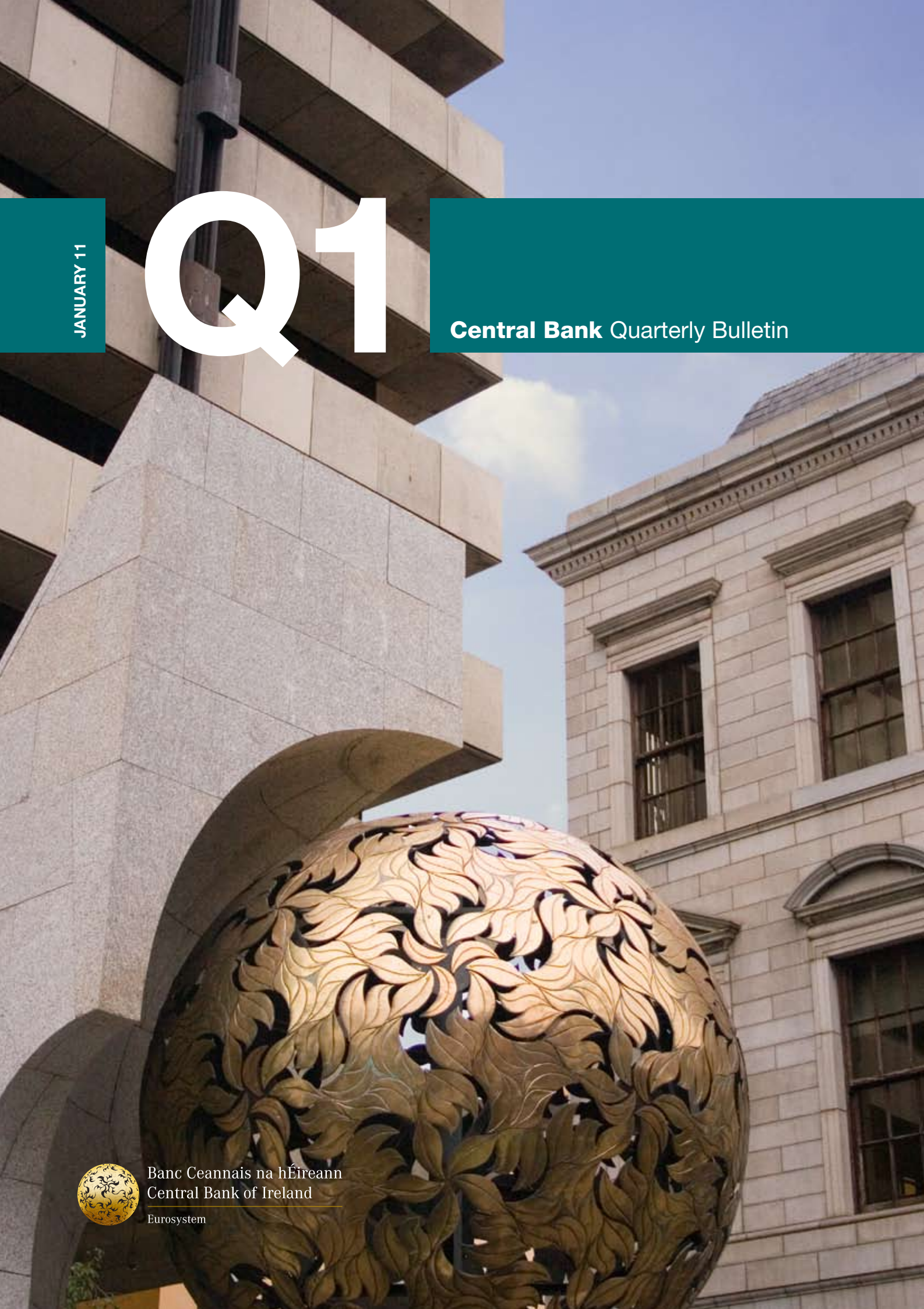

JANUARY 11

# Q1

## Central Bank Quarterly Bulletin

Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

# Contents

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## Section 2



## Section 3

# 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. As far as possible, data available at mid-December 2010 are included in the Statistical Appendix (Section 3).

