JANUARY 15

Q1

Central Bank Quarterly Bulletin

Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

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Notes

1. The permission of the Government has been obtained for the use in this Bulletin of certain material compiled by the Central Statistics Office and Government Departments. The Bulletin also contains material which has been made available by the courtesy of licensed banks and other financial institutions.

2. Unless otherwise stated, statistics refer to the State, i.e., Ireland exclusive of Northern Ireland.

3. In some cases, owing to the rounding of figures, components do not add to the totals shown.

4. The method of seasonal adjustment used in the Bank is that of the US Bureau of the Census X-11 variant.

5. Annual rates of change are annual extrapolations of specific period-to-period percentage changes.

6. The following symbols are used:

e estimated	n.a. not available
p provisional	. . no figure to be expected
r revised	– nil or negligible
q quarter	f forecast

7. Data on euro exchange rates are available on our website at www.centralbank.ie and by telephone at 353 1 2246380.

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Forecast Summary Table

	2012	2013	2014[e]	2015[f]	2016[f]
Real Economic Activity					
(% change)					
Personal consumer expenditure	-1.2	-0.8	1.0	1.9	2.1
Public consumption	-2.1	1.4	2.1	-0.6	1.8
Gross fixed capital formation	5.0	-2.4	12.6	10.0	7.5
of which: Building and construction	-1.3	14.1	11.1	8.7	8.4
Machinery and equipment	-2.1	1.8	31.1	17.6	9.2
Exports of goods and services	4.7	1.1	10.7	5.2	5.4
Imports of goods and services	6.9	0.6	10.5	5.1	5.3
Gross Domestic Product (GDP)	-0.3	0.2	5.1	3.7	3.8
Gross National Product (GNP)	1.1	3.3	3.9	3.3	3.5
External Trade and Payments					
Balance-of-Payments Current Account (€ million)	2,698	7,634	8,685	8,404	9,903
Current Account (% of GDP)	1.6	4.4	4.7	4.3	4.8
Prices, Costs and Competitiveness					
(% change)					
Harmonised Index of Consumer Prices (HICP)	2.0	0.5	0.4	0.2	1.6
of which: Goods	1.9	-0.4	-1.7	-2.1	0.8
Services	1.9	1.6	2.4	2.4	2.5
HICP excluding energy	0.9	0.6	0.6	1.4	1.4
Consumer Price Index (CPI)	1.7	0.5	0.2	0.1	1.6
Nominal Harmonised Competitiveness Indicator (Nominal HCI)[a]	-4.0	3.1	n.a.	n.a.	n.a.
Compensation per Employee	0.7	2.0	3.0	2.2	2.3
Labour Market					
(% change year-on-year)					
Total employment	-0.6	2.2	1.6	1.9	2.1
Labour force	-0.6	0.4	-0.4	0.7	0.8
Unemployment rate (ILO)	14.6	13.1	11.4	10.4	9.3
Technical Assumptions[b]					
EUR/USD exchange rate	1.28	1.33	1.33	1.22	1.22
EUR/GBP exchange rate	0.81	0.85	0.81	0.78	0.78
Oil price ($ per barrel)	111.57	109.17	100.10	61.37	69.27
Interbank market – Euribor[c] (3-month fixed)	0.57	0.23	0.21	0.07	0.07

a Based upon the annual change in the average nominal HCI.

b The technical assumption made is that exchange rates remain unchanged at their average levels in early-January. Oil prices and interest rates are assumed to move in line with the futures market.

c Euribor is the rate at which euro interbank term deposits are offered by one prime bank to another, within the euro area. Daily data from 30 December 1998 are available from www.euribor.org.

Comment

The recovery of the Irish economy has broadened and gained momentum over the past year. Recovery has been led by strong growth in exports and investment, and is also being supported by the resumption of growth in consumer spending. The latter has been helped by the continuing growth in employment, which even though slowing somewhat, has allowed the unemployment rate to continue to decline steadily. With consumer and investment spending both rising, domestic demand contributed positively to growth in 2014 for the first time since the downturn.

Notwithstanding the improved performance of the domestic side of the economy, however, the main driver of growth over the past year has been the exceptionally strong export performance. In part, this appears to have been due to some special factors. In 2014, exports grew much faster than import demand in trading partner countries, with the difference accounted for by a large contribution to export growth from contract manufacturing outside Ireland (arising when goods owned by an Irish entity are manufactured in and shipped from a foreign country). Viewing this surge in export growth as a temporary factor suggests that the underlying strength of the recovery over the past year is less than signalled by the currently projected increase in GDP growth for 2014 of just over 5 per cent.

Looking ahead, it is expected that, this year and next, exports will return to growing broadly in line with projected growth in external demand. Helped by Ireland's trade links with the more strongly growing US and UK markets, this will continue to generate a strong growth rate for exports, although representing a slowdown as compared to 2014. On the domestic side, an improving labour market and rising real disposable incomes should lend greater support to consumer spending in 2015 and 2016, though high levels of indebtedness remain a headwind to any strong recovery in consumption. While moderating slightly from its current rate, investment is projected to grow solidly in coming years, continuing to rebound from the earlier extended period during which investment had fallen to relatively low levels.

Taking account of these developments suggests a stronger outturn for GDP growth last year, and also a slightly stronger outlook for this year, than previously forecast. As a result of the exceptional strength of export growth in 2014, GDP is now estimated to have grown by 5.1 per cent last year. Reflecting a favourable outlook for consumer and investment spending this year, GDP growth of 3.7 per cent is forecast for 2015, an upward revision of 0.3 per cent relative to the previous projection, while the forecast for GNP growth of 3.3 per cent is 0.2 per cent higher. In 2016, on the basis of forecasts of growth in trading partner countries from the main international economic institutions and supported by some further strengthening of domestic demand, GDP is forecast to grow by 3.8 per cent, with GNP projected to rise by 3.5 per cent. Risks to these forecasts are judged to be balanced, with some possible upside potential from domestic factors, exchange rates and oil prices, offset by some potential downside risk on the external side, while future inflation could also be affected by oil price movements.

Turning to policy issues, progress in creating the conditions for a sustainable economic recovery has benefitted from fiscal and financial policies continuing along the path of consolidation and adjustment. Following such a policy path has also allowed Ireland to benefit significantly from current highly favourable international financial conditions. While much progress has been made, high public and private indebtedness persists and some key vulnerabilities remain. To reduce these vulnerabilities, and ensure a sustainable return to steady growth, policy needs to continue to build on the achievements of recent years and focus on strengthening resilience.

With respect to the public finances, benefitting from stronger than expected growth in 2014 and some windfall revenues, Exchequer developments have been favourable. Tax revenues have grown ahead of forecast and, despite some expenditure overrun, when combined with the projected higher level of nominal GDP, leaves the deficit on course to have fallen to about 4 per cent of GDP in 2014, well below target. While this improvement is welcome, deficit and debt levels still remain very high. To meet the medium-term budgetary objective and to build a buffer to guard against any future adverse shocks, further consolidation will be needed in coming years. This would help to put the debt-to-GDP ratio firmly on a downward path and enhance sustainability.

In the banking sector, progress in repairing the banking system and moving to improve the resilience of both banks and their customers has advanced. The outcome of the Comprehensive Assessment was broadly in line with expectations and the transition to the SSM has been made. While more remains to be done, progress is being made in dealing with the resolution of impaired loans and the Central Bank will continue to work to ensure that banks and mortgage borrowers in arrears move to conclude durable solutions.

Following a consultation and review process, in late January, the Central Bank announced the introduction of new regulations which will apply proportionate limits to residential mortgage lending. The measures introduce proportionate limits for loan to value and loan to income ratios for principal dwelling houses and for loan to value ratios for buy to let mortgages. With respect to the loan to value ratio for principal dwelling houses, a higher loan to value limit has been set for first time buyers on the first €220,000 of the value of a residential property.

The key objective of the new regulations is to increase the resilience of the banking and household sectors to the property market and to reduce the risk of bank credit and house price spirals developing in the future. The Central Bank does not wish to regulate or directly control house prices. It is expected that the new regulations will be introduced under legislation shortly. The limits are supplementary to individual banks credit policies and are not designed as a substitute for lenders responsibilities to assess affordability and lend prudently on a case-by-case basis. Although they have been designed to be stable, the regulations are flexible enough to be adjusted in the future to economic, market or other developments, should the need arise.

The Domestic Economy

Overview

- *The economy is forecast to grow by 3.7 per cent in 2015, marking a third successive year of growth. This follows from an estimated 5.1 per cent increase in the volume of GDP in 2014, when growth was buoyed by exceptionally strong exports and investment. Relative to the Bank's last set of published forecasts, GDP growth this year has been revised upwards by 0.3 percentage points. This mainly reflects a stronger outlook for consumer and investment spending in 2015.*

- *Domestic demand is expected to be the main driver of GDP growth in 2015. An improving labour market, rising real disposable incomes and higher asset prices should all lend support to domestic demand as the economy returns to more normal operating conditions. Real incomes will be supported by a very weak outlook for inflation with the harmonised index of consumer prices (HICP) forecast to increase by just 0.2 per cent in 2015.*

- *The growth in net exports in 2014, in part reflecting the impact of contract manufacturing activities, is not anticipated to continue this year with export growth projected to moderate to be more in line with demand conditions in Ireland's major trading partners.*

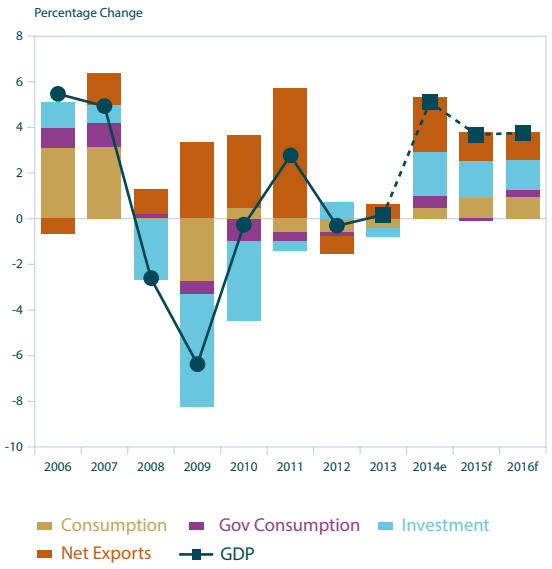
- *The labour market outlook continues to improve. Employment growth of just under 2 per cent is forecast for 2015. Much of this is premised on a continuation of the labour market trends witnessed in 2014 and the improved outlook for domestic demand. This should see the unemployment rate falling below 10 per cent by the end of the year.*

- *The outlook for 2016 is similar to 2015, with real GDP growth of 3.8 per cent forecast and with domestic demand being the main driver. In particular, investment is expected to revert close to its long run share of GDP. On the labour market front, the unemployment rate is forecast to average 9.3 per cent over the course of the year helped by growth in employment of 2.1 per cent. Inflation is projected to pick up in 2016 (to 1.5 per cent) driven by some projected recovery in energy prices.*

- *Risks to the forecast are deemed to be roughly balanced. On the upside, domestic demand factors could prove to be stronger than assumed. Should the labour market recovery and the process of household balance sheet repair accelerate, and consumer sentiment improve further, then there could well be grounds for a faster upturn in consumer spending. Similarly, the outlook for investment could be stronger than envisaged given signs of pressures in key sectors, such as housing, and the possibility that firms may seek to more rapidly replenish depleted capital stock levels.*

- *In terms of downside risks, the outlook for the euro area remains fragile. Recent developments in the price of oil have had a significant impact on headline inflation rates. Should these trends not be reversed (as is assumed based on*

Chart 1: Contributions to GDP



Source: CSO and Central Bank of Ireland.

market expectations), then there would be an increased probability of even weaker inflation than currently projected.

Domestic Demand

Overview

While preliminary annual *National Accounts* results for 2014 will not be available until March, all of the main indicators point to a robust recovery in domestic demand last year. In particular both consumption and investment spending are likely to have recorded positive rates of growth (estimated at 1 per cent and 12.6 per cent, respectively). This coupled with a volume increase in government spending of 2.1 per cent is likely to have resulted in a 3.4 per cent increase in domestic demand in 2014 – the first positive contribution to growth from domestic demand since the onset of the financial crisis in 2007.

For 2015 and 2016, domestic demand is forecast to grow by 3.2 per cent per annum, supported by continued growth in consumer and investment spending.

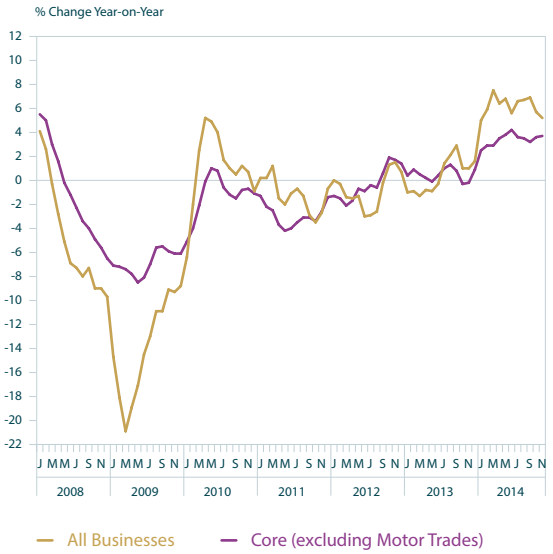
Personal Consumption

Following three successive years of decline, personal consumption expenditure is estimated to have grown by 1 per cent in 2014. High-frequency indicators point to robust growth. VAT receipts in 2014 were up 9 per cent compared with the previous year. Similarly, retail sales data (helped by strong car sales) increased in volume terms by 5.2 per cent in the year to November or by 3.7 per cent when motor trades are excluded. Sentiment indicators have also been positive with the KBC Ireland/ESRI Consumer Sentiment Index ending 2014 at a significantly higher level relative to 2013.[1]

Consumption data from the *Quarterly National Accounts* has been mixed. While the volume of spending increased by 0.6 per cent in the first nine months of 2014 compared with the same period in 2013, the third quarter outturn was flat. In addition, growth in the second quarter was revised downwards by the CSO.[2] Some of the possible reasons for the apparent discrepancy between consumer spending as measured in the *Quarterly National Accounts* and other indicators are explored in greater detail in Box A.

In terms of the outlook for 2015 and 2016, personal consumption spending is forecast to grow by approximately 2 per cent per annum. This forecast is premised on an improved outlook for the labour market and disposable incomes (partly as a result of measures introduced in *Budget 2015*). In addition, the recovery underway in the housing market should also lend some support to consumer durables spending. Overall, the volume of personal consumption expenditure is forecast to increase by 1.9 per cent in 2015 and by 2.1 per cent in 2016.

Chart 2: Index of Volume of Retail Sales



Source: CSO.

1 The sentiment indicator was up 15 per cent year-on-year in the fourth quarter of 2014.

2 The seasonally adjusted growth rate in the second quarter was revised from +0.3 per cent (as measured in September) to -0.2 per cent in December.

Table 1: Expenditure on Gross National Product 2014[e], 2015[f] and 2016[f]

	2014[e]	% change in		2015[f]	% change in		2016[f]
	EUR millions	volume	price	EUR millions	volume	price	EUR millions
Personal Consumption Expenditure	85,430	1.9	1.0	87,924	2.1	1.8	91,386
Public Net Current Expenditure	26,767	-0.6	0.8	26,818	1.8	1.1	27,617
Gross Domestic Fixed Capital Formation	30,443	10.0	2.2	34,218	7.5	2.7	37,771
Building and Construction	12,709	8.7	4.2	14,352	8.4	5.0	16,300
Machinery and Equipment	8,937	17.6	0.9	10,602	9.2	1.3	11,717
Value of Physical Changes in Stocks	837			837			837
GROSS DOMESTIC EXPENDITURE	143,478	3.1	1.2	149,796	3.3	1.9	157,611
Exports of Goods & Services	203,323	5.2	1.4	216,989	5.4	1.6	232,456
FINAL DEMAND	346,801	4.4	1.4	366,784	4.5	1.7	390,068
Imports of Goods & Services	-164,023	5.1	-0.9	-173,940	5.3	-1.3	-185,691
Statistical Discrepancy	1,761			1,761			1,761
GROSS DOMESTIC PRODUCT	184,539	3.7	1.7	194,606	3.8	2.1	206,138
Net Factor Income from Rest of the World	-30,415	5.8	1.4	-32,645	5.1	1.6	-34,863
GROSS NATIONAL PRODUCT	154,124	3.3	1.8	161,961	3.5	2.2	171,275

Box A: Consumer Spending Data and Forecasts

by Diarmaid Addison-Smyth[3]

Consumer Spending in the National Accounts

Personal consumption expenditure (PCE) measures the consumption of goods and services by Irish residents and it accounts for just under half of GDP. Within PCE, there is a roughly even split between goods and services (Figure 1). Food, clothing and footwear account for approximately a quarter of the aggregate, with a similar proportion accounted for by housing (which includes rents and household equipment). The other major component is miscellaneous goods and services - predominately professional services and other goods (including illegal activities and FISIM).[4] An adjustment is made to PCE to include expenditure outside of the state by residents, with spending by non-residents excluded.[5]

3 Irish Economic Analysis Division.

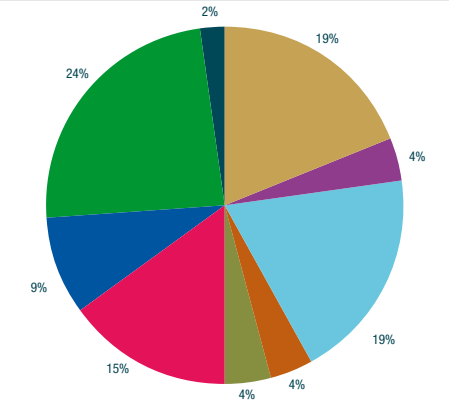
4 FISIM (financial intermediation services indirectly measured) represents the margin earned by banks in paying interest on deposits or charging interest on loans.

5 In 2013, total PCE amounted to €83.3 billion. This included €4.3 billion in expenditure outside of Ireland less expenditure by non-residents in Ireland of €2.8 billion.

Box A: Consumer Spending Data and Forecasts

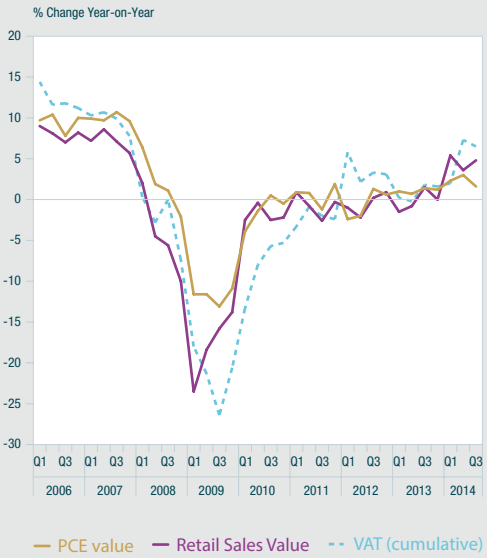
by Diarmaid Addison-Smyth

Box A Fig 1: Composition of PCE in 2013



Source: CSO, National Income and Expenditure Accounts 2013.

Box A Fig 2: PCE, Retail Sales and VAT



Source: CSO and Department of Finance.

According to the most recent set of *Quarterly National Accounts* (QNA), PCE growth was flat in the third quarter.[6] Furthermore, the growth rate in the second quarter was revised down from an initial estimate of +0.3 per cent to -0.2 per cent.[7] As a result, the overall volume of PCE grew by 0.6 per cent in the first nine months of 2014 relative to 2013. These data were lower than expected given some of the other indicators of consumer spending and the general feeling that the weakening of domestic demand had bottomed out (the latest forecasts for PCE are outlined below).[8]

Other Consumption Indicators

When assessing consumer spending, a range of indicators are used, particularly monthly retail sales and Exchequer tax data. In Figure 2, the annual growth rate in PCE is plotted against retail sales and Exchequer VAT receipts. For most of the period, all three series have tended to move broadly in line with each other. However, over the past year, PCE growth has been well below that for retail sales and VAT receipts. In terms of the latter, VAT receipts in 2014 were up 7.9 per cent year-on-year, the strongest rate of increase since 2006 (when PCE expanded by 6.8 per cent), with overall indirect taxes up 8.9 per cent.[9] The strength in these receipts seems at odds with headline PCE figures.

6 In seasonally adjusted terms.

7 In current prices, the seasonally adjusted quarter-on-quarter growth rate was revised down from +0.7 per cent to +0.2 per cent.

8 For example, softer indicators such as the KBC Bank Ireland/ERSI consumer sentiment index point to a gradual recovery in sentiment with the index at levels not seen since late 2006/early 2007.

9 Indirect taxes are defined here as all Exchequer taxes less income, corporation and local property tax.

Box A: Consumer Spending Data and Forecasts

by Diarmaid Addison-Smyth

Two possible reasons for the apparent weakness in PCE could be due to strong tourist spending within Ireland and weak services consumption.[10] The former is excluded from PCE and the latter accounts for about half of total PCE. This could create a gap between consumer activity as proxied by PCE and retail sales and taxation figures.

A range of indicators for tourism related activities are shown in Table 1. All measures point to strong growth in tourist expenditure within Ireland in 2014 (as well in 2013). In contrast, spending by Irish residents abroad has been fairly flat. The strength in tourism related expenditure could partly explain the gap between the PCE series and other consumption indicators.

Box A Table 1: Tourism Indicators: Annual Growth in the first three quarters, %

	2013	2014
Exports (Balance of Payments)	+12.9	+9.2
Imports(Balance of Payments)	+1.2	-1.0
Overseas Earnings from Trips to Ireland	+11.0	+12.6
Overseas Earnings from Trips by Irish Residents Abroad	+0.9	-1.9
Overseas Trips to Ireland	+6.4	+9.3

In terms of services consumption, there is limited data available. The CSO's monthly services index monitors activity levels within the (non-financial) services sector. This includes wholesale and retail trade, accommodation, food and motor trades. According to this index, the level of activity in the services sector was 3.5 per cent higher in the first three quarters of 2014. While a large proportion of these services are likely to be exported or used as intermediate consumption by other businesses, the apparent strength in this series sits uncomfortably with the weak picture implied by PCE data.[11]

The rest of this Box examines the likelihood of revisions to PCE data by firstly looking at one aspect of data revisions in the QNA and secondly by examining recent forecasts for PCE from a range of institutions.

10 The retail sales index predominantly measures the consumption of goods.

11 Purchasing Managers Index (PMI) data for the services sector point to an acceleration in activity levels within Ireland in 2014.

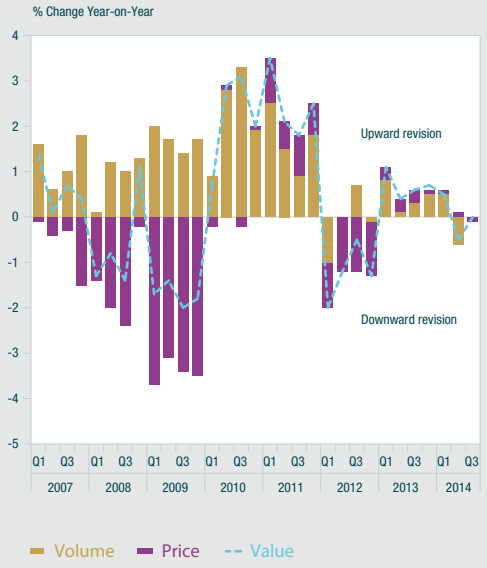
Box A: Consumer Spending Data and Forecasts

by Diarmaid Addison-Smyth

Revisions and Forecasts

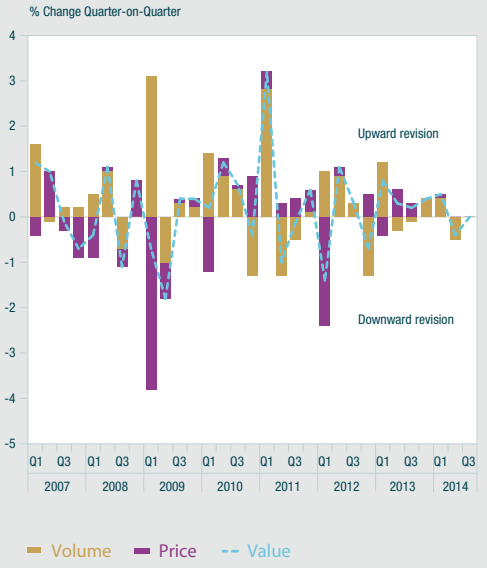
The QNA data are provisional and subject to revision. In Figure 3, the difference between initial estimates for PCE growth relative to the most recent estimate is plotted. A positive value signifies an upward revision. Over the sample period, the real growth rate was revised upwards 90 per cent of the time although on occasion, revisions to the deflator acted as a counteracting force. Upward revisions are also apparent for seasonally adjusted quarter-on-quarter growth rates although to a lesser extent – positive revisions occurred two-thirds of the time (Figure 4).

Box A Fig 3: Revisions to PCE Growth Rate: Latest - First Estimate



Source: CSO and own calculations.

Box A Fig 4: Revisions to PCE Seasonally Adjusted Growth Rates: Latest - First Estimate



Source: CSO and own calculations.

The extent to which forecasters of the Irish economy take on board the latest QNA data is not entirely clear. In Table 2, the latest published forecasts for PCE growth are shown from a range of forecasting agencies. All of the agencies expected positive PCE growth in 2014 ranging from +1.0 per cent (Central Bank) to +1.7 per cent (Department of Finance). (It should be noted that the Department of Finance projections (as well as those of the Commission and the OECD) were prepared prior to the third quarter QNA release). The extent to which these forecasts are consistent with the QNA data is worth examining. If we assume that the QNA data does not get revised, then the implied fourth quarter growth rates in 2014 are shown in Table 2 and Figure 5.[12] Some of these appear implausibly high, with ranges of 2 per cent to 4.6 per cent (the mean forecast is 3.3 per cent). A simple statistical model (based on a sample from 1997Q1 to 2014Q3) points to an overall PCE growth rate of 0.5 per cent in 2014 and a fourth quarter growth rate of 0.2 per cent.

12 The implied rate is the growth rate required in the fourth quarter to yield the annual rate of growth forecast by each agency.

Box A: Consumer Spending Data and Forecasts

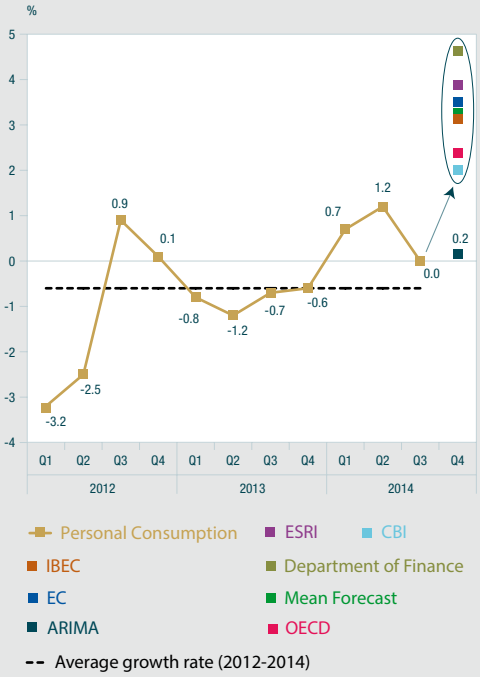
by Diarmaid Addison-Smyth

Box A Table 2: Forecasts for PCE Volume Growth, % year-on-year

	Date of Forecast	2014 Q4*	2014
Central Bank of Ireland	January 2015	+2.0	+1.0
ESRI	December 2014	+3.9	+1.5
IBEC	December 2014	+3.1	+1.3
OECD	November 2014	+2.4	+1.1
European Commission	November 2014	+3.5	+1.4
Department of Finance	October 2014	+4.6	+1.7
Forecast Mean		+3.3	+1.4
ARIMA Forecast		+0.2	+0.5

** Implied fourth quarter growth rate.*

Box A Fig 5: PCE Annual Growth Rates per Quarter



On the basis of the above, it would appear that domestic forecasters are either anticipating upward revisions to existing data and/or a marked acceleration in spending in the final quarter of the year. For the current *Bulletin*, the Central Bank's estimate for PCE growth in 2014 assumes a modest upward revision to growth in the first three quarters of the year as well as a pick-up in growth in the fourth quarter. This would also bring the PCE data more in line with some of the other higher frequency indicators cited above.

Investment

Most indicators point to a significant acceleration in investment spending in 2014 albeit from a low base. Overall investment spending was up 10.6 per cent in the first nine months of 2014 according to the *Quarterly National Accounts* reflecting a broad based recovery in its main components. For the year as a whole, it is estimated that investment spending grew by 12.6 per cent.

Building and construction investment grew by 11.1 per cent in the first three quarters of 2014. New housing related investment expanded (for the first time since 2006) and it is estimated that approximately 11,000 new units were built in 2014.[13] Non-housing related construction investment is also estimated to have increased significantly bringing overall building and construction investment growth to 11.1 per cent in 2014.

Machinery and equipment investment rebounded very sharply in 2014, with the volume of investment up 35 per cent in the first nine months of the year.[14] In total, investment in machinery has expanded for seven consecutive quarters. This is indicative of economic recovery, as new firms add to the stock of capital and as existing firms seek to replenish depleted capital stock levels (the level of machinery and equipment investment fell by almost 50 per cent between 2007 and 2012).

Total investment is expected to grow by 10 per cent and 7.5 per cent in 2015 and 2016, respectively. This should see the share of investment spending in GDP returning close to its long-term average ratio of approximately 20 per cent. Both building and construction and machinery and equipment are expected to contribute significantly to the growth of investment. On the construction side, forward looking housing indicators (e.g. commencements, registrations) point to a strong increase in house building. By 2016, it is projected that there will be 16,250 new units built, almost double the level of building in 2013. Non-housing related construction investment and underlying machinery and equipment investment are also likely to grow strongly (albeit at more moderate rates) over the forecast period.

The other major components of investment spending – namely transport and intangibles (research and development) investment are more difficult to forecast and, because of their high import content, have very little net effect on the overall rate of growth. The former is heavily dependent on the timing of aircraft purchases and the latter is a new series. For transport related investment the forecasts in this *Bulletin* assume a sharp pick up in spending over the forecast horizon relative to the first three quarters of 2014.

Government Consumption

The volume of government consumption is estimated to have increased by 2.1 per cent in 2014. This relatively robust volume growth largely follows from the effects of longer working hours arising from the Haddington Road Agreement. Following on from the measures announced in *Budget 2015* it is expected the real government consumption will decline by 0.6 per cent in 2015, with growth of 1.8 per cent forecast for 2016. In the absence of clear policy measures, the outlook for 2016 is premised on a pick-up in the main sub-components of government spending, primarally public sector pay, intermediate consumption and transfer payments.

External Demand and the Balance of Payments

Exports and Imports

Net exports are estimated to have contributed approximately half of the overall growth in GDP in 2014. Underlying this performance was a particularly robust export expansion in the first half of the year, which appears to have been mostly maintained in the second

13 In the year to October 2014, new housing completions at 8,800 units were up by 35 per cent.

14 The figures quoted here refer to underlying machinery and equipment, that is investment less transport related items.

Table 2: Goods and Services Trade 2014[e], 2015[f], 2016[f]

	2014[e]	% change in		2015[f]	% change in		2016[f]
	EUR millions	volume	price	EUR millions	volume	price	EUR millions
Exports	203,323	5.2	1.4	216,989	5.4	1.6	232,456
Goods	104,231	5.3	1.2	111,072	5.3	1.3	118,480
Services	99,092	5.1	1.7	105,916	5.5	2.0	113,977
Imports	164,023	5.1	0.9	173,940	5.3	1.3	185,691
Goods	60,596	5.6	0.7	64,445	5.6	1.1	68,799
Services	103,427	4.7	1.1	109,495	5.2	1.5	116,892

half, with a strengthening of imports as the year progressed. The projections for 2015 and 2016, detailed below, imply a slightly weaker contribution from net exports to overall GDP growth, mostly reflecting weaker than previously anticipated world demand.

As noted in the previous *Bulletin*, export developments in 2014 were dominated by the impact of foreign processing of Irish owned goods for export, or contract manufacturing.[15] While this is a long-standing feature of Irish international trade, changes in the business structure of multinational enterprises during 2014 led to a change in the size of this activity. This drove goods export growth to 18.4 per cent on a year-to-year basis in Q3 2014. Indicators from the CSO *Goods Exports and Imports* release point to a strengthening in non-pharmaceutical goods exports (3.6 per cent on an annual basis in October 2014) and a further turnaround in pharmaceutical exports. Data available on levels of industrial production up to November 2014, which include contract manufacturing, point towards a strong end to the year and supports the assessment that the strength in goods exports in earlier parts of the year will, for the most part, have continued into the last quarter.

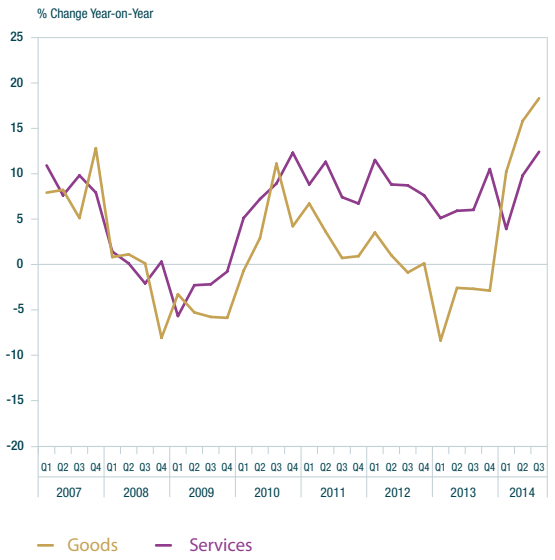
Growth in services exports accelerated again in the third quarter of 2014, with growth of 12.5 per cent in volume terms on a year-to-year basis, and an increase of 8.9 per cent when comparing the first three quarters with those of 2013. Data from the *Balance of Payments* statistics show that computer and business services sectors continued to be the major contributors to this expansion, growing in value terms by 11.4 per cent and 29 per cent respectively over the same period.

Goods imports in the first three quarters of 2014 have been supported by the growth in exports and in machinery and equipment investment. On the services side, imports have been dominated by the payment of royalties and licenses on the intellectual property underlying the bulk of software and modern manufacturing industry. These payments increased by just over a third in value terms in the third quarter of 2014 on a year-to-year basis. Overall services imports increased by 19.3 per cent in volume terms over the same period, with growth picking up through the year.

As discussed in the previous *Bulletin*, reported export growth in 2014 has been at odds with conventional benchmarks such as external demand indicators. This was also the case in some previous years. For example, during the international financial crisis, Irish exports did not fall in line with external demand. Subsequently, in 2012 and 2013, Irish exports did not rise in line with what would have been expected given growth in our main trading partners during those years. In all cases sector specific issues, mostly in multinational

15 Due to the more widespread application of the economic ownership concept in the *National Accounts*, these goods owned by an Irish entity that are processed in and shipped from a foreign country on their sale are classified as Irish up until the time that they are sold, irrespective of whether the processing of those goods from their components to the final product for sale takes place in Ireland or not. While the activity is tracked in the *Industrial Production* series as Irish manufacturing, it does not involve goods moving into and out of the State, and consequently is not recorded in the monthly *CSO Goods Exports and Imports* release.

Chart 3: Volume of Exports



Source: CSO Quarterly National Accounts.

pharmaceutical firms, have dominated export developments and have for the most part been unrelated to wider developments in world demand. In the absence of any further detail on the drivers of the change in contract manufacturing in 2014, the assumption made is that the growth in export volumes in 2014 reflects a level shift in activity due to structural changes in particular multinational enterprises and will not be repeated going forward. It is assumed that total exports move more in line with projected external demand for 2015 and 2016, both of which are lower than in the previous *Bulletin*. This is due mainly to lower than previously anticipated growth in the UK and the euro area. Sentiment survey indicators for both services and manufacturing industries, however, remain very positive in terms of their outlook for export business. An unusually high degree of uncertainty surrounds the outlook for exports due to both the sector specific issues and the global economic outlook. Consequently, export growth may well be more volatile over our forecast horizon than would have previously been expected.

Considering these factors, the latest projection is for overall export growth of 5.2 per cent for 2015 in volume terms, and 5.4 per cent in 2016. Goods exports are expected to grow at a slightly faster pace than services this year, with the opposite being the case in 2016. Given the outlook for growth in consumption, investment and export activity over the forecast horizon, an increase in the volume of imports in 2015 and 2016 of 5.1 per cent and 5.3 per cent respectively is projected. This is in line with the historical relationship between imports and final demand.

Net Trade, Factor Incomes and International Transfers

The trade surplus widened further in the first three quarters of 2014, as an increase in net goods exports more than offset a decline in net services exports. The overall trade balance for the calendar year-to-end-Q3 was €31.7 billion, an increase of 11.2 per cent on the same period in 2013.

