

Quarterly Economic Commentary

David Duffy
Kieran McQuinn
Ciara Morley
Daniel Foley

Autumn 2015



THE ESRI

The *Economic Research Institute* was founded in Dublin in 1960, with the assistance of a grant from the Ford Foundation of New York. In 1966 the remit of the Institute was expanded to include social research, resulting in the Institute being renamed *The Economic and Social Research Institute* (ESRI). In 2010 the Institute entered into a strategic research alliance with Trinity College Dublin, while retaining its status as an independent research institute.

The ESRI is governed by an independent Council which acts as the board of the Institute with responsibility for guaranteeing its independence and integrity. The Institute's research strategy is determined by the Council in association with the Director and staff. The research agenda seeks to contribute to three overarching and interconnected goals, namely, economic growth, social progress and environmental sustainability. The Institute's research is disseminated through international and national peer reviewed journals and books, in reports and books published directly by the Institute itself and in the Institute's working paper series. Researchers are responsible for the accuracy of their research. All ESRI books and reports are peer reviewed and these publications and the ESRI's working papers can be downloaded from the ESRI website at www.esri.ie

The Institute's research is funded from a variety of sources including: an annual grant-in-aid from the Irish Government; competitive research grants (both Irish and international); support for agreed programmes from government departments/agencies and commissioned research projects from public sector bodies. Sponsorship of the Institute's activities by Irish business and membership subscriptions provide a minor source of additional income.

Quarterly Economic Commentary

The *Quarterly Economic Commentary* analyses current economic trends and provides macro-economic forecasts for the current and following year. It assesses international economic prospects and provides short-term forecasts in the framework of a consistent set of national accounts for Ireland. Its wide range of users includes government departments, policy-makers, social partners, international organisations, academics and the national and international financial sectors.

Research Bulletin

The *Research Bulletin* provides short summaries of work published by ESRI staff and overviews of thematic areas covered by ESRI programmes of research. Bulletin articles are designed to be easily accessible to a wide readership. A reference or references to the full publication is included at the end of each Bulletin article.

An archive of bulletin articles will be found at www.esri.ie/bulletin

Quarterly Economic Commentary

David Duffy
Kieran McQuinn
Ciara Morley
Daniel Foley

Autumn 2015

The forecasts in this *Commentary* are based on data available by 23 September 2015. Draft completed 28 September 2015.

Research Notes

Authors

The *Commentary* is edited by Kieran McQuinn and David Duffy. Kieran McQuinn is an Associate Research Professor, David Duffy is a Senior Research Officer, Ciara Morley and Daniel Foley are Research Assistants at the Economic and Social Research Institute (ESRI).

The *Quarterly Economic Commentary* has been accepted for publication by the Institute, which does not itself take institutional policy positions. It has been peer reviewed by ESRI research colleagues prior to publication. The authors are solely responsible for the content and the views expressed.

Special Articles are published in the *QEC* in order to foster high-quality debate on various aspects of the Irish economy and Irish economic policy. They are subject to refereeing prior to publication.

Research Notes are short papers on focused research issues. They are subject to refereeing prior to publication.

Table of Contents

Summary Table	ii
National Accounts 2014, 2015, 2016	iii

CHAPTERS

The Irish Economy - Forecast Overview and Summary	1
The International Economy.....	3
The Domestic Economy	13
General Assessment.....	31
Detailed Forecast Tables.....	35

APPENDIX

Nowcasting Appendix	43
---------------------------	----

RESEARCH NOTES

The Distributional Impact of Inflation: 2003-2014	47
<i>Brian Colgan and Tim Callan</i>	
FDI and the Availability of Dublin Office Space.....	67
<i>David Duffy and Hannah Dwyer</i>	
European Fiscal Policy During the Crisis: An Irish Perspective	79
<i>Kieran McQuinn</i>	

Summary Table

	2012	2013	2014	2015	2016
Output (Real Annual Growth %)					
Private Consumer Expenditure	-0.8	-0.3	2.0	2.8	3.0
Public Net Current Expenditure	-2.2	1.4	4.6	1.0	0.7
Investment	8.6	-6.6	14.3	11.9	9.5
Exports	2.1	2.5	12.1	11.1	7.0
Imports	2.9	0.0	14.7	10.5	7.3
Gross Domestic Product (GDP)	0.2	1.4	5.2	6.0	4.5
Gross National Product (GNP)	1.6	4.6	6.9	5.9	4.0

Prices (Annual Growth %)					
Consumer Price Index (CPI)	1.7	0.5	0.2	0.1	1.0
Growth in Average Hourly Earnings	0.2	-0.4	1.7	2.0	2.3

Labour Market					
Employment Levels (ILO basis (000s))	1,842	1,880	1,914	1,967	2,015
Unemployment Levels (ILO basis (000s))	316	282	243	204	184
Unemployment Rate (as % of Labour Force)	14.7	13.0	11.3	9.5	8.4

Public Finance					
General Government Balance (€ bn)	-14.1	-10.2	-7.6	-3.6	-2.6
General Government Balance (% of GDP)	-8.1	-5.8	-4.1	-1.8	-1.2
General Government Debt (% of GDP)	121.7	123.2	109.7	102.5	96.0

External Trade					
Balance of Payments Current Account (€ bn)	-2.7	5.6	6.8	12.1	14.8
Current Account (% of GNP)	-1.5	3.1	3.6	5.9	6.7

Demand					
Final Demand	1.5	0.9	9.4	8.2	5.9
Domestic Demand	0.7	-1.2	5.7	4.2	4.2
Domestic Demand (excl. Stocks)	1.0	-1.5	5.2	4.7	4.3

National Accounts 2014

A: Expenditure on Gross National Product

	2013	2014	Change in 2014		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	85.7	89.0	3.8	1.7	2.0
Public Net Current Expenditure	26.1	27.2	4.3	-0.2	4.6
Gross Fixed Capital Formation	31.7	36.5	15.3	0.8	14.3
Exports of Goods and Services	191.4	215.0	12.3	0.2	12.1
Physical Changes in Stocks	0.8	1.9			
Final Demand	335.7	369.6	10.1	0.7	9.4
less:					
Imports of Goods and Services	156.8	180.3	15.0	0.3	14.7
Statistical Discrepancy	0.5	-0.2			
GDP at Market Prices	179.0	189.3	5.8	1.0	4.7
Net Factor Payments	-27.4	-26.2			
GNP at Market Prices	152.0	162.9	7.1	0.2	6.9

B: Gross National Product by Origin

	2013	2014	Change in 2014	
	€ bn	€ bn	€ bn	%
Agriculture	3.2	3.4	0.2	6.4
Non-Agriculture: Wages, etc.	67.7	70.0	2.4	3.5
Other	64.0	68.4	4.4	6.9
Adjustments: Stock Appreciation	0.6	-0.3		
Statistical Discrepancy	-0.5	0.2		
Net Domestic Product	135.0	141.9	6.8	5.0
Net Factor Payments	-27.4	-26.2	1.2	-4.5
National Income	107.6	115.7	8.0	7.5
Depreciation	28.4	29.3	0.9	3.3
GNP at Factor Cost	136.0	145.0	9.0	6.6
Taxes less Subsidies	16.0	17.9	1.9	11.6
GNP at Market Prices	152.0	162.9	10.8	7.1

C: Balance of Payments on Current Account

	2013	2014	Change in 2014
	€ bn	€ bn	€ bn
X - M	34.6	34.8	0.2
F	-27.4	-26.2	1.2
Net Transfers	-2.9	-2.7	0.2
Balance on Current Account	4.3	5.9	1.6
as % of GNP	2.8	3.6	1.0

National Accounts 2015

A: Expenditure on Gross National Product

	2014	2015	Change in 2015		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	89.0	92.4	3.8	1.0	2.8
Public Net Current Expenditure	27.2	27.9	2.6	1.6	1.0
Gross Fixed Capital Formation	36.5	41.2	12.7	0.7	11.9
Exports of Goods and Services	215.0	244.2	13.6	2.3	11.1
Physical Changes in Stocks	1.9	1.0			
Final Demand	369.6	406.6	10.0	1.7	8.2
less:					
Imports of Goods and Services	180.3	201.6	11.8	1.2	10.5
Statistical Discrepancy	-0.2	-0.2			
GDP at Market Prices	189.3	205.0	8.3	2.2	6.0
Net Factor Payments	-26.2	-28.5			
GNP at Market Prices	162.9	176.3	8.2	2.2	5.9

B: Gross National Product by Origin

	2014	2015	Change in 2015	
	€ bn	€ bn	€ bn	%
Agriculture	3.4	3.4	0.0	1.0
Non-Agriculture: Wages, etc.	70.0	73.5	3.4	4.9
Other	68.4	83.5	15.1	22.1
Adjustments: Stock Appreciation	-0.3	-0.3		
Statistical Discrepancy	0.2	0.2		
Net Domestic Product	141.9	160.4	18.6	13.1
Net Factor Payments	-26.2	-28.5	-2.3	8.9
National Income	115.7	131.9	16.2	14.0
Depreciation	29.3	25.0	-4.3	-14.7
GNP at Factor Cost	145.0	156.9	11.9	8.2
Taxes less Subsidies	17.9	19.3	1.5	8.2
GNP at Market Prices	162.9	176.3	13.4	8.2

C: Balance of Payments on Current Account

	2014	2015	Change in 2015
	€ bn	€ bn	€ bn
X - M	34.8	42.5	7.7
F	-26.2	-28.5	-2.3
Net Transfers	-2.7	-2.7	0.0
Balance on Current Account	5.9	11.3	5.3
as % of GNP	3.6	6.4	3.0

National Accounts 2016

A: Expenditure on Gross National Product

	2015	2016	Change in 2016		
	€ bn	€ bn	Value	Price	Volume
Private Consumer Expenditure	92.4	96.6	4.5	1.5	3.0
Public Net Current Expenditure	27.9	28.9	3.6	2.9	0.7
Gross Fixed Capital Formation	41.2	46.1	12.0	2.2	9.5
Exports of Goods and Services	244.2	266.3	9.1	1.9	7.0
Physical Changes in Stocks	1.0	1.0			
Final Demand	406.6	438.9	7.9	1.9	5.9
less:					
Imports of Goods and Services	201.6	218.2	8.2	0.9	7.3
Statistical Discrepancy	-0.2	-0.2			
GDP at Market Prices	205.0	220.7	7.7	3.0	4.6
Net Factor Payments	-28.5	-31.4			
GNP at Market Prices	176.3	189.1	7.3	3.2	4.0

B: Gross National Product by Origin

	2015	2016	Change in 2016	
	€ bn	€ bn	€ bn	%
Agriculture	3.4	3.5	0.1	2.5
Non-Agriculture: Wages, etc.	73.5	77.0	3.6	4.9
Other	83.5	93.2	9.6	11.5
Adjustments: Stock Appreciation	-0.3	-0.3		
Statistical Discrepancy	0.2	0.2	0.0	0.0
Net Domestic Product	160.4	173.7	13.3	8.3
Net Factor Payments	-28.5	-31.4	-2.9	10.2
National Income	131.9	142.3	10.4	7.9
Depreciation	25.0	26.5	1.5	6.0
GNP at Factor Cost	156.9	168.8	11.9	7.6
Taxes less Subsidies	19.3	20.3	0.9	4.8
GNP at Market Prices	176.3	189.1	12.8	7.3

C: Balance of Payments on Current Account

	2015	2016	Change in 2016
	€ bn	€ bn	€ bn
X - M	42.5	48.1	5.6
F	-28.5	-31.4	-2.9
Net Transfers	-2.7	-2.7	0.0
Balance on Current Account	11.3	14.0	2.7
as % of GNP	6.4	7.4	1.4

The Irish Economy - Forecast Overview and Summary

The pace of the Irish recovery would appear to be increasing; the latest National Accounts indicate that output in the economy grew by over 5 per cent in 2014 and by almost 2 per cent in Q2 2015 alone. Use of the nowcasting model (summarised in the Appendix) suggests the economy is growing through Q3 by approximately 1.5 per cent per quarter in 2015. Accordingly, we now update our forecast for GDP in 2015 to 6 per cent, with GNP expected to grow marginally less at 5.9 per cent. One significant consequence of this is that Irish income per capita, which fell significantly post-2007, is now back to the peak level prior to the financial crisis.

External trade and investment continue to contribute strongly to growth, however, the most noticeable recent trend in the recovery is the increase observed in personal consumption. While household debt levels are still very high, particularly when compared with other European countries, it would appear that the deleveraging which is underway in the economy is not now restricting growth in spending to the same degree as previously. This increase in consumption is also tangible evidence that households are finally experiencing the recovery.

This is important from a policy perspective, as it indicates there is no macroeconomic rationale to stimulate domestic economic activity. Furthermore, the robust growth rates experienced by the economy, we believe, argue for a policy which does not stimulate economic activity in the forthcoming budget. In framing budgetary policy, it is important to heed the lessons of the past and, consequently, avoid pro-cyclical policy options.

The increased level of activity in the economy has also resulted in a marginal increase in the labour force participation rate in the year-on-year rate to Q2 2015. In light of the increased economic activity, we now believe that unemployment will fall to 9 per cent by the end of 2015 and to 8 per cent by the end of 2016.

The summer months witnessed considerable uncertainty in the Euro Area, particularly in relation to the ongoing difficulties in the Greek economy. In this *Commentary* a Research Note by McQuinn critiques the conduct of European

fiscal policy since 2007 and argues that the absence of a countervailing fiscal policy over this period at European level has exacerbated the difficulties experienced by Member States. McQuinn notes that it is now incumbent on domestic policymakers to address the institutional issues which prevent the formation of an effective fiscal union within the Euro Area.

An ongoing issue of concern within the economy is the slow rate of supply response within the housing sector. This has seen the cost of housing increase significantly with both house prices and rents increasing markedly. This ultimately could pose serious challenges at a macroeconomic level with heightened cost of living pressures threatening the availability of future labour supply via increased inward migration. Notwithstanding this, in the assessment we caution against the use of the taxation system to address supply-side issues, arguing that such measures should only be contemplated under a very particular set of circumstances.

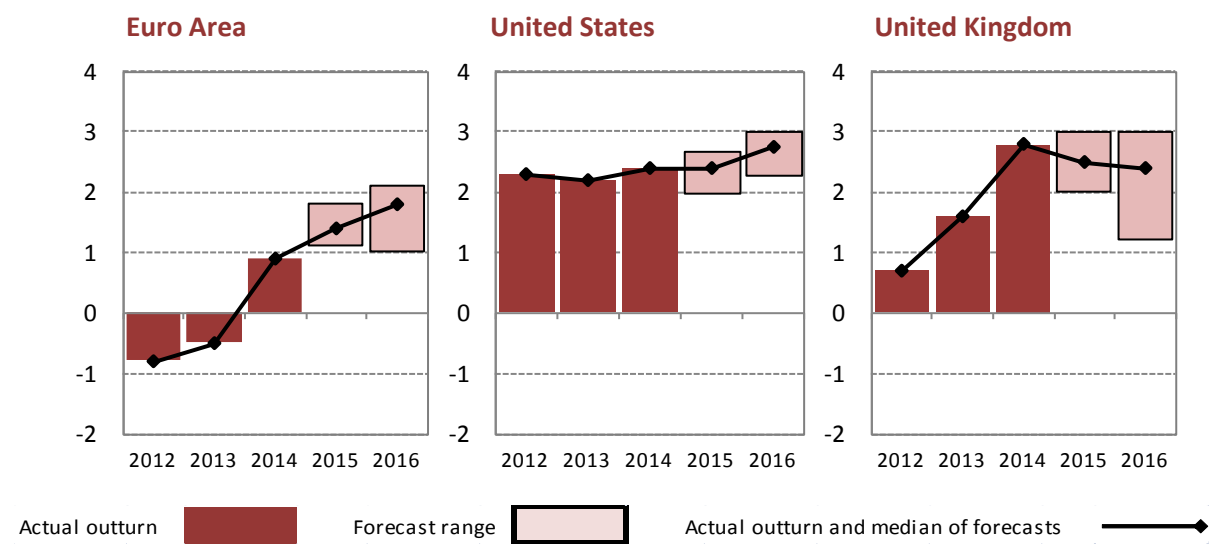
Finally, in light of the higher than expected growth rates in 2015, we now revise upward our forecast for 2016; we believe output will grow at approximately 4.5 per cent next year. This should result in the economy converging to its potential level of output at this point.

The International Economy

The economic performance of Ireland's main trading partners continues to be quite positive in 2015. Output growth remains positive for the UK, the US and the Euro Area, nonetheless significant downside risks have emerged which may threaten future prospects for each economy.

Figure 1 shows forecast growth in Ireland's main trading partners. Consensus growth forecasts for the Euro Area have been revised upwards since the start of the year. Real GDP is now forecast to grow by 1.4 per cent and 1.8 per cent in 2015 and 2016, respectively. Since the Summer *Commentary*, however, there have been downgrades to growth forecasts for both the US and UK. The US is forecast to grow by 2.4 per cent in 2015 and 2.8 per cent in 2016, while the UK is forecast to grow by 2.5 per cent and 2.4 per cent for the same periods.

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



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

The Euro Area Economy

Seasonally-adjusted GDP rose by 0.4 per cent in both the Euro Area and the European Union as a whole in the second quarter of 2015 compared with the previous quarter. In the first quarter, GDP also grew by 0.5 per cent in both areas. Compared with the same quarter of the previous year, seasonally-adjusted GDP rose by 1.5 per cent in the Euro Area in Q2 of 2015, after a 1.2 per cent increase in

the previous quarter. GDP increased in all Member States for which data are available for Q2 of 2015, except France where it remained stable.

Euro Area annual inflation was 0.1 per cent in August 2015, down from 0.2 per cent in July. This compares to inflation of 0.5 per cent one year earlier. Annual inflation in the European Union was 0 per cent in August, down from 0.2 per cent in July. Negative annual rates were observed in 11 Member States in August 2015, the lowest of which were recorded in Cyprus, Romania and Lithuania. Compared with July 2015, annual inflation fell in 14 Member States, remained stable in four and rose in ten. It has been noted in a number of previous *Commentaries* that energy prices have been the main driver of falling inflation. When energy prices are excluded annual inflation was 1.0 per cent in August 2015. Although low energy prices continue to exert a drag on annual inflation, lower oil prices should continue to support consumption growth through their positive impact on household personal disposable income.

The European Central Bank (ECB) continues to leave the policy rate at its present historically low level in order to confront the low inflation observed across the Euro Area. The monthly asset purchases of €60 billion, as part of the non-standard monetary policy measures, is intended to run until September 2016 or until a sustained adjustment is observed in the path of inflation that is consistent with achieving an inflation rate close to the 2 per cent target in the medium term. An extension to the scheme is expected in light of the downward inflationary pressure exerted by continued low oil prices and current inflation data.

On the policy front, the presidents of the European Commission, the ECB, the European Council, the European Parliament and the Eurogroup released a report in June¹ detailing the steps required to strengthen economic and monetary union through closer integration of the Eurogroup. The report suggests that progress must happen on four fronts devoted to the economic, financial, fiscal and political union with each union divided into two stages, the first to be completed by June 2017 and the second by 2025.

The report addresses many of the major issues underlying the financial crisis; the issue of divergence, for example, can have major implications for employment, industrial activity and also for current accounts. In addition, the report also

¹ See http://europa.eu/rapid/press-release_IP-15-5240_en.htm for details.

prioritises finalising the banking union with particular attention given to the requirement of the setting up a credible common backstop to the Single Resolution Fund and an adequate system of deposit insurance. There has also been some criticism of the report with some² believing that not enough emphasis was placed on the urgency with which counter-cyclical fiscal policies are required to foster stronger and more robust economic growth.³ McQuinn, for example, in a Note in this *Commentary*, highlights the recent European policy failures in dealing with the post 2007/2008 financial crisis and the need, consequently, for a more effective fiscal union.

Downside risks continue to exist for the Euro Area and wider European Union. Greece and its international lenders reached an €85 billion bailout agreement in early August. The agreement gives Greece some respite after a turbulent year marked by acrimonious talks with lenders, the imposition of capital controls and a three-week shutdown of its banks. This period saw Greece falling back into a recession and Greek commercial banks still continue to operate under very strict capital controls. A deal on primary surplus targets was also negotiated between Greece and its European partners. These targets are now: 0.25 per cent GDP deficit for 2015, 0.5 per cent surplus in 2016, 1.75 per cent in 2017 and 3.5 per cent in 2018.

The Syriza party was returned to government in September. Despite the re-election of the ruling party it is already expected that Greece will miss its revenue target from asset sales this year due to delays in a €1.2 billion airport deal. It is also difficult to see how Greece will succeed in generating and sustaining a surplus of 3.5 per cent from 2018 onwards or how massive debts, set to peak at close to 200 per cent of GDP in the next two years, will be reduced. Further to this, a statement for the Eurogroup confirmed that they are ready to consider possible additional measures such as longer repayment periods in order to ensure that Greece's gross financing needs remain at a sustainable level.⁴

² Odendahl, C. 'The eurozone's "five presidents" report: An assessment'. Centre for European Reform www.cer.org.uk/insights/eurozones-five-presidents-report-assessment.

Begg, I. 'What does the Five Presidents' report mean for the future of the euro?' The London School of Economics and Political Science at <http://blogs.lse.ac.uk/euoppblog/2015/06/23/what-does-the-five-presidents-report-mean-for-the-future-of-the-euro>.

³ See IMF (2015) 'Now is the Time: Fiscal Policies for Sustainable Growth' at <https://www.imf.org/external/pubs/ft/fm/2015/01/pdf/fmc2.pdf>.

⁴ See www.consilium.europa.eu/en/press/press-releases/2015/08/14-eurogroup-statement for full statement.

The US Economy

Real GDP increased at an annual rate of 3.7 per cent in the second quarter of 2015. GDP growth in Q2 was broad-based reflecting positive contributions from personal consumption expenditure and exports. Domestic demand remains strong, with personal consumption increasing by 3.1 per cent in the second quarter. This is a clear improvement from the first quarter's 1.8 per cent. These estimates, which were released in the wake of the global stock market sell-off towards the end of August, may offer some assurance to both investors and the Federal Reserve that the US economy is able to withstand growing strains in the world economy.

The Federal Reserve has decided to hold interest rates unchanged in September. This follows much speculation by investors on two interest rate rises this year, an anticipated 0.25 per cent in September and a further 0.5 per cent in December. Nine members of the Federal Open Market Committee voted to hold the key federal funds rate target at 0 to 0.25 per cent with only one member favouring a 0.25 percentage point rise. Uncertainty regarding the knock-on effects of the economic slowdown in China was one of the primary reasons for delaying what would have been the first rate hike in nine years. The long-term policy of the Federal Reserve is to keep interest rates low until employment levels improve further and the main US inflation rate approaches its 2 per cent target. Policymakers now predict a rise of 0.25 of a percentage point this year, followed by 1 per cent in 2016 and a further 1.25 per cent increase in 2017.

The Federal Reserve Bank of Kansas City's annual economic policy symposium was held at the end of August and focused on the topic of inflation dynamics and monetary policy. Central Bank members remained positive that inflation would begin to rise in the coming months with Federal Reserve Vice Chairman Stanley Fisher claiming there is good reason to believe inflation will increase as the forces holding down inflation dissipate further. Other commentators⁵ remain pessimistic and highlighted that strict inflation targeting does not pay enough attention to financial shocks, which can disrupt economic output. If the situation in China continues to worsen in the coming months there is concern that central banks will have very few options open to them to deal with the issue as many of the major central banks already have interest rate set close to zero.

⁵ See <https://www.kansascityfed.org/publications/research/escp/symposiums/escp-2015> for contributors at the symposium.

Total non-farm payroll employment increased by 173,000 in August and the unemployment rate edged down to 5.3 per cent. Over the year, the unemployment rate and the number of unemployed persons were down by 1 percentage point and 1.5 million, respectively. In August, the labour force participation rate was 62.6 per cent for the third consecutive month. This is the lowest rate recorded in the US since October 1977 and is part of a long-term downward trend. The employment-population ratio, at 59.4 per cent, was little changed in August and has shown little movement thus far this year.

New research⁶ details the stark differences in the participation rate in the US and other major economies. Despite similar trends in youth, prime-aged and pre-retirement participation rates, the US is the only country in the sample⁷ experiencing a recent decline in the aggregate labour force participation rate. The study attributes this decline to a larger-than-average drop in the participation rate of prime-aged workers. This phenomenon has been studied in some detail since the economic crisis but this research highlights the fact that the decline in the rate predates the recession by about two decades in the case of the US.

The UK Economy

Inflation was 0.1 per cent in the year to July 2015, up from 0 per cent in the year to June 2015. While inflation was negative in April for the first time since 1960, the Consumer Price Index (CPI) has been flat for the past six months. In the year to July 2015, food prices fell by 2.7 per cent and prices of motor fuels fell by 11.4 per cent. These two groups have provided some of the largest downward contributions to the 12-month rate during 2015, reducing it by approximately 0.7 percentage points. The core rate of inflation, which excludes volatile items such as energy and food rose to its highest level in five months to 1.2 per cent in July from 0.8 per cent in June. There is some concern that the inflation rate could fall back again, partly due to the drop in the price of oil, which has slumped by nearly a quarter in the past two months. The Bank of England has kept the Bank Rate at 0.5 per cent, while market expectations have interest rates beginning to rise in early 2016 with the official rate expected to reach 1.4 per cent after three years.

⁶ See Dvorkin, M and Shell, H. (2015) 'Labour Force Participation: The US and its Peers'. Federal Reserve Bank of St. Louis at <https://www.stlouisfed.org/on-the-economy/2015/june/labor-force-participation-the-us-and-its-peers>.