8. Updates of selected Tables from the Statistical Appendix, concerning monetary and financial market developments, are provided in Monthly Statistics. 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

| | 2008 | 2009 | 2010[e] | 2011[f] | 2012[f] |
|---|---|---|---|---|---|
| **Real Economic Activity** | | | | | |
| (% change) | | | | | |
| Personal consumer expenditure | -1.5 | -7.0 | -1.7 | -2.2 | 0.2 |
| Public consumption | 2.2 | -4.4 | -4.8 | -4.7 | -3.0 |
| Gross fixed capital formation | -14.3 | -31.0 | -24.8 | -13.2 | -0.8 |
| *of which:* Building and construction | -13.2 | -34.9 | -32.0 | -22.0 | -2.8 |
| Machinery and equipment | -15.3 | -19.3 | -10.0 | 0.0 | 1.4 |
| Exports of goods and services | -0.8 | -4.1 | 8.4 | 5.9 | 5.6 |
| Imports of goods and services | -2.9 | -9.7 | 4.9 | 2.5 | 3.6 |
| Gross Domestic Product (GDP) | -3.5 | -7.6 | -0.3 | 1.0 | 2.3 |
| Gross National Product (GNP) | -3.5 | -10.7 | -2.5 | -0.3 | 1.5 |
| **External Trade and Payments** | | | | | |
| Balance-of-Payments Current Account (€ million) | -10,169 | -4,853 | -1097 | 3041 | 5749 |
| Current Account (% of GNP) | -6.6 | -3.7 | -0.9 | 2.4 | 4.5 |
| **Prices, Costs and Competitiveness** | | | | | |
| (% change) | | | | | |
| Harmonised Index of Consumer Prices (HICP) | 3.1 | -1.7 | -1.6 | 0.3 | 0.5 |
| of which: Goods | 2.9 | -4.1 | -2.4 | 0.6 | 0.2 |
| Services | 3.4 | 1.2 | -0.7 | 0.2 | 0.7 |
| HICP excluding energy | 2.6 | -1.0 | -2.7 | -0.5 | 0.4 |
| Consumer Price Index (CPI) | 4.1 | -4.5 | -1.0 | 0.8 | 0.6 |
| Nominal Harmonised Competitiveness Indicator (Nominal HCI) | 4.5 | 1.0 | -4.0[a] | n.a. | n.a. |
| Compensation per non-agricultural employee | 3.5 | -0.2 | -2.5 | -0.2 | 0.3 |
| **Labour Market** | | | | | |
| (% change year-on-year) | | | | | |
| Total employment | -1.1 | -8.1 | -4.1 | -1.0 | 0.2 |
| Labour force | 0.8 | -2.4 | -2.0 | -0.9 | -0.1 |
| Unemployment rate (ILO) | 6.3 | 11.8 | 13.6 | 13.7 | 13.4 |
| **Technical Assumptions[b]** | | | | | |
| (Annual average) | | | | | |
| EUR/USD exchange rate | 1.47 | 1.39 | 1.33 | 1.32 | 1.32 |
| EUR/GBP exchange rate | 0.80 | 0.89 | 0.86 | 0.85 | 0.85 |
| Oil price ($ per barrel) | 97.7 | 61.9 | 79.6 | 94.2 | 94.0 |
| Interbank market – Euribor[c] (3-month fixed) | 4.63 | 1.22 | 0.81 | 1.33 | 2.03 |

**a** Based upon the annual change in the average nominal HCI for the first eleven months of 2010.

**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

Following the severe setbacks in employment, output and the fiscal accounts over recent years, aggravated by the heavy actual and prospective losses that have become evident in the banking sector, an adverse shift in international market sentiment drove yields on Irish debt in November 2010 to levels that could not be supported by either public or private sector borrowers. Under these circumstances, prompt recourse to the financing facilities of the EU and the IMF was clearly essential.

Supported by the funding made available from the EU-IMF Programme, Ireland now has a window of time in which to convince international markets that its fiscal adjustment is well under control, that risks in the banking system are contained and the banks' balance sheets scaled down, and that the economy's competitiveness improvements have been consolidated.

Focusing as it does mainly on macroeconomic and financial developments, this Comment is not the place for a comprehensive discussion of the full range of growth-oriented policies that need to be brought into play and reinforced at this time of urgent consolidation and reform. The overall package of policy actions agreed under the Programme are in the direction needed to ensure a return to sustainable economic growth. However, the pace and timing of any pick up cannot be forecast very precisely. In particular, the degree to which a net withdrawal of some fiscal demand could be offset by private sector and international factors is especially difficult to gauge precisely.