Net factor income flows for the first three quarters of 2014 were marginally more negative than the same period in 2013. This is largely due to developments in IFSC entities, mainly a rise in money market and investment funds activity. This was reflected in increases in portfolio investment income on the foreign debt instruments these funds invest in, which was not large enough to offset the rise in payments to the foreign investors in the fund's own equity. However other noteworthy developments are evident in the *Balance of Payments* data which shed more light on the external side of the non-IFSC multinational enterprises in particular. For example, profits generated by foreign multi-nationals operating in Ireland were only marginally lower in the first three quarters of 2014 compared with the same period in 2013. This is for the most part consistent with the trade developments discussed above. A reduction in payments to service bonds sold to, and loans received from, non-residents is also evident in the first three quarters of 2014. The impact of re-domiciled PLCs does not appear to have been as significant in factor income developments in 2014 compared to previous years as direct investment income on equity inflows were marginally weaker in the first three quarters of the year.

Combined, trade and factor income developments have led to a further improvement in the current account of the

Table 3: Balance of Payments 2014[e], 2015[f], 2016[f]

€ million	2014[e]	2015[f]	2016[f]
Trade Balance	39,300	43,049	46,765
Goods	43,635	46,628	49,681
Services	-4,334	-3,579	-2,916
Net Factor Income from the Rest of the World	-30,415	-32,645	-34,863
Current International Transfers	-2,462	-2,462	-2,462
Balance on Current Account	8,685	8,404	9,903
(% of GDP)	4.7	4.3	4.8

balance of payments, which rose to 8.2 per cent of GDP in the third quarter of 2014 and 5.7 per cent of GDP for the first nine months of 2014. Given the scale of factor income flows and the uncertainty of their timing, small changes - either positive or negative - in outflows or inflows could have a significant impact on balance of payments projections in this *Bulletin*. Taking this into account, the projections imply that the current account will remain in surplus, albeit moderating in 2015 before rising again to average 4.8 per cent of GDP in 2016.

Supply

Industry and Services Output

Following a weakened outturn in 2013, owing to the expiry of a number of patents in the pharmaceutical sector, industrial production data points to a strong rebound in industrial output in 2014. This is largely attributable to exceptionally strong growth in recorded output in the modern sector and, in particular, in the chemical and pharmaceutical sector. However, these developments primarily reflect the impact of significant base effects, which are distorting the headline industrial production numbers. Specifically, the unusual patterns in industrial production in 2013 arising from the downward impact of the expiry of patents has generated a strong base effect, which is impacting significantly on the year-on-year rates of change in 2014, explaining a good deal of the volatility observed in this data in recent years. Accordingly, the industrial production data needs to be interpreted with caution. One particularly positive feature of the data however has been the performance of the traditional manufacturing sector. In the year to November, output in the traditional sector was up 8.1 per cent in annual terms.

The latest *Quarterly National Accounts*[16] record that the growth of the industrial sector (excluding building and construction) declined by 0.8 per cent in the third quarter of 2014, although it expanded by 1.2 per cent year-on-year. Qualitative indicators, such as the Investec Purchasing Managers Index (PMI), provide continuing evidence of expansion of output and new orders for Irish manufacturing. This activity index has expanded (above 50) for 19 months in a row, indicating more favourable business conditions for the sector during 2014.

The PMI data also point to continuing growth in new orders and the on-going resilience in external demand, which should underpin growth in 2015.

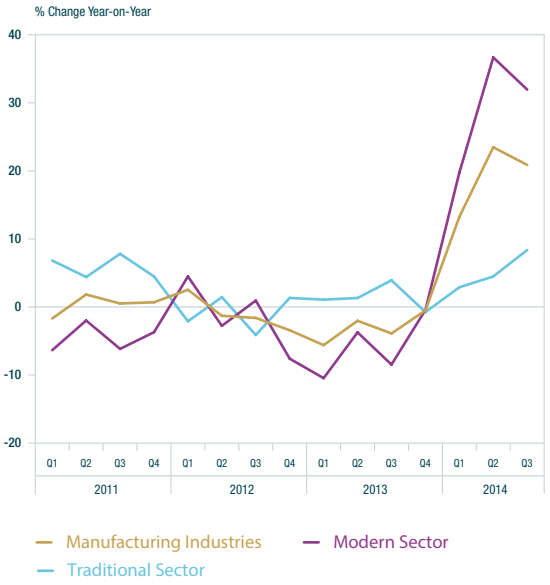
On a National Accounts basis, output in the broader category of Other Services (including rent) increased by 1.7 per cent quarter-on-quarter in the third quarter of 2014. There is ongoing qualitative evidence from the Investec Services PMI that activity and employment in the services sector is continuing to gain momentum, buoyed by demand in the growing markets of the UK and US, notwithstanding the muted levels of services activity elsewhere in Europe.

16 The Quarterly National Accounts data are not directly comparable to the Industrial Production series.

Agricultural Output

The *Quarterly National Accounts* data for the third quarter of 2014 shows that gross value added for the wider Agriculture, Fishing and Forestry sector recorded a quarter-by-quarter decline of 4.2 per cent, with output on a year-on-year basis falling by 1.6 per cent. Overall, the outlook for 2015 suggests modest gains in agricultural output, but with varied results for producers within the agriculture sector. Year-on-year the agricultural output price index in November 2014 was 10.3 per cent lower than in November 2013, with input prices down 3.5 per cent over the same period.

Chart 4: Volume of Industrial Production



Source: CSO.

The Labour Market

The *Quarterly National Household Survey* (QNHS) results for Q3 2014 show an improving labour market in terms of both continued employment creation and consistent unemployment declines. Employment had increased for eight consecutive quarters to Q3 2014 with an average expansion in the first three quarters of 2014 of 0.3 per cent per quarter on a seasonally adjusted basis. Employment growth in 2014 has been more moderate than that seen in 2013, but remains above 1 per cent on an annual basis.

The latest Live Register data show that the Standardised Unemployment Rate (SUR) fell to 10.6 per cent in December 2014. This represents a reduction of 1.6 percentage points in the unemployment rate over the year. The Live Register has shown declines in the numbers of those registering as unemployed in 34 of the 35 months from January 2012, on a seasonally adjusted basis. The average monthly decline for 2014 was 3,325, up from just below 2,400 in 2013 and 930 in 2012.

The decline in unemployment in 2014 reflected the impact of employment growth and a broadly stable labour force. Rates of employment increase and unemployment decline were more closely matched in Q3 2014 than had been the case in 2013, when employment growth was stronger than the unemployment contraction (reflecting in part an increase in the labour force). A small decline in the labour force in Q3 2014 has been accompanied by an increase in the participation rate over the quarter. As migration has moderated in recent quarters, changes in the labour force have been driven primarily by the participation rate rather than demographic effects. Consequently, the downward trajectory seen between 2008 and 2012 appears to have been halted over the past several quarters.

Long-term unemployment has continued to fall faster than short-term unemployment into Q3 2014 and now makes up 57.6 per cent of those unemployed as opposed to 60.6 per cent on average in 2013. Separately, there has been a convergence in the employment growth rates between men and women. This occurred after a period of divergence in the first part of the employment recovery where men (not unexpectedly given the very large falls in employment during the crisis) were gaining proportionately more jobs than women. Employment growth across the country was also more balanced geographically in the third quarter, with an increase in the rate of employment growth in the Border, Midland and Western regions. In general, aggregate

Table 4: Employment, Labour Force and Unemployment 2013, 2014[e], 2015[f] and 2016[f]

	2013	2014[e]	2015[f]	2016[f]
Agriculture	107	110	113	114
Industry (including construction)	343	346	354	362
Services	1,430	1,453	1,478	1,508
Total Employment	1,880	1,909	1,945	1,985
Unemployment	284	247	225	203
Labour Force	2,163	2,156	2,170	2,187
Unemployment Rate (%)	13.1	11.4	10.4	9.3

Note: Figures may not sum due to rounding.

employment growth follows the generation of full-time employment closely over time and this is especially the case currently as part-time employment growth remains close to zero for the third quarter.

For younger cohorts (those aged 15-24 years) labour market developments remain weak. In the first three quarters of 2014, employment in this cohort declined by 5.4 per cent year-on-year, with an even larger fall in the labour force (8.6 per cent). This decline in the labour force for younger cohorts reflects both net migration and a higher tendancy to be in education.

The Irish labour market is historically challenging to forecast, since many series are volatile and prone to revision. Current forecast uncertainty results from demographic considerations, including the variability of migration and the unpredictability of the participation rate, especially during periods of substantial labour market change as is currently the case. Similarly, domestic employment prospects rely to an extent on external conditions as well as unpredictable institutional effects, including wage bargaining.

The recovery in the labour market is forecast to continue at a sustained if moderate pace, reflecting projections for output and especially the more labour intensive domestic demand components. Employment is forecast to grow by 2 per cent per annum over this year and next. Unemployment is expected to fall to 10.4 per cent this year and 9.3 per cent in 2016 in line with the falls seen over the last 12 months.

Pay

Mixed signals continue to be evident in earnings and compensation data. Data from the Institutional Sector Accounts to Q3 2014 show a strong increase in total employee compensation, which is in line with the revised 2013 compensation growth trend in these data.[17] The continued improvements in the labour market as well as the composition of employment generation are likely to be contributing to increases in the wage bill.

The Earnings, Hours and Employment Costs Survey (EHECS) indicates that average hourly wage growth has been volatile over recent years. Data for the third quarter of 2014 shows declines for public sector workers throughout 2014 with two quarters of contraction for hourly wages in the private sector to Q3 2014. This is driven by increases in hours worked rather than wage dynamics. Hours worked has increased substantially in the public sector since mid-2013 due to the Haddington Road Agreement. However, Q2 and Q3 2014 also saw increases in average hours worked in the private sector. This may be a welcome development if it indicates broad based increases in full-time employment in the private sector. The EHECS data confirm that aggregate employment expansion continues to be driven by the private sector, with public sector employment continuing to contract. Public sector employment has now contracted in 21 of the 22 quarters to Q3 2014.

In terms of the outlook for pay, compensation continues to outstrip employment growth,

17 Revisions may be due to a number of factors, including implementation of ESA 2010 standards.

generating upward pressure on compensation per employee. This can be understood in the context of still elevated levels of unemployment if it reflects compositional changes, including the impact of relatively higher full-time as opposed to part-time employment growth. Recent increases in hours worked in the private sector appear to support this interpretation.

Overall, compensation per employee is forecast to rise by 2.2 per cent in 2015 & 2016, on average.

Inflation

The subdued trends in consumer prices observed in 2013 persisted into 2014 - HICP inflation averaged 0.4 per cent in annual terms last year. This compares with 0.5 per cent in 2013. The CPI rose by a slightly lower 0.2 per cent in 2014, owing largely to downward pressure from reductions in mortgage interest payments, which are incorporated in the CPI and not in the HICP. While last year's headline consumer price developments were broadly in line with 2013, its composition in terms of goods and services inflation was somewhat different – HICP services, a proxy for domestically generated inflation, made a noticeably stronger positive contribution during 2014 while downward pressure from external factors simultaneously intensified. Most notable in terms of the latter were sharp fluctuations in the price of commodities such as oil and international food prices, as evidenced by the fact that HICP inflation excluding the volatile energy and food price components averaged 0.9 per cent in 2014, more than double the headline rate.

On the basis of currently available information and prevailing futures prices for energy, external factors are expected to continue to be a key influence upon the projected profile of headline inflation during 2015 and 2016. The single most important factor in this respect is set to be international oil prices, with the dollar price of oil currently assumed to decline on average by 38 per cent this year, on the basis that oil prices over the remainder of the year move in line with futures prices. Correspondingly, the energy component is expected to exert strong downward pressure on headline inflation in 2015, as illustrated by the projected 1.2 percentage point gap between the headline HICP rate and the rate excluding energy. The weakening in the value of the euro since mid-2014 is nevertheless set to place some modest offsetting upward pressure on energy prices in euro terms. It is also the case that the aforementioned weakness of the euro against the dollar and to a lesser extent sterling is likely to give rise to some upward pressure beyond the energy component during the course of 2015. Nevertheless, HICP inflation is projected to weaken further during 2015 to average 0.2 per cent (with the CPI forecast to average 0.1 per cent). The projected profile for HICP inflation has been revised downwards significantly relative to the last *Bulletin* (by approximately 1 percentage point). This largely reflects the impact of a sharply different oil price assumption.[18]

Turning to 2016, a pronounced recovery in the rate of inflation is expected almost entirely due to developments in the energy component. Futures prices currently suggest that oil prices will recover somewhat next year and largely as a result of strong upward base effects, the annual energy inflation rate is set to return to positive territory. The domestic component to inflation is also expected to be marginally stronger in 2016, with services inflation in the region of 2.5 per cent. Reflecting such a combination of developments, the HICP is expected to rise to around 1.6 per cent in average annual terms next year, with a corresponding CPI rate of 1.6 per cent. It is also important to note that the short-term outlook for inflation is characterised by high levels of uncertainty in view of the considerable volatility surrounding recent oil price and exchange rate developments. The consumption deflator is expected to average 1.4 per cent over this period reflecting a robust outlook for private rents.

18 The Bank uses a purely technical assumption for oil prices that is based on market expectations for the path of oil prices.

Table 5: Inflation Measures - Annual Averages, Per Cent

Measure	HICP	HICP excluding Energy	Services[a]	Goods[a]	CPI
2011	1.1	0.0	0.8	1.5	2.6
2012	2.0	0.9	1.9	1.9	1.7
2013	0.5	0.6	1.6	-0.4	0.5
2014	0.4	0.6	2.4	-1.7	0.2
2015[f]	0.2	1.4	2.4	-2.1	0.1
2016[f]	1.6	1.4	2.5	0.8	1.6

a Goods and services inflation refers to the HICP goods and services components.

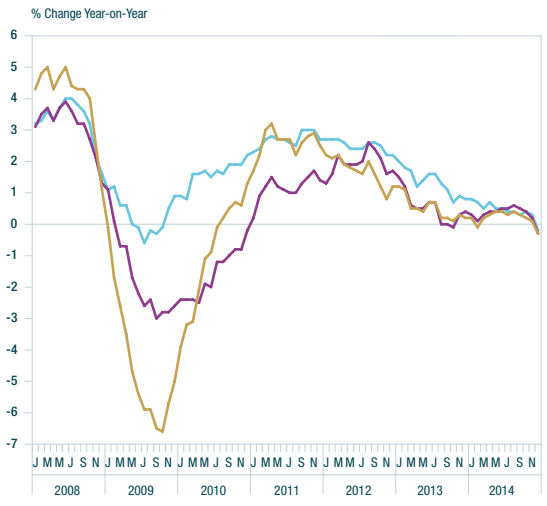
Residential Property

House prices have continued to rise. In year-on-year terms, house prices increased nationally by 16.2 per cent in November 2014, according to the latest CSO Residential Property Price Index. Relative to their trough (in early 2013), house prices have increased by 26.5 per cent although are still 38 per cent below their peak levels. This figure masks large geographical variation in developments however. In Dublin, prices were 22.4 per cent higher on a year-on-year basis, although the pace of growth has eased in most recent months. Outside Dublin the increases in house prices have been more muted, registering an annual increase of 9.6 per cent in November. These price developments, in general, reflect rising demand combined with low supply. Housing completions remain low relative to the demand evident in the market. The forecasts in this *Bulletin* envisage a pick-up in the level of house building. Annual house completions are forecast to increase to over 16,000 units in 2016.

Commercial Property

Commercial property prices continued to grow in the second half of 2014. Both retail and office capital values grew strongly in Q3 2014

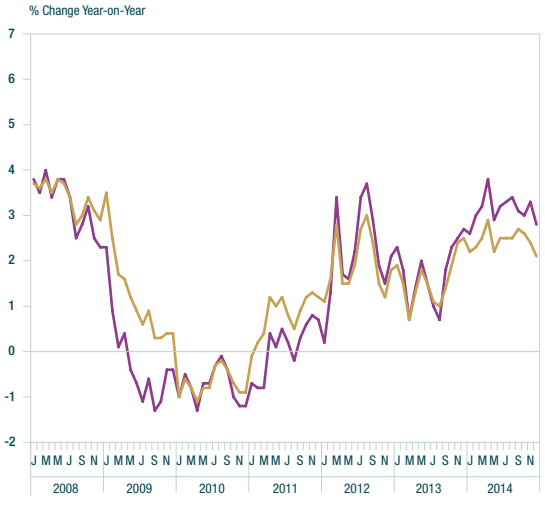
Chart 5: Consumer Prices



Ireland: Consumer Price Index
Ireland: Harmonised Index of Consumer Prices (HICP)
EA-17: Monetary Union Index of Consumer Prices (MUICP)

Source: CSO.

Chart 6: Services Sector Inflation

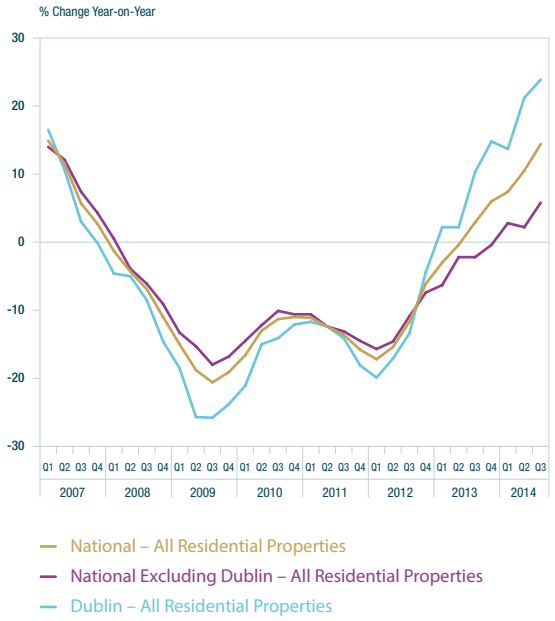


HICP Services (Overall)
HICP Core Services

Note: Core Market Services equals HICP services excluding telecommunications, alcohol and administered services.

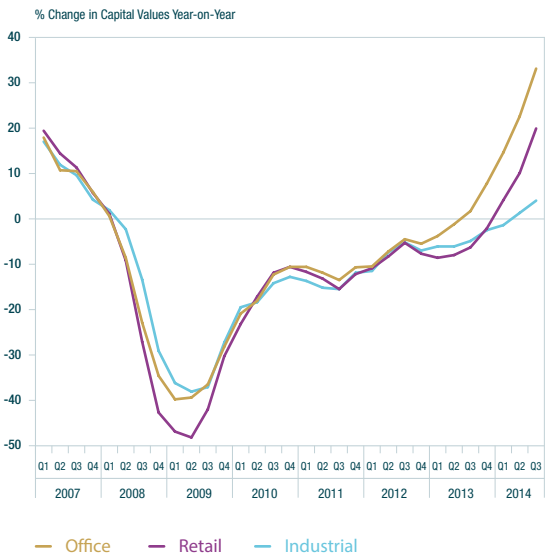
Source: CSO.

Chart 7: Residential Property Price Indices



Source: CSO.

Chart 8: SCS/IPD Irish Commercial Property Index



Source: SCS/IPD.

- increasing by 33.2 per cent and 20 per cent, respectively. Industrial property registered its second increase since Q1 2008 rising by 4.1 per cent. The Bank's Macro-Financial Review (December 2014) contains a detailed overview of recent developments in the commercial property market.

Competitiveness

Exchange Rate Developments

Taking 2014 as a whole the euro remained stable against the US dollar and fell by 5 per cent relative to the pound sterling. Underlying this however was a sharp decline in the euro/US dollar exchange rate during the second half of the year, and this weakness has persisted into 2015. Against both the US dollar and the pound sterling, the euro reached multi-year lows in December.

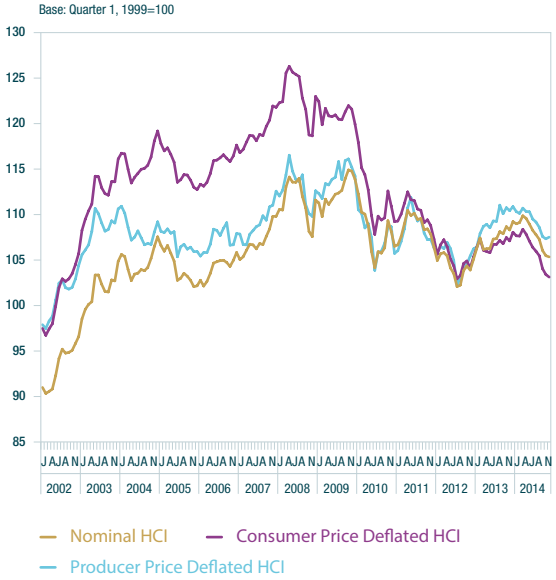
The latest Harmonised Competitiveness Index (HCI) data, which is available up to November 2014, show that the nominal HCI depreciated by 2.7 per cent on a year-on-year basis. When deflated by consumer prices and producer prices, the real HCI decreased by 3.7 per cent and 2.6 per cent respectively over the same period. Combined this confirms that most of the gains in competitiveness in the end of 2014 have been due to nominal exchange rate developments as opposed to improvements in relative prices with our main trading partners.

Productivity and Cost Competitiveness

Arithmetically, on the basis of the conventional GDP per worker measure, which has important limitations in the Irish context, productivity increased by 3.5 per cent in 2014. This followed a decline in productivity the previous year. Developments in both years are mainly as a result of divergent compositional effects in labour market dynamics and GDP growth. Employment growth slowed in 2014 relative to 2013, with relatively more jobs being created on a full-time basis and in higher value added sectors. Meanwhile the drag on GDP growth

of sector specific issues in multinational pharmaceutical and ICT enterprises in 2013 were reversed significantly in 2014. Looking ahead, average annual productivity growth of 1.8 per cent (on a GDP per worker basis) is projected in 2015 and 2016. Factoring in the projected increases in compensation of employees over the forecast horizon, unit labour costs are projected to rise by 0.4 per cent and 0.6 per cent on average in 2015 and 2016. This is in contrast to an estimated fall of 0.5 per cent in 2014, due to the strong compensation growth that took place last year. According to the latest European Commission projections, labour productivity growth in Ireland is expected to be ahead of the euro area average in 2014 and 2015. Moreover, favourable exchange rate developments as well as subdued price pressures should enhance our position relative to our main trading partners this year.

Chart 9: Harmonised Competitiveness Indicators



Source: Central Bank of Ireland and ECB.

The Public Finances

Overview

Against the backdrop of much stronger than expected tax receipts it appears that the general government deficit in 2014 will be close to the Budget day target of 3.7 per cent of GDP (and comfortably within the 5.1 per cent ECOFIN target). Furthermore, the government debt ratio is estimated to have declined for the first time since 2006 and market conditions for the sovereign remain favourable. Challenges remain with regard to the public finances – most notably the requirement to achieve a general government deficit of below 3 per cent this year (Budget 2015 is targeting a deficit of 2.7 per cent of GDP), the elevated level of public debt and higher than expected primary spending.

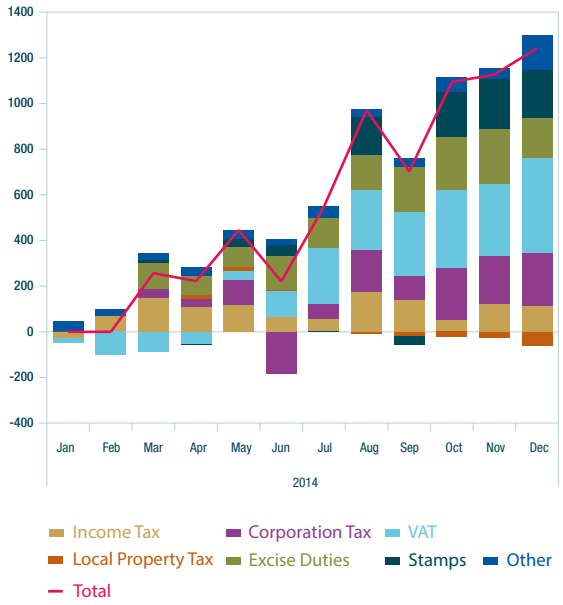
Exchequer Returns

The Exchequer ran a deficit of €8.2 billion in 2014,[19] a substantial decline of almost €5 billion from the preceding year (see Table 6). Revenue growth was particularly favourable, increasing by 7.6 per cent during the year, while government spending contracted by 2.1 per cent. The outturn was also around €1 billion better than had been anticipated at the beginning of the year, as a stronger than expected underlying economy boosted tax receipts considerably.

Taking a closer look at revenue developments, tax receipts increased to €41.3 billion during the year. This was around €10 billion higher than their 2010 trough and represented the first time revenues exceeded €40 billion since 2008. Tax revenue grew by 9.2 per cent and was €1.2 billion ahead of expectations as the pace of economic activity surpassed that forecast at the start of the year (see Chart 10). Notably this over-performance strengthened as 2014 progressed, in sharp contrast to developments in preceding years when the first half pace could not be maintained. All of the 'big four' tax heads – income tax, VAT, corporation tax and excise duties – came in ahead of profile, with stamps and capital gains taxes also performing strongly. Other revenue sources – appropriations in aid, non-

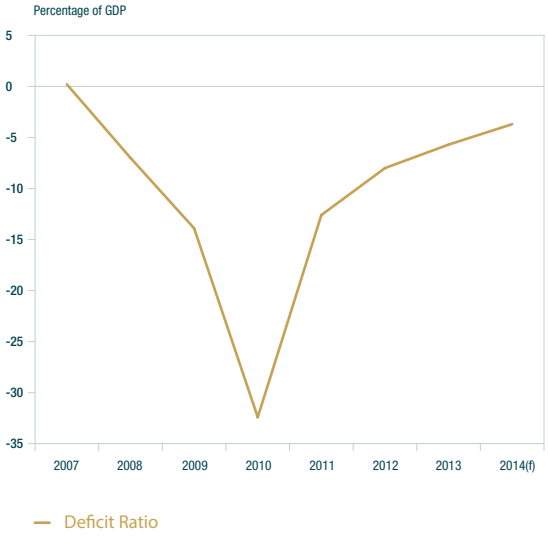
19 This is the Exchequer balance excluding transactions with no general government impact. The Department of Finance now provides this measure, along with the traditional full Exchequer balance, as it provides a closer proxy to the general government balance. The remainder of this section, along with Table 6, focuses on this measure. The total Exchequer balance was -€8,183 million in 2014, an improvement of €3,321 million.

Chart 10: Divergence of Tax Heads from Profile



Source: Department of Finance.

Chart 11: Irish General Government Balance



Source: Central Statistics Office, Department of Finance.

Table 6: Analytical Exchequer Statement for 2014

	2014 €m	2013 €m	Annual Change	Outturn vs Profile €m
Revenue				
– Tax revenue	41,282	37,806	9.2%	+1,242
– Appropriations-in-aid	11,781	11,440	3.0%	+176
– Non-tax revenue	2,446	2,676	-8.6%	+463
– Capital receipts	537	175	206.9%	+203
Total	**56,045**	**52,096**	**7.6%**	**2,084**
Expenditure				
– Gross voted current primary[20]	50,455	51,097	-1.3%	807
– Gross non-voted current primary[21]	2,148	3,173	-32.3%	175
– Gross voted capital	3,550	3,414	4.0%	210
– Gross non-voted capital	473	12	n/a	461
– Interest	7,466	7,313	2.1%	-689
Total	**42,190**	**41,298**	**-2.1%**	**964**
Exchequer Balance (excluding transactions with no general government impact)	**-8,046**	**-12,913**	**-37.7%**	**1,119**
Transactions with no general government impact	**-137**	**1,409**	**-109.7%**	**-288**
Exchequer Balance	**-8,183**	**-11,503**	**28.9%**	**1,407**

Source: Department of Finance

20 Government current expenditure voted on by the Dail in the areas of Social Welfare, Health, etc.

21 Includes items such as debt servicing and EU Budget contribution.

tax revenue and capital resources – were exceptionally strong and some €842 million ahead of profile. This was led by positive developments in Central Bank surplus income, dividend related income, state property sales and PRSI receipts. The latter were 5.3 per cent higher in annual terms as the numbers in employment continued to grow.

This strong revenue performance compensated for less favourable developments in government spending. While total expenditure contracted, it did not do so at the anticipated pace. There were clear signs of increasing pressures on the expenditure side in the latter half of 2014. The overrun in expenditure accelerated over the course of the year, and increased from just €116 million at the end of the third quarter to €964 million by year end. There were divergent developments across spending categories with higher than expected current and capital spending partly offset by lower interest costs. While interest on the national debt was 2.1 per cent higher year-on-year this was €689 million below expectations reflecting more favourable market conditions and operations undertaken by the National Treasury Management Agency (NTMA) during the year. Current expenditure, by comparison, was €807 million above profile, primarily reflecting once again a large overrun by the Department of Health. Capital spending was also €671 million ahead of expectations driven by, amongst other things, a €461 million capital contribution to Irish Water.

General Government Developments

In terms of the broader general government balance, the Government submitted updated Maastricht returns to Eurostat at end-September.[22] These were the first returns undertaken using the ESA 2010 system of accounts and, as a result, saw a number of large revisions. The deficit for 2013, for example, is now reported to have been 5.7 per cent of GDP, well below the original estimate of 7.2 per cent of GDP[23] (see Chart 11). Turning to last year, Budget 2015 forecast a deficit ratio of 3.7 per cent, well inside the ECOFIN deficit target of 5.1 per cent. Given the Exchequer developments outlined above, it is clear that the ECOFIN target will be met with a comfortable margin. The first formal estimate of the 2014 outturn will be published in the context of the end-March 2015 Maastricht returns.

Other Developments

The National Treasury Management Agency (NTMA) issued two bonds in the final quarter of 2014, a 10-year bond raising €1 billion and a 15-year syndicated bond raising €3.75 billion. These transactions brought their total issuance for the year to €11.75 billion, with the latter's yield of 2.5 per cent a historical low for such an instrument. The final quarter of the year also saw the NTMA make an early repayment of €9 billion (40 per cent) of Ireland's IMF loan facility and cancel €500m of the 2038 floating rate bond. Standard and Poor's, meanwhile, increased Ireland's long and short term credit ratings in December, to A and A1 respectively (from A- and A2).

22 Maastricht returns are submitted by each Member State to Eurostat twice yearly, at end-March and end-September, for the application of the Excessive Deficit Procedure.

23 For more on the revision caused by the change to ESA 2010 see 'Box B: Recent Revisions to Government Finance Statistics' in *Quarterly Bulletin* 4 2014.

An Timpeallacht Gheilleagrach

Le bliain anuas, tá leathnú tagtha ar an téarnamh ar gheilleagar na hÉireann agus tá luas tagtha faoi. Bhí an téarnamh á threorú ag fás láidir ar onnmhairí agus infheistíocht agus tá fás athuair ar chaiteachas tomhaltóirí ag tacú leis freisin. Chuir an fás leanúnach ar fhostaíocht leis an bhfás ar chaiteachas tomhaltóirí agus cé go bhfuil moilliú áirithe ag teacht ar an bhfás ar fhostaíocht, d'éascaigh sé an laghdú rianúil leanúnach ar an ráta dífhostaíochta. Ó tharla go bhfuil méadú ag teacht ar chaiteachas tomhaltóirí agus infheistíochta, chuir an t-éileamh intíre go deimhneach leis an bhfás in 2014 don chéad uair ón gcor chun donais i leith.

D'ainneoin an fheabhais atá tagtha ar fheidhmiú an taoibh intíre den gheilleagar, áfach, ba é feidhmiú fíorláidir na n-onnmhairí príomhspreagadh an fháis le bliain anuas. Is cosúil gur bhain sé seo go páirteach le tosca speisialta áirithe. In 2014, tháinig fás ní ba thapúla ar onnmhairí ná mar a tháinig ar an éileamh ar allmhairí sna comhpháirtithe trádála, agus tugtar cuntas i leith na difríochta sin sa mhéid gur rannchuidigh monaraíocht ar conradh lasmuigh d'Éirinn (nuair a dhéantar earraí atá ar úinéireacht ag eintiteas Éireannach a mhonarú i dtír eachtrach agus a aistriú ón tír sin) go mór leis an bhfás ar onnmhairí. Má bhreathnaítear ar an mborradh fáis seo mar thoisc shealadach, tugtar le tuiscint go bhfuil neart an téarnaimh le bliain anuas níos laige ná mar a chuirtear in iúl leis an méadú réamh-mheasta reatha ar fhás OTI do 2014 arb ionann é agus 5 faoin gcéad.

Ag féachaint romhainn, meastar go dtiocfaidh fás ar onnmhairí i mbliana agus an bhliain seo chugainn i gcomhréir, tríd is tríd, leis an bhfás réamh-mheasta ar an éileamh eachtrach. Agus naisc thrádála na hÉireann le margaí SA agus RA mar thaca leis, ar margaí iad atá ag fás ar bhonn níos láidre, leanfaidh sé seo de ráta fáis láidir a ghiniúint d'onnmhairí, cé gur moilliú é an ráta sin i gcomparáid leis an ráta a bhí ann in 2014. Ar an taobh intíre, ba cheart go dtacódh an feabhas ar mhargadh an tsaothair agus an méadú ar fhíorioncam indiúscartha le caiteachas tomhaltóirí in 2015 agus 2016, cé go bhfuil léibhéil arda féichiúnais ina mbacainní go fóill ar aon téarnamh láidir ar thomhaltas. Cé go meastar go dtiocfaidh maolú beag ar infheistíocht óna ráta reatha, táthar ag súil go mbeidh fás láidir uirthi sna blianta atá le teacht agus go leanfaidh an t-aisphreabadh ón tréimhse fhadaithe roimhe seo nuair a chonacthas titim ar infheistíocht go dtí leibhéil sách íseal.

Ag féachaint do na forbairtí seo go léir, tugtar le tuiscint go raibh aschur ní ba láidre ann anuraidh i gcás fhás OTI, agus go bhfuil an t-ionchas don bhliain seo níos fearr ná mar a tuaradh roimhe seo. Mar thoradh ar neart eisceachtúil an fháis ar onnmhairí in 2014, meastar anois gur tháinig fás 5.1 faoin gcéad ar OTI anuraidh. Léirítear ionchas fabhrach maidir le caiteachas tomhaltóirí agus infheistíochta sa mhéid go meastar go mbeidh fás 3.7 faoin gcéad ar OTI in 2015, is ionann é sin agus athbhreithniú 0.3 faoin gcéad aníos i gcoibhneas leis an meastachán roimhe seo, fad gurb ionann agus 3.3 faoin gcéad an réamhaisnéis don fhás ar OTN, is é sin le rá 0.2 faoin gcéad níos airde. Ar bhonn réamhaisnéisí fáis ó na príomhinstitiúidí eacnamaíocha, arna dtacú le neartú breise ar an éileamh intíre, tuartar go dtiocfaidh méadú 3.8 faoin gcéad ar OTI agus méadú 3.5 faoin gcéad ar OTN in 2016. Meastar gur rioscaí cothromaithe iad na rioscaí a bhaineann leis na réamhaisnéisí seo, sa mhéid go bhfuil roinnt rioscaí ionchasacha ar an taobh thuas ann ó thosca intíre, rátaí malairte agus ó phraghsanna ola ach go bhfuil siad á bhfritháireamh le rioscaí ionchasacha ar an taobh thíos ón taobh eachtrach, fad a d'fhéadfadh boilsciú amach anseo difear a dhéanamh do ghluaiseacht praghsanna ola freisin.

Maidir le saincheisteanna beartais, tairbhíodh de bheartais fhioscacha agus airgeadais chun na dálaí cuí a chruthú do théarnamh

eacnamaíoch inmharthana, ag leanúint ar an gconair um chomhdhlúthú agus um choigeartú. Tríd an gconair beartais seo a leanúint, tá Éire in ann tairbhiú go mór de na dálaí airgeadais idirnáisiúnta fabhracha reatha. Cé go bhfuil an-dul chun cinn déanta, leanann an féichiúnas ard poiblí agus príobháideach agus tá roinnt leochaileachtaí tábhachtacha ann i gcónaí. Chun na leochaileachtaí seo a laghdú agus chun a áirithiú go bhféadfar filleadh ar fhás cothom, ní foláir leanúint de bheith ag cur leis an méid atá bainte amach le blianta beaga anuas agus ní foláir díriú ar athléimneacht a neartú.

Maidir leis an airgeadas poiblí, bhí forbairtí Státchiste fabhrach toisc gur thairbhigh siad d'fhás ní ba láidre ná mar a bhíothas ag súil leis in 2014 agus d'amhantar ioncaim. Tá ioncam ó cháin chun tosaigh ar an réamhaisnéis agus, d'ainneoin róchaiteachais áirithe, fágann sé sin gur cheart go dtitfeadh an t-easnamh go dtí 4 faoin gcéad d'OTI in 2014, go mór faoi bhun na sprice. Cé go bhfáiltítear roimh an bhfeabhsú seo, tá na leibhéil easnaimh agus fiachais an-ard i gcónaí. Chun an cuspóir buiséadach meántéarmach a bhaint amach agus chun maolán a bhunú in aghaidh suaití díobhálacha amach anseo, beidh gá le comhdhlúthú breise sna blianta atá le teacht. Chuideodh sé seo le cóimheas fiachais OTI a chur ceann le fána agus le feabhas a chur ar inmharthanacht.

San earnáil baincéireachta, rinneadh dul chun cinn maidir leis an gcóras baincéireachta a dheisiú agus maidir le hathléimneacht na mbanc agus a gcustaiméirí a fheabhsú. Bhí toradh an Mheasúnaithe Chuimsithigh ag teacht, a bheag nó a mhór, leis na hionchais, agus tugadh chun críche an t-aistriú chuig an Sásra Aonair Maoirseachta. Cé go bhfuil obair fós le déanamh, tá dul chun cinn á dhéanamh maidir le hiasachtaí lagaithe a réiteach agus leanfaidh an Banc Ceannais de bheith ag áirithiú go ndéanfaidh na bainc agus iasachtaithe morgáiste a bhfuil riaráistí acu buanréitigh a thabhairt chun críche.

Tar éis dó próiseas comhairliúcháin agus athbhreithnithe a thabhairt chun críche go déanach i mí Eanáir, d'fhógair an Banc Ceannais go dtabharfaí rialacháin nua isteach lena gcuirfí teorainneacha comhréireacha i bhfeidhm maidir le hiasachtú morgáistí cónaithe. Leis na bearta seo, tabharfar teorainneacha comhréireacha isteach maidir le cóimheas iasachta le luach agus cóimheas iasachta le hioncam le haghaidh príomháras cónaithe agus maidir le cóimheasa iasachta le luach i gcás morgáistí um maoin a cheannach lena ligean ar cíos. Maidir le cóimheas iasachta le luach le haghaidh príomháras cónaithe, socraíodh teorainn iasachta le luach níos airde do cheannaitheoirí céaduaire ar an gcéad €220,000 de luach na maoine cónaithe.

Is é príomhchuspóir na rialachán nua seo cur le stóinseacht na hearnála baincéireachta agus earnáil na dteaghlach i gcás deacrachtaí sa mhargadh tithíochta agus an baol go rachadh creidmheas bainc agus praghsanna tithe ó smacht arís a laghdú. Níl sé i gceist ag an mBanc Ceannais praghsanna tithe a rialáil nó a rialú go díreach. Táthar ag súil go dtabharfar na rialacháin nua isteach faoi reachtaíocht go luath. Tá na teorainneacha sin forlíontach ar bheartais chreidmheasa na mbanc aonair agus níl sé i gceist go gcuirfear iad in ionad na bhfreagrachtaí a bhíonn ar iasachtóirí i ndáil le measúnú a dhéanamh ar inacmhainneacht nó iasachtú stuama a dhéanamh ar bhonn gach cáis ar leith. Cé go bhfuil na rialacháin ceaptha bheith cobhsaí, beidh siad sách solúbtha chun go bhféadfar iad a choigeartú amach anseo agus a chur in oiriúint d'fhorbairtí eacnamaíocha, margaidh nó eile, más gá.

Financing Developments in the Irish Economy

Overview

This article reviews financing & financing conditions of the main sectors of the Irish Economy. It focuses on developments from mid-2014 to the present. The Irish private sector continued, in net terms, to repay loans with Irish banks during the second half of 2014. Though transactions in the residential property market increased significantly in recent months, household's mortgage repayments continued to exceed new borrowings for house purchase. In addition, non-financial corporations (NFCs) also continued to make net repayments on borrowings with Irish banks during November, albeit to a lesser extent than in previous months. Since late 2008, both households and NFCs have reduced overall debt liabilities with the Irish banking sector. There were strong direct investment outflows from Ireland in Q3 2014, although the data are heavily impacted by companies which have re-domiciled in Ireland. The funding profile of Irish banks continued to improve during 2014, as banks further increased funding from private sector deposits and continued to reduce funding from the eurosystem. In addition, the borrowing costs of the State reduced further. By the start of January 2015, 10-year government bond yields had fallen to 1.2 per cent, their lowest recorded level.

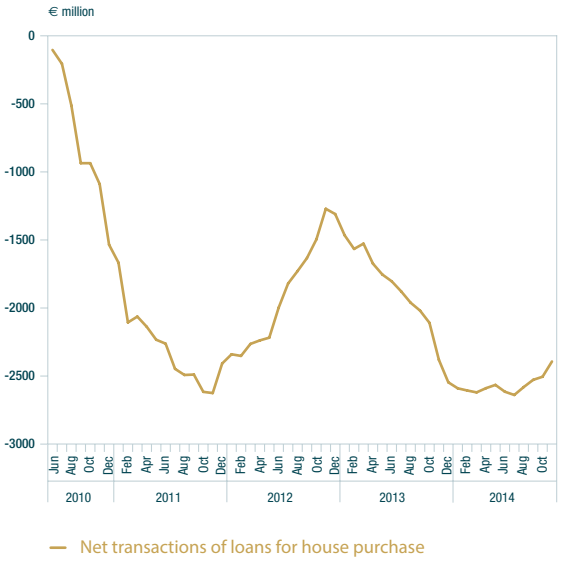
Households

Despite an increase in residential property prices of 16.2 per cent in the year to November, the latest market data indicate that new mortgage issuances continue to remain relatively low. Since June 2010, household's mortgage repayments with Irish credit institutions have exceeded new borrowings (Chart 1). Net repayments, measured as a 12-month moving sum, peaked during July 2014, totalling €2.64 billion. From July onwards, net mortgage repayments declined only very gradually, despite increased investment in residential property. By November 2014, net repayments by households had fallen to €2.39 billion. Chart 2 shows that by October 2014, when measured as a 12-month moving sum, the number of transactions in residential property had increased to nearly 40,000, based on the Property Services Regulatory Authority data. Though transactions in dwellings have increased substantially since its lowest level of less than 18,000 for the year at December 2011, they remain far lower than during the height of the housing boom. In addition, cash purchases continue to be an important feature of housing activity, as mortgage funding accounts for just around half of all residential property purchases.

Trends in interest rates on new mortgages[1] charged by Irish banks continued to diverge from the equivalent euro area banks' rates towards the end of 2014. The interest rate on new mortgage lending charged by Irish banks fell by 7 basis points during October 2014 to reach 3.35 per cent (Chart 3). This was some 92 basis points higher than the equivalent euro area banks' rates. Irish and euro area banks' interest rates on new mortgages had moved broadly in line with each other up to August 2011. Since end-2012, however, Irish interest rates have remained considerably higher. While there is some volatility in the series arising from low volumes of activity, the trend towards higher margins on mortgage lending is obvious. Chart 3 also shows that the spread between Irish interest rates and the ECB main refinancing rate has grown further over this period, peaking at 337 basis points at October 2014.

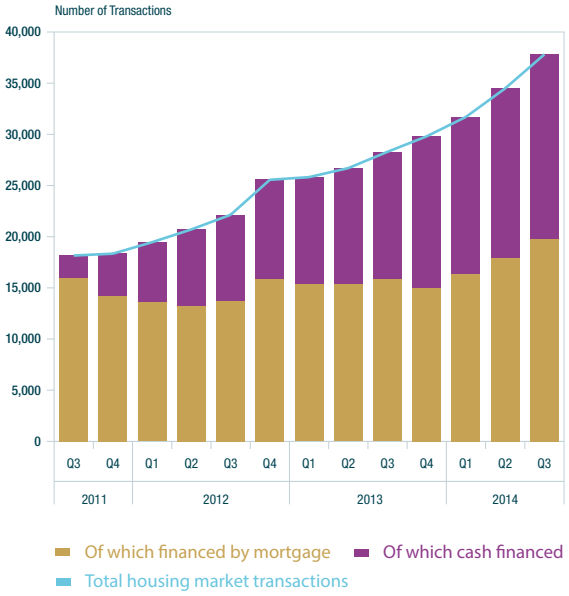
1 These data include restructured mortgages. New data will be published which will exclude restructured loans from new mortgages during early 2015.

Chart 1: Net Transactions of Loans for House Purchase, 12-month moving sum



Source: Money and Banking Statistics, Central Bank of Ireland.

Chart 2: Housing Market Transactions



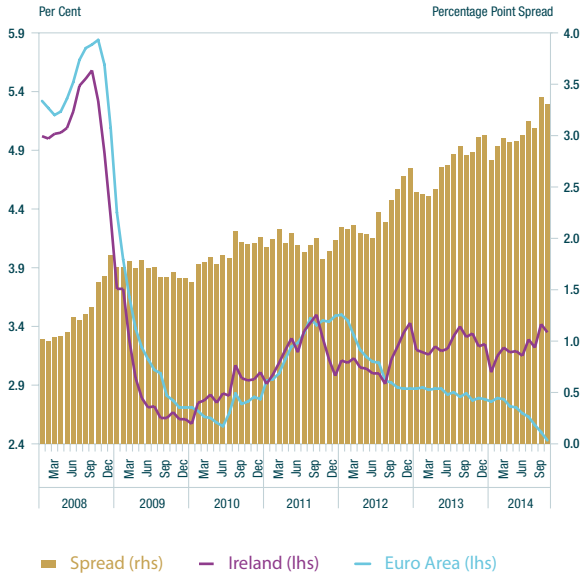
Sources: Banking & Payments Federation Ireland (BPFI), Property Services Regulatory Authority (PSRA), and Central Bank of Ireland calculations.

Interest rates on household deposit accounts continued their decline during the second half of 2014 (Chart 4). By October, the weighted average interest rate on term deposits had fallen to 1.76 per cent. This represented a reduction over the year of 54 basis points. In addition, the spread between household deposit rates and the weighted average of all loan rates further increased, reaching 175 basis points by October 2014. This was the biggest difference between the two rates since early 2008. From mid-2013 to mid-2014, households on aggregate had disinvested in bank deposit accounts. This trend was, however, reversed in the second half of 2014 as households began to invest in bank deposits once more, albeit at quite low levels. By end-November 2014, household transactions in deposits totalled €311 million, when measured as a 12-month moving sum.

Non-Financial Corporations

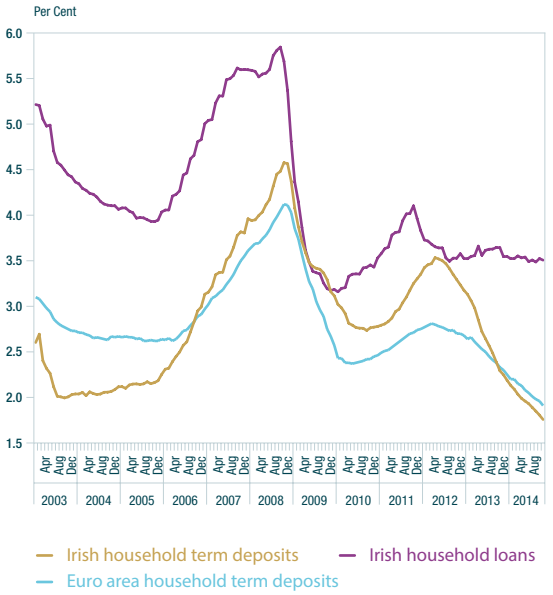
Non-financial corporations (NFCs) also continued to make net repayments on loans with credit institutions during the second half of the year. By September 2014, net lending transactions had reached an all-time low of minus €6 billion, when measured as a 12-month moving sum. While October and November saw NFCs return to net borrowing, the overall trend is still negative with net transactions of minus €4.9 billion by end-November, when measured as a 12-month moving sum. In addition, new business lending to small and medium-sized enterprises (SMEs), excluding financial intermediation and property related sectors, increased during Q3 2014 for the third consecutive quarter, to reach €2.3 billion when measured as a four-quarter moving sum. The largest component of new lending continued to be to the agriculture sector, which amounted to €600 million during Q3, when measured on an equivalent basis. This represented its highest level since the series began. Chart 5 shows that lending relating to hotels and restaurants, and

Chart 3: Interest Rates on New Mortgages



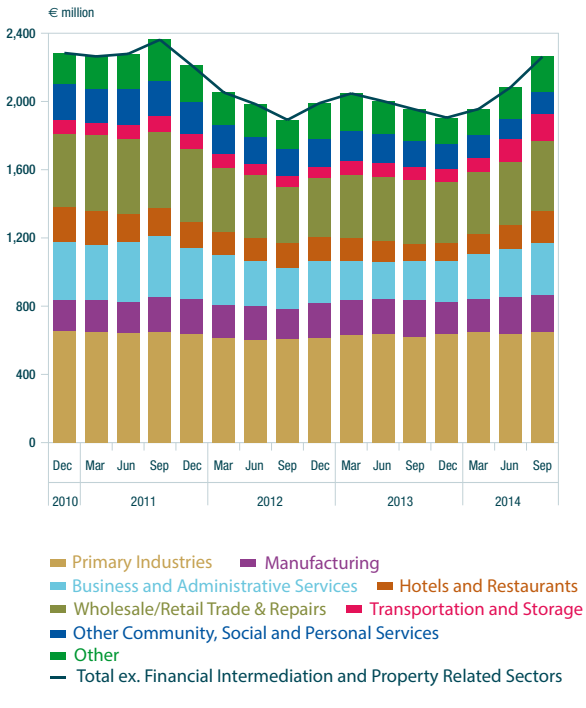
Source: Retail Interest Rates, Central Bank of Ireland.

Chart 4: Interest Rates on Household Deposits and Loans



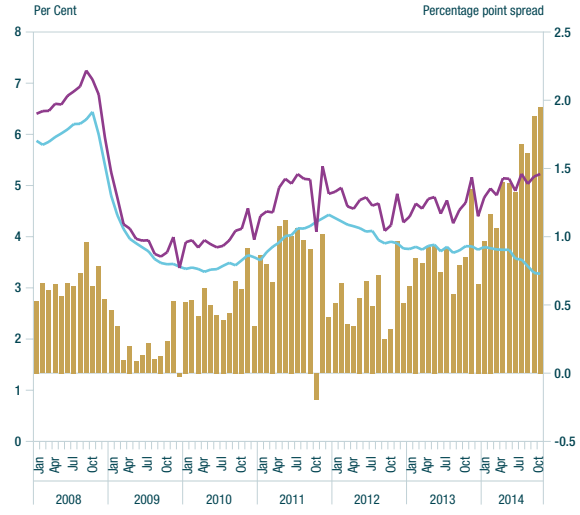
Source: Retail Interest Rate Statistics, Central Bank of Ireland.

Chart 5: Total New Lending Decomposed by SME Sector



Source: Money and Banking Statistics, Central Bank of Ireland.

Chart 6: Interest Rates on New Business Loans (under €1 million), up to 1-year fixation



Source: Retail Interest Rate Statistics, Central Bank of Ireland.

wholesale/retail also contributed towards the increase over the quarter.

The increase in new lending to SMEs continued despite further increases in interest rates. The interest rate on new NFC business loans up to €1 million (often used as a proxy for lending to SMEs) increased to 5.23 per cent by end-October. This marked the second consecutive increase in the rate. It should be noted that this series can be volatile at times due to low business volumes. In contrast, the corresponding interest rate charged by euro area credit institutions has been on a downward trend since July 2014. By October, it had fallen to 3.27 per cent, 196 basis points lower than the Irish rate. Chart 6 highlights the increasing difference between the euro area and Irish interest rates.

Multinational NFC Developments

Investment by foreign-owned multinational corporations (MNCs) in their Irish operations increased by €2 billion in the third quarter of 2014, following falls in the previous two quarters. These are largely manufacturing and service NFCs. However, net foreign direct investment for these entities recorded a net outflow of over €1 billion for the first three quarters of 2014.

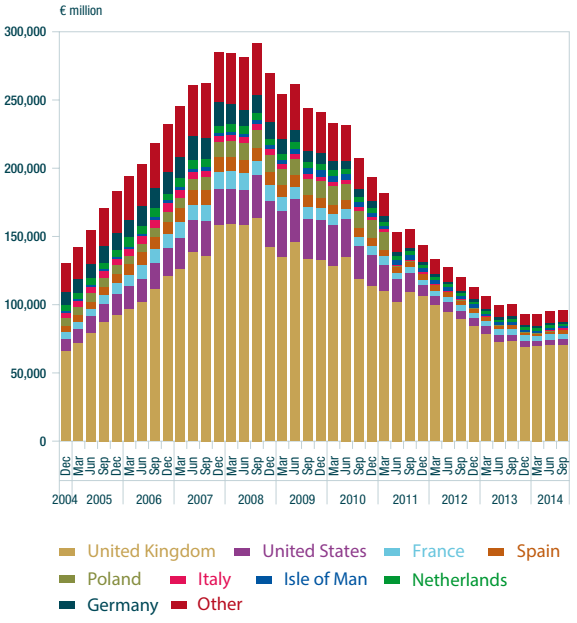
Foreign direct investment by Irish-owned MNCs abroad was particularly strong at €21 billion over the third quarter. However, this predominantly reflects the operations of multinational NFCs who have established their corporate headquarters in Ireland. The value of the outstanding equity of the NFC sector in Ireland rose to €328 billion in November, representing a year-on-year increase of 43 per cent again primarily reflecting the activities of re-domiciled entities. Box B provides more detail on equity and other security developments for the non-financial corporate and other sectors of the Irish economy. Income inflows and outflows from non-IFSC activities were largely unchanged from the second quarter at €5 billion and €12 billion respectively.

Monetary Financial Institutions

During the second half of the year, the funding profile of domestic credit institutions[2] continued to improve. Though the overall balance sheet of these credit institutions contracted by a further €9.5 billion, between July and November 2014[3], financing from domestic private deposits increased by €3.3 billion. In contrast, funding from the Eurosystem decreased by €3.4 billion over the same period.

As domestic credit institutions deleveraged in recent years, their claims on non-resident assets have also significantly fallen (Chart 7). At their peak at September 2008, the foreign claims of the consolidated Irish banking sector stood at nearly €292 billion. By September 2014, this had decreased to €95.8 billion. Claims on United Kingdom assets continue to be by far the largest, representing 73.3 per cent of total claims. Claims on the United States were the second largest totalling 4.6 per cent of total claims.

Chart 7: Foreign Claims of the Consolidated Irish Banking Sector



Source: Consolidated Banking Statistics, Central Bank of Ireland.

2 Institutions whose ultimate parent entity is resident in Ireland, or which have a significant (>20%) level of business with Irish households and non-financial corporations in terms of their overall resident business activity.

3 IBRC was removed from the MFI list at the start of July and so does not influence these trends.

Box A: The International Activities of the Irish Life and Non-Life Insurance Sector

Anne-Marie Kelly and Bridín O'Leary, Statistics Division[4]

The insurance sector in Ireland employees over 20,000 people, servicing a diverse range of activities, including the Irish life and non-life market, international clients and reinsurance activities. It is estimated that the value added of these activities was €2.3 billion (or 1.5 per cent of GDP) in 2011, including almost €1 billion in employee compensation[5]. In this box, the international activities of Irish resident life and non-life insurance companies are explored, with attention given to the potential effects of Solvency II on their international business. Analysis shows that the Irish insurance sector has extensive levels of foreign business relative to other countries. This foreign activity is however concentrated in a small number of countries.

Insurance companies (ICs) in Ireland can write insurance business throughout the European Economic Area (EEA) by either establishing a branch in that country, or writing business directly from Ireland on a Freedom of Services (FOS) basis. International activity is highly important to life and non-life insurers in Ireland, as 70 per cent of their premiums in 2012 were earned outside Ireland (58 per cent of international premiums were sold under FOS and 42 per cent through branches). A cross-country comparison of the international business[6] of life and non-life ICs in 2012 is shown in Chart 1. From the selection of countries analysed, only three countries had a greater share of international life and non-life activity than Ireland: Liechtenstein, Luxembourg and Malta totalling 99 per cent, 91 per cent and 76 per cent, respectively. Many countries have very little foreign business with 21 of the 31 countries covered in EIOPA's dataset having less than 2 per cent of their premiums represent international business in 2012.

Box A Chart 1: Cross country comparison of Life and Non-Life Insurance Corporations Premium Business, Domestic and International, 2012

Note: The category 'Others' is the average of the 21 countries that are not in the top 10 countries, ranked by the international activity of their domestic life and non-life companies in 2012.

Source: EIOPA data.

Box A Chart 2: Life and Non-Life Domestic and International activity in Ireland by premiums, 2008 to 2012

Source: CBI estimates using EIOPA data.

4 The authors are Economists in the Statistics Division of the Central Bank of Ireland.

5 'Measuring the Value Added of the Financial Sector in Ireland', (2013), Mary Everett, Joe McNeill and Gillian Phelan, Central Bank of Ireland Quarterly Bulletin, Q2 2013.

6 Total international activity includes total branches, FOS, EU and Non-EU branch activity.

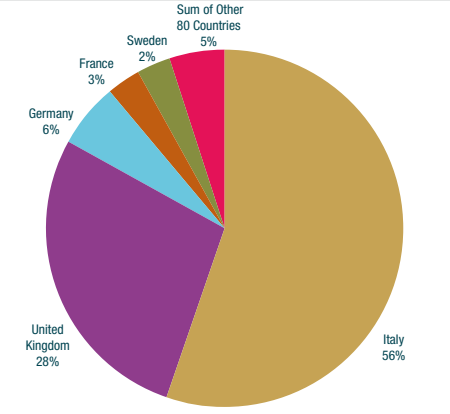
Box A: The International Activities of the Irish Life and Non-Life Insurance Sector

Anne-Marie Kelly and Bridín O'Leary, Statistics Division

There were 194 life and non-life companies operating in Ireland in 2012, and 58 branches based in an EEA country. Life and non-life companies operating in Ireland wrote €31.2 billion of foreign premiums in 2012 split between €18.2 billion life policies and €12.9 billion non-life policies. Foreign premiums are significantly higher in recent years and are now the principle driver of premium growth in the Irish Industry. Life and non-life companies experienced declines in domestic premiums as the Irish economic situation deteriorated during the financial crisis, as seen in Chart 2. The total activity within Ireland fell each year from 2008 to 2012, decreasing by 21 per cent between 2008 and 2009. The majority of this decline was experienced by the life insurance business, most likely due to the discretionary nature of such insurance relative to some non-life insurance such as motor and property. In contrast, Ireland's ICs foreign premium began to grow in 2008, increasing by 27 and 17 per cent in 2009 and 2010 respectively. The growth has continued in more recent years, albeit at more modest single figure growth rates.

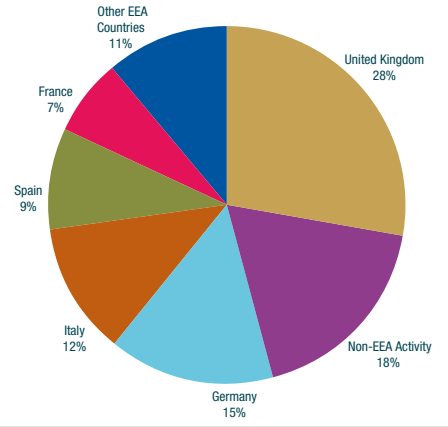
While the international activities of ICs located in Ireland are substantial, premiums are earned from a limited number of countries. This probably reflects the strong links between foreign owned ICs established in Ireland with their countries of origin. The country concentration is particularly marked for life ICs who earned 83 per cent of their total internationally earned premiums in Italy and the UK, as seen in Chart 3. Overall, 93 per cent of life premiums earned internationally are from the sale of life assurance products that are linked to investment funds. The remaining international premiums are related to the payment of annuities and capital redemption operations. The generation of foreign premiums internationally for non-life ICs in Ireland includes a more diversified country balance, with the UK contributing 28 per cent of premiums in 2012, followed by non-EU countries and Germany, as seen in Chart 4. Sales of non-life insurance products to other EAA countries were predominantly for 'Fire & Other Damage to Property' and 'Motor Liability'. These categories accounted for 53 per cent of premiums.

Box A Chart 3: Life International Activity Country Split, 2012



Source: EIOPA and Regulatory data.

Box A Chart 4: Non-Life International Activity Country Split, 2012



Source: EIOPA and Regulatory data.

Box A: The International Activities of the Irish Life and Non-Life Insurance Sector
Anne-Marie Kelly and Brídín O'Leary, Statistics Division

The analysis of recent trends shows that Ireland differs from many countries in terms of the scale of foreign business undertaken. The decision of ICs to establish their head offices in Ireland and operate internationally is likely to have been influenced by the availability of a well-educated English speaking workforce, a stable and competitive corporate tax regime, and strong infrastructure in terms of professional services firms and legal system.[7] The introduction of Solvency II could see an increase in cross border trading in many countries, as this insurance directive introduces equivalence[8] and establishes an EU passport, so non-European insurers can operate in all member states if they fulfil the EU conditions. It will provide non-EU companies with the opportunity to sell directly into Europe in the future, once certain regulatory criteria are fulfilled.

7 Address by Matthew Elderfield, Deputy Governor to the European Insurance Forum, 23 May 2011, http://www.financialregulator.ie/press-area/speeches/Pages/AddressbyMatthewElderfield,DeputyGovernortotheEuropeanInsuranceForum-23May2011.aspx.

8 Equivalence is where the regulatory regime is deemed equal and all contracts are treated the same provided the IC has implemented and passed the Solvency II requirements, as described in Section 4.1.3 of 'Reinsurance in Ireland: Development and Issues'.

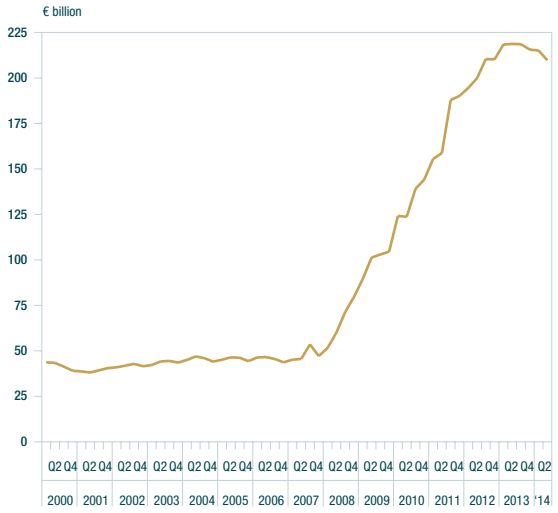
Government

Government debt fell to €209.7 billion by end-Q2 2014, representing a decline of €5.4 billion over the quarter (Chart 8). By the end of the quarter, gross debt was €9 billion lower than its peak of €219.7 billion at end-Q2 2013. The ongoing liquidation of IBRC significantly contributed towards the decline in debt during Q1 and Q2 2014. In contrast to the downward trend in total debt, net debt (total debt liabilities minus corresponding financial assets) continued to rise during Q2 2014 (Chart 8). By the end of the quarter, it stood at €162.9 billion, its highest level to date. The increase in net debt was due to the reduction in State assets over the quarter. They declined by €7.2 billion over the quarter to stand at €46.8 billion. This largely reflected the liquidation of IBRC.

Long term Irish government bond yields continued to decrease further during the second half of 2014 (Chart 9). By the start of January 2015, 10-year government bond yields had fallen to 1.2 per cent, their lowest recorded level (Chart 10). This represented a decrease of 2.25 percentage points over the year. The further decline in Irish bond yields in recent months reflected a number of factors. In December, Ireland's sovereign credit rating was upgraded by S&P to 'A' with a stable outlook. This was the second upgrade of Ireland's credit rating by S&P in 6 months and is the highest rating of Irish credit in four years. Furthermore, the final set of exchequer tax returns published in January revealed that the State deficit was €8.2 billion in 2014, €3.3 billion lower than 2013.

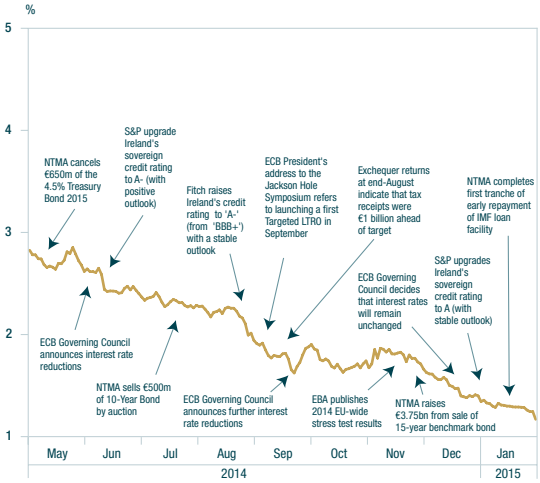
Long term bond yields for most other euro area peripheral countries also fell over the quarter, albeit to a slightly lesser extent than Irish bond yields (Chart 11). Bond yields in Greece were quite volatile over the past quarter increasing by 4.1 percentage points. This largely reflected increased political uncertainty surrounding Greece's completion of its bailout programme review.

Chart 8: General Government Debt



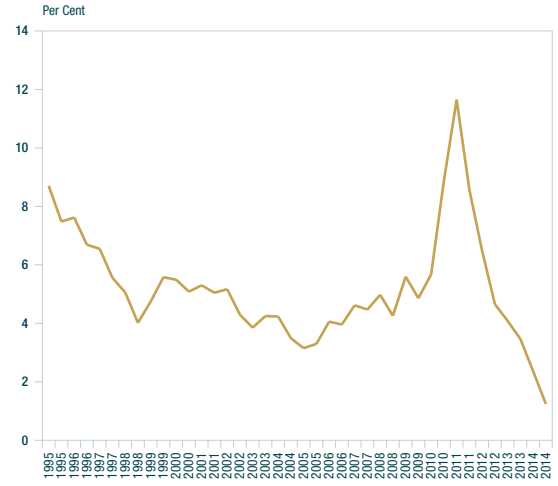
Source: Government Finance Statistics, CSO.

Chart 9: Irish Government 10-Year Bond Yields, recent trends



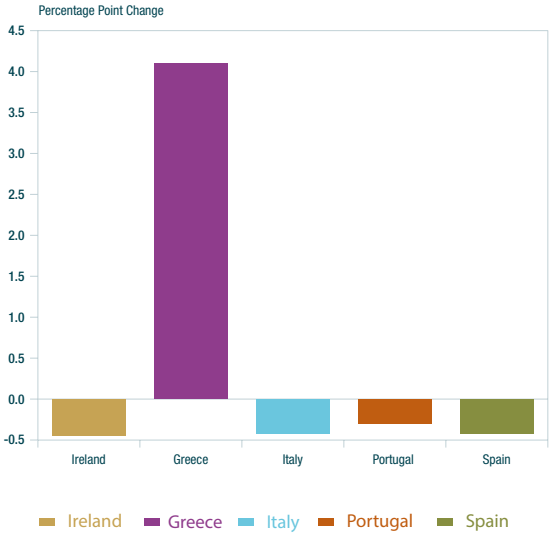
Source: Thomson Reuters Datastream.

Chart 10: Irish Government 10-Year Bond Yields, 1995 to Present



Source: Thomson Reuters Datastream.

Chart 11: Quarterly Change in Peripherial Euro Area Countries 10-Year Bond Yields



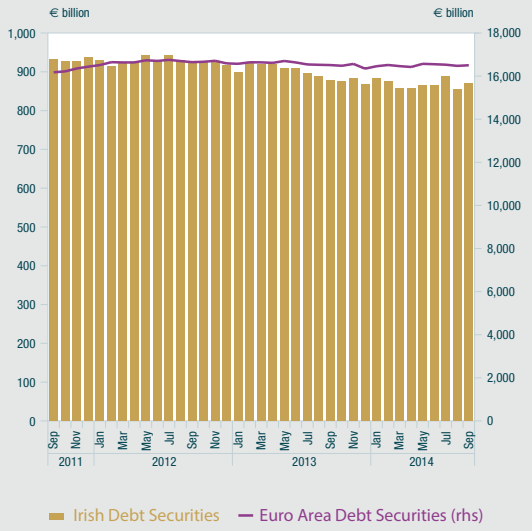
Source: Thomson Reuters Datastream.

Box B: Comparative Developments in Irish and Euro Area Securities Issues Statistics

By Dermot Coates, Anne McHugh and Siobhán O'Connell

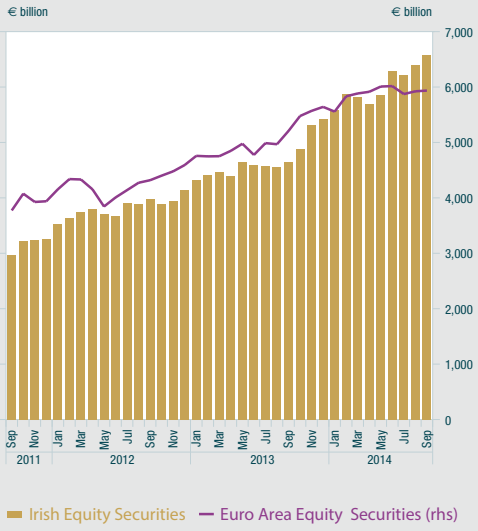
Securities issues, both bonds and equities, are a useful alternative to traditional bank finance for many entities whilst holders of these financial assets may view securities as partial substitutes for bank deposits and negotiable instruments issued by banks and as an opportunity to diversify their portfolios. Timely information on securities issuance is an important aspect in monetary and financial analysis as shifts between direct finance (securities markets) and indirect finance (the banking system) may change the euro area's financial structure over time. Statistics on market-based financing activities of financial and non-financial entities incorporated in Ireland and the euro area are published by the Central Bank of Ireland and the ECB, respectively, on a monthly basis. This Box looks at some comparative trends in these securities issues statistics for the period Q3 2011 to Q3 2014.

Box B Chart 1: Irish and Euro Area Debt Securities Outstanding



Sources: Central Bank of Ireland and the European Central Bank.

Box B Chart 2: Irish and Euro Area Equity Securities



Sources: Central Bank of Ireland and the European Central Bank.

By Q3 2014, total outstanding Irish debt securities totalled €871 billion, a reduction of some 7 per cent since 2011. A general debt deleveraging was reflected in the steady but gradual reduction in the amount outstanding during this period. For the euro area, total outstanding debt securities increased by a cumulative 7 per cent between September 2011 and late-2012 but have remained broadly unchanged since that time. The cumulative market capitalisation[9] of Irish-resident entities increased consistently over this three-year period (Chart 2) and stood at €329 billion by Q3 2014 (an increase of 123 per cent since 2011). In this regard, the Irish market outperformed the euro area as a whole albeit the latter still saw growth of 57 per cent over this period.

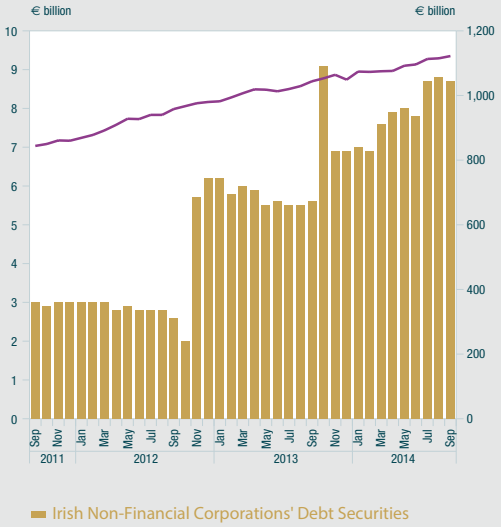
9 Refers to quoted shares

Box B: Comparative Developments in Irish and Euro Area Securities Issues Statistics

By Dermot Coates, Anne McHugh and Siobhán O'Connell

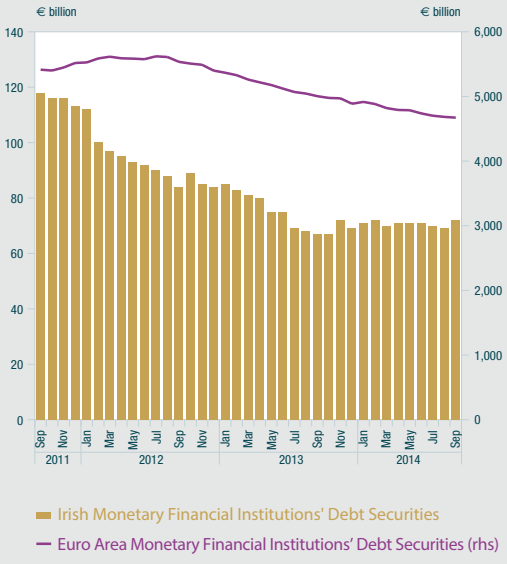
These high-level trends in debt securities and equities issuance reflect developments in the various institutional sectors, particularly non-financial corporations (NFCs) and monetary financial institutions (MFIs). Debt securities outstanding for the NFC sector across the euro area have grown strongly since Q3 2011, particularly during 2012 with year-on-year growth rates exceeding 10 per cent for much of that year (Chart 3). The total outstanding had increased to €1.1 trillion by Q3 2014, an increase of 33 per cent since 2011. Debt securities outstanding for NFCs in Ireland grew even faster over the same period and stood at €8.7 billion by Q3 2014, an increase of 129 per cent. This was particularly evident from November 2012 onwards as the total jumped from €2 billion to €9 billion within just 12 months, primarily due to redomiciled entities[10]. Debt securities outstanding for the MFI sector across the euro area had grown marginally over the 12-month period after Q3 2011 reaching €5.6 trillion but began to fall back thereafter (Chart 4). By Q3 2014, the relevant figure was €4.7 trillion, a cumulative reduction of 14 per cent over three years. By contrast with Ireland's NFC sector, debt securities outstanding for the MFI sector in Ireland have shown a consistent downward trend since Q3 2011 with the amount outstanding falling from €118 billion to a low of €67 billion by Q3 2013. This total began to rise again in 2014 reaching €72 billion, albeit still some 39 per cent lower than three years earlier. The IFSC banks now account for approximately 50 per cent of the total outstanding amount, compared to less than 40 per cent in 2011. Domestic market credit institutions have accounted for most of this reduction over this period (including the maturing of Own Use Bank Bonds since 2011[11]).

Box B Chart 3: Irish and Euro Area Non-Financial Corporations' Outstanding Debt



Sources: Central Bank of Ireland and the European Central Bank.

Box B Chart 4: Irish and Euro Area Monetary Financial Institutions' Outstanding Debt Securities



Sources: Central Bank of Ireland and the European Central Bank.

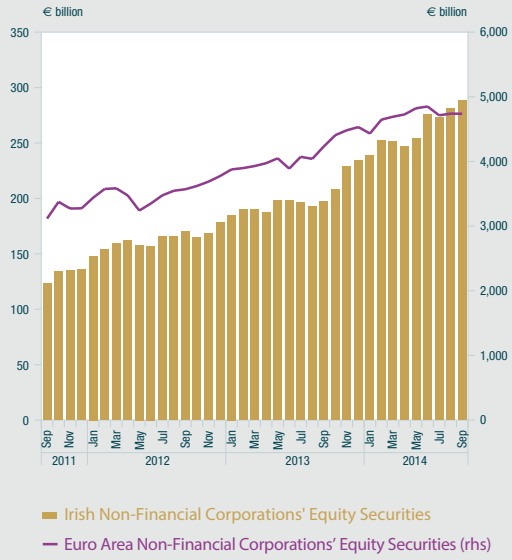
10 See: Box by Coates and McHugh, 'The Impact of Redomiciled NFCs on Irish Securities Issues Statistics', Quarterly Bulletin, Q3 2014, Central Bank of Ireland

11 See: Box by Coates, Osborne-Kinch and Moloney, 'Development of Own-Use Bank Bonds for Funding Purposes', Quarterly Bulletin, Q1 2014, Central Bank of Ireland

Box B: Comparative Developments in Irish and Euro Area Securities Issues Statistics

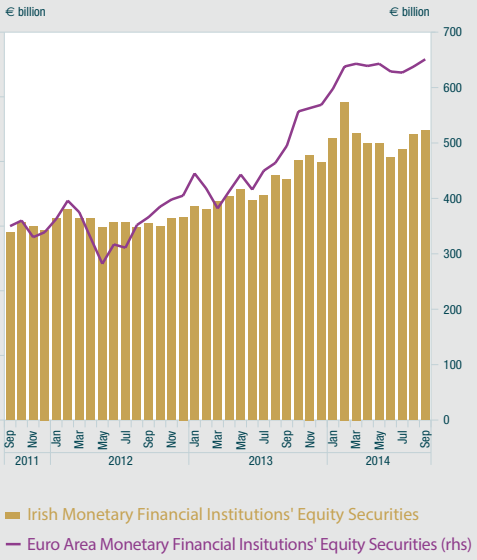
By Dermot Coates, Anne McHugh and Siobhán O'Connell

Box B Chart 5: Irish and Euro Area Non-Financial Corporations' Equity Securities



Sources: Central Bank of Ireland and the European Central Bank.

Box B Chart 6: Irish and Euro Area Monetary Financial Institutions' Equity Securities



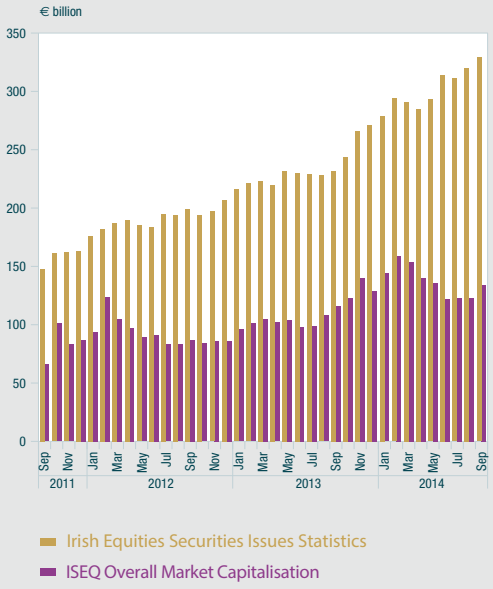
Sources: Central Bank of Ireland and the European Central Bank.

The market capitalisation of Irish NFCs (Chart 5) showed significant growth over the past three years, increasing by 135 per cent to €288 billion by Q3 2014. This growth was a function of both share price and volume (share issuance) effects where the latter can be said to include: (i) new issues by existing entities; (ii) new stock exchange listings by Irish-resident entities; and (iii) the redomiciling of entities into Ireland. The NFC sector in the euro area also experienced positive growth, from Q3 2012 onwards, but the cumulative expansion (52 per cent) was lower than was the case for Ireland. In the case of Ireland's MFI sector, the associated market capitalisation increased by 54 per cent over the three years to €22 billion by Q3 2014 with particularly strong growth observed from 2013 onwards (Chart 6). This reflected share price movements since 2011. The comparative growth rate for euro area banks was more pronounced with the cumulative market capitalisation of euro area-resident banks increasing by 86 per cent since 2011.

Box B: Comparative Developments in Irish and Euro Area Securities Issues Statistics

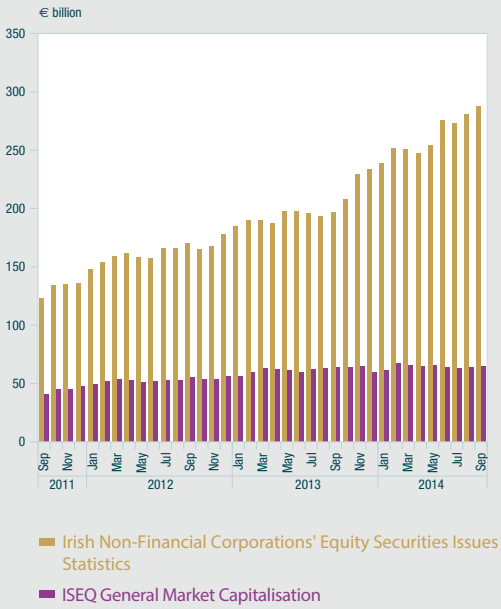
By Dermot Coates, Anne McHugh and Siobhán O'Connell

Box B Chart 7: Irish Equities Securities Issues and ISEQ Overall Market Capitalisation



Sources: Central Bank of Ireland and Irish Stock Exchange.

Box B Chart 8: Irish Non-Financial Corporations' Equity Securities and ISEQ General Market Capitalisation



Sources: Central Bank of Ireland and Irish Stock Exchange.

Note: (i) Index = 100 at September 2011

(ii) ISEQ Overall accounts for all quoted companies listed on the exchange whereas ISEQ General is made up of the Non-Financial Corporations listed on the exchange (excluding financial corporations, etc.)

(iii) Securities Issues Statistics are compiled on the basis of residence according to the economic territory under whose laws the enterprise is incorporated or registered

(iv) The figures presented here regarding the ISEQ benchmarks refer to the 'full' market capitalisation (or the sum of the capitalisation of all constituents of each index). The 'free-float' market capitalisation is used in the calculation of the indices by the ISE (where only shares freely available in the market are used).

Finally, the ISEQ benchmark indices and the Securities Issues Statistics provide differing perspectives on developments in the quoted shares of Irish entities over time. When we compare the market capitalisation data for each, we see that these various measures followed a similar upward trajectory from Q3 2011 onwards. These trends, however, began to de-couple slightly from late-2013, particularly in the case of Irish NFCs. The market capitalisation underpinning the ISEQ Overall and the ISEQ General indices peaked in Q1 2014 and began to fall back thereafter. By contrast, the market capitalisation measured by the Securities Issues Statistics data continued to rise throughout 2014 (Charts 7 and 8).

Box B: Comparative Developments in Irish and Euro Area Securities Issues Statistics
By Dermot Coates, Anne McHugh and Siobhán O'Connell

The market capitalisation underpinning the ISEQ Overall index had increased by 104 per cent by Q3 2014[12] whilst the market capitalisation as measured by the Securities Issues Statistics data increased by 123 per cent over the same period. There are, however, some differences in these respective measures arising from the composition of each dataset. Whilst the various ISEQ indices consist of those entities listed on that exchange, the Securities Issues Statistics are compiled on the basis of the residency principle such that all Irish-resident entities, regardless of the exchange where their shares are listed, are included. For instance, those NFCs that have redomiciled to Ireland in recent years are included in the latter but not the former. Similarly, although a number of Irish entities have opted to exit the ISEQ in recent years and opt for a listing on the London Stock Exchange, or elsewhere, such entities are still captured in the Securities Issues Statistics data for Ireland. Consequently, the Securities Issues Statistics data are of a significantly greater magnitude than the ISEQ benchmarks, both in terms of the number of entities and the cumulative market capitalisation covered. For instance, the ISEQ Overall Index covers 42 entities and had a market capitalisation of €134 billion at end-Q3 2014. The Securities Issues Statistics, however, cover more than 100 entities across all institutional sectors and had a cumulative market capitalisation of €329 billion.

12 The analyses presented here relate to trends in the cumulative market capitalisation of all of the constituent entities in these indices (and not the index value)

For detailed commentary on the latest developments in financial statistics, please see the following:

- **Monetary Financial Institutions**

  Money and Banking Statistics, November 2014
  http://www.centralbank.ie/polstats/stats/cmab/Pages/releases.aspx

  Security Issues Statistics, November 2014
  http://www.centralbank.ie/polstats/stats/sis/Pages/releases.aspx

  Locational Banking Statistics, Q3 2014
  http://www.centralbank.ie/polstats/stats/locational/Pages/releases.aspx

  Consolidated Banking Statistics, Q3 2014
  http://www.centralbank.ie/polstats/stats/conbs/Pages/releases.aspx

- **Non-Financial Private Sector**

  Money and Banking Statistics, November 2014
  http://www.centralbank.ie/polstats/stats/cmab/Pages/releases.aspx

  Trends in Personal Credit and Deposits, September 2014
  http://www.centralbank.ie/polstats/stats/cmab/Pages/releases.aspx

  Trends in Business Credit and Deposits, September 2014
  http://www.centralbank.ie/polstats/stats/cmab/Pages/releases.aspx

  Interest Rate Statistics, November 2014
  http://www.centralbank.ie/polstats/stats/cmab/Pages/releases.aspx

  Quarterly Financial Accounts, 2014 Q1
  http://www.centralbank.ie/polstats/stats/qfaccounts/Pages/releases.aspx

Mortgage Arrears Statistics, September 2014
http://www.centralbank.ie/polstats/stats/mortgagearrears/Pages/releases.aspx

- **Government**

Quarterly Financial Accounts, 2014 Q1
http://www.centralbank.ie/polstats/stats/qfaccounts/Pages/releases.aspx

Holders of Irish Government Bonds, October 2014
http://www.centralbank.ie/polstats/stats/sis/Pages/releases.aspx

For up-to-date charts on the latest financial statistics, please see the following:
http://www.centralbank.ie/polstats/stats/summarychart/Documents/ie_financial_statistics_summary_chart_pack.pdf

Developments in the International and Euro Area Economy

Overview

The recovery in the world economy lost some pace as 2014 came to a close with geopolitical developments weighing on growth prospects and falling oil prices beginning to have repercussions for global consumer price inflation. A solid US and UK performance will need to be accompanied by a stronger euro area expansion for existing global forecasts to be realised. However, the latest euro area growth figures offered little encouragement that the region's lacklustre economic recovery is about to pick up any sustained momentum. The most recent survey data suggest that low levels of consumer and business confidence are contributing to weakness in both consumption and investment, while supply-side constraints curb potential output growth. Market expectations about monetary policy trajectories have also diverged with central banks in the US and UK expected to raise interest rates prior to the euro area and Japanese authorities, who are expected to maintain or extend their very accommodative policies into the foreseeable future. Emerging market economies are also providing less support to global growth and an extended global growth slowdown could reveal further macroeconomic and structural vulnerabilities. Inflationary pressures are generally very subdued and euro area headline inflation fell below zero in December for the first time since 2009. The underlying sharp decline in oil prices will become problematic if negative inflation risks are reflected in lower nominal incomes and asset prices, thereby increasing the burden of servicing debts, or, if expectations of falling prices become ingrained. Moreover, an associated increase in financial market uncertainty, driven by disappointing economic data releases and deflationary pressures, resulted in further price increases for perceived safe-haven assets, with historical lows being reached in some sovereign debt markets. In the euro area, market expectations of a large scale asset purchase program by the ECB grew on the back of persistently-low inflation and growth figures.

According to the OECD, the global recovery is expected to gain momentum very slowly with annual global growth projected to advance from 3.25 per cent to 3.75 per cent in 2015 and just under 4 per cent in 2016. These growth rates remain below the average rates attained in the decade leading up to the financial crisis. The risks around these projections remain firmly on the downside. The financial vulnerabilities that have built up in emerging economies, notably China, are a source of risk to the global economy as well as the threat of deflation or renewed recession in the euro area. Bond spreads for emerging market sovereigns have broadly increased, and exchange rates and equity prices have declined in the economies with macroeconomic vulnerabilities. Intensified geopolitical tensions could also hit sentiment further, raise uncertainty and hold back the necessary recovery in investment. Future real GDP growth should be supported by still-accommodative monetary policy, favourable financial conditions, slow improvements in labour market outcomes, and a fading drag from fiscal consolidation, especially if sentiment for higher investment rates takes hold.

Table 1: Changes in forecasted real GDP in selected economies

	Percentage Change		
	2014[f]	2015[f]	2016[f]
Global	3.3	3.7	3.9
United States	2.2	3.1	3.0
Euro Area	0.8	1.1	1.7
United Kingdom	3.0	2.7	2.5
China	7.3	7.1	6.9
Japan	0.4	0.8	1.0

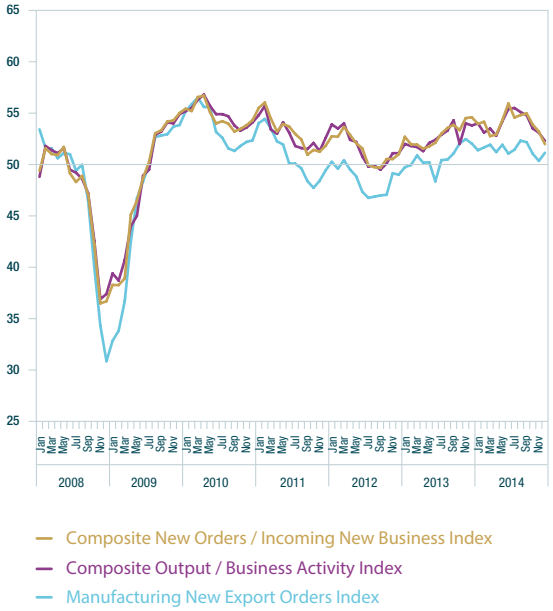
Source: OECD Economic Outlook no.96.

f Forecast

Economic activity in the United States continues to be supported by accommodative monetary policy and improving labour and housing markets. Reduced household debt levels and associated positive wealth effects support private consumption. In contrast, the euro area failed to gain momentum in the third quarter and indicators for the final quarter point to little change. The Japanese economy has slipped back into technical recession following growth contractions in both the second and third quarters, caused by the sales tax rise of April 2014. Activity in the United Kingdom expanded at a robust pace in the first half of last year, driven substantially by domestic demand, in particular household consumption, on the back of declining macroeconomic uncertainty and relatively loose credit conditions. However, third quarter GDP estimates and survey indicators suggest a softening of growth in the second half of 2014.

In parallel, emerging economies are providing less support to global growth than during the financial crisis. In particular, GDP growth has been weakening somewhat in China. Slowing

Chart 1: Global Purchasing Managers' Index



Source: Markit.

Note: For PMI indicators, above 50 represents expansion, below 50 represents contraction.

Table 2: Inflation in selected economies, 2013 and forecasts for 2014 and 2015.

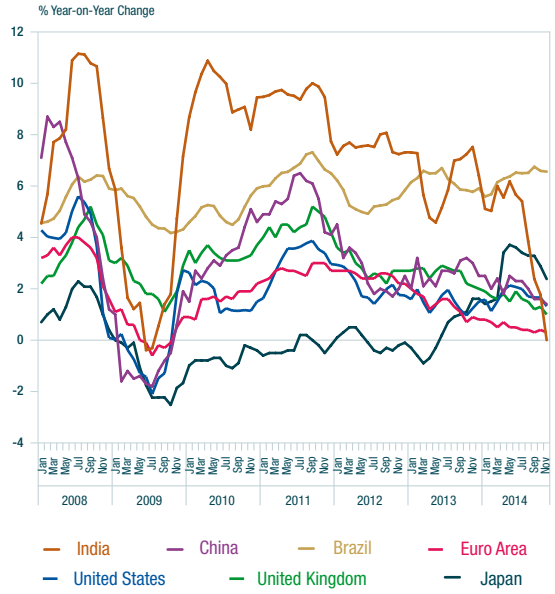
	Percentage Change		
	2014[e]	2015[f]	2016[f]
Euro Area	0.5	0.6	1.0
United States	1.7	1.4	2.0
United Kingdom	1.6	1.8	2.1
China	2.1	2.6	3.0
Japan	2.9	1.8	1.6

Source: OECD Economic Outlook no.96.

e Forecast

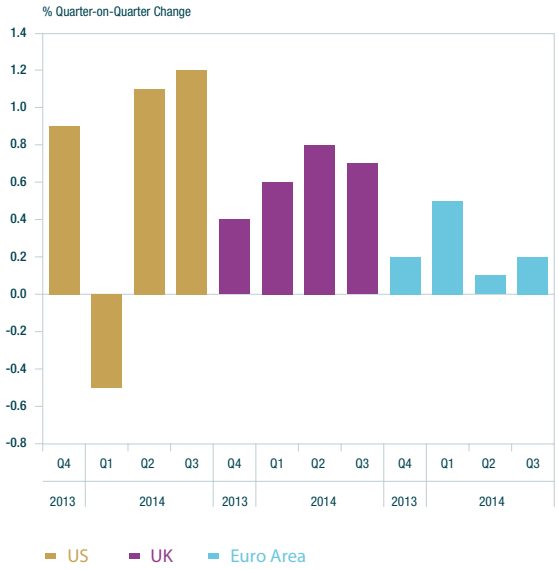
f Forecast

Chart 2: Selected Global Inflation Rates



Source: Thomson Reuters Datastream.

Chart 3: GDP Growth Rates



Source: Thomson Reuters Datastream.

credit growth, partly as a result of macroprudential measures, aimed at containing the exposure of the shadow banking sector, and a housing market correction are contributing to a slowdown in investment. Lower growth in China will have spillover effects for other emerging economies which could partly offset the gradual acceleration in external demand from advanced economies. The other large emerging economies have also slowed reflecting weak external demand, past policy tightening and a range of country-specific factors. India was the only BRIC economy to record accelerated growth, although Brazil returned to growth after a second-quarter contraction. Russia's economy continues to struggle after coming to a standstill amid tensions over Ukraine.

Global trade growth remains sluggish but shows signs of recovering slowly from a trough reached in the second quarter of last year. Recent trade data show a broad-based rebound across advanced and emerging market economies, with the main exception being the US, where merchandise trade significantly weakened according to the latest data. Elsewhere, the largest improvements were recorded in Japan. Overall trade (including services) appears to have remained resilient. Looking ahead, world trade is highly dependent on how the recovery in global investment, which tends to have high import content, progresses.

Global inflation has moderated in recent months, following a slight increase early last year. Looking forward, global inflation is expected to remain subdued in the light of still abundant global spare capacity, particularly in advanced economies and with falling oil prices. Headline consumer price inflation in the OECD was unchanged in October having eased to 1.7 per cent in September. Energy prices fell by 0.3 per cent in the year to October compared with a fall of 0.1 per cent in the year to September. Food price inflation slowed slightly to 2.5 per cent in the year to October, compared with 2.6 per cent in the year to September. Excluding food and energy, the OECD annual inflation rate was stable at 1.8 per cent in October. Annual rates of inflation declined in the UK and Japan and remained stable in the US. Developments were mixed for the large emerging market economies, with inflation declining in India and China but increasing in Russia and Brazil. Indications of weaker commodity price pressures in view of

falling oil prices intensified through the closing weeks of last year. Risks to the medium-term outlook for global inflation depend also on how global growth materialises. A disinflationary trend in the euro area continues, driven by lower commodity prices, especially for energy, and the weaker-than-expected economic environment.

Box A: Enlargement of the euro area: adjustment of voting arrangements in the Governing Council of the European Central Bank (ECB)

Mary Keeney [1]

To ensure that the ECB will be able to continue to take decisions in an efficient manner, the Council of the European Union decided in 2003 to introduce a voting rotation system for the Governing Council of the ECB when the number of national central bank governors in the Governing Council exceeds 18. As the 19th member, the adoption of the euro by Lithuania has triggered the change in the voting rights. The rotation of voting rights is considered necessary as it will help maintain the effectiveness of the Governing Council's decision making ability even as the number of members of the Governing Council increases. The original decision allowed for one postponement (from more than 15 to more than 18 euro area countries) but this option has been used in 2008. No further postponement was possible.

The ECB system will be similar to the US Federal Open Market Committee's (FOMC) voting system, in that, it has 12 voting members, seven of whom are members of the Board of Governors and hold permanent voting rights, rather like the ECB's Executive Board members on the Governing Council. The President of the New York Fed has a permanent voting right, the Presidents of the Federal Reserve Banks of Chicago and Cleveland vote every other year and the Presidents of the other nine Federal Reserve Districts vote every third year. Unlike the Federal Reserve's yearly rotation, the voting rights for the members of the ECB's Governing Council rotate every month.

To apply the new rotation system, a ranking and group assignment was based on criteria of economic size of the overall economy and the specific relevance of the financial sector of the participating Member States. The share in the aggregate gross domestic product at market prices of the Member States in the euro area was given a 5/6th weighting. The share in the total aggregated balance sheet of the monetary financial institutions of the Member States in the euro area[2] was represented with a 1/6th weighting. The aggregate reference measure will be adjusted either every five years or when the number of euro member states changes.

Table 1: Rotational Voting at ECB Governing Council with 19 Governors

	Members	Number of Votes
6 Executive Board[3]	6	6
Group 1 Governors	5	4
Group 2 Governors	14	11
Governing Council	**25**	**21**

1 Monetary Policy Division

2 Calculated on the basis of the annual average of monthly average data over the most recent calendar year for which data are available. The total aggregated balance sheet of the MFIs of the member states would include the new entrant(s) relating to the most recent calendar year for which data are available (as there is no guarantee that the harmonised data on the total aggregate balance sheet of MFIs will be available for the same historical period as GDP data.)

3 The Executive Board has six members: the President, the Vice President and four other members who are nominated by a European procedure. NCB governors are appointed at the national level. Eurosystem NCB governors do not represent the interests of their country on the ECB Governing Council but are *ex officio* members in their capacity as independent experts.

Box A: Enlargement of the euro area: adjustment of voting arrangements in the Governing Council of the European Central Bank (ECB)
Mary Keeney

Based on the current ranking and as long as the number of governors does not exceed 21, the Governors from countries ranked first to fifth – Germany, France, Italy, Spain and the Netherlands – share four voting rights. All others (14 including Lithuania) share 11 voting rights. The Governors take turns using the rights on a monthly rotation. Group One will share five votes in rotation with one governor joining and another leaving at each monthly rotation. Group Two will share 11 votes in rotation. As Group Two will share 11 votes between 14 members, they will have a vote even less frequently than Group One (Table 1). As such, Group One and Group Two differ with respect to the frequency with which their governor-members have voting rights and the governors in Group One cannot have lower voting frequencies than those in Group Two.

On 18 September 2014, the ECB announced the first draw on the starting point of the voting rotations within the groups for forthcoming governing council meetings in 2015 and 2016.[4] The rotation, with only 15 governors voting, starts from January 2015 when the ECB moves its interest-rate setting meetings to a six weekly basis. The Spanish Central Bank Governor is the first to relinquish his voting right in Group One. The Estonian, Irish and Greek Central Bank Governors are the first to relinquish their voting rights in Group Two. On 1 February 2015 in Group One the Spanish Central Bank Governor will regain his voting right and the French Central Bank Governor will relinquish his. In Group Two, the Estonian Central Bank Governor will regain his voting right, while the Cypriot Central Bank Governor will relinquish hers.

To date		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Executive Board													
President	M. Draghi	V	V	V	V	V	V	V	V	V	V	V	V
Vice-President	V. Constâncio	V	V	V	V	V	V	V	V	V	V	V	V
Member	S. Lautenschläger	V	V	V	V	V	V	V	V	V	V	V	V
Member	B. Cœuré	V	V	V	V	V	V	V	V	V	V	V	V
Member	Y. Mersch	V	V	V	V	V	V	V	V	V	V	V	V
Member	P. Praet	V	V	V	V	V	V	V	V	V	V	V	V

2015		Jan	Feb*	Mar	Apr	May*	Jun	Jul	Aug*	Sep	Oct	Nov*	Dec
Group 1 – Governing Council Members													
Germany	J. Weidmann	V	V	V	V	X	V	V	V	V	X	V	V
Spain	L.M. Linde	X	V	V	V	V	X	V	V	V	V	X	V
France	C. Noyer	V	X	V	V	V	V	X	V	V	V	V	X
Italy	I. Visco	V	V	X	V	V	V	V	X	V	V	V	V
Netherlands	K. Knot	V	V	V	X	V	V	V	V	X	V	V	V

This table is listed by economic size

* Due to the 6-week scheduling of Governing Council meetings, there will be no monetary policy meeting held in February, May, August and November 2015 but other non-monetary policy meetings will be held.

4 The draw took place in the presence of all members of the Governing Council, with the Lithuanian Central Bank Governor as observer.

Box A: Enlargement of the euro area: adjustment of voting arrangements in the Governing Council of the European Central Bank (ECB)
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2015		Jan	Feb*	Mar	Apr	May*	Jun	Jul	Aug*	Sep	Oct	Nov*	Dec
Group 2 – Governing Council Members													
Belgium	L. Coene	V	V	V	V	V	V	V	V	V	V	V	X
Estonia	A. Hansson	X	V	V	V	V	V	V	V	V	V	V	V
Ireland	P. Honohan	X	X	V	V	V	V	V	V	V	V	V	V
Greece	Y. Stournaras	X	X	X	V	V	V	V	V	V	V	V	V
Cyprus	C. Georghadji	V	X	X	X	V	V	V	V	V	V	V	V
Lithuania	V. Vasiliauskas	V	V	X	X	X	V	V	V	V	V	V	V
Latvia	I. Rimšēvičs	V	V	V	X	X	X	V	V	V	V	V	V
Luxembourg	G. Reinesch	V	V	V	V	X	X	X	V	V	V	V	V
Malta	J. Bonnici	V	V	V	V	V	X	X	X	V	V	V	V
Austria	E. Nowotny	V	V	V	V	V	V	X	X	X	V	V	V
Portugal	C. Costa	V	V	V	V	V	V	V	X	X	X	V	V
Slovenia	B. Jazbec	V	V	V	V	V	V	V	V	X	X	X	V
Slovakia	J. Makúch	V	V	V	V	V	V	V	V	V	X	X	X
Finland	E. Liikanen	V	V	V	V	V	V	V	V	V	V	X	X

This group is listed in alphabetical order

* Due to the 6-week scheduling of Governing Council meetings, there will be no monetary policy meeting held in February, May, August and November 2015 but other non-monetary policy meetings will be held.

Looking forward, the rotation is set to become more complex once the monetary union exceeds 21 members as it will then be structured around three groups: the six-member executive board, which includes ECB president Mario Draghi, will still have a voting right at each meeting. As shown by Table 2, from the date on which the number of governors becomes 22, the governors will be allocated to three groups, based on the size of the economies. As before, the non-vote rotation within the third group shall start at a random point in the list. The first group will be composed of the five governors of the national central banks of the Member States with the biggest shares in the euro area total – presumably the same five countries as above. The second group will be composed of approximately half the total number of governors. Governors in this group will come from the national central banks of the Member States holding the subsequent positions in the country ordering based on the above economic criteria. The third group will be composed of all the other governors. Four voting rights will be retained by the first group, eight assigned to the second and the remaining three to the third group. Within each group, the governors will have their voting rights for equal amounts of time.

For illustrative purposes, if there were 27 euro area Member States, the voting frequency of the first group will be 80 per cent, that of the second 57 per cent and that of the third 38 per cent. It would mean that six governors are without a vote in this hypothetical instance but it is the smaller countries that are affected as more countries join the monetary union. The rotation rate will in this case be four (six governors without voting rights, minus two). The third group comprises eight governors, with three governors having a vote and five governors without a vote. In this case the rotation rate is three (3 in, 3 out) but five governors without voting rights move down the list of governors in that group, falling three positions at the end of every month.

Box A: Enlargement of the euro area: adjustment of voting arrangements in the Governing Council of the European Central Bank (ECB)

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Table 2: Incremental changes to Governing Council and rotation of votes

	First Group			Second Group			Third Group			
Total Number of Governors	Gov'rs	Votes	Voting Frequency	Gov'rs	Votes	Voting Frequency	Gov'rs	Votes	Voting Frequency	
19	5	4	80%	14	11	79%	n/a			Stage 1 1 Jan 2015
20	5	4	80%	15	11	73%				
21	5	4	80%	16	11	69%				
22*	5	4	80%	11	8	73%	6	3	50%	Stage 2
23	5	4	80%	12	8	67%	6	3	50%	
24	5	4	80%	12	8	67%	7	3	43%	
25	5	4	80%	13	8	62%	7	3	43%	
26	5	4	80%	13	8	62%	8	3	38%	
27	5	4	80%	14	8	57%	8	3	38%	

* Probably on adoption of euro by Slovakia

The idea behind the rotation is to maintain the effectiveness of the ECB's decision making even with an increased number of participants. Notwithstanding the new rotation system, all members of the Governing Council will attend the meetings and have the right to speak. In terms of the meeting discussion, nothing is expected to change.

The Irish Central Bank Governor will still partake in all discussions, even when he doesn't have a vote. Non-voters are still expected to present their arguments at every Governing Council meeting and thus to influence the decisions of the voting Governing Council members. The decision-making process will continue to follow the "one person one vote" principle[5] , but the majority will be computed from Governors with votes, should a vote be taken. The Governing Council mostly works by consensus, in a spirit of cooperation, and seldom needs to resort to a vote. Therefore, the decision-making process is not expected to change substantially.

5 In particular when taking monetary policy decisions, the Governing Council has normally acted by a simple majority of the votes cast by the members who are present in person with each member having one vote. The principle of 'one member, one vote' reflects the status of all the members of the Governing Council, including the governors of the NCBs of the Eurosystem, who are appointed in their personal capacity and not as representatives of their Member States. For some decisions on financial matters relating to the status of the NCB as shareholders of the capital of the ECB, the votes of the Governing Council are weighted according to the NCBs' share in the subscribed capital of the ECB. On such occasions the votes of the members of the Executive Board are zero-weighted.

Section 1: Euro Area

Economic Growth – Recent Developments

The euro area expanded by just 0.2 per cent in the third quarter of 2014, having expanded by 0.1 per cent in Q2 (Eurostat, 2014). Growth was held back by developments in Italy, Austria and Germany. A return to growth in France in the third quarter was driven primarily by government spending and inventories, suggesting that a renewed slowdown in Q4 is likely.

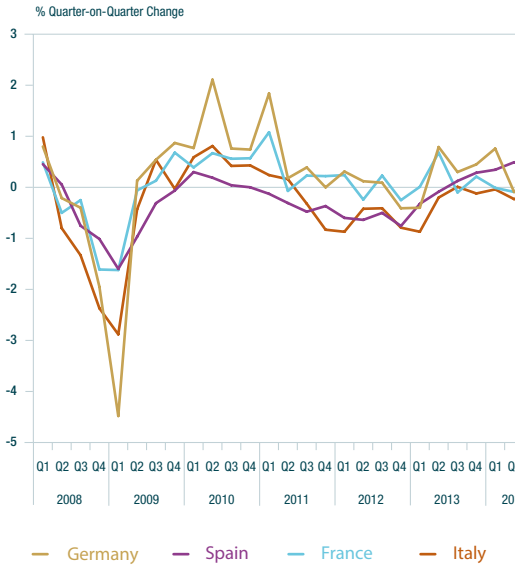
The breakdown by expenditure revealed that growth was fairly unbalanced. Consumer spending picked up during the course of 2014 and posted a sixth consecutive increase in Q3 of 0.5 per cent; its biggest quarterly gain since 2010. Coupled with a modest increase in government spending, this offset another fall in investment – significantly in Germany. The pick-up in consumer spending growth may not be sustained in the coming quarters against a backdrop of high (and no longer falling) unemployment and weak income growth. The contribution from net exports to GDP growth was broadly neutral in the latest quarterly data despite export growth weakening from 1.4 per cent in Q2 to 0.8 per cent in Q3, reflecting the prevailing muted world trade conditions. Import growth contributed positively to overall

Table 3: Growth in Expenditure Components of Euro Area GDP

	2013	2014		
	Q4	Q1	Q2	Q3
Consumption	0.1	0.2	0.3	0.5
Government	0.3	0.1	0.3	0.3
Investment	0.7	0.3	-0.6	0.2
Inventories	-0.3	0.1	-0.1	0.0
Exports	0.8	0.4	1.4	0.8
Imports	0.2	0.4	1.3	1.2
GDP	**0.2**	**0.3**	**0.1**	**0.2**

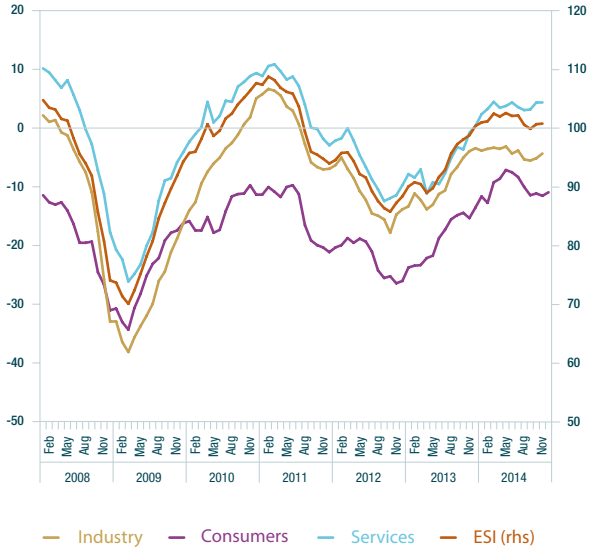
Source: Eurostat.

Chart 4: Euro Area GDP Growth



Source: Thomson Reuters Datastream.

Chart 5: Economic Sentiment Indicator & Selected Components



Source: European Commission.

GDP and was also related to the weak rate of investment.

Early data for the final quarter point towards a very modest Q4 increase in euro area GDP. However, seasonally-adjusted exports fell by 0.3 per cent and imports by 1.3 per cent against a background of weak world demand, in October 2014 compared with September 2014, Euro area industrial production data for October confirm that economic activity in Q4 started weak. The 0.1 per cent monthly rise in production was less than September's (downwardly-revised) 0.5 per cent increase. However, had it not been for a 9 per cent monthly surge in Irish industrial production, euro-zone production would probably have fallen on the month.

Looking forward, the industry surveys such as the manufacturing PMI continue to point to negative production growth, suggesting that industrial production could stall again in the months to come. The indication from the various business surveys is that, with the global environment highly uncertain, the positive impact of the weaker currency on both export prospects and investment intentions has so far been muted. Recent survey data continue to point to a slight pick-up in sentiment in the euro area, although the pace of improvement has decelerated somewhat. December's euro area PMI survey suggests that the euro area economy lost some steam in the final quarter of 2014. Although the composite PMI rose from November's 51.1 to 51.4 – below a consensus forecast of 51.5 – that only partially reversed the fall in the previous month and left an average reading in Q4 of 51.5 compared to an average reading of 52.8 for the third quarter.

The EU Commission's Economic Sentiment Indicator (ESI) also remained broadly stable, marginally above its long-term average, for the final quarter of 2014. Industrial confidence, in particular, has picked up recently and reflects a more positive assessment of the current levels of overall order books. However, euro area consumer confidence has been falling since mid-2014. This has been primarily impacted by a sharp fall in confidence in France and, more recently, Germany, reflecting worsening views regarding the future general economic situation, savings intentions and unemployment. At the same time, consumers' expectations of their household's financial situation remained broadly unchanged.

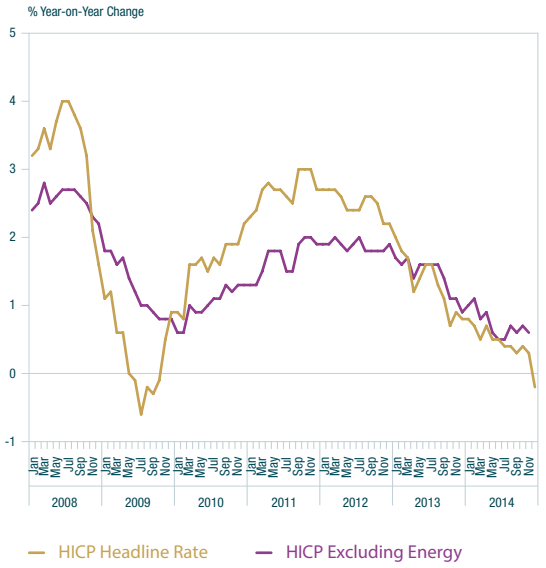
Euro area employment increased further by an annualised 0.2 per cent in Q3, while labour productivity per person employed increased by 0.4 per cent on an annual basis. The numbers unemployed decreased during 2014 in most countries, with the notable exceptions of Italy and Finland. However, due to a slight shrinking in the labour force, the unemployment rate has remained stable at 11.5 per cent since August 2014. Youth unemployment remains stubbornly high in the euro area, most notably in the southern periphery, while long-term unemployment also remains elevated.

Economic Growth – Outlook

After several downward revisions, euro area GDP growth is expected to remain low during the fourth quarter, with the pace of growth only likely to pick up towards the end of 2015. A gradual recovery in domestic demand is expected to be the only driver of growth as the year progresses. The drag on private consumption from high unemployment rates in some countries is expected to attenuate slowly, while ample spare capacity will continue to hold back investment spending. Demand from the euro area's main trading partners is expected to hold its current pace, allowing net exports to augment growth, albeit at a very modest rate.

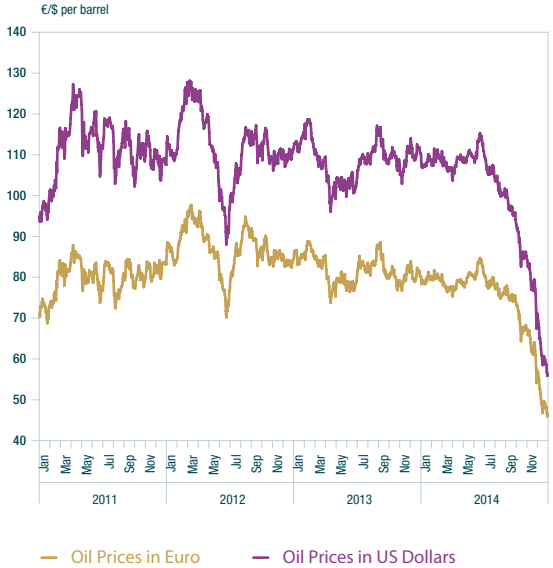
Looking ahead, a very accommodative monetary stance and fewer constraints on credit supply are expected to support a pick-up in investment. However, without a substantial increase in the contribution of net exports, machinery and equipment investment may not give the impetus required. Government consumption, having been fairly constrained over 2014 reflecting ongoing fiscal consolidation across the euro area, is expected to pick up slightly in 2015. Consumption is expected to gain most momentum as labour markets stabilise, fiscal tightening decreases and disposable income recovers further. Inflation is expected to remain low, supporting real incomes. Imports are expected to pick up

Chart 6: Euro Area Inflation



Source: Thomson Reuters Datastream.

Chart 7: Oil Prices – Brent Crude



Source: Thomson Reuters Datastream.

throughout the year in response to growing domestic demand with the effect that these could neutralise the growth contribution of exports, especially if these have high import content. The net trade position is not expected to contribute to GDP growth during 2015.

In their December *"Broad Macroeconomic Projections Exercise"*, ECB staff substantially revised their forecast for 2015 down to 1.0 per cent, while projecting 1.5 per cent growth in 2016. The risks to the forecasts are judged to be on the downside. In particular, external factors including a weaker outlook for exports reflect a lower pace of euro area foreign demand over the projection horizon. With the pace of potential output estimated to remain below 1 per cent for another two years, the output gap will close only slowly.

Inflation – Recent Developments

Headline year-on-year inflation in the euro area, which began trending downwards in late 2011, remained persistently low in 2014. Inflation fell below zero in December for the first time since 2009, declining to -0.2 per cent, down from 0.3 per cent in November. The decline in inflation was primarily driven by the energy component as a result of the sharp decline in oil prices that occurred towards the end of 2014. Inflation rates will fall further at the beginning of 2015, reflecting recent declines in oil prices. While lower food and energy prices account for a significant proportion of the decline in euro area inflation rates over the past two years, core inflation has also declined considerably. HICP excluding food and energy was 0.7 per cent in December 2014, the joint lowest this measure of core inflation has ever recorded. The two sub-components that make up this measure have continued to record relatively low readings. Non-energy industrial goods inflation was zero and services inflation was 1.2 per cent in December.

Both hard and soft data continue to indicate limited price pressures in the pipeline. Producer prices have been in negative territory for nineteen months. Producer price inflation (excluding construction) declined by 1.3 per cent year-on-year in October 2014. Regarding forward-looking survey indicators, both PMI input and output prices in the manufacturing

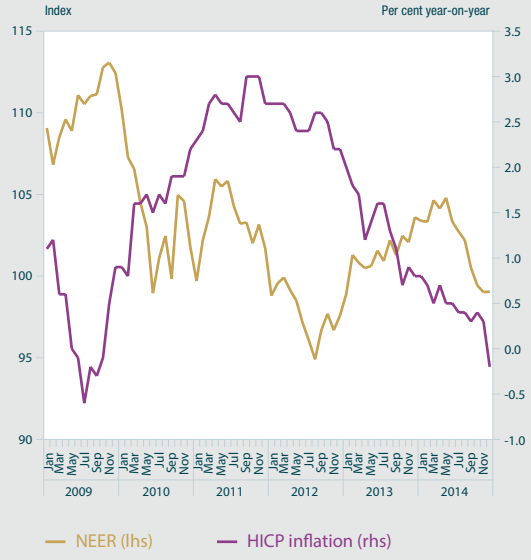
sector indicate falling prices, with a reading of 47.9 and 49.1 respectively in December 2014. Labour cost growth remained weak in the third quarter of 2014. Total hourly labour costs fell to 1.3 per cent year-on-year from 1.5 per cent in the second quarter. Meanwhile, unit labour costs increased marginally to 1.1 per cent, reflecting slightly lower compensation per employee and labour productivity growth.

Box B: Exchange rate pass-through in the euro area

By Mary Everett and John Larkin [1]

Exchange rates can have both direct and indirect effects on consumer prices. First, changes in exchange rates can feed directly into consumer prices via import prices. Second, they can feed into production costs and indirectly affect consumer prices. Third, by affecting the volume of trade and therefore output they can affect inflation via the Phillips curve. This Box presents empirical estimates of the exchange rate pass-through (ERPT) into producer and consumer prices in the euro area in both the short-run and long-run. While there are a number of different ways to address this question such as vector autoregressions (VARs), or through simulations of macroeconomic models, in this Box we apply one simple approach. The range of factors which affect the extent of ERPT is also discussed.

Box B Chart 1: Euro area nominal effective exchange rate and HICP Inflation, 2009 to 2014



The euro exchange rate has fluctuated considerably in recent years (Chart 1). Between July 2012 and March 2014 the nominal effective exchange rate (NEER) appreciated by close to 11 per cent. It subsequently depreciated by close to 6 per cent over the remainder of 2014. The downward trend in inflation, commencing in late 2012, may have been driven in part by the appreciation of the euro exchange rate. To estimate ERPT for the euro area the following specification is considered[2]:

Data source: Eurostat

1 Monetary Policy Division

2 The econometric specification and empirical approach follows that of Bailliu and Fujii, 2004; Campa and Goldberg, 2005; Campa and González Mínguez, 2006; and Bussiere, 2013.

Box B: Exchange rate pass-through in the euro area
By Mary Everett and John Larkin

$$\Delta prices_{it} = \beta_1 + \sum_{i=0}^{4} \beta_2 \Delta prices_{it-1} + \sum_{i=0}^{4} \beta_3 \Delta neer_{it-1} + \sum_{i=0}^{4} \beta_4 \Delta foreign_{jt-1} + \beta_5 \Delta domestic_{it} + \varepsilon_{ijt} \quad (1)$$

where $prices_t$ represents consumer prices and producer prices in country *i* at time *t* , *neer* is the nominal effective exchange rate, *foreign* captures the costs of the foreign exporter in country j approximated by the weighted average of foreign trading partner costs, *domestic* refers to domestic demand in the importer's economy measured by gross domestic product, and ε is the error term. The quarterly panel data for the eighteen euro area countries over the period 2002Q1 to 2014Q3 are sourced from Eurostat and the International Monetary Fund's International Financial Statistics.[3]

The results of estimating equation (1) in a euro area panel regression are presented in Table 1.

Table 1: Exchange rate pass-through to the euro area

	Consumer prices		Producer prices	
	Coefficient	*Standard error*	*Coefficient*	*Standard error*
Short-run	-0.06	(0.04)	-0.30***	(0.04)
Long-run	-0.85*	(0.03)	-0.71***	(0.05)

Notes: Robust standard errors are reported in parentheses. ***, **, * indicates significance at the 1%, 5% and 10% levels. The panel regressions contain both country and time fixed effects. The short-run is defined as one quarter, and the long-run is considered to be the sum of the coefficients on the contemporaneous exchange rate and its first four lags.

The results from the euro area panel regressions imply that in the short-run there is a negative but insignificant effect on consumer prices. In the long-run, the effect of the NEER on consumer prices increases considerably and is significant, suggesting that a change in the exchange rate has a lagged effect on consumer prices.

To examine whether these indirect effects are present in the euro area, the impact of an appreciation in the NEER on producer prices is also estimated. The results are presented in the second panel in Table 1, and indicate that an appreciation of the NEER leads to a significant reduction in euro area producer prices in the short-run, the magnitude of which increases in the long-run. This implies producer prices take time to adjust downwards following an exchange rate appreciation. Overall, these results imply that the lagged response of consumer prices to exchange rate movements may be due to indirect effects from producer prices.

There are a range of factors potentially impacting the extent of ERPT in the euro area following a change in the NEER. The relative demand for imports is important. ERPT can depend on the varying degree of openness to non-euro area imports, diversity in the composition of imports and the share of consumer goods that are imported. For example, a lower (higher) ERPT to consumer prices may reflect a relatively smaller (larger) proportion of energy and food in the consumption basket. Furthermore, a sharp and persistent exchange rate change can induce consumers to substitute domestic goods for relatively more expensive foreign goods or substitute foreign goods for relatively cheaper domestic goods. (Engel, 2003).

3 A range of robustness checks were conducted including alternative measures of *domestic* and *foreign* measured by the output gap and commodity prices, respectively, and similar results were found. Furthermore, the ERPT was also estimated in a VAR.

Box B: Exchange rate pass-through in the euro area
By Mary Everett and John Larkin

Second, foreign exporting firms' strategies are important. These firms may choose to maintain or increase their market share by not passing on exchange rate changes to prices in the domestic economy. The effect of ERPT on prices can also be explained by the pricing behaviour of exporting firms, by invoicing goods in the importing currency. In addition, exporting firms may not frequently amend their prices[4].

Finally, domestic wholesalers' behaviour is also important. As well as reflecting the price which wholesalers pay for imported goods, prices also reflect local distribution costs which will be less affected by changes in exchange rates (Campa and Goldberg, 2008). In addition, domestic wholesalers may have market share objectives, and may choose not to pass on the full effect of the exchange rate movement to consumers.

In summary, an exchange rate appreciation results in a reduction of consumer prices but this effect takes time to pass-through and is incomplete.

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4 Betts and Devereux, 1996; Devereux and Yetman, 2010.

Oil and other commodity prices

Oil prices declined markedly during the final quarter and have now been falling persistently since June, reaching the lowest levels since 2009. The decline has come against a backdrop of increased global supply and a depressed global outlook. During Q4, the spot price of a barrel of Brent crude oil declined by 38 per cent and 40 per cent in Euro and US Dollar terms respectively. Oil prices are currently in contango, a relatively infrequent occurrence where the futures price lies above the current spot price. The shape of the futures curve reflects the currently weak sentiment as well as the impact of elevated levels of supply, with US production currently at a 30-year high.

Inflation – Outlook

According to the December 2014 Eurosystem staff macroeconomic projections for the euro area, annual HICP inflation is expected to be 0.5 per cent in 2014, 0.7 per cent in 2015 and 1.3 per cent in 2016. These projections use oil price assumptions up to mid-November. They therefore do not take into account the sharp decline in oil prices that materialised after that date. Updating the forecasts with the latest developments in oil prices would lower the forecasts considerably, particularly for 2015.

Section 2: External Environment

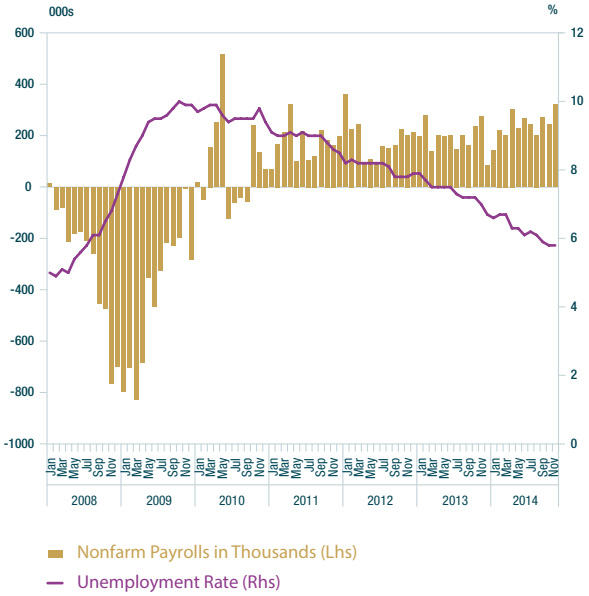
United States

For the United States, recent hard and survey data have been consistent with a robust recovery of overall economic activity. The third estimate of real GDP, released by the Bureau of Economic Analysis (BEA), indicated that US growth grew at an annualised rate of 5.0 per cent in the third quarter of 2014, higher than previously reported and slightly higher than the 4.6 per cent reported for the second quarter of 2014. The increase in real GDP primarily reflected positive contributions from personal consumption expenditures, government spending and net exports that were partly offset by a negative contribution from a change in private inventories. Both residential and non-residential investment also contributed positively.

The labour market has been improving, with better than expected non-farm payroll readings in the fourth quarter. The unemployment rate fell to 5.6 per cent in December having declined by 1.4 percentage points in the course of 2014. The housing market has also continued to show signs of buoyancy, with further increases in house prices and sales in recent months. Compared to September, the proportion of distressed sales declined to 9 per cent from 10 per cent in October, while cash buyers increased to 27 per cent from 24 per cent according to the National Association of Realtors.

Business survey indicators have remained positive with both the manufacturing PMI and non-manufacturing ISM remaining firmly in expansion territory. However, after enjoying especially strong economic growth over the second and third quarters, the PMI data suggest the US economy has moderated towards the end of the year. The composite PMI fell to 56.1, its lowest since April, suggesting annualised economic growth is likely to have slowed in the fourth quarter. Core capital goods orders, a key indicator of future investment, fell unexpectedly for a second month in October, a sign that the economy lost some momentum early in the fourth quarter. Consumer confidence indicators, which have been on an upward trend for much of the past year rose to a 7-year high in November suggests that the recent strong performance of retail sales will continue in December. U.S. retail sales rose by 0.7 per cent month-on-month in November, more than double the consensus estimate providing a clear indication that consumers are channeling the gains from lower energy prices into other categories of spending. Confidence is clearly being boosted by record high equity prices, the robust pace of job growth and the plunge in oil prices. This survey is consistent with annualised real consumption growth increasing further from the 2.2 per cent recorded in the third quarter.

Chart 8: US Labour Market



Source: Bureau of Labor Statistics, US Department of Labor.

Turning to price developments, the year-on-year gains in non-seasonally adjusted headline and core CPI were 1.7 per cent and 1.8 per cent, respectively in November 2014. With gasoline prices set to fall by around 6 per cent month-on-month in November, headline inflation is expected to be below 1.5 per cent by December. Private consumption expenditure (PCE) inflation also reflects these developments, as both headline and core PCE deflators have been registering annualised rates of close to 1.5 per cent since mid-2014. After its December meeting, the Federal Open Market Committee (FOMC) reaffirmed its view that the current 0 to 0.25 per cent target range for the federal funds rate remains appropriate and that it likely will be appropriate to maintain at this low level for a considerable time following the end of its asset purchase program last October, especially if projected inflation remains below the FOMC's 2 per cent longer-run goal.

The Federal Reserve's third-quarter financial accounts show that the pick-up in GDP growth over the past few quarters is not being driven by a renewed boom in credit. Further, non-financial businesses are not holding an excess of cash nor are they under-investing. The lack of any credit boom suggests that the stronger recovery is sustainable.

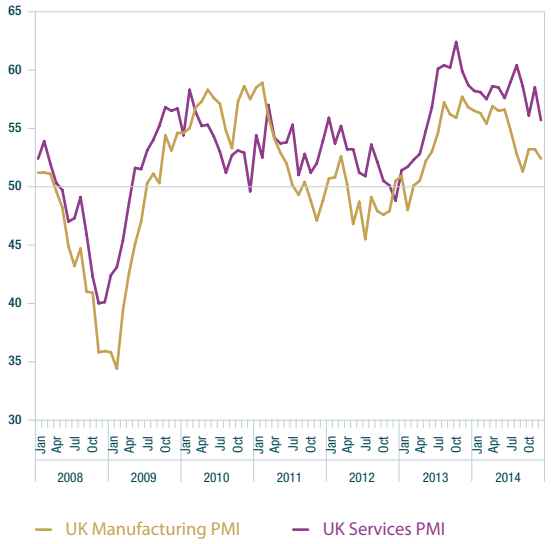
Looking forward, the on-going recovery is expected to lose some momentum to weaker external demand, a stronger dollar and less pronounced housing wealth effects. Lower oil prices will help sustain the upturn in domestic demand, supported by fading headwinds from fiscal policy and household balance sheet repair. According to the latest forecasts from the OECD (Table 1), real GDP is expected to show an outturn of 2.2 per cent for 2014 and expand by 3.1 per cent in 2015.

United Kingdom

According to the Office of National Statistics' most recent estimate, the UK economy grew by 0.7 per cent during the third quarter of 2014 compared with the previous quarter, representing the seventh consecutive quarter of growth. The expansion in economic activity was largely attributed to output in construction and services. Agricultural and industrial output also contributed positively to economic growth, reflected in increases of 0.5 per cent and 0.2 per cent, respectively.

The expansion in the labour market continued between August and October, with employment rising by 115,000, compared with the previous three months. The unemployment rate continued to improve gradually, falling by 0.2 percentage points to 6.0 per cent over the same period, which is the lowest level of unemployment since 2008. The annual increase in average UK house prices was 10.4 per cent in October, a decrease from 12.1 per cent in the year to September. The increases in UK house prices continue to be driven largely by increases in the property market in London of 17.2 per cent, and to a lesser degree in the East and South East. Exclusive of these regions, annual average UK property prices in the remainder of the UK rose by 6.7 per cent in the year to October (ONS, 2014).

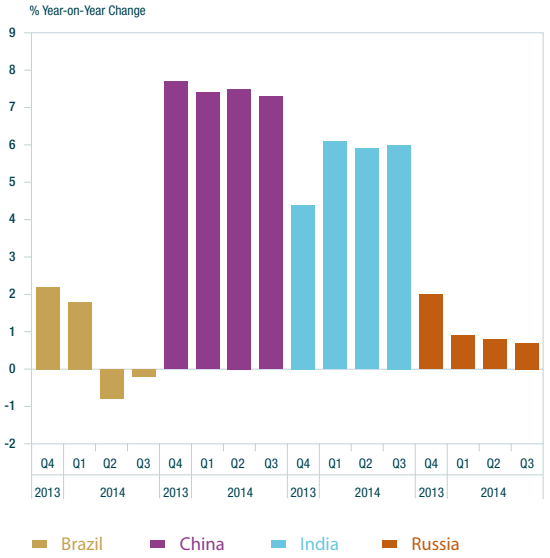
Chart 9: PMI Indicators for the UK



Source: Markit.

Note: For PMI indicators, above 50 represents expansion, below 50 represents contraction.

Chart 10: BRIC GDP Growth Rates



Source: Thomson Reuters Datastream.

Sentiment indicators relating to the fourth quarter of 2014 provide mixed signals. With regard to the outlook for growth, the manufacturing PMI was 53.5 in November up from 51.6 in August, the lowest level recorded for 2014. Moreover, the slowdown in new orders continued in October and November at 48.3 and 49.6, respectively. The PMI for services, however, continued to remain above its long-term trend of 55. Construction activity continued to retain its strong performance but has declined in recent months, falling from 67 in August to 57.2 in November. The OECD has forecasted UK GDP growth to be 3 per cent for 2014 as a whole, falling back to 2.7 per cent for 2015 (Table 1).

The consumer price index of annual inflation decreased from 1.3 per cent in October to 1 per cent in November. This is the lowest level of inflation growth since September 2002. The most significant contribution to the latest decrease in inflation was a decline in transport costs and the prices of alcohol, recreational and cultural goods. Decreases in air fares, which historically have put upward pressure on prices, and second-hand car prices also contributed to the decline. In the short-term inflation is expected to fall below 1 per cent due to the decline in oil and food prices. Inflationary pressure in the medium-term will depend on the persistence of these effects, as well as the appreciation of sterling and developments in wage growth.

No changes were made by the Bank of England's Monetary Policy Committee (MPC) to the bank rate during December, which continues to remain at 0.5 per cent. Two members of the MPC considered that the continued economic expansion and improvements in unemployment warranted an immediate rise in the bank rate. The MPC concluded that the current economic outlook did not justify a change in the bank rate or in the stock of asset purchases.

Japan

According to the Cabinet Office's second estimate, real GDP contracted by 0.5 per cent quarter-on-quarter, or 1.9 per cent on an

annualised basis during the third quarter of 2014.

The decline in output was primarily driven by a strong drop in inventories and a further contraction in both residential and non-residential investment. Private consumption returned to growth during the third quarter but remained subdued, while exports rebounded following the weakness that had prevailed since the second half of 2013.

Sentiment data relating to the fourth quarter point to a marginal expansion in output, reflected in slight increases in manufacturing and new orders. The manufacturing PMI was 52 in November, up from 51.7 in September. The external sector showed signs of improvement in October with new export orders of 53.3 before falling back to 51.8 in November. The OECD projects the GDP outturn will be 0.4 per cent for 2014 and 0.8 per cent for 2015 (Table 1).

CPI inflation continues to slow and dropped to 2.4% in November from 2.9% in October. According to the Bank of Japan full passthrough of the consumption tax increase in April would boost inflation by 2.1 percentage points.

The monetary base grew by 36.7 per cent on an annualised basis in November, the second smallest expansion in 2014. At its November meeting, the Bank of Japan left monetary policy unchanged. It was considered appropriate to expand the existing framework for money market operations to enlarge the monetary base at an annual pace of about 80 trillion yen up from ¥60–70 trillion, and continue its quantitative and qualitative monetary easing in order to achieve the price stability target of 2 per cent.

BRIC Economies

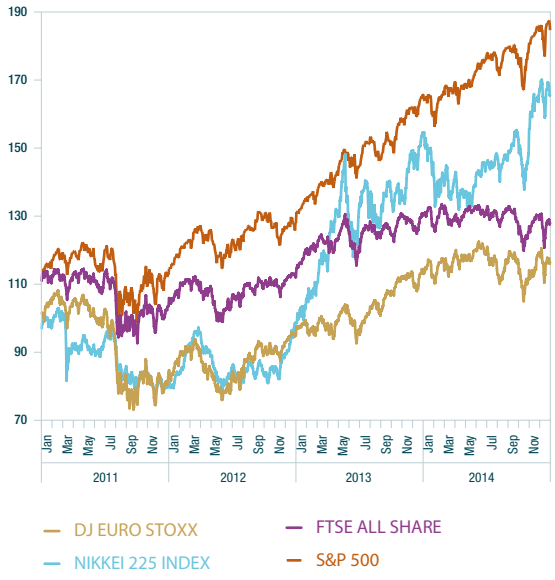
The outlook for emerging markets continued to diverge during the third quarter of 2014 due to rising geopolitical uncertainty and upward inflationary pressures in some countries, and stronger economic growth in others. According to the OECD, growth in BRIC economies is likely to be an average of 3.3 per cent in 2014, before increasing to 3.8 per cent in 2015.

In Brazil, real GDP growth continued to decline but at a slower pace, it fell from -0.8 per cent in the second quarter to -0.2 per cent in the third quarter of 2014. Inflation marginally declined in November to 6.5 per cent, down from 6.6 per cent in October, and was mainly due to food items and housing costs. Nonetheless, inflation remains above the Central Bank of Brazil's inflation target of 4.5 per cent. The main policy rate of the central bank, the selic, was increased by 50 basis points to 11.75 per cent in December.

In India GDP growth registered 6 per cent year-on-year in the third quarter of 2014, an increase from 5.9 per cent in the previous quarter. Economic growth in the services sector continued to provide the greatest contribution to output in the third quarter. The balance on the current account decreased in the third quarter to a deficit of 2.1 per cent of GDP, up from 1.2 per cent of GDP in the third quarter of 2013. The expansion in the deficit was driven by lower export growth and an increase in imports. Inflation, as measured by the wholesale price index, remained unchanged at 0 per cent in November, due to falling fuel prices and lower food costs. At its December meeting the Reserve Bank of India maintained its key interest rate at 8 per cent. The cash reserve ratio was kept unchanged at 4 per cent, as was the marginal standing facility at 9 per cent.

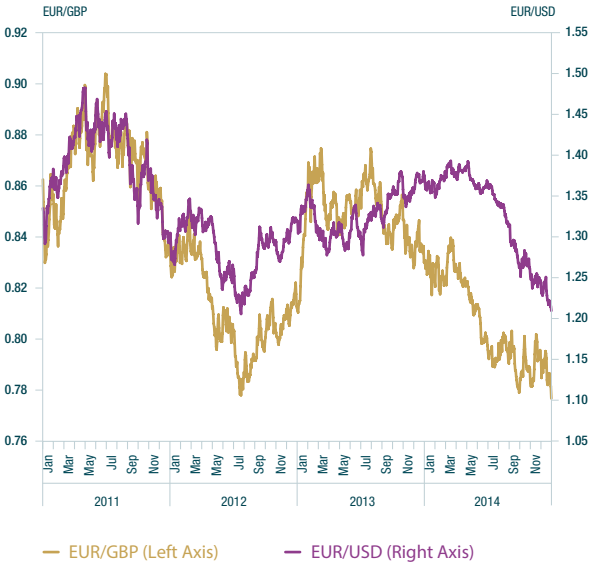
In China real GDP growth decreased from 7.5 per cent in the second quarter to 7.3 per cent in the third quarter of 2014, which reflected a decline in credit growth, lower investment in housing stock and slower industrial production. Both manufacturing and services PMI data relating to the fourth quarter point towards a slowdown of the economy, amounting to 50 and 53, respectively in November. New export orders during the fourth quarter were above the threshold of 50, indicating an expected improvement. At end-November annual credit and loan growth in local currency increased by 13.4 per cent, a marginal increase of 0.2

Chart 11: International Share Price Indices (end-December 2009 = 100)



Source: Thomson Reuters Datastream.

Chart 12: Euro Exchange Rates



Source: Thomson Reuters Datastream.

percentage points from the previous month, and a decline of 1.8 percentage points from the corresponding month last year. Consumer prices slowed to 1.4 per cent year-on-year in November the lowest level since January 2010 and remains below the People's Bank of China target of 3.5 per cent. The increase was driven primarily by food prices, in particular eggs and fresh fruit. In November the Peoples' Bank of China cuts its benchmark loan and deposit rate by 0.40 and 0.25 percentage points to 5.6 and 2.75 per cent, respectively.

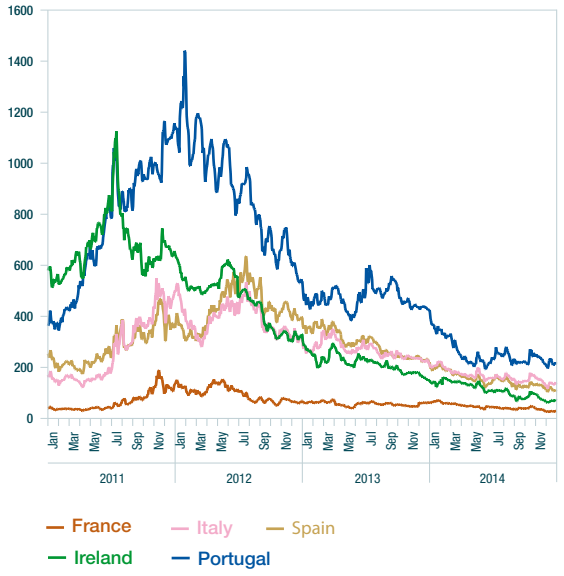
According to the Federal State Statistics' Service, Russian GDP grew by 0.7 per cent in the third quarter of 2014, continuing the decline in economic output. Annual CPI inflation rose from 9.1 per cent in November to 11.4 per cent in December. US and EU financial sanctions on Russia have increased domestic demand for foreign currencies which has led to a sharp depreciation of the rouble. In light of these risks the Bank of Russia increased its key rate by 1.75 percentage points to 17 per cent on December 16th.

Section 3: Financial Market Developments

The final quarter of 2014 saw elevated levels of volatility on display in financial markets. The past two years had seen relatively benign conditions prevail but increased concerns about global demand resulted in heightened instability during early October and again in December, with the commonly used VIX measure of volatility reaching levels not seen since mid-2012. The uncertainty across markets was driven by disappointing data releases, sluggish global demand and falling oil prices. This uncertain outlook resulted in further price increases for perceived safe-haven assets, with historically low yields being reached in sovereign debt markets.

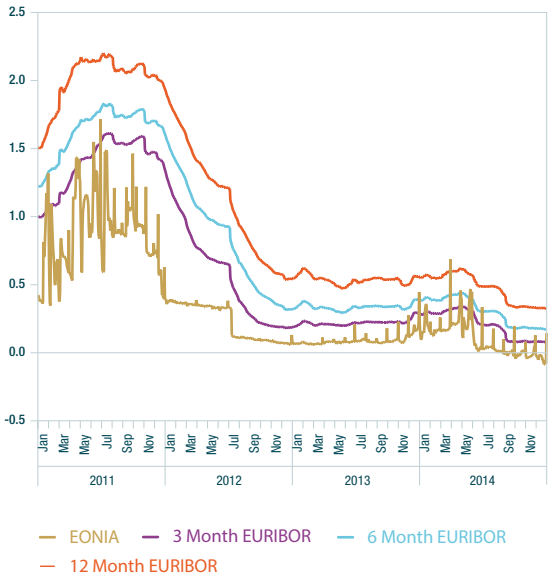
In the euro area, market expectations of a large scale asset purchase program by the ECB increased on the back of persistently low inflation and growth figures, as well as a comments by ECB President Mario Draghi that the size and composition of asset purchases would be adjusted should currently announced policies prove insufficient. Inflation figures also fell in the UK, causing a delay in expectations

Chart 13: Selected Euro Area 10-Year Sovereign Bond Yield Spreads over Germany (bps)



Source: Thomson Reuters Datastream.

Chart 14: Selected Euro Area Money Market Interest Rates



Source: Thomson Reuters Datastream.

of the first rate rise by the Bank of England while equity markets remained relatively stable over the period. Meanwhile in Japan, debt and equity markets were boosted by acceleration in the Bank of Japan's Quantitative and Qualitative Easing (QQE) programme while in the US there was a muted reaction to the FOMC's announcement of an end to its asset purchase programme. On currency markets, attention focused on the depreciation of the Russian Rouble and expectations of future monetary policy actions. Over the period, the Euro depreciated against its main trading currencies while euro area money markets rates fell across a range of maturities.

Equity Markets

There was mixed performance in equity markets across developed markets, with increased uncertainty about global growth prospects playing a central role. Of the major indices, the strongest returns were on the Nikkei 225 Index, which rose by 7.8 per cent between the end of September and year-end. This followed the Bank of Japan's announcement on the last day of October that it would considerably expand its asset purchases in the face of declining inflationary pressures, with an increase of ¥10 trillion in the targeted annual enlargement of the monetary base. Further disappointing data releases on growth and inflation influenced equity performance in the euro area, with the DJ Euro Stoxx falling by one per cent over the period under review. In the US, the FOMC's announcement regarding the cessation of asset purchases had been broadly anticipated while there were positive data on the labour market and GDP growth. Overall, the S&P 500 index increased slightly and was up close to 1 per cent over the final quarter.

Foreign Currency Developments

Between the end of September and year-end, the Euro's nominal effective exchange rate depreciated marginally by 0.2 per cent. In terms of bilateral movements against major trading currencies, the Euro depreciated by 4.2 per cent and 0.2 per cent against the US Dollar and UK Pound Sterling respectively. The Euro's weakness was driven by continued expectations of further monetary policy easing.

The considerable depreciation of the Russian Rouble against its main trading currencies was the most significant development in currency

markets during the period under review. Following a persistent period of devaluation, the Russian Central Bank announced in early November that it would no longer routinely intervene in currency markets or maintain a dual currency band. While this announcement was successful in stabilising the currency for a period, the downward pressure returned and by mid-December, the Russian Central Bank increased the main policy rate by 6.5% in an effort to prevent further depreciation while market interventions returned as a policy tool. Over the quarter as a whole, the Rouble depreciated by 30 per cent against the US Dollar.

Sovereign Debt Markets

The deteriorating global outlook placed downward pressure on safe-haven asset yields during the final quarter of 2014. An extreme period of intraday volatility was also witnessed in the US during the period under review, with yields falling by 37 basis points on October 15 before swiftly reverting, underlining the current sensitivity of markets. In the euro area, yields on German sovereign debt continued to decline since the end of September and regularly reached historical lows. The ECB announcement of an explicit nominal balance sheet target size played a role in reducing yields, with expectations among some market participants that purchases of sovereign assets may commence in 2015. Yields in stressed euro area countries briefly rose in October, reflecting both uncertainty about the global outlook and country – specific concerns. Yields have since fallen and, when looking at the period as a whole, spreads against the German benchmark yield have narrowed. The exception to this trend was Greece, where increasing political uncertainty resulted in a sharp climb in yields over the final quarter.

Money Markets

Euro area money market rates declined during the final quarter of 2014. Rates had fallen in September following the Governing Council's decision to reduce policy rates and volatility has remained low since then, with rates falling across the maturity spectrum. The decline in excess liquidity in late October caused a minor increase in EONIA, after which it continued its earlier downward trend. Overall, the average EONIA rate was negative during the final quarter for the first time in history at -0.02 per cent. Average rates also fell across the 3, 6 and 12 month maturities by 8, 9 and 11 basis points respectively.

Signed Articles

The articles in this section are in the series of signed articles on monetary and general economic topics introduced in the autumn 1969 issue of the Bank's Bulletin. Any views expressed in these articles are not necessarily those held by the Bank and are the personal responsibility of the author.

The Financial Position of Irish Households

Martina Lawless, Reamonn Lydon and Tara McIndoe-Calder[1]

Abstract

This paper introduces a novel dataset on households' income, assets and debts in Ireland: the Household Finance and Consumption Survey (HFCS). The HFCS is an invaluable resource for policy makers, allowing for household-level analysis of the composition of wealth and debt, leverage and the debt-service burden. Highlights include: the household main residence accounts for the majority of most households' gross wealth (48 per cent on average); financial assets account for a much smaller proportion of gross wealth on average (13 per cent); more than half of households hold some form of debt, with mortgage indebtedness proving to be a particularly heavy burden for younger cohorts; however, the mortgage repayment burden is more evenly spread across the age distribution, with younger borrowers benefiting from low interest rates and long mortgage terms; the median value of net wealth is €105,000, in line with other Euro area countries (€109,000); the top 20 per cent of households hold 70 per cent of net assets – again, similar to the Euro area as whole; in Ireland, the concentration of wealth at the top end of the distribution is driven by two factors: larger holdings of real assets and relatively smaller holdings of debt.

1 The authors work in the Irish Economic Analysis Division of the Central Bank of Ireland. The views expressed in this article are solely those of the authors and are not necessarily those held by the Central Bank of Ireland or the ESCB. The authors thanks John Flynn, Gerard O'Reilly, Stefan Gerlach and Gabriel Fagan for helpful comments. We are particularly grateful to Paul Crowley and Gerard Reilly at the Central Statistics Office for constructing and running the survey, as well as putting together the dataset.

1. Introduction

In Ireland, the household sector has had to cope with significant losses in income and wealth since the beginning of the financial crisis. However, the losses and associated stresses are not evenly spread and the available data sources contain very limited information on the distribution of assets and liabilities across household types. The Household Finance and Consumption Survey (HFCS) was carried out in Ireland during 2013 to provide information to fill in some of these knowledge gaps. The Irish survey was undertaken as part of the Central Bank's and CSO's participation in the Household Finance and Consumption Network (HFCN) within the European System of Central Banks. Amongst other things, the HFCN research network coordinates the carrying out of a household survey across the euro area, with a view to creating comparable cross-country datasets for research.

The motivation for the HFCS is to provide micro-level data on euro area households' finances. The aim of the survey is to collect data on the distribution of assets and liabilities across households, to gather information on the importance of various wealth components and the types and extent of debt and the burden of debt service at the household level. These data allow important insights into the economic behaviour of households, and can be used to look at a broad range of issues, in particular how macro-financial linkages affect real economic outcomes. The sorts of issues which can be addressed with this data include the following: the response of consumption to wealth and income shocks (Carroll et al., 2014); labour supply responses to wealth, credit and the debt-burden (Disney and Gathergood, 2013; Daly et al., 2009); households' risk preferences and portfolio allocation (Ampudia and Ehrmann, 2014; and Kick et al., 2014); the role of institutions and policy in debt accumulation (Bover at al., 2014); household savings behaviour (Honkkila and Kavonius, 2013); and, the impact on disposable income of changes in policy rates across the debt distribution. The broad cross-section of households at different stages of the life-cycle available in the dataset should allow analysis of quasi-dynamic questions as well as distributional issues.

Prior to the collection of the HFCS data, there was no unique source of data in Ireland combining details of household composition, incomes, assets, debts and other financial decisions. Existing household-level survey data, such as the Survey on Income and Living Conditions and the Household Budget Survey, contain detailed information on income and expenditure patterns but are limited in their coverage of information on stocks of household assets and liabilities. Previous work on the distribution of the wealth of Irish households is therefore extremely limited, with some exceptions such as Honohan and Nolan (1993), or focussed on a subgroup of the population such as the over-55 age group (the TILDA survey in O'Sullivan, Nolan, Barrett and Dooley, 2014).

Furthermore, the financial crisis has shown how the dynamics of many economic aggregates, such as household balance sheets, consumption, financial stress and responses to over-indebtedness, are determined not only by overall macroeconomic variables, but also by household-specific characteristics. These household-specific factors are often not apparent in aggregate statistics, and as such the impact of shocks, policies and institutional changes on various groups of individuals can only be evaluated with household-level data. In short, without such micro-data it is simply not possible to accurately quantify the size and importance of these effects.

For many households, the bulk of assets consist of real estate, and mortgages constitute their largest liability. Consequently, they can be substantially affected by fluctuations in house prices or interest rates. Household-level data are essential for investigating how specific groups of the population react to such shocks. However, the risk exposure of the household sector cannot be accurately assessed by looking

at aggregate household balance sheet data alone, which tell us very little about where precisely the vulnerabilities are. For example, loan and borrower characteristics are important determinants of debt sustainability as shown in Lydon and McCarthy (2013). However, the focus of the Lydon and McCarthy study was a rather narrow one, looking solely at the debt sustainability of households with a mortgage only (33 per cent of households). Clearly not all households have (mortgage) debt, therefore micro data that allows us to analyse the behaviour and outcomes of all households, whilst controlling for a rich set of characteristics, has much to offer.

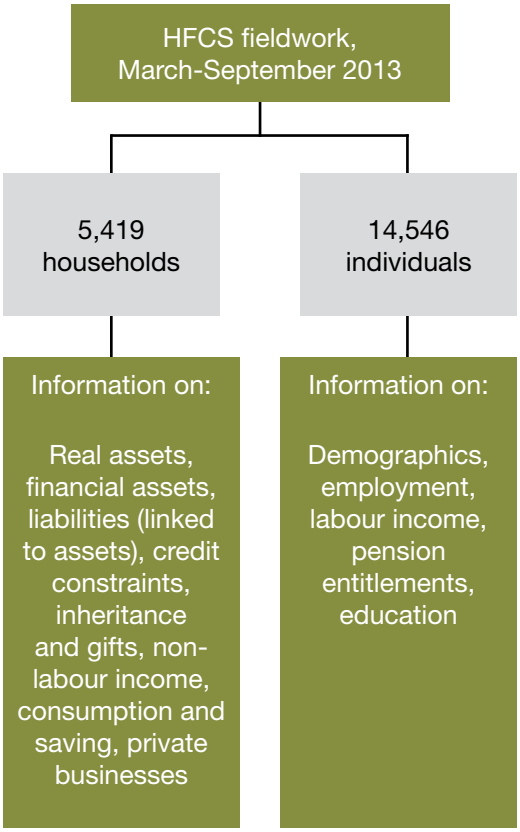
This paper presents an initial overview of the patterns of asset and liability holdings of Irish households from this new source, focusing on broad distributions across income, wealth and age bands. We also provide some comparison to results from the other HFC surveys carried out across the euro area. Behind the results, the survey contains more comprehensive breakdowns of assets, liabilities, income and household characteristics. However, we leave analysis of detailed breakdowns of wealth components to further work, with this paper highlighting the broader patterns and drawing particular attention to the contribution of housing assets and debts in the typical Irish household's portfolio. The scope for further research using this data in a number of crucial policy areas is discussed in the conclusion.

The paper is organised as follows. Section 2 introduces the survey dataset and some summary statistics on household characteristics. Section 3 presents results on asset participation and median asset values, followed by Section 4 which does the same for debts. Section 5 looks in more depth at the extent of the debt burden on different household types. Section 6 then combines the asset and liability results to calculate net household wealth and presents comparisons of the distribution of wealth in Ireland relative to other euro area countries. Section 7 concludes.

2. Survey Description

The main aim of the survey is to gather micro-level, structural information on households' assets and liabilities. In order to adequately capture and analyse economic decisions of households, some additional information is collected (e.g. on income, consumption, employment etc.). The questionnaire consists of a module relating to individuals and a module relating to households, as illustrated below.

Layout of the survey



The survey's interview phase was carried out between March and October 2013. For the comparisons with results from other countries, as shown later in this paper, it is important to point out that the Irish survey lags surveys carried out in other countries by two to three

Table 2.1: Household structure[3]

	Ireland % hhlds	Eurosystem % hhlds
Total	100	100
Household size		
1	22.6	31.6
2	30.3	32.1
3	17.9	16.6
4	16.9	14.1
5 and more	12.4	5.6
Housing status		
Owner-outright	36.6	40.7
Owner with mortgage	33.9	19.4
Renter or other	29.5	39.9
Age of reference person		
18-34	20.1	15.7
35-44	23.7	19.6
45-54	19.3	19.9
55-64	16.3	17.1
65-74	11.9	14.5
75+	8.6	13.2
Work status of reference person		
Employee	44.8	47.9
Self-employed	9.1	9.0
Retired	18.4	31.7
Other not working	27.7	10.7
Education of reference person		
Primary or No education	12.5	34.3
Secondary	53.8	41.3
Tertiary	33.8	24.4

Notes: Eurosystem sourced from ECB (2013).

years. The sampling design involved selecting small areas based on information from the 2011 Census of Population, with oversampling of the most affluent areas.[2] The response rate was in the order of 50 per cent, resulting in a final sample size of 5,419 households.

The information from the survey responses has been validated against external data sources. However, survey data is somewhat prone to recall errors and these tend to affect aggregated items such as financial assets to a greater extent than once-off large transactions such as house purchases according to Kennickell and Starr-McCluer (1997). Questions on fluctuating amounts, such as current account or credit card balances may also be sensitive to the time horizon of the questioning.

Table 2.1 shows some average characteristics of the households in the survey and compares the distribution of characteristics in Ireland to the euro area averages. Household size in Ireland is somewhat larger than elsewhere in Europe, with fewer one-person households (22.6 per cent of Irish households compared to 31.6 per cent in Europe). Households

2 Population weights to adjust for the oversampling are used in all the tables presented in this paper.

3 Unless otherwise indicated, the source for all tables and charts in this paper are the authors' calculations using the Household Finance and Consumption Survey for Ireland, 2013.

with five or more people, on the other hand, are significantly more common in Ireland accounting for 12.4 per cent of households relative to less than half that in the rest of Europe.

Irish households are also notably younger, with 20.1 per cent having the main reference person aged between 18 and 34 and 23.7 per cent aged between 35 and 44 (compared to 15.7 per cent and 19.6 per cent respectively in the euro area). Conversely, Irish households are considerably less frequent at the top end of the age distribution (75 and over) relative to elsewhere. These differences in age distribution also generate differences in labour market status with the percentage of households with a retired reference person being more than ten percentage points lower in Ireland than the European average.

Anticipating some of the results of the asset holding section, the summary statistics show that Irish households are more likely to be home-owners (particularly with a mortgage) with the share of renters under 30 per cent of households relative to almost 40 per cent in the rest of the euro area.

3. Ownership and Value of Household Assets

This section examines the rate of household participation in assets, that is, what proportion of households has a given type of assets. We also present estimates of the median value of certain assets, according to household characteristics. Unless otherwise stated, assets values are conditional on having that asset, i.e. zero values are excluded. The median value separates the higher half of the value distribution from the lower half: 50 per cent of households who have the asset in question have values above or below this level. We use median as opposed to mean values as certain asset categories have very long tails; that is, there are some very high or very low values, which tends to skew the representativeness of the mean.

Assets are divided into two broad categories - real and financial. We then subdivide real assets into the household main residence (HMR), other residential property, non-residential property (mainly farmland or business premises) and other real assets (for example vehicles and valuables, such as jewellery or antiques).[4] Financial assets are also subdivided into deposit accounts (current and savings accounts at financial institutions) and other financial assets (including shares, pension funds and business values).[5]

In presenting the results, we look first at the percentage of households in the country that own any of the different types of asset, regardless of value. Table 3.1 presents results on these participation rates, both overall and by household characteristics. Most households possess some type of real and financial assets (95.3 per cent ownership of real assets and 89.9 per cent ownership of financial assets). On the real asset side, these participation rates are driven by ownership of the household's main residence and other real assets, with over 70 per cent of households owning their HMR (either outright or with a mortgage) and 91.9 per cent having some type of other real asset. Possession of a deposit account dominates the financial assets category (88.6 per cent of households). Ownership of other residential or non-residential property is rarer, with slightly over 10 per cent of households reporting participation in each of these categories. Financial assets other than deposit accounts are owned by 27.9 percent of households.

Households owning their main residence outright (i.e. without any mortgage) are also the most likely to own other non-residential property. Not surprisingly, renters are the least likely to own any type of property, although approximately 4 per cent of this group do own another residential property that is not where they currently live. Renters have the lowest

4 We refer to the Household Main Residence (HMR) throughout the paper. This terminology should be treated as interchangeable with Principal Dwelling House (PDH) commonly used in the mortgage literature.

5 It should be noted that pension data relates to voluntary pensions where a fund balance was available and does not cover occupational or state pensions where no fund balance is directly available.

Table 3.1: Participation in real and financial assets, by characteristic (percentage of households, 'HRP'=household reference person)

	Any real assets	HMR	Other res prop	Other non-res prop	Other Real Assets	Any Financial Assets	Deposits	Other Financial Assets
Total	95.3	70.5	10.2	10.8	91.9	89.8	88.6	27.9
Housing status								
Owner-outright	100.0	100.0	11.9	20.6	92.4	93.5	92.9	29.1
Owner-with mortgage	100.0	100.0	13.9	8.5	98.3	91.7	89.6	35.0
Renter or other	84.0	0.0	3.9	1.4	83.8	83.2	82.2	18.2
%tile of (gross) income								
less than 20	87.9	59.9	2.9	9.9	78.2	81.4	79.7	15.6
20-39	93.1	56.7	2.5	11.3	89.2	83.1	82.1	15.1
40-59	96.4	67.8	7.8	10.2	94.8	91.4	90.4	21.5
60-79	99.2	79.3	11.7	11.8	97.4	95.7	94.4	32.3
80-100	99.8	88.8	26.2	10.9	99.6	97.6	96.4	54.7
%tile of net wealth								
less than 20	80.2	43.8	6.8	0.5	79.1	77.5	75.8	16.0
20-39	96.5	22.8	1.9	0.2	95.5	89.3	88.6	20.3
40-59	99.9	90.3	6.3	4.1	90.1	90.2	89.1	20.5
60-79	99.8	97.5	9.9	10.3	95.9	95.8	94.9	29.2
80-100	100.0	98.1	26.3	39.1	98.6	96.4	94.6	53.3
Age of HRP								
18-34	92.3	30.2	4.3	2.4	92.0	90.6	89.6	23.8
35-44	95.6	65.7	12.9	6.9	95.2	89.7	88.4	30.1
45-54	96.3	81.3	13.9	12.6	93.2	87.4	85.3	31.6
55-64	95.9	88.3	11.5	15.7	92.5	88.9	88.0	31.8
65-74	96.8	90.9	10.2	20.2	92.7	92.1	91.2	25.5
75+	95.8	91.3	6.0	15.2	76.7	92.5	92.0	18.5
Work status HRP								
Employee	97.2	66.9	11.8	6.8	96.0	95.0	94.1	31.3
Self-employed	100.0	87.4	18.7	34.7	99.6	94.6	91.6	50.8
Retired	96.2	91.1	9.3	12.8	86.4	93.5	92.9	24.4
Other not working	90.0	56.9	5.5	8.3	86.2	79.5	75.9	17.1

participation rates in other real assets and in both types of financial assets, which would be consistent with this group having lower incomes and being on average younger than home-owners.

The age of the household reference person and the total income of household members are major factors associated with ownership of all asset types. The second and third panels of Table 3.1 divide household gross income and household net wealth[6] into five groups (quintiles) by splitting the income or wealth of households in the survey into equally sized tranches so that households in the first group have up to just under 20 per cent of total income, the second group have between 20 and 40 per cent of income and so on.

6 Net wealth = total assets minus total liabilities.

As would be expected, both income and wealth percentiles have a clear positive relationship with ownership of all asset types. The strength of the association, however, varies across asset classes. The more commonly owned assets such as other real assets and deposit accounts are owned by almost all households in the highest income and wealthiest percentiles but they are also owned by close to 80 per cent of households in the lowest percentile groups. On the other hand, participation in other residential property is quite rare amongst lower income (and wealth) households, ranging from 2.9 per cent for the lowest income group to 11.7 per cent for the second highest group. The highest income group are more than twice as likely to own other residential property as the second-highest group and the same pattern applies to the wealth groups.

Ownership of other non-residential property is quite evenly spread across income groups relative to other residential property. This is likely to reflect asset values of farmland in particular that may not be generating much income in many cases. This gives an example of where there may be a lack of perfect correlation between income and wealth, an issue that we will return to later in the paper.

Figure 3.1 plots the relationship between income groupings (divided into ten groups or 'deciles') and the rates of ownership of different assets. The upward relationship is evident for most asset types but is steepest for ownership of other financial assets, which are relatively rare amongst the lowest income households but are owned by a majority of the highest-income group. Ownership of 'other non-residential property' is not increasing in income. For the vast majority of these households (over 85 per cent), the other non-residential property asset is a farm.

As income from both employment and self-employment, on average, tends to increase with age and assets tend to be accumulated

Figure 3.1: Participation in real and financial assets, by income

Source: HFCS (2013).

over time, a significant relationship is to be expected between the age of the household's main respondent and ownership of assets. For the oldest age group, a running down of assets following retirement would also be expected. This pattern is evident in the survey across almost all asset types. Although the relationship with age is not particularly strong for overall real and financial assets, this is mainly due to the high levels of ownership of deposit accounts and other real assets. For the three property classes, however, we do observe higher participation rates as age increases, with a slight reversal in the oldest age group. Of the youngest households (main respondent between 18 to 34 years), 30.3 per cent own their HMR and 4.3 per cent own some other residential property. These participation rates increase to 88.3 per cent and 11.5 per cent respectively for households aged between 55 and 64 years.

Comparing the results of the Irish survey to those from other euro area countries in Table 3.2 shows the central position of home

Table 3.2: Participation in real and financial assets, cross-country comparison

	Any real assets	HMR	Any Financial Assets	Deposits
Ireland (2013)	**95.5**	**70.5**	**89.8**	**88.6**
Euro area (wave 1)	91.1	60.1	96.8	96.4
Belgium (2010)	89.8	69.6	98.0	97.7
Germany (2010)	80.2	44.2	99.3	99.0
Greece (2009)	92.2	72.4	74.5	73.4
Spain (2008)	95.3	82.7	98.3	98.1
France (2010)	100	55.3	99.6	99.6
Italy (2010)	97.7	68.7	92.0	91.8
Cyprus (2010)	95.8	76.7	87.9	81.2
Luxembourg (2010)	93.6	67.1	98.4	98.0
Malta (2010)	94.8	77.7	97.2	96.9
Netherlands (2009)	89.8	57.1	97.8	94.2
Austria (2010)	84.8	47.7	99.5	99.4
Portugal (2010)	90.1	71.5	94.5	94.3
Slovenia (2010)	96.2	81.8	93.9	93.6
Slovakia (2010)	96.0	89.9	91.7	91.2
Finland (2009)	84.3	67.8	100.0	100.0

ownership in distinguishing the balance sheets of Irish households from those of households elsewhere. In making these comparisons, the different dates at which the surveys were carried out in different countries should be noted. Household ownership of their main residence is ten percentage points higher in Ireland than the euro area average. Home ownership appears to be the largest source of variation on the asset side of the household balance sheet across countries, ranging from 44 per cent in Germany to close to 90 per cent in Slovakia. Conversely from the high real asset ownership, particularly housing, of Irish households, the participation rate in financial assets is noticeably lower than the euro area average with 89.8 per cent of Irish households having some financial assets, relative to 96.8 per cent across the rest of the euro area.

Ownership of all asset types becomes more common as household income increases in Figure 3.1. The same is broadly true of the relationship between income and the median values of the assets for the households that own them, as shown in Figure 3.2a. The increase in median value of non-residential property is particularly marked across income deciles, being almost three times larger for the highest income decile relative to the lowest decile.[7]

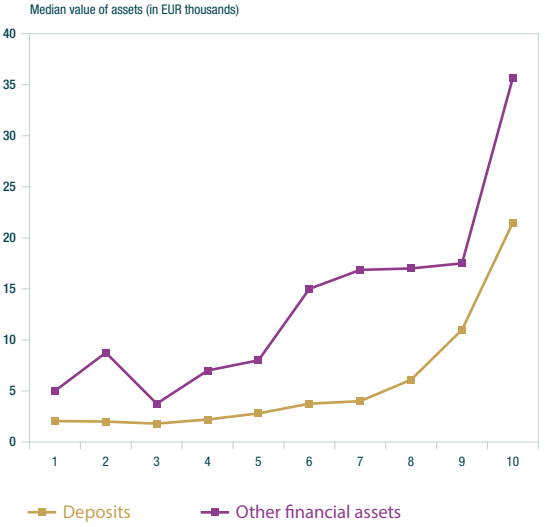
The median value of deposits (current plus savings accounts) changes little across the first half of the income distribution, ranging from €2,500 to €5,000 (Figure 3.2b). However, this rises rapidly thereafter, peaking sat just over €20,000 for those with the largest incomes. Other financial assets consist of a mix of categories, including bonds, mutual funds, shares and voluntary pensions. The increase in the median value for the second half of the income distribution is almost entirely attributable to increased participation in voluntary pension schemes by these households which, as a stock of savings for retirement, naturally tend to have a larger value.

7 It is important to note that in the survey, the current value of a property is self-reported by the respondent. For example, for the household main residence, the respondent was asked the following question: "What is the value of this property, i.e. if you could sell it now how much do you think would be the price of it?" There is a high correlation (0.80) between reported house price growth in the survey (i.e. from year of purchase) and regional house price growth data as reported by the Department of Environment, Community and Local Government.

Figure 3.2A: Median value of real and financial assets, by income (conditional on participation)

Source: HFCS (2013).

Figure 3.2B: Median value of real and financial assets, by income (conditional on participation)



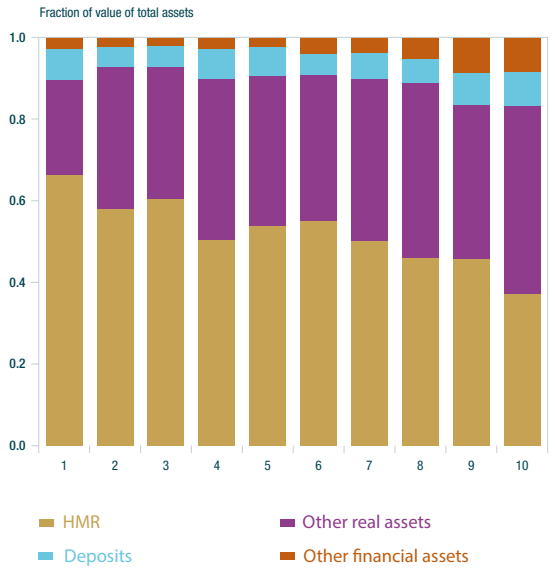
Source: HFCS (2013).

For a majority of households, the main residence is the most important contributor to the total value of their assets. As household income and wealth increase, ownership and the value of other assets expands, resulting in a reduction in the share of assets being accounted for by the HMR. The division of assets into their components is shown in Table 3.3. For all households surveyed, the value of the HMR accounts for 47.8 per cent of total assets (54.7 per cent of real assets). For households in the first four wealth quintiles, the HMR makes up between 68 and 77 per cent of their assets. The wealthiest quintile however has a HMR share of real assets of around half this amount at 31.1 per cent of total assets, with the remainder being largely concentrated in non-residential property. This relationship is also evident in Figures 3.3 and 3.4, showing the contributions of the different assets by income and wealth groups. The figures emphasise the concentration of asset holdings in real assets, with relatively little of total asset value being accounted for by financial assets, even amongst the wealthiest households. Outside of the main residence, the bulk of gross assets are other non-residential property assets.

Table 3.3: Share of real and financial asset components, by characteristic

	Any assets	HMR	Other res prop	Other non-res prop	Other Real Assets	Deposits	Other Financial Assets
Total	100.0	47.8	7.5	22.3	9.7	7.0	5.7
%tile of (gross) income							
less than 20	100.0	62.0	2.3	19.8	7.1	6.3	2.6
20-39	100.0	54.9	2.2	27.0	6.9	6.4	2.6
40-59	100.0	54.4	5.8	22.1	8.4	5.8	3.5
60-79	100.0	47.8	6.8	24.9	9.7	6.0	4.8
80-100	100.0	40.1	11.1	20.5	11.6	8.2	8.6
%tile of net wealth							
less than 20	100.0	69.4	11.6	7.1	6.5	2.7	2.6
20-39	100.0	68.3	3.5	0.6	14.3	9.8	3.6
40-59	100.0	77.0	4.3	1.7	7.4	7.0	2.7
60-79	100.0	71.7	4.8	5.0	7.5	7.4	3.6
80-100	100.0	31.1	8.6	34.7	11.0	7.2	7.4
Age of reference person							
18-34	100.0	54.8	6.2	14.0	11.6	9.2	4.2
35-44	100.0	52.8	9.9	15.0	12.1	5.8	4.3
45-54	100.0	46.9	8.8	21.7	12.4	4.2	5.9
55-64	100.0	43.8	7.2	25.5	8.7	7.7	7.2
65-74	100.0	41.9	5.6	33.0	6.2	8.4	4.8
75+	100.0	53.4	3.5	20.5	4.2	10.8	7.5

Figure 3.3: Composition of asset value, by income decile



Source: HFCS (2013).

Figure 3.4: Composition of asset value, by wealth quintile

Source: HFCS (2013).

Table 4.1: Participation in debt, by household characteristics

	Any debt	HMR Mort	Non-HMR Residential Mort	Other prop mort	Non-mort debt
Total	56.8	33.9	4.3	2.0	41.4
Housing status					
Owner-outright	29.2	0.0	3.7	2.6	25.1
Owner-with mort	100.0	100.0	6.2	2.8	60.1
Renter or other	41.5	0.0	3.0	0.3	40.3
%tile of income					
less than 20	35.0	12.1	0.6	0.7	28.7
20-39	41.9	16.8	1.1	1.3	33.7
40-59	58.3	32.2	2.0	0.7	45.7
60-79	69.2	47.1	4.0	2.1	50.5
80-100	79.6	61.1	13.8	5.1	48.6
%tile of net wealth					
less than 20	71.9	43.6	6.8	1.1	58.9
20-39	48.9	20.6	1.0	0.3	40.9
40-59	61.0	45.4	2.3	0.7	41.9
60-79	51.3	32.4	4.2	0.6	33.9
80-100	50.9	27.4	7.3	7.2	31.7
Age HRP					
18-34	59.4	27.3	2.5	0.9	49.4
35-44	75.5	57.1	7.2	2.5	49.8
45-54	72.6	50.2	6.0	3.2	49.8
55-64	52.6	26.7	4.2	2.6	39.6
65-74	27.7	5.3	1.9	1.3	23.3
75+	11.2	1.2	0.5	0.1	9.4
Work status HRP					
Employee	71.2	48.0	5.8	1.6	50.2
Self-employed	68.2	44.4	9.4	10.9	43.7
Retired	22.9	5.7	2.1	0.3	18.5
Other not working	52.4	26.2	1.8	0.8	41.7

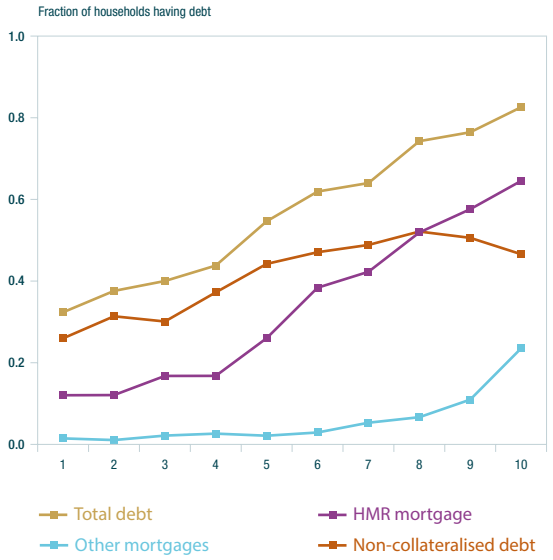
4. Household Debt and Repayment Burdens

Turning to the liability side of the household balance sheet, this section looks at the percentage of households holding different types of debt, the median outstanding balances and the burden this places on the household relative to income and assets.

Table 4.1 shows the proportion of households with any debt and then divides this debt into four categories: HMR mortgage debt, mortgage debt secured by other residential property, mortgage debt secured on non-residential property (e.g. farmland, business premises) and non-mortgage debt (personal loans and credit card debt). Over half of households (56.8 per cent) have some type of debt outstanding, with one-third having mortgage debt on their HMR, 4.3 per cent having a mortgage on other residential property and 2 per cent having debt on non-residential property. In addition, over 41 per cent of households report holding some non-mortgage debt.

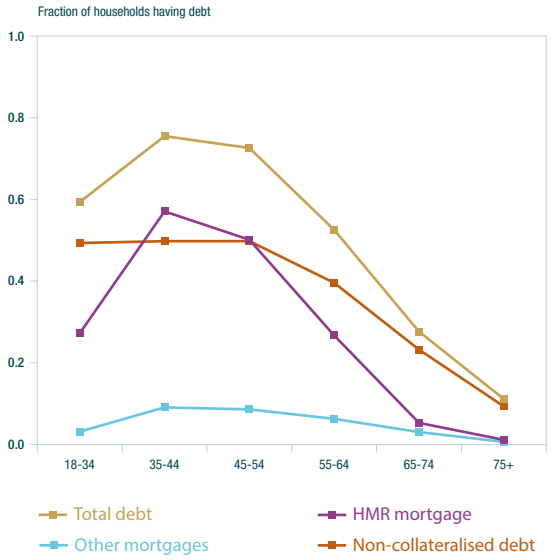
Not surprisingly, households owning their HMR outright are the least indebted and, along with having no mortgage on their main residence,

Figure 4.1: Participation in debt, by income decile



Source: HFCS (2013).

Figure 4.2: Debt participation, by age



Source: HFCS (2013).

they are also the least likely to have non-mortgage debt. Households with a mortgage on their main residence are the most likely to also have other outstanding debts, both on other properties (8.3 per cent) and unsecured debt (60.1 per cent).

The previous section showed a fairly consistent pattern of asset participation and value increasing across both income and wealth groups. Looking at debt however we see that these relationships work in opposite directions, with debt participation increasing in income quintiles but not in wealth quintiles. Households in the highest income quintile are more than twice as likely to have some outstanding debt compared to those in the lowest quintile (79.6 per cent and 35 per cent respectively). This relationship applies to all four categories of debt. Lower income households are relatively unlikely to have mortgage debt on either a HMR or other properties. Non-mortgage debt, on the other hand, is accessed on a more even basis across the income groups. This is shown further in Figure 4.1.

In contrast to the increasing pattern across income groups, Table 4.1 shows that higher wealth households are less likely to have outstanding mortgage debt on their HMR or to have unsecured debt. The higher wealth group are however the most likely to have debt on other (i.e. non-HMR) properties.

We saw in the previous section that assets tended to be accumulated with age. Figure 4.2 shows that the opposite pattern is associated with debts. Sixty per cent of households whose reference person is in the youngest age bracket (between 18 and 34) have some outstanding debt, with this most likely to be unsecured debt. Households in the next two age categories (35-44 and 45-54) are the most likely to be indebted, with three-quarters having some type of debt and over half having outstanding mortgages associated with their HMR. As the household ages, debt participation rates fall considerably, particularly for HMR mortgage debt (owed by 5.3 per cent of those aged 65-74). The only type of debt that does not have a strong life-cycle component is mortgage debt on non-HMR property which is relatively smoothly spread

Table 4.2: Participation in debt, cross-country comparison

	Any debt	HMR Mort	Other prop mort	Non-mort debt
Ireland (2013)	**56.8**	**33.9**	**5.9**	**41.4**
Euro area (wave 1)	43.7	19.0	5.6	29.3
Belgium (2010)	44.8	28.5	3.2	24.2
Germany (2010)	47.4	18.0	6.0	34.6
Greece (2009)	36.6	13.9	3.9	26.1
Spain (2008)	50.0	26.8	7.3	30.7
France (2010)	46.9	16.9	10.1	32.8
Italy (2010)	25.2	9.6	1.6	17.8
Cyprus (2010)	65.4	35.0	15.4	47.9
Luxembourg (2010)	58.3	32.8	8.4	36.9
Malta (2010)	34.1	12.1	4.5	25.2
Netherlands (2009)	65.7	43.9	2.5	37.3
Austria (2010)	35.6	16.6	2.4	21.4
Portugal (2010)	37.7	24.5	3.3	18.3
Slovenia (2010)	44.5	12.5	1.6	38.9
Slovakia (2010)	26.8	9.3	0.6	19.9
Finland (2009)	59.8	32.8	M	M

Notes: M stands for missing value. N stands for "Not calculated" because less than 25 observations available.

over age groups, but is also the least common type of debt overall.

The pattern of debt participation across age categories is further reflected in the results by work status, where households with a retired reference person are the least likely to have any outstanding debt. Self-employed households are somewhat less likely to have outstanding HMR mortgage debt or unsecured debt relative to households headed by an employee. Consistent with their greater likelihood of owning other types of property (both residential and non-residential), the self-employed also have a greater probability of having outstanding mortgage debt on non-HMR properties.

Just over half of households where the reference person is not working (but not retired) have some outstanding debt, with over one-quarter having mortgage debt on their HMR and over 40 per cent having other non-mortgage debt. This is suggestive of high debt repayment burdens for these households if these loans were taken out before a job loss or other income-reducing event.

The asset side of Irish household balance sheets is more concentrated in real assets than those of other euro area countries. Given the house price boom and credit expansion up to 2008, it is unsurprising to find that Irish households are more indebted than the euro area average and this is particularly striking in the case of HMR mortgage debt. Table 4.2 shows the comparison of debt participation rates across Euro members for total debt and three subcomponents (HMR mortgages, other property mortgages and non-mortgage debt – information on mortgages secured on residential and non-residential property were not separated in the Euro-area aggregates).

Irish households are considerably more likely to have higher outstanding debt relative to the euro area average (56.8 per cent of households in Ireland relative to 43.7 per cent in other countries). One-third of Irish households have mortgage debt associated with their HMR, compared to 19 per cent of households in the rest of the euro area. Only one country has a higher percentage of households with HMR mortgage debt (Netherlands). The incidence of other property

Table 4.3: Median value of debt (€, '000s) Conditional on Participation

	Any debt	HMR Mort	Non-HMR Residential Mort	Other prop mort	Non-mort debt
Total	63.0	129.0	157.0	99.0	3.9
Housing status					
Owner-outright	5.0		129.0	102.0	3.0
Owner-with mort	141.7	129.0	168.0	90.0	5.5
Renter or other	2.5		190.0		2.0
%tile of income					
less than 20	5.5	80.2			2.2
20-39	6.5	80.0			2.1
40-59	31.2	113.8			3.3
60-79	97.0	130.0	148.0	45.0	5.0
80-100	154.0	160.0	165.0	160.0	6.0
%tile of net wealth					
less than 20	170.7	220.0	230.0		5.0
20-39	6.0	150.0			2.0
40-59	67.5	93.7	150.0		3.8
60-79	41.5	70.0	97.7		3.6
80-100	50.0	67.0	130.0	97.0	6.3
Age HRP					
18-34	21.0	204.0	150.0		3.5
35-44	131.3	155.0	185.0	45.0	4.0
45-54	70.0	95.0	150.0	95.0	4.0
55-64	19.0	48.5	79.5	105.0	5.0
65-74	4.0	36.0			2.5
75+	3.0				2.0
Work status HRP					
Employee	97.9	141.7	160.0	40.0	4.0
Self-employed	125.0	150.0	170.0	102.0	7.0
Retired	5.4	30.0			2.4
Other not working	17.0	100.0	150.0		3.0

Notes: Missing values implies cell size of less than 25 observations.

debt is more in line with the euro area average, but Irish households are also considerably more likely to have non-mortgage debt (41.4 per cent) compared to other countries (29.3 per cent). Participation rates in non-mortgage debt are the second-highest of all countries surveyed, with only Cyprus having a higher incidence of this type of debt.

From participation rates, we turn to the amount of debt outstanding for those households that have debt. The median values of debt (conditional on having debt) are shown in Table 4.3. Although non-mortgage debt was the most common type of debt held by households, the median amounts are low relative to those relating to secured debt. The median HMR mortgage amount stands at €129,000 per household; for other residential property mortgages it is €157,000; for non-residential mortgages it is a median of €99,000 and for non-mortgage debt it is of €3,900 per household.

Debt amounts outstanding are highest for those households with a current mortgage on their main residence; these households have median debts of €141,700. Households owning their homes outright have median outstanding debts of €5,000 and renters owe

Figure 4.3: Median value of debt, by income decile (conditional on participation)

Source: HFCS (2013).

around half of this amount. Although renters have the highest median amounts outstanding on other property mortgages, it should be recalled that this group were also the least likely to participate in this type of debt (3.2 per cent) compared with those owning their homes with or without a mortgage (8.3 per cent and 6 per cent respectively). Reflecting typical small business financing arrangements, unsurprisingly, the self-employed have the highest outstanding debts in the non-residential mortgage category.

Households in higher income groups are progressively more likely to participate in debt (Figure 4.3), furthermore, the volume of this debt also increases with income (calculated for those households with debt only, Figure 4.3).[8] The median values of total debt outstanding are around ten times higher for households in the top income quintile compared to those in the lowest (€154,000 compared to €5,500 in Table 4.3). At the other end of the income distribution, some 17.3 per cent of higher income households have non-HRM mortgage debt with median values of around €160,000.

In contrast to the positive relationship between income and debt, higher wealth households tend to have lower amounts owed. To a degree, this may be considered tautological, as wealth is defined as assets minus debts, but it does show that many amongst the wealthiest households hold some debt (50.9 per cent of them from Table 4.1) but less than those of other households.

The highest outstanding debt amounts are held by the lowest wealth quintile and by the two youngest age groups. Those in the lowest wealth quintile are both the most likely to have debt (71.9 per cent) and to have the highest median amounts for HMR and other property mortgages. This is likely to be a result of falling property values leaving many households with debts larger than the current associated asset values. The higher outstanding mortgage amounts in the younger age groups partly reflects the shorter amount of time they have been repaying loans but also captures a cohort effect of households that bought property at a time of particularly high prices.

Comparing Ireland to other countries in the euro area, we already noted a somewhat higher rate of debt participation, particularly in regard to the percentage of households with HMR mortgage debt (Table 4.2). Table 4.4 presents a similar comparison for median debt values (once again for European comparisons, we have merged other properties into a single group, regardless of whether they relate to residential or non-residential property). The level of indebtedness of Irish households evident from these results is striking.

Relative to the euro area, the median values of outstanding debt per household are three times higher, HMR mortgage debt is twice as high and other property mortgage amounts are two and a half times higher in Ireland. The only category where median outstanding debts are lower in Ireland than the rest of the euro area is

8 When comparing median total debt and median HMR debt, for example, it is important to bear in mind the conditioning on participation. As Table 4.1 shows, not all households have HMR debt, therefore the median total debt can be lower than the median HMR debt in this case.

Table 4.4: Median value of debt, cross country (€, '000s)

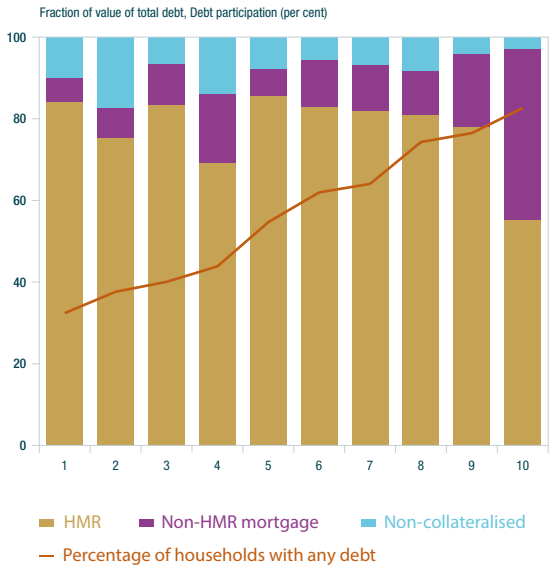
	Any debt	HMR Mort	Other prop mort	Non-mort debt
Ireland (2013)	**63.0**	**129.0**	**140.0**	**3.9**
Euro area (wave 1)	21.5	65.2	56.8	5.0
Belgium (2010)	39.3	66.8	57.4	5.2
Germany (2010)	12.6	67.0	81.6	3.2
Greece (2009)	14.6	39.9	42.1	4.3
Spain (2008)	36.0	54.3	80.0	7.2
France (2010)	18.4	60.9	22.4	5.2
Italy (2010)	15.0	65.0	25.0	5.7
Cyprus (2010)	60.2	85.0	65.9	10.1
Luxembourg (2010)	73.4	121.5	116.4	10.0
Malta (2010)	15.7	34.3	37.0	4.0
Netherlands (2009)	89.1	130.0	102.9	13.7
Austria (2010)	13.8	37.3	36.4	3.0
Portugal (2010)	31.7	46.1	57.7	3.3
Slovenia (2010)	4.3	6.7	N	3.1
Slovakia (2010)	3.2	25.0	N	1.0
Finland (2009)	29.4	64.4	M	M

Notes: M stands for missing value. N stands for "Not calculated" because less than 25 observations available.

in unsecured non-mortgage debt. Only in two countries (Luxembourg and the Netherlands) is the value of household total debt higher than in Ireland. Ireland has the highest outstanding mortgage amounts per household on other property debt across all of the countries surveyed.

HMR mortgage debt is the main component of debt across all income deciles, as shown in Figure 4.4. Although outstanding values are higher for non-HMR property debt than those for HMR mortgages, the former are held by only a small minority (5.9 per cent of households) and, conversely, although commonly held, the outstanding values for non-property debt are relatively low. Only in the highest income group does non-HMR property debt become a substantial component of overall debt.

Chart 4.4: Composition of debt value, by income decile (conditional on participation)

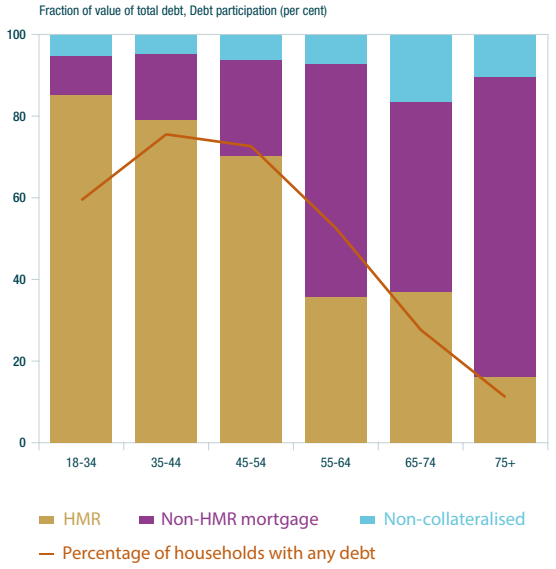


Source: HFCS (2013).

Figure 4.5: Composition of debt value, by wealth quintile (conditional on participation)

Source: HFCS (2013).

Figure 4.6: Composition of debt value, by age cohort (conditional on participation)



Source: HFCS (2013).

Mortgage debt associated with the HMR is also the main component of overall debt across most wealth groups (Figure 4.5). For the wealthiest 20 per cent of households, the HMR mortgage declines in importance, with debt from other properties increasing considerably in terms of its weight in total wealth. The contribution of non-property debt to the overall values are relatively stable across both income and wealth groups.

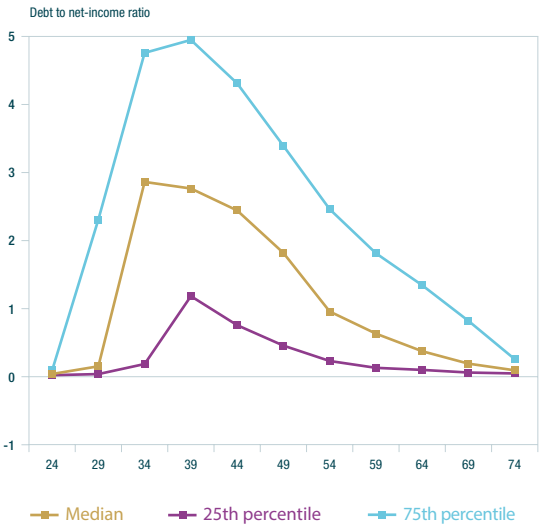
Looking across age groups in Figure 4.6, the HMR mortgage is the main contributor to debt for households where the reference person is aged between 18 and 54. Households in any of the three groups with a reference person aged 55 or older have much smaller roles for HMR mortgage debt, with the bulk of debt in these groups being accounted for by debt on other properties. It should be recalled, however, that total debt participation rates are considerably lower in the older age cohorts than amongst the younger groups and that the outstanding values are calculated on the basis only of those that have debts.

5. Debt burden

The high levels of debt participation and outstanding amounts of Irish households relative to the Euro area average is the most striking result of the survey results presented so far. This section provides a further breakdown of debt and assets, focusing in particular on debt service across age distributions. This allows us to examine the extent to which the debt taken out by different groups varies by their income and asset positions; in other words, it allows us to gauge to some degree how much of a burden the debt is or if it is in line with repayment capacity. Unless otherwise stated, charts relating to debt or debt-service are conditional on having some form of debt.

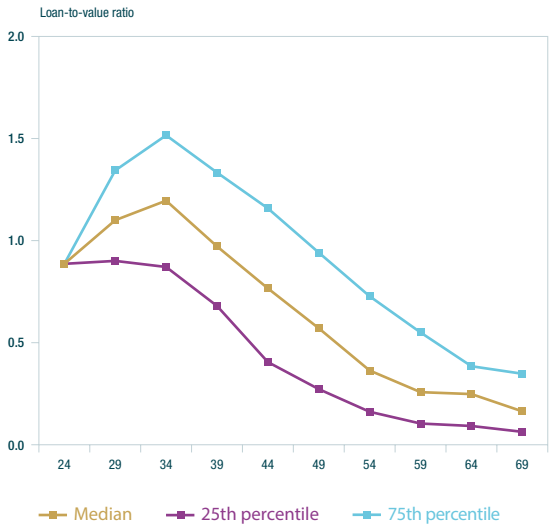
When considering issues of debt burden or debt sustainability, net income is arguably the most appropriate measure to use. As income data is collected as a gross measure in the HFCS, we calculate an estimate of net household income in 2013, using thresholds and rates and tax credits for that year, for both single person working households and married/legal union couples where one or both of the adults

Figure 5.1: Debt to net-income, by age (5-year brackets)



Source: HFCS (2013).

Figure 5.2: Current loan-to-value ratio (conditional on having a mortgage on HMR)



Source: HFCS (2013).

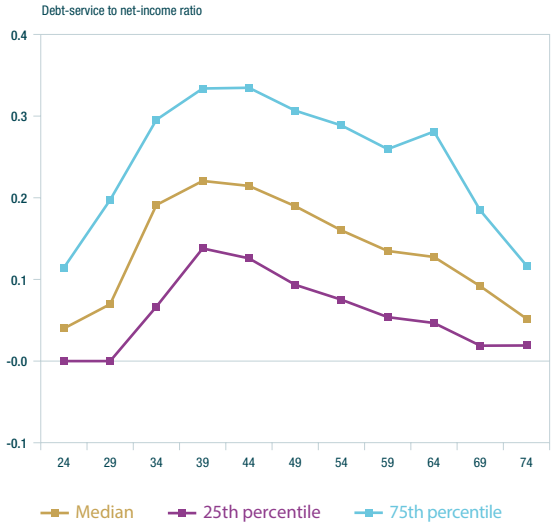
are working. In the latter case, we assume these households file jointly and incremental tax credits are allocated to the higher earning member of the couple.

Looking first at how indebted households are across age groups, Figure 5.1 shows the ratio of debt to our measure of household net income levels. This shows a strong life-cycle effect, with debt-to-net-income ratios peaking for the 34 to 45 age groups and gradually declining for older age groups. The extent of indebtedness for the 34 to 45 year olds is considerable, with the median household in these age groups owing three times their income, while the 75th percentile owe amounts equivalent to five times net income.

The central role of the house price boom and bust in this pattern across age groups can be seen by comparing outstanding mortgage debts to the value of the HMR (this is the current loan-to-value ratio, or current LTV) in Figure 5.2. HMR-indebted households with the reference person in their thirties have a median loan-to-value ratio of over one, indicating that they are in negative equity. The 75th percentile loan-to-value for these age cohorts reaches 1.5, showing a debt well in excess of the associated asset value.

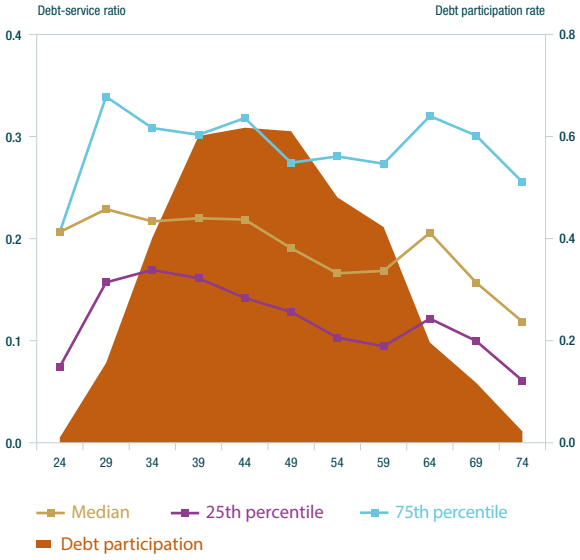
Despite the high outstanding debt levels amongst the indebted younger and mid-aged cohorts, debt service to net income calculations shown in Figure 5.3 (for total debt) and Figure 5.4 (for property debt only) are much flatter across the age distribution. Median debt service costs account for in the order of twenty per cent of net income for indebted households ranging from the 34 to 50 age group and fall slowly thereafter. A number of factors such as the prevalence of tracker mortgages and long loan terms contribute to the smoother path of debt service ratios across age groups when compared to the ratio of outstanding debt volumes. Figure 5.5 highlights the differences in (HMR) mortgage interest rates across age cohorts. The median interest rate is increasing over age, bar the youngest group (aged 29 or under), who presumably were unable to avail of low-margin tracker loans after 2008. The low interest rates paid by in the lowest quartile of borrowers are striking, with a large chunk of these paying rates of less 2 per cent.

Figure 5.3: Debt-service to net-income ratio (conditional on any debt)



Source: HFCS (2013).

Figure 5.4: Property debt-service to net-income ratio (conditional on any property debt)



Source: HFCS (2013).

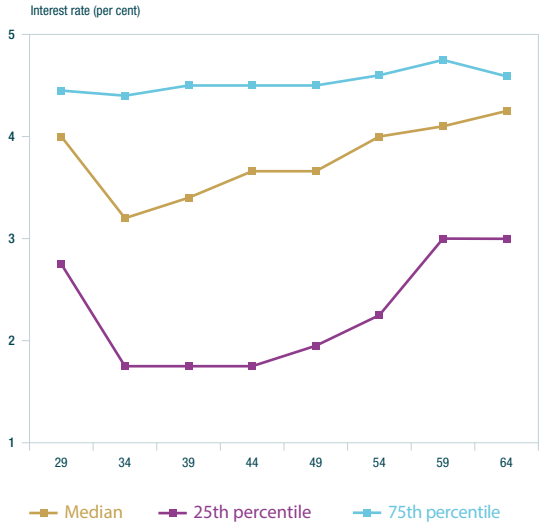
When comparing payment burdens across age groups, it is also important to bear in mind that older cohorts are far less likely to have any debt (see the shaded area in Figure 5.4) and, as indicated earlier, the vast majority of these older groups are therefore excluded from the debt service calculations. Figure 5.6 compares the mortgage repayment burden for Irish households with households in other euro area countries.[9] The appearance of Irish borrowers in the middle of the pack is deceptive, as the Irish survey took place some two or three years after the other survey in other countries – a period when policy rates were almost two percentage points lower. If we add two percentage points to the interest rate on Irish mortgages, the repayment burden for Irish households moves up by between 2 and 2.5 percentage points, putting it in just above France in 2010.

In order to examine the distribution of debt burdens in more detail, we look at how the ratio of debt to assets and the ratio of debt service to income vary across income groups. Figure 5.7 shows the fraction of indebted households that have a debt-to-asset ratio above a given threshold along the horizontal axis. The vertical lines show the distribution at fixed threshold values – for the debt-to-asset ratio, we show cut-off points of three-quarters, one and two, following ECB (2013). At a threshold level of one, households are separated into those with positive and negative net wealth (to the left and to the right of the threshold line respectively). The percentage of indebted households with a debt-to-asset ratio over one is slightly above 20 per cent for the four lower income quintiles and slightly lower for the top income group.

Turning to the repayment demands of this debt, Figure 5.8 shows the ratio of debt service to (gross) income across quintiles, this time using repayment thresholds of 20, 30 and 40 per cent of income for comparative purposes. Almost half of the indebted households in the lowest income quintile are allocating 30 per cent of their income to debt repayment and 40 per cent of these households have repayment burdens of over 40 per cent of their income. This is in strong contrast to the position of the indebted highest income households, where repayment burdens of over 40 per cent are negligible.

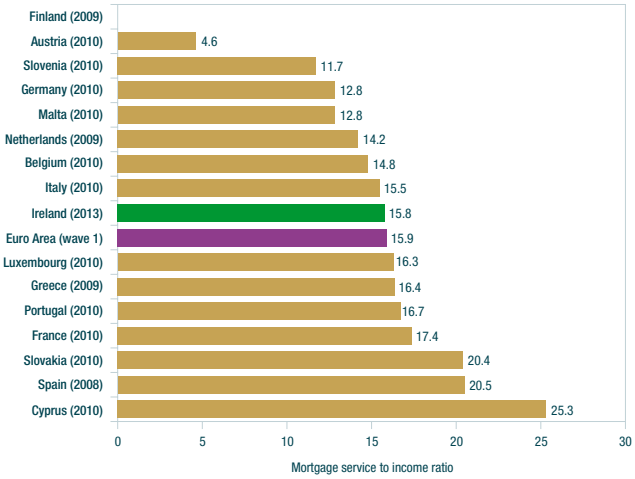
9 Note: the denominator here is mortgage repayment to *gross* income. Repayment ratios as a percentage of net income are not readily available for other EA-HFCS countries.

Figure 5.5: Interest rates on HMR mortgages (conditional on any property debt)



Source: HFCS (2013).

Figure 5.6: Mortgage debt service to gross income ratio: EA comparison (median)

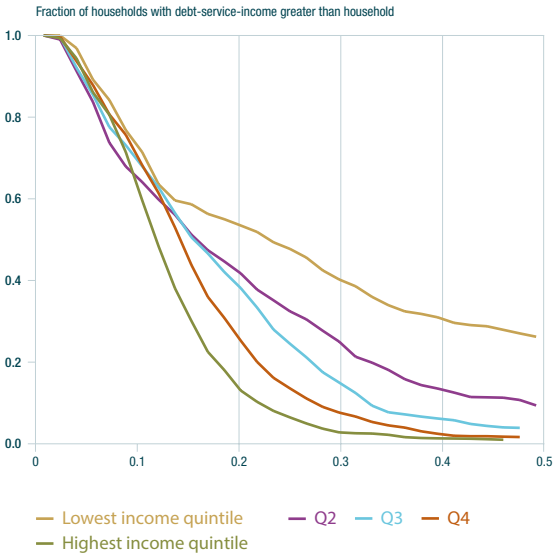


Source: HFCS (2013).

Figure 5.7: Distribution of debt-to-assets ratio, by gross income quintile

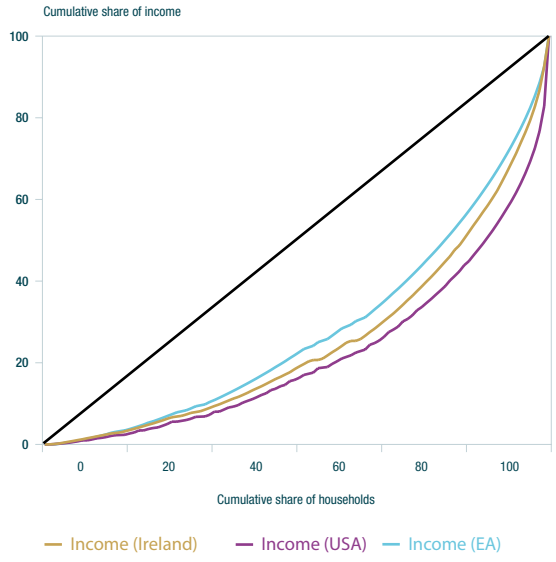
Source: HFCS (2013).

Figure 5.8: Distribution of debt-service-income ratio, by gross income quintile



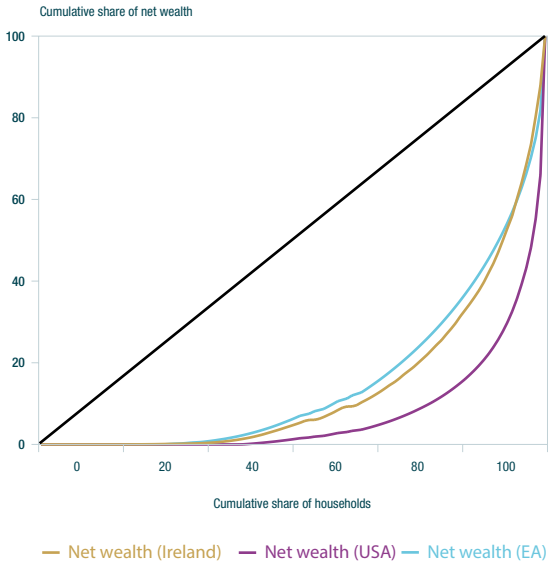
Source: HFCS (2013).

Figure 6.1: Lorenz curve – gross income



Source: HFCS (2013), ECB (2013).

Figure 6.2: Lorenz curve – net wealth



Source: HFCS (2013), ECB (2013).

6. Households' Net Assets

The difference between a household's assets and debts gives us the measure of their net assets or wealth. Median net assets come in at €105,000 per household, slightly below the Euro area median of €109,000. Figure 6.1 compares income distributions (Lorenz curves) for Ireland, the Euro area and the USA, and Figure 6.2 does the same for the distribution of net assets. The diagonal line in each graph indicates total equality and the further away from this that the actual distribution line is, the less evenly spread is income or net assets. Income in Ireland is somewhat less equally distributed than in the Euro area as a whole, although it is not as unequal as the distribution in the USA.

The distribution of net assets for the Euro area and Ireland is quite similar, and both are more evenly distributed than in the USA, for example. That said, compared with the income distribution (Figure 6.1) there is a greater concentration of net assets amongst the wealthiest households: whereas the top 20 per cent of households account for half of gross income in Ireland, the top 20 per cent of households account for around 70 per cent of net assets. It should be clear from the preceding analysis that the bulk of net assets at the top of the distribution are attributable to a combination of two main factors: one, large holdings of real assets, mainly the household's main residence and other property and two, lower levels of debt. Table 6.1 shows that the Gini coefficient for net worth in Ireland is in the middle of the Euro area group of countries.[10] The table also highlights the negative correlation between home-ownership rates and wealth inequality.

Related to the previous point, and as would be anticipated from the results on asset and debt holdings, there is a strong correlation between the age of the household's reference person and net asset position. Figure 6.3 shows a gradually increasing relationship between net assets and age from the 18 to 34 year old cohort up to the 64 to 74 age cohort, with this then reducing somewhat for the oldest group (over 75 years). The combined effects on net assets of a build-up of real assets and paying down of debt over time are clear from this chart. Financial assets also increase slightly with age, but remain a much smaller contributor to net wealth than real assets.

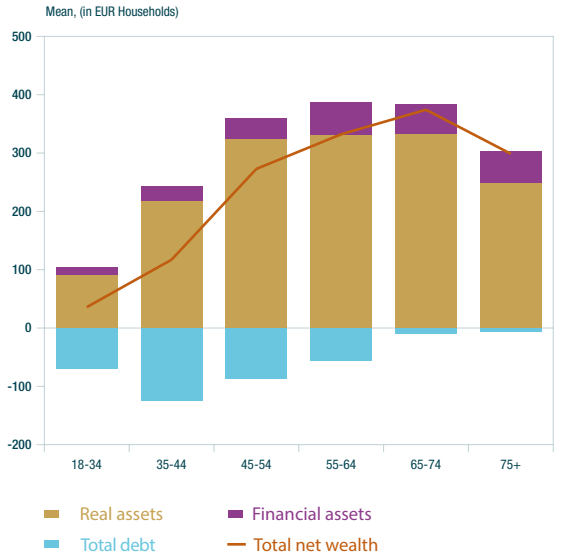
Although the Lorenz curves show that net assets are less evenly distributed across households

10 The Gini coefficient represents the ratio of the area to the left of the Lorenz curve to the total area under the 45 degree line in a single number. If there was perfect equality the coefficient would be 0, whereas a coefficient of 1 indicates total wealth inequality. See CSO (2015b) for further information on how to calculate the coefficient.

Table 6.1: Gini coefficients for net-wealth, by country

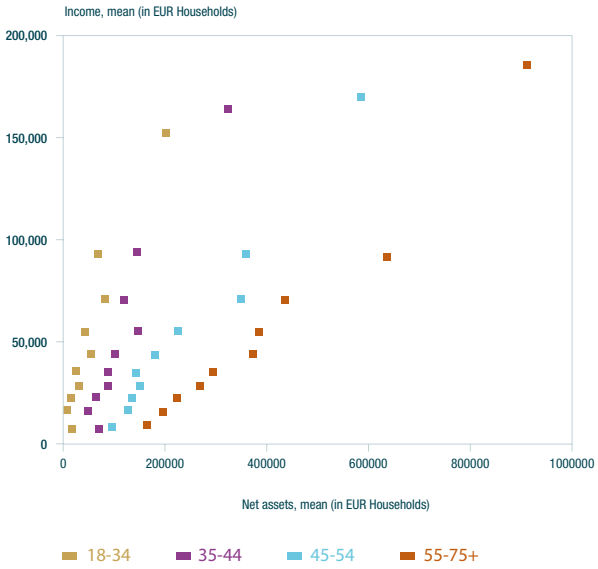
	Gini coefficient net wealth	Percentage of households that are home-owners
Germany	0.78	0.45
Austria	0.77	0.47
France	0.68	0.55
Netherlands	0.69	0.57
Euro-Area	0.69	0.60
Luxembourg	0.69	0.66
Finland	0.70	0.67
Ireland	**0.64**	**0.71**
Italy	0.62	0.69
Belgium	0.62	0.70
Portugal	0.65	0.71
Cyprus	0.69	0.77
Greece	0.56	0.72
Malta	0.61	0.77
Spain	0.58	0.82
Slovenia	0.55	0.81
Slovakia	0.45	0.90

Figure 6.3: Net wealth, by component and age



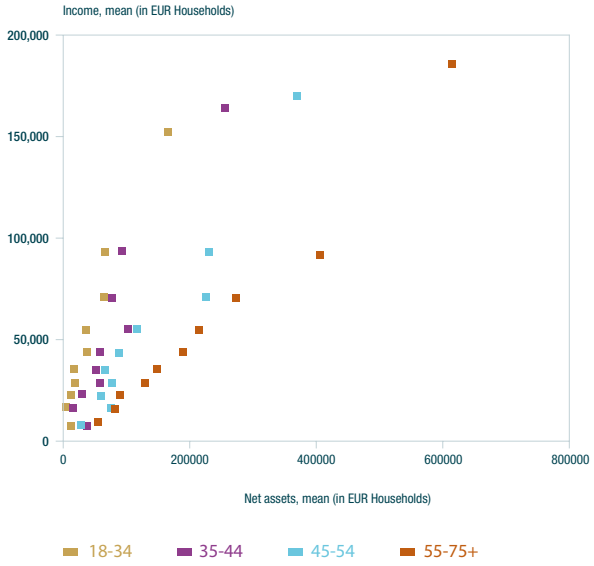
Source: HFCS (2013).

Figure 6.4: Net wealth and gross income correlation, by age cohort



Source: HFCS (2013).

Figure 6.5: Net non-HMR wealth and gross income correlation, by age cohort



Source: HFCS (2013).

than is income, we would nonetheless expect there to be a positive correlation with income; a higher income will allow households to accumulate assets and/or pay down debts at a faster rate than would be possible for lower income households. Figure 6.4 shows that the strength of this correlation varies by age cohort, being much stronger for younger households than for older households. In fact, we do not see any overlap in the different coloured indicators of the age cohorts. There also appears to be greater variation in the relationship between wealth and income for the oldest group in particular, where assets have had more time to build up and also where there may have been a reduction in current income (if mainly pension related) compared to earlier income.

Given the importance of the HMR to net wealth for Irish households discussed earlier, it is possible that these different correlations across age groups are driven primarily by the paying down of the HMR mortgage. However, Figure 6.5 shows that even when the HMR is excluded, there is still a positive correlation between gross income and other net assets and that this correlation varies across age cohorts.

7. Conclusions

The main objective of this paper is to introduce researchers and other interested parties to the potential usefulness of the data on wealth, debt and income in the HFCS. In presenting the data we have concentrated on what we believe to be the most pressing policy areas. We have also focused on those aspects of the survey where there is comparable data for other countries. We have shown how the aggregate data on debt and assets can disguise major differences in the distribution of these characteristics across households.

This initial overview of the survey has shown that the composition of household balance sheets in Ireland differs from the Euro area average in some important respects. The contribution of property to total asset holdings and the extent of indebtedness of the median household stand out as important features of Irish households, as does the variation across age groups in debt and wealth. These patterns and more detailed breakdowns of the data could be used to examine the impact of economic shocks on household behaviour, and in particular how macro-financial linkages affect real economic outcomes. One obvious place to start is in the analysis of household consumption behaviour. Current estimates of the marginal propensity to consume (MPC) out of income and wealth by Irish households, as presented in Clancy et al. (2014) for example, pay little attention to the distribution of wealth. However, models of consumption that rely on a buffer stock of savings, such as those in Carroll et al. (2014), show that differences in aggregate MPCs across countries and over time can be attributed in large part to differences in the wealth distribution, and furthermore that the liquidity of that wealth matters.

The HFCS is also a rich source of information for analysing issues around debt sustainability. As well as providing information on household assets and liabilities, the data could also be used to analyse the impact of changes in interest rates, house prices and other asset prices on various groups of consumers and to assess the risks arising from the high levels of indebtedness of some households.

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The Instruments of Macro-Prudential Policy

Therese Grace, Niamh Hallissey and Maria Woods[1,2]

Abstract

The recent global crisis revealed a role for macro-prudential policy or measures to mitigate systemic risk. In Ireland, the high costs of the recent banking crisis showed that forward-looking risk assessments and pre-emptive policy action are important to ensure that the future probability of such a crisis reoccurring is reduced. Macro-prudential policies primarily aim to complement regulatory oversight of individual firms and build resilience, initially in the banking sector. A secondary (albeit more ambitious) goal is to dampen the volatility of the financial cycle and reduce the potential for destabilising imbalances within the financial system to accumulate. This paper focuses on the banking sector and the various measures available to macro-prudential authorities to mitigate this risk.

1 The authors are respectively policy analyst and senior economists in the macro-prudential policy unit of the Financial Stability Division. The authors would like to thank Mark Cassidy, Gabriel Fagan, John Flynn, Stefan Gerlach and an anonymous referee for helpful comments on earlier drafts. The views expressed in this paper are those of the authors and do not necessarily reflect those of the Central Bank of Ireland.

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1. Introduction

Although the topics of financial stability or macro-prudential analysis are not new, the recent crisis revealed significant deficiencies in both the analytical framework and the policymaker's capacity to mitigate emerging system-wide vulnerabilities. Macro-financial linkages were not fully appreciated and the transmission of risk across the financial system was severely underestimated. Before the crisis, some macro-prudential policymakers relied on *soft* tools such as communication and market discipline to influence the behaviour of individuals and institutions and to ensure financial stability. The global crisis changed this view and a consensus emerged that *hard* policy measures (e.g., higher capital requirements) were required to tackle systemic risk concerns. Consequently, macro-prudential policymakers have begun to consider the need for policy instruments to build resilience, initially within the banking sector, and to reduce the volatility of the credit cycle. Although the origins of future crises remain unknown, these measures aim to reduce the probability and long-term costs of such events.

Macro-prudential policy issues have particular resonance for Ireland and other countries affected by the recent global financial crisis. Ireland is a predominately bank-based economy and, as such, the private sector is heavily reliant on bank credit to meet consumption and investment shortfalls so a stable banking sector is necessary, among other factors, for sustainable economic growth. Along with structural banking reform and micro-prudential supervision, macro-prudential policies targeted at the banking sector will be important to restore domestic financial stability and address such issues.

Since the crisis, policy-makers in Europe have been given a wide range of instruments with which to address various systemic risks in the banking sector. The new EU banking legislation, the Capital Requirements Directive IV and Regulation (CRDIV/CRR), has expanded traditional micro-prudential regulation to include a range of macro-prudential instruments such as capital buffers for systemic risks. This is in addition to instruments which stem from powers that exist under national legislation. Several European countries have activated macro-prudential instruments over recent years and the use of these instruments is expected to increase.

The aim of this paper is to introduce the various tools of macro-prudential policy, explaining what they are and where they have been used. The paper is structured as follows. Section 2 briefly introduces the concept of systemic risk. Macro-prudential policies aim to mitigate this risk. Section 3 presents the range of instruments available to macro-prudential policy makers. Some cross-country experience with macro-prudential instruments is contained in section 4. This section also outlines who is responsible for macro-prudential policy in Ireland and across Europe. Section 5 concludes.

In Ireland, the Central Bank of Ireland(Central Bank) is the national macro-prudential authority and its policy aims and powers are discussed in its recent macro-prudential policy framework document (See CBI, 2014a for more details). In October 2014, the Central Bank proposed macro-prudential policy measures for new residential mortgage lending (See CBI, 2014b). Following the public consultation, regulations were announced in January 2015.[3] *It should be noted that this paper does not address these policy issues.*

2. Why macro-prudential policy? The concept of systemic risk

The rationale for macro-prudential policy intervention stems from the need to address risks that are not covered by micro-prudential oversight or by other policy areas. Micro-prudential supervision focuses on the financial soundness of individual financial firms such

3 see CBI(2015) for further details.

as banks and other financial intermediaries. Although banks may be individually financially sound, their collective actions may create imbalances within the economy and make the sector vulnerable to negative shocks. Additionally, financial development, innovation and integration have created inter-linkages between banks and between the real economy and the financial sector (i.e., macro-financial linkages).

During a period of general financial stress, interconnectedness among banks can amplify the impact of any shock to the financial sector. If banks are not sufficiently resilient, problems in one bank or sector can lead to problems on a system-wide basis or as a system, banks can be vulnerable to common shocks, resulting in a systemic banking crisis in either case (De Bandt and Hartmann, 2000). Strong macro-financial linkages within an economy imply that systemic banking crises can entail significant economic costs for society as normal lending and other intermediation activities are disrupted. Economic activity is subsequently reduced leading to a further deepening in the banking crisis, as the financial condition of borrowers deteriorates.

The risk of a systemic crisis occurring is called systemic risk. Macro-prudential policies are concerned with reducing the possibility of such an event occurring and therefore take a system-wide perspective. Such policies can be complementary to micro-prudential supervision. To promote financial stability and reduce systemic risk, macro-prudential policy aims to strengthen the resilience of the financial system so that it can withstand adverse macroeconomic shocks. Macro-prudential policies also seek to reduce the potential for significant destabilising vulnerabilities to accumulate, which could lead to systematic financial distress. Therefore a secondary aim of macro-prudential policy is the stabilisation of the credit cycle.

Banks play an important role in the provision of credit to the private sector in certain economies, not least in Ireland. Credit growth, therefore, varies with the financial soundness of the banking sector as well as economic conditions. As entities, banks can be fragile to external shocks, as they engage in maturity transformation (i.e., the average maturity on their loan books exceeds that of their funding) and also operate leveraged positions (i.e., assets exceeding equity). Banks may also follow certain risky business strategies to maximise return and boost future profits. Although it may be individually rational for each bank to engage in such activity, the collective action of a group of banks following this strategy may lead to imbalances and vulnerabilities for the economy as a whole[4].

Further, banks' balance sheets and the creditworthiness of their borrowers are sensitive to macro-economic conditions. Banks demand collateral for certain loans such as mortgages, which creates a link between property market developments and future financial performance. Households and firms can become highly indebted during a period of accommodative lending standards and booming property prices. Property price cycles, therefore, can amplify credit/leverage cycles and vice versa, resulting in real effects.[5] Once economic/property and financial conditions begin to deteriorate, indebted banks, households and firms all need to delever to repair balance sheets so the credit/leverage and property cycles work in reverse leading to a significant decline in economic activity.

In Ireland, the main domestic banks all increased their exposure to the real estate sector to generate returns and expanded their loan books with cheap sources of wholesale funding in the pre-crisis period.[6] Therefore the profile of credit and funding risks were similar across the system. As the domestic private sector is mainly reliant on bank credit, households and firms in Ireland increased

4 De Nicolò *et al*., (2012), suggest that the presence of strategic complementarities, where the pay-off from a certain strategy increases the more players are involved, may induce banks to act in a collective fashion. Gorton and He (2008) contend that there is a coordination failure among banks in that they fail to take into account the destabilising behaviour of the system as a whole.

5 These *financial accelerator* effects are discussed in Bernanke, Gertler and Gilchrist (1996) and Geanakoplos (2010).

6 See Honohan (2010) and Regling and Watson (2010) for a full description of the origins of the Irish crisis.

their indebtedness significantly pre-crisis. The property, economic and financial/liquidity cycles were, thus, all closely intertwined and the dynamics of each had an amplifying effect on the other before 2007. Both banks and the private sector were therefore vulnerable to a reversal in property prices, higher interest rates or an adverse shock prior to the global financial crisis. Since the crisis, credit dynamics have been weak as both banks and the private sector continue to engage in deleveraging.

Volatile movements in the credit cycle and the associated financial stability risks relate to the time-varying or cyclical element of systemic risk. Another dimension of systemic risk that should be considered relates to the structure of the financial system. Structural systemic risk arises when the distribution of risk is skewed and concentrated in a small number of institutions or markets or if financial services are focused on one sector such that the financial system becomes vulnerable to adverse shocks (BOE, 2011). The imbalances arising from the credit cycle can lead to structural systemic risks. A pursuit of common business strategies by banks such as property-related lending can lead to concentrated exposures and leaves the banking sector vulnerable to a shock in this market.

The phenomenon of *systemically important* banks emerged during the crisis. Such entities require funding from the state when they experience distress in order to prevent contagion across the financial system. The high degree of interconnectedness among banks and their dominant position in national intermediation activities means that failure or distress of such entities could have significant destabilising effects on both local and international economies through direct and indirect financial networks.

Figure 1 links the instruments of macro-prudential policy to its intermediate objectives, as defined by the ESRB.[7] The intermediate objectives of macro-prudential policy aim to target both the time-varying and structural dimensions of systemic risk. Intermediate objectives dealing with excessive credit growth/leverage and excessive maturity mismatch are closely related to the time-varying element of systemic risk. Limiting exposure concentration and reducing the misaligned incentives of systemically important banks and interconnectedness are related to the cross-sectional dimension. For more information on the intermediate objectives in an Irish context see CBI, (2014a).

3. How to mitigate systemic risk - instruments of macro-prudential policy[8]

There are two broad types of instruments, those that can be used to increase the resilience of banks (e.g., capital, liquidity-based tools, large exposure limits) and those that affect the credit terms offered to borrowers for collateralised lending (e.g., asset-based tools). The different instruments have different purposes and can be used to address different types of risk. Capital instruments increase resilience to shocks; liquidity instruments address funding risks and credit-related instruments constrain a build-up of risks in the real estate sector and increase resilience to shocks in this sector.

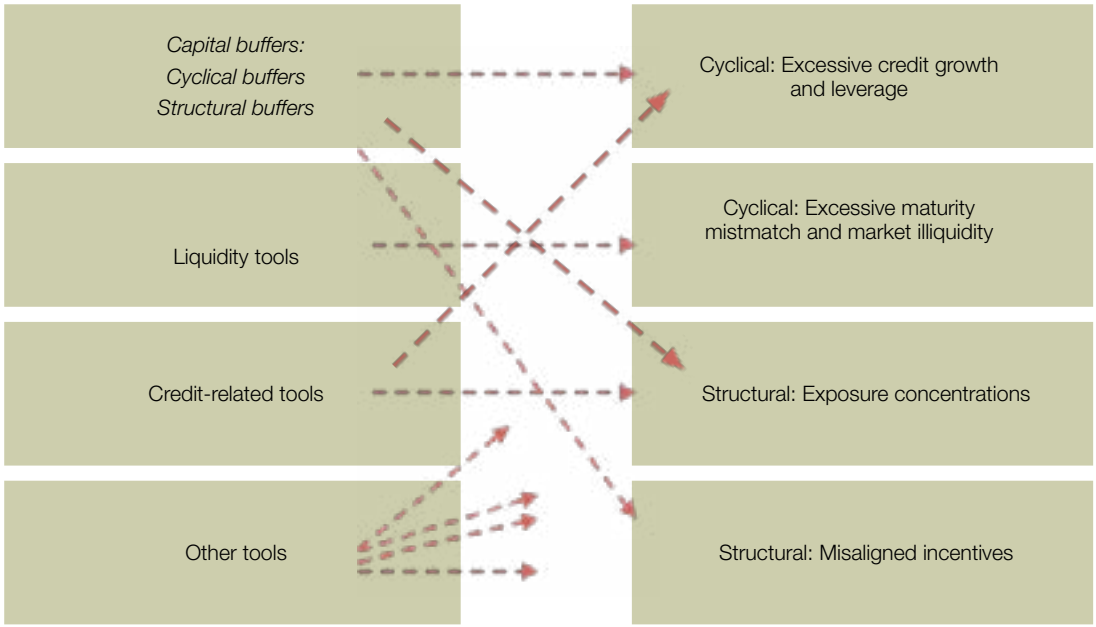
Some instruments can be used to address both cyclical and structural systemic risks. For example, the countercyclical capital buffer and the systemic risk buffer both require banks to increase high quality capital levels in response to risks. However, the countercyclical capital buffer is to be used to build up capital buffers during good times, to increase resilience to shocks in bad times. The systemic risk buffer, on the other hand, is to be used to mitigate long-term non-cyclical risks, such as concentration risk or risks around the structure of the banking sector.

The following sub-sections consider some macro-prudential instruments according to the different category of instrument: capital, liquidity,

7 Intermediate objectives of macro-prudential policy are outlined in further detail in ESRB "Recommendation on intermediate objective and instruments of macro-prudential policy", Official Journal of the European Union (ESRB/2013/1).

8 This section draws on ESRB (2014a), among other noted references.

Figure 1: Linking tools to intermediate objectives



Source: Adapted from IMF (2013) and ESRB (2013)

and other instruments which target bank balance sheets, and credit-related instruments (Figure 1 and Table 1). See CB1(2014a) for further details of legal basis for these instruments in Ireland. Box 1 also discusses who is in charge of macro-prudential policy measures across Europe.

3.1 Capital tools

Capital tools, or buffers, require banks to hold high quality, loss-absorbing capital against various risks. These buffers may be for cyclical reasons or to address structural issues such as common exposures or the structure of the banking sector. Table 1 outlines the different buffers.

While these buffers address different risks, the transmission mechanism through which they work is the same.[9] To meet the higher capital requirement, banks may raise equity and / or delever if they cannot draw on voluntary buffers. Equity can be raised by re-pricing loan portfolios (i.e., increasing lending spreads), decreasing dividends and bonuses, or by raising new equity. Higher capital levels directly increase banks' capacity to absorb losses, which promotes resilience. The credit cycle may also be impacted. An increase in lending spreads may negatively affect credit demand as credit is more costly, while credit supply may be reduced if banks chose to reduce assets. The effectiveness of the buffers may be lessened due to a reduction in voluntary buffers, avoidance, or disintermediation. Banks may also transfer risks off-balance sheet or activity could move to less regulated sectors.

Expectations of market participants play an additional role in the transmission mechanism and can be influenced by the credibility of the policy signal. Banks are allowed to gradually increase their capital to meet the higher capital buffers so long as earnings distribution is limited. Chart 1 shows the different levels at which the various buffers can be set.

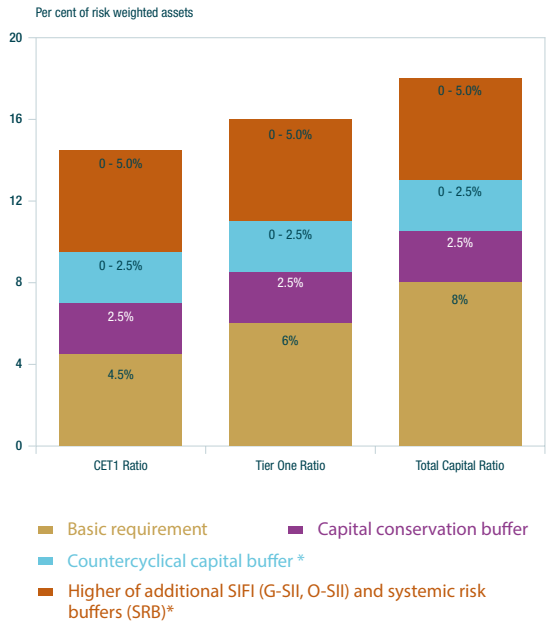
For non-risk based capital measures, such as the leverage ratio, the aim is to ensure that banks do not excessively expand their assets relative to their capital base. The leverage ratio, which is the ratio of tier one capital to total exposures (including both on and off balance sheet activities), should be less cyclical

9 For further detail on the transmission mechanism of macro-prudential policy instruments, see CGFS (2012).

Table 1: Macro-prudential instruments

	Instrument	How it works	Cons	Effectiveness	Risk
Capital tools	Counter-cyclical capital buffer (CCB) *From Jan 16*	- Increases resilience by building up buffers when credit growth is high. - May slow credit growth with higher cost of funds. -Lowered during stressed periods.	- Less effective if banks have excess capital buffers. - Uncertain impact on credit growth. - May lead to shift to less risky assets.	- Capital instruments increase loss-absorption capacity, strengthening the resilience of the financial system, leaving it better able to withstand both institution-specific and sector-wide shocks. - Little experience with the specific buffers. - The G-SII / O-SII buffers are part of global efforts to reduce probability of default of these institutions.	Excessive credit growth and leverage
	O-SII buffer *From Jan 2016*	- Increases resilience and reduces moral hazard of systemically important banks by forcing them to hold higher capital.	- Could lead to deleveraging of balance sheets and/or higher cost of credit for customers. - Could be viewed as 'too big to fail' leading to expectations of a bailout.		Systemically important institutions
	Systemic risk buffer *On request to the Minister for Finance*	- Buffer to prevent and mitigate long term non-cyclical systemic risk not covered by other buffers. - Can be used to limit concentration of exposures and excessive leverage.	- Onerous procedural requirements for activation above 3%. - Could lead to deleveraging of balance sheets and/or higher cost of credit for customers.		Concentration and inter-connectedness (structural)
	Leverage ratio (LR) *Reporting requirement until 2018*	- Limits leverage and acts as a backstop to risk-based capital buffers. - Safeguards against error in the risk based requirements.	- Blunt tool. - May lead to shift to riskier assets to compensate for increased cost of funds.	Research shows that LR tended to outperform risk-weighted capital ratios in predicting bank failure during the crisis (IMF, 2009)	Excessive credit growth and leverage
	Sectoral capital requirements (SCR) *Currently*	- Increases resilience by building up buffers to losses in real estate. - May slow credit growth with higher cost of funds. - Targeted measure.	- Less effective if banks have excess capital buffers. - Could be circumvented via optimisation of internal models. -May displace risk to other sectors.	Studies find an increase in SCR leads to only a modest tightening in credit conditions (BOE, 2014)	Excessive credit growth and leverage
Liquidity tools	Time-varying LCR / NSFR	- Mitigates negative effects from market illiquidity / excessive maturity and liquidity mismatch. - Increases resilience to liquidity risk. - Builds on an existing microprudential requirement.	- Full (100%) LCR not required until 2018, although can be front-loaded. - Final regulatory definition of NSFR not yet finalised. - Complexity in adding a time-varying dimension. - Limited international experience.	These tools still at a conceptual stage and there is little experience with macro-prudential use of funding instruments. New Zealand introduced a core funding ratio in 2010.	Funding risks
	Loan-to-deposit ratio (LDR) *Currently available*	- Increases bank resilience by reducing reliance on short-term wholesale funding. - Constrains credit growth during an upturn.	- Crude measure which doesn't consider full balance sheet. - May lead to deleveraging and / or intensive deposit competition - Barrier to entry for new banks.	IE introduced LDR targets (2010 to 2012). Improved funding position but may also have contributed to deposit competition (Kelly et al., 2014 and EC, 2012).	Funding risks
Other balance sheet tools	Exposure limits *Currently available*	- Reduces systemic risk from concentration and interconnectedness by putting an upper bound on losses from counterparty default and from network effects. - Reduces risk of contagion.	- Could affect smaller banks more. - Could lead to reduction in interbank funding. - Could lead to increase in exposure to common counterparties. - Limited experience as a macro tool.	ECB (2013) found that in a simulated interbank network, contagion losses decline when the large exposure limit of 25 per cent is lowered.	Concentration and inter-connectedness
	Disclosure *Currently available*	- Increases market discipline and creates incentives for banks to manage risks prudently. - Reduces market uncertainty and the probability of information contagion.	Could lead to adverse market reaction and increase stress on riskier banks.	The US / EU stress tests led to improved market conditions through the information released on banks' risks.	All risks
	Pillar 2 *Currently available*	- Flexible tool for addressing a wide range of systemic risks. - Can include increased capital or liquidity requirements, limitation of operations, and additional disclosure.	- Lack of transparency. - Could be used to circumvent procedures around other tools. - Needs coordination between macro and micro-prudential authorities.	Pillar 2 measures have same economic impact as comparable macro-prudential instruments.	All risks
Credit-related tools	LTV *Currently available*	- Increases resilience of banks / households by reducing sensitivity to property price movements. - Directly targeted at real estate. - Directly affects credit cycle.	- Can lead to increase in unsecured lending to meet deposit needs - Not strictly countercyclical as loan size rises in line with property prices. - May affect certain cohorts more than others (FTBs).	Literature examining effectiveness of LTV / LTIs show that these tools can slow mortgage growth, reduce potential for housing bubbles, and reduce severity of downturns (IMF 2013). Significant international experience with these measures, particularly in Asia.	Excessive credit growth and leverage
	LTI / DTI *Currently available*	- Increases household / bank resilience through lower probability of default. - Directly targeted at real estate. - Directly affects credit cycle. - More binding than LTVs as incomes grow slower than house prices.	- Difficult to monitor whether income correctly defined. - LTI may be circumvented by taking out multiple loans. Non-issue for DTI. - May affect certain cohorts more than others (FTBs).		Excessive credit growth and leverage

Chart 1: Regulatory Capital Ratios under CRR/CRD IV



Note: *Possible upper bounds but can be higher. Chart excludes additional Pillar 2 requirements that could be set following supervisory review process and banks' own voluntary capital buffers. The SRB would be cumulative with G-SII / O-SII if SRB refers to domestic exposures only.

Source: Adapted from European Commission (2013).

than risk-weighted capital ratios, given the tendency of risk-weights to fall in good times, when measured risk is low. Thus the leverage ratio could be seen as an automatic stabiliser, given that it requires (minimum) capital levels to move in a linear fashion with total assets. Varying the leverage ratio for macro-prudential purposes would ensure that the leverage ratio would continue to act as a backstop, even when risk is priced lower in good times. This would reduce the build-up of vulnerabilities associated with excessive leverage in the banking system. Given that the leverage ratio does not take the risk profile of the bank into account, however, it should be used in tandem with regulatory capital ratios for a complete assessment.

In terms of measuring the effectiveness of the buffers, there have been a number of studies looking at the potential economic impact of higher capital requirements under Basel III during the transition period (MAG, 2010) and over the longer-term (BCBS, 2010). These studies investigate the impact on resilience, the credit cycle and on output. BCBS (2010) find that a one percentage point increase in capital requirements reduces the probability of a systemic crisis occurring by 25 to 30 per cent, depending on the initial level of capital. In terms of the impact on spreads, the MAG (2010) estimate that a one percentage point increase in required capital ratios leads to a median increase in lending spreads of 15 bps after 18 quarters. Under the assumption of permanently higher capital ratios, there is evidence of a reduction in risk weighted assets (RWA) /lending volumes. MAG (2010) finds a 1.4 per cent decrease in lending volumes relative to the baseline scenario after 18 quarters if the target ratio is increased by one percentage point.

A one percentage point increase in capital requirements is found to lead to a decline in GDP of 0.19 per cent below baseline, after 18 quarters, allowing for international spill-overs (MAG, 2010). The result would be higher if banks voluntarily chose a shorter transition period or hold additional buffers. The results may be smaller if banks chose to change business models towards safer assets or increased efficiency which might offset the need to increase spreads or reduce risk weighted assets.

As the various buffers in the CRD are new instruments, there is little evidence for their impact on resilience and the credit cycle. The main objective of using capital-based instruments aimed at systemic banks is to strengthen the resilience of these institutions and the resilience of the financial system as a whole. Laeven *et al*., (2014) confirm that requiring large banks to hold more capital is a powerful tool to reduce systemic risk. They find that higher capital reduces the likelihood of bank failure (lower individual risk) and the impact of the bank's failure on the rest of the financial system and the broader economy (lower systemic risk).

3.2 Liquidity tools

Liquidity risk is the risk of the failure of banks' normal funding and refinancing channels. Macro-prudential liquidity instruments aim to mitigate this risk. Both quantity-based (e.g., liquidity coverage ratio (LCR), net stable funding ratio (NSFR), loan-to-deposit (LTD), or loan-to-

stable funding (LTSF) limits) and price-based instruments (e.g., general liquidity surcharge and liquidity surcharge for systemically important institutions) can reduce reliance on vulnerable non-core funding. By constraining access to wholesale funding, liquidity tools can complement the credit-dampening effects of counter-cyclical capital buffers or sectoral capital requirements.

Some instruments focus on building liquid-asset buffers so that funding obligations can be met, even in a stressed scenario, over a certain time horizon. The LCR requirement, for example, aims to ensure that banks have sufficient high quality liquid assets to cover stressed net cash outflows over a 30 day-horizon. The ratio between the liquid assets and outflows should be 100 per cent. The ratio of liquid assets to total assets could also be used. Other instruments aim to ensure the stability of the funding base so that banks are not relying on short-term volatile sources of funding. The NSFR (i.e., the ratio of available to required stable funding) seeks to put a floor on the amount of long-term funding banks hold against less liquid assets. A core funding ratio, such as is used in New Zealand (see section 4 for more detail), or a loan–to-deposit/stable funding ratio has a similar objective. Macro-prudential policy responses to liquidity risk can take the form of a (potentially time varying) add-on or adjustment to the minimum regulatory levels for both the LCR and the NSFR or the simpler ratios could be used either as static or time-varying requirements.

A general liquidity surcharge could take the form of a levy in relation to a bank's liquidity risk - the charge would increase as a bank's funding maturities get shorter or less stable sources of funding are used. These price-based instruments aim to cover the potential social costs associated with a materialisation of systemic risk arising from funding vulnerabilities and could also be applied to systemically important banks.

3.3 Other balance sheet tools - large exposure limits

Exposure limits, which are designed to limit concentration from a micro-prudential perspective, can also be used for macro-prudential purposes. Large exposures are defined in the Capital Requirements Directive as exposures that are 10 per cent or more of a bank's capital base and require monitoring. The current limit on large exposures to a single counterparty or a group of connected counterparties is 25 per cent of a bank's capital. There are certain exceptions to this, including sovereign exposures, and exemptions are often granted for inter-group exposures. Supervisors also review sectoral, geographical and currency concentrations as part of the Supervisory Review Process. Further restrictions on large exposures to a particular sector or asset class could be applied using pillar 2[10] or using Article 458 from the Capital Requirements Regulation[11] in the case of intra-financial exposures.

These instruments address contagion risks by limiting banks' exposures to a particular area. ECB (2013) found that in a simulated interbank network, contagion losses decline when the large exposure limit of 25 per cent is lowered. This results in a lower degree of concentration of interbank connections. It also found that the forced reduction of counterparty concentration risk seems to benefit the safest part of the banking system; the weaker banks are less affected by changes in the large exposure limits, potentially as they have less scope for diversification.

3.4 Credit-related tools

Sectoral imbalances may require that a targeted approach is taken in order to be effective. In addition to sectoral capital requirements, risks posed by the real estate sector can be addressed by directly restricting the amount that can be borrowed relative to the value of the underlying collateral (a loan to value (LTV) limit)

10 Tightening a range of micro-prudential requirements if the supervisory review process reveals that a bank or group of banks is contributing to/affected by systemic risk.

11 Known as the 'flexibility package', Article 458 gives the macro-prudential authority wide ranging powers to act to limit the build-up of systemic risk. However, in order to preserve the Single Market, there are significant procedural aspects to be followed before a country can implement this measure. Tools include imposing stricter requirements for; the level of own funds, liquidity requirements, risk weights for property sectors, and measures for intra-financial exposures. Increased disclosure requirements can also be applied to improve market discipline.

or income of the borrower (a loan to income (LTI) or debt service to income (DSTI) limit). The legal basis for these asset-based macro-prudential measures comes from national legislation in Ireland.

The transmission mechanism for measures which affect the terms and conditions of new lending is somewhat different. These asset-based measures may strengthen the resilience of the banking sector by reducing the probability of default and loss-given-default on property exposures. Specifically, the financial position of borrowers is strengthened as less leverage reduces the vulnerability to adverse shocks and banks have more collateral to cover losses if a default occurs. A reduction in the feedback between property and credit caused by less credit may serve to further dampen both credit and property cycles. Property demand may be further affected if such policy measures alter market participants' expectations regarding future property prices. Banks may also adopt tighter risk management practices to this sector on the introduction of such measures. In any case, such measures would complement supervisory monitoring of credit risk policies at an individual bank level.

There is a significant literature on the effectiveness of LTV/LTI caps as these macro-prudential policies have been in place in a number of countries prior to the crisis (see IMF (2013a) for an overview). An IMF (2013) survey shows that the most commonly used real estate tool is the limit on LTV ratios, followed by sectoral capital requirements and LTI caps. There is some evidence supporting the resilience argument for LTVs and their impact on credit growth. The empirical evidence is however mixed for the impact on house prices. It should be noted that a number of country-specific factors such as institutional features, stage in economic development/cycle, interaction with other policies (e.g., fiscal, monetary), initial financial position of the banking sector all play a role in determining the outcome/transmission mechanism of instruments.

3.5. Selection criteria and operational challenges

There are many considerations in the selection of a particular instrument or combination of instruments. This includes economic and legal aspects. Naturally, instruments with high effectiveness in addressing the targeted risk and low social costs are optimal. Considerations in practice include whether an instrument targets the specific risk identified; is proportionate to the level of risk; provides few opportunities for leakages; is transparent; causes limited negative distortions to the financial system; and has limited cross-border spill-overs.

Timing will be an important consideration for macro-prudential policy measures. If a measure is implemented too early, banks and other market participants may devise methods to circumvent the measure thereby reducing its effectiveness. Releasing an instrument will depend upon the scale of financial stress. If a systemic banking crisis is underway, there is a trade-off between market requirements for higher capital and the need to protect the system from deleveraging. CGFS (2012) suggest that waiting until systemic risks abate may be prudent. If financial imbalances reduce without a crisis, countercyclical policies may be released.

As noted earlier, some of the instruments are new. The use of these instruments internationally depends on the prevailing macroeconomic and institutional features and so it is difficult to infer precise policy conclusions from individual country experiences. Therefore, it is globally acknowledged that macro-prudential policy implementation will involve "learning by doing". There are also known limitations to macro-prudential policy. Macro-prudential policies may be circumvented by banks, if poorly designed. Additionally, other financial intermediaries not subject to the measures (e.g., shadow banking entities or foreign branches) may adopt business strategies that undermine the intention of the policy. Arbitrage or policy *leakages* are, therefore, key areas of concern for macro-prudential policymakers when designing and monitoring measures.

Monetary policy can also reduce the effectiveness of macro-prudential policies, particularly if these policies have conflicting objectives (e.g., expansionary monetary or fiscal policies and measures to tighten macro-prudential policy). Both monetary and macro-prudential policies influence the quantity

and cost of credit and therefore interact, leading potentially to conflicts but also to complementarity, in particular when the real and financial cycles move together. The potential for conflict is the main reason why the objectives of both monetary and macro-prudential policies need to be carefully considered (Spencer, 2014).

Other policy areas also interact with macro-prudential policies, for example fiscal policy. In research on how effective non-interest rate policies are at controlling mortgage credit and house price appreciation, Kuttner and Shim (2013) find that besides macro-prudential instruments such as LTV and DSTI caps, the tax treatment of housing has a significant effect on credit and house price growth. In asset markets numerous policy initiatives can address imbalances in supply and demand, for example, zoning laws and planning regulations in the housing market.

4. Where are macro-prudential policy measures used?

As a relatively new policy area, other country experiences with macro-prudential policies are an important source of information. Macro-prudential policies have been targeted at different systemic risks, depending on the severity and the nature of risks in different countries, although trying to limit the risk of domestic mortgage lending has been one of dominant policy actions across countries. These policies were used widely in Asia after the crisis of the 1990s, and are becoming increasingly popular in Europe in recent years. IMF (2014b) presents the results of the IMF database on macro-prudential measures across 46 different countries since 2000. These countries have used a variety of instruments to mitigate systemic risks in the financial sector and influence capital flows.

4.1 Country characteristics

There are many ways by which individual country experiences can be aggregated. These include by the type of systemic risk, by the instrument used, or by whether a country is a developed or an emerging market. However, when considering country experiences, context in the form of the structural features of the economy and banking system is very important. Country characteristics which can shape the type of macro-prudential policy used includes the size, concentration, and interconnectedness of the financial system, the economic and financial data available, the growth of credit in relation to GDP, the strength of the legal framework, the degree of alignment of the financial and economic cycles, and the degree of economic diversification (IMF 2014c).

In addition to these factors, whether a country has control over monetary or exchange rate policy will have a large bearing on the type of instrument it can use to address a systemic risk. For countries in a currency union, the monetary policy stance set for the union may not be appropriate across all countries. Macro-prudential policies can be used to address emerging imbalances that this can cause. Brzoza *et al*., (2013) finds that the counter-cyclical application of macro-prudential tools can partly make up for the loss of independent monetary policy in the periphery, once it is set individually for each region. Similar considerations apply to countries which have reduced exchange rate flexibility, where macro-prudential policy can be used to counter the build-up of systemic risk from credit booms. For countries with monetary policy and exchange rate flexibility, macro-prudential policy still plays an important role, as outlined in section 3.5.

4.2 Country experiences

Tables 3a and 3b show a non-exhaustive list of countries which have taken macro-prudential measures and categorised them according to monetary policy regime based on IMF (2014). The impact of each measure is included, where available.

Credit-related instruments such as limits on high LTV, DTI/LTI lending have been widely used across all countries, but particularly in Asia over the past decade. Hong Kong has had an LTV cap since the early 1990s and Korea since 2002. Many European countries have moved to introduce these limits since the crisis, including Norway, Sweden, Finland, and the United Kingdom.

Experience with the macro-prudential use of *liquidity instruments* is quite limited. These

Box 1: Who is in charge of macro-prudential policy in Ireland and across Europe?

The ESRB issued a detailed recommendation to all Member States in Europe in 2011 to enshrine the role of the macro-prudential authority in national legislation. Although the ESRB called for central banks to play a leading role in macro-prudential policy, the macro-prudential authority could also be a supervisory authority, a newly established institution or a board of relevant authorities. The main message of the recommendation was that the macro-prudential authority must have powers and instruments in order to allow it to identify risks and take action when necessary.

In addition to the ESRB recommendation, the new European banking regulation called the Capital Requirements Directive IV and Regulation (CRD IV\CRR) contains a package of macro-prudential tools. While most of the banking regulation is the responsibility of the supervisory authority, the CRD IV \CRR allows Member States to assign these macro-prudential tools to a special macro-prudential authority, or the 'designated authority'. The CRD IV \ CRR came into force in January 2014 and all Member States responded by assigning a macro-prudential authority.

In Ireland, the Central Bank of Ireland (Central Bank) has a financial stability mandate and is also the national macro-prudential authority as defined by the ESRB recommendation[12]. The Central Bank is also the designated macro-prudential authority under the CRD IV\ CRR. Such powers supplement existing legislation that is in place to address financial stability concerns. Under the Single Supervisory Mechanism (SSM) legislation, macro prudential policy will be a shared competency between the ECB and the Central Bank which means that both the ECB and the Central Bank can act to apply the macro-prudential tools in the CRR/CRD IV, in close consultation with each other to ensure consistent and coordinated actions. The Central Bank has agreed a framework for macro-prudential policy which is outlined in CBI (2014a).

The type of national institutional framework varies across Europe (Table A). While the central bank is the authority in charge of macro-prudential tools in the majority of countries, several countries have assigned these instruments to a committee. In the UK, although the central bank is the designated authority for the CRD / CRR, key decisions on macro-prudential policy are taken by the Financial Policy Committee (FPC). This is a cross-institution committee which is housed in the Bank of England. As noted, for the euro area countries, macro-prudential policy is a shared competency with the ECB within the SSM and thus interaction with the ECB is part of the macro-prudential framework in these countries.

Table A: Authorities responsible for macro-prudential supervision in Europe

Agency	Euro area	Non-euro area	Total
Central Bank	11	6	17
Supervisory Authority	4	1	5
Ministry of Finance	0	1	1
Committee	4	2	6

Source: The Land In Between, Dirk Schoenmaker, Duisenberg School of Finance (March, 2014).

There are pros and cons to each of the different institutional frameworks shown above, and the appropriateness of each will depend on the individual country's institutions and preferences. What is important is that all key functions of macro-prudential policy are assigned to a body that has the power, capability, and institutional knowledge to use them.

12 Recommendation of the ESRB of 22 December 2011 on the macro-prudential mandate of national authorities (ESRB/2011/3), OJ 2012/C 41/01.

instruments are particularly important for small open economies with differentials between domestic and foreign policy rates (IMF 2014c). New Zealand introduced a core funding ratio in 2008 to reduce the amount of funding sourced from short-term wholesale markets. This reduces the rollover risk associated with higher offshore debt. Korea introduced a stability levy on non-core foreign exchange liabilities, which is a countercyclical tool which can be used when capital flows increase to unsafe levels. While not always considered a macro-prudential tool, capital flow measures (CFMs), which are designed to reduce the risk of large capital inflows, do act to counter systemic risks from capital flows (IMF, 2013). Policies such as those to discourage foreign-currency borrowing can be considered as both macro-prudential and capital flow measures (IMF 2014). There has been considerable experience in central and eastern European countries with macro-prudential measures to reduce lending in foreign currency. The high level of foreign-exchange lending was due in part to large capital inflows in these countries, with foreign banks entering the market and competing for market share. The measures introduced across the region include changes to reserve requirements, foreign currency liquidity requirement limits, and limits on the amount of foreign currency loans to unhedged borrowers that banks could extend.

Counter-cyclical *capital requirements* such as the Basel III countercyclical capital buffer (CCB) and dynamic provisioning are a recent addition to the regulatory framework and have not been introduced in many countries. Examples, however, include Switzerland's introduction of the CCB in 2013, Spain's experience with dynamic provisioning, and experience with sectoral capital requirements in India[13] and Ireland. Sweden and Norway have recently introduced CCBs on domestic exposures.

5. Conclusion

Systemic events such as sector-wide banking crises have significant real effects as shown by the recent global and domestic crisis. Macro-prudential policy seeks to reduce the probability and scale of future systemic crises. Strengthening the resilience of the banking sector and reducing the possibility of systemic vulnerabilities to accumulate are the high-level targets of this policy area. Recent financial crises showed that such vulnerabilities can emerge through the pro-cyclicality of bank lending and macro-financial linkages. Highly interconnected financial systems dominated by large and sometimes complex banks can also amplify the impact of such weaknesses in a downturn.

Policy makers now have a range of instruments to tackle systemic risk. This paper provides an overview of these instruments, discussing the various aims and transmission mechanisms of each. Cross-country experience is also included. There are a number of operational challenges. Macro-prudential policy is a new area of responsibility for many central banks and there is limited experience with some of the new instruments. The transmission mechanism of macro-prudential policy and the overall impact of its instruments can be directly affected by other policies and may be subject to arbitrage or policy leakages. The long-term net benefits of certain measures are, therefore difficult to measure in advance. The costs of the global financial crisis imply that overcoming the implementation challenges may be worthwhile. Effective macro-prudential policies will be welfare-improving and supportive of long-term growth prospects

13 See Chakrabarty (2014) for further information on the introduction of higher risk weights in India on commercial real estate lending in 2005/2006.

Table 3a: International experience with macro-prudential policy measures[14]

Country	Instrument used	Risk addressed	Effectiveness
Countries with independent monetary policy and floating currencies			
Poland	Series of measures to limit FX-lending incl. higher DSTI ratios for FX-loans, higher risk weights for FX-loans. Borrowers can only borrow same currency as income (Jan 14).	Risks to mortgage repayment capacity from exchange rate fluctuations or increases in foreign interest rates.	FX-lending has reduced due to the financial crisis. However, macro-prudential tightening has continued (ECB 2014).
Canada	80% LTV cap with mandatory mortgage insurance, capped 25 year loan term, maximum total debt service ratio of 44%. Time varying. Canada has taken four macro-prudential policy measures since 2008 to tighten to these requirements.	Risk in domestic mortgage market	Introduced after period of strong house price and credit growth. Difficult to separate impact of the financial crisis. IMF (2014a) shows that the moderation in house prices and mortgage credit since 2010 has been due in part to policy measures. Mortgage arrears rate in mortgage loan insurance portfolio remain low.
New Zealand	Proportionate LTV cap at 80% (2013), temporary restriction.	Risks in housing market with high house price growth, overvalued housing stock, high exposure of banks to mortgages and high household indebtedness.	Early indications of moderating credit growth and house price inflation since LTV introduction. Proportion of high LTV lending has fallen significantly. Difficult to disentangle effects of increase in interest rates in 2014 (RBNZ, 2014).
	Core funding ratio of 75% in 2010.	Risk of disruption to funding markets.	Has reduced the reliance on short-term wholesale funding markets.
Sweden	85% LTV cap (2010) Higher capital for mortgages (2013) 1% CCB on domestic exposures (2015).	Risk in domestic mortgage market from high bank exposure to mortgages, high household indebtedness, high share of high DTI and LTV loans	Introduced after period of strong house price and credit growth. The LTV cap has significantly decreased the number of new mortgages with loans over 85pc of the market value. The rate of credit growth has slowed since 2010.
	3% SRB and 2% Pillar 2 for 4 systemic banks (2015)	Systemic risk	Not yet binding. Banks already have very high capital ratios.
UK	Proportionate LTI cap at 4.5 times	Insurance against the risk that there is greater momentum in the housing market than anticipated and that, as a result, lenders face growing demand for loans at very high LTIs.	Only implemented in late 2014
Australia	Increase in risk weights for self-verified mortgages and non-prime home loans in 2004.	Risk from strong house price growth in tandem with higher risk lending.	Seen as having helped to change bank lending behavior and limit the growth of this market.
Norway	LTV cap of 90% (Mar 2010), reduced to 85% (Dec 2011).	Risks in mortgage market with strong price growth and high household indebtedness.	Introduced after period of strong house price and credit growth. Gradual reduction in high LTV lending. ECB (2014) found that house prices continued to rise post announcement of cap but credit growth slowed somewhat.
	Countercyclical capital buffer of 1% from June 2015. 2% capital buffer for systemically important institutions (July 16) and systemic risk buffer of 3% (June 14).	Risk from financial imbalances in the economy. Systemic risk	Not yet binding. Banks already have very high capital ratios.
Korea	LTV cap (2002), differentiated by property type, adjusted counter-cyclically. DTI cap (2005), differentiated by property type, adjusted counter-cyclically.	Aimed at stabilising house prices.	Evidence shows that these measures have had effects on volume and on prices. The measures have also been shown to alter expectations. (Igan and Kang, 2011).
	Macro-prudential Stability Levy (MSL) (2011), price-based tax on banks' non-core foreign currency liabilities.	Risk from excessive dependence on short-term non-core foreign exchange (FX) borrowings.	IMF (2013) states that although early days, the measure appears to have been effective in curbing banks' reliance on short-term FX funding and in reducing vulnerabilities from FX mismatches and their links to exchange rate volatility.

14 For further detail on individual macro-prudential measures, see IMF Article IV consultations for the different countries.

Table 3b: International experience with macro-prudential policy measures[15]

Country	Instrument used	Risk addressed	Effectiveness
Countries with exchange rate anchors			
Croatia	A wide range of instruments including changes to reserve requirements, higher risk weights and liquidity requirements on foreign currency exposures.	Risk from capital flows and foreign currency lending.	Difficult to assess effectiveness due to many policy changes. Some of these changes were necessitated due to arbitrage activity. Some effect on increasing bank resilience to shocks (ECB 2014).
Hong Kong	LTV cap (1990s), differentiated by property and borrower type, adjusted counter-cyclically, in conjunction with mortgage insurance. DTI cap.	High bank exposure to residential mortgages, lack of control over monetary policy, high and volatile property price growth.	Bank losses remained low during Asian crisis after severe falls in property values (BOE 2011). Delinquency ratio of insured portfolio remains low.
Singapore	LTV cap for 1st (80%), 2nd (50%), subsequent (40%), and non-individual (20%) mortgages and mortgages with a long term (from 2013). Mortgage servicing requirement of 30% (2013).	Risks to financial stability from rising house prices and credit growth.	Share of borrowers with just one mortgage increased and speculative transactions fell after introduction of LTV cap (IMF 2014b).
Switzerland	Counter-Cyclical Capital buffer on real estate exposures (Feb 2013)	Sustained growth in the domestic credit and real estate markets over recent years, and the removal of interest rate flexibility with the exchange rate floor	Premature to draw conclusions as to the success of the CCB to date. It is worth noting that the buffer was activated while other regulatory instruments were already in place.
Countries in a currency union			
Finland	90% LTV cap; 95% for FTBs, based on fair value of all collateral.	High house prices and high household sector indebtedness.	Previously introduced as guidelines but will only be binding from 2016.
Ireland	Higher RW for higher LTV residential mortgages and on CRE lending (2006/7).	Risk of system-wide expansion of property-related credit.	These measures were not effective given the late timing of deployment and the limited effect on capital requirements (Honohan (2010).)
Netherlands	LTV cap of 100% by 2018 (Aug 2011).	Risks in mortgage market.	Difficult to separate effect of LTV cap on announcement and the impact of the crisis in 2011 on house prices and credit growth.
	Systemic risk buffer for large banking groups	Reduce the risk of systemic banks failing.	To be be phased in between 2016 and 2019.
Spain	Rules-based dynamic provisioning introduced in 2000.	Motivated by a sharp increase in credit risk on Spanish banks' balance sheets following a period of significant credit growth during the late-1990s. Risk from high credit growth and low credit costs.	IMF (2011) finds that the instrument was effective in helping to cover rising credit losses during the crisis, but the coverage was less than full because of the severity of the actual losses.

15 For further detail on country classifications, see IMF Annual report on exchange arrangements and exchange restrictions 2014. For further detail on individual macro-prudential measures, see IMF Article IV consultations for the different countries.

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Statistical Appendix

Statistical Appendix

The publication of the Statistical Appendix of the Quarterly Bulletin was discontinued from Quarterly Bulletin 1 2014. Statistical data compiled by the Central Bank are accessible on the Statistics page of the Central Bank's website, http://www.centralbank.ie/polstats/stats/Pages/default.aspx. Some tables, previously published in the Statistical Appendix, have been expanded to provide more comprehensive data. A number of statistical tables, which were not published in earlier Bulletins, have also been added.

The list of statistical tables and links to access them on the website are given on the following page.

STATISTICAL TABLES: CENTRAL BANK WEBSITE LINKS

Money and Banking:
http://www.centralbank.ie/polstats/stats/cmab/Pages/Money%20and%20Banking.aspx

- Summary Irish Private Sector Credit and Deposits
- Financial Statement of the Central Bank of Ireland
- Credit Institutions – Aggregate Balance Sheet
- Credit Institutions (Domestic Market Group) – Aggregate Balance Sheet

Business Credit and Deposits:
http://www.centralbank.ie/polstats/stats/cmab/Pages/BusinessCredit.aspx

- Credit Advanced to Irish Resident Private-Sector Enterprises
- Deposits from Irish Resident Private-Sector Enterprises

Private Household Credit and Deposits:
http://www.centralbank.ie/polstats/stats/cmab/Pages/HouseholdCredit.aspx

- Credit Advanced to and Deposits from Irish Private Households

Money Market Funds:
http://www.centralbank.ie/polstats/stats/cmab/Pages/MoneyMarketFunds.aspx

- Money Market Funds Aggregate Balance Sheet
- Money Market Funds Currency Breakdown of Assets

Retail Interest Rates:
http://www.centralbank.ie/POLSTATS/STATS/CMAB/Pages/Retail%20Interest%20Rate%20Statistics.aspx

- Retail Interest Rates - Deposits, Outstanding Amounts
- Retail Interest Rates - Loans, Outstanding Amounts
- Retail Interest Rates and Volumes - Loans and Deposits, New Business
- Official and Selected Interest Rates

Investment Funds:
http://www.centralbank.ie/polstats/stats/investfunds/Pages/data.aspx

- Ireland: Investment Funds Data

Securities Issues:
http://www.centralbank.ie/polstats/stats/sis/Pages/Issues.aspx

- Securities Issues Statistics

Financial Vehicle Corporations:
http://www.centralbank.ie/polstats/stats/fvc/Pages/data.aspx

- Irish Financial Vehicle Corporations

Locational Banking Statistics:
http://www.centralbank.ie/polstats/stats/locational/Pages/data.aspx

- Total Positions of Banking Offices Resident in Ireland vis-a-vis Residents and Non-Residents

Quarterly Financial Accounts:
http://www.centralbank.ie/polstats/stats/qfaccounts/Pages/Data.aspx

- Financial Accounts for Ireland Quarter 1, 2002 – present

Public Finances and Competitiveness Indicators:
http://www.centralbank.ie/polstats/stats/sis/Pages/SecuritiesHoldingsStatistics.aspx

- Gross National Debt
- Holdings of Irish Government Long-term Bonds

http://www.centralbank.ie/polstats/stats/Pages/hcis.aspx

- Nominal and Real HCIs

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