⁷ The sample includes United Kingdom, Canada, Sweden, Germany, Spain, France, Japan and the US.

GDP grew by 0.7 per cent in the second quarter of the year, bringing it back to the pre-2008 peak. Measured on an annual basis, the economy grew 2.6 per cent. The Office of National Statistics (ONS) confirmed that the UK economy remained slightly below where it was in 2007 when measured on a per capita basis. There are concerns that the slowdown in growth in China could affect western economies through weaker trade although there is likely to be little impact on the UK economy. In 2014 official figures show that China accounted for around 4 per cent of all British exports.

Overall growth in the UK economy is still heavily dependent on the services sector and domestic consumers with increases in Q2 output levels largely driven by household consumption and government spending. Net Trade however did make its strongest contribution to growth in over four years.

Notwithstanding the recent increases in output, the unemployment rate of 5.5 per cent in the period May to July 2015 is unchanged compared with the February to April period. The number of people employed increased by 42,000 while the number of unemployed rose by 10,000. Despite this increase there are still 198,000 fewer unemployed than in the same period last year.

The World Economy

In recent months uncertainty regarding growth in China has been the cause of much concern for the global economy. A recent study⁸ identified China as one of the leading candidates for the next episode of the debt crises that have burdened the global economy since the early 1990s. The study predicts that a significant slowdown of Chinese activity and a depreciation of the currency would have a large impact on the world economy.

Following the surprise devaluation of the yuan in early August and disappointing data released in the same month, suggesting that China's industrial activity is slowing sharply, stock markets globally experienced a sharp decline at the end of August. There is a concern that western or 'rich-world' economies will have few options open to them in terms of adjusting interest rates, in the event that the Chinese economy continues to rebalance in such a volatile manner.

⁸ Buttiglione, L., P.R. Lane, L. Reichlin, and V. Reinhart. 'Deleveraging? What Deleveraging?' Geneva Reports on the World Economy. International Center for Monetary and Banking Studies.

With China the top consumer of many metals the uncertainty surrounding its future economic growth has also impacted commodity prices. US oil prices fell below US\$40 per barrel at the end of August for the first time since 2009; a 50 per cent drop in a year. Brent North Sea crude oil had an average price of US\$50.17 in early September following a mixed US petroleum report that showed an increase in reserves but a decline in production. After surging more than 25 per cent, oil prices began to fall again in light of weak manufacturing data from China and the US.

There are also concerns, from an Irish perspective, that a continued slowdown in China could have a damaging effect on agriculture and food markets, particularly given the weakness in the Irish sector in 2015. While only 2 per cent of all Ireland's exports go to China (compared to 80 per cent that go to the EU, US and UK combined) certain dairy companies such as Glanbia and Kerry Group have direct exposure to the Chinese market and could be negatively impacted in future months. Exports of Irish agri-food produce to China will likely remain weak for the foreseeable future given currency movements.

Implications for Irish Exports, Imports and the Balance of Payments

In contemplating the current outlook for Irish net trade it is important to understand some recent changes in the treatment of imports in the National Accounts. In particular, under the new change of ownership methodology, all trade in aircraft leasing with the rest of the world is recorded as imports and exports of goods, regardless of where the aircraft is registered for aviation purposes. In a Special Article in the Summer *Commentary* FitzGerald (2015)⁹ presented the main effects of the new methodology. The most significant change in how these figures are recorded will involve including the import of aircraft by the leasing companies in merchandise imports and then including the same aircraft in the investment figures. The effect of these two changes will cancel each other out insofar as they will not affect GNP and GDP. However, at present, interpreting recent data for both investment and imports becomes more challenging, causing a higher degree of uncertainty surrounding our forecasts for these aggregates.

⁹ See FitzGerald, J. (2015). 'Problems Interpreting National Accounts in a Globalised Economy – Ireland'. *ESRI Quarterly Economic Commentary Special Article*, Summer 2015.

The inclusion of aircraft purchases by leasing firms in Ireland as an import also has important implications for the Balance of Payments. The previous methodology did not include these purchases as imports and, as a result, the revisions substantially reduce the current account surplus.

GDP expansion in 2014 was bolstered by a significant increase in net exports, accounting for just under half of overall growth. Some of this increase in exports was due to the impact of foreign processing of Irish-owned goods for export, or what is commonly known as ‘contract manufacturing’. The significant increase in contract manufacturing was mainly observed in the pharmaceutical sector. In our forecasts for 2015 and, particularly, 2016 we assume that the ‘contract manufacturing’ effect in 2014 represented a step increase in the level of imports and exports rather than a lasting shift in their growth rates. Based on this we expect that the growth rates will moderate in 2016.

The Quarterly National Accounts figures for Q2 2015 show that seasonally-adjusted total imports are up 17 per cent over Q2 2014. This consisted of increases in both goods and services imports of 9 per cent and 21 per cent respectively. This compares to a growth rate of 13 per cent for total imports a year earlier. Seasonally-adjusted total exports also showed strong growth with an increase of 13.8 per cent. Goods exports increased by 15.5 per cent and services exports grew 11 per cent in the year to Q2.

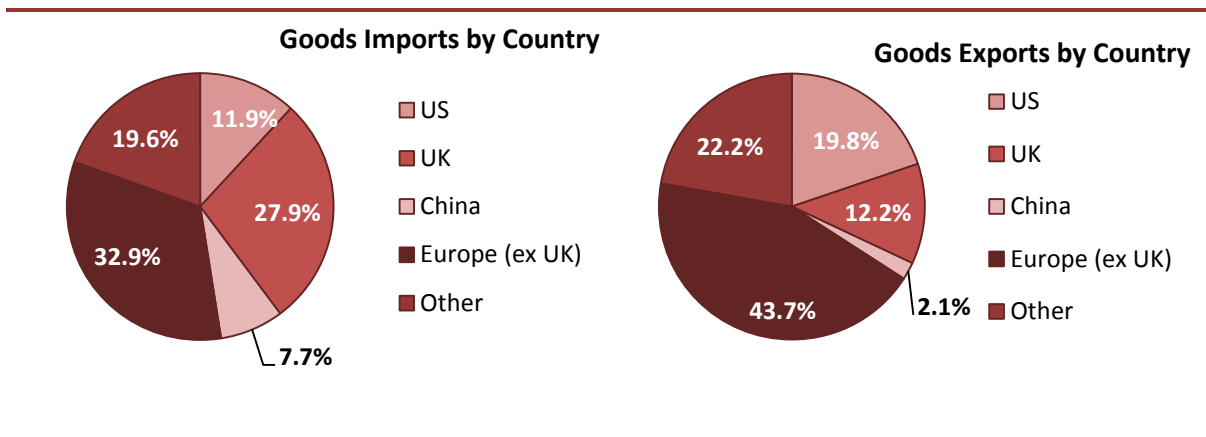
The monthly imports and exports release from the CSO for July gives a breakdown of merchandise imports and exports by commodity. Medical and pharmaceutical products continue to dominate exports and are up from July 2014 by €1,139 million or 69 per cent. There was also strong growth in organic chemicals, increasing by €389 million or 39 per cent. Notable changes in the value of goods imports from July 2014 include office machines and automatic data processing machines of €92 million or 36 per cent and road vehicles of €76 million or 47 per cent. If other transport equipment, including aircraft are excluded from the value of goods imports figures we see growth of 10 per cent from July last year.

The Balance of Payments release for Q2 2015 shows strong growth in both services imports and exports. Total services exports increased 14 per cent from Q2 2014 to Q2 2015, primarily driven by an increase in computer services exports of 13 per cent. The figures also reveal an increase of service imports of 25 per

cent. The main driver of this was an increase in royalties and licenses; however this is likely to be a once-off payment. As of Q2 2015, the current account surplus stands at €2.7 billion or 5.2 per cent of GDP. This compares to a surplus of €1.87 billion for Q2 2014. This figure is somewhat less than what would have been the case under the previous treatment of aircraft leasing in the National Accounts.

In terms of the main trading partners for the Irish economy, Figure 2 shows a breakdown of goods imports and exports by country. The EU accounts for approximately 56 per cent of Irish total exports, of which 14 per cent goes to Belgium. The UK is still Ireland's single biggest trading partner, accounting for approximately 12 per cent of exports and nearly 28 per cent of imports in July. Outside of the EU, the US is Ireland's main trading partner accounting for nearly 20 per cent of exports and 12 per cent of imports.

FIGURE 2 Proportion of (Merchandise) Exports and Imports (from and to Ireland) by Geographical Detail (Q1 2015, € million)



Source: Central Statistics Office.

The depreciation of the Euro against the Dollar and the Pound Sterling, and continued domestic growth in the US and the UK indicate a positive outlook for Irish exports in 2015. Taking into account these developments and the recent trade data from the Quarterly National Accounts, we forecast growth in total exports to be 11.1 per cent in 2015. Given the continued buoyancy in the economy and particularly the pick-up in domestic consumption, we also expect import growth to remain strong in 2015, increasing by 10.5 per cent.

China's recent unexpected currency devaluation and subsequent stock market crash have led to renewed concerns about the underlying strength of the Chinese

economy. While China accounts for approximately 2 per cent of Ireland's exports, and therefore does not constitute a significant direct threat to Irish trade performance, it could however have indirect effects if prolonged instability in China were to have significant ramifications for the US and UK economies.

Another potential challenge for Irish trade performance is the possibility, as discussed in the international section, of interest rate increases in our biggest trading partners. Rising interest rates in both the US and UK could negatively affect Irish exports by dampening consumer demand in both economies. The scenario of the UK leaving the EU (Brexit) also presents a risk to Ireland. A recent study¹⁰ suggests that if this exit were to materialise, Ireland could be significantly affected. In the best case scenario Ireland could still face a sizeable loss in GDP by 2030. The majority of this loss, according to the report, would stem from the significant costs of a new customs border with the UK. While the report suggests the overall result for Ireland would be significantly negative, it also suggests that the likelihood of the UK leaving the EU is quite low.

¹⁰ Booth, S., C. Howarth, M. Persson, R. Ruparel, P. Swidlicki (2015). 'What if...? The Consequences, challenges and opportunities facing Britain outside EU'. Report, Open Europe.

The Domestic Economy

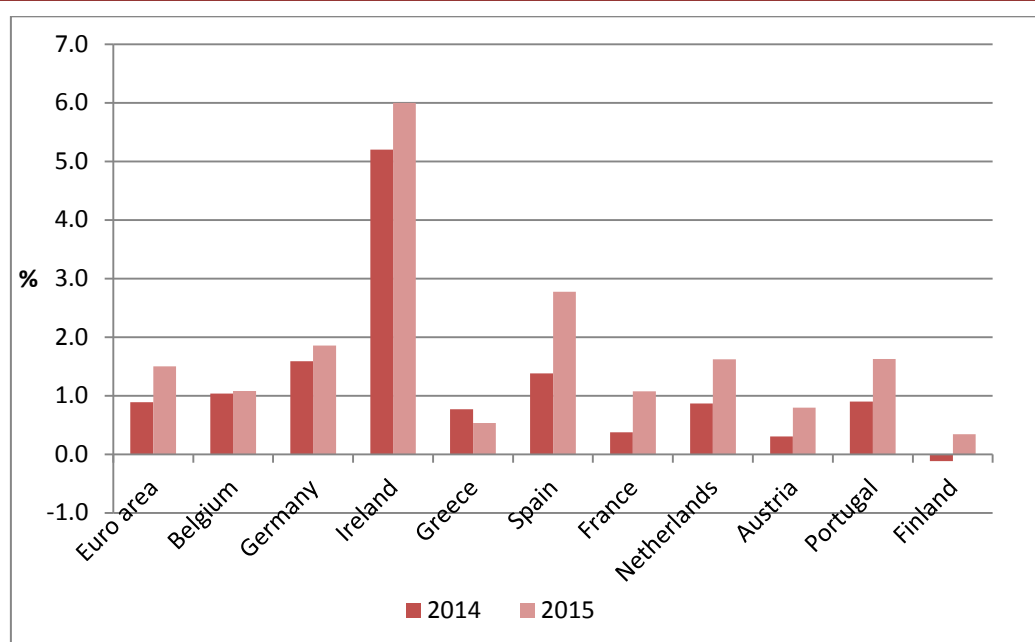
Output

The domestic section of the *Commentary* is organised as follows; we initially review the outlook for output growth before discussing developments in the Irish monetary and financial sectors. Prices and earnings in the economy are then discussed, followed by a review of consumption and housing market issues. On the supply-side, we then examine developments in investment and the labour market before concluding with an analysis of the public finances.

The strength of the recovery in the Irish economy shows no sign of abating, with GDP in 2014 increasing by 5 per cent. GNP, owing to a significant fall in factor outflows, grew by a substantial 7 per cent. For 2015, strong increases in output are likely to persist owing to the increasing contribution of growth in domestic consumption allied to the ongoing substantial increases in investment and the continued strong performance of the external trade sector. It is now clear that the recovery, which initially was very much reliant on external demand, is increasingly being fuelled by domestic sources of growth.

The nowcasting model (summarised in the Appendix) indicates that the Irish economy grew by over 1.5 per cent for each of the first three quarters of 2015 with its growth rates for both Q1 and Q2 of 2015 matching exactly the official National Accounts estimate for that period. Based on these improving trends, we have revised upwards our growth forecast for both 2015 and 2016; we now envisage growth in GDP for both years respectively of 6 and 4.5 per cent.

The degree to which the Irish economy is outperforming other European countries can be observed from Figure 3, where we update the growth forecasts of the Irish economy in comparing them with those of other select Euro Area members. Over the two years 2014 and 2015, only Spain in 2015 is likely to experience anything like Ireland's domestic growth performance.

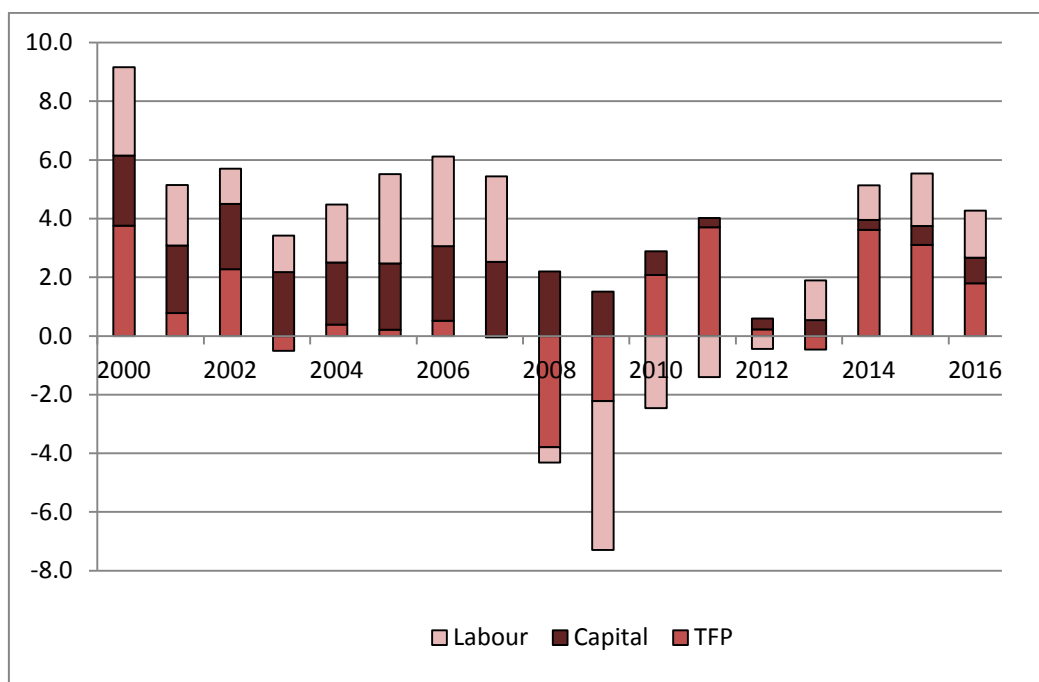
FIGURE 3 Actual (2014) and Forecast (2015) Real GDP Growth Rates for Select Euro Area Countries (%)

Sources: AMECO database and QEC forecasts.

Using a growth accounting framework outlined by Byrne and McQuinn (2014), in Figure 4 we decompose the growth rate of Irish GDP over the historical period 2000-2014 and the two forecast periods 2015 and 2016 into contributions from increases in total factor productivity (TFP), capital and employment levels.¹¹ In the period prior to 2007, growth in Irish output was mainly due to increases in labour and capital with factor productivity playing a minor role. However, TFP growth has been to the fore in the recovery since 2013 and is expected to play a further important part in output growth both this and next year.

¹¹ We take the forecasts for GDP, labour and investment for 2015 and 2016 from the *Commentary* while the labour share of income is assumed to be 2/3.

FIGURE 4 Decomposition of Actual (2000-2014) and Forecast (2015-2016) Real Irish GDP Growth into Labour, Capital and Total Factor Productivity (TFP) Components (%)



Sources: Central Statistics Office and QEC forecasts.

A number of commentators have sought to characterise the Irish recovery. McQuinn (2015), in a note to this *Commentary*, following Krugman (2015)¹² and Wren Lewis (2015),¹³ invokes a traditional Keynesian approach. In such a scenario, output is assumed to converge back to a steady-state level over time, so as the domestic economy experienced a deflationary period between 2007 and 2010, relative prices declined vis-à-vis international comparators, competitiveness improved and the economy started to recover through export-led growth. Byrne and McQuinn (2015) offer a similar analysis of recent Irish performance as a case of an economy converging back to its steady-state level.

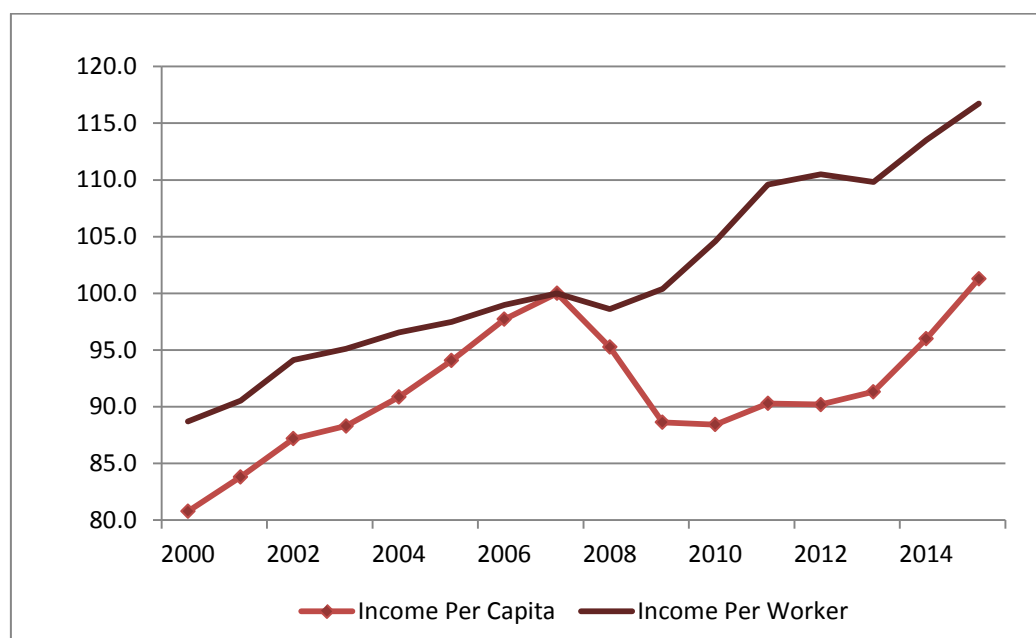
However, this self-correction comes at some cost in terms of the resulting volatility in economic activity. To that end, it is informative to examine the scale of changes in the *levels* of key Irish economic variables. In Figure 5, actual (2000-2014) and forecast (2015) income per capita and income per worker in the Irish economy are plotted. The lost output due to the financial crisis is readily apparent. In terms of living standards it is clear that even with the strong growth

¹² Krugman P. (2015). 'The Half-Lives of Others (Wonkish)', New York Times, July 22.

¹³ Wren Lewis S. (2015). 'Greece and the Political Capture of the IMF': <http://mainlymacro.blogspot.co.uk/2015/07/greece-and-political-capture-of-imf.html>.

rates recently experienced, the Irish economy is only back to its pre-crisis income levels in 2015.

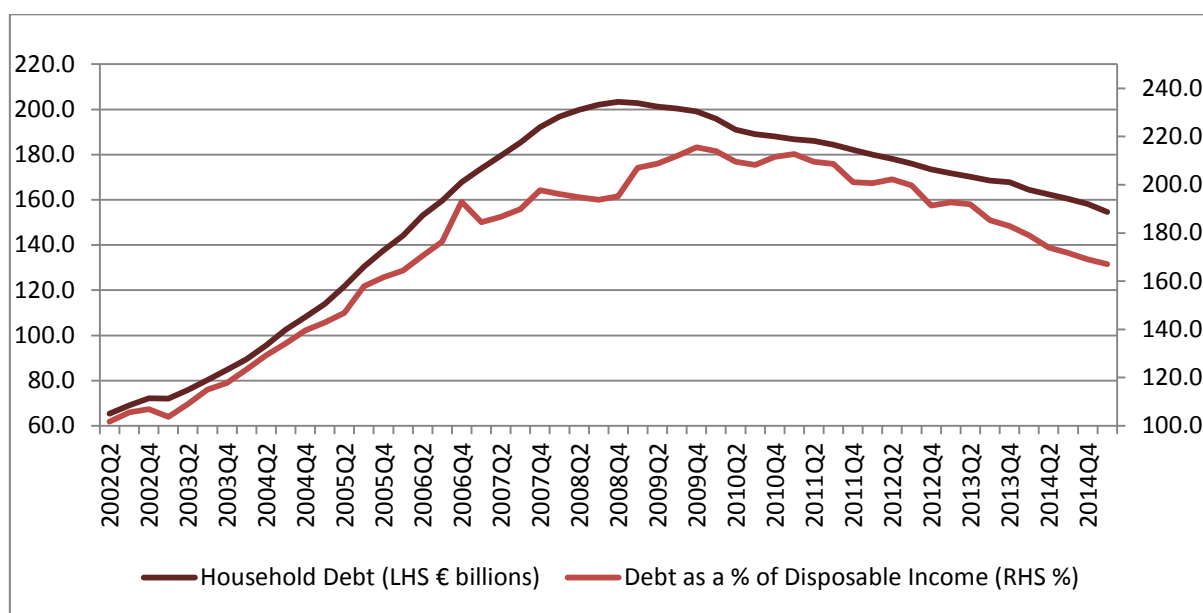
FIGURE 5 Actual (2000-2014) and Forecast (2015) Irish Economic Performance: Index 2007=100



Source: McQuinn (2015).

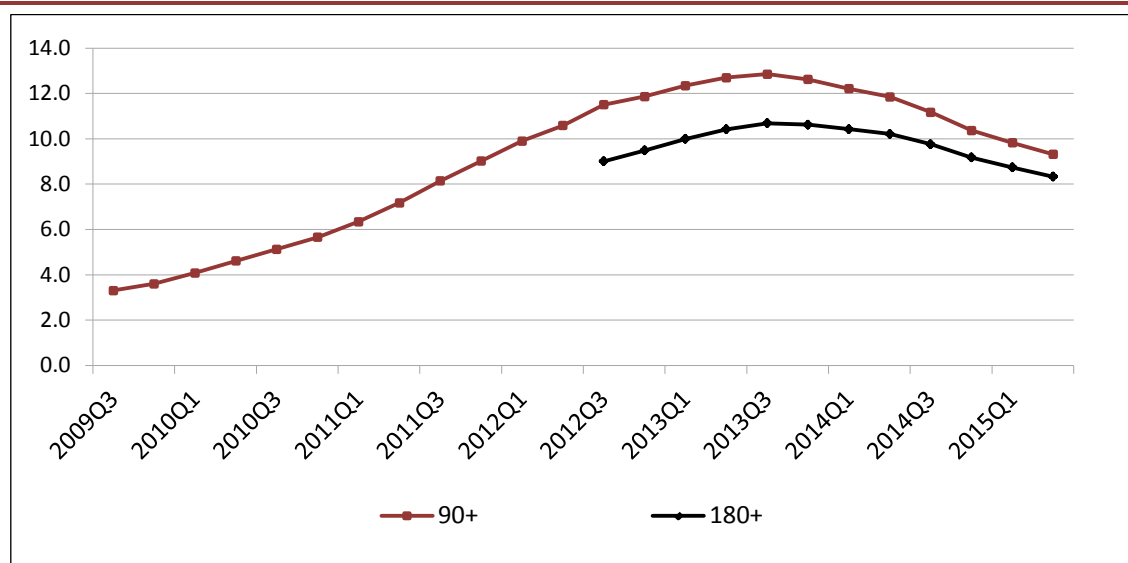
Monetary and Financial Conditions

Across certain financial stress indicators, there would appear to be some modest improvement in household circumstances. Figure 6, for example, plots total household debt and the ratio of debt as a proportion of disposable income. By Q1 2015, total household debt declined to €154.6 billion or €33,530 per capita. This represents a decrease of 2.3 per cent or €3.7 billion on the previous quarter, which was the largest decline in debt since Q2 2010. Although only Denmark and the Netherlands amongst major European economies have higher household debt relative to disposable income, the relative improvement in this household position is reflected in the increase in personal consumption observed in the general economy. While households will continue to deleverage to improve their balance sheet positions, income levels appear to have increased sufficiently for these households to increase their expenditure on goods and services.

FIGURE 6 Irish Household Debt 2003-2015

Source: Central Bank of Ireland.

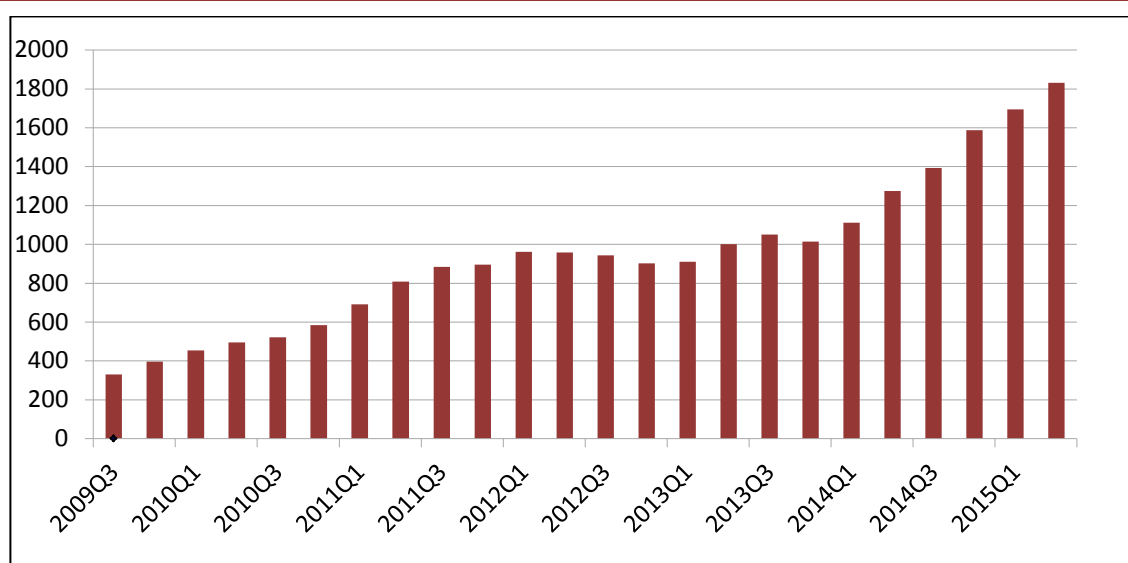
On the face of it, the mortgage arrears issue appears to be improving albeit at a very slow pace. As can be seen from Figure 7, the total number of mortgages in 90-days-plus arrears is now down to 9.3 per cent from a peak of nearly 13 per cent at the end of 2013. However, the percentage in longer-term arrears (i.e. 180-days-plus arrears) has remained relatively static at about 8.5 per cent of the total stock of mortgages over the past four years. Inevitably, these cases will be the most difficult to resolve.

FIGURE 7 Select Mortgage Arrears Rates (%): Q3 2009-Q2 2015

Source: Central Bank of Ireland.

An issue which has recently attracted an increased degree of attention in relation to the mortgage arrears issue is that of home repossessions. As can be seen from Figure 8, a clear increase in the number of repossessions can be observed in the Irish market from late 2013 onwards, although the level of repossessions relative to the level of mortgage arrears remains relatively low. Unfortunately, a successful resolution of the mortgage arrears issue, particularly given its scale in an Irish context, does require some degree of home repossessions. However, as noted in a number of contributions at a 2013 Central Bank of Ireland conference on mortgage distress resolution,¹⁴ generally, the quicker a mortgage resolutions process is instigated and completed the better in terms of an efficient market outcome. The danger with a protracted resolution process, as observed to date in the Irish market, is that it may result in more repossessions actually occurring than if the problem had been addressed at an earlier stage. Restructuring a distressed mortgage at an earlier stage is likely to reduce the possibility of re-default.

FIGURE 8 Repossessions in the Irish Mortgage Market: Q3 2009-Q2 2015



Source: Central Bank of Ireland. Note: These are the properties in possession of the banks at end of quarter.

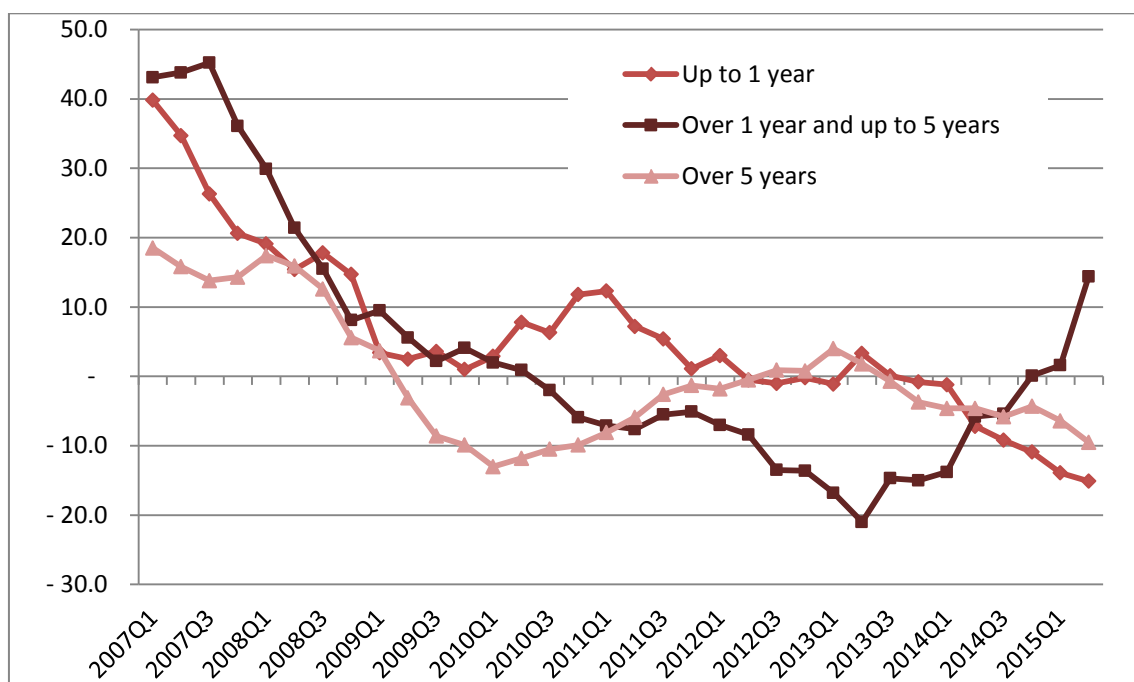
While there have been some small declines in the residential variable mortgage interest rates on offer in the Irish market, the significant 'wedge' observed in McQuinn and Morley (2015) between rates in the domestic market and the official ECB policy rate is still evident. Equally, as illustrated by the latest data from the Central Bank, the difference identified between retail interest rates charged on various different loan sizes to Irish non-financial corporates (NFC) is also still apparent.

¹⁴ See www.centralbank.ie/stability/conferences/Pages/distressedpropertymarkets2013.aspx for more details.

The first half of 2015 saw two positive developments for Ireland's debt dynamics; the issue of the first ever 30-year bond and the completion of the early repayment of just over €18 billion of Ireland's IMF loan facility using cheaper, long-term market funding. The latter development generates interest savings in excess of €1.5 billion over the original lifetime of the IMF loans. The weighted average maturity of the sovereign's long-term marketable and official debt has improved from 7.3 years at Q4 2012 to approximately 13 years by Q2 2015.

There is very little change in the overall levels of credit being extended to the household sector with the year-on-year growth rates for total overall lending still negative. In Figure 9, the change in total lending for NFCs is plotted. The post-crisis decline in NFC lending was initially concentrated in longer-term loans, while short-term loans including the use of overdrafts continued to increase, albeit at a much slower pace. Since Q3 2013 longer-term NFC lending has been declining. This fall in longer-term credit is of some concern as it indicates a declining investment focus in the NFC sector. However, since mid-2013 the pace of decline in short-term loans has slowed and positive growth rates have been observed in medium-term loans since early 2015.

FIGURE 9 Year-on-Year Growth Rate (%) of Lending to Irish Resident Non-Financial Corporations: Q1 2007-Q2 2015



Source: Central Bank of Ireland.

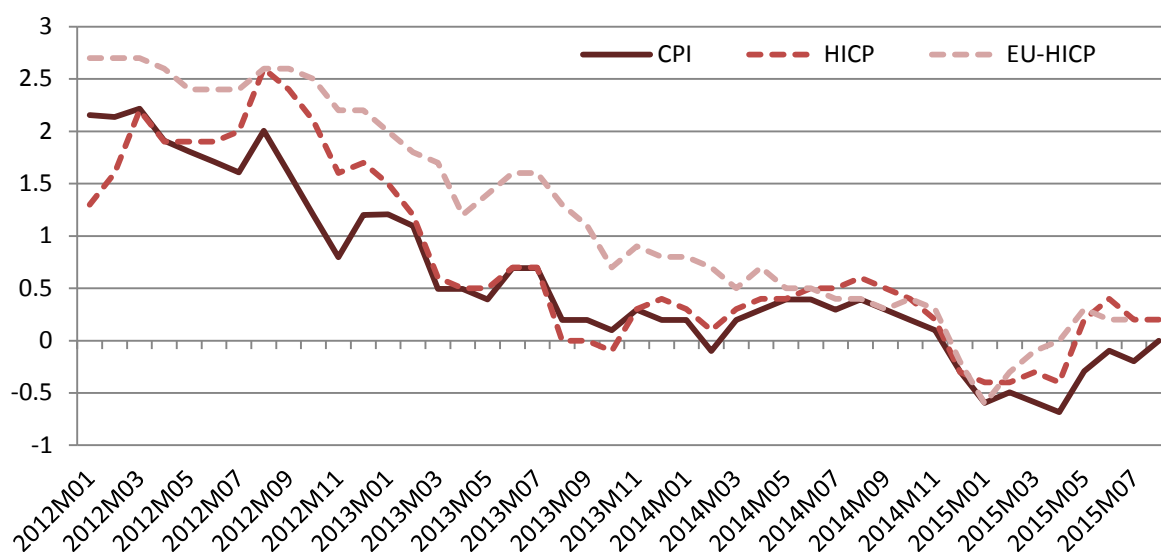
In assessing the total level of credit/finance in the economy, one issue increasingly of note is the degree to which equity finance has played a role in financing residential and mainly commercial property developments in the Irish market since the onset of the recovery. The difficulties in the mainstream banking sector have led to a significant increase in the activity in this area. For example, the first Irish real estate investment trust (REIT) launched on the Irish Stock Exchange in July 2013; however, since then there have been a number of other REITs floated which between them have raised over a billion euro from investors.

At the moment very little aggregate information is available about this sort of finance and hence the sectoral breakdown of it. However, if this area continues to grow, it is important that more information be collected on this activity in a timely and accurate manner. This is particularly the case in gauging the actual level of finance in the economy which ultimately would have implications for the effective and efficient calibration of macro-prudential policy measures.

Prices and Earnings

Inflation over the past few years has been quite subdued in Ireland and the wider Euro Area. Figure 10 shows that domestic annual growth in inflation has not been positive in nine months. Much of this is due to the recent collapse observed worldwide in energy prices.

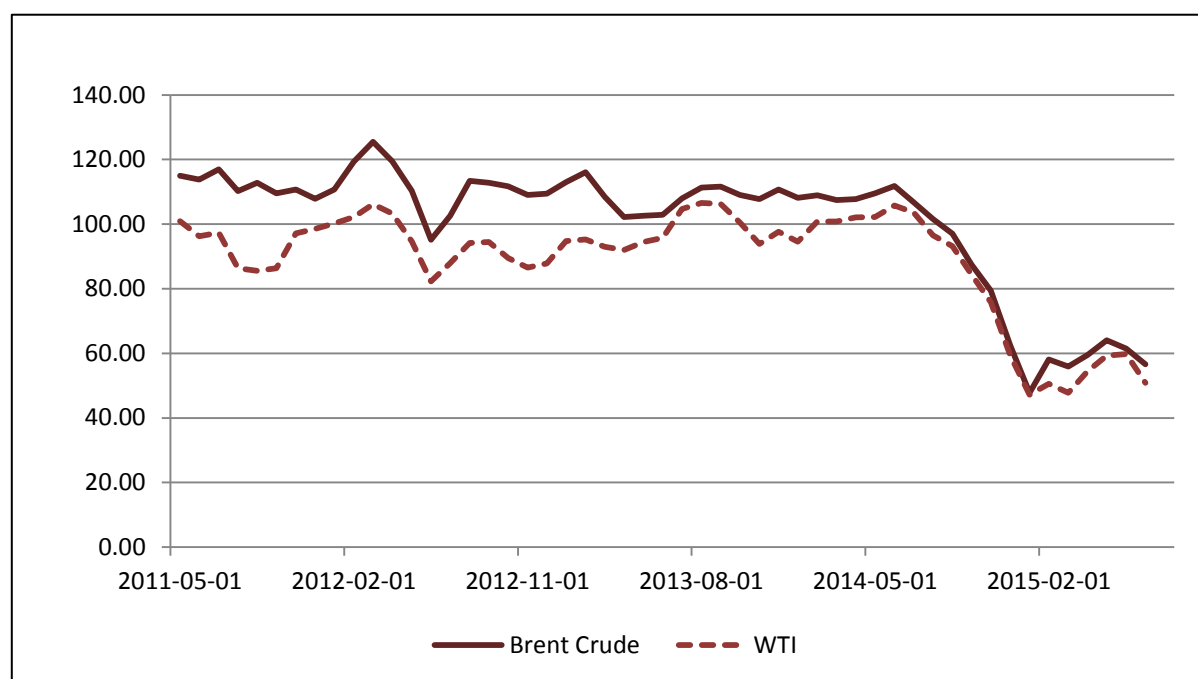
FIGURE 10 Inflation Rates Annual % Change 2012 M01-2015 M08



Sources: CSO and ECB.

CSO data show that prices on average, as measured by the CPI, are unchanged in August 2015 from the previous year. This marks the first time since November 2014 that the annual change in CPI was not negative. Notable changes in the year include increases in education of 5 per cent, followed by communications at 2.5 per cent and restaurants and hotels at 1.9 per cent. The most substantial decrease in the year occurred in clothing and footwear with a drop of 4.9 per cent. There were also decreases in transport of 3.3 per cent and furnishings, household equipment and routine household maintenance of 2.6 per cent. Restaurants and hotels caused the largest upward contribution to the CPI, accounting for a third of the growth, and this was mainly due to the increase in the cost of hotel accommodation and higher prices for alcoholic drinks and food. The single largest downward contribution to the CPI in the year was transport, accounting for nearly a half of the decline. This is mainly due to lower oil (Figure 11) and petrol prices caused by recent global trends.

FIGURE 11 Oil Price US\$ Barrels per day



Source: Federal Reserve of St. Louis

The monthly changes in CPI for July and August were -0.3 and 0.4 per cent respectively. The major contributors to this were clothing and footwear with a 4.6 per cent increase and miscellaneous goods and service with an increase of 0.9 per cent. There were also falls in prices recorded in the housing, water, electricity, gas and other fuels component of 0.3 per cent and alcoholic beverages and tobacco of 0.1 per cent.

The EU Harmonised Index of Consumer Prices (HICP) indicates that prices on average have risen by 0.2 per cent when compared to August of last year. This is caused partly by increases in housing, water, electricity, gas and other fuels of 5.5 per cent and education costs of 5.1 per cent. Other notable changes for the year include clothing and footwear, down 4.9 per cent and transport, down 3.5 per cent.

Table 1 shows our forecasts for inflation and the personal consumption deflator. While deflation is a possibility for Ireland in 2015, we continue to believe that inflation will rise at a modest pace this year and pick up somewhat in 2016. The lower costs due to global trends in oil prices and interest rates are, of course, positive developments for the consumer. The increase observed in the growth rate of personal consumption coupled with the strong receipts in consumption related taxation items so far in 2015 leads us to expect a positive annual change in inflation in 2015.

Table 1 Inflation Measures

	2013	2014	2015	2016
	Annual Change			
	%	%	%	%
CPI	0.5	0.2	0.1	1.0
Personal Consumption Deflator	1.7	1.7	1.0	1.5
HICP	0.5	0.3	0.1	1.2

Sources: Central Statistics Office and ESRI Forecasts.

Earnings figures this quarter are continuing to show some growth. Preliminary estimates for Average Hourly Earnings show an increase of 1.5 per cent in the year to Q2 2015. The seasonally-adjusted data, however, show a slight decline of 0.2 per cent for Average Hourly Earnings in the quarter to Q2 2015. The increase in earnings was broadly based, occurring in eight of the 13 sectors with the largest increase seen in the administrative and support services sector, increasing 12 per cent in the year. The construction sector, which has not yet responded to the rising demand for housing in the Irish economy, saw the largest decrease in earnings among the sectors, falling 3.1 per cent.

Private sector Average Hourly Earnings showed growth of 2.2 per cent in the year to Q2 2015, while public sector hourly earnings decreased by 1 per cent in the

same period. The estimated number of persons employed in the public sector showed an increase of 0.6 per cent over the year to Q2 2015.

The job vacancy rate at the end of Q2 2015 was 0.9 per cent, increasing from 0.7 per cent a year earlier. Eurostat figures show that this is amongst the lowest in Europe while Germany and the UK have the highest rate of 2.9 per cent. The information and communication sector had the highest vacancy rate at 2.8 per cent. This was closely followed by financial, insurance and real estate sector with a vacancy rate of 1.9 per cent.

Given the decline observed in unemployment, the slight increase in labour force participation rates and the general buoyancy in the economy suggested by the taxation receipts, in particular, we forecast average earnings to grow at a rate of 2 per cent in 2015 and 2.3 per cent in 2016. Combining the increase in both employment and average earnings results in an expected increase in personal disposable income of 8.4 per cent in 2015 and 5.5 per cent in 2016.

Demand

Household Sector Consumption

One of the most significant factors in the recent National Accounts is the observed increase in consumption in 2014. Of all of the major economic aggregates, the legacy of the financial crisis has, arguably, had the most protracted impact on consumption. Furthermore, indicators suggest that growth in consumer spending remained strong in the first half of 2015, with the Quarterly National Accounts showing year-on-year growth of over 3 per cent in volume. The seasonally-adjusted index of retail sales rose by 8.8 per cent in the first seven months of 2015 in volume. In the first eight months of 2015, over 108,000 new private cars were licensed, 31.5 per cent higher compared with the same period last year. When account is taken of the strength of car sales to July, the growth in the volume of seasonally-adjusted retail sales remains strong at 5.7 per cent. VAT receipts for August suggest that personal consumption growth has continued.

The KBC Bank/ESRI Consumer Sentiment Index continues to show improving consumer confidence. With employment and incomes rising and interest rates remaining low, our expectation is that growth in the volume of personal consumption will increase to 2.8 per cent this year, from 2 per cent in 2014, and by 3.8 per cent in value. These factors should also contribute to continued growth

in personal consumption in 2016, forecast at 3 per cent in volume and 4.5 per cent in value next year. Based on these forecasts we are expecting some increase in the personal consumption deflator in 2016.

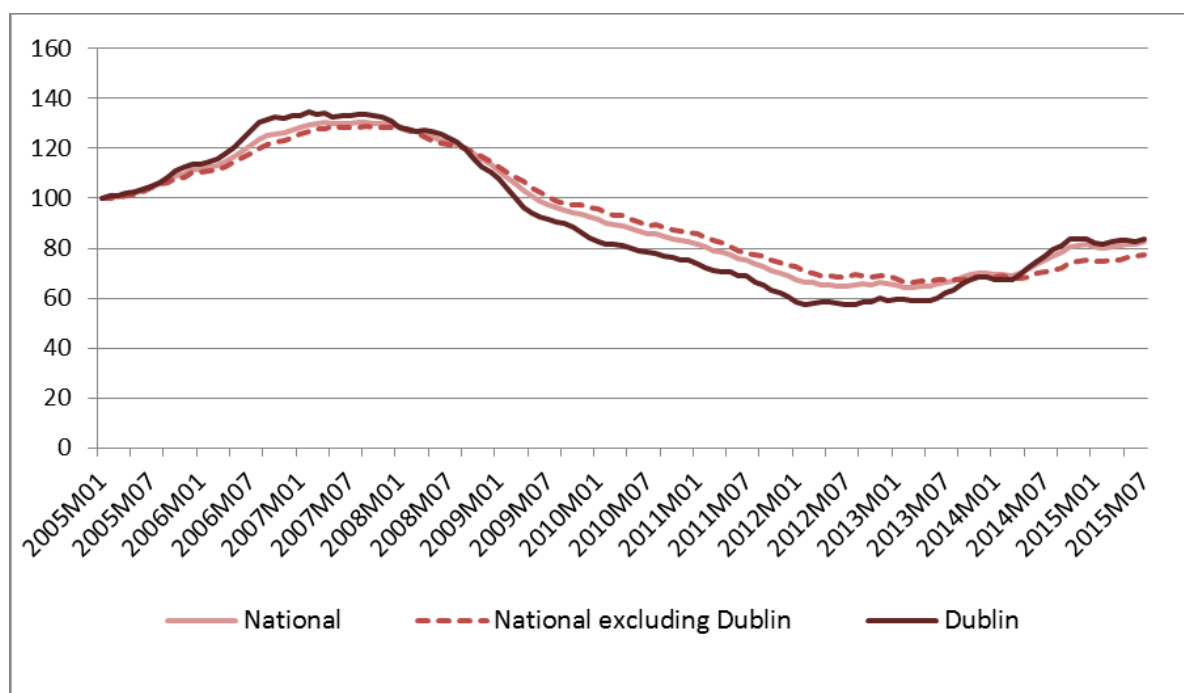
As noted in the monetary and financial section, despite this increase in consumer activity, Irish households continue to deleverage, with Central Bank statistics showing that repayments of household loans exceeded drawdowns by close to €2 billion in the first seven months of the year. In addition, loans outstanding to Irish households decreased by 2.8 per cent in the year to July to €93.1 billion. The largest component is outstanding loans for house purchase, which declined by 4.4 per cent in the year. Outstanding loans for consumption declined by 2.5 per cent annually.

Property Market Developments

The CSO Residential Property Price Index shows that, nationally, prices rose by 0.9 per cent in July, with prices up by 9.4 per cent on those in July 2014. Prices in Dublin were up by 0.7 per cent in the month, 9 per cent higher than July 2014, while for residential properties outside Dublin the monthly increase was 1.2 per cent, resulting in prices being 9.6 per cent higher than they were in July 2014. Strong increases are also evident in the private rental market. Data from the PRTB/ESRI Rent Index show that, nationally, rents in the first quarter of 2015 were 6.9 per cent higher than in Quarter 1 of 2014. Annual growth in the Dublin market was stronger, up by 9.6 per cent. Annual growth in rents for the market outside Dublin recorded growth of 5.3 per cent when compared to the first quarter of 2014. The CSO rental index also shows strong growth and suggests that rents have, as of Q2 2015, reached their peak 2008 levels.

While the recent macro-prudential regulations may tilt the Irish tenure choice from owner occupying to renting,¹⁵ overall, it is clear that the slow response of housing investment is causing the cost of accommodation, particularly in Dublin and the other urban areas, to increase significantly.

¹⁵ See Duca J., J. Muellbauer and A. Murphy (2011). 'House prices and credit constraints: Making sense of the US experience', *Economic Journal*, Royal Economic Society, Vol. 121(552), pp. 533-551, 05, for example.

Figure 12 CSO Residential Property Price Index

Source: Central Statistics Office.

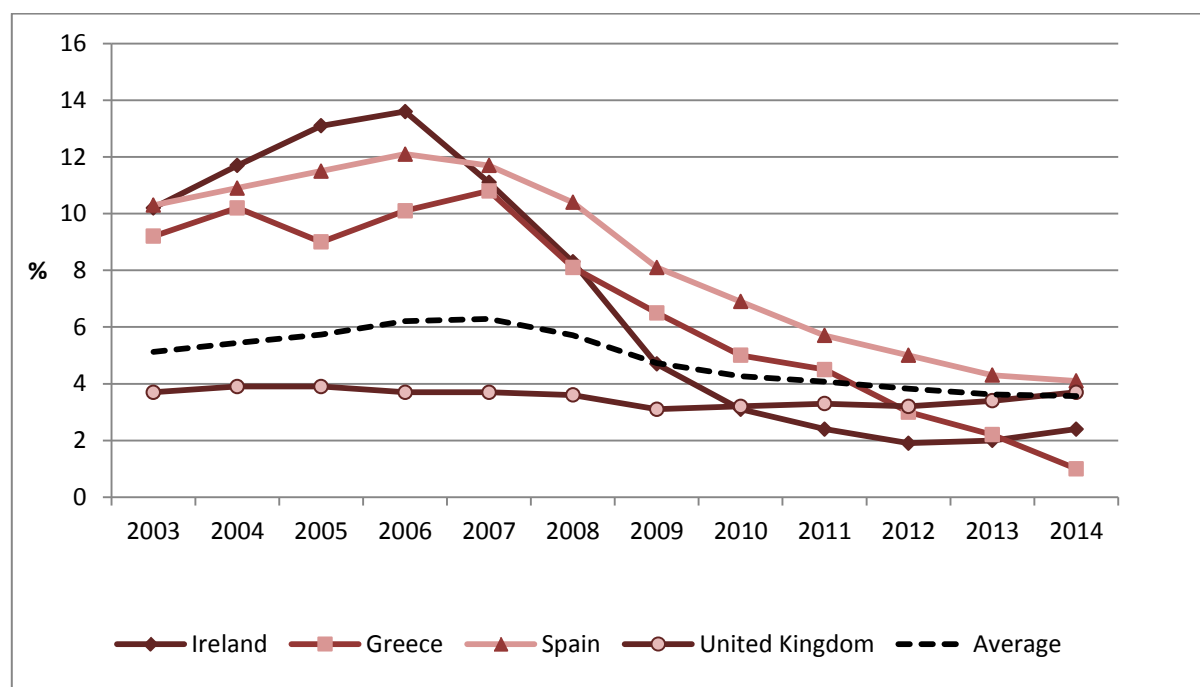
Supply Conditions

Investment

The annual National Accounts show that investment in building and construction grew by close to 10 per cent in volume in 2014. Available indicators suggest that strong expansion has continued into 2015. Quarterly National Accounts data show strong growth in overall investment in the first half of 2015. Even when account is taken of a once-off transaction involving intellectual property rights, the growth in underlying investment remains strong. This is primarily due to growth in the commercial property sector as data from the Department of Environment, Community and Local Government would indicate that housing completions will, at best, be only moderately higher than the level achieved last year. As has been pointed out in previous *Commentaries*, current and expected levels of housing completions in the short term remain well below projected household formation levels. Total investment in building and construction is forecast to increase by 16.3 per cent in volume and by 21 per cent in value this year. Reflecting the higher base from which it will be measured, a marginally slower rate of volume growth of 13 per cent is forecast for 2016. It is also worth observing that even though there has been some increase in the rate of planning permissions for new dwellings in the first half of the year, this figure is at its lowest level since the series started to be compiled in the late 1970s.