Taking everything into account, the Bank's central scenario is that, after three years of significant contraction, the Irish economy will begin to grow gradually again in 2011. Although the beginnings of a turnaround in employment levels cannot be expected until late this year, recovery in overall economic activity is expected to gain momentum during 2011 and 2012. In 2011, GDP growth is projected to be in the region of 1 per cent, rising to around 2.3 per cent in 2012. GNP is expected to be broadly unchanged this year, with a return to positive growth, in the region of 1.5 per cent, projected for 2012. These projections represent a significant downward revision to those published in the last Quarterly Bulletin, which were compiled on the basis of a much smaller €3 billion fiscal consolidation in 2011 than the one currently budgeted, and on the basis of continued market access to funding on reasonable terms. While this is the Bank's central scenario, a range of both stronger and weaker outcomes are, of course, quite plausible.

The already evident divergence in sectoral performance across the economy is set to continue, with growth likely to be largely confined to the export sector in 2011. Thus, the gradual return to overall output growth will reflect the growing contribution from the external side beginning to outweigh the still negative – albeit less so – impact of domestic factors.

Although the global economic recovery slowed in the second half of last year, the outlook is for global growth momentum to recover gradually as this year progresses. Projections from the main international forecasting agencies suggest that, while growth in Ireland's main export markets will be lower in 2011 than last year, it will still be sufficient to support relatively strong export growth. With import growth likely to remain relatively sluggish, the net contribution to growth from external trade will likely be significant. The overall current balance is also projected to move into surplus this year.

The prospects for domestic demand remain subdued. While the contraction in consumer spending is beginning to moderate, the underlying determinants of consumption are likely to remain weak. With employment projected to continue to fall slightly in 2011, with the effect of higher taxes on disposable incomes, and with households seeking to reduce their indebtedness, consumer spending is forecast to contract further this year. Beyond 2011, the recovery in consumption is likely to be slow and gradual. Labour market trends support this view, with only a modest rise in employment projected for next year. With respect to investment, while the rate of contraction is set to moderate, both the ongoing adjustment in the construction sector and planned adjustment in public capital spending imply that the outlook for 2011 is for a further marked fall in spending.

Negotiation of an external funding agreement does not in itself, of course, remove the medium-term policy challenges; nor indeed does it materially alter the nature of available solutions. For example, as regards the public finances, closing the large gap that opened up between revenue and expenditure during the downturn remains the key priority. Even in the absence of a such an adverse turn in financial market sentiment, and even if the costs of meeting the losses of the guaranteed banks could be ignored, the gap that had suddenly opened between government income and expenditure, was always going to have to be reduced so that the evolution of debt could be brought under control. Of course, if the costs of the banking sector support had been substantially lower and if there had been less tension in sovereign debt markets, this would have afforded the country more time to make the adjustment. It would not, however, have removed the necessity for what is probably best described as a 'renormalisation' of the government finances. Government had become too dependent on sources of revenue that would not outlive the property boom, and indeed had narrowed the income tax base. Government spending too rose very rapidly in the boom. The fiscal adjustments of the past couple of years, and those announced in the Budget, move in the direction of correcting these deviations from what can be sustained on a long-term basis. The overall aim now must be to continue moving to a situation in which reasonable tax rates are applied to a broader stable base with revenue close to matching expenditure, the position that obtains in most countries over time.

As regards the banking sector, the policies agreed under the Programme can also be seen as essentially an intensification of the pre-existing approach rather than a radical departure. The first element consists of putting as much detailed information on the condition of banks' balance sheets and their prospective profitability in the public domain as possible. The Central Bank is updating the Prudential Capital Adequacy Review (PCAR) exercise, to take account of additional information and updated overall economic prospects. This PCAR will be externally validated and will provide the basis for an assessment of what additional capital is required to meet the much higher capital standards now being proposed for the banks in the context of the EU-IMF Programme. It should also help to address fears about tail risks in the balance sheets of banks. At the same time, a programme of deleveraging will be put in place that will see the banks' balance sheets being reduced in size by the sale of assets which will, in turn, improve their funding position and allow them to attain, in time, the liquidity standards being set for later in the decade as part of the Basel III exercise. The central reason for pursuing all these actions is to enhance the stability of the banking sector and put it in a position to assist in the recovery of the economy, rather than being a source of risk and cost. While the property and construction markets will remain weak for a protracted period, this should not be a reason for deferring action that can help bring sustainable conditions back to these markets.

The next most important single factor in determining the pace and strength of the recovery in the economy, however, is surely the restoration of its competitiveness. Clearly this requires broad action across a broad range, not all of which is closely connected with the macroeconomic and financial policy remit of the Central Bank, but the loss in cost competitiveness that occurred during the early years of the millennium is of key importance. It is evident that external demand must play a larger part in the economy of the future, as is already happening, and that demand will be employment rich only to the extent that a realistic cost structure can be restored. While the economy's competitiveness position has improved over the last two years, it really needs to be boosted further. Indeed, the improvement signalled by the fall in economy-wide unit labour costs flatters our true condition; sector-by-sector, unit labour costs have not fallen as far. The overall unit labour cost figure has been strongly affected by the composition effect of the relative fall in the share of low-productivity, high-employment sectors. The aim must be to get back to the situation that prevailed at the beginning of the last decade, just after entry into EMU.

Many of the structural features of the economy that were in place then remain in place today. The labour force remains well-educated and flexible, tax rates for enterprises are attractive and the general environment is still rated as being business friendly in most international surveys. Reference has already been made to what is needed in terms of labour costs, both in regard to wages and productivity growth, not just in the traded goods sector itself but in all sectors of the economy, including the public sector and the more sheltered sectors of the private sector. In this regard, it is not just a question of rolling back excesses that emerged in recent years. The country can no longer afford the inefficiencies and high charges that have long characterised certain sheltered sectors, and which continue to weigh on the wider economic recovery. The interdependence of different sectors of the economy imply that all will have to play their part in contributing to a sustained recovery.

# The Domestic Economy

## Forecast Highlights

- *Seasonally adjusted Quarterly National Accounts indicate a rise in GDP of 0.5 per cent in the third quarter of 2010 and a relatively strong rise of 1.1 per cent on a GNP basis. For the year as a whole, GDP growth is estimated to be about -0.3 per cent while GNP growth will likely be significantly lower at -2.5 per cent.*
- *The prospects for the Irish economy for this year and next have deteriorated in recent months. Domestic demand will weigh more heavily on growth this year and next than was anticipated in the previous Bulletin. However, export-led growth will provide the impetus for a gradual recovery. Accordingly, GDP growth of 1 per cent and 2.3 per cent is forecast for 2011 and 2012, respectively. The corresponding GNP growth forecasts are -0.3 per cent and 1.5 per cent.*
- *Export strength has been notable, with the performances of the broad chemicals and computer services sectors particularly strong during 2010. The ongoing recovery in external demand together with competitiveness gains also bolstered the performance of more traditional sectors such as food and beverages. Export growth is estimated at a robust 8.4 per cent in 2010 and is projected to moderate somewhat this year and next, largely reflecting less buoyant growth in main trading partners. The current account is expected to move into surplus in 2011 reflecting the continuing shift from domestic demand to exports as the main driver of growth.*
- *Labour market weakness is projected to persist throughout 2011 and 2012, with employment developments set to lag the recovery in output. Employment is expected to continue to contract in 2011, with a projected decline in the region of 1 per cent. Looking ahead to 2012, a modest increase in employment is envisaged, with growth of around 0.2 per cent.*
- *The considerable spare capacity in the labour market is expected to exert downward pressure on wages throughout the projection period, albeit to varying degrees across 2011 and 2012. Non-agricultural wages are expected to weaken further in 2011, with a decline of 0.2 per cent, before recording a modest increase of 0.3 per cent in 2012.*
- *Irish HICP inflation in 2010 was -1.6 per cent, a similar order of magnitude to the fall recorded in 2009. Persistent weakness in the labour market and continuing falls in disposable incomes will apply downward pressure on prices but are projected to be offset by rises in international commodity prices, market-specific effects such as in the medical insurance sector, and indirect taxation measures. As a result, annual HICP inflation is forecast to rise modestly to 0.3 per cent in 2011 and to 0.5 per cent in 2012.*
- *The overall competitiveness position of the economy improved further in 2010. However, some of the improvement in competitiveness may be cyclical in nature reflecting the protracted downturn in the economy. Also, 'headline' unit labour costs may have fallen significantly, but unit labour cost measures in the Irish manufacturing sector, in particular, are heavily influenced by compositional effects as is demonstrated in Box A. Adjusting for compositional effects, the Irish economy may have returned to 2005 competitiveness levels and some further improvements are likely in 2011 assuming unchanged exchange rates.*

## Demand

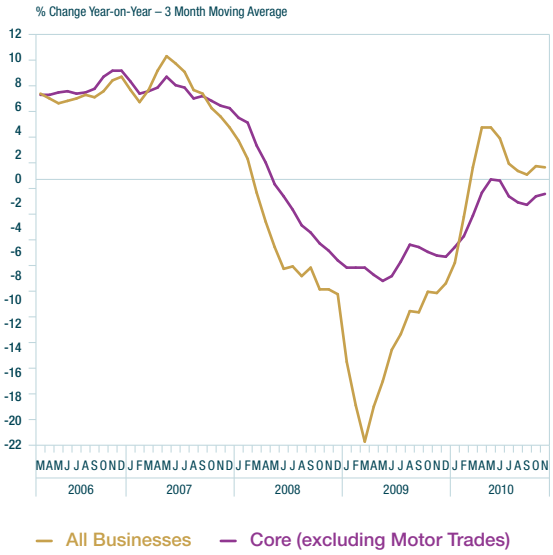
### *Consumer Spending*

The decline in consumer spending moderated somewhat during the first half of 2010 before worsening again during the latter half of the year. Disposable incomes continued to fall and weak labour market conditions persisted but the profile of consumer spending was also heavily influenced by fluctuations in consumer sentiment. The KBC/ESRI consumer sentiment index rose to about 66 in the second quarter of 2010, albeit an uptick from a relatively low base. Subsequently, consumer sentiment declined to 60 in the third quarter and then 47 in the final quarter, due to adverse sovereign bond market developments and as the full extent of the necessary fiscal consolidation emerged. The degree of volatility in the quarterly profile of consumer spending was also relatively high. In particular, unusually severe weather conditions and the Icelandic volcano eruption impacted significantly on the quarterly profiles of energy related consumption and on transportation services, respectively. Consumer spending for the whole year is estimated to fall in annual terms by 1.7 per cent.

With the exceptionally high degree of uncertainty abating somewhat on the publication of the National Recovery Programme and Budget 2011, some slight easing in the extent of precautionary saving may be possible. However, financial stresses and a weak labour market will continue to weigh on spending and are likely to be the dominant influences. The savings rate is assumed to remain elevated as households pay down debt; household debt to disposable income remained high at about 200 per cent in early 2010, which was down from a peak of 230 per cent in the third quarter of 2007 as both borrowers and lenders show restraint. The further narrowing of the differential between the Irish and UK VAT rates will help to stem further the flow of cross-border shopping and support domestic consumer demand. With disposable incomes falling significantly at the outset of this year as fiscal austerity measures are implemented, consumer spending in volume terms is likely to fall by about 2.2 per cent this year.

Stagnant incomes and high unemployment will hold down consumption during 2012. Consumers' spending behaviour on the whole is set to remain reasonably cautious and households are likely to continue to pay down debt, particularly facing into possible upward shifts in mortgage interest rates. However, aided by, at least, a stabilisation in employment, there may be some further relaxation of the savings rate as precautionary saving eases back somewhat. To the extent that car scrappage schemes tend to prompt some consumers to bring forward purchases, there is also likely to be some moderation in the contribution of car sales for next year. Together, these developments portend a slow recovery and an increase of just 0.2 per cent is projected for personal consumption in 2012. As a result, personal consumption in the whole of 2012 is projected to have recorded a protracted cumulative decline of about 12 per cent since 2007.

**Chart 1:** Index of Volume of Retail Sales




Source: CSO.

### *Investment*

Quarterly National Accounts for the third quarter of 2010 show that the largest negative impulse to domestic demand continues to come from decreases in investment in the economy's physical capital, which declined in year-on-year terms by almost 31 per cent. As has been the case for the last 13 consecutive quarters, the bulk of the contraction is coming from the building and construction component (down 32.2 per cent) and the prospects for this year are for continued substantial year-on-year declines in activity. Civil engineering, which had, up to recently, been the last remaining pillar of support for the ailing construction sector, is set to contract under the weight of substantial capital expenditure cuts outlined in Budget 2011 and the National Recovery Plan. Housing and commercial construction output appears close to bottoming out. Demand-side factors are set to remain weak, as tight credit, deteriorating income and sagging confidence are the dominant factors. The supply response is set to remain muted over the forecast horizon.

The protracted fall in residential investment looks set to continue, although the housing completions forecast for 2010, at 14,000 units is slightly higher than that of the previous Bulletin (13,000 units in the October 2010 Bulletin), mainly reflecting higher ESB connection figures. Whether all these units were actually built in 2010 is the subject of some uncertainty. Coupled with a 20 per cent fall in repairs and maintenance expenditure, investment in residential housing is estimated to have declined by approximately 35 per cent last year. For 2010 as a whole, the 'other' building and construction sectors, mainly commercial and civil engineering, are forecast to decline by 30 per cent.

**Table 1:** Expenditure on Gross National Product 2009, 2010[e], 2011[f] and 2012[f]

| | 2009 | % change in | | 2010[e] | % change in | | 2011[f] | % change in | | 2012[f] |
|---|---|---|---|---|---|---|---|---|---|---|
| | € million | Volume | Price | € million | Volume | Price | € million | Volume | Price | |
| Personal consumption | 84331 | -1.7 | -1.8 | 81406 | -2.2 | 0.4 | 79956 | 0.2 | 0.6 | 80613 |
| Public consumption | 27718 | -4.8 | -1.2 | 26071 | -4.7 | -0.4 | 24727 | -3.0 | -0.7 | 23834 |
| Gross Domestic Fixed Capital Formation | 24731 | -24.8 | -2.2 | 18207 | -13.2 | -1.2 | 15706 | -0.8 | -0.3 | 15533 |
| *of which:* | | | | | | | | | | |
| *Building and Construction* | *16586* | *-32.0* | *-3.6* | *10876* | *-22.0* | *-1.5* | *8356* | *-2.8* | *-0.7* | *8067* |
| *Machinery and Equipment* | *8145* | *-10.0* | *0.0* | *7331* | *0.0* | *0.3* | *7350* | *1.4* | *0.2* | *7466* |
| Value of Physical changes In Stocks | -2284 | | | -250 | | | 550 | | | 250 |
| Statistical Discrepancy | 748 | | | 748 | | | 748 | | | 748 |
| **Gross Domestic Expenditure** | **135244** | **-5.0** | **-1.7** | **126182** | **-3.6** | **0.1** | **121687** | **-0.8** | **0.2** | **120978** |
| Exports of Goods & Services | 144782 | 8.4 | 0.5 | 157704 | 5.9 | 0.4 | 167783 | 5.6 | 0.8 | 178542 |
| **Final Demand** | **280026** | **1.9** | **-0.5** | **283886** | **1.7** | **0.3** | **289470** | **2.9** | **0.6** | **299520** |
| Imports of Goods & Services | -120380 | 4.9 | 0.2 | -126527 | 2.5 | 0.4 | -130202 | 3.6 | 0.8 | -136017 |
| **Gross Domestic Product** | **159646** | **-0.3** | **-1.1** | **157359** | **1.0** | **0.2** | **159268** | **2.3** | **0.3** | **163503** |
| Net Factor Income from Rest of the World | -28405 | | | -31290 | | | -33430 | | | -35541 |
| **Gross National Product** | **131241** | **-2.5** | **-1.5** | **126069** | **-0.3** | **0.1** | **125838** | **1.5** | **0.2** | **127962** |

For 2011, forward-looking indicators suggest that new house completions are likely to fall to record lows – somewhere in the region of 10,000 units. With regard to the 'other' construction components, fiscal projections suggest that government investment reductions are going to subtract significantly from growth this year. This is corroborated by the latest (November 2010) Ulster Bank Construction Purchasing Managers Index which suggests that activity in the civil engineering sector is falling at an accelerated rate, with the ongoing retrenchment in the Government's capital program weighing heavily on both activity and confidence levels. On this basis, non-residential investment is forecast to fall by 28 per cent in 2011 – led for the most part by falls in civil engineering activity. Taken together, the forecasts for residential and non-residential investment imply that investment in building and construction is forecast to decrease by 22 per cent in 2011, followed by a more modest reduction of about 3 per cent in 2012.

In conjunction with relatively flat forecasts for machinery and equipment investment over the horizon (a difficult component to forecast due to the dominant weight and variability of aