. However, our Demographic Model suggests that over the rest of the decade there will be an increase of around 20,000 a year in the population aged 65. Consequently, in 2015 the increase in the number of pensioners will substantially offset the savings from lower unemployment. This is taken into account in our estimate of transfer payments for 2015.

On the basis of these assumptions we estimate that government borrowing in 2015 will come in at 2.5 per cent of GDP, safely below the 3 per cent level to which the government is committed. Because of the importance of maintaining credibility, it is appropriate for fiscal policy to aim to come in below this target for 2015, so as to leave a reasonable margin in case the outturn for the economy proves less buoyant than expected.

On the basis of these forecasts the debt to GDP ratio, which is forecast to be around 116 per cent at the end of 2014, could fall to under 110 per cent of GDP at the end of 2015. When account is taken of cash balances, the net debt to GDP ratio could fall to 102 per cent of GDP by the end of 2014 and to just under 100 per cent by end-2015.¹⁷ In addition, the contingent liabilities of the state are likely to fall as a result of the successful sale of assets by National Asset Management Agency (NAMA).

¹⁷ Here we are only adjusting for the cash balances held by the government. No account is taken of the financial assets of the National Pension Reserve Fund (NPRF).

7

Imports and the Balance of Payments

Imports

As with the data for exports, the data for imports have become increasingly difficult to interpret. In the case of merchandise imports, a major complicating factor is the import of aircraft, which are of their nature lumpy: imports of aircraft, which could potentially have a big impact on the overall import bill in a particular month or quarter, occur at irregular intervals.

In the case of services imports, the interpretation of trends in the published data is also difficult as a number of key categories of imports are inputs into the domestic production process of multi-national enterprises. This can result in large irregular movement in the series. For example, as discussed in a note in the Autumn 2013 *QEC*, the effects of changes in patent status can, potentially have a big impact on services imports. Services imports include payments for royalties, patents and a range of other service inputs into the domestic production process. In addition, there has been a change in the handling of many services items in the latest balance of payments statement.

For 2013, the latest National Accounts data included a major revision to the fourth quarter figures for imports for 2013. Whereas the figures published in March 2014 suggested a big increase in the volume of imports in the fourth quarter of last year, this increase has now been reallocated back over earlier quarters of the year. Some of this reallocation related to an under-recording of refuelling in earlier quarters. The figures for 2013 were also affected by lower imports of aircraft.

For 2014 the trend to date suggests a moderate increase in imports. A significant factor in the growth in imports this year is an increase in imports of motor vehicles reflecting the major pick-up in car sales. Ryanair has announced that it will be importing 180 new Boeing 737s between September 2014 and the end of 2018. In a full year this may add between €1 billion and €1.5 billion to the import bill. We have taken this into account in our forecast of a 3 per cent volume increase in imports in 2014 and a slightly higher increase of 3.3 per cent in 2015 (see Box 1).

TABLE 7 Imports of Goods and Services

	2012	2012	2013	2014	2015
	Value	Volume Change			
	€ bn	%	%	%	%
Merchandise	54.6	7.0	3.7	4.0	4.0
Services					
Tourism	4.6	-7.1	-0.9	1.1	1.1
Other Services	82.5	2.2	1.0	2.5	3.0
Total Services	92.5	6.8	-1.2	2.4	2.9
Imports of Goods and Services	147.1	6.9	0.6	3.0	3.3

Sources: Central Statistics Office and ESRI Forecasts.

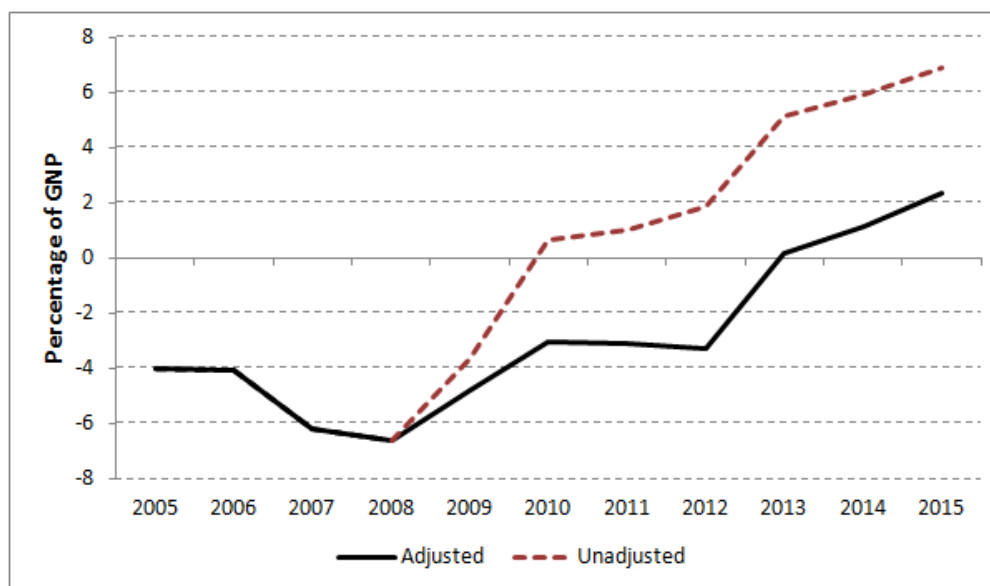
Balance of Payments

In the latest CSO figures for the current account of the balance of payments there has been a substantial reduction in the absolute magnitude of the surplus for 2013. This revision also results in an increase in the deficit for 2012 and earlier years. However, it does not change the picture of a continuing improvement in the current account, reflecting a growing contribution to growth in the economy from foreign demand for Irish goods and services. In 2013 there was a surplus of 5.1 per cent of GNP, up more than 3 percentage points of GNP since 2012. We are forecasting a further increase in the surplus, expressed as a percentage of GNP, to 5.9 per cent in 2014 and 6.9 per cent in 2015.

As discussed in Box 1, the improvement in the current account surplus in 2013 of over 3 percentage points of GNP in 2013 was likely to have been real – payments to redomiciled plcs did not change much compared to 2012. This reflects a major boost to the economy from external demand, a boost that is difficult to pick up from the distorted data on exports.

Much of the action giving rise to the growth in the surplus arose from the fall in net factor income paid abroad. However, because much of that reduction was related to the decline in revenue from exports of pharmaceutical companies, whose drugs fell out of patent, it was not, of itself, the reason for the improvement in the surplus. (The fall in factor payments abroad was fully offset by the fall in the value exports of pharmaceuticals.) Instead, it was the strong export performance of other sectors of the economy that gave rise to the improving surplus.

FIGURE 6 Current Account of the Balance of Payments, Adjusting for Redomiciled PLCs



Sources: Central Statistics Office and ESRI Forecasts.

For 2014 and 2015 we envisage a limited further improvement in the current account surplus to 5.9 per cent of GNP in 2014 and 6.8 per cent of GNP in 2015. When account is taken of the redomiciled PLCs, as shown in Figure 6, the current account surplus expressed as a percentage of GNP was 0.2 in 2013 and it is forecast to rise to 1.7 in 2014 and 3.6 in 2015. The fact that the surplus is forecast to continue rising in 2014 and 2015, in spite of some growth in domestic demand, indicates that external demand is expected to continue to play a significant role in driving growth in the economy.

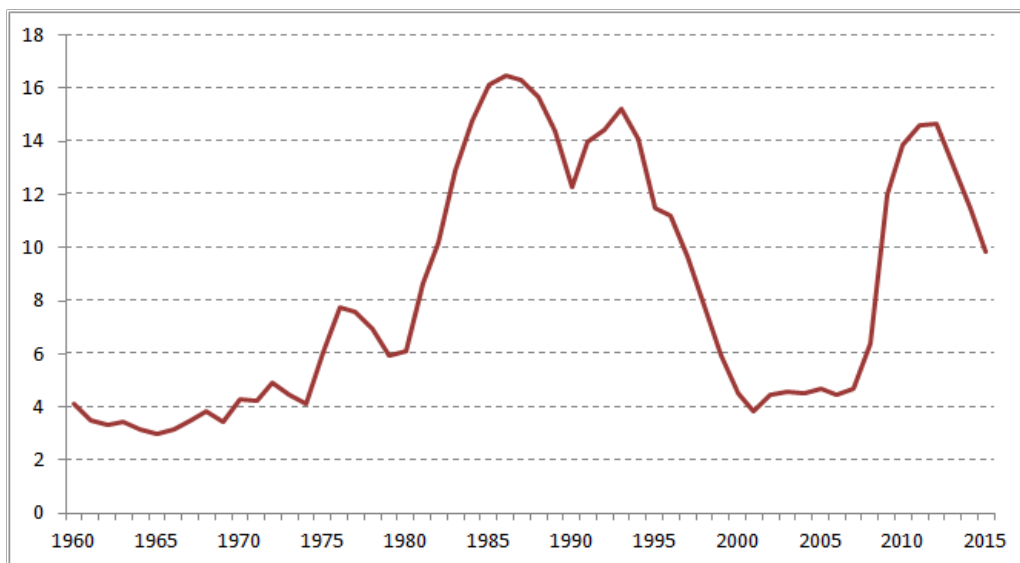
Such a growth in the current account surplus as we are forecasting for 2014 and 2015 is not an equilibrium outcome for the economy. It reflects the massive continuing deleveraging by the Irish private sector. At some stage households and companies will go back to investing and consuming at a level commensurate with their income. Such a change in pattern of behaviour would result in a step up in the growth rate. Provided the current account remained in surplus such an increase in domestic demand would be fully sustainable. This possible outcome was considered as part of the *Recovery* scenario in the *Medium-Term Review*, published in July 2013.

8

The Labour Market

In considering trends in the Irish labour market, it is informative to place the current unemployment rate in a historical context. Figure 7 plots the Irish unemployment rate from 1960 to the present. The rapid increase in unemployment from 2007 onwards is comparable to the permanently high rates experienced through the 1980s and into the early 1990s. However, notwithstanding these instances of labour market distress, a simple average of the data taken over this period would suggest that the long-run unemployment rate is around 8 per cent.

FIGURE 7 Irish Unemployment Rate 1960-2014 (%)



Sources: Central Statistics Office and ESRI forecasts.

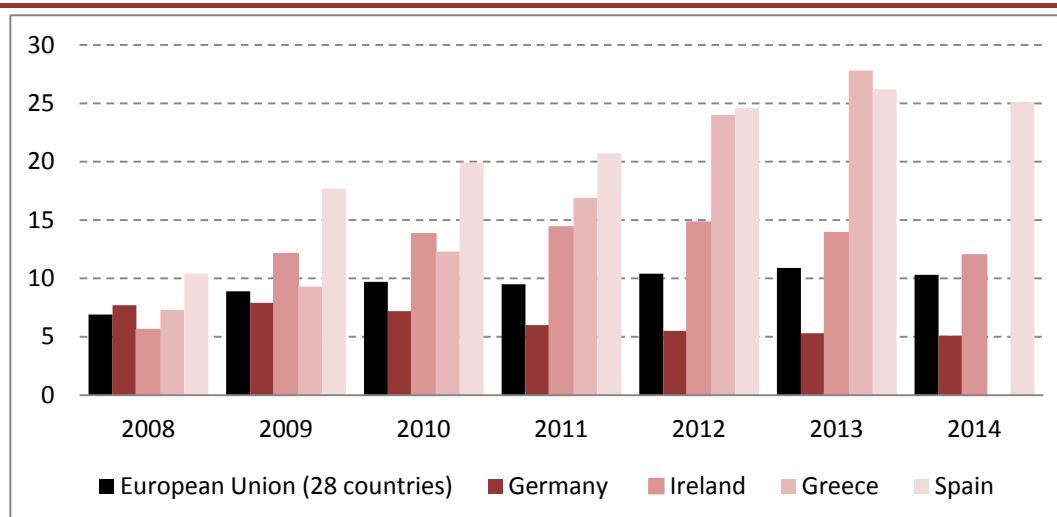
Although the pace of improvement has moderated somewhat, the Irish labour market continues to experience positive developments into 2014. The seasonally adjusted unemployment rate is down to 12 per cent as of quarter 1, 2014; this is the eighth quarter in succession, since Q1 2012, where the level of unemployment has declined on an annual basis. Additionally, the total number of persons in the labour force in Q1 2014 is up by 8,800 (0.4 per cent) compared to the previous year.

On a seasonally adjusted basis employment increased by 1,700, up 0.1 per cent over Q1 2014, while the seasonally adjusted unemployment rate fell by 4,500 quarter-on-quarter from 12.2 to 12 per cent. Long-term unemployment is also down and now stands at 7.3 per cent compared to 8.4 per cent in the same period of 2013. This cohort accounted for 63.5 per cent of total unemployment in the first quarter of 2012 and has fallen to 60.5 per cent in the most recent period.

While this may appear encouraging, data released by the CSO on the Live Register¹⁸ indicates that continuous registration of one year or more is increasing steadily year-on-year to June 2014. This is consistent with Kelly and McGuinness' special article in the Winter 2013 *Commentary* in which they note a substantial increase in unemployment duration of four years or more, from 14.8 per cent in Q2 2011 to 34.1 per cent in Q2 2013. This is contrasted with reductions in unemployment levels for each of the 12-17 month, 18-23 month and 24-47 month brackets.

The unemployment rate in Ireland is showing signs of steadily moving towards European averages. The unadjusted unemployment rate among the EU-28 countries in the fourth quarter of 2013 was 10.6 per cent, with a comparable rate in Ireland of 11.8 per cent. Both Greece and Spain continue to display the highest rates of unemployment at 27.6 and 26 per cent respectively. Amongst the lowest rates recorded is Germany at 5 per cent, as depicted in Figure 8.

FIGURE 8 Unemployment Rate in Euro Area 2008-2014 (%)

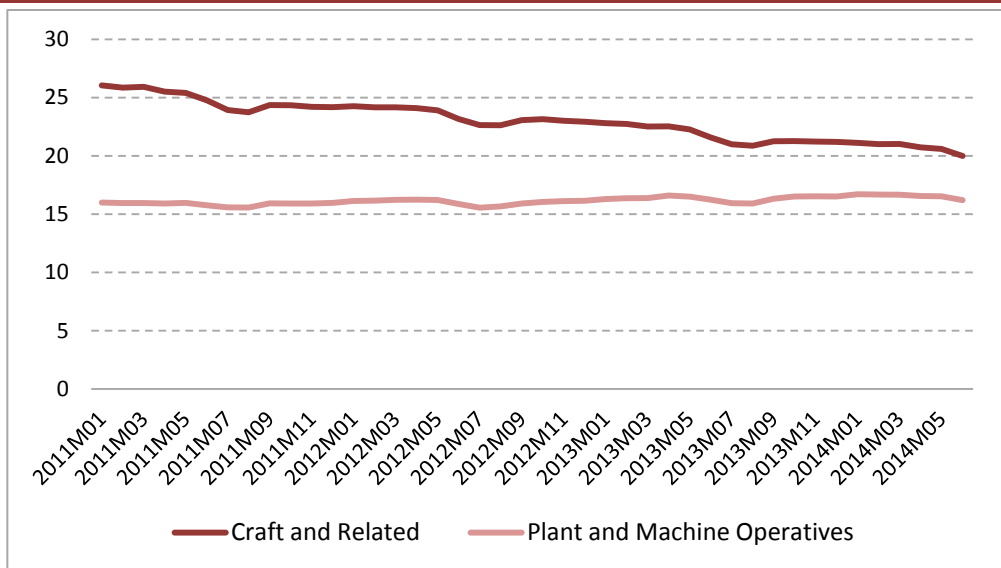


Source: Eurostat.

¹⁸ The Live Register is not designed to measure unemployment as it includes part-time workers and seasonal and casual workers entitled to Jobseeker's Benefit or Jobseeker's Allowance but it does shed some light on the composition of those not in full-time employment.

As outlined in the Investment section of this *Commentary*, the forecast in housing completions anticipated in 2014 and 2015 is 10,500 and 15,000 units respectively. However, as noted in the special article by McQuinn, the structural demand for housing in the Irish market is generally estimated to be between 25,000 and 30,000 units per annum. Were this number of units to be actually built, the reduction in unemployment would be much more significant, particularly given the fact that the majority of those on the Live Register in June 2014 fell within the Craft and Related and Plant and Machinery Operatives categories at 79,737 (20 per cent of total) and 64,650 (16.2 per cent) respectively. While Figure 9 shows that these numbers have decreased over the past 3 years, we may see a substantial reduction in the coming years resulting from a renewed investment in construction.

FIGURE 9 Live Register: Last Held Occupation 2011-2014 (%)



Source: Central Statistics Office.

Table 8 outlines the labour market forecasts for the remainder of 2014 and 2015. We believe that both the labour force and the participation rate will continue to rise into 2015. The unemployment rate will continue to decrease this year, and we forecast a rate of 9.8 per cent for next year. Employment in the Services sector is expected to increase in line with increasing economic growth in Ireland’s main trading partners and we continue to anticipate increases in employment in Construction with recently renewed activity in this sector. The expected decrease in net migration between 2014 and 2015 is mainly due to the forecast growth in employment rates.

TABLE 8 Employment, Unemployment and Net Migration

	Annual Averages, 000s			
	2012	2013	2014	2015
Agriculture	86	107	113	113
Industry	336	343	352	371
of which: Construction	102	102	108	119
Services	1,421	1,431	1,455	1,489
Total at work	1,838	1,811	1,921	1,973
Employment Growth Rate, %	-0.6	2.4	2.1	2.7
Unemployed	316	282	249	215
Labour Force	2,154	2,163	2,169	2,188
Unemployment Rate, %	14.7	13.1	11.5	9.8
Participation Rate, %	59.9	60.2	60.5	61
Net Migration	-34	-33	-33	-15

Sources: Central Statistics Office and ESRI Forecasts.

9

Monetary and Financial Sector Developments

The major short-term policy issue affecting Irish financial institutions is the upcoming ECB Comprehensive Assessment (CA) planned for this Autumn. Five major credit institutions operating in the Irish market (Allied Irish Bank, Bank of Ireland, Permanent TSB, Ulster Bank and Merrill Lynch), along with 128 banking groups across the Euro Area, will face a comprehensive appraisal of their balance sheets. The analysis, which includes both a point-in-time Asset Quality Review (AQR) and forward-looking stress test, will be instrumental in assessing the capability of these Irish institutions to withstand shocks to their balance sheets. The results of this exercise will be published in November 2014 at the same point that the Single Supervisory Mechanism will come into being.

While the outcome of the CA is impossible to predict at this point, some allowance should be made for the possibility that on foot of the results, exchequer funding may be required for the recapitalisation of one or more of these institutions.

Profitability

While the income-generating ability of domestic credit institutions has been improving, the outlook is still very much a challenging one. Net-interest income, which is the main source of income for Irish institutions, increased from €2.6 to €3.5 billion over the course of 2013. The main reason for this improvement was the decline in funding costs achieved through lower deposit pricing and the gradual elimination of the Eligible Liabilities Guarantee (ELG) scheme. Domestic institutions have also benefitted from favourable developments in market sentiment which have led to a decline in new funding costs.

However, the relatively low level of credit extension in the economy restricts the abilities of the institutions to increase net-interest income. Additionally, the presence of both loss making tracker mortgages, and a significant share of impaired loans on the balance sheets of Irish banks, impedes their ability to increase margins on current business. Overall post-provision losses reduced in 2013 as impairment charges fell with the total charges dropping from €12.6 billion in 2011 to €4.6 billion in 2013. This latter amount still approximately equalled the total income earned by domestic Irish banks, consequently

eliminating their profit levels. It is also worth pointing out that the outcome of the ECB's CA may have negative implications for provisioning and consequently the profitability of the domestic sector.

In June, as well as introducing measures to support the real economy, the ECB cut the main refinancing or policy rate (the rate at which it lends to financial institutions) to an all-time low. While this would appear to be good news for mortgage holders, in Box 3 we examine the breakdown in the pass-through relationship between the policy rate and certain mortgage rates in the Irish market due to ongoing profitability difficulties in the financial sector.

Credit Risk and Extension

New lending in the economy remains particularly low. The value of gross outstanding loans declined by 5.8 per cent in the twelve months to the end of 2014 Q1 and was down by 26 per cent on the 2010 level. In the special article to this *Commentary*, McQuinn comments on the continued decline in both the stock and transactions of credit in the residential mortgage market. In addition, Gerlach, O'Connell and O'Toole (2014), using new micro-level data, estimate a negative relationship between credit constraints in the Irish economy and employment and investment decisions of small and medium-sized enterprises. The outstanding balance of lending to SMEs continues to fall steadily since 2011. Gross new lending to non-financial, non-property SMEs, which is the "...amount of new credit facilities drawn-down during the quarter by SME counterparties" remains around €600 million by the end of 2013/start of 2014.

At €55.4 billion, the value of impaired loans on the balance sheets of Irish credit institutions was down slightly in 2014 Q1, compared with the same period in 2013. At 27 per cent of the total value of outstanding loans, this is still particularly high when compared with other European institutions where the average is approximately 6 per cent. While the number of mortgage accounts for principal dwelling houses (PDH) in arrears fell for the third consecutive quarter in 2014 Q1, there are still a total of 132,217 loans in some form of mortgage distress. This represents 17.3 per cent of the total stock of mortgages in the Irish market. The decline in the overall number of mortgage accounts in arrears masks the ongoing increase in very long-term arrears (i.e., those over 720 days), as shown in Figure 10. Loan-level data collected by the Central Bank of Ireland reveals that the rate of loan default in the SME market is presently 26 per cent when measured by the number of loans and 41 per cent when weighted by the loan balance. The default rate is highest for SMEs in the Construction, Hotels and Restaurants and Personal sectors.

In a research note in this *Commentary*, Duffy updates earlier estimates of the degree of negative equity in the Irish housing market. The estimate of negative equity in a market, as observed in Kelly and McQuinn (2014),¹⁹ is a crucial component of any potential capital losses estimated for financial institutions. By the end of 2012, Duffy estimates that over 314,000 loans in the Irish mortgage market were in negative equity, however, the increase in house prices experienced since then results in the numbers in negative equity falling by 45,000 in 2013 to 268,000 loans. This decline reduces the potential loss given default on any impaired mortgages, thereby reducing future potential capital losses. Consequently, the ongoing increase in house prices does have positive implications for the balance sheets of Irish credit institutions.

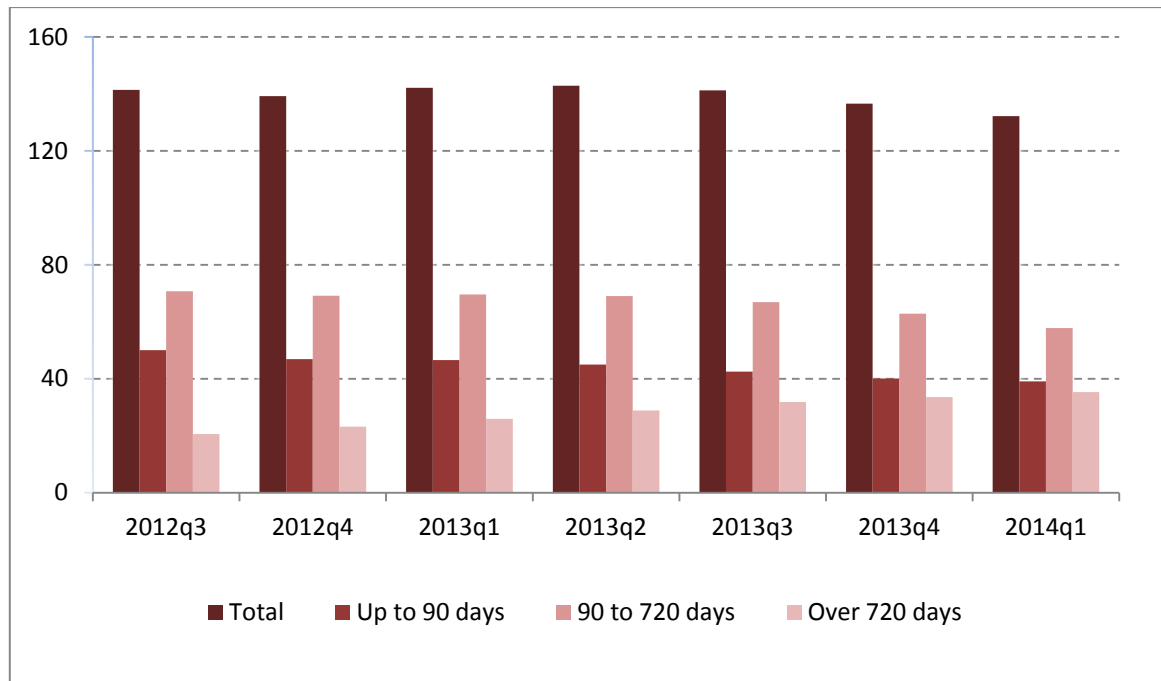
While Box 3, in this section, examines mortgage interest rates, in Figure 11, the interest rates charged on different loan sizes to non-financial corporates in the domestic market are plotted. As can be seen from the Figure, the sizeable spread charged on loans below and in excess of €1 million, which emerged in the aftermath of the financial crisis, persists into 2014. This suggests that firms in receipt of smaller loans continue to experience relatively tighter credit conditions than those receiving larger loans.

Funding

The overall funding position of Irish institutions has improved somewhat through 2014. The ELG scheme was phased out through 2013, resulting in a decline in the proportion of total liabilities which was covered by the government guarantee from 30 per cent in 2011 to just under 8 per cent by the end of 2013. Central Bank borrowings by domestic institutions have continued to fall while the two largest domestic institutions, AIB and Bank of Ireland, have recently been able to issue new debt. This included senior unsecured debt, while yields on existing bonds declined further. Notwithstanding these developments, the overall funding position of Irish institutions is still quite precarious. The maturity profile of bank debt is relatively short with a sizeable amount of debt funding due to be re-issued in 2015 Q1. This ensures that Irish institutions would be particularly sensitive to any changes in international market sentiment and higher market-based funding costs, which might ensue.

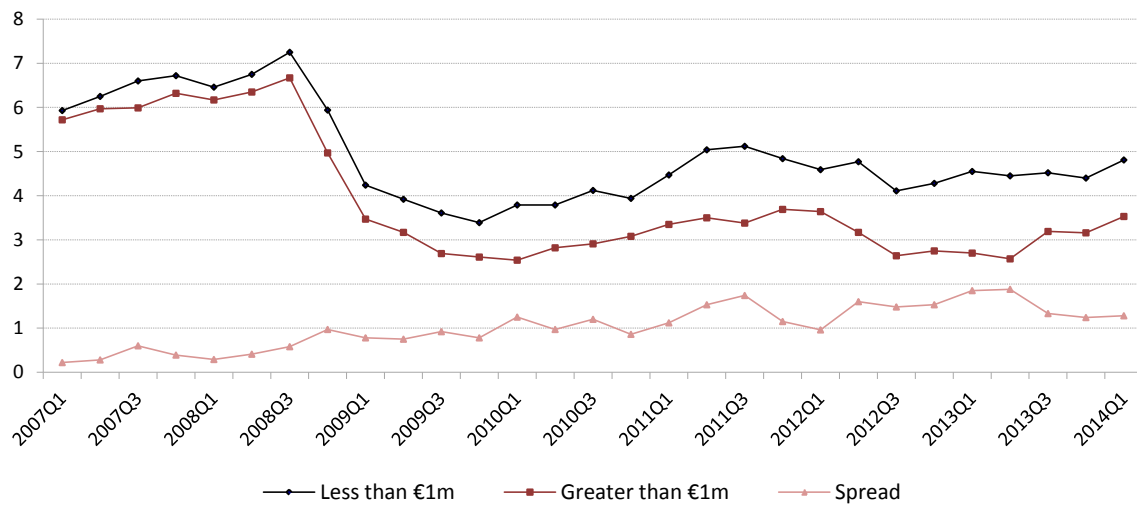
¹⁹ Kelly R. and K. McQuinn (2014). “On the hook for impaired bank lending. Do sovereign-bank inter-linkages affect the net cost of a fiscal stimulus”, *International Journal of Central Banking*, Autumn, forthcoming.

FIGURE 10 Number (000s) of Mortgage Accounts in Arrears: 2012:3-2014:1



Source: Central Bank of Ireland.

FIGURE 11 Retail Interest Rates on Loans Less Than and Greater Than €1million Charged to Non Financial Corporates: 2007:1-2014:1



Source: Central Bank of Ireland.

Box 3: The Relationship between ECB Policy Rates and Standard Variable Mortgage Rates in the Irish Market

By Kieran McQuinn

The announcement by the European Central Bank (ECB) that it was cutting its main refinancing rate to a historic low of 0.15 per cent in June of 2014 was good news for certain Irish mortgage holders. In particular those households on “tracker” mortgages faced an automatic reduction in their repayment rate of 0.10 per cent. This is because tracker mortgages are contractually linked to movements in the refinancing rate. However, for other mortgage holders, such as those on variable rate mortgages, the consequence of the change is less clear. In this box we update earlier analysis in Goggin, Holton, Kelly, Lydon and McQuinn (2012)²⁰ which, using individual bank-level data, examined the impact of the financial crisis on the pricing of interest rates in the Irish mortgage market.

Goggin *et al.* (2012), showed that the relationship between the refinancing or policy rate and the standard mortgage variable rate, which had been quite strong up to 2008, broke down afterwards. One of the main reasons for this breakdown appeared to be costs relating to increased credit risk; banks with higher arrears rates tended to exhibit higher variable mortgage rates in the period post-2008. Additionally, some lenders appeared to charge higher variable rates to compensate for the losses they were making on their tracker loans. As the marginal cost of funds confronting Irish credit institutions rose sharply after 2008, tracker loans became increasingly difficult to fund, given the narrow margin which existed over the ECB policy rate. Therefore, profitability concerns for Irish financial institutions resulted in an increasingly higher spread between the ECB policy rate and the standard variable rate charged to Irish households.

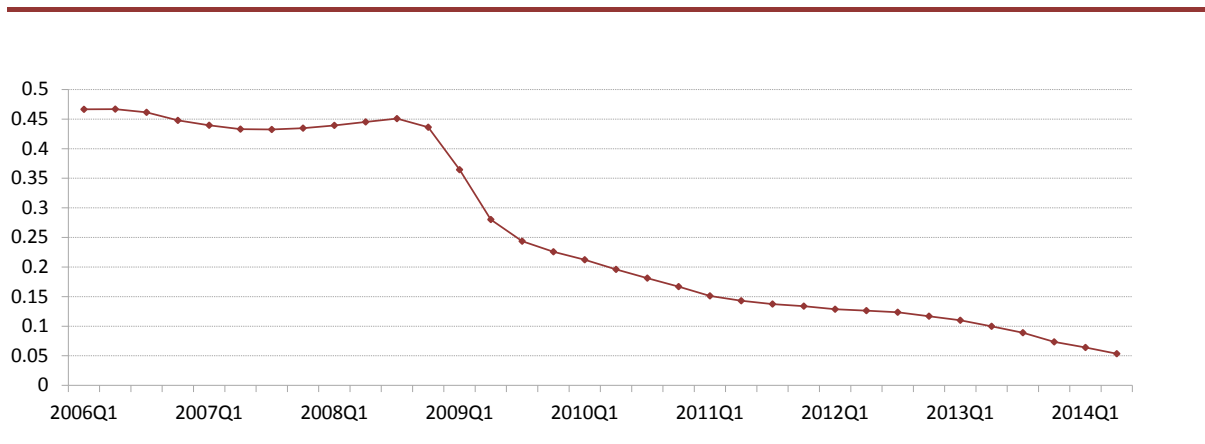
To update this analysis, we re-estimate equation (1) in Goggin *et al.* (2012) which regresses the standard variable rate on the ECB policy rate. This regression is done on a recursive basis, thereby allowing the coefficient on the policy rate variable to change through time. As both variables are in log form, the coefficient may be interpreted as the elasticity of the variable rate to changes in the refinancing/policy rate.

Figure 12 plots the elasticity over the period 2006 to 2014. There is a clear change in the magnitude of the relationship around 2008/2009. However, the relationship

²⁰ Goggin J., Holton, S., Kelly J., Lydon R. and K. McQuinn (2012). “The financial crisis and the pricing of interest rates in the Irish mortgage market: 2003-2011”, Central Bank of Ireland Research Technical Paper 1/RT/12.

continues to decline even after the end of the period in the previous analysis (2011). Thus, the spread between the policy rate and the standard mortgage variable rate appears to be widening from 2012 through 2014. The more the policy rate declines, the results of the earlier analysis would suggest, the more the spread between it and the variable rate will, ironically, increase as domestic credit institutions struggle to fund the tracker component of their mortgage book. This situation is compounded by the decline in competition in the Irish banking sector over the past seven years.

FIGURE 12 Recursive Estimates of the Elasticity of Variable Rates to the ECB Policy Rate: 2006 – 2014



Source: Own estimates.

10

General Assessment of the Irish Economy

The Irish economy continues to improve through 2014, with further signs of recovery evident in a number of key indicators. Certain consumption items have recently registered strong increases in demand, with the results of market sentiment surveys also suggesting growing levels of confidence returning to the economy. Housing demand continues to increase, albeit in a regionally disparate manner, with price increases in the Dublin area experiencing particularly strong growth. Additionally, the better than expected recent budgetary returns suggest a continuance of ongoing increases in activity and employment levels that began in late 2012.

However, recent micro-level research highlights a number of challenging issues, which may impede a fuller and more consolidated recovery in the economy. In particular, legacy effects from the financial crisis have potential implications for recovery in key macroeconomic aggregates. McCarthy and McQuinn (2014), for example, note the negative relationship between debt reduction practices amongst mortgaged Irish households and their consumption levels. Given the high levels of household indebtedness evident in the Irish economy, this suggests future increases in consumption levels may not be as large as the overall rate of economic growth would suggest.

Gerlach, O'Connell and O'Toole (2014) note that credit constraints in the Irish economy appear to have negative implications for investment and employment decisions of small and medium-sized enterprises. More generally, investment in the Irish economy is a key concern; the investment rate (i.e., the ratio of investment to GDP) is down to just over 14 per cent – a fifty year low. Such a low rate indicates that, at present, new additions to the national capital stock are merely compensating for losses due to the natural rate of depreciation. This observation, along with the present high rate of unemployment and the low level of credit being extended by the financial sector, implies that the Irish economy is still somewhat below its potential level.

Continuing difficulties in the Irish banking sector impact the real economy in a number of ways. For example, in the Monetary and Financial section of the *Commentary* we discuss the manner in which the pass through of ECB policy rates

to the Irish mortgage market is somewhat complicated due to ongoing profitability pressures in the domestic financial sector.

An additional point of concern for Ireland is the anaemic growth prospects of the Euro Area - a key trading partner. Concerns about European growth are also compounded by the on-going prospects for disinflation in the Euro Area; both inflation and real GDP are forecast to grow by just over 1 per cent for each of the next two years. While the official announcement by the ECB in June of additional measures aimed at stimulating economic activity is welcome, achieving greater rates of European output growth (say of approximately 2 per cent) requires a more dramatic policy intervention by European authorities.²¹

Notwithstanding the significance of such challenges, the continued emergence of strong, domestic-based signs of recovery result in our central forecast of 3.4 and 3.8 per cent growth in GNP for 2014 and 2015 respectively. At present, GNP remains our principal point of reference based on the difficulties associated with GDP discussed in this and in the *Spring Commentary*.

In the period immediately preceding the financial sector collapse of 2007/08, the performance of the Irish economy was synonymous with that of the residential and commercial property sectors. This overemphasis on property related activity almost inevitably gave way to a subsequent period of suppressed demand and underinvestment in that sector. Recently there have been strong signals that the property market is emerging from this slump with housing demand, in particular, showing clear signs of increase.

Given the nascent stage of this recovery, the present *Commentary* devotes a significant degree of attention to the domestic housing market. In the special article by McQuinn, an assessment is conducted on the current level of house prices vis-à-vis the level suggested by economic fundamentals, commonly referred to as the “fundamental price”. The difference between the actual price and the fundamental price is frequently used to assess whether the housing market is in equilibrium or not. Overall, the analysis suggests that Irish house prices, as at the end of 2013, are still somewhat undervalued (by between 12 to 27 per cent depending on the model used) in the market. Due to the substantial nature of the housing boom experienced between 1995 and 2007, and the significant credit-fuelled bubble which emerged as a result, Irish house prices fell by over 50 per cent between 2007 and 2013 and, consequently, appear to have

²¹ For example in the “recovery and delayed adjustment scenario” outlined in the *MTR* (2013), the European-15 economy is assumed to grow by an average of 1.7 per cent per annum over the period 2015-2017.

“overcorrected”. This result is not uncommon amongst other countries, which experienced similar-style credit bubbles. Therefore, at present, it would appear there is no bubble in the Irish housing market. Using a recently developed forecasting model of the Irish housing market, McQuinn envisages that house prices will increase on average between 2014 and 2017 by almost 7.5 per cent per annum in nominal terms. However, it is worth noting that this increase would still leave Irish house prices in 2017 at 29 per cent below the peak levels in 2007.

This forecast level of house prices assumes that the future level of housing supply is in accordance both with the current rate of supply and that level forecast in the Investment chapter of the *Commentary*.

There are a number of salient points with economy-wide implications to emerge from the housing market analysis. Along with the significant overcorrection which took place in the Irish market, another reason for the recent increase in prices would appear to be shortage of housing supply, especially in the greater Dublin area. Activity levels in the housing market have witnessed a substantial decline in the post-2007 era. Between 2005 and 2007, over 84,000 housing units were built on average per annum in the Irish economy, whereas between 2011 and 2013, the equivalent figure was just over 9,000 units. While the former level was clearly unsustainable, this dramatic fall in housing investment is indicative of the general decline in investment across the economy observed earlier and underscores the degree to which the housing market along with the general economy is operating below capacity. For example, an increase in housing construction to meet the long-run structural demand within the economy, which is typically estimated to be between 25 to 30 thousand units on an annual basis (see Duffy, Byrne and Fitzgerald (2014) for example), would clearly yield sizeable employment returns and ancillary benefits within the economy.

A further issue explored in McQuinn is the role played by developments in the Irish credit market. Often, bubbles in house prices are due to the presence of an oversupply of mortgage credit. However, in analysing the detailed statistics on mortgage credit, it would appear that not only is the total stock of mortgage credit continuing to decline, but the level of actual transactions, which is the difference in outstanding amounts adjusted for certain reclassifications, is also in decline. Thus, any existing growth in the Irish housing market would appear to constitute a form of “credit-less recovery”. Where increased levels of credit are particularly needed in the residential sector is meeting the supply-side requirements of the market. The present difficulty of property developers in accessing finance is increasingly cited as a cause of the slow housing supply response. Clearly confidence needs to be restored between those seeking to

meet the growing housing demand in the economy and those supplying credit in the financial sector. Apart from residential mortgage lending, it is worth noting that the outstanding balance of lending to small and medium-sized enterprises (SMEs) continues to fall steadily since 2011.

Trends in house price movements are of particular importance from a financial stability perspective. In Autumn of this year, the ECB will be conducting a comprehensive stress-test of credit institutions across the Euro Area. The state of the mortgage book of domestic institutions and, in particular, the degree of negative equity in evidence will be central to their overall evaluation in this regard. Duffy,²² in a note, provides an important update of earlier estimates of the degree of negative equity in the Irish mortgage market. The 14 per cent fall in the number of mortgage loans in negative equity estimated by Duffy between 2012 and 2013 is somewhat reassuring in terms of the associated improvement in the quality of domestic credit institutions' balance sheets. Furthermore, if the house price forecasts in the special article by McQuinn are actually realised, Duffy estimates that the degree of negative equity would fall by a further 24 per cent in 2014.

Morgenroth,²³ in a note, examines the relationship between fundamental economic variables and housing demand at a sub-national, county level. The note highlights the growing regional heterogeneity of performance in the Irish housing market, a trend also recently observed in Fitzpatrick and McQuinn (2014).²⁴ Using demographic projections to generate the future number of county-level households, the analysis suggests an increasing divergence in forecasted regional house price movements. Dublin, for example, is expected to witness future annual price increases of 6 per cent, while other rural counties are forecast to experience a decline. Interestingly, the analysis suggests that house prices may have to experience a sustained period of growth before significant increases in supply of the housing stock occur.

In a microeconomic assessment of household formation and tenure choice in the Irish housing market, the note by Byrne, Duffy and Fitzgerald summarises the findings of research examining the interaction with the housing market by younger cohorts of the Irish population over the period 2001 to 2013. Over the

²² Duffy D. (2014). "Updated estimates on the extent of negative equity in the Irish housing market", ESRI Research note, *Quarterly Economic Commentary*, Summer 2014.

²³ Morgenroth, E. (2014). "Modelling the impact of fundamentals on county housing markets in Ireland", ESRI Research note, *Quarterly Economic Commentary*, Summer 2014.

²⁴ Fitzpatrick, T. and McQuinn, K. (2014). "Unemployment and the crisis in the Irish housing market: A regional perspective", Paper presented to the Centre for Policy Studies conference "Coping with recession – a regional perspective", University College Cork, May 30.

last decade the Irish market has seen household formation increase to levels more typically seen in other countries, while homeownership rates have fallen.

It would appear that the increase in household formation rates is driven by changing behaviour in the Irish market. The sharp decline observed in rents in the Irish market post-2008, allied to the significant increase in rental supply observed at that time, increased the ability of younger Irish people to form independent households. This shift in behaviour raises significant questions about the type of housing stock which should be supplied in the years ahead. The significant shortage in both the supply of rental accommodation as well as that for owner-occupying purposes has, as already noted, led to recent increases in both house prices and rental levels. This may lead to subsequent changes in household formation behaviour with a possible reversal of the changes observed over the past decade.

Some similar results and issues emerge from the three different pieces of housing research. In the absence of significant increases in housing supply, prices will continue to increase, especially in urban areas and particularly in Dublin. The relatively low responsiveness of supply to house prices observed by Morgenroth indicates that any policies considered for the housing market should be prioritised on the efficiency by which they facilitate greater supply. In that regard, using the house price channel as a means of stimulating supply is not an optimal response. Finally, the significant movement in housing variables apparent in the Irish market over the past 10 years is demonstrated to have profound impacts on key household behaviours and choices.

Detailed Forecast Tables

FORECAST TABLE A1 Exports of Goods and Services

	2012	% change in 2012		2013	% change in 2013		2014	% change in 2014		2015
	€ bn	Value	Volume	€ bn	Value	Volume	€ bn	Value	Volume	€ bn
Merchandise	97.1	-5.5	-4.1	91.8	4.0	4.0	95.4	4.8	4.0	100.1
Tourism	3.0	10.4	9.5	3.3	4.5	4.0	3.5	5.0	4.0	3.7
Other Services	87.3	4.6	3.8	91.3	4.4	3.0	95.4	5.5	4.0	100.6
Exports Of Goods and Services	176.1	0.2	1.1	176.6	4.2	3.5	184.0	5.2	4.0	193.5
FISM Adjustment	6.4			7.5			7.8			8.1
Adjusted Exports	182.5	0.8	1.1	184.1	4.2	3.5	191.8	5.1	4.0	201.6

FORECAST TABLE A2 Investment

	2012	% change in 2012		2013	% change in 2013		2014	% change in 2014		2015
	€ bn	Value	Volume	€ bn	Value	Volume	€ bn	Value	Volume	€ bn
Housing	3.0	6.5	3.5	3.2	10.5	7.1	3.6	21.0	17.2	4.3
Other Building	6.0	21.7	18.3	7.3	17.0	13.7	8.5	12.4	9.3	9.6
Transfer Costs	0.4	38.4	36.1	0.5	15.4	12.0	0.6	15.4	12.0	0.6
Building and Construction	9.4	17.4	14.1	11.0	15.0	11.7	12.6	15.0	11.6	14.5
Machinery and Equipment	17.6	-11.5	-11.2	15.5	8.0	5.7	16.8	9.2	6.9	18.3
Total Investment	26.9	-1.4	-2.4	26.5	10.9	8.1	29.4	11.7	8.9	32.9

FORECAST TABLE A3 Personal Income

	2012		% change in 2012		2013		% change in 2013		2014		% change in 2014		2015
	€ bn	%	€ bn	%	€ bn	%	€ bn	%	€ bn	%	€ bn	%	€ bn
Agriculture, etc	3.0	0.3	0.0		3.0	2.5	0.1		3.1	2.5	0.1		3.2
Non-Agricultural Wages	69.5	3.4	2.3		71.9	3.2	2.3		74.2	4.2	3.1		77.3
Other Non-Agricultural Income	17.8	7.8	1.4		19.1	6.3	1.2		20.3	8.6	1.7		22.1
Total Income Received	90.3	4.1	3.7		94.0	3.8	3.6		97.6	5.1	5.0		102.6
Current Transfers	23.6	-1.2	-0.3		23.4	-2.5	-0.6		22.8	-1.2	-0.3		22.5
Gross Personal Income	114.0	3.0	3.4		117.4	2.6	3.0		120.4	3.9	4.7		125.1
Direct Personal Taxes	23.1	5.1	1.2		24.2	7.0	1.7		25.9	3.8	1.0		26.9
Personal Disposable Income	90.9	2.5	2.2		93.1	1.4	1.3		94.4	3.9	3.7		98.1
Consumption	82.5	1.1	0.9		83.3	2.0	1.7		85.0	3.0	2.6		87.6
Personal Savings	8.4	16.4	1.4		9.8	-3.9	-0.4		9.4	11.9	1.1		10.6
Savings Ratio	9.3				10.5				10.0				10.8
Average Personal Tax Rate	20.6				20.6				21.5				21.5

FORECAST TABLE A4 Imports of Goods and Services

	2012		% change in 2012		2013		% change in 2013		2014		% change in 2014		2015
	€ bn	Value	Volume	%	€ bn	Value	Volume	%	€ bn	Value	Volume	%	€ bn
Merchandise	54.6	1.8	3.7		55.6	4.7	4.0		58.2	4.7	4.0		61.0
Tourism	4.6	-0.1	-0.9		4.6	3.6	1.1		4.8	4.6	1.1		5.0
Other Services	82.5	1.8	1.0		84.0	3.5	2.5		86.9	4.0	3.0		90.4
Imports of Goods and Services	136.6	1.3	0.0		138.3	4.0	0.0		143.8	4.3	0.0		150.0
FISM Adjustment	10.5				9.4				9.8				10.2
Adjusted Imports	147.1	0.4	0.6		147.7	4.0	3.0		153.6	4.3	3.3		160.2

FORECAST TABLE A5 Balance of Payments

	2012	2013	2014	2015
	€ bn	€ bn	€ bn	€ bn
Exports of Goods and Services	176.1	176.6	184.0	193.5
Imports of Goods and Services	136.6	138.3	143.8	150.0
Net Factor Payments	-30.3	-26.3	-26.6	-27.9
Net Transfers	-2.4	-2.5	-2.5	-2.5
Balance on Current Account	2.7	7.6	9.1	11.2
As a % of GNP	1.9	5.1	5.9	6.9

FORECAST TABLE A6 Employment and Unemployment, Annual Average

	2012	2013	2014	2015
	000s	000s	000s	000s
Agriculture	86	107	113	113
Industry	336	343	352	371
Of which: Construction	102	102	108	1189
Services	1,421	1,431	1,455	1,489
Total at Work	1,838	1,881	1,921	1,973
Unemployed	316	282	249	215
Labour Force	2,154	2,163	2,169	2,188
Unemployment Rate, %	14.7	13.1	11.5	9.8

Special Article

Bubble, Bubble Toil and Trouble?¹ An Assessment of the Current State of the Irish Housing Market

Kieran McQuinn²

Abstract

Following the substantial pre-2007 housing bubble experienced in the domestic economy, Irish house prices continued to fall for almost seven years up to the mid-point of 2013. Since 2013 the rate of price increases observed, particularly in the Dublin area, has prompted concerns of another price bubble emerging. In this paper, the results from an earlier analysis of Irish house prices are updated and supplemented with cross-country indicators of housing market conditions. The results suggest that Irish house prices, as of December 2013, were still somewhat undervalued and, in the absence of a significant housing supply response, are likely to continue to increase in the coming years.

Introduction

Assessing the current state of the Irish property market in terms of price developments has arguably never been more important. For example, Central Bank estimates, following on work by Duffy (2010), suggest that between 40 to 50 per cent of the total stock of Irish mortgages was, at end-2012, in negative equity (McCarthy and McQuinn (2014)). Understanding future developments in the equity position of these households is essential in estimating the implications of housing developments for general economic growth. Recent research (McCarthy and McQuinn (2013)) demonstrates the presence of a relatively strong wealth effect out of housing in an Irish context. Therefore, house price movements have a particular relevance for Irish economic performance through the consumption channel.

The future path of Irish house prices is also of considerable importance from a financial stability perspective. In late 2014 Irish financial institutions will be the subject of a European wide stress-test conducted jointly by the European Banking Authority (EBA) and the Single Supervisory Mechanism (SSM) of the European

¹ With apologies to Mr. William Shakespeare.

² Thanks to Frances Ruane, John FitzGerald, David Duffy (ESRI), Trevor Fitzpatrick (University of Southampton) and Diarmaid Smyth (Irish Fiscal Council) for comments on an earlier draft. Any errors are the responsibility of the author.

Central Bank (ECB). A key variable in the stress-test framework will be future house price levels. In particular, future house price levels will determine the loss given default confronting Irish credit institutions in the face of possible future mortgage defaults.

The scale of the persistent increase in Irish house prices over the period 1995 to 2007 was unparalleled across western economies and unsurprisingly led to a disproportionate degree of economic activity concentrating in the residential and commercial real estate sectors. The subsequent decline in prices exposed significant vulnerabilities across the household and financial sectors. Indeed the resulting difficulties exposed in the Irish financial sector were one of the main reasons for the programme of support entered into by Irish authorities in November 2010 with the European Central Bank (ECB), the European Commission (EC) and the International Monetary Fund (IMF) or “Troika”. The dramatic decline in prices post 2007, coupled with the large number³ of households which had taken out a mortgage during the 2005-2007 period, meant that most of the Irish financial institutions were exposed to substantial mortgage arrears and negative equity crisis. When international wholesale money markets dried up following the global financial crisis of 2007/08, Irish institutions were, by international standards, especially susceptible to funding difficulties owing to their perceived property-related exposures.

After the significant post-2007 decline in prices, recent developments in the housing market have seen Irish house prices, particularly in Dublin, increase again. In 2013, national house prices increased annually by 6.4 per cent, with prices in Dublin, over the same period, increasing by 15.7 per cent. Figure 1 plots year-on-year and quarter-on-quarter changes in nominal house prices⁴ from 2002 to the present. The graph shows when growth rates in Irish house prices became negative and subsequently positive again.

On a quarter-on-quarter basis, it would appear Irish prices first registered a decline in Q4 2007 with annual rates declining first in Q1 2008. Thereafter, price declines were substantial with the single largest annual decline (23 per cent) being observed in Q3 2009. Year on year changes were not positive again until Q2 2013, thus constituting 21 quarters of negative year-on-year growth. The total peak to trough fall was almost 51 per cent.⁵ While the pre-2007 house price

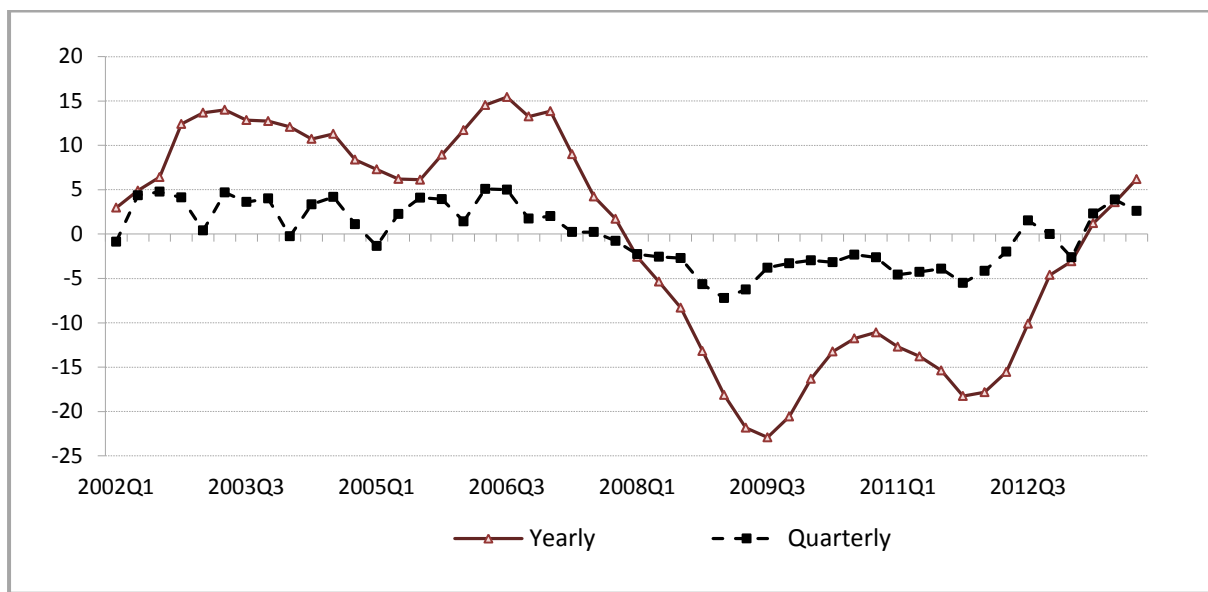
³ Approximately 30 per cent of the total stock of mortgages were issued during this period.

⁴ Apart from the next section, Irish house prices are the official CSO series post-2005 with prices pre-2005 backcast using the Department of the Environment second-hand house price series.

⁵ This is measured between 2007 quarter 3 and 2013 quarter 1. This peak to trough fall can be compared with similar cross-country estimates presented in Table 2 (page 7) of Kennedy and McQuinn (2011).

boom was significant, this consistent period of house price declines does constitute a substantial correction.

FIGURE 1 Year-on-Year and Quarter-on-Quarter Changes in Irish House Prices (Nominal) 2002: 1 -2013:4



Source: Central Statistics Office.

With house prices increasing recently, almost inevitably given previous difficulties experienced, some commentary has already focused on the possibility of another “bubble” in Irish house prices. By bubble we mean house price increases which are not warranted by market fundamentals and which consequently may be regarded as being determined by some form of irrational exuberance on the part of market investors.

In this paper, we update previous analysis conducted by Kennedy and McQuinn (2012) and assess the present relationship between actual and “fundamental” Irish house prices as of December 2013. In analysing property markets, a fundamental house price is a frequently used concept and constitutes the price which would be suggested by fundamental economic variables in the economy such as interest rates, income levels, unemployment rates, demography and housing supply. We also avail of recent research to forecast house prices over the period 2014 to 2017.

Our results here echo the earlier findings of Kennedy and McQuinn (2012) in that Irish house prices at end-December 2013 were still significantly undervalued. Thus, the housing market would appear to have *overcorrected* in the post-2007 period. This result, as noted by Kennedy and McQuinn (2012), is not uncommon

across markets which experienced similar type booms and busts. Kennedy and McQuinn (2011) present evidence of similar type of overcorrection in the UK, Finnish and Swedish housing markets. Our forecast model suggests that Irish house prices will grow in real terms by an annual average of 6.5 per cent from December 2013 to 2017.

The rest of the paper is structured as follows; in the next section we benchmark recent developments in the Irish property market against developments across countries. We then present the suite of models used to determine the “fundamental house price” with a subsequent section detailing the forecast model and results. A final section offers some concluding comments.

A Cross-Country Perspective

One of the few benefits of an international house price boom and bust is the significant increase in research and databases that have been generated for the housing area. One such resource is the international house price database maintained at the Federal Reserve Bank of Dallas,⁶ which compiles and maintains quarterly house price information for 22 advanced economies from 1975 onwards. The database also contains information on household disposable income for the same period.⁷ The disposable income series is a per capita series using working age population as the relevant denominator (Mack and Martínez-García (2011) contain country by country information on the calculation of both the house price and income series).

It is useful to benchmark the Irish property market against foreign comparators over the period 1995 to 2013, separating this period into the boom (1995 to 2007) and the bust (2008 to the present) phases. Table 1 summarises the average growth rates over these periods and orders countries by the largest changes for the respective periods.

What is apparent from an Irish perspective is that domestic house price movements were largest across all the countries in question in both the boom and subsequent bust period. Between 1995 and 2007 Irish price increases were also substantially greater than those experienced by other European and Euro Area countries. The sharp decline in prices post 2007 is also somewhat larger than other countries experiencing a fall in prices. Only Spain experienced comparable price movements over the period.

⁶ For more information on this see <http://www.dallasfed.org/institute/houseprice/>

⁷ The author acknowledges use of the dataset described in Mack and Martínez-García (2011).

More generally, as Kennedy and McQuinn (2012) also point out, the negative house price movements in both Germany and, particularly, Japan during the former period were atypical by international standards while the Japanese market continued to witness price falls after 2007.

TABLE 1 Percentage Change in Nominal Cross-Country House Prices 1995-2013

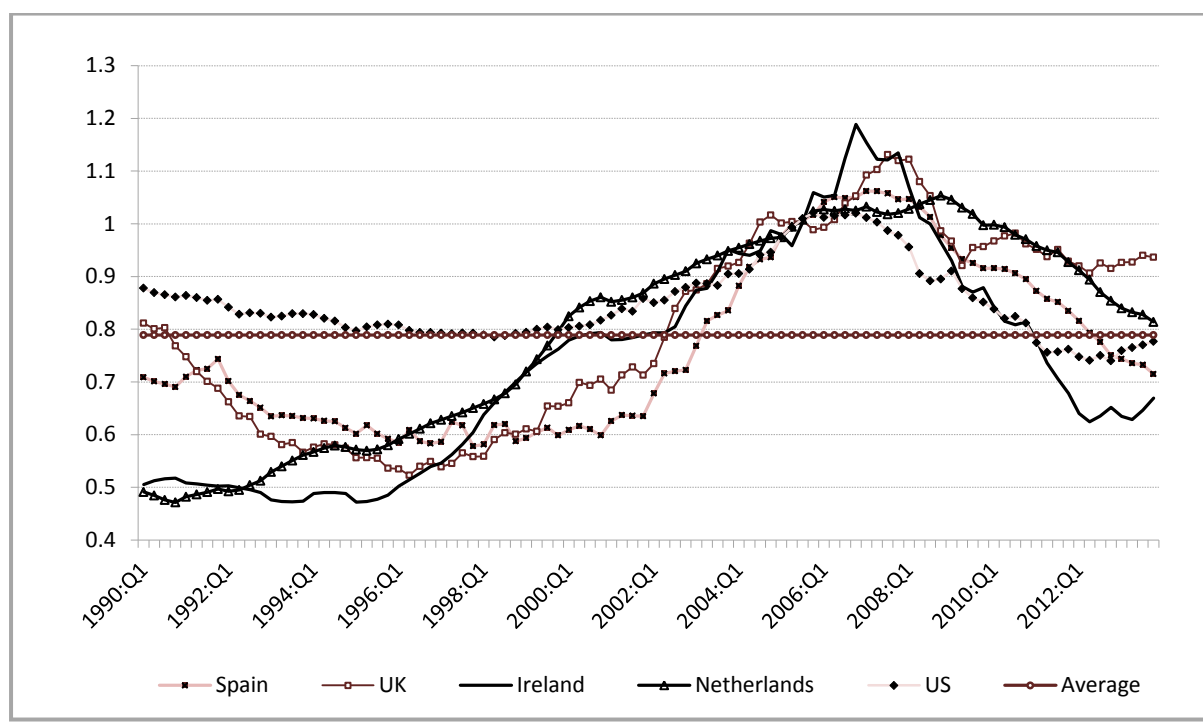
Country	1995:1-2007:1	Country	2007:2-2013:4
Ireland	174.5	Australia	28.5
South Africa	166.2	South Africa	26.4
Spain	115.1	Norway	26.4
United Kingdom	114.5	Switzerland	26.2
Denmark	107.6	Canada	24.5
The Netherlands	100.1	Belgium	19.0
New Zealand	94.9	Sweden	18.2
Norway	93.3	Luxembourg	17.4
Finland	92.9	South Korea	14.9
Australia	91.5	Germany	14.2
Luxembourg	90.6	New Zealand	13.3
Sweden	89.7	Finland	9.5
France	89.5	United Kingdom	4.8
Croatia	79.5	France	2.2
Belgium	77.8	United States	-13.1
United States	72.7	Italy	-14.9
Canada	65.2	Japan	-17.5
Italy	60.8	Denmark	-18.1
South Korea	38.1	The Netherlands	-19.1
Switzerland	5.8	Croatia	-31.4
Germany	-2.78	Spain	-35.6
Japan	-42.5	Ireland	-59.4

Source: <http://www.dallasfed.org/institute/houseprice/>

Next we generate a house price to economic fundamental ratio by combining the house price series with that on personal disposable income.⁸ This follows earlier work, using the same data, by Grossman, Mack, Pavlidis, Paya, Peel and Yusupova (2013) and provides an indication of the trend in the relative affordability of house prices across countries. In Figure 2 we plot the ratio of house prices to disposable income (PI) over the period 1990 to 2013 for a select sub-sample of countries: Ireland, the United Kingdom (UK), the United States (US), the Netherlands and Spain.⁹

⁸ Note both series are in index form with 2005 = 100, therefore, the house price to disposable income series is a ratio of indices.

⁹ The sub-sample was chosen on the basis that the countries concerned had price movements which appeared closest to that of the Irish case.

FIGURE 2 Ratio of House Prices to Disposable Income for a Select Sub-sample of Countries 1990:1-2013:4

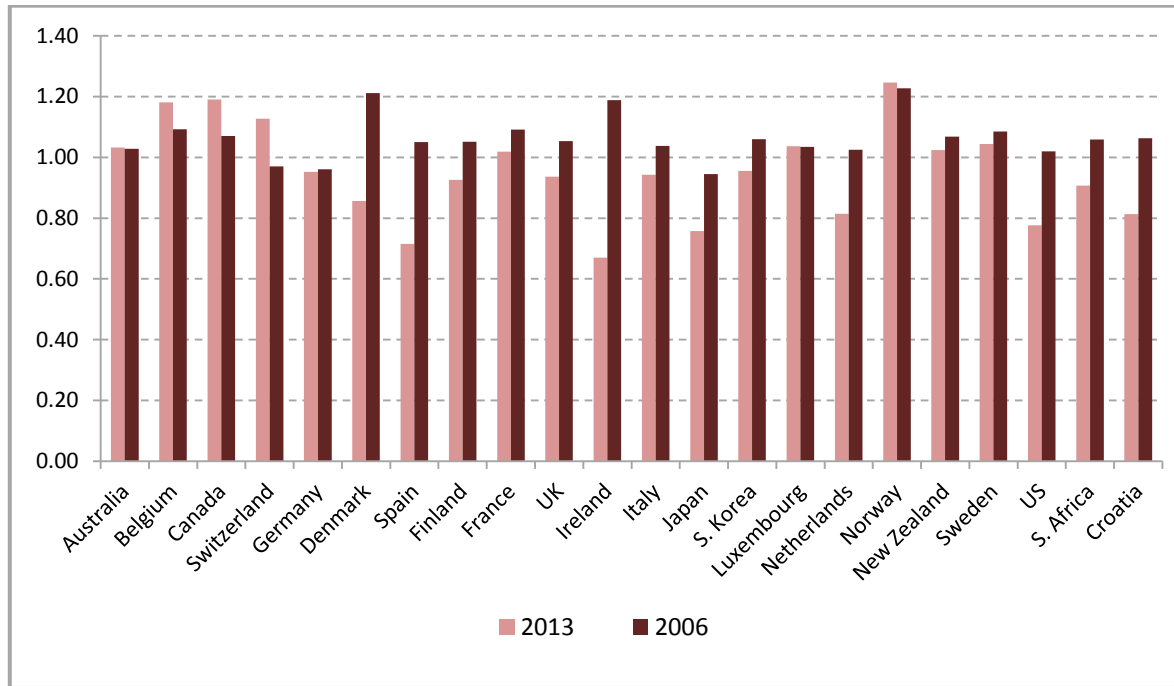
Source: Own estimates.

Over the period all countries register significant fluctuations in the ratio denoting that house prices became significantly less and then more affordable through time. We include an average of the ratio of both indices, which is the average across all the countries (in Table 1) over the period in question (0.789). If we assume this constitutes some long-run equilibrium rate, then it is clear that all of the housing markets in question have experienced periods of both under and over valuation since 1990 with the Irish market experiencing particularly strong fluctuations. Up to 1995 the Irish ratio was the lowest across the countries included and thereafter began to rise sharply as house prices increased. By 2007 both Spain and the UK had ratios which were broadly in line with the Irish rate; however, the Irish rate fell by a greater degree up to 2012 suggesting that Irish house prices became increasingly affordable by international standards.

To compare the position at the height of the Irish property boom with 2013, Figure 3 plots the respective ratios across the entire sample for the periods Q4 2006 and Q4 2013. The change in relative affordability from an Irish perspective is readily apparent. In 2006:4, by cross country standards, house price levels relative to income in Ireland were particularly high – third only to Norway and Denmark in the sample. However, by the end of 2013, Irish house prices had become more affordable than in any other country. Spain and the US also experienced a similar re-alignment over this time, while Japan's ratio continued

its long decline. This cross-country evidence would suggest that Irish house prices, based on disposable income levels, were somewhat undervalued at end 2013.¹⁰ These results are broadly similar to those in Demographia (2014).

FIGURE 3 Cross-Country Ratio of House Prices to Disposable Income for 2006:4 and 2013:4



Source: Own estimates.

In the next section we examine the relationship between Irish house prices and market fundamentals in a more formal manner.

Estimates of Market (Dis)equilibrium

To get a greater understanding of where Irish house prices are vis-à-vis key market fundamentals we now present the results of four different models of the fundamental house price and compare the estimates with the actual house price level. The models used are the same as those applied in Kennedy and McQuinn (2012) and are relatively standard in the house price literature. The models are a form of inverted demand function where house prices are specified as a function of key market fundamentals. The models may be summarised as follows:

Model 1: The standard reduced-form approach where prices are a function of income levels, real interest rates, population levels and the total housing stock.

¹⁰ Of course the price to income ratio does not capture the significant build-up in household indebtedness which is likely to have occurred in a number of these housing markets.

See McQuinn (2004) for a detailed review of the literature in terms of the reduced form, inverted demand approach.

Model 2: A related approach specifies house prices in terms of income levels, the capital stock per person and the user cost of capital (see Murphy, 2005). In the user cost of capital variable we incorporate house price expectations through the expected capital appreciation term. For house price expectations we follow Kelly and McQuinn (2014), Himmelberg, Mayer and Sinai (2005) and Duca, Muellbauer and Murphy (2011) in using lagged house price appreciation over the previous four years.

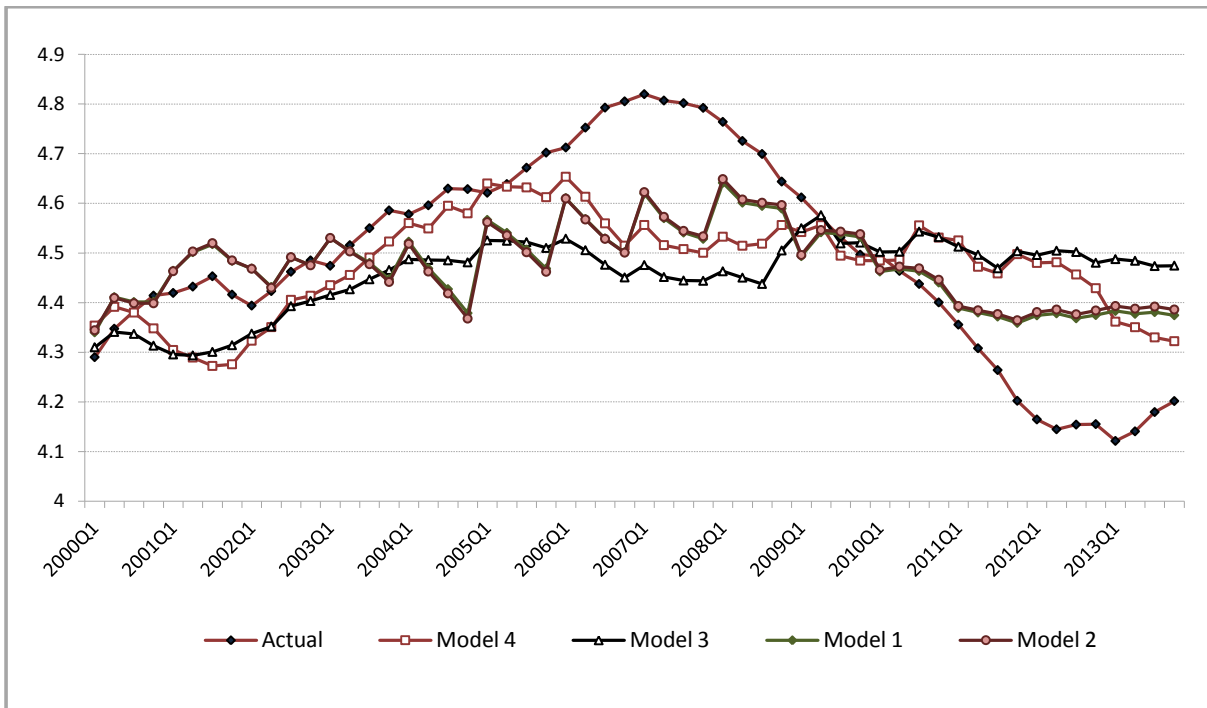
Model 3: The affordability specification used in McQuinn and O'Reilly (2007) and (2008), which combines income levels and interest rates. This specification uses a mortgage annuity formula to combine interest rates and disposable income to calculate the average amount that households are able to borrow. By combining interest rates and income levels in a nonlinear manner, the model places a significant emphasis on interest rate changes.

Model 4: A related version of the affordability model which explicitly allows for the role of credit (Addison-Smyth, McQuinn and O'Reilly (2009)). In particular, the model includes the funding gap of Irish financial institutions, that is the difference between their deposit based funding and their total lending. This is in order to gauge the impact on house prices of the significant increase in wholesale funding experienced by Irish financial institutions from 2003 onwards.

The models are all estimated over the period 1982 quarter 4 to 2013 quarter 4.¹¹ In Figure 4 we present the results of the models along with the actual house price over the period Q1 2000 to Q4 2013, while in Figure 5 we chart the deviation between the respective actual and fundamental prices.

¹¹ Detailed econometric results along with the RATS program used to generate the findings are available, upon request, from the author.

FIGURE 4 Actual and Fundamental Real House Prices 2000:1-2013:4 (Logs)



Source: Own estimates.

FIGURE 5 Percentage Difference between Actual and Fundamental Prices 2000:1-2013:4

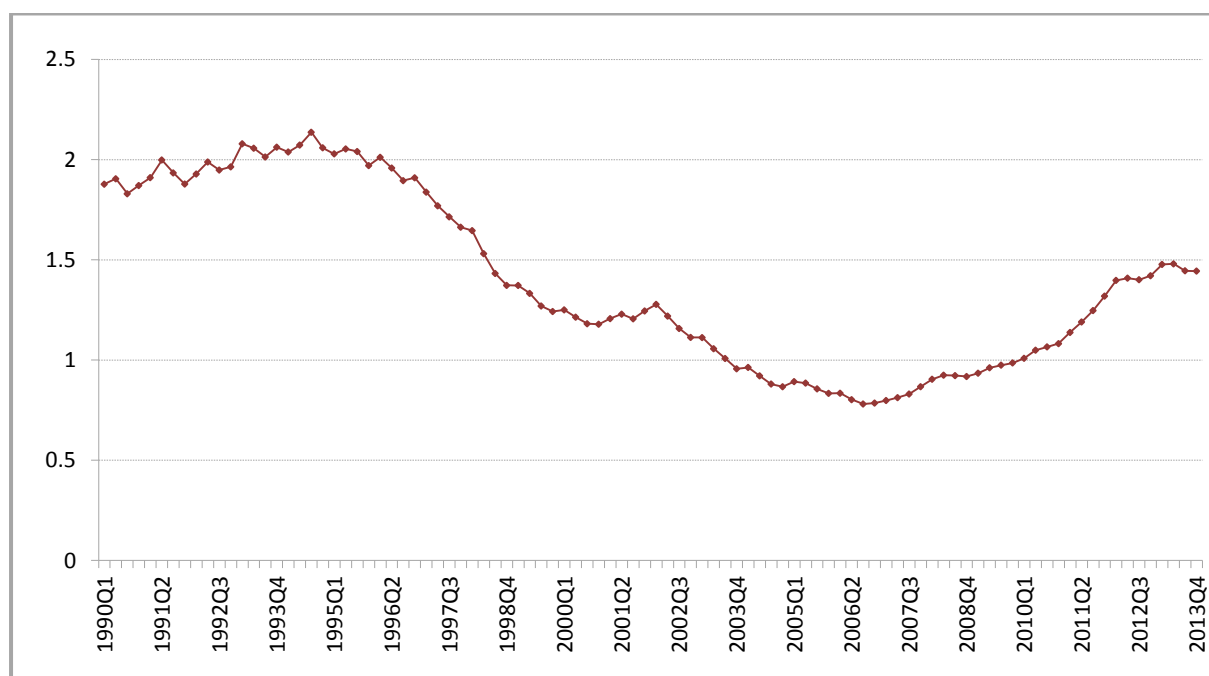


Source: Own estimates.

The results suggest that, in accordance with the earlier analysis of Kennedy and McQuinn (2012) and notwithstanding the price increases since then, Irish house prices still appeared to be undervalued at end-2013 with estimates of the undervaluation varying between 12 and 27 per cent. The latter result is estimated with Model 3 which places a significant emphasis on nominal interest rates. Excluding this specification suggests that the current rate of undervaluation at end 2013 in the market is in the range of 12 to 18 per cent. These results indicate that any reference to the recent increases in house prices as constituting a housing bubble in the Irish market is, at present, misplaced.

Another indicator frequently used to assess the stability of the housing market is the relationship between house prices and rental levels in the economy. If rents are assumed to reflect the long-run equilibrium value of housing services then the house price to rent ratio can also be observed as an indicator of market equilibrium. Gallin (2004) and Himmelberg, Mayer and Sinai (2005) are examples of studies which have examined the relationship between house prices and rents and use the ratio as a means of assessing developments in housing markets. In Figure 6 we plot this ratio for the Irish market over the period 1990 to 2013.¹²

FIGURE 6 Irish House Price to Rent Ratio 1990-2013



Source: Own estimates.

¹² Rental values are those reported by the Central Statistics Office (CSO).

The ratio clearly declined from the mid-1990s before reaching a minimum rate in mid-2006. Thereafter, as prices declined and rents started to increase, the ratio increased steadily and is presently at a rate comparable to that which prevailed in 1998.

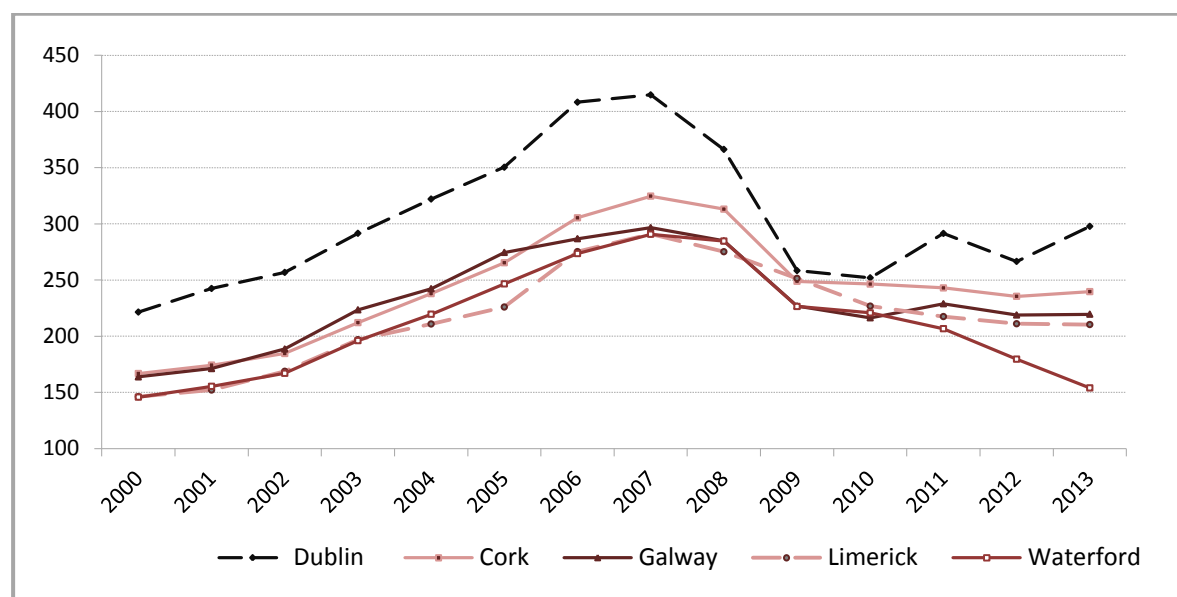
Regional Differences in Prices

As noted by Fitzpatrick and McQuinn (2014), the Irish housing and mortgage market is becoming increasingly fragmented. For example, presently much market commentary concerning developments in the Dublin housing market cite the need for greater housing supply,¹³ whereas in many rural areas the post 2007 phenomena of “ghost estates” is a telling reminder of the planning failures of the Celtic Tiger era. This regional heterogeneity is particularly reflected in price movements. Figure 7 charts nominal house prices for Dublin, Cork, Limerick Galway and Waterford for the period 2000 to the present.¹⁴ During the boom period there was a sizeable margin between Dublin prices and the rest of the country; however, prices became much more aligned during the downturn. Since 2011 prices have begun to diverge again with Dublin prices in early 2014 experiencing a year-on-year increase of over 13 per cent set compared with a comparable 4 per cent for the rest of the country excluding Dublin. One possible reason for the growing disparity in prices is the different regional-wide rates of economic recovery. Morgenroth (2012) discusses the differences in labour market conditions on a regional basis for the Irish economy in the aftermath of the financial crisis. Additionally, with supply constraints likely to be more binding for large cities such as Dublin, once prices begin to improve generally, the increase may be greater in areas where housing shortages are more pressing. As the estimates of market equilibrium presented here are for the national average, prices in the Dublin market are likely to be less undervalued than in the rest of the country.¹⁵

¹³ For example, see www.daft.ie October 1st 2013, www.examiner.ie November 28th 2013 and www.independent.ie January 2nd 2014.

¹⁴ These house prices are from the Irish Department of the Environment.

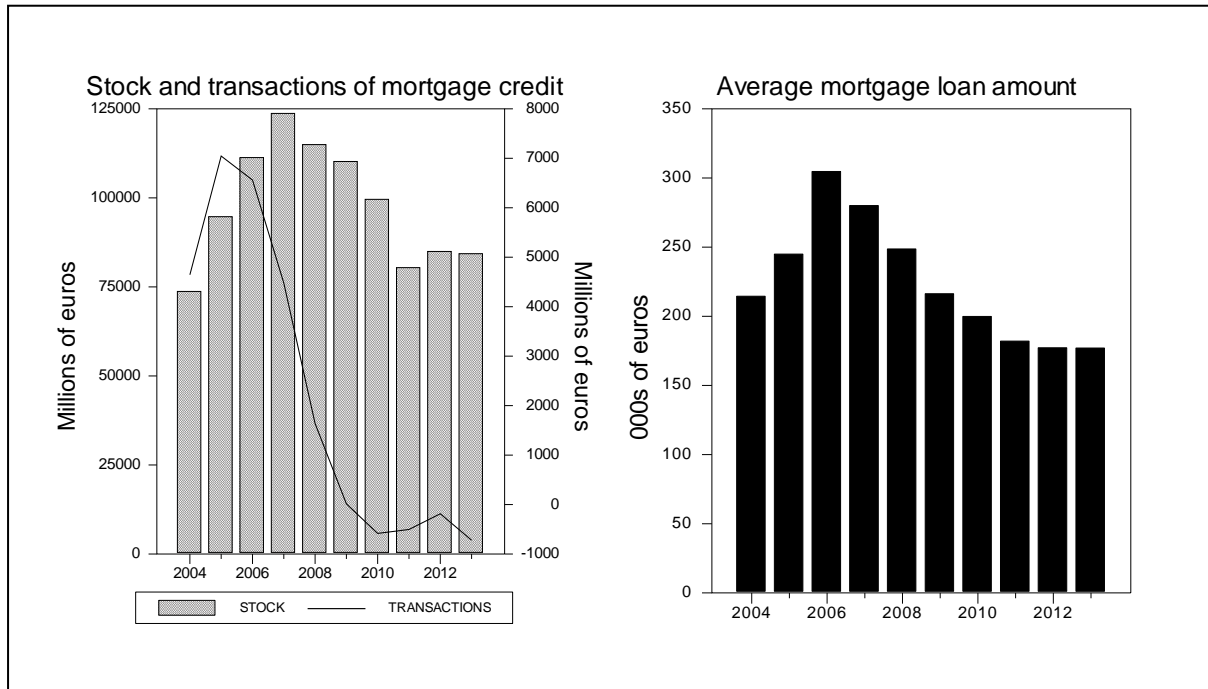
¹⁵ However, the fundamental price is also likely to be higher in Dublin than the rest of the country.

FIGURE 7 Regional Irish House Prices 2000-2013

Source: Own estimates.

Credit and the Irish Housing Market

One of the main causes of *overvaluation* in a housing market is the presence of excess mortgage credit; in instances where financial institutions are able to increase the level of lending in an unconstrained manner, this, in of itself, may lead to further house price increases. In such a case, housing inflation is no longer closely associated with the movements in market fundamentals. Fitzpatrick and McQuinn (2007) examined this issue in detail for the Irish housing market and they suggested the presence of a “mutually reinforcing relationship” between credit and house prices by 2004. Increases in the provision of mortgage credit were fuelling house price growth, which, in turn, was leading to greater mortgage lending. Therefore, in any appraisal of the stability of the housing market, it is essential to review mortgage lending patterns.

FIGURE 8 Mortgage Credit in the Irish Market 2004-2013

Source: Own estimates.

Inspection of Figure 8 indicates that the Irish mortgage market, if anything, would appear to be credit constrained at present; the stock of credit fell consistently between 2007 and 2011, with actual transactions¹⁶ in the market being negative since 2010. Furthermore, the average loan amount issued in the market is presently about 68 per cent of what it was at the peak of the housing boom. Thus, it appears Irish financial institutions are still deleveraging after the excesses of the pre-2007 financial boom.

This gives rise to a number of observations: If house price inflation is picking up in a situation where credit appears to be quite constrained, what are the implications for the market when credit markets are functioning in a less constrained fashion? Housing bubbles can often emerge after a period of strong house price growth which are, initially, explained by movements in fundamental variables. Such a period of sustained, fundamental based growth can result in credit conditions being eventually eased and excess lending itself becoming the chief reason for further price increases. Indeed, it can be argued that this was the case with the Irish price boom over the period 1995-2007, with price increases up to 2003/04 determined by underlying developments in the economy and thereafter more a function of issues to do with financial market liberalisation. This underscores the need to monitor consistently and analyse the level of credit

¹⁶ Transactions are differences in outstanding amounts which are adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

in the housing market and the importance of macro-prudential policy levers to control developments in the market when credit becomes more freely available.

Future Likely Moves in Irish House Prices

What then of the future for Irish house prices? In this section we avail of a recently developed forecasting model of Irish house prices presented in Kelly and McQuinn (2014). Note some models are more appropriate for gauging the present sustainability of the housing market (such as those used in the previous section), while some are better from a forecasting point of view. The model used in this section mainly relates house prices to unemployment and finds a very close relationship between these variables in an Irish context over the period 1980 to 2013.

While Kelly and McQuinn (2014) note that unemployment has been found to be a key determinant of house prices across a wide number of countries,¹⁷ the particular significance of unemployment in the Irish property market may be due to a combination of factors. Very often, where unemployment is included in housing studies it is used not just as a proxy for business cycle developments, but as an indicator of market expectations and consumer confidence (see Gerlach and Peng (2007) and Andrews (2010) for example) while in Muellbauer and Murphy (1997) and Fernandez-Corguedo and Muellbauer (2006), it is included, among other variables, as an indicator of the related concept of market risk.

In Ireland the confidence factor is highly relevant, particularly, given the emergence of the “Celtic Tiger” in the mid-1990s. The persistent decline in unemployment throughout the mid-1990s from a stubbornly high level in the 1980s was evidence that the pick-up in Irish economic activity earlier in the decade was now feeding into higher living standards for the domestic population. As a measure of potential credit risk, unemployment is especially relevant in the Irish case, where the post-2007 escalation in the rate of those out of work has gone hand-in-hand with the growing mortgage arrears problem.

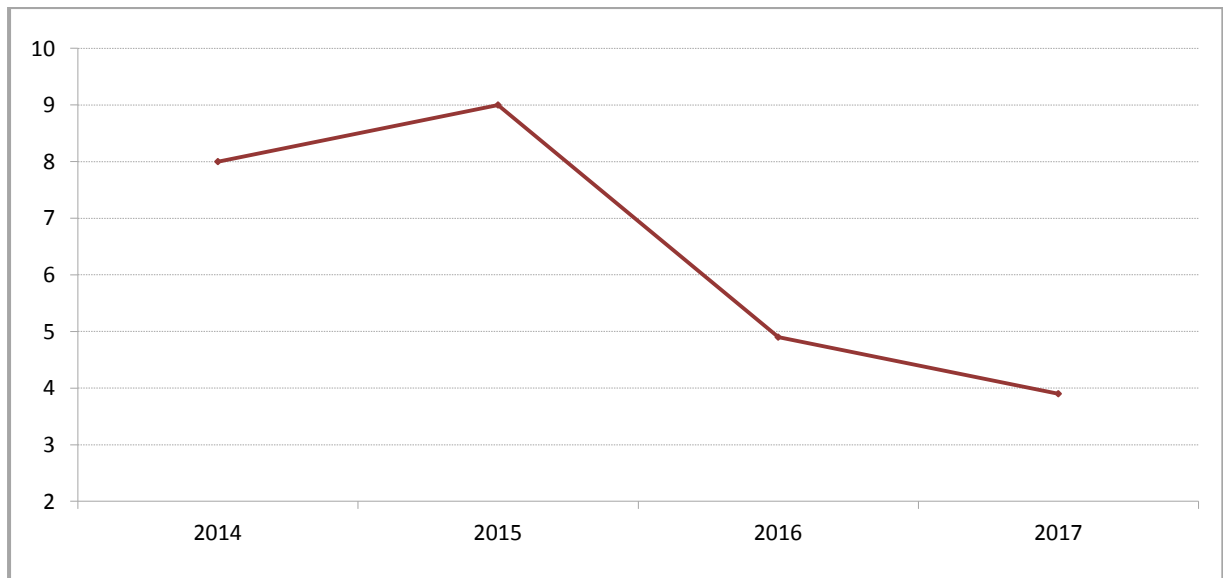
The forecast house price model is in error correction format and can be summarised as follows:

¹⁷ See Kelly and McQuinn (2014) for a literature review.

$$\Delta p_t = (p_{t-1} - \alpha_0 - \alpha_1 u_{t-1} - \alpha_2 y_{t-1} - \alpha_3 d_{t-1}) + \sum_{k=1}^4 \Delta p_{t-k} + \sum_{j=0}^4 \Delta u_{t-j} + \sum_{j=0}^4 \Delta y_{t-j} + \sum_{j=0}^4 \Delta d_{t-j}$$

where p refers to real house prices, u is unemployment, y is income per capita and d is population.¹⁸ Forecast rates for unemployment and income are taken from the latest forecasts in Byrne, Duffy, Fitzgerald and Timoney (2014), while population forecasts are taken from Bergin *et al.* (2013). The growth in house prices based on the model for the period 2014 to 2017 is presented in Figure 9. The results suggests that, conditional on the expected future path of the exogenous variables, real Irish house prices will grow by 8 per cent in 2014, 9 per cent in 2015 before falling back to increases of 4.9 and 3.9 per cent in 2016 and 2017 respectively. The increases in 2014 and 2015 reflect both the envisaged improvement in key macroeconomic variables and the degree to which prices are responding to current undervaluation. Importantly, the model does not assume any significant change in supply.

FIGURE 9 Forecast Percentage Increase in Real Irish House Prices 2014-2017



Source: Own estimates.

Conclusion

The results presented here emphasise the long lasting implications of the house price bubble experienced in the Irish market up to 2007. Given the considerable difference which emerged between actual and fundamental prices over the period 2005 to 2007, it is not surprising that the market would subsequently

¹⁸ Full regression results are available from the author upon request.

experience significant house price falls. However, it is worth noting that the economy has sustained a prolonged correction since then with prices falling dramatically and housing construction coming to a near complete halt over the period 2007 to 2012. Almost inevitably, prices have overcorrected and recent developments in the Irish housing market must be seen in that context.

This is not to say that increasing house prices are either inevitable or desirable. Indeed as the economy continues to emerge from the recent recession, keeping key cost of living factors such as housing affordable is imperative as the economy seeks to maintain the competitiveness advantage that has been gained in recent times. One clear way in which actual and fundamental prices can be aligned without future price increases is through significant increases in housing supply in the locations where there is market demand. Recent supply levels fall well below the long-run structural demand within the economy which is typically estimated to be between 25 to 30 thousand units on an annual basis (see Duffy, Byrne and Fitzgerald, 2014 for example).¹⁹

It is not just increasing prices which have potentially adverse implications for future economic performance, the variability of prices is also an issue. Developments in the Irish market have resulted in a particularly acute boom bust cycle with prices changing to a considerable degree by international standards. This, of course, has implications for more general economic activity; McCarthy and McQuinn (2013) present microeconomic evidence of a sizeable wealth effect out of housing amongst mortgaged Irish households. Thus, the highly cyclical developments in the Irish housing market are likely to register a relatively large, varying impact on the broader economy if left unchecked.

It would appear that policymakers are confronted with two key challenges as far as monitoring the housing market is concerned:

- (i) Ensuring that developments in key housing indicators are as closely aligned with market fundamentals as is possible and
- (ii) Smoothing the cycle in the market particularly given the close relationship in an Irish context between the sector and the real economy and financial sector.

One way in which both of these can be achieved is through establishing a comprehensive macro-prudential policy framework which clearly sets out the regulatory position on the levels of credit in the residential mortgage market. In addressing this issue, Galati and Moessner (2012) argue both the academic

¹⁹ Assuming that these units are the right type and in the right geographical location.

literature and the experience of policy practitioners point towards the necessity for rules for accountability, transparency and efficacy of policy implementation in this area. To inform such a process, it is essential to continually update and improve the range of empirical models used to assess the market.

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Research Notes

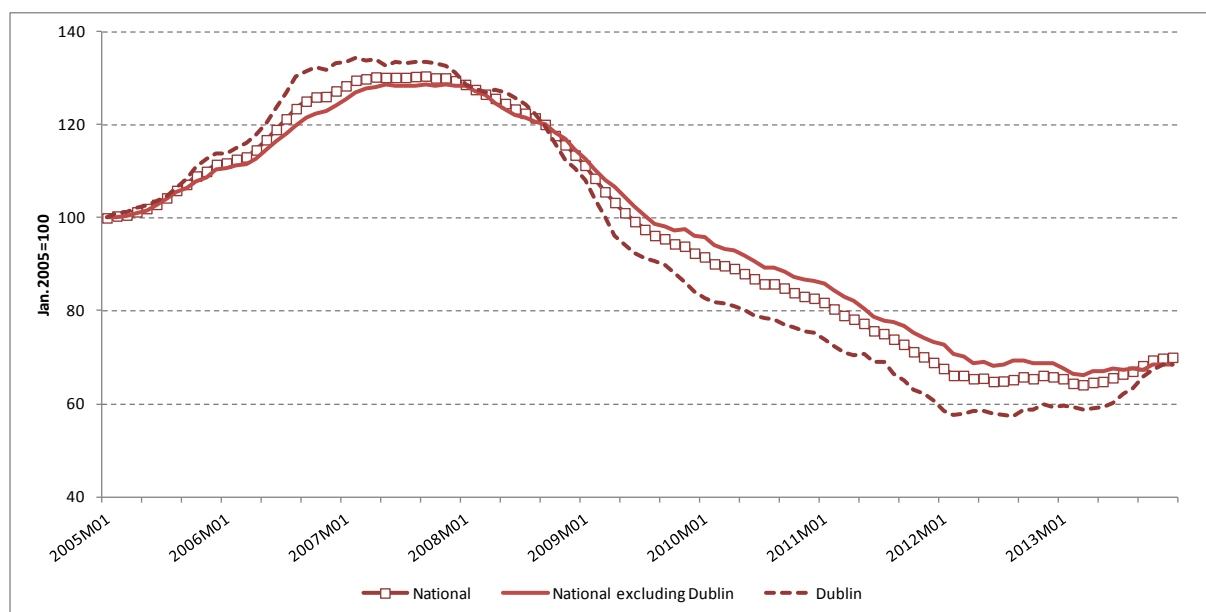
Updated Estimates on the Extent of Negative Equity in the Irish Housing Market

David Duffy*

1. Introduction

Negative equity occurs when the price of a property falls below the value of the outstanding mortgage secured on that property. Given the scale of the housing market downturn it is not surprising that previous research has shown the presence of widespread negative equity in Ireland. Duffy (2010) provided an estimate using aggregate data, based on data available to Autumn 2009. At that time house prices were down 27 per cent from their peak. However, we now know that the decline in house prices lasted until the latter half of 2013 and that house prices fell much further. The CSO *Residential Property Price Index* shows a peak to trough decline in house prices nationally of over 50 per cent, with prices in Dublin falling by over 57 per cent peak to trough. More recently the Index shows some recovery in house prices during 2013. This has, to date, been primarily driven by price movements in Dublin where prices in December 2013 were over 15 per cent higher than a year previously. In contrast, house prices outside Dublin were moderately lower than they had been in December 2012.

FIGURE 1 Residential Property Price Index



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This note looks at the previous estimate of negative equity in light of the deeper decline in house prices and also assesses the impact of the increase in prices experienced in 2013. As well as impacting on the financial well-being of households affected, negative equity can also have implications for personal consumption (Lydon and O’Hanlon, 2012, Gerlach-Kristen, 2013, McCarthy and McQuinn, 2013), savings (Disney *et al.*, 2010), and labour market mobility (Ferreira *et al.*, 2012).

Section 2 sets out the main assumptions, while in Section 3 the estimates for the extent of negative equity are presented. Section 4 concludes.

2. Assumptions

In order to determine whether or not a borrower is experiencing negative equity we need to estimate the current value of the property and the current mortgage balance. Given the regional dimension to the house price increases experienced to date, with prices in Dublin 15.7 per cent higher annually at the end of 2013, while prices in the rest of the country were up by 6.4 per cent, we look at what has happened to the numbers in negative equity in Dublin. In addition to movements in price, the extent of negative equity will also be influenced by any reduction in the capital balance outstanding as a result of mortgage repayments. Our approach requires a number of assumptions:

Volume of mortgages: Data on the number of mortgages drawn down each year are taken from Department of Environment data up to 2007, when it was discontinued, and from Irish Banking Federation data thereafter. Unfortunately, data on mortgage draw-downs are not available regionally. However, Census data show that Dublin accounts for approximately 30 per cent of households with a mortgage. We apply this to the total number of new mortgages to get an estimate of mortgage numbers for Dublin.

House Price: Between 2000 and 2008 the price used is the price for Repeat buyers (movers) and First-Time Buyers (FTB) from the *permanent tsb* house price index. From 2009 price is based on the national value from the CSO *Residential Property Price Index*. Both price indices are estimated using a hedonic regression to take account of any changes in the mix of properties sold between different periods. A price for each buyer type is estimated using the ratio of FTB to repeat buyer price from the *permanent tsb* series. For Dublin, prices are initially taken from *permanent tsb* data for Dublin FTBs and Dublin repeat buyers for quarter 4 each year from 1996 to 2007. Thereafter, they are estimated as above.

Mortgage term: A mortgage term of 25 years is assumed for repeat buyers. Given the impact of the downturn the assumed mortgage term for FTBs is reduced from 35 years to 25 years from 2010 to take account of tighter credit conditions.

Interest Rate: The interest rate is the representative mortgage rate for December each year from the CSO databank. Borrowers are assumed to commence paying back their mortgage immediately. The mortgage is assumed to be repaid in full by the end of the term. In the initial years a higher proportion of the repayment goes towards repaying interest rather than reducing the capital.

Buyer type: Irish Banking Federation data are used for the share of FTBs and repeat buyers in mortgage draw-downs. The split between FTBS and Repeat buyers for the Dublin area from 2004 to 2008 is taken from Department of Environment data.

Loan-to-Value ratio: Data on the distribution of mortgages by Loan-to-Value ratio (LTV) nationally and for Dublin from 2004 to 2008 are taken from Department of Environment data. For more recent years, it is assumed that no mortgages with a 100 per cent LTV are issued. An average LTV of 75 per cent is assumed for repeat buyers and 85 per cent for FTBs.

Arrears: It is assumed that borrowers are making full payments, that there are no arrears and borrowers have not released any equity from their property. However, previous research shows that of the mortgage properties found to be in negative equity, 8 per cent had also accrued more than three months worth of arrears on their mortgage books (Kennedy and McIndoe-Calder, 2012).

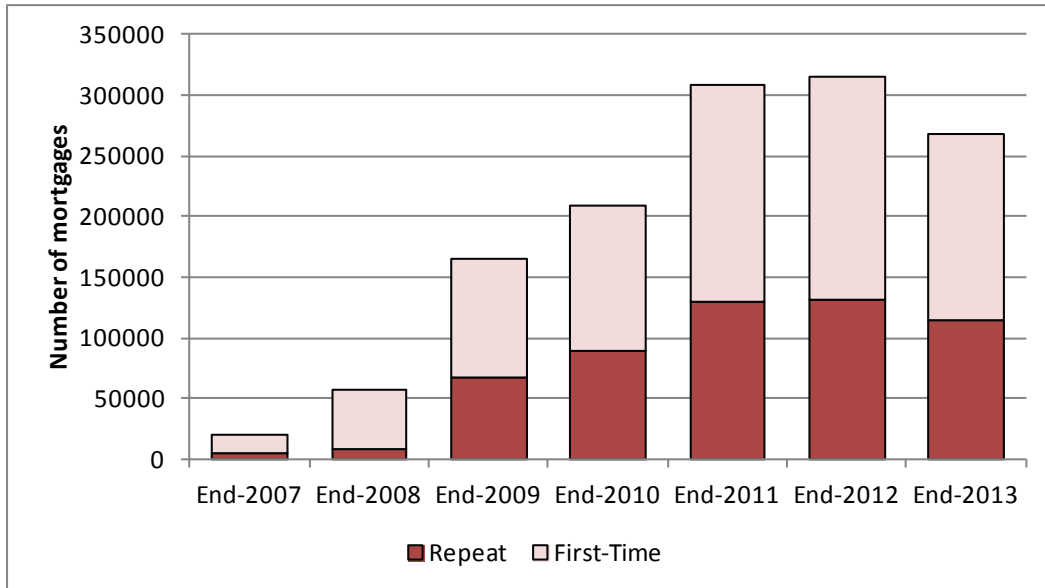
3. The Extent of Negative Equity

Based on these assumptions it is estimated that the total number of mortgage loans in negative equity reached a peak of over 314,000 by the end of 2012. The recovery in prices experienced in 2013 reduced the number in negative equity to 268,000 by the end of the year, a fall of approximately 45,000. Figure 2 shows negative equity by year. We can see that there was a substantial increase in numbers over the course of 2008 and over the course of 2011, reflecting in part steep price declines in each of those 12 month periods.

The majority of those experiencing negative equity are FTBs, who account for approximately 57-58 per cent of those in negative equity in each year from 2010 to 2013. This may well reflect the high initial LTVs on mortgages taken out by FTBs. While we do not have more recent data on the distribution, Department

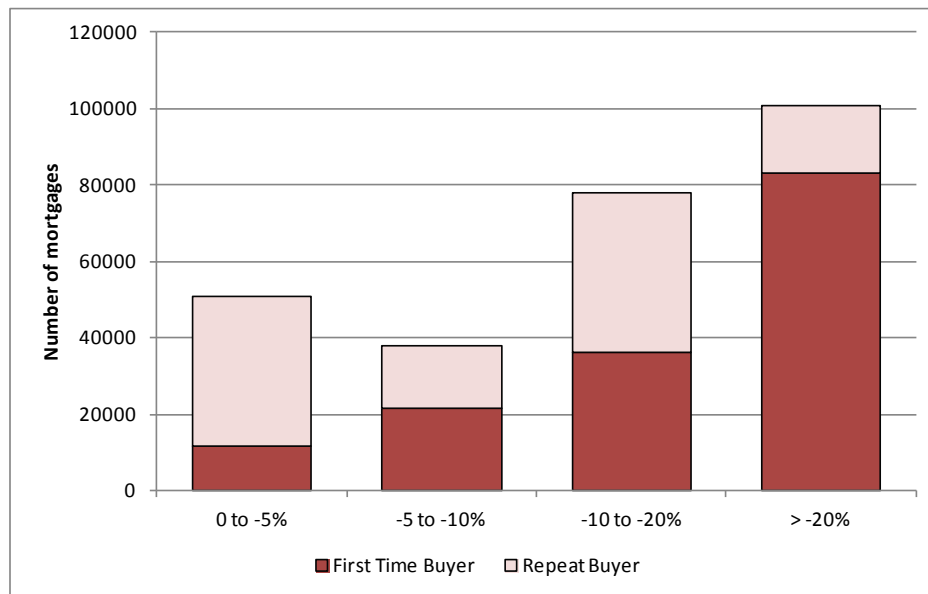
of Environment data to 2008 show that in the years 2006-2008, between 23 and 34 per cent of FTBs who took out a mortgage had an LTV of 100 per cent.

FIGURE 2 Numbers in Negative Equity, End Year



Our estimates for negative equity suggest that Dublin accounted for 40 per cent of mortgages in negative equity at the peak of the problem, close to 125,000 mortgages at the end of 2011. The numbers in negative equity in Dublin fell by over 35,000 by the end of 2013. This represents over three-quarters of the improvement experienced nationally and, as outlined above, is due to the substantially stronger increase in prices experienced in Dublin.

Given that we have estimated negative equity by calculating the house price and the outstanding mortgage balance we can look at the depth of negative equity being experienced. Figure 3 shows that at the end of 2013 there were still a large numbers of borrowers in negative equity greater than 20 per cent of the house value, the majority of which were first-time buyers.

FIGURE 3 Depth of Negative Equity, End-2013

Finally, we look at what may happen to the numbers in negative equity in 2014. This estimate is very dependent on what happens to house prices. We examine what may happen under two alternatives:

- (1) First, we assume that house prices in 2014 grow at the same rate as they did in 2013. We apply the annual growth rate recorded in December 2013, an increase of 6.4 per cent nationally and 15.7 per cent in Dublin. On this basis, the numbers in negative equity nationally would fall by 66,800 to just over 200,500. In Dublin the numbers in negative equity would fall to 59,000, a decline of 28,200 from the end of 2013;
- (2) Second, we take the average annual growth in the Residential Property Price Index in the first six months to June and assume no further growth in 2014. Thus, house prices nationally would increase by 9 per cent and in Dublin by 17.5 per cent. Using these growth rates, we estimate a decline in the numbers in negative equity nationally of 88,000 to 179,000 by the end of 2014. The similarity between the growth in Dublin house prices in 2013 and the growth to date this year means that using this alternative does not alter our estimate of the decline in negative equity in Dublin for 2014.

4. Conclusions

The scale of the housing market downturn has meant that Ireland is experiencing widespread negative equity at present. The recent increases in house prices reduced the numbers in negative equity at the end of 2013. The increase in house prices has mostly been in the Dublin market, suggesting that it is in this location that the majority of the improvement has been experienced.

The improvement in negative equity is important in the context of financial stability, (Hellebrandt, Kawar and Waldron, 2009). The reduction in the value of mortgage based assets can lead to a reduction in the availability of credit to both households and firms as banks make provisions for an anticipated increase

in expected losses. The more mortgages that exit negative equity, the stronger the balance sheets of Irish credit institutions.

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Household Formation and Tenure Choice¹

* **David Byrne, David Duffy and John FitzGerald**

1. Introduction

In an article in the Spring *Commentary* we considered the effect of prospective demographic changes on the need for additional dwellings over the coming decade (Duffy *et al.*, 2014). A range of different scenarios were considered suggesting that there was a need for between 19,000 and 33,000 additional dwellings a year. The range of estimates depended on assumptions about migration and headship rates – the proportion of people of a particular age who are the head of an independent household. This note presented evidence that headship rates in Ireland had risen over the last decade but that they are still lower than in England, Wales, Northern Ireland and France. However, as was indicated in the article, the factors driving headship rates were not well defined, which left uncertainty as to how they would move in the future. This note presents evidence from recent research which focuses on the factors driving household formation and tenure choice.

Because of the important role that decisions on household formation play in determining the demand for dwellings, we have developed a model which takes account of many of the factors that explain individuals' decisions to form an independent household.² In this note we use this model to provide greater insight into the household formation process and to better understand the pressures that the housing market will face in the short- to medium-term.

The second aspect of household behaviour we examine is the choice to buy or to rent a dwelling. The proportion of people renting has risen significantly over the last five years and it is important to understand what are the factors underlying this change. A separate but related model has been developed which explains tenure choice – whether to buy, rent or avail of social housing. We use this model to consider to what extent people, who have been renting in recent years, may now choose to buy. Such a change in preference for tenure would put additional

¹ This paper was prepared as part of a research programme funded jointly by the National Asset Management Agency (NAMA) and the Irish Banking Federation (IBF).

² Household Formation and Tenure Choice: Did the great Irish housing bust alter consumer behaviour?“, Byrne, Duffy and FitzGerald, ESRI Working Paper 487, 2014.

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pressure on the market for dwellings for sale and raise the requirement for future funding of households' investment in housing.

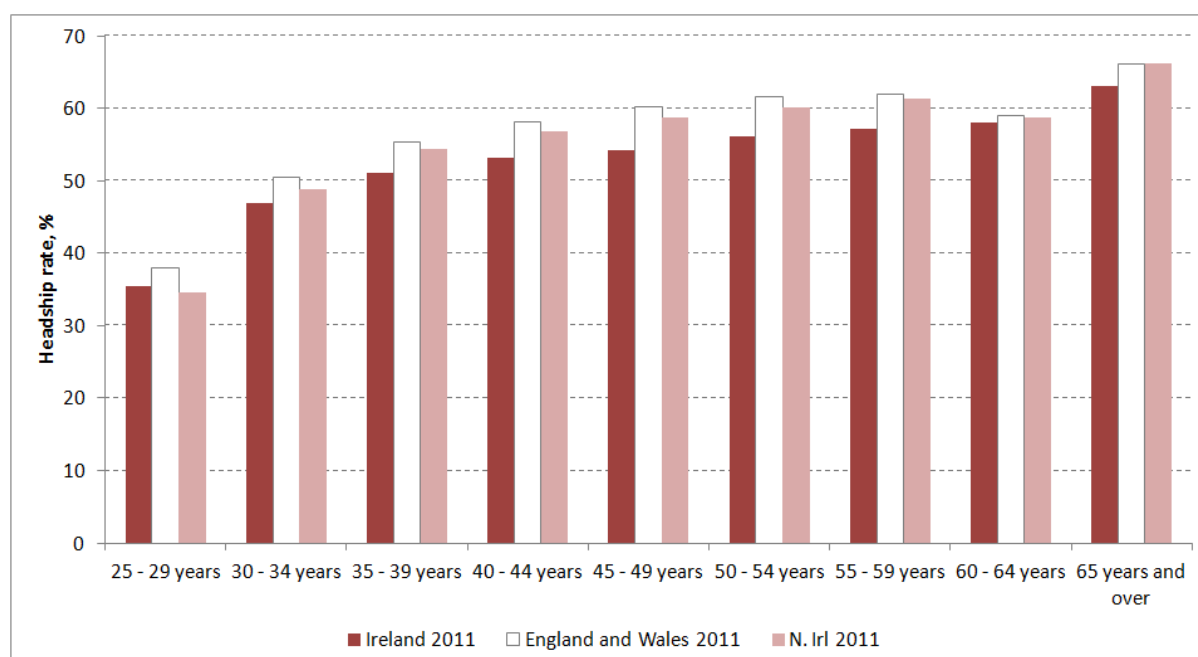
This research uses *Quarterly National Household Survey* data on individuals and households for the period 2001-2011. This spans the build up of the housing bubble to 2007 and the subsequent collapse in the housing market. Because of the large sample size we are able to consider the behaviour by five year cohorts – those aged 20-24, 25-29, 30-34 and 35-39. We concentrate on these four age groups as they span the period when individuals normally form independent households, moving out from their parental homes, and it also spans the period when households have, in the past, tended to buy their first dwelling.

In Section 2 of this note we apply the model of household formation to consider how changes in the cost of accommodation may affect the number of households and, hence, pressures on the housing market. In Section 3 we discuss the implications of our model of tenure choice for the number of people seeking to switch from renting to owning, as the cost of each form of tenure changes. Section 4 concludes on the implications of this research for the housing market in Ireland over the next few years.

2. Household formation

Historically Ireland has had a low headship rate relative to England and Northern Ireland. Figure 1, taken from Duffy *et al.* (2014) compares the headship rates in Ireland, Northern Ireland and England and Wales, by different age groups in 2011.

FIGURE 1 Headship Rates, Ireland, Northern Ireland, England and Wales, 2011



Source: Duffy *et al.* (2014).

This shows that, across the relevant age groups, headship rates are significantly lower in Ireland than in the other two locations. This is despite a convergence since 2000; headship rates rose in Ireland while falling in England and Wales in the same period. Figure 1 also highlights that the 25-29 and 30-34 year age-groups are particular focal points for household formation.

The decision to form a household depends on a wide variety of factors, including individual traits, numerous social factors and the ability to afford the cost of setting up a household. Byrne *et al.* (2014) focus on the impact of affordability, notably in the context of falling rents, and on a range of individual-specific factors which are discussed below. Affordability is captured in two ways; the ratio of average rents to Personal Disposable Income³ (PDI) and the individual's educational attainment. Byrne *et al.*, find that falling rents post-housing crash in Ireland are significantly linked with the increase in household formation rates. In particular, we find that if renting were less affordable (i.e., if the ratio of rent to PDI were at the 2007 level rather than the 2011 one), the 2011 household formation rate for those aged 25-29 would have been 2.3 percentage points lower. In addition, the formation rate for the 30-34 year age-group would have been 2.1 percentage points lower. We thus find that we can attribute household formation by 17,000 individuals between the ages of 25 and 34 in 2011 to the fall in the ratio of rent to PDI.

The second important factor in affordability is educational attainment. Byrne *et al.* (2014) use this as a proxy for income and ability to pay, in the absence of data in the *Quarterly National Household Survey* on individual income. Using Upper Secondary education (Leaving Certificate) as a reference group, we find significant effects of both lower and higher education. Those with lower education have significantly higher formation rates than the reference group, due to life-stage effects; their early departure from the education system allows them to enter the labour market earlier, to form families earlier, etc. This effect diminishes with age. Those with higher education also have higher formation rates due to their greater incomes. While they delay entry to the labour market, the financial return to their higher education results in a greater ability to offset the cost of household formation.

We control for a range of other factors which are important in the household formation process, including gender, marital status, migration status, labour market status, and region. We find, for instance, that women are significantly more likely to form independent households than men, and migrants have higher formation rates than the native Irish population. The importance of the cost of accommodation in driving the decision to form an independent household is also emphasised by the fact that the model indicates higher rates of household formation outside Dublin. This reflects the fact that, while incomes are higher in Dublin, the cost of accommodation was also much higher in Dublin than in the

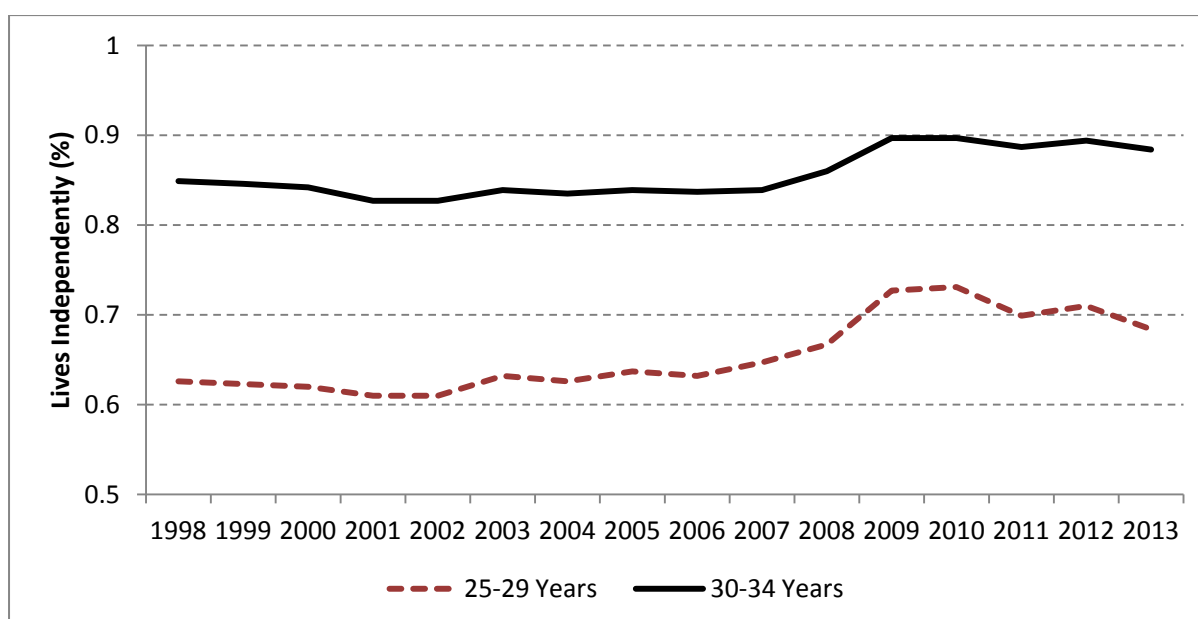
³ Data provided by the CSO *Regional Accounts*.

rest of the country, more than offsetting the effects of higher incomes. Other factors including transport infrastructure and greater geographic distances are likely to play a role in the higher formation rates outside Dublin.

Furthermore, we also use decomposition methods to ascertain whether the change in formation rates in Ireland can be attributed to a change in behaviour or a change in the distribution of attributes in the population. There has been, for instance, a great increase in the proportion of Irish people with Third Level education, and this could be associated with higher formation rates. We show that this played a significant role in the change in formation rates before 2006, but did not afterwards. This reflected the fact that a big increase in participation rates occurred in the 1990s to reach something of a plateau in the 2000s. Furthermore, behavioural change, likely in response to the cost of household formation, is the significant factor in the post-2006 change in formation rates.

Figure 2 shows household formation rates for the 25-29 and 30-34 year age-groups between 1998 and 2013. Formation rates grew particularly strongly in these age-groups post-crisis, despite the very large increase in unemployment from the onset of the crisis. The analysis shows that an important factor in the increase in household formation was the fact that the rent to income ratio fell significantly as a result of the crisis. Prior to the crisis rents had been rising rapidly and the cost of forming an independent household was a major incentive to remain at home with parents or to share accommodation with friends, rather than moving into independent accommodation. However, after the crisis, while incomes fell, the fall in rents was substantially greater. The result was that, for those with a job, independent living became much more affordable. This fall in the cost of accommodation dominated the effect of rising unemployment.

FIGURE 2 Household Formation by Age Group, 1998-2013



Source: Author's calculation based on QNHS data.

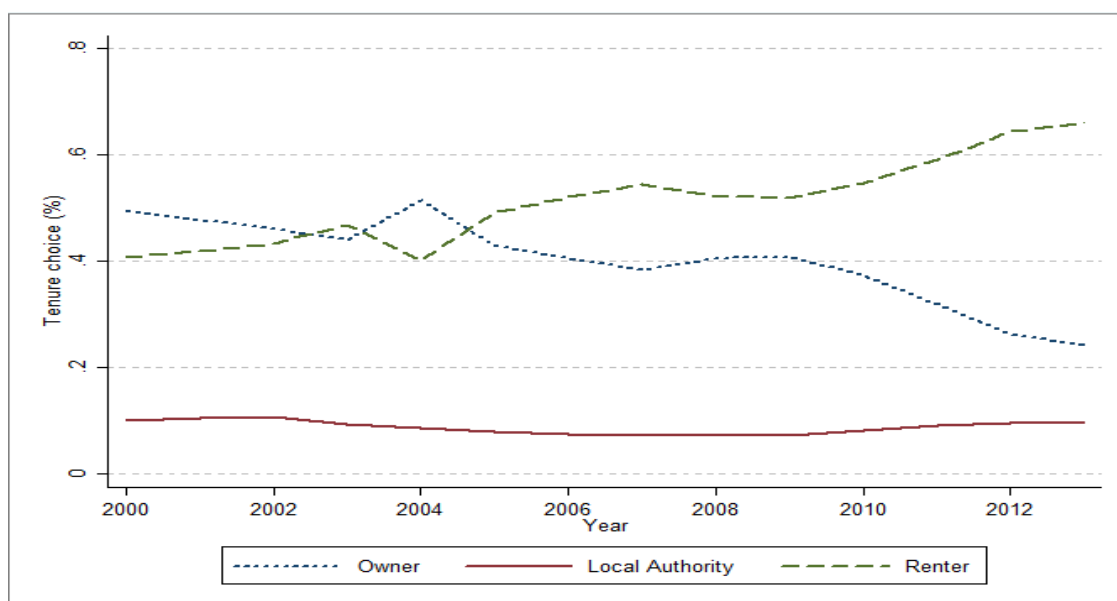
As the downward trend in the rent to income ratio has now been reversed, in the coming years this will tend to reduce the numbers setting up independent households encouraging them, instead, to share accommodation or to live with their parents for longer. This will slightly ease demand pressures in the housing market although the rise in rents still leaves rents approximately 15 per cent below their 2007 level. However, if housing supply does not respond, rents will continue to rise. In turn, this will serve to moderate demand by discouraging more and more people who are under 35 years from setting up independent households.

3. Tenure Choice

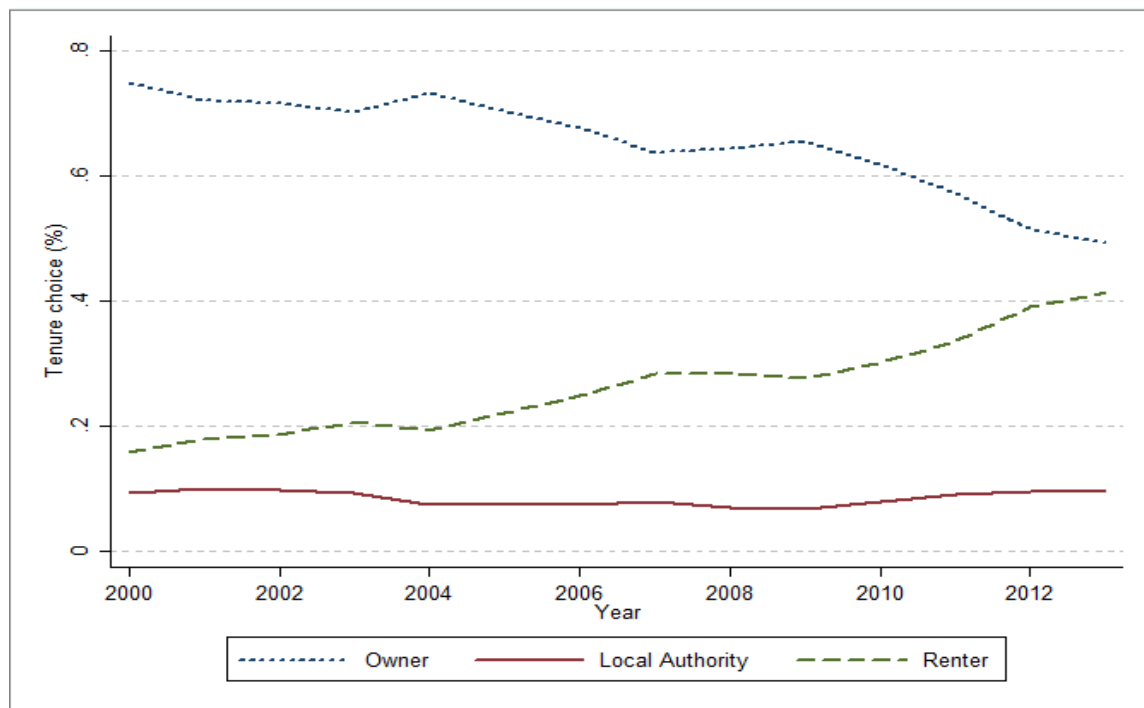
There has been a significant change in the tenure choice behaviour of younger Irish people in recent years, particularly since the housing bubble burst. Figures 3 and 4 show the tenure choice of the 25-29 and 30-34 year age-groups respectively, between 2000 and 2013. In each cohort the proportion in Local Authority dwellings remains fairly stable throughout.

Figure 3 shows that the proportions of individuals aged 25-29 in rented and in owner-occupied housing were roughly equal in the early part of the 2000s. The share renting began to rise slowly from 2005 onwards, and then more rapidly after 2008. Similarly, for the cohort aged 30-34 (Figure 4), since the property market bubble burst there has been a big change in behaviour, with an ever increasing share of the cohort choosing to rent. This change in choice of tenure among younger cohorts in Ireland may reflect the fact that they were sufficiently young when the crisis hit that they had not committed to homeownership. Furthermore, when the housing bubble burst relative costs began to favour renting, incentivising younger Irish people to become renters.

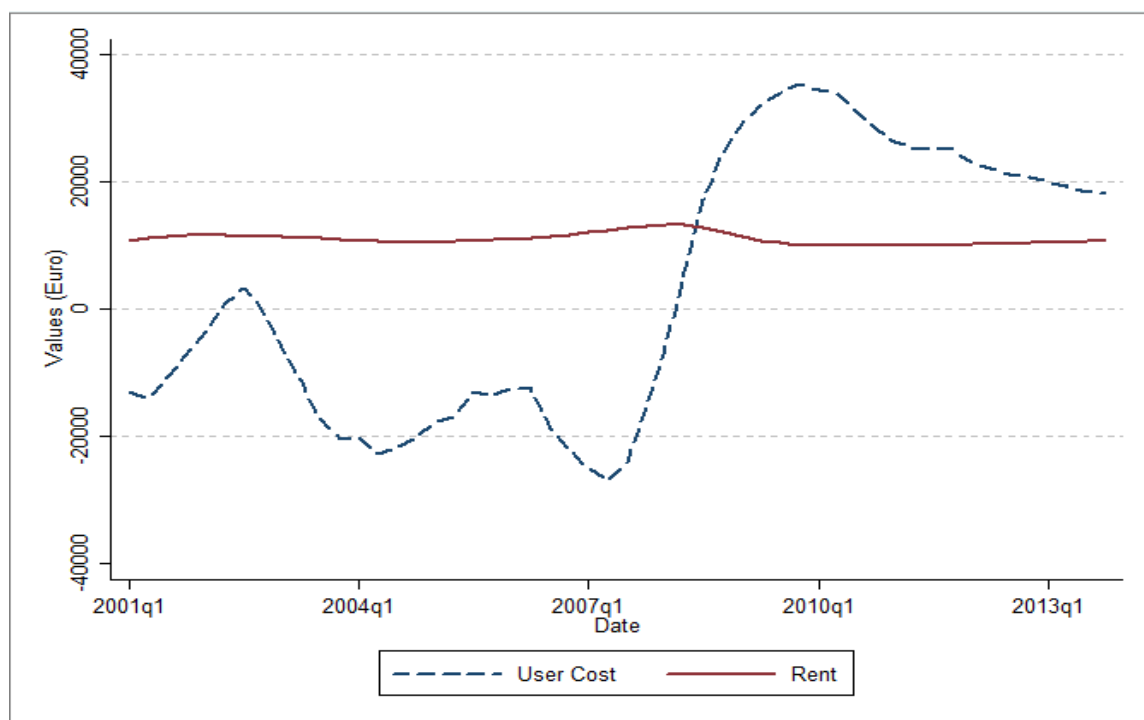
FIGURE 3 Tenure Choice for Those Aged 25-29 Years



Source: Byrne et al. (2014).

FIGURE 4 Tenure Choice for Those Aged 30-34 Years

Source: Byrne *et al.* (2014).

FIGURE 5 The User Cost of Owning Relative to Renting

Source: Byrne *et al.* (2014).

Figure 5 shows the costs of renting and owning: average rents and the user cost of housing. The user cost is a notional cost of owning a home, incorporating taxation, depreciation, mortgage costs and, importantly, price expectations. The rise in the user cost of owning after 2007 reflects a change from a period where homeowners were expecting to experience capital gains from ownership to one

where they expected to experience a substantial loss due to falling prices post-crash. In addition, rents were also falling in the post-2008 environment, further encouraging households to rent.

However, house prices hit a floor just over a year ago and have since begun to rise again. House prices are expected to rise in the next few years and households are probably building this into their expectations and into their assessment of what is the appropriate tenure choice for them in coming years.

Byrne *et al.* (2014), model the factors underlying the choice of tenure by individuals. These include the relative costs of tenure, the user cost less average rent, and individual-level characteristics including education, marital and family status, labour market status, migration status and region. In addition, we control for household formation while estimating tenure choice, as formation was increasing over the period and new entrants tend to be renters. Our focus is on quantifying the role that movements in tenure costs played on the tenure choice decision. We find that these movements were important, although we note that a range of other factors, including uncertainty in financial, housing and labour markets, certainly played an important role also.

Our results show that the relative cost of tenure is a significant factor in the choice of tenure of those aged 25-34. An increase in the user cost or a fall in average rents is associated with falling homeownership and increasing renting. The model thus shows that the fall-off in homeownership post-2008 is partly attributable to movements in the relative costs and partly to an increasing household formation rate. However, with the reversal in the trend in house prices, the incentive for renting relative to homeownership is weakening. Should house prices continue to rise, particularly due to a lack of supply of new housing, the user cost will fall due to increasing price expectations. This will induce a shift in preferences towards owning once more.

If the user cost equals average rents then there is no longer an incentive in favour of renting. The model suggests that if the user cost falls to this level then approximately 2.6 per cent of current renters will wish to switch to owner-occupied housing. These households would add to the effect of rising population in the relevant age cohorts, which is the primary driver of housing demand. Thus the overhang of potential buyers, which was low two years ago, continues to grow, putting upward pressure on the market for owner occupation.

However, one additional area of uncertainty is whether the result of the crisis has been a permanent change in preferences away from home ownership to renting.

The crisis has illustrated the fact that homeownership carries risks, which may have been ignored by many households prior to the crisis. If there has been such a change in preferences, then the estimated overhang of additional “buyers”, discussed above, may be an overestimate.

Our results also show that having greater means, as represented by higher education, has a significant effect on the tenure choice decision. Those with higher education are likely to be renters across all age-groups, while its impact on the probability of homeownership changes at around the age of 30. Before that age there is a significantly negative effect, possibly reflecting the fact that, because of the time spent gaining a Third Level education in their early twenties, those with higher education were not in a position to buy at the height of the housing boom. Furthermore, once the user cost began to fall from 2008 onwards it was always going to be uneconomic for them to buy.

Meanwhile, in the older age-groups, having higher education is positively associated with homeownership, which may reflect a change in preference once individuals reach their thirties. Migrants also tend towards renting rather than owning, while households with children tend to be less likely to be renters. This may reflect the need for larger accommodation or the fact that households with children are less mobile than those without and the uncertainty of tenure associated with renting means that they place a higher value on homeownership.

4. Conclusions

There is significant pressure on the Irish housing market today which is reflected both in rising rents and in rising house prices. If households who are currently renting, but who would be better off buying, actually managed to buy, that could possibly free up a stock of dwellings to rent. Further research is required to establish what form of dwelling will be demanded by households in the coming years.

The effect of the rise in rents will be to delay the formation of an independent household by some individuals in the coming years. This will tend to reduce headship rates, slightly easing pressures for additional dwellings. However, the growth in the size of the cohort of people aged 20-39 means that a substantial supply of additional dwellings will be needed over the coming decade (Duffy *et al.*, 2014).

The nature of the dwellings that people will seek to buy is not clear from this research and it merits further consideration. The research outlined in

Morgenroth (2014), suggests that the additional dwellings need to be located firstly in Dublin and its environs.

To the extent that there are pressures for higher levels of homeownership as a result of demographic changes and changes in relative prices, this will only be realised if additional dwellings are built and if the financial sector can finance such a change. There are concerns about the willingness and ability of the financial system to actually fund the building sector to expand its production of dwellings.

Until the supply of dwellings responds to the rise in prices and rents, there will continue to be upward pressure on prices. This rise in prices should incentivise a supply response. However, to minimise the price rise that will occur, it will be very important to deal with any regulatory or administrative obstacles, which may be hindering an early supply response by the building industry.

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Projected Population Change and Housing Demand: A County Level Analysis¹

Edgar Morgenroth*

1. Introduction

While the recent debates on the housing market have focused particularly on Dublin, much of the public focus and most of the analysis of housing in Ireland² has been in the context of a national housing market. However, many variables, such as prices, new construction (completions), planning permissions, and vacancy rates vary considerably across the country, which implies that there is no homogenous national housing market but rather that there are many local housing markets.³ For example, house prices have been three to four times higher in the county with the highest price compared to the county with the lowest price⁴.

Not surprisingly, there are also significant differences across counties with respect to underlying fundamentals that affect the housing market such as income, unemployment, and population growth and these determine the price locally and the price differences across the country. Given these differences in fundamentals and also their likely different future paths, one can expect the local housing markets to develop quite differently. Thus, while the housing market in some areas will recover quickly, other areas may take very long or indeed may not recover at all, which has important policy implications. The spatial heterogeneity of the housing market also implies that analysis at the national level is likely to be biased, as has been found by Goodman (1998). It is, therefore, important to understand local housing markets and consider the drivers of change at the local level.

The lack of sub-national analysis of the housing market in Ireland is at least in part explained by the lack of consistent data over a sufficiently long time period,

¹ This paper was prepared as part of a research programme funded jointly by the National Asset Management Agency (NAMA) and the Irish Banking Federation (IBF).

² For example Kenny (1999), Roche (1999), Duffy (2010) Duffy and FitzGerald (2012).

³ An exception is the paper by Lyons (2014) which considers rents and house prices as a function of property characteristics and location for 1,100 zones for the period 2007 to 2012 in a hedonic pricing model. He did not consider the effect of fundamentals which is the focus of this paper.

⁴ Based on data from the ESRI/PTSB House Price index (<https://www.permanenttsb.ie/about-us/house-price-index/archive/>) and asking prices published by Daft.ie (<http://www.daft.ie/report/>).

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but may also be due to the relatively small size of Ireland which leads some to argue that analysis at the sub-national level is not important.

This Note summarises some recent research into the impact of likely demographic trends on the housing market at county level.⁵ Specifically, it constructs a projection of the number of households in each county for 2021 and analyses the consequences of the projected change on the required supply of housing.⁶ The county level is chosen as data for smaller areas is not readily available. However, it should be noted that there are significant differences with respect to housing within many counties and local housing markets are also likely to straddle across county boundaries.

2. Projecting Demographic Change at the County Level

Demographic change impacts significantly on housing demand. An increase in the population resulting in an increase in households raises the demand for housing, other things being equal. Likewise, holding the population constant, an increase in household formation raises the demand for housing. Thus, understanding the trends in household numbers which are fundamentally driven by the population trends yields important insights into the likely developments of the housing market. With significant heterogeneity with respect to demographic change across the country it is useful to consider the impact of demographic change at the sub-national scale. Here the focus is on the county level.

County level population projections are not constructed by the Central Statistics Office (CSO), which publishes national and regional population projections. It is, therefore, necessary to construct a new set of population projections. To this end the ESRI county population projection model (IC-POP) is utilised.

This model projects the county level population for single year of age cohorts by gender using the cohort component method. This method is based on the so called balancing equation of population where the population at a point in time is equal to the population at some previous point in time plus births, plus net immigration minus deaths over the period between the two points in time. This relationship can be used for forecasting purposes if the starting population is known (see Morgenroth, 2002, 2008).

⁵ Morgenroth, E. (2014). A working paper, that apart from considering the impact of the likely county demographic trends, also models price changes, housing stock changes and changes in the vacancy rate across counties as a function of key fundamentals.

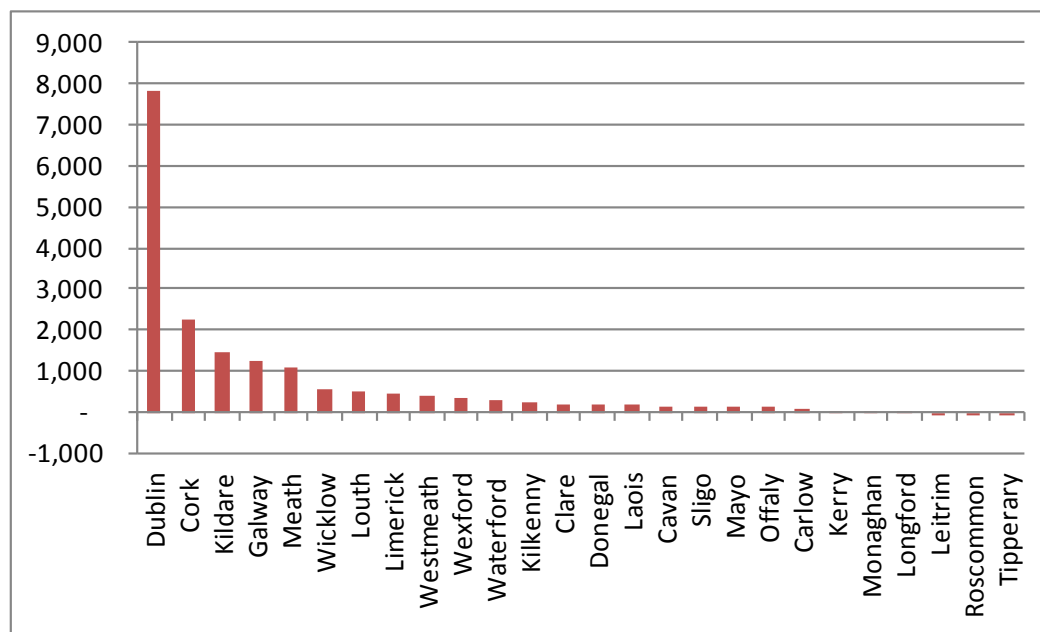
⁶ Here only the demographic impact is considered, and other factors are assumed unchanged.

In order to operationalise this methodology it is necessary to apply assumptions regarding mortality rates, fertility and migration. Given that the model is a county level model, migration encompasses both international and internal migration. Here mortality rates are those used by the CSO in its population projections, fertility is assumed to be unchanged from its 2011 level, and international migration is assumed to follow that projected in the ESRI *Medium-Term Review* (FitzGerald and Kearney, 2013). The spatial patterns of international and internal migration are assumed to follow the traditional (pre Celtic Tiger) pattern with net-migration towards the large metropolitan areas and particularly Dublin. Household size is assumed to decline over time and to follow the trend of the ESRI *Medium-Term Review* which is applied to county level household size.⁷ Taking the detailed tables from the CSO *Census of Population 2011* as a starting point and applying the assumptions the IC-POP model generates projections of the population and households at county level.

Figure 1 shows that the increase in the number of households is projected to be particularly large in Dublin, and to a lesser extent in the other large cities and the surrounding counties around Dublin. For Dublin the annual average increase is projected to be almost 8,000 households, which has significant implications for the required housing units, particularly if one considers that during 2013 only 1,360 units were completed in Dublin.⁸ For the State as a whole on average just under 18,000 additional households are projected to be created each year between 2011 and 2021, which is smaller than the 20,000 predicted in Duffy *et al.* (2014) due to the simpler approach used in generating household numbers. Duffy *et al.* (2014) calculate the number of households on the basis of age specific household headship rates while the approach taken here is to apply the county specific household size for each county which are assumed to follow the same trend. Thus, the approach used here does not consider age specific factors in household formation.

⁷ This implies that there is no convergence in household size across counties. The more detailed approach of Duffy *et al.* (2014, to generate household numbers by analysing headship rates was beyond the scope of this analysis.

⁸ The numbers are from the Department of Environment, Community and Local Government, Housing Statistics: <http://www.environ.ie/en/Publications/StatisticsandRegularPublications/HousingStatistics/>

FIGURE 1 Estimated Annual Average Increase in the Number of Households 2011 to 2021

Source: Own Calculations.

Using the projected household numbers it is possible to analyse the future housing requirement going forward. If all housing units were fully occupied in 2011, then the required additional units would simply equal the number of additional households, i.e., 18,000 housing units would need to be added annually during the period 2011 and 2021.

However, the *Census of Population 2011* identified significant numbers of vacant housing units, which need to be taken into account when assessing the required additions to the housing stock.⁹ Another factor that needs to be taken into account is the fact there have been house completions since 2011.¹⁰ Finally, some properties are taken out of the stock of inhabitable properties, for example, due to a fire or structural defects. Here all factors are accounted for.

Excluding holiday homes, some 230,000 housing units were vacant in 2011, while the demographic projections indicate that over the 10-year period to 2021 some 180,000 households will need to be added. This would imply that no new properties would need to be built in that time period if all vacant properties were in locations that matched the projected population growth. Of course, this is not the case which is why sub-national analysis is required. While *Census 2011* showed significant levels of vacancies, it is normal to observe some level of vacancies, for example, because some newly completed properties are available

⁹ Holiday homes are not considered in the calculations.

¹⁰ In 2012 and 2013 there were 8,488 and 8,301 house completions respectively.

for sale. Here it is assumed that the vacancy rate that was observed in 1996 is what is typically observed in a normally functioning market. In total over the years 2011 to 2013 just over 24,000 housing units have been completed. FitzGerald (2005) estimated that the annual depreciation rate of housing in Ireland for the period 1991 to 1996 was 0.41 per cent. This figure is used in the calculations below.

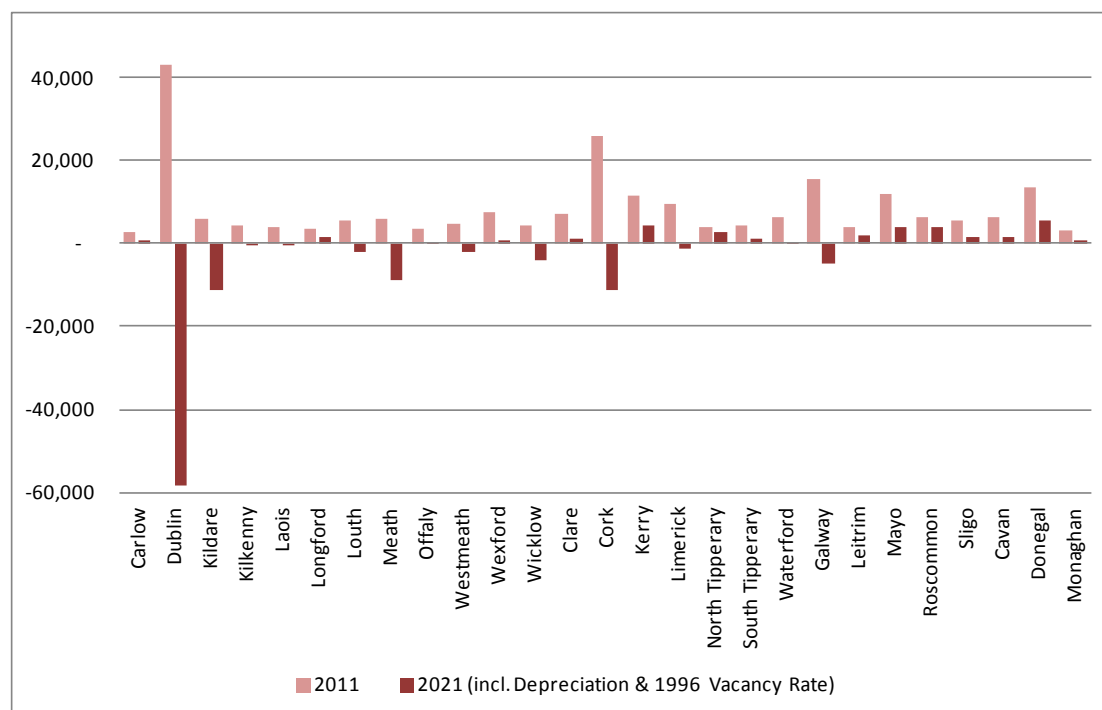
The vacant stock in 2021 is calculated by subtracting (adding) the projected number of additional (fewer) households, adding the properties completed during the period 2011 to 2013, subtracting obsolete properties and allowing for a 'normal' level of vacancies.¹¹ The results of this calculation are shown in Figure 2 which also shows the level of vacancies in 2011.

Figure 2 shows the number of properties that would be required assuming no units are completed in the period after 2013. Negative numbers indicate the number of housing units that would need to be constructed to meet the projected demographic demand while a positive number indicates excess supply by 2021. Thus, accounting for the initial number of vacant units, depreciation and some level of normal rate of housing vacancy almost 60,000 housing units would need to be built in Dublin to meet the projected demographic demand. Other counties which will need to expand their housing stock include Kildare, Meath, Wicklow, Cork, Galway, Louth and Westmeath. However, for many counties the level of vacant stock and the projected demographic change is such that no additions to the housing stock are necessary to meet demand for the period up to 2021.¹²

In total for those counties, which would without additional construction experience a housing shortage, just under 90,000 housing (or approximately 12,500 per year) units will need to be completed to meet demand, which is considerably smaller than the 180,000 implied by the increase in the number of households, reflecting the impact of the significant oversupply, and the fact that some construction has taken place. Over 60 per cent of these (90,000) are required in Dublin and another 26 per cent are accounted for by counties Louth, Meath, Kildare and Wicklow – in effect the commuter belt around Dublin. However, just 33 per cent of the completions during the 2011 to 2013 period were recorded in these counties. Thus, the analysis here shows that housing supply issues are almost exclusively concentrated in the Greater Dublin region.

¹¹ This approach differs to that taken in analysis for the Housing Agency, in that it takes account of the significant oversupply in housing in 2011 (see Housing Agency, 2014).

¹² This assumes that all the vacant stock is in places where there is demand for housing and that the vacant stock is of the appropriate type of housing required. In practice, this is unlikely to hold and indeed all counties have recorded house completions over recent years.

FIGURE 2 Vacant Housing Stock for 2011 and 2021

Source: Own Calculations. *Note:* Negative numbers indicate the number of housing units that would need to be constructed to meet the projected demographic demand while a positive number indicates excess supply.

3. Summary and Conclusions

Analysis of the Irish housing market at the sub-national level has been largely ignored in the literature. This Note has considered the implications of projected demographic change on housing demand at county level.

The analysis of the impact of demographic change highlights the significance of the heterogeneity across the country. The analysis showed that while demographic change implies that between 2011 and 2021, 180,000 additional housing units would be required, the number of vacant dwellings implies that for many counties no additional housing units will be needed. Accounting for current oversupply only half of the 180,000 will be needed of which over 60 per cent of these are required in Dublin and another 26 per cent are accounted for by counties Louth, Meath, Kildare and Wicklow. Thus, the additional demand is highly concentrated in the Greater Dublin area. Given that 33 per cent of the completions during the 2011 to 2013 period were recorded in the Greater Dublin Area and given that the total number of completions is below what is needed to meet demand, this will result in significant housing shortages if the rate of housing completions is not increased rapidly.

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The Distribution of Income and the Public Finances

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The economic crisis, which began in 2008, has seen a dramatic change in circumstances for most of the population in Ireland. It is estimated that average personal disposable income per head has fallen from a peak of around €22,800 in 2008 to around €20,900 in 2014, a decline of 8 per cent¹. The rate of unemployment, which averaged 4.7 per cent of the labour force in 2007, peaked at 14.7 per cent of the labour force in 2012 and it is forecast to average 11.5 per cent in 2014. Thus most of the population have suffered a serious decline in living standard but the decline has been most acute for those who lost their jobs.

Nolan, *et al.*, 2014, and Callan *et al.*, 2013b, document developments in the distribution of income in Ireland in the period to 2011. They show how the Gini coefficient, the most commonly used summary measure of income inequality², has fallen during the crisis and remains below the levels of the peak of the boom, indicating a reduction in income inequality. In this case the measure is calculated using data for equivalised disposable income per person, including the effects of taxation and social welfare payments. The latest data for 2012 from the CSO EU SILC are consistent with this picture.

This reduction in income inequality is a result of a combination of factors arising from the crisis, some of which acted to increase inequality and others to reduce it. As discussed below, the bursting of the property market bubble affected those at the top of the income distribution, especially those who earned most of their income from property related activities. This resulted in a big fall in numbers of high earners, reducing income inequality. The massive rise in numbers unemployed in the period to 2012 moved a lot of people towards the bottom of the income distribution, tending to increase inequality. However, the

¹ These data are based on the latest National Accounts and the current QEC forecast. Personal disposable income is forecast taken from this QEC for 2014 (and from the national accounts for 2008) and it is divided by the population forecast underlying the QEC to arrive at average personal disposable income per head. If allowance is made for the fall in prices over that period the fall in real personal disposable income was around 4 per cent.

² Summary measures of income inequality place differing weights on inequality at different points in the income distribution; for this reason it is advisable also to examine changes in income shares for different income groups.

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maintenance of the welfare floor relatively unchanged³, in spite of the crisis, provided significant support for this group of people.

Callan *et al.*, 2013, have carried out a detailed study of the effects of discretionary changes in taxation (including indirect taxes), public service pay and welfare payments on the distribution of income in Ireland. They have shown how discretionary changes in taxes and welfare payments have also modified the outcome for different income cohorts. They show that changes in taxes and benefits tended to have the biggest negative effect on the top (-15 per cent) and bottom deciles (-12.5 per cent) of the income distribution but that all deciles suffered a loss of at least 10 per cent in disposable income as a result of discretionary changes in taxes, transfers and public service pay.

As discussed in Nolan *et al.*, 2014, EU SILC may not provide a very good representation of incomes at the very top of the income distribution and the Revenue Commissioners' data are useful in looking at the numbers of people on really high incomes. The Revenue Commissioners' data for the years 2007 and 2011 (the latest year available) show that for those earning over €100,000 a year there was a very big reduction in both their numbers and their average income over that period. The number of taxpayers with incomes over €100,000 fell by 14.7 per cent between 2007 and 2011 (Table 1). The fall was particularly pronounced for the highest income band – those earning over €275,000 – where numbers in that income bracket fell by over 28 per cent. In addition, average income of those in the highest income bracket also fell by over 15 per cent. As a result, total income of those earning over €100,000 fell by 22.6 per cent over the four years.

TABLE 1 Revenue Commissioners' Data, change between 2007 and 2011

Income Range	Number of Taxpayers	Average Income	Total Income
100-150	-12.6	-0.3	-12.8
150-200	-13.0	0.0	-13.0
200-275	-15.7	-0.2	-15.9
275+	-28.4	-15.3	-39.4
100+	-14.7	-9.3	-22.6
All Taxpayers	-13.4	-0.6	-13.9

As those earning over €100,000 paid 46 per cent of all income tax in 2007 (while accounting for 25 per cent of income), this very big fall in the numbers of really high earners had a major impact on tax revenue. In 2011, in spite of a rise in the average tax rate for all taxpayers, the proportion of income tax coming from this

³ Welfare rates for non-pensioners were cut but prices also fell, helping preserve the real value of payments.

group fell to 43 per cent of all income tax. Thus the big fall in numbers of high earners meant that more of the burden of income tax had to be carried by those on middle incomes.

FIGURE 1 Gini Coefficient before Direct Taxation and Welfare Payments

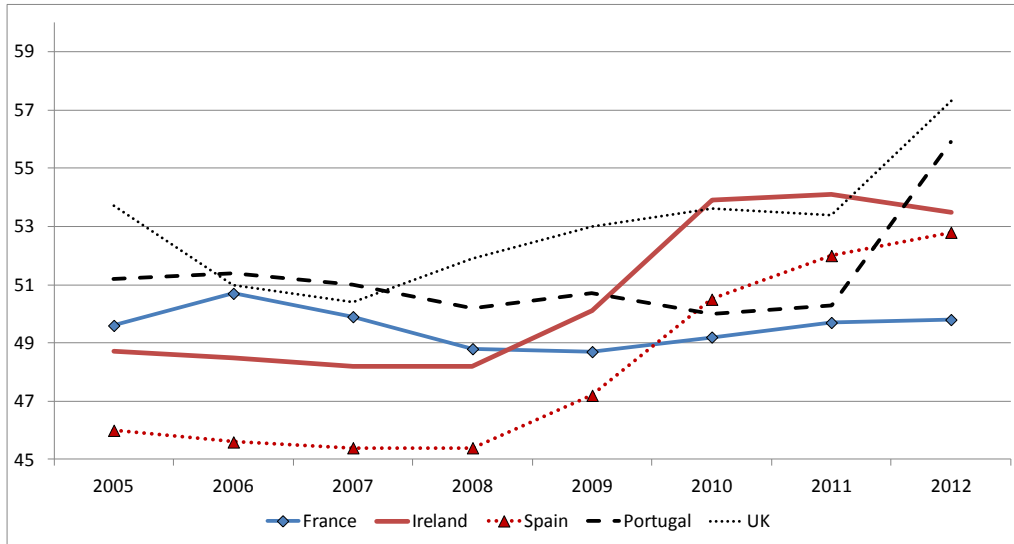
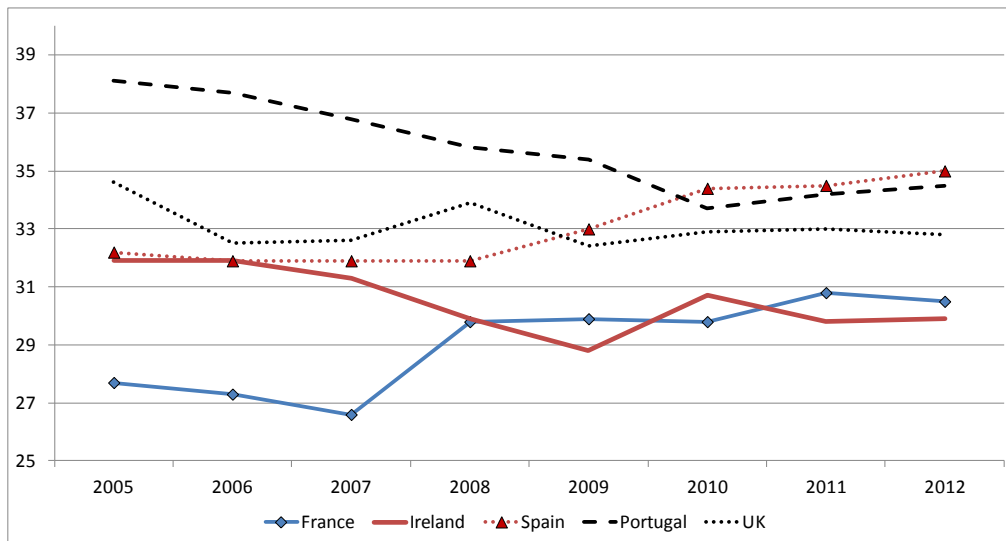


FIGURE 2 Gini Coefficient Including Direct Taxation and Welfare Payments



Eurostat shows comparative data on the Gini coefficient for all EU countries using a slightly different basis to that used in the CSO publication. However, these data have the advantage that they are comparable across countries. Using these data, it is interesting to compare the impact of the recession on the distribution of income in Ireland compared to that in some other EU countries, and also to

consider the impact of public policy, acting through the tax and welfare systems, in moderating that change.⁴

Using the Eurostat data, Figure 1 shows the Gini coefficient for France, Germany, Ireland, Spain, Portugal and the UK, for income before taxation and before income from welfare payments. These data reflect the effects of market forces affecting pre-tax incomes through changes in employment and wage rates. Figure 1 shows that there was a significant rise in income inequality measured in this way in Ireland, Spain and the UK over the crisis years. Beginning in 2009, inequality rose rapidly in Ireland and Spain, peaking in the latest year for which data are available, 2012. In the case of Portugal the rise in inequality occurred later but was, nonetheless, also very substantial.

Also using Eurostat data for income, Figure 2 shows the Gini coefficient for the same range of countries as are covered in Figure 1 after the effects of taxes on income and welfare payments are taken into account. In this case the Gini coefficient, not surprisingly, is very much lower for all countries, reflecting the major redistributive effect of public policy on tax and welfare across the EU. The effect of public policy in modifying the distribution of income results from both discretionary changes in that policy but also, much more importantly, from the “automatic stabilising” effects of existing policy: even if rates of welfare payments are held unchanged, with a big increase in numbers unemployed there is a big increase in public expenditure on welfare payments.

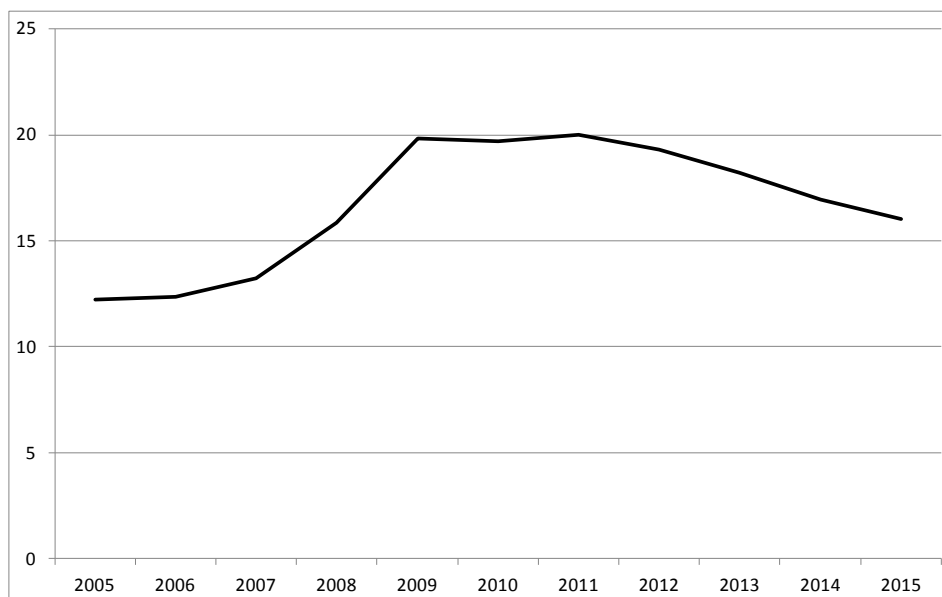
When allowance is made for the effects of public policy, so defined, it can be seen that the pattern of change in the distribution of income over the crisis years is now rather different. As discussed above, the effect of public policy in Ireland, acting through the tax and welfare systems, has been to produce a significant fall in the Gini coefficient in the crisis years 2008-2012, resulting in a more equal distribution of income than before the crisis began. A rather similar outcome is also shown for Portugal. However, for France the combined effect of the crisis and of public policy was to produce an increase in inequality. In Spain the increase in inequality in the years after 2008 is quite marked as public policy only partly offset the trend in market income shown in Figure 1. For the UK the effect of public policy was to leave the distribution of income in 2012 roughly unchanged compared to 2007.

⁴ Here only taxes on income are taken into account whereas Callan, et al., 2013a, take account of changes in other taxes, including indirect taxes, capital taxes and property taxes, as well as public service pay and changes in certain other services.

The Irish experience and that of Portugal stand out as being exceptional; public policy more than reversed the effects of market forces on the distribution of income, resulting in greater equality in the distribution of income. As shown by Callan *et al.*, 2013a, the effects of discretionary changes in public policy made only a limited contribution to offsetting the effects of market forces. Instead, it was the crucial role of the automatic stabilisers in the tax and welfare systems which played a major role in this outcome.

Another indicator of the important role played by the welfare system, in promoting an equitable sharing of the burden of adjustment, is the proportion of the population who would be at “risk of poverty” if all social transfers were excluded. In 2005, before the crisis began, the proportion was 40 per cent of the population. However, by 2012 the proportion was over 50 per cent (CSO, EU SILC, 2012). Thus the role of the welfare system in promoting a more equitable distribution of resources has increased substantially because of the crisis.

FIGURE 3 Government Transfers as a Percentage of GNP



Maintaining the welfare system largely unchanged, in the face a huge increase in numbers depending on the system, imposed a very big burden on the public finances. As shown in Figure 3, in 2007 government transfers (social welfare payments) amounted to 13 per cent of GNP. However, with the more than trebling in the numbers of unemployed, the bill for transfers rose to 20 per cent of GNP by 2011. While it has now fallen back to around 17 per cent of GNP, with the fall in the numbers unemployed, this is still far above the level of the boom years. The need to fund this increase in welfare payments massively increased the problems with the public finances in the period 2008-2011. Already there needed to be a very big increase in taxation and dramatic cuts in expenditure to eliminate the very large deficit. To make room for the increased welfare bill the

cuts in other areas of expenditure and the increases in taxation had to be even greater.

While the welfare system has played an important role in providing protection for those at the bottom of the income distribution, including those who lost their jobs during the recession, there is also a significant number of people in lower to middle income deciles who are suffering financial distress (Maître, Russell, and Whelan, 2014). This arises because of the housing crisis which has left a significant share of the population aged between 35 and 50 heavily indebted. As a result, some of these households are suffering from very high outgoings on their mortgages. Their financial distress is not picked up by the Gini coefficient.

Conclusions

The years since the bursting of the property bubble have involved an exceptionally painful adjustment process affecting all of the population. However, the fiscal policy options chosen by successive governments have contributed to an outcome where inequality in the distribution of income has fallen over the last five years. A major factor in ensuring this outcome was the maintenance of the welfare system, broadly unchanged, in the face of the massive increase in numbers depending on it. The need for increased taxes and for cuts elsewhere in the economy was greatly increased by the decision of successive governments to protect those on low incomes who were dependent on the welfare system. This policy choice was different from that adopted in many other EU countries, where income inequality increased significantly as a result of the crisis.

Even with increases in tax rates on high incomes, because of the heavy attrition among the cohort of high earners and the major reduction in the numbers employed throughout the economy, the bulk of the burden of increases in taxation had to be carried by those on middle incomes who were still in employment.

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