It is worth putting the rate of Irish residential housing construction in context. Figure 13 below charts residential investment rates for selected European economies along with an average for a 23 country European sample. The highly volatile nature of Irish along with Spanish and Greek housing investment is evident. By 2014, the Irish housing investment rate is 2 per cent,¹⁶ which compares with the average rate across countries of 3.6 per cent.

Figure 13 Select Cross-Country Residential Housing Investment Rates: 2003-2014



Source: Eurostat.

The increase in investment in machinery and equipment last year, as shown in National Income and Expenditure 2014, was strong, at close to 17 per cent in volume terms. This, in part, is due to changes in how the ownership of aircraft is treated in the National Accounts.¹⁷ Taking this into account, but continuing to allow for expansion in capacity and equipment replacement, volume growth of 8.4 per cent in investment in machinery and equipment is forecast for 2015 and 6.5 per cent for 2016. Thus, total investment in 2015 is forecast to increase by 11 per cent in volume and by 13.2 per cent in value this year. With the economy continuing to grow and interest rates likely to remain relatively low, the forecast outlined above would suggest that the volume growth in total investment will be close to 9 per cent in 2016. With the investment deflator remaining at

¹⁶ The investment rate is defined as total residential investment divided by GDP.

¹⁷ 'Moving to a transfer of economic ownership basis for trade in aircraft', CSO Information Notice, July 2015.

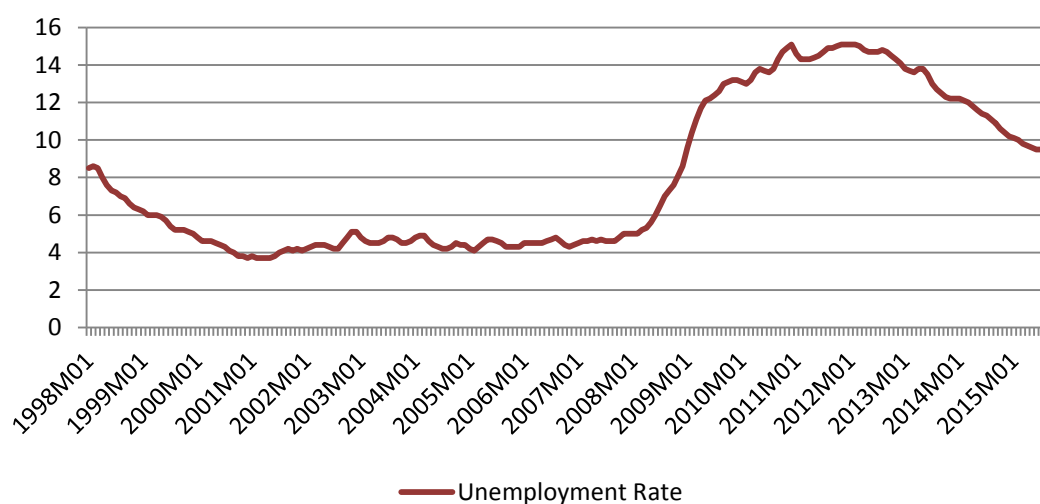
approximately 2 per cent, value growth of 11 per cent is forecast for total investment next year.

Labour Market

The most recent Quarterly National Household Survey (QNHS) shows an increase in employment for the quarter of 1 per cent on a seasonally-adjusted basis. This was preceded by increases in Q1 2015 and Q4 2014 of 0.8 and 0.6 per cent respectively. Over the year to Q2 2015, employment is up 57,100 or 3 per cent. This compares with an annual increase in employment of 2.2 per cent from Q1 2014 to Q1 2015. The growth consisted of an increase in full-time employment of 3.9 per cent and an increase in part-time employment of 0.1 per cent.

The seasonally-adjusted unemployment rate fell from 10.0 to 9.6 per cent over the quarter. The August monthly unemployment release from the CSO (Figure 14) remains unchanged from July at 9.5 per cent, down from 11.1 per cent in August 2014. Although the percentage has remained static, there has actually been a very small increase in the number of people unemployed of 400. There was a drop in male unemployment by 29,800 or 18.5 per cent and a drop in female unemployment by 13,500 or 14.5 per cent over the year to Q2 2015. The youth unemployment rate for persons aged 15-24 years decreased from 26.9 in June to 22.4 percent over the year to Q2 2015. Although this is a significant drop, it is still very high relative to pre-crisis levels. The latest QNHS release does indicate a marginal increase in the labour market participation rate. If this trend continues, it further reinforces the improving situation in the Irish labour market.

FIGURE 14 Unemployment Rate



Source: Central Statistics Office.

A breakdown of the figures reveals that employment increased in 11 of the 14 sectors in the economy, suggesting a broad, economy-wide improvement. The largest increase over the year was in the construction sector with an increase of 19,700 or 18.5 per cent. This was closely followed by an increase in the financial insurance and real estate activities of 5,500 or 5.7 per cent. Data from the CSO show that at the height of the boom, construction sector employment stood at 276,200. Most recent figures show it currently stands at 126,300. This suggests that the large percentage increase in employment is primarily being driven by a lower base figure. It also indicates that were supply levels in the residential housing sector to approach the 25,000 units suggested by Byrne, Duffy and FitzGerald (2014), unemployment could fall quite significantly in the Irish economy.

A recent study¹⁸ highlights the problem of household joblessness in Ireland. It is defined as people under the age of 60 living in a household where nobody is in employment. Households in this situation are at major risk of poverty and welfare dependence. This is important as rising employment levels do not necessarily imply a commensurate fall in joblessness. The results from this study suggest that household joblessness is likely to continue to fall as employment grows, but at a slower rate than the fall in unemployment.

The labour force can be significantly affected by changes in the size of the working-age population i.e. the demographic effect. This effect had been positive up to 2008, mainly driven by net inward migration. For Q2 2015 this effect was negative and contributed to a decline in the labour force of 6,300. This negative effect was exclusively concentrated in the 20-24 and 25-34 age groups. The reduction in the labour force has also been affected by the decrease in the participation rate over the past year. As mentioned in previous *Commentaries*, the failure of participation rates to increase given the fall in unemployment is an issue which is also observed in US and UK labour markets. Q2 2015 results indicate, however, that the participation rate has shown a modest increase for the year of 0.2 per cent. The change consisted of a range of increases and decreases across the different cohorts. The overall net effect on participation was an increase of 20,200. August figures also show a drop in the number of people on the Live Register on a seasonally-adjusted basis of 1,900. This makes the total

¹⁸ Watson, D., B. Maître, H. Russell (2015). *Transitions into and out of Household Joblessness, 2000 to 2014: An Analysis of the Central Statistics Office (CSO) Quarterly National Household Survey (QNHS)*. ESRI and Department of Social Protection.

decrease in the year 39,249 or 9.9 per cent. If these figures continue to improve we can expect a strong recovery in the labour market this year.

The long-term unemployment rate, defined as the number of people unemployed for longer than one year decreased substantially in the year to Q2 2015. The number of persons classified as long-term unemployed decreased by 28,000 or 19.1 per cent. This brings the total level of long-term unemployed to 118,600. The CSO figures show that the long-term unemployment rate fell from 6.8 to 5.5 per cent. Although the long-term unemployment rate is relatively high, the new JobPath programme introduced by the government may contribute to the rate falling faster as the scheme is fully rolled out.

To put these numbers into perspective, the unadjusted unemployment rate among the EU28 countries in the first quarter of 2015 was 10.2 per cent, while the comparable rate in Ireland was 10 per cent. The highest rates among these countries were 26.7 and 23.8 for Greece and Spain respectively while Germany had the lowest rate of 5 per cent. This improvement in labour market conditions over the past year remains a reliable indication of improvements in economic activity and contributes to an overall optimistic outlook for Ireland's economy looking forward.

Taking these points into consideration we forecast a marginal increase in the participation rate in both 2015 and 2016. We also forecast the unemployment rate to fall to 9.5 per cent for 2015 and to 8.4 per cent in 2016. We expect continued employment growth in services and industry with growth also expected in 2016 for the construction sector.

Public Finances

Revenue returns for the first eight months of 2015 show growth of 9.8 per cent, reflecting the improvement in domestic demand and overall economic activity. With employment continuing to grow, improving consumer sentiment contributing to stronger than previously expected growth in personal consumption, and increases in corporate profits, our view is that total receipts could grow by close to 7 per cent this year. The Exchequer returns also show a moderate increase in expenditure over the year to August, up by 1 per cent on expenditure levels in the same period in 2014. Taking account of these trends we expect that expenditure growth for the year will be similar to that experienced to date and on this basis we anticipate that the general government deficit will decline to 1.8 per cent of GDP this year. Based on our outlook for the economy,

the labour market, and on the assumption that any budget package is kept within the stated limit of €1.5 billion, we are forecasting a further reduction to 1.2 per cent in 2016. If these forecasts prove to be correct, this will represent a substantial improvement in Ireland's public finances.

The strength of the public finances underpins our view that there is a need to move towards budget surpluses as soon as is possible. We have for a long time advocated that fiscal policy should operate in a counter-cyclical fiscal manner. If the estimated growth rate for the economy is correct at approximately 6 per cent in real terms then there is no need to further boost growth through a fiscal stimulus. As discussed above, available indicators point to the fact that personal consumption is already showing strong growth, in the absence of any stimulus.

Table 2 Public Finances

	2014	2015	2015	2016	2016
	€ bn	€ bn	% change	€ bn	% change
Total receipts: Current and Capital	61.4	65.6	6.9	67.2	2.3
Total expenditure: Current and Capital	68.9	69.3	0.6	69.8	0.7
General Govt. Balance	-7.5	-3.6		-2.6	
As % of GDP	-4.0	-1.8		-1.2	

Sources: Central Statistics Office and ESRI Forecasts.

General Assessment

With an expected growth rate this year of 6 per cent, the Irish economy continues to recover strongly from the downturn experienced after the 2007/2008 financial crisis. While external demand for goods and services produced in the Irish economy is an ongoing source of this resurgence, the domestic sources of growth, investment and more recently consumption have, over the past 12 months, assumed a greater importance in overall performance. Indeed, the first half of 2015 is notable for the significant increase in consumption in the economy; this is the first real significant evidence that Irish households are finally experiencing the economic recovery in their living standards. Income per capita in 2015 is, for the first time, set to equal its pre-financial crisis peak.¹⁹

The strength of the overall economy, indicated by the recent National Accounts, is corroborated by the results of the nowcasting model which shows the robust domestic economic growth continuing through Q3 2015. The model suggests the economy grew by an average of 1.5 per cent per quarter in 2015. In light of this increase in the expected growth rate in 2015, we also revise upward our growth forecast for 2016. Based on the continued increasing contribution of domestic sources of growth, we now expect the economy to grow by 4.5 per cent next year.

The increase in consumption and the continued better-than-expected rates of taxation returns are particularly important as far as the upcoming budget is concerned. There has been some suggestion that a reduction in personal taxation rates is needed to consolidate the recovery, however the recent increase in personal expenditure undermines this notion. A reduction in personal taxation is not required for growth in household consumption. Similarly, the better-than-expected growth outlook along with the relatively buoyant tax receipts may be regarded as a justification for a generous budget. There again, the strength of the Irish recovery actually indicates that the most prudent budgetary course of action at this time is to follow a neutral fiscal strategy i.e. for the Government to neither stimulate nor deflate economic activity. As noted in the previous *Commentary*, the explicit intention to run a pro-cyclical budgetary policy as outlined in the Stability Programme Update (SPU) last April is disappointing in that regard. One

¹⁹ Owing to the increase in personal taxes since 2007, disposable income per capita is still less than that at the peak.

of the most important lessons to be learned both from the run-up and in the aftermath of the 2007/2008 downturn is the need for policymakers to avoid policies which accentuate or exaggerate the economic cycle. Stimulating the economy in the manner set out in the SPU constitutes pro-cyclical policy behaviour.

The need, particularly at the European level, to embed counter-cyclical policy at the heart of efficient and stable macroeconomic management is addressed by McQuinn in a Research Note to this *Commentary*. In a comment on European fiscal policy since the crisis, McQuinn suggests that since 2010 European fiscal policy has actually been decidedly pro-cyclical. The compounding effect of the austerity-type budgetary policies adopted impeded growth prospects and, in so doing, exacerbated the heightened levels of debt to GDP observed across many European countries with Greece being the extreme case. In light of the recent experience, McQuinn suggests that Irish policymakers need to address institutional issues which prevent the formation of an effective fiscal union within the Euro Area. More fiscal integration can ultimately provide a greater capacity for country-level shocks, whether exogenous or domestically-determined to spread across the Euro Area. An integral component of such a framework would entail some form of common borrowing (backed by common revenue) to finance better risk sharing and stronger backstops.

In another Research Note to this *Commentary*, Colgan and Callan examine whether Irish high and low income groups experience different increases in the cost of living. In particular, Colgan and Callan use detailed micro-data from the Household Budget Survey (HBS) and Consumer Price Indexes (CPIs) produced by the CSO, to examine the distributional impact of inflation over the years 2003-2014. The authors find that differences were small over the full period. During the 2003-2008 period, the bottom income decile experienced lower inflation than the top decile, but this was reversed in the recessionary period 2009-2014. Housing costs in the form of mortgage interest payments and rents played an important role in explaining the different inflation experience of low and high income households. High income households are more likely to be owner occupiers with mortgages: these have benefited from falling mortgage interest costs during the recession. Low income households, by contrast, are more likely to be in rented accommodation. When housing costs are excluded from the calculations, the gap in inflation between low and high income groups is much smaller.

The results of the research provide interesting micro-level evidence of the differing impacts of the cost of accommodation in the Irish economy and, consequently, provide a useful insight for policymakers when contemplating measures aimed at alleviating distress in the residential mortgage market.

More generally, supply-side issues continue to be of concern in the residential and commercial property markets. Despite the overall sizeable increase in investment in the economy, there is likely to be only 13,000 housing units built in 2015. This is in spite of the fact that recent research (Byrne, Duffy and Fitzgerald (2014)) indicates almost 25,000 units are required per annum to meet new Irish housing demand.

In a Research Note to this *Commentary*, Duffy and Dwyer (2015) examine the availability of commercial property in light of continued inward foreign direct investment (FDI). The recent economic downturn resulted in a number of years in which no commercial property construction was undertaken. Dublin is unique amongst European capital cities in that no commercial property construction occurred over the past number of years. Therefore, Duffy and Dwyer (2015) note that this lack of construction could act as a constraint to new FDI and to the expansion of existing FDI in the economy.

The lack of residential supply is having a significant impact on the cost of accommodation in the Irish economy. Rents in the Irish property market continue to increase at a significant rate with the official CSO rental index suggesting rates in Q3 2015 are now 2 per cent higher than the 2008 peak level. Given the relatively low level of housing supply, therefore, it is likely that rents are set to continue to rise over the short to medium term. As noted in Duffy, FitzGerald and Kearney (2005),²⁰ rising costs of accommodation, by discouraging potential migrants, could significantly reduce the growth potential of the economy.

Given the lack of housing supply observed, there has been some speculation recently as to whether there should be policy interventions to deal with this issue. There are a number of policy avenues which could be explored. In the Autumn *Commentary* in 2014, for example, we advocated an increase in funding

²⁰ Duffy, D, J. FitzGerald and I. Kearney (2005). 'Rising house prices in an open labour market'. *Economic and Social Review*, Vol. 36, No. 3, Winter, pp. 251-272.

targeting social housing. Greater government involvement²¹ in the supply-side of the housing market would help to engender confidence in the damaged relationship between the financial sector and those seeking to develop and supply residential properties. Alternatively, more finance-based options could involve the National Treasury Management Agency (NTMA) providing additional funding to the recently announced €500 million home building finance venture, which is operated through the Ireland Strategic Investment Fund (ISIF).

However, any use of the tax system as a means of stimulating activity in the residential property market must be considered with extreme caution. In particular, the taxation system should not be used to address housing issues unless:

- (a) it can be firmly established that the 'market failure' being addressed will not result in unduly large unintended transfers to developers and
- (b) the impact of different building regulations and the effects of any tax breaks provided are adequately understood.

The hard earned lessons of some of the pre-2007 policy mistakes must be kept in mind when the taxation system is being potentially considered in this way.

²¹ In addition, for example, to that already committed through the Social Housing Strategy 2020. For more details see www.environ.ie/en/PublicationsDocuments/FileDownload,39622,en.pdf.

Detailed Forecast Tables

FORECAST TABLE A1 Exports of Goods and Services

	2013	% change in 2014		2014	% change in 2015		2015	% change in 2016		2016
	€ bn	Value	Volume	€ bn	Value	Volume	€ bn	Value	Volume	€ bn
Merchandise	98.7	14.8	16.1	113.3	16.4	13.0	131.9	10.5	8.0	145.7
Tourism	3.4	8.5	6.6	3.7	7.1	6.0	3.9	4.7	3.2	4.1
Other Services	89.3	9.8	7.8	98.1	10.5	9.0	108.4	7.5	6.0	116.5
Exports Of Goods and Services	191.4	12.3	12.1	215.0	13.6	11.1	244.1	9.1	7.0	266.2
FISM Adjustment							0.1			0.1
Adjusted Exports	191.4	12.3	12.1	215.0	13.6	11.1	244.2	9.1	7.0	266.3

Forecast Table A2 Investment

	2013	% change in 2014		2014	% change in 2015		2015	% change in 2016		2016
	€ bn	Value	Volume	€ bn	Value	Volume	€ bn	Value	Volume	€ bn
Housing	3.2	20.0	13.5	3.8	18.0	22.4	4.5	15.9	8.2	5.2
Other Building	7.2	11.2	6.2	8.0	12.0	8.9	8.9	13.7	10.4	10.1
Transfer Costs	0.5	48.9	35.7	0.7	30.8	27.0	1.0	23.6	20.0	1.2
Building and Construction	10.8	15.5	9.7	12.5	14.9	14.0	14.4	15.0	10.3	16.5
Machinery and Equipment	20.8	15.1	16.7	24.0	11.6	10.9	26.8	10.3	9.1	29.5
Total Investment	31.7	15.3	14.3	36.5	12.7	11.9	41.2	12.0	9.5	46.1

FORECAST TABLE A3 Personal Income

	2013	% change in 2014		2014	% change in 2015		2015	% change in 2016		2016
	€ bn	%	€ bn	€ bn	%	€ bn	€ bn	%	€ bn	€ bn
Agriculture, etc	3.2	6.4	0.2	3.4	1.0	0.0	3.4	2.5	0.1	3.5
Non-Agricultural Wages	67.7	3.5	2.4	70.0	4.9	3.4	73.5	4.9	3.6	77.0
Other Non-Agricultural Income	18.2	27.2	5.0	23.2	24.7	5.7	28.9	11.4	3.3	32.2
Total Income Received	89.1	8.4	7.5	96.6	9.5	9.2	105.8	6.6	7.0	112.8
Current Transfers	24.1	-1.4	-0.3	23.7	-1.0	-0.2	23.5	-1.3	-0.3	23.2
Gross Personal Income	113.2	6.3	7.2	120.3	7.4	8.9	129.3	5.2	6.7	136.0
Direct Personal Taxes	25.4	7.7	1.9	27.3	5.4	1.5	28.8	4.6	1.3	30.1
Personal Disposable Income	87.8	6.0	5.2	93.0	8.0	7.5	100.5	5.3	5.4	105.9
Consumption	85.7	3.8	3.2	89.0	3.8	3.4	92.4	4.5	4.2	96.6
Personal Savings	2.1	96.4	2.0	4.1	99.9	4.1	8.2	14.4	1.2	9.3
Savings Ratio	2.4			4.4			8.1			8.8
Average Personal Tax Rate	22.3			23.2			22.8			22.6

FORECAST TABLE A4 Imports of Goods and Services

	2013	% change in 2014		2014	% change in 2015		2015	% change in 2016		2016
	€ bn	Value	Volume	€ bn	Value	Volume	€ bn	Value	Volume	€ bn
Merchandise	63.6	11.4	11.3	70.9	8.1	6.0	76.6	9.7	7.4	84.0
Tourism	4.7	-2.3	-2.7	4.6	5.1	2.0	4.8	4.9	1.8	5.0
Other Services	88.4	18.5	18.1	104.8	14.8	14.1	120.3	7.4	7.4	129.2
Imports of Goods and Services	156.8	15.0	0.0	180.3	11.9	0.0	201.8	8.2	0.0	218.3
FISM Adjustment							-0.1			-0.1
Adjusted Imports	156.8	15.0	14.7	180.3	11.8	10.5	201.6	8.2	7.3	218.2

FORECAST TABLE A5 Balance of Payments

	2013	2014	2015	2016
	€ bn	€ bn	€ bn	€ bn
Exports of Goods and Services	187.4	191.4	215.0	244.1
Imports of Goods and Services	157.4	156.8	180.3	201.8
Net Factor Payments	-31.5	-27.4	-26.2	-28.5
Net Transfers	-2.6	-2.9	-2.7	-2.7
Balance on Current Account	-4.1	4.3	6.0	11.3
As a % of GNP	-2.9	2.8	3.7	6.4

FORECAST TABLE A6 Employment and Unemployment, Annual Average

	2013	2014	2015	2016
	000s	000s	000s	000s
Agriculture	106.8	109.0	111.0	111.7
Industry	342.5	348.4	374.9	382.0
Of which: Construction	102.0	109.4	124.3	125.0
Services	1,430.8	1,453.3	1,476.4	1,521.7
Total at Work	1,880.2	1,913.7	1,966.8	2,015.4
Unemployed	282.4	243.2	204.5	184.1
Labour Force	2,163.4	2,156.9	2,171.3	2,199.6
Unemployment Rate, %	13.0	11.3	9.5	8.4

Appendix

Nowcasting Appendix

This is the third quarter in which we provide GDP estimates based on the nowcasting²² model. Table 1, above, shows the nowcast and forecast of GDP in Q2 and Q3 2015.

TABLE 1 Current Backcast and Nowcast of Irish Quarter-on-Quarter GDP Growth Rates

Period	Nature of Estimate	GDP Estimate %	95% Confidence Interval	
Q2 2015	Backcast	1.85		
Q3 2015	Nowcast	1.68	0.23	3.14

Source: Own estimates.

Very strong growth has been recorded in the Irish economy in the first two quarters of 2015. Figures released by the CSO in September provided a first estimate of growth (both GNP and GDP) in Q2 of 1.9 per cent. The CSO also revised upwards the growth recorded in Q1 2015 from 1.4 per cent to 2.1 per cent. The nowcast estimate for Q3 is equally strong and indicates that the observed strong performance of the Irish economy in 2015 is set to continue for the rest of the year.

It is worth observing that so far in 2015 the nowcasting model has provided a very accurate assessment of Irish output levels. The approach matched almost exactly the initial CSO growth rates for both Q1 and Q2 of this year. Given the variances being observed in Irish economic performance over the past period of time, having an approach which provides a timely and accurate assessment of the underlying state of the economy is of particular benefit in generating the overall forecast of the economy in the *Commentary*.

²² A detailed discussion of the nowcasting model can be found in Byrne, D., K. McQuinn and C. Morley (2014). 'Nowcasting and the Need for Timely Estimates of Movements in Irish Output', *Research Note*, 2014/3/1, *ESRI Quarterly Economic Commentary*.

Research Notes

The Distributional Impact of Inflation: 2003-2014

*Brian Colgan and Tim Callan²³

1. Introduction

Research has shown that, depending on the period under consideration, high and low income groups can experience different rates of inflation (Crawford and Smith 2002). Over the course of the Great Recession, there is growing evidence from the UK (Levell and Oldfield, 2011; Adams et al., 2014; Flowers and Wales, 2014) that low-income households have experienced higher rates of inflation than high-income households. Have similar differentials emerged during the Irish experience of the Great Recession? This is the central question addressed by this note, which examines the distributional impact of inflation over the years 2003 to 2014. We use detailed micro-data from the Household Budget Survey (HBS) and Consumer Price Indices (CPIs) produced by the CSO, to examine the distributional impact of inflation over the years 2003-2014. We find somewhat different effects depending on whether the focus is on the full period, the ‘boom’ years or the ‘austerity’ years.

2. Existing Evidence for Ireland and the UK

Irish evidence on the distributional impact of inflation is quite limited. An early study by Kennedy and Bruton (1975) found that for the period 1968-1975 several different types of household faced broadly similar rates of inflation. More recently Somerville (2004) examined the distributional impact of inflation in Ireland over the years 1987 to 2001. Using the 1987 HBS and Madden’s (1993) parameter estimates for an Almost Ideal Demand System, true cost-of-living indices for each decile were constructed.²⁴ Somerville (2004) found that by December 2001 the bottom decile’s index was 3.8 per cent above the overall mean while the top decile’s index was 2.3 per cent below the mean.

The topic has been examined in greater depth in the UK. Levell and Oldfield (2011) examined the period 2000-2010 and focussed on the inflation experience of low-income households. This paper found that over the ten-year period, lower-

²³ Thanks to Barra Casey (CSO) and to Alan Barrett for comments on a previous draft and to participants at an ESRI internal seminar for their comments. Any remaining errors are the responsibility of the authors.

²⁴ The difference between a true cost-of-living index and a consumer price index is discussed in Section 2.1.

income households had experienced higher average annual inflation rates. For the entire period the bottom decile experienced 3.3 per cent average annual inflation while the top decile experienced 2.9 per cent. The authors attributed at least part of this difference in inflation rates to increases in the price of fuel, which had quite different weights in the baskets of high and low income households.

Adams et al. (2014) used quintile specific inflation rates to examine changes in real income for the period 2008-2009 to 2013-2014. They found that the inflation rate for low-income households was, on average, one percentage point higher per year than that for high-income households. When purchasing power is measured by deflating all incomes by an average inflation rate, results suggest that low-income households have fared much better over the recession than high-income households. However, if incomes are deflated by decile-specific inflation rates it was found that low-income households fared only slightly better than high-income households.

Flowers and Wales (2014) examine a similar period to this note (2003-2014). They focus in particular on the 2nd and the 9th deciles, as they argue it is potentially more representative of low and high incomes than the extreme circumstances of top and bottom deciles. They found little difference between the inflation experienced by the 2nd income decile and that experienced by the 9th income decile. However, they found significant differences in the inflation experienced by different *expenditure* deciles: the 2nd expenditure decile experienced 3.5 per cent average annual inflation, one percentage point higher than the annual average for the 9th decile.

While evidence from the UK highlights the potential for low income households to experience higher average annual inflation, it is important to note that the inflation experiences of the UK and Ireland have differed significantly over the 2003-2014 period. Table 1 below uses the internationally comparable Harmonised Indices of Consumer Prices (HICP) to illustrate this point. Particularly during the austerity years there was a clear distinction between the inflation experiences of Ireland and the UK.

TABLE 1 Comparing Average Annual Inflation in the UK and Ireland excl. Housing Costs

	2003-2008	2009-2014	2003-2014
Ireland	2.9	0.1	1.5
UK	2.2	2.8	2.5
Cumulative Inflation			
Ireland	18	1	19
UK	14	18	34

Source: Authors analysis using HICPs available at <http://ec.europa.eu/eurostat/data/database>.

Note: The inflation rates reported do not take into account mortgage interest payments and may further differ from nationally reported figures due to methodological differences.

3. Constructing an Index

3.1 What is the CPI?

The Consumer Price Index records changes in the price of an average basket of goods over time. What comprises an average basket of goods, and the importance or weight each item should be given, is determined using micro-data from the HBS. Expenditure is recorded over a two-week period. However for some items such as durables, expenditure for the entire year is recorded and converted to a weekly value (CSO, 2012). The expenditure weights for certain items, such as alcohol and tourism, are supplemented with external data.

Until recently the CPI has been a purely fixed weight index,²⁵ with weights being updated every five years in line with the latest HBS results.²⁶ It should be noted that there are two main shortcomings to this approach:

- Fixed expenditure weights assume away any potential substitution. For example the price of rice could triple and yet under this approach households would still purchase the same quantity of rice.
- This approach also assumes that high- and low-income households face the same price for the same category of good. For example it may be that high-income households consume more expensive types of bread which are subject to a different rate of inflation (Levell and Oldfield 2011).

In order to overcome these shortcomings a true cost of living index would need to be constructed. As Somerville (2004) highlights there is much debate over the choice between the use of a cost of living index and fixed weight price indices.

²⁵ Council Regulation (EC) No 2494/95 (1995) makes it a legal requirement that the HICP be produced using a Laspeyres index (a fixed weight index). <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31995R2494&from=EN>.

²⁶ Recent changes to the construction of the HICP, and thus the CPI, have introduced annual updating of weights with reference to the National Accounts (CSO, 2015).

True cost of living indices allow for substitution to take place based on estimates of demand elasticities but this comes at the cost of much greater complexity (CSO, 2012). The current approach in Ireland and the UK is to use fixed weight price indices which are then often referenced in the decision to increase social welfare payments. In the interest of comparability and as the aim of this paper is to examine the distributional impact of inflation, we focus on identifying CPI-type differences rather than constructing a true cost of living index.

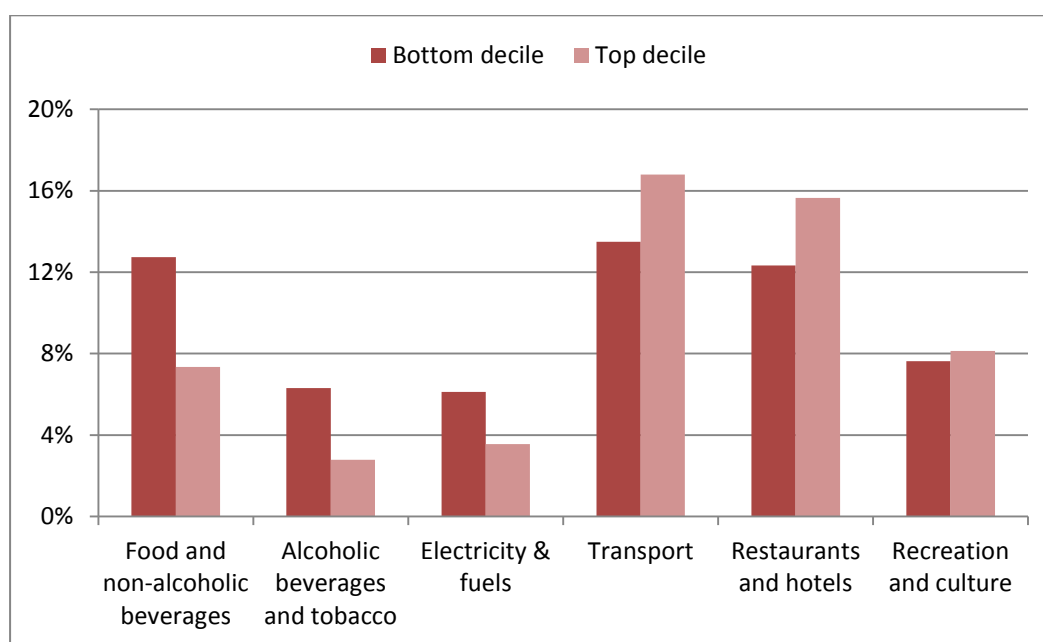
The CPI is, as the CSO (2015) says, ‘the official measure of inflation in Ireland’ and ‘the most widely used measure of consumer inflation’. The CPI includes mortgage interest as a housing cost. It should be noted, however, that the EU’s preferred measure of inflation is the Harmonised Index of Consumer Prices (HICP), which excludes mortgage interest. In this note we consider the distributional aspects of the CPI and of a CPI-type index which excludes housing costs, in order to examine the sensitivity of results to the inclusion or exclusion of mortgage interest.

3.2 Why might Households Experience Different Rates of Inflation?

As Adams et al. (2014) remark, differences in inflation rates depend upon two factors:

1. Differences in spending patterns between low- and high-income households;
2. Differences in price changes for goods consumed disproportionately by low- or high-income households.

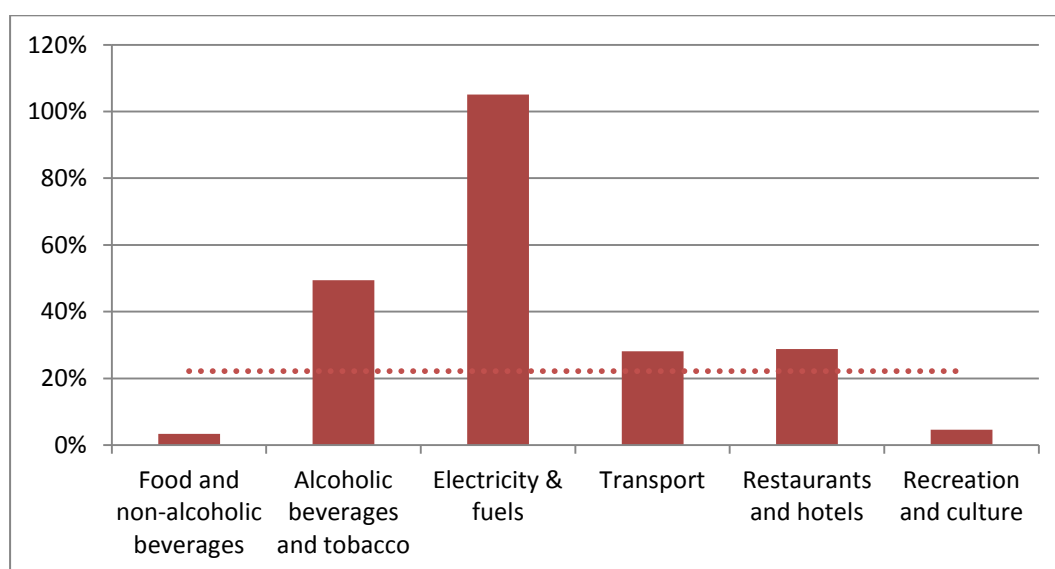
Figure 1 addresses the first of these factors and shows that for a number of categories of goods there are large differences in spending patterns for the top and bottom deciles. The bottom decile devotes a larger share of spending to items such as food and non-alcoholic beverages, alcoholic beverages and tobacco products, and electricity and fuels while the top decile devotes a larger share to transport, restaurants and hotels, and recreation and culture.

FIGURE 1 Comparing Expenditure Weights for Top and Bottom Deciles

Source: Authors analysis of HBS 2009-2010.

Note: The weights above have been through the reconciliation process discussed in Section 3.3.2

Figure 2 shows the cumulative inflation for the same broad categories of goods. The dotted line represents the state average cumulative inflation. Clearly different categories have experienced very different price changes, both compared to the average and to other categories, with some items, such as electricity and fuels, reporting high inflation while others, such as food and non-alcoholic beverages, reporting very small price increases.

FIGURE 2 Cumulative Price Changes for Certain Items 2003-2014

Source: Authors analysis of CPIs available from the CSO's StatBank.

3.3 Constructing Decile Specific Inflation Rates

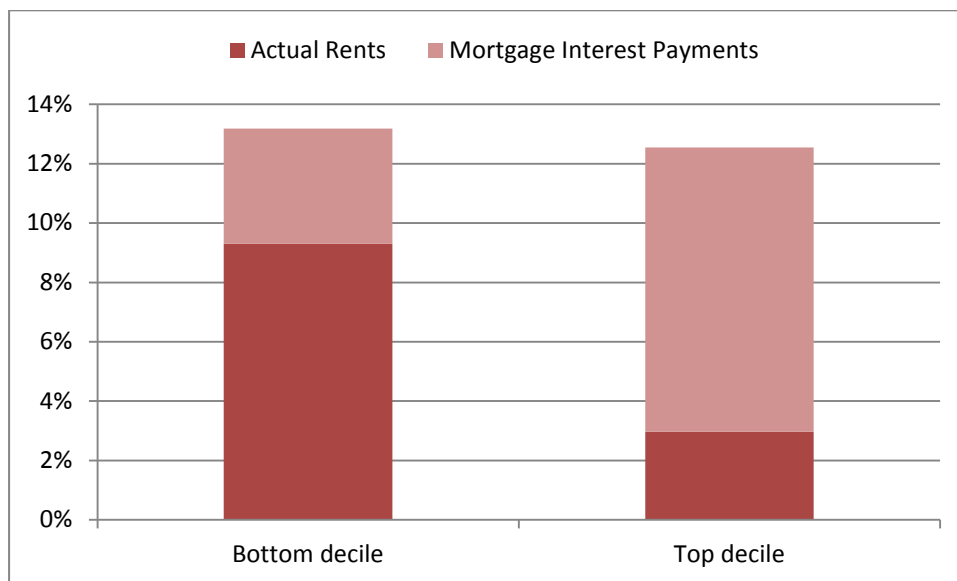
3.3.1 Level of Analysis

The CSO produces monthly CPIs for the total basket of goods as well as for a number of sub-categories or COICOPs (Classification of Individual Consumption According to Purpose). The construction of a decile-specific inflation rate requires the decomposition of household expenditure into these sub-categories in order to identify different spending patterns between deciles.

At its most detailed, spending can be separated into over 160 different categories. Greater disaggregation allows for greater differences in expenditure patterns to emerge. However, disaggregation also raises concerns over the sample size. Expenditure patterns may relate to a very small number of households. The more aggregate COICOP groups do not suffer from this limitation and therefore expenditure weights at the most aggregate COICOP level, COICOP 1, may have a lower margin of error (Kennedy and Bruton 1975).

COICOP 1 divides spending into 12 broad categories. This greater aggregation overcomes problems of sample size/margin of error but it comes at the cost of a loss of detail. A large number of items, each of which experiences different price changes and are of differing importance for different deciles, are often bundled together.

Figure 3 highlights a particularly important expenditure distinction; housing costs (mortgage interest payments and rents). At an aggregate level, both the bottom and top deciles dedicate a similar proportion of their expenditure to housing costs, however this conceals large differences in the nature of the expense. The bottom decile's expenditure on housing is predominantly comprised of rents whereas the top decile's is largely made up of mortgage interest payments. Whether a household pays rent or mortgage interest payments may have a dramatic impact on the household rate of inflation. This difference would not be effectively captured at a high level of aggregation as both items would fall under the heading of housing and would ultimately be subject to the same weighted average rate of inflation.

FIGURE 3 Expenditure Shares for Housing Costs

Source: Authors analysis of HBS 2009-2010.

Notes: The weights above are based on HBS 2009-2010 and have been reconciled to match CSO weights.

In order to overcome sample size concerns while maintaining the necessary level of disaggregation, analysis is conducted at the COICOP 3 level. This is the level of analysis used in the recent Flowers and Wales (2014) paper and divides spending into 96 categories. As the period under consideration spans 12 years, expenditure weights are taken from three occurrences of the HBS (1999-2000, 2004-2005, and 2009-2010), corresponding to the weights used in CPI construction.

HBS 1999-2000 is used for the period 2003-2006, 2004-2005 for 2007-2011, and 2009-2010 is used for 2012-2014. One consequence of these time intervals is that expenditure weights for some austerity years are based upon spending patterns from a boom year. This may overstate spending on items which are highly income elastic, such as restaurants and hotels. However, the main differences in expenditure patterns between the bottom and top income deciles change little between different releases of the HBS. The bottom decile consistently spends more on essentials such as food and electricity and fuels while the top decile spends more on transport and restaurants and hotels. Our analysis can be seen as trying to explain differential impacts on the CPI across income groups, rather than assessing how accurately a fixed weight CPI - necessarily with weights which lag consumption by some time - represent current prices.

3.3.2 Reconciling Expenditure Weights

The expenditure weights used in the construction of the CPI are primarily based on the HBS but do also incorporate other external data. For example it is assumed that households under-report their spending on items such as alcohol and tourism. In order to compensate for this the CSO makes use of the National Accounts to update spending on alcohol, and the Household Travel Survey to update spending on domestic tourism. The CSO also updates expenditure weights for certain items, such as accommodation, to take account of spending by foreign tourists (CSO, 2012).

Adopting the approach used by Flowers and Wales (2014) we reconcile the weights generated directly from the HBS with those used in the construction of the CPI so that our aggregate expenditure weights are almost identical to those used by the CSO. Since the weights used in the construction of the CPI include spending by foreign tourists we reduce the weight for accommodation in proportion to the amount of nights spent in accommodation by Irish residents compared to nights spent by foreign nationals.²⁷ The adjustment is then shared across all other items in accordance to their weight.

Reconciliation is done in such a way that any pre-existing differences in spending patterns between households are maintained; it is assumed that all households under- or over-report their expenditure by the same proportion.

Once expenditure has been reconciled, households are divided into deciles of equivalised income²⁸ and using the detailed item-level CPIs available from StatBank, decile-specific rates of inflation are constructed.²⁹

Despite the reconciliation process, the state average inflation rate produced differs very slightly from the CSO reported rate of inflation, due to rounding, and to the adjustment for spending by foreign tourists detailed in footnote 5.

²⁷ Other items are affected by foreign tourist spending but comparing HBS generated weights with those used by the CSO, the differences appear to be quite small and so no adjustment is made for these items. The adjustment to accommodation reflects the share of total nights spent in accommodation which can be attributed to Irish tourists. This adjustment factor was generated from the CSO's Tourism and Travel Annual Series available in the CSO's StatBank [www.cso.ie/px/pxeirestat/Database/eirestat/Tourism%20and%20Travel%20Annual%20Series/Tourism%20and%20Travel%20Annual%20Series_statbank.asp?SP=Tourism and Travel Annual Series&Planguage=0](http://www.cso.ie/px/pxeirestat/Database/eirestat/Tourism%20and%20Travel%20Annual%20Series/Tourism%20and%20Travel%20Annual%20Series_statbank.asp?SP=Tourism%20and%20Travel%20Annual%20Series&Planguage=0).

²⁸ The equivalence scale is the same as that used by CSO in its estimates of risk of poverty and consistent poverty, i.e., 1 for the first adult in a household, 0.66 for other adults and 0.33 for children aged under 14.

²⁹ CPIs are taken from the 'Consumer Price Index by Month, Detailed Sub-Indices and Statistic' table which can be found in the CSO's StatBank www.cso.ie/px/pxeirestat/statire/SelectTable/Omrade0.asp?Planguage=0.

4. Results

4.1 Income Deciles

Table 2 reports the average annual inflation rates for all income deciles. Results have been separated into three time periods: 2003-2008 (boom years), 2009-2014 (austerity years) and 2003-2014.

There is a clear distinction in the distributional pattern of average annual inflation rates between the boom years and the austerity years. In the 2003-2008 period households in the lower half of the income distribution experienced lower average annual inflation rates than those in the top half of the income distribution. For the 2009-2014 period this trend was reversed, with households in the bottom half of the income distribution experiencing higher average annual inflation.

Housing costs play an important role in explaining these differing experiences. In the boom years, when house prices were rising rapidly, inflation for mortgage interest was higher than inflation for rents. Since the proportion of homeowners rises as we advance along the income distribution, the inflation experience of wealthier households were more influenced by the high rates of inflation for mortgage interest.

TABLE 2 Average Annual Inflation 2003-2014

Decile	2003-2008	2009-2014	2003-2014
Bottom	3.0	0.3	1.7
2	3.0	0.1	1.6
3	3.0	0.0	1.5
4	3.1	0.0	1.6
5	3.2	0.0	1.6
6	3.3	-0.2	1.5
7	3.4	-0.1	1.6
8	3.4	-0.1	1.6
9	3.4	-0.3	1.5
Top	3.5	-0.3	1.6
State	3.3	-0.1	1.6

Source: Authors analysis using CSO data (HBS and CPIs).

Notes: The state average reflects the distribution of expenditure across deciles and may therefore differ from the arithmetic average of the decile specific rates.

Table 3 examines the inflation experiences of the top and bottom deciles in comparison to the state average and each other. In the 2003-2008 period the bottom decile experienced average annual inflation 0.3 percentage points lower than the state average while the top decile experienced above average, average annual inflation. This trend was reversed in the 2009-2014 period when the bottom decile experienced average annual inflation 0.5 percentage points higher than the state average and 0.7 percentage points higher than the top decile. For the entire period 2003-2014, the bottom decile experienced slightly higher average annual inflation than both the state average and the top decile.

While a difference of 0.7 percentage points may seem small in magnitude, over the six-year austerity period it results in the bottom decile's basket increasing in price by 2.1 percentage points while the top decile's basket decreased in price by two percentage points. Thus, the bottom decile experienced 4.1 percentage points higher cumulative inflation over this six-year period.

When examining cumulative inflation it is important to bear in mind that a household will only have experienced the bottom decile's cumulative inflation if consistently placed in the bottom decile through time (Flowers and Wales 2014).

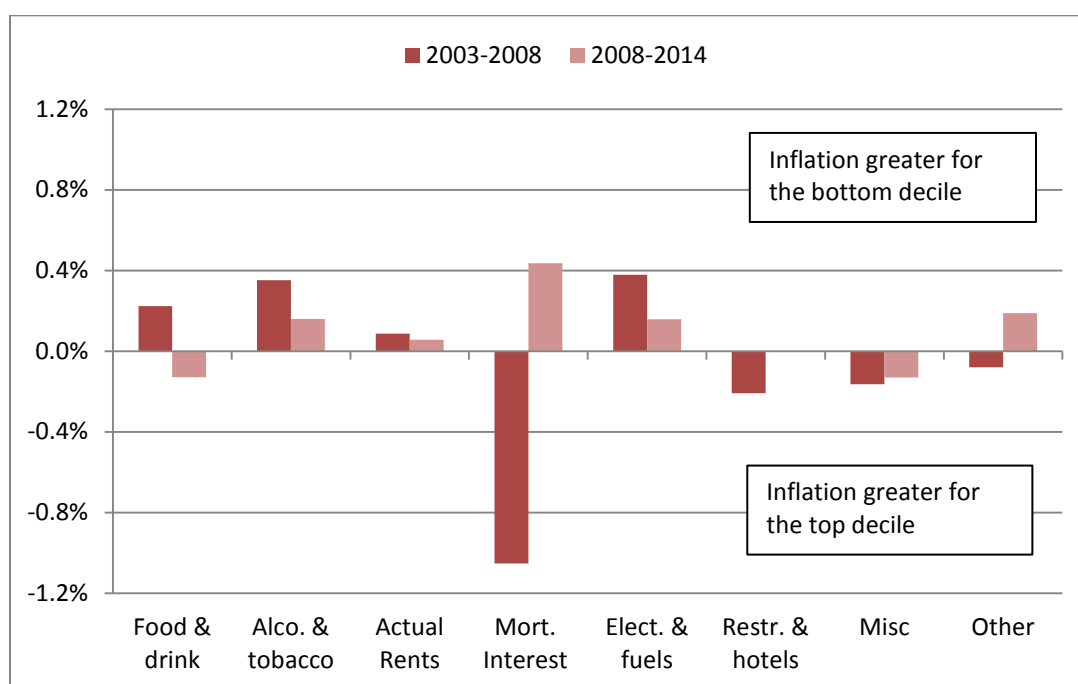
TABLE 3 Average Annual Distance from Mean Inflation 2003-2014

	2003-2008	2009-2014	2003-2014
Bottom – mean	-0.3	0.5	0.1
Top – mean	0.2	-0.2	0.0
Difference: Bottom-Top	-0.5	0.7	0.1
Cumulative Inflation			
Bottom – mean	-1.8	2.8	1.5
Top – mean	1.6	-1.3	-0.1
Difference: Bottom-Top	-3.4	4.1	1.6

Source: Authors analysis using CSO data (HBS and CPIs).

Notes: The difference between the bottom and top deciles may differ slightly from what Table 2 would suggest due to rounding.

Figure 4 identifies the contribution different items made to the differences in average annual inflation rates between the bottom and top deciles. A positive (negative) bar indicates that an item raises (lowers) the average annual inflation rate for the bottom decile relative to the top.

FIGURE 4 Contributions to the Difference in Average Annual Inflation Rates: Bottom Decile Less Top Decile

Source: Authors analysis using CSO data (HBS and CPIs).

Notes: Other is a catch all heading for all other categories not shown. It includes furniture, health, education, communication, recreation, and transport.

For the 2003-2008 period, we can see that food and drink, alcohol and tobacco, electricity and fuels, and actual rents all increased the bottom decile's rate of inflation relative to the top. However, these items are largely counteracted by the impact of mortgage interest payments which lowered the average annual inflation rate for the bottom decile relative to the top by over one percentage point. This large differential combined with negative contributions for restaurants and hotels, miscellaneous, and the 'other' category resulted in the top decile experiencing higher average annual inflation than the bottom decile in the 2003-2008 period.

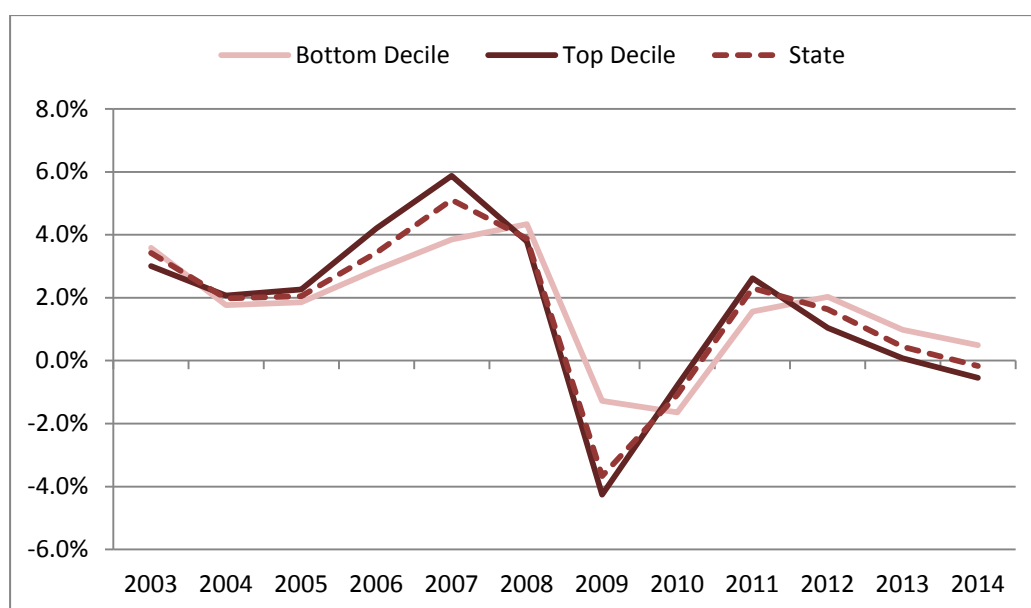
In the 2009-2014 period, the bottom decile experienced higher average annual inflation than the top. The largest contributor to this finding was mortgage interest payments. This item alone accounted for the bottom decile experiencing 0.4 percentage points higher average annual inflation relative to the top. During the austerity years mortgage interest payments reduced the average annual inflation rate of the top decile by 0.6 percentage points. However, since there are fewer homeowners in the bottom decile, mortgage interest only reduced the average annual inflation rate of the bottom decile by 0.2 percentage points.

From Tables 2 and 3 we can see that while there tends to be little difference in average annual inflation rates over the full period, differences do exist in sub-periods. Differences become even larger and more volatile if we examine inflation rates on an annual basis. Figure 5 compares the annual inflation rates of the state and the top and bottom deciles.

In certain years the difference in inflation rate experienced can be quite large. For example in 2009 inflation for the top decile was strongly negative (-4 per cent), but was less negative (-2 per cent) for the bottom decile. Falling mortgage interest payments played an important role, reducing the inflation rate of the bottom decile by only 0.5 percentage points whereas the corresponding figure for the top decile was 3.7 percentage points.

While there is a good deal of variation from year to year, no decile has consistently experienced higher or lower inflation.

FIGURE 5 Annual Inflation 2003-2014



Source: Authors analysis using CSO data (HBS and CPIs).

Notes: State refers to the mean generated from the authors' calculations and differs slightly from the CSO reported inflation rate.

4.2 Deciles of Expenditure

When examining distribution on the basis of deciles of income there is the potential for the bottom decile to be made up of temporary low-income households who are income poor but asset rich (Flowers and Wales 2014). One

method to overcome this potential problem is to look at deciles of expenditure. The Permanent Income Hypothesis (Friedman, 1957) suggests that individuals will smooth consumption over their lifetime, using savings to supplement periods of low income. The results below are based on deciles of expenditure with the bottom decile containing the households which spend the least.

Table 4 below compares the average annual inflation of the top and bottom expenditure deciles with each other and with the state average. The pattern of inflation rates is similar to that found when using deciles of income.

During the period 2003-2008 the bottom decile experienced lower average annual inflation than the top expenditure decile. The reverse was then true for the austerity years with the bottom decile experiencing average annual inflation 0.6 percentage points higher than the state average and 0.8 percentage points higher than the top decile. During this period the package of goods consumed by the bottom expenditure decile increased in price by 3.3 per cent while the top decile's package actually decreased in price by 1.6 per cent. For the entire period the bottom expenditure decile experienced 0.3 per cent higher average annual inflation than the top decile.

TABLE 4 Average Annual Distance from Mean CPI Inflation (by Deciles of Expenditure 2003-2014)

	2003-2008	2009-2014	2003-2014
Bottom – mean	-0.3	0.6	0.2
Top – mean	-0.1	-0.2	-0.1
Difference: Bottom-Top	-0.2	0.8	0.3
<i>Cumulative Inflation</i>			
Bottom – mean	-1.9	3.9	2.8
Top – mean	-0.6	-0.9	-1.7
Difference: Bottom-Top	-1.3	4.8	4.5

Source: Authors analysis using CSO data (HBS and CPIs).

4.3 Retired and Non-Retired Households

Table 5 compares the inflation experience of retired³⁰ and non-retired households. Retired households experienced lower average annual inflation in the 2003-2008 period and higher inflation in the 2009-2014 period. This reflects the fact that mortgage interest payments carry a much smaller weight in the

³⁰ For the purposes of this analysis a retired household is defined as any household in receipt of a retirement pension.

expenditure basket of retired households and as such the impact of inflation/deflation for mortgage interest payments is lessened.

TABLE 5 Average Annual Distance from Mean Inflation by Retired Households 2003-2014

	2003-2008	2009-2014	2003-2014
Non-retired Households	0.1	-0.1	0.0
Retired Households	-0.5	0.5	0.0
Difference: Non retired-Retired	0.5	-0.6	0.0
Cumulative Inflation			
Non-retired Households	0.4	-0.4	-0.1
Retired Households	-3.3	3.1	0.3
Difference: Non retired-Retired	3.8	-3.5	-0.4

Source: Authors analysis using CSO data (HBS and CPIs).

4.4 Children

Table 6 examines the annual average inflation experience of households with and without children. Households with children experienced slightly lower average annual inflation than the state average and than households without children for the entire period. Differences between periods are driven by the higher rate of home ownership among households with children and the resulting impact of mortgage interest payments.

TABLE 6 Average Annual Distance from Mean Inflation for Households with and without Children 2003-2014

	2003-2008	2009-2014	2003-2014
Without Children	-0.1	0.2	0.0
With Children	0.2	-0.4	-0.1
Difference: Without Children-With Children	-0.4	0.6	0.1
Cumulative Inflation			
Without Children	-1.0	1.3	0.6
With Children	1.5	-2.3	-1.3
Difference: Without Children-With Children	-2.5	3.6	1.9

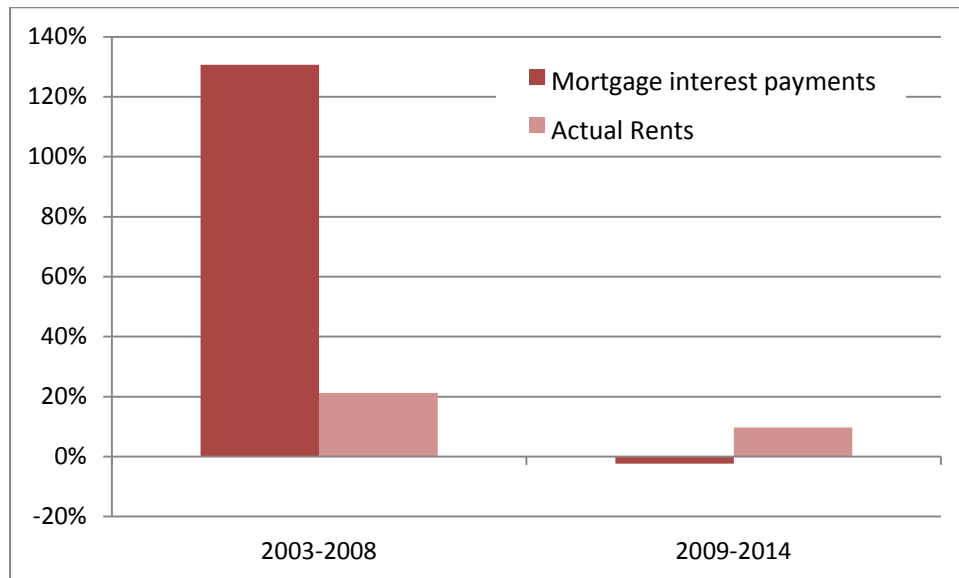
Source: Authors analysis using CSO data (HBS and CPIs).

4.5 Inflation Excluding Housing Costs

Mortgage interest payments and rent payments are an important component of the CPI. Figure 6 compares the cumulative inflation for mortgage interest payments to that for rent over the two periods considered. Over the period 2003-2008, mortgage interest payments experienced cumulative inflation of over 120 per cent; by comparison actual rents increased in by price by only 20 per cent. Such a large difference in the inflation experience of these items means that

whether a household pays rent or mortgage interest can have a large impact on their rate of inflation.

FIGURE 6 Cumulative Inflation for Housing Costs 2003-2014



Source: Authors analysis using CSO data (CPIs).

The large difference in the inflation experiences of these items can be in part explained by the calculation of the CPI for mortgage interest payments.

Mortgage interest is a special item in the CPI. Inflation for mortgage interest is the product of:

‘the index of current interest rates; and

the index of mortgage debt outstanding for the fixed age pattern of mortgages.’ (CSO, 2012)

The index of mortgage debt outstanding reflects changes in the size of mortgages which in turn is influenced by changes in the price of property.³¹ This means that an increase in the price of property will increase measured inflation for all households with a mortgage.

31 *‘The indicator of mortgage debt outstanding is estimated as the change in the weighted average of prices level in successive monthly periods, where the relative weights decline with age of mortgage reflecting the reduction in interest payable over time.’ (CSO, 2012).*

Table 7 compares the inflation experience of households including and excluding housing costs.

TABLE 7 Impact of Removing Housing Cost from Calculation of Average Annual Inflation 2003-2014

	2003-2008		2009-2014	
	Incl. Housing Costs	Excl. Housing Costs	Incl. Housing Costs	Excl. Housing Costs
Difference: Bottom – Top income decile	-0.5	0.5	0.7	0.2
Difference: Bottom – Top expenditure decile	-0.2	0.6	0.8	0.3
Difference: non-retired – Retired	0.5	-0.4	-0.4	-0.3
Difference: Without children – With children	-0.4	0.3	0.6	0.4

Source: Authors analysis using CSO data (HBS and CPIs).

Without the high inflation for mortgage interest payments in the 2003-2008 period the bottom decile would have experienced higher average annual inflation than the top. This is due to the impact of food and drink, alcohol and tobacco, and electricity and fuels. In the 2009-2014 period the difference between the top and bottom decile would have been reduced from 0.7 to 0.2 percentage points. This reflects the greater deflationary impact mortgage interest payments had for the top decile over this period. Housing costs clearly played a key role in determining the distributional impact of inflation.

Examining deciles of expenditure we again found that housing costs played a key role in the inflation experiences of the different households. When housing costs are included, inflation for lower expenditure households was somewhat lower than that for higher expenditure households in the 2003-2008 period. But this finding is reversed when housing costs are excluded, with lower expenditure households experiencing somewhat faster inflation than higher expenditure households. Furthermore, without the deflationary impact of mortgage interest payments in the 2009-2014 period, the difference between the average annual inflation experienced by the bottom and top deciles would have been reduced, although the bottom decile would still have experienced higher average annual inflation.

Housing costs also play a significant role for comparisons between retired and non-retired households, and households with and without children. As illustrated in Table 7, differences based on the CPI including housing costs are reversed in the 2003-2008 period when housing costs are excluded. For the 2009-2014

period, the exclusion of housing costs means that differentials across these dimensions are reduced, but not reversed.

4.6 Plutocratic versus Democratic Approach

The expenditure weights used in the preceding analysis are generated from average spending per item at the decile level. This is the plutocratic approach to constructing an inflation rate and matches the approach used in the construction of the CPI. An alternative approach, the democratic approach, generates household level inflation rates and then looks at the average rate per decile. Using the democratic approach we found that while inflation rates were slightly higher the distributional impact of inflation did not change.

4.7 Comparing the Distributional Impact of Inflation in the UK and Ireland

Table 8 compares the annual average difference in inflation rates between low and high income households in the UK with Irish figures for similar periods. Inflation rates for the UK are drawn from a number of different studies and it should be noted that there may be methodological differences between different studies, and between UK and Irish figures.

In all studies examining inflation in the UK during the 2000-2014 period, it was found that low income households experienced higher average annual inflation than high income households. In Ireland differences tend to be of a smaller magnitude and it was not always the case that the bottom decile experienced higher average annual inflation.

In the 2009-2014 period the lowest income quintile in the UK experienced one percentage point higher average annual inflation (Adams et al., 2014). In Ireland the difference was much lower, with the lowest income quintile experiencing 0.5 percentage points higher inflation.

The most striking difference between the Irish and UK results is for the 2003-2013 period. Examining the difference between the 2nd and 9th expenditure deciles, inclusive of housing costs, Flowers and Wales (2014) found that the 2nd expenditure decile experienced one percentage point higher average annual inflation than the 9th expenditure decile. In Ireland there was no difference in the inflation experiences of these two deciles.

TABLE 8 Comparing Differences in Annual Average Inflation Rates between Low and High Income Households in the UK and Ireland

	UK	Ireland	
Levell and Oldfield 2000 to 2010 [†]	0.4	-0.1	2003-2010
Adams et al., 2008-2009 to 2013-2014 [‡]	1	0.5	2009-2013
Flowers and Wales Income Excl. Housing Costs 2003-2013 [*]	0.2	0.2	2003-2013
Flowers and Wales Expenditure Incl. Housing Costs 2003-2013 [*]	1	0.0	2003-2013

Source: Authors analysis using CSO data (HBS and CPIs).

Notes: [†]The average annual inflation examined by Levell and Oldfield (2011) is based on the RPI which has a different methodology to the Irish CPI. Furthermore Levell and Oldfield (2011) use the democratic approach to generating inflation rates and as such the Irish figures are also generated using the democratic approach..

[‡]The Adams et al. (2014) findings are based on the democratic approach and examine quintiles of income. The Irish figures are therefore also based on the democratic approach and examine quintiles.

^{*}Flowers and Wales (2014) examine the difference between the 2nd and 9th income/expenditure deciles. The Irish figures reported also examine the difference between the 2nd and 9th deciles.

5. Conclusion

This note analyses the distributional impact of inflation during the period 2003-2014. We find that over the entire period there is little difference in the inflation rates experienced by different deciles. However, for the two sub-periods of six years each, we find that differences did occur. Most significantly during the austerity years we found that the bottom income decile experienced higher average annual inflation than both the state average and the top decile. More generally, during this period, households in the lower half of the income distribution experienced higher average annual inflation than those in the top half. The state average annual rate of inflation for the austerity years reports that the basket of goods for the average household has decreased in price; however the bottom decile's basket has actually increased in price. This pattern was even more pronounced when deciles of expenditure were examined.

Housing costs in the form of mortgage interest payments and actual rents played an important role in the inflation experience of households. In the 2003-2008 period, mortgage interest payments contributed over one percentage point to the higher average annual inflation experienced by the top decile. Furthermore, without the deflationary impact of mortgage interest payments in the 2009-2014 period, the differential between the average annual inflation experienced by the bottom and top deciles would have been reduced, although the bottom decile would still have experienced higher average annual inflation.

We also examined the inflation experience of two sub-groups; retired households and households with children. During the austerity years we found that retired households experienced higher average annual inflation than non-retired households while households with children experienced lower average annual

inflation than households without children. Both results are driven by the impact of inflation on mortgage interest payments. Such payments are of less importance to retired households and so they did not benefit from deflation in mortgage interest payments during the austerity years. The converse is true for households with children. For the entire period both sub-groups faced broadly similar average annual inflation rates as the state average.

Overall we find that differences in inflation facing low and high income groups have been more modest than in the UK. This does not guarantee that such differences will not emerge in future, and a more regular and systematic monitoring of this issue could be undertaken at relatively low cost.

REFERENCES

Adams, A., A. Hood and P. Levell (2014). 'The Squeeze on Incomes', The Institute for Fiscal Studies *Green Budget*, February 2014.

Central Statistics Office (CSO) (2012). 'Consumer Price Index: Introduction of Updated Series (base: December 2011=100)', published February 2012.

Central Statistics Office (CSO) (2015). 'The Consumer Price Index'. www.cso.ie/en/media/csoie/surveysandmethodologies/surveys/prices/documents/introductiontocpi2.pdf.

Crawford, I. and Z. Smith (2002). 'Distributional Aspects of Inflation', in *Commentary 90* of the Institute for Fiscal Studies.

Flowers, T. and P. Wales (2014). 'Variation in the inflation experience of UK households: 2003-2014', Office for National Statistics, 15 December 2014.

Friedman, M. (1957). 'The Permanent Income Hypothesis', *A Theory of the Consumption Function*, Princeton University Press, p20-37.

Kennedy, K. and R. Bruton (1975). 'The Consumer Price Index and Different Household Expenditure Patterns', ESRI *Quarterly Economic Commentary*, October 1975.

Levell, P. and Z. Oldfield (2011). 'The Spending Patterns and Inflation Experience of Low-Income Households over the Past Decade', in *Commentary 119* of the Institute for Fiscal Studies.

Madden, D. (1993). 'A New Set of Consumer Demand Estimates for Ireland', *The Economic and Social Review*, Vol. 24, No. 2, January, pp. 101-123.

Somerville, R. A. (2004). 'Changes in Relative Consumer Prices and the Substitution Bias of the Laspeyres Price Index: Ireland, 1985-2001', *The Economic and Social Review*, Vol. 35, No. 1, Spring, 2004, pp. 55-82.

FDI and the Availability of Dublin Office Space

***David Duffy, ESRI and Hannah Dwyer, JLL³²**

1. Introduction

Foreign direct investment (FDI) is an important component of industrial policy in Ireland. Having pursued this policy for many years, Ireland is one of the most FDI-intensive economies in the OECD. The factors underpinning Ireland's success in attracting FDI have been well documented and include EU membership, native English-speaking, low corporate tax rate, young and skilled labour force and demonstration effects.³³ A recent policy statement on FDI identifies the role of cities as becoming increasingly important in FDI flows and cites the attractiveness of Dublin as a key determinant in Ireland's overall FDI performance (Department of Jobs, Enterprise and Innovation, 2014).³⁴

While there has been much focus on the impact of the recession on the housing market it is also the case that the domestic commercial property market suffered as severe an impact. The JLL Capital Value Index shows that values fell by 67.2 per cent between a peak in Quarter 4, 2007 and trough in Quarter 3, 2011. As a result of the downturn in the commercial property market, the level of stock under construction fell dramatically between 2008 and 2010 and there was no office space construction activity in the Dublin market between 2011 and 2013. As a result, no new office space has been delivered to the Dublin market for the last five years.

Data for Quarter 2, 2015 show that the vacancy rate for Dublin office space has fallen and is now at its lowest level since JLL began measuring the vacancy rate in 2001. There is variation in the vacancy rate across Dublin, with a lower vacancy rate in the city centre and in Dublin 2. Concerns have been expressed about the ability to continue to attract service sector FDI in the absence of appropriate office space. According to JLL research, close to 70 per cent of the take-up of office space in the first half of 2015 was by new and existing FDI companies. This

³² Hannah Dwyer is Head of Research at JLL Ireland.

³³ There has been extensive research published on this topic, see for example, Barry and van Welsum (2005), Barry (2006), Crafts (2014) and European Commission (2014).

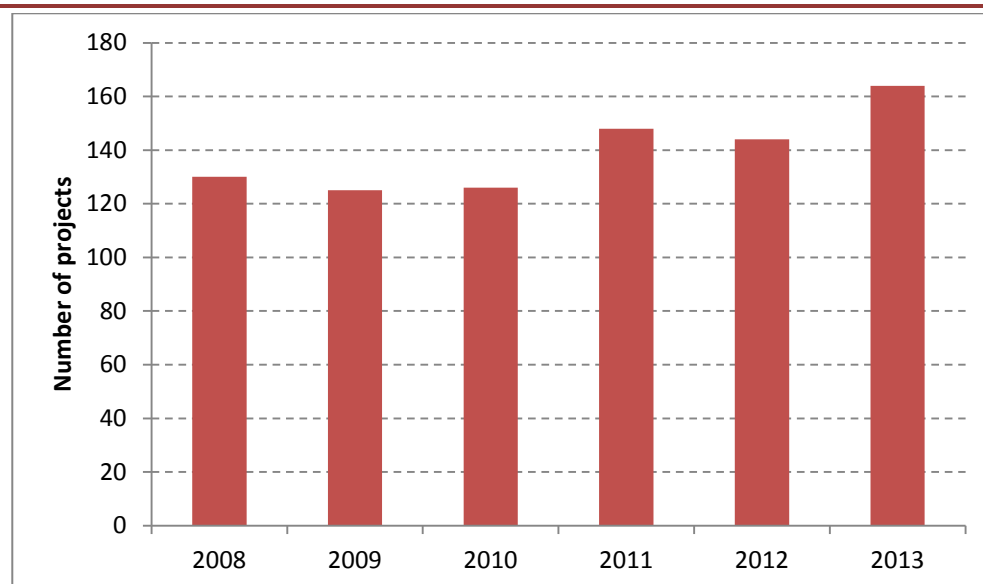
³⁴ Policy Statement on Foreign Direct Investment in Ireland, July 2014.

note looks at the Dublin office market and, using data from JLL, examines the take-up of office space by service sector FDI and how this has evolved, and discusses the impact of the relative lack of current supply on future FDI.

2. The Importance of FDI in Ireland

Although the Irish economy suffered a sharp economic downturn, and entered and successfully exited an EU-IMF programme, Ireland continued to be successful in attracting FDI. Data from the Forfás *Annual Employment Survey 2013* show employment in foreign agency-assisted companies declined between 2006 and 2010, but has since grown and by 2013 had returned close to the 2007 level. Although there have been job losses over the past decade, losses in foreign-owned manufacturing have been offset by increases in foreign-owned service sector employment. Estimates by the CSO for the gross value added (GVA)³⁵ by foreign-owned multinationals for 2013 shows that sectors dominated by foreign-owned multinationals accounted for 24.6 per cent of GVA in 2013, amounting to approximately €38.6 billion in real terms. The strong performance of the foreign-owned sector over the period in part reflects increased output and value-added in the pharma-chem sector. Figure 1 shows the number of FDI projects, (greenfield, expansion, and research, development and innovation investments) by IDA client companies since 2008.

FIGURE 1 Number of Investments Approved by IDA Ireland



Source: Based on data from IDA Ireland Annual Reports.

³⁵ GVA measures the contribution to the economy.

In a comparison of employment in business sectors between Ireland and the EU15, Barry and Bergin (2015) show that Ireland has a high share of employment in market services. In the case of the service sector foreign affiliates account for over a quarter of Irish employment. In addition, they show that Irish service exports are predominately from non-traditional sectors with ICT services accounting for around 40 per cent of service exports, ‘other business services’ almost 30 per cent and finance and insurance almost 20 per cent, with most service sector exports coming from the foreign-owned sector.

Barry and Bergin (2015) also look at the relative importance of the foreign multinational sector by evaluating the extent of backward linkages per job. For the foreign-affiliate services sector expenditure per employee on Irish-sourced services is high, estimated at €140,000, when compared with either manufacturing industry or indigenous service sector companies.

3. Overview of the Dublin Office Market

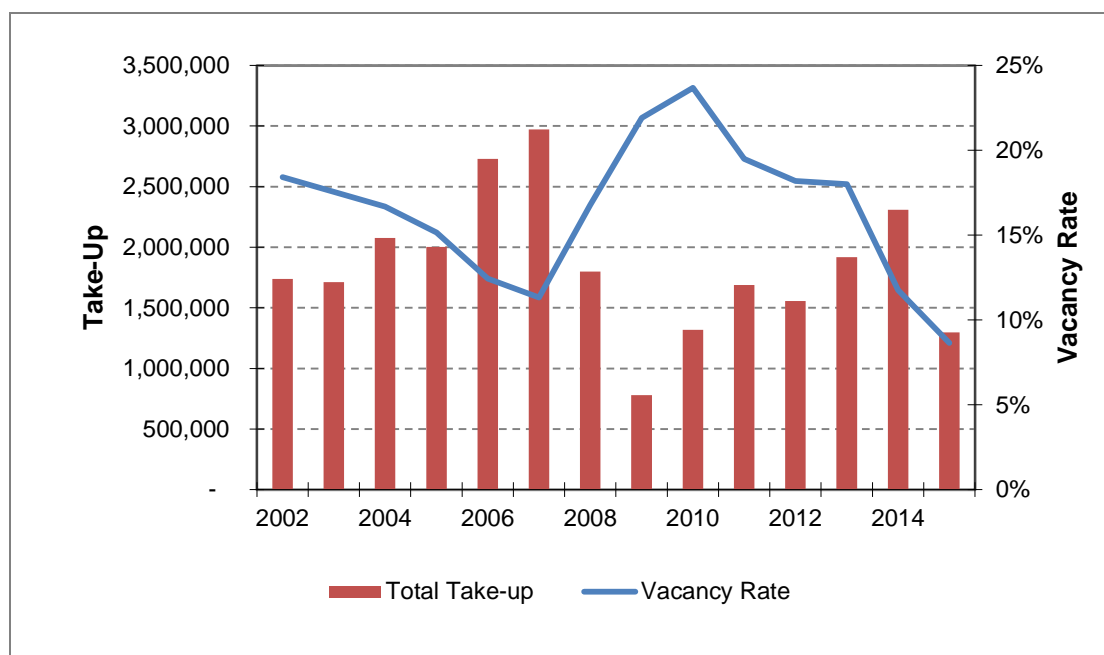
Dublin is a 40 million sq.ft. market of modern office stock, which is comparable in size to UK regional cities like Manchester, and European mid-sized cities such as Rotterdam. Dublin has the advantage of being a capital city, in an established and open economy. Over the period 2008 to 2012, choice within office space was high, reflected in a 24 per cent vacancy rate and rents that were 50 per cent lower than the peak in 2007.

The Dublin office market has performed steadily for the last number of years, and has been the most stable of the main three commercial property sectors. Whilst the economic downturn in 2008 impacted economic and property markets significantly, it also inadvertently created some favourable conditions for attracting FDI occupiers to Ireland in terms of competitiveness, the availability and affordability of commercial property, and flexibility in lease terms. Whilst many of the big international companies have been here for numerous years, most of the current wave of high profile FDI companies have all located and expanded here since 2008.

In the last 10 years, demand for office space has been strong, particularly from FDI. Average annual take-up totals were 1.9 million sq.ft. between 2004 and 2014 which is in line with trends for a market of Dublin’s size (see Figure 2). In terms of location, there is a strong preference for city centre locations and Dublin 2 is the dominant sub-geography. This core location has consistently been the focus of occupier demand for the last 10 years, accounting for approximately 30 per cent of take-up per annum. Within this location, demand is focused on prime quality,

Grade A³⁶ buildings. Occupiers have also shown a preference for locating to areas where similar occupiers exist. For example, we have seen the emergence of the docklands area in Dublin 2 in the last number of years as a preferred location for technology and new media companies.

FIGURE 2 Take-Up and Vacancy rate, Dublin Office Market



Source: Based on JLL data at Q2, 2015.

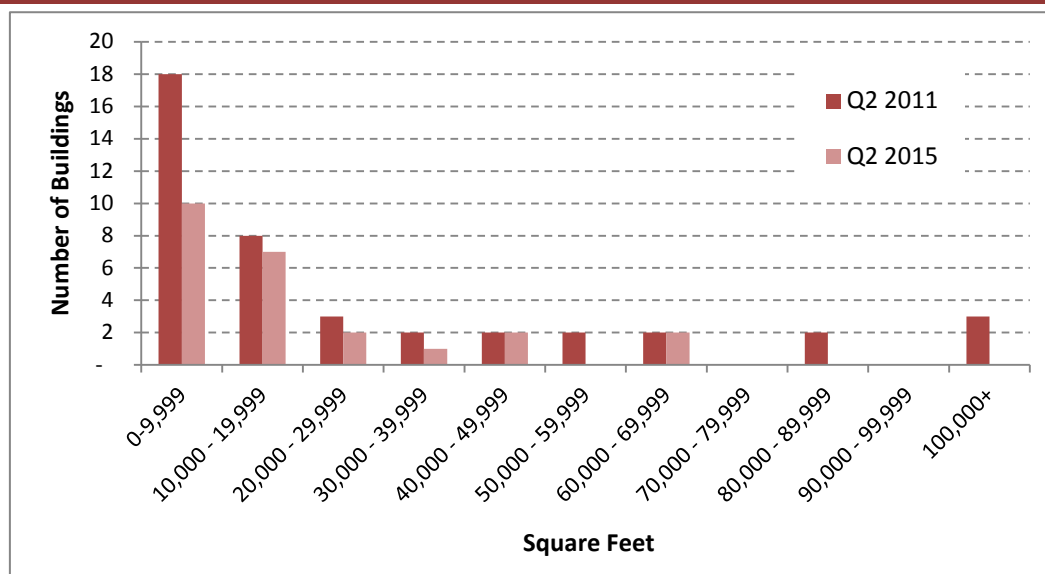
Although large-scale deals such as the purchase of the Montevetro building in 2011 attract a lot of attention, the market in Dublin is dominated by smaller-sized deals of less than 10,000 sq.ft. Anything greater than 50,000 sq.ft. is considered a large office building in Dublin with limited transactions of this size category per annum. In 2014, there were 6 lettings, (just 3.1 per cent of lettings) greater than 50,000 sq.ft. compared to 10 in 2013, and in the first two quarters of 2015, there have been three lettings greater than this size, 2.5 per cent of lettings in total.

With strong demand and limited construction activity, the vacancy rate has decreased significantly since 2010. In terms of actual space, availability has fallen from 8.3 million sq.ft. to 3.3 million sq.ft. This equates to a fall in the overall vacancy rate from 23.7 per cent to 8.6 per cent. Only 31 per cent of the vacant stock is in the city centre where the vacancy rate is at 5.3 per cent, while in Dublin 2 it is just 3.6 per cent.

³⁶ Grade A refers to prime quality buildings with the highest specification features (e.g. air conditioning, raised access floors etc).

Reduced choice of available properties is the greatest issue for the sector at the moment, with limited availability in certain size categories for prime space in core locations. Below, Figure 3 illustrates the availability of space by size category in the city centre. There are currently only two buildings greater than 50,000 sq.ft. that are completed, available and vacant.

FIGURE 3 City Centre, Grade A Office Availability



Source: Based on JLL data at Q2, 2015.

Note: City Centre defined as Dublin 1, Dublin 2 and Dublin 4.

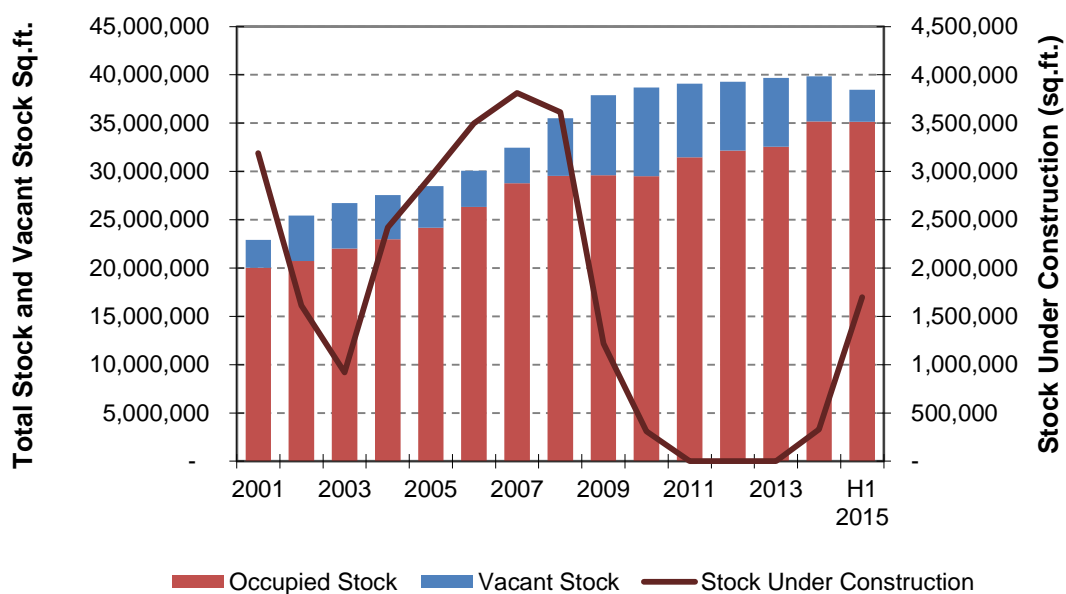
There are a number of schemes where building activity has started, with 1.4 million sq.ft. currently under construction in the city centre, of which 40 per cent is pre-let. The first new office building is likely to be delivered in Q1, 2016, and this is already pre-let. The market needs an increase in speculative development to meet the strong demand, with JLL forecasting take-up of 1.6 million sq.ft. per annum for the next five years.

In addition, there is 0.7 million sq.ft. under refurbishment, of which almost 0.1 million sq.ft. is reserved. Refurbishments are offering a quicker solution, as depending on the level of refurbishment needed these could be delivered in six months.

A number of office schemes are also either in the pre-construction phase with planning in place, or in the pre-planning phase. This should help to bring additional supply to the market. In the city centre, in addition to the space currently under construction, there is potentially 1.6 million sq.ft. of space that

could be delivered in 2017 and 2018 (see Figure 4). This is the equivalent of one years' worth of lettings or eight large lettings per annum.

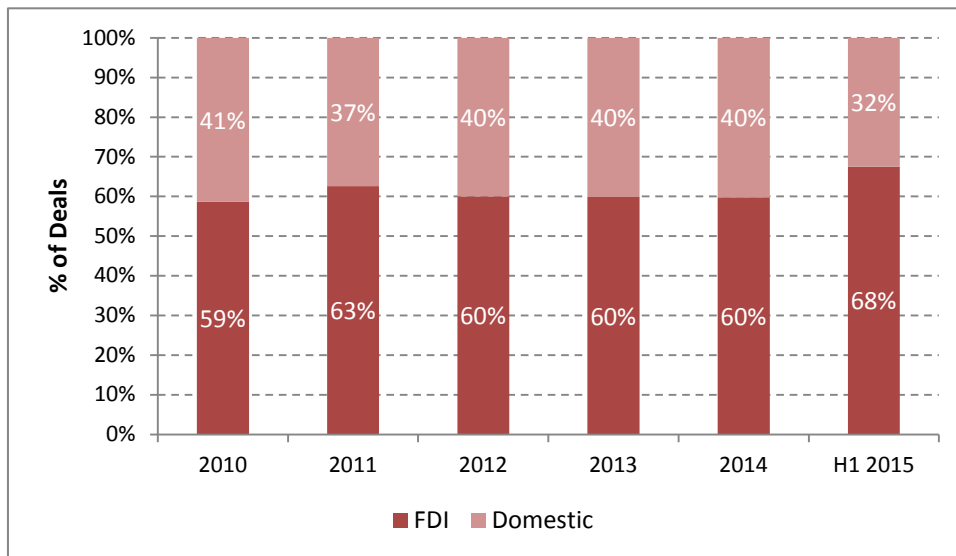
FIGURE 4 Occupied Stock, Vacant Stock and Stock under Construction, Dublin Office Market



Source: Based on JLL data at Q2, 2015.

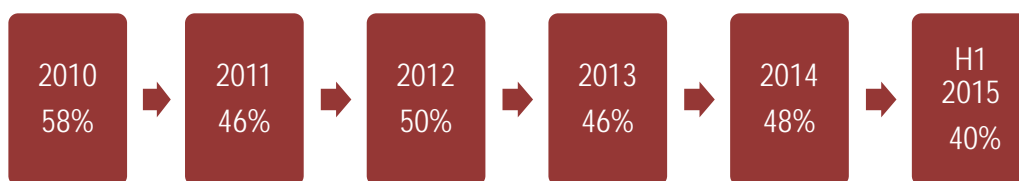
4. Take-up of Office Space by FDI in Dublin

In the last five years, FDI has accounted for an average of 60 per cent of office take-up per annum. This is a combination of existing FDI companies expanding or new FDI entering the market. During this period, tech companies have performed particularly strongly, with global names such as Google, Facebook, Amazon, Salesforce, LinkedIn, Yahoo, Twitter, Microsoft and MasterCard all actively relocating to or expanding in Dublin. This trend continues, with FDI accounting for almost 70 per cent of take-up so far in 2015.

FIGURE 5 Take-Up of Office Space, Dublin Market, Domestic and FDI companies

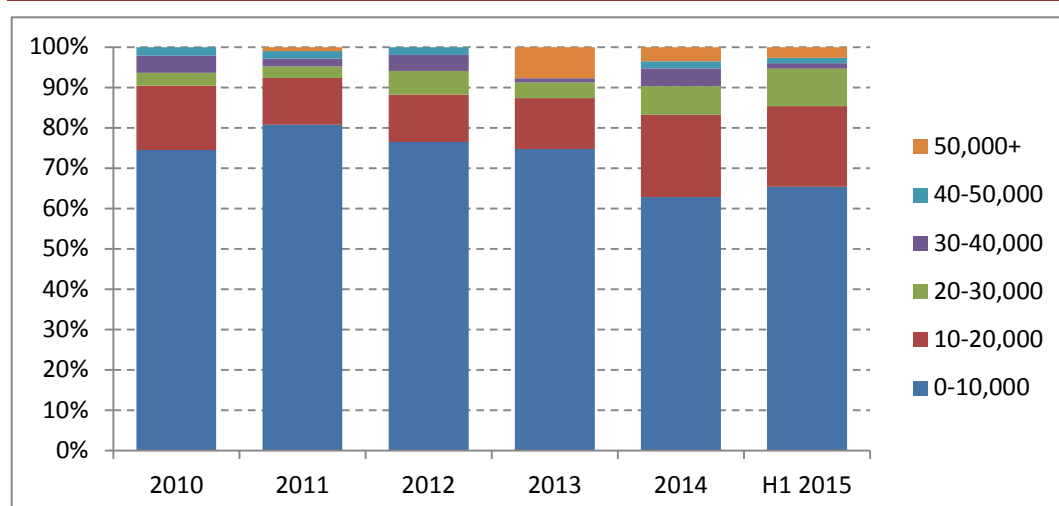
Source: Based on JLL data at Q2, 2015.

FDI companies have a preference for south Dublin city centre locations, particularly the Dublin 2 and Dublin 4 geographies. Williams et al. (2012) mapped IDA supported FDI data and showed concentrations in the inner core of Dublin city. They find that many new creative industries are choosing city centre locations. In particular they have clustered around the South Docks part of the city, with Google and Barrow Street at the epicentre of activity. Take-up by FDI companies in Dublin 2 and Dublin 4 totals an average of 513,479 sq.ft. per annum in the last five years, or 664,742 sq.ft. in the last two years.

FIGURE 6 Per cent of FDI Take-Up in Dublin 2 and Dublin 4

Source: Based on JLL data at Q2, 2015.

Figure 7 shows take-up by size by FDI companies from 2011. In terms of size, the majority of FDI companies initially focus on space less than 10,000 sq.ft. Between 2010 and 2014, an average of close to 74 per cent of FDI deals were for office space less than 10,000 sq.ft.

FIGURE 7 FDI Office Deals by Size, Dublin Market

Source: Based on JLL data at Q2, 2015.

A particular trend in the last number of years is an increase in small tech-based companies looking to start up in Ireland. Generally, their initial requirements are for a small amount of space in serviced office centres or short-term leases. In a number of instances, their requirements have quickly evolved to incorporate quick growth and expansion. Speed and timing of expansions is dependent on individual occupiers but in some instances tech-based FDI companies have quadrupled in size by the end of their first five years in Ireland. Given the nature of the expansion by these FDI businesses, and in particular tech companies, the availability of flexible leases would enable them to respond quickly to their growth in size.

This level of quick growth can be evidenced from the behaviours of a number of occupiers. The table below shows four key FDI occupiers in Dublin and their growth in the Dublin market from their inception:

TABLE 1 Growth in Office Space Requirement of Selected FDI Companies

Google		Facebook		Amazon		Salesforce	
Entered Market	2003	Entered Market	2009	Entered Market	2009	Entered Market	2003
Initial size (sq ft)	4,790	Initial size (sq ft)	20,290	Initial size (sq ft)	14,090	Initial size (sq ft)	7,211
Current size (sq ft)	677,715	Current size (sq ft)	247,943	Current size (sq ft)	100,000	Current size (sq ft)	91,745
Current No. of buildings	9	Current No. of buildings	2	Current No. of buildings	1	Current No. of buildings	2

Source: Based on JLL data at Q2, 2015.

Since Google moved to Dublin in 2003, they have grown from a staff of five to employing more than 2,500 people. Since 2011, Google has spent approximately €280 million purchasing almost 500,000 sq.ft. of office space in Dublin and also leases a further 150,000 sq.ft of space in the city.

There are also a number of FDI companies that have established their European HQ in Dublin. HQ offices vary in size, but generally come after a period of expansion from a small initial requirement that then builds up into larger space.

The low vacancy rate at present suggests that there is now a constraint on companies looking to expand, with these companies being limited in terms of their choice and options when looking for prime space in the city centre. In some instances, companies will have to consider less-prime or less-central locations and take space that does not meet their exact requirements. Some FDI companies have already committed to pre-let space that is under construction e.g. AerCap who are relocating and expanding. However, this generally occurs for larger floor plates. There are 10 sites currently under construction in the city centre greater than 50,000 sq.ft., of these four are pre-let and two of these are FDI companies (LinkedIn and AerCap).

For companies looking for space in the sub-20,000 sq.ft. category, their choice is increasingly limited. In the short term, these companies will continue to struggle to find growth space but refurbishments could offer a temporary solution to their requirements. Some may even be forced to bi-locate in smaller space in the short-term.

5. Conclusion

The analysis in this note suggests that initial FDI requirements for office space are usually small scale. Although choice has become more limited, there are buildings available in this size category at present. However, expansion is common and this requires readily available office space in key locations. As it currently stands, if there was a repeat of any company wanting to set up or relocate to a facility in Dublin for more than 500 people they would now have to wait until approximately Q1, 2017 to occupy a suitable building. In contrast, in 2013 there would have been seven suitable buildings to choose from.

The growth of Google from 5,000 sq.ft. to 650,000 sq.ft. is an example of how quickly occupier expansion can happen in Ireland. We are seeing other occupiers

like Facebook, Salesforce, and Amazon potentially showing similar patterns of growth.

There are other tech occupiers entering the market now that may become the next big growth company, or established companies in Ireland that are now starting to show growth that will also be looking for space in the short-term. These companies may not want to sign long leases. It is important that the market is able to facilitate this type of occupier demand.

The recent economic downturn resulted in a number of years in which no commercial property construction was undertaken. Dublin is the only European capital city where this was the case in the last few years. With the return to growth in the Irish economy, new construction is now underway, with development funding available through REITs³⁷ and overseas funds. Ireland has been successful in continuing to attract investment. However, there is concern that the lack of construction during the crisis could act as a constraint to new FDI and to the expansion of existing FDI. Ireland is still one of the top countries in Europe for attracting investment with good talent, tax and a track record. For Ireland to remain in this position, it is imperative that future growth is not constrained by the availability of commercial property.

³⁷ Real Estate Investment Trusts.

REFERENCES

- Barry, F. (2006). 'Foreign Direct Investment and Institutional Co-evolution in Ireland', UCD Centre for Economic Research Working paper No. WP06/03.
- Barry, F. and A. Bergin (2015). The Irish Business Sector over the cycle, mimeo.
- Barry F. and D. Van Welsum (2005). 'Services FDI and offshoring into Ireland', paper prepared for the OECD Directorate for Science, Technology and Industry Panel Session on Offshoring, June.
- Crafts, N. (2014). 'Ireland's medium-term growth prospects: a phoenix rising?' *Economic and Social Review*, Vol. 45, No. 1, Spring.
- Department of Jobs, Enterprise and Innovation (2014). Policy statement on Foreign Direct Investment in Ireland, July.
- European Commission (2014). 'The Case of Dublin as a European ICT Pole of Excellence: Experts' Insights into Public Policies', Joint Research Centre Scientific and Policy Reports, M. Bogdanowicz (editor).
- Horner, R. and Y. Aoyama (2014). Limits to FDI-driven growth in Ireland: a newspaper content analysis for investment, upgrading and divestment. *Irish Geography*, [S.l.], v. 42, n. See <http://irishgeography.ie/index.php/irishgeography/article/view/95/87>.
- JLL (2015). *Dublin Office Market Report Q2 2015*, July.
- Williams, B., W. Foley, J. Cudden and H. Shahumyum (2012). 'Dublin's role in the Irish and global economy 2012', Working paper No. 4, Dublin Regional Authority.

European Fiscal Policy During the Crisis: An Irish Perspective

*Kieran McQuinn³⁸

1. Introduction

The ongoing approach of the European authorities to the difficulties in the Greek economy and the broader response to the financial crisis of 2007/2008 reveal significant policy shortcomings, which warrant some comment. This is especially the case from an Irish perspective as Ireland has, on a number of occasions, been held up as an 'example' in contrast to the Greek case, and as an example of the successful response by the European authorities in the post-2007/2008 financial crisis context (Sinn 2015). This characterisation however risks obfuscating one of the major structural weaknesses of the European policy response to date; namely the absence of an adequate counter-cyclical fiscal response at a European level, particularly from 2010 onwards. Moreover, European fiscal policy since that period has actually been decidedly pro-cyclical with the compounding effect of the austerity-type budgetary policies adopted impeding growth prospects and, in so doing, exacerbating the heightened levels of debt-to-GDP observed across many European countries, with Greece being the extreme case.

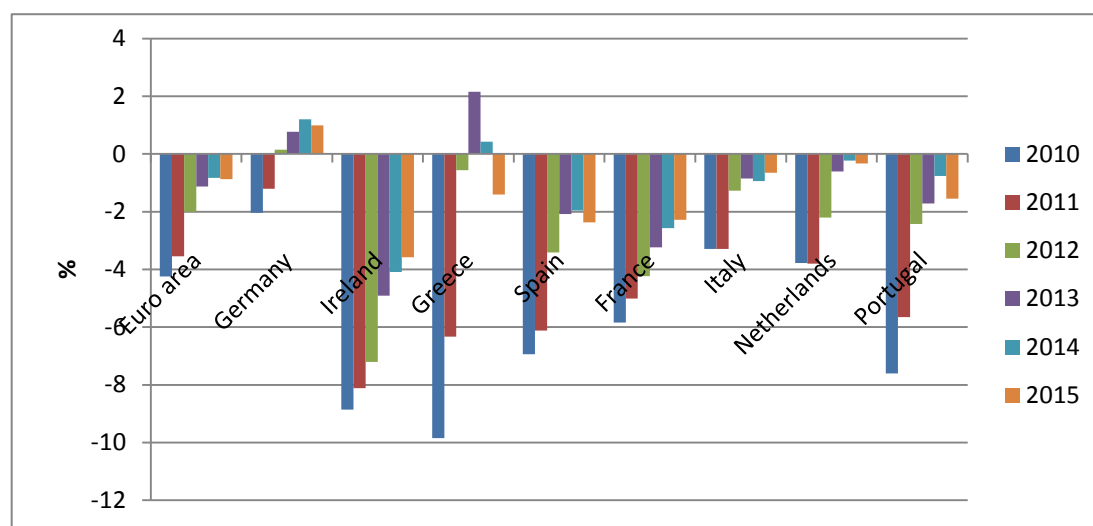
In this note, we review European fiscal policy since the international financial crisis. We initially focus on the rationale for an expansionary European fiscal policy to the international financial crisis, particularly from 2010 onwards. We review some of the more significant contributions advocating a more expansionary policy and contrast the outcomes in both the European and US economies under the differing policy responses. Irish economic performance post-2007/2008 is then discussed in the context of the austerity debate. In light of the fall-out from the financial crisis, we discuss the role an expansionary European fiscal policy could have played in supporting the Irish recovery over that period. In a concluding section, the policy issues concerning the future conduct of European fiscal policy are identified.

³⁸ Thanks to Alan Barrett, David Duffy and an anonymous referee for comments on a previous draft. Any remaining errors are the responsibility of the author.

2. The European Level

Budgetary policy across Europe since 2010 can be assessed from Figure 1, which plots the structural balances³⁹ of a select set of European countries.

FIGURE 1 Structural Balances of Select Euro Area Countries: 2010-2015



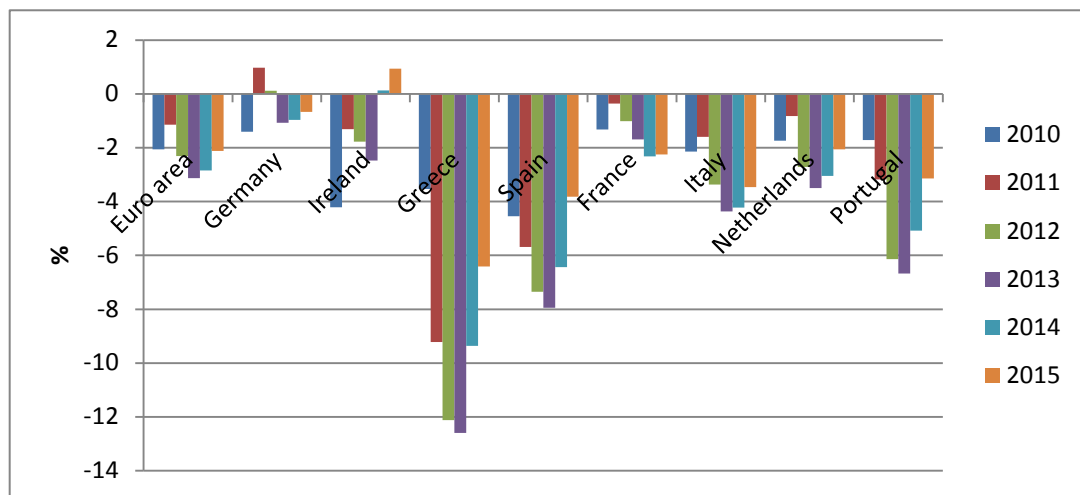
Source: AMECO website.

As the structural balance examines the fiscal policy stance independent of the economic environment, it is usually taken as being more reflective of discretionary changes in fiscal policy. Across all countries it is evident that, since 2010, the response of fiscal policy at a European level has been contractionary in nature.

However, in stark contrast to this general tightening of discretionary European fiscal policy, the case for an expansionary fiscal response from 2010 onwards has been made by a wide number of commentators (see Mody, 2015 for a detailed treatment of the issue). One way to capture the degree of underperformance across the Euro Area and, hence, the rationale for an expansionary response is to review the output gaps⁴⁰ for the same set of countries as in Figure 1 (Figure 2). A negative output gap indicates that the economy in question is performing below trend.

³⁹ The balances are adjusted on the basis of the potential GDP excessive deficit procedure.

⁴⁰ The output gaps are the official Eurostat estimates from the AMECO website.

FIGURE 2 Output Gap of Select Euro Area Countries: 2010-2015

Source: AMECO website.

While the particular underperformance of the countries referred to as the PIIGS (Portugal, Ireland, Italy, Greece and Spain) is clear, it is also evident that nearly all countries are performing below trend over this period.

Blanchard and Leigh (2012 and 2013a) conduct a detailed assessment of the impact of austerity on European growth projections demonstrating the degree to which these forecasts have been steadily lowered since 2011.⁴¹ At that time most forecasts suggested that the economic slowdown would be subdued and that growth would rebound back. Blanchard and Leigh attribute much of the subsequent unexpected downturn in the Euro Area to the larger than anticipated consequences of fiscal austerity. In a cross-country graphical comparison of fiscal consolidation and the unexpected slowdown over the period 2011-2013, the negative relationship between these two variables would appear to confirm that the lesser growth rates occurred in instances where fiscal consolidation was larger. The harmful impacts on growth of the collective fiscal tightening across Europe are exacerbated by the significant levels of intra-EU trade. Thus, as domestic demand was adversely impacted by the fiscal stance of individual Member States, export demand was also negatively affected by the similar stances of other member countries.⁴²

In broader terms, as noted in Ireland's case by Cronin and McQuinn (2014), an increasing number of empirical studies support the notion that fiscal multipliers

⁴¹ Note Alesina et al. (2015) provide a somewhat alternative perspective on the role of fiscal policy.

⁴² A point also made by Blyth (2015).

are large during periods of economic downturn suggesting that fiscal stimulus can play an important role; however the corollary is also true; tightening budgetary policy has a more negative effect when economies are below trend. Examples of such studies include Auerbach and Gorodnichenko (2012), Batini et al. (2012), Baum et al. (2012) and Riera-Crichton et al. (2014) and, in a celebrated contribution, DeLong and Summers (2012) who argue that with a zero lower bound lower interest rate, expansionary fiscal policy is self-financing in a depressed economy. In the presence of a liquidity trap, DeLong and Summers (2012) note that the impact of fiscal policy on economic activity and employment is enhanced as the presence of low interest rates minimises the crowding-out effects that often mitigate the effects of fiscal policies.

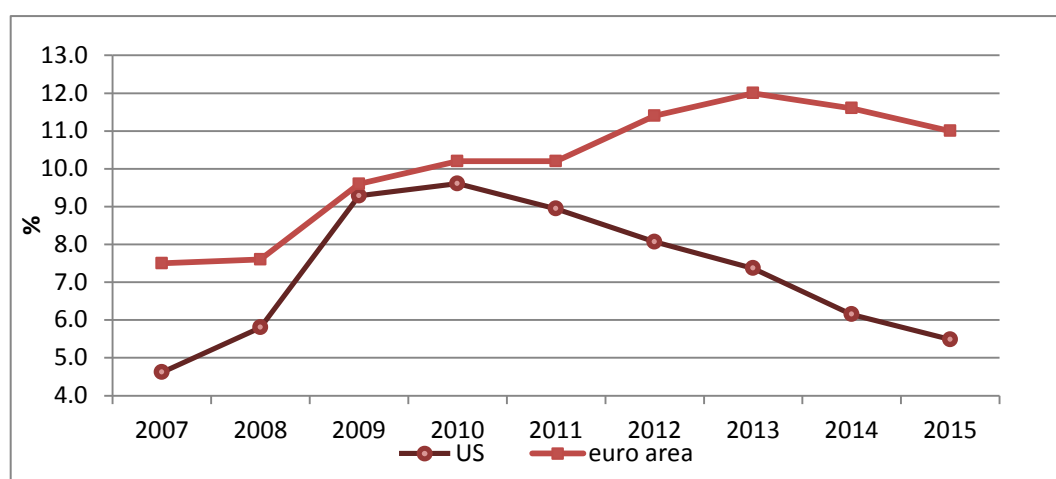
Of course one consequence of lower than expected growth rates over this period is that, in stark contrast to its intended consequence, the debt-to-GDP ratios (a crucial indicator of fiscal sustainability) actually *disimproved* because of the respective budgetary policy. Blanchard and Leigh (2013b) note that the debt ratios for European countries have been higher than projected. In the case of Greece both Krugman (2015b) and Wren Lewis (2015) have documented how achieving a primary surplus involves adopting an intensely contractionary fiscal policy such that the economy shrinks by a good degree more than the improvement in the primary surplus. Therefore, the debt-to-GDP ratio disimproves quite significantly in the short to medium term. The effect of a tightening fiscal policy is further accentuated by the depressing impact on the GDP deflator, resulting in a greater deterioration in the debt-to-GDP dynamics. As Mody (2015) concludes, the ‘evidence is clear and the assessment is rather pessimistic. After the enormously costly austerity, the debt ratios have gone up in most Euro Area countries’.

The fiscal response of the European authorities can be compared with the expansionary policy of the United States over the same period. In 2009, the US Congress passed the *American Recovery and Reinvestment Act* (ARRA) into law, the primary objective of which was to support employment measures in light of the post-2007 economic downturn. The approximate cost of the economic stimulus package is estimated to be \$831 billion between 2009 and 2019. While some commentators, such as Krugman (2009), argued that the stimulus fell short of what was needed to re-stimulate US growth, it is interesting to compare the unemployment rate in the Euro Area and the US since 2007 (Figure 3). Initially, both areas experienced a significant increase in unemployment as the financial crisis unfolded, with the respective elevated jobless rates almost identical through 2009 and 2010. However, thereafter, the rates start to diverge with the

US unemployment rate lowering to 5.4 per cent in Q2 2015 contrasting with an equivalent Euro Area rate of 11.1 per cent.

Aizenman and Pasricha (2010), in assessing the effectiveness of the US response, contend that the stimulus mostly compensated for the negative stimulus – at state and local level – associated with the collapsing tax revenue and the limited borrowing capacity of the individual states. While this is a significant accomplishment, as Aizenman and Pasricha (2010) argue, the net effect is that the consolidated fiscal expenditure stimulus is small relative to the sharp fall in private aggregate demand.

FIGURE 3 US and Euro Area Unemployment Rates 2007-2015



Source: AMECO and Bureau of Labour Statistics (BLS) websites.

Over the longer term, the ramifications of the significant European policy miscalculation are compounded by pessimistic growth prospects for the Euro Area. McQuinn and Whelan (2015), in updating analysis from before the financial crisis, find that the long-term growth prospects of the Euro Area have deteriorated further. With TFP growth continuing to fall, Europe's demographics are now also contributing to a decline in the workforce and hence to economic growth. Against this backdrop, McQuinn and Whelan argue that, even with the successful adoption of certain significant structural reforms, the European economy is still only likely to grow between 1 and 1.5 per cent per annum over the period 2015-2033. Clearly, such a slowdown in growth rates over the longer term raises significant difficulties for the future sustainability of the increased debt levels observed.

3. The Irish Recovery

Given the recent performance of the Irish economy, it is timely to assess how the domestic recovery could have benefitted from a countervailing fiscal policy at the European level. From a budgetary perspective, the Irish authorities had little option but to pursue a contractionary (and intensely pro-cyclical) budgetary policy from 2008 onwards; the Exchequer balance, which had recorded a surplus of 1.2 per cent in 2006, quickly deteriorated to -7 per cent in 2008 and peaked in a negative context at just under -15 per cent in 2011. With the country priced out of sovereign bond markets and forced into a programme of support, there was little option, given the European policy framework, other than to correct the fiscal accounts. As can be seen in Figure 1, for the countries considered, the contractionary fiscal policy undertaken by the Irish authorities was, over the period 2010-2015, second only to Greece in improving its structural balance.

To understand the nature of the Irish recovery, some insight can be provided by taking the following simplified version of a standard Keynesian model:

$$ygap = \beta_1 X - \beta_1 S \quad (1)$$

$$X = -\beta_2 P \quad (2)$$

$$\Delta P = \beta_3 ygap \quad (3)$$

$$\Delta ygap = -\beta_1 \beta_2 \beta_3 ygap \quad (4)$$

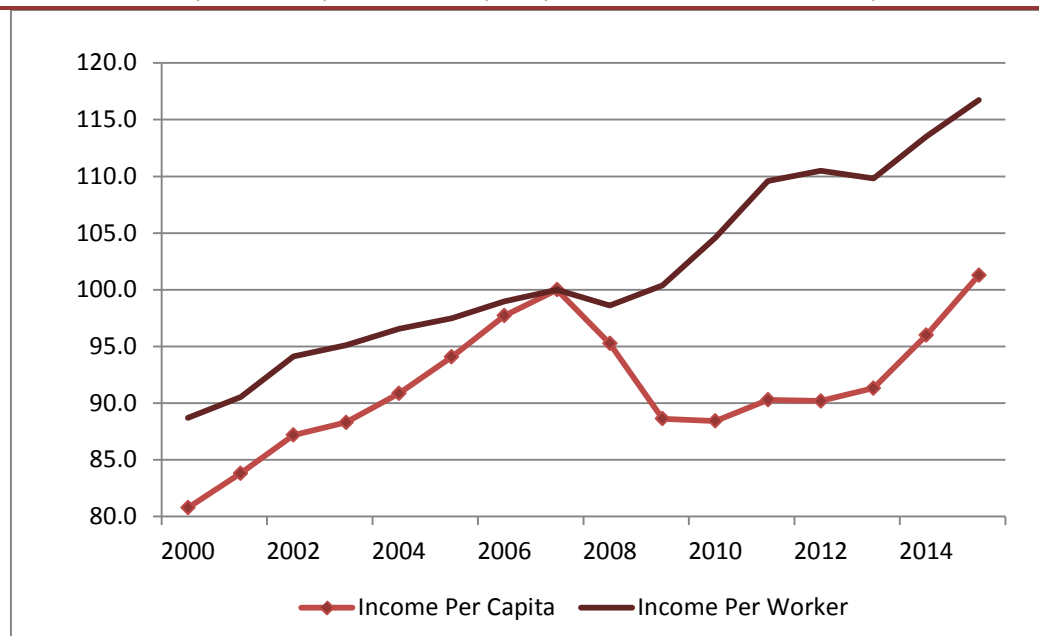
In this highly parsimonious model, the Irish output gap (*ygap*) is assumed to be a function of just net exports (*X*) and the structural balance (*S*). Exports are then a function of the real exchange rate, which in this case we take as the nominal price level (*P*) as foreign prices are assumed to remain constant. The change in prices (ΔP), a form of simplified Philips curve, is a function of the output gap. Taken together this leads to the final expression (4); output self corrects overtime, so if the domestic economy experiences a deflationary period, relative prices decline, competitiveness improves and exports start to increase.

In this model, once the initial deflationary policy ceases i.e. as the Government modifies its fiscal retrenchment to reduce the structural balance, the economy starts to converge back to its long-run level. The convergence process is a function of the output gap and three parameters; the multiplier, the sensitivity of the trade balance to the real exchange rate and the sensitivity of inflation to the output gap. Using plausible assumptions for these parameters, Krugman (2015a) characterises the recent performance of the Irish economy. That is, the fiscal response allied to the initial shock experienced by the economy precipitated a

significant decline in output; once competitiveness was improved and the severity of budgetary policy abated, the economy started to increase back towards its steady-state level. Byrne and McQuinn (2014) offer a similar analysis of recent Irish performance as a case of an economy converging back to its steady-state level.

However, this self-correction comes at some cost in terms of the resulting volatility in economic activity. To that end it's worth examining the scale of changes in the *levels* of key Irish economic variables. In Figure 4, we plot actual (2000–2014) and forecast (2015) income per capita and income per worker in the Irish economy.

FIGURE 4 Actual (2000–2014) and Forecast (2015) Irish Economic Performance (Index 2007 = 100)



Source: ESRI.

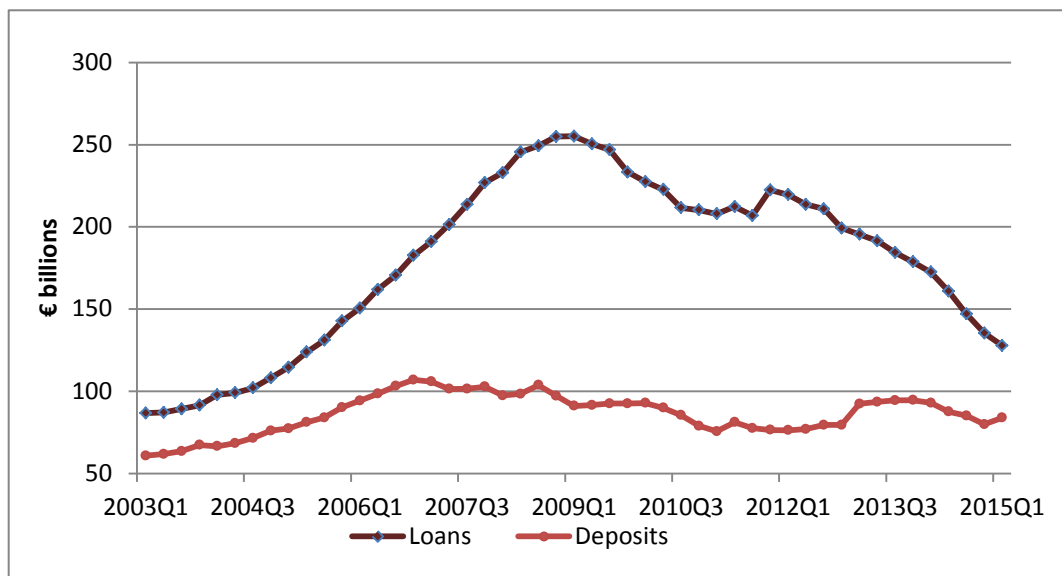
While the recent growth rates of the Irish economy are impressive, particularly when compared with other European countries, the chart places the levels of the key economic outcomes in perspective. Even with the strong growth rates, it is evident that the Irish economy will not be back to its pre-crisis income levels until 2016 or 2017 at the earliest. This illustrates the lost capacity of the economy and, hence, the potential for policy at the European level to have ameliorated the decline in output and general activity experienced in the Irish case.

Significant fluctuations in economic activity, such as those experienced in the Irish case, lead to disruption in many areas of the economy; Blanchard and Leigh

(2013b), for example, highlight the persistent fall in investment which can accompany a pronounced fiscal co-ordination. In the Irish economy, after 2007, housing construction, for example, went from an annual average of over 80,000 units per annum for the period 2005-2007 to just over 10,000 units per annum between 2012 and 2014. The collapse of housing investment has occurred despite evidence of significant underlying structural demand for housing in the Irish economy (see Byrne et al., 2014).

As well as standard macroeconomic reasons for an EU-wide stimulus, the particular implications of the post-2007 downturn for the Irish financial sector provides ample reasons why such a policy would have yielded a number of benefits in the domestic case.

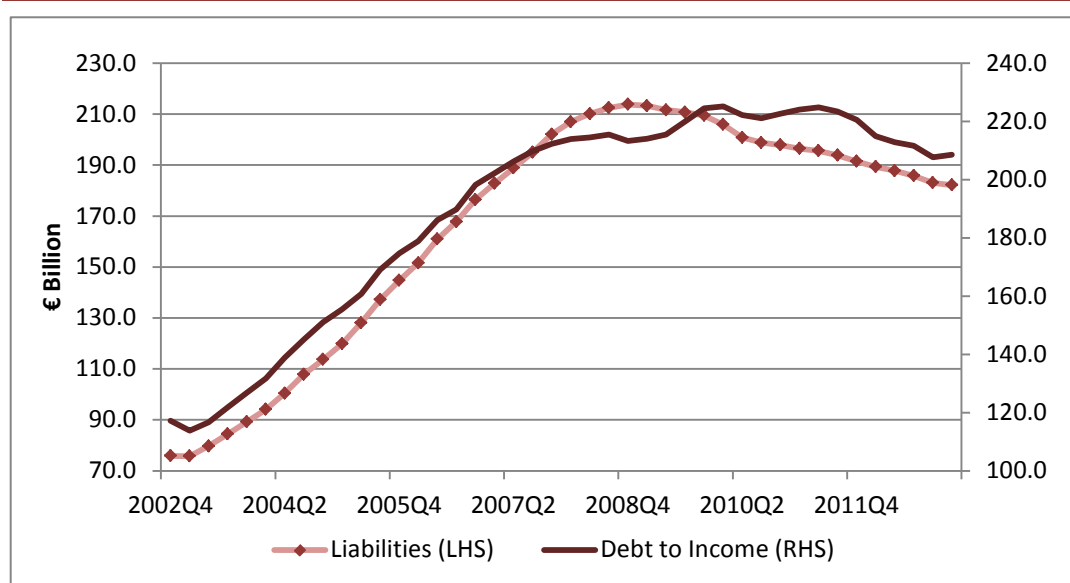
After 2010, the Irish economy was subject not just to an intensely contractionary fiscal policy but also to a contractionary prudential or banking one. The dislocation caused by the financial crisis resulted in the main Irish financial institutions having to deleverage or reduce their balance sheets in a considerable manner. Indeed, the programme of support negotiated between the Irish State and the Troika (EU Commission, ECB and the IMF) in October 2010 specified a reduction in the loan-to-deposit ratio of these institutions from 177 per cent to 122.5 per cent over a three-year horizon. This highly aggressive target constituted a dramatic reduction in the size of the Irish financial sector as can be evidenced from Figure 5 which plots total lending and deposits to Irish resident private sector enterprises. Although much of this deleveraging was aimed at reducing the non-core elements of banks lending, overall, given the scale of the reduction, it almost certainly exerted a negative impact on Irish economic activity.

FIGURE 5 Loans and Deposits to the Irish Private Sector 2003-2015

Source: Central Bank of Ireland.

While the scale of deleveraging was not quite so severe across Europe, many economies were confronted by this set of simultaneously contractionary fiscal and prudential pressures.

Support from a countervailing EU-level stimulus would have been particularly beneficial for the Irish economy in dealing with the high degree of private sector indebtedness experienced from 2007/2008 onwards. McCarthy and McQuinn (2015) highlight the degree of household level debt in Ireland vis-à-vis other OECD countries and provide micro-based empirical evidence for the negative impact of household deleveraging on consumption in the Irish market. Mody (2015), for example, criticises the single-minded focus on austerity in the presence of high private debt burdens arguing that Irish and Spanish households who tried to address their debt obligations in the immediate aftermath of the crisis actually saw an *increase* in their debt-to-income ratios initially as their disposable incomes fell. Figure 6 plots total Irish household liabilities along with the ratio of debt to disposable income; from the graph the substantial increase in total household debt in the lead up to 2007 is evident. However, it is also clear that while total household debt peaked in 2008, the ratio of debt to income continued to increase until late 2012 as income levels fell.

FIGURE 6 Irish Household Debt 2002-2012

Source: Central Bank of Ireland.

4. Policy Conclusions

A number of significant policy contributors have advanced the case for a substantial fiscal stimulus at the European level; Sapir and Wolf (2014), in an open letter to the then incoming EU Commission, argue for a new investment programme amounting to at least 1 per cent of EU GDP in addition to investments currently planned. Sapir and Wolf (2014) suggest that part of this investment should be designed and implemented through national fiscal policies by increasing public investment. Countries which have the fiscal space should be encouraged to stop outperforming against fiscal targets, while other countries with limited space should commence a new deficit-financed investment programme. However, the greater component of any such investment response should be financed at the European level, mainly through the European Investment Bank, project bonds and an increase and improvement in the EU budget. Finally, those countries with weaker economic circumstances should disproportionately benefit from such a policy.

McQuinn and Whelan (2015) note that while the Euro Area's current ratio of public debt to GDP is high by modern historical standards, many of its Member States are able to borrow at very low rates and the pricing of ESM-issued securities shows that there are few concerns about the solvency of the Euro Area as a whole. Thus, they argue that a strong economic case exists for a large investment programme aimed at reducing unemployment and raising the supply capacity of the economy, funded by the Euro Area as a whole.

At present, Europe's political constraints clearly rule out such a programme for the foreseeable future with the current 'Juncker plan' with its very limited use of European public funds appearing to represent the limit of what is politically achievable at present.

This inevitably gives rise to the argument for greater fiscal integration in correcting some of the architectural weaknesses in the present European policy set-up. Allard et al. (2013), in addressing the concept of a fiscal union for the Euro Area, argue that more fiscal integration can ultimately provide a greater capacity for country-level shocks, whether exogenous or domestically-determined, to spread across the Euro Area. They note that the origin of much of the present difficulties in Europe are due to the merger of domestic fiscal and banking vulnerabilities, combined with extensive financial linkages across countries which culminated in country-specific shocks propagating into systemic ones.⁴³ This mainly occurred due to the absence of any mechanisms to deal with such shocks. Thus, greater fiscal integration can provide an ex ante framework for enforcing fiscal discipline and temporary transfers. An integral component of such a framework would entail some form of common borrowing (backed by common revenue) to finance better risk sharing and stronger backstops. This ex ante sharing of risk ensures that at a particular point in time those countries experiencing better cyclical conditions support those that are not. Furthermore, Allard et al. (2013) demonstrate that, with such a risk-sharing mechanism in place over a sufficiently long period, all current Euro Area member countries would have benefited from transfers at some point.

Therefore, it is incumbent on domestic policymakers to:

- (a) Address the institutional issues which prevent the formation of an effective fiscal union within the Euro Area. This may well give rise to certain difficulties from an Irish perspective with greater focus on issues such as the harmonisation of corporate tax rates. Ultimately, this will involve some estimation and assessment as to the relative trade offs of the different policy options.
- (b) Equally, if not more important, highlight the economic rationale or lack thereof which has underpinned the fiscal response of European authorities to date. As a number of commentators have pointed out, the relentless pursuit of austerity at a time of contracting economic activity and in the presence of sizeable public debt is not part of traditional mainstream economic policy

⁴³ Gai et al. (2011) illustrate how greater complexity and concentration in the financial network may actually amplify this fragility.

thinking (see Parenteau (2015) for example) and is at variance with the more successful policy response in other jurisdictions. This point must be clearly understood in terms of both domestic and European wide debate on the future direction of Euro Area-wide macroeconomic policy.

REFERENCES

- Aizenman, J. and G.K. Pasricha (2010). 'On the Ease of Overstating the Fiscal Stimulus in the US, 2008-9'. NBER Working paper No. 15784.
- Allard C., P.K. Brooks, J.C. Bluedorn, K.C. Bornhorst, F. Ohnsorge and T. Poghosyan and an IMF Staff Team (2013). 'Toward a Fiscal Union for the Euro Area', IMF Staff Discussion Note, Washington D.C.: International Monetary Fund.
- Alesina A., O. Barbero, C. Favero, F. Giavazzi and M. Paradissi (2015). 'Austerity in 2009-13', *Economic Policy*, pp. 385-437, July.
- Auerbach, A.J. and Y. Gorodnichenko (2012). 'Measuring the Output Responses to Fiscal Policy', *American Economic Journal: Economic Policy* 4(2): 1–27.
- Batini, N., G. Callegari and G. Melina (2012). 'Successful Austerity in the United States, Europe and Japan, IMF Working Paper 12/190, Washington D.C.: International Monetary Fund.
- Baum A., M. Poplawski-Ribeiro and A. Weber (2012). 'Fiscal Multipliers and the State of the Economy,' IMF Working Paper 12/286, Washington D.C.: International Monetary Fund.
- Blanchard O. and D. Leigh (2012). 'Are We Underestimating Short-Term Fiscal Multipliers?', Box 1.1 in International Monetary Fund (2012) *World Economic Outlook: Coping with High Debt and Sluggish Growth, October*, Washington D.C.: International Monetary Fund.
- Blanchard O. and D. Leigh (2013a). 'Growth Forecast Errors and Fiscal Multipliers', IMF Working Paper 13/1, Washington D.C.: International Monetary Fund.
- Blanchard O. and D. Leigh (2013b). 'Fiscal Consolidation: At What Speed?', VoxEU.org, May 3, www.voxeu.org/article/fiscal-consolidation-what-speed.
- Blyth M. (2015). *Austerity, the history of a dangerous idea*. Oxford University Press.
- Byrne, D. and K. McQuinn (2014). 'Irish Economic Performance 1987-2013: A Growth Accounting Assessment' *Research Note 2014/4/1, Quarterly Economic Commentary*, Autumn 2014, Dublin: The Economic and Social Research Institute.
- Byrne D., D. Duffy and J. Fitzgerald (2014). 'Alternative Scenarios for New Household Formation in Ireland., Special Article, *Quarterly Economic Commentary*, Spring 2014, Dublin: The Economic and Social Research Institute.
- Cronin D. and K. McQuinn (2014). 'Irish Fiscal Policy in Good Times and in Bad: Its Impact During Different Stages of the Economic Cycle', Special Article, *Quarterly Economic Commentary*, Autumn 2014, Dublin: The Economic and Social Research Institute.
- DeLong J.D. and L. Summers (2012). 'Fiscal Policy in a Depressed Economy', *Brookings Papers on Economic Activity*, Spring 2012.

- Gai P., A. Halldane and S. Kapadia (2011). 'Complexity, Concentration and Contagion', *Journal of Monetary Economics*, Vol. 58 (5), pp. 453-470.
- Krugman P. (2009). *Too Little Stimulus in Stimulus Plan*, <http://knowledge.wharton.upenn.edu/article/nobel-laureate-paul-krugman-too-little-stimulus-in-stimulus-plan>.
- Krugman P. (2015a). 'The Half-Lives of Others (Wonkish)', *New York Times*, July 22.
- Krugman P. (2015b). 'Austerity Arithmetic', *New York Times*, July 5.
- McCarthy Y. and K. McQuinn (2015). Deleveraging in a highly indebted property market: Who does it and are there implications for household consumption? *Review of Income and Wealth*, accepted.
- McQuinn K. and K. Whelan (2015). 'Europe's long-term growth prospects: With and without structural reforms', Economic and Social Research Institute (ESRI) *Working Paper* No. 501, 2015.
- Mody A. (2015). 'Living (Dangerously) Without a Fiscal Union', Bruegel Working Paper No. 2015/03.
- Parenteau R. (2015). *Goebbelsnomics – Austerian Duplicity and the Dispensing of Greece*, Levy Economics Institute. www.levyinstitute.org/scholars/robert-w-parenteau.
- Riera-Crichton, D., C.A. Vegh, and G. Vuletin, (2014). 'Does it Matter Whether Government Spending is Increasing or Decreasing?' World Bank Policy Research Paper 6993, Washington DC World Bank.
- Sapir A. and G.B. Wolff (2014). *EU to DO 2015-2019: Memos to the New EU Leadership*, Bruegel.
- Sinn H.W. (2015). 'Why Greece Should Leave the Eurozone', Op-Ed, *New York Times*, July 24.
- Wren Lewis S. (2015). 'Greece and the Political Capture of the IMF': <http://mainlymacro.blogspot.co.uk/2015/07/greece-and-political-capture-of-imf.html>.



The Economic & Social Research Institute
Whitaker Square
Sir John Rogerson's Quay
Dublin 2, Ireland
+ 353 1 863 2000 www.esri.ie
ISSN 0376-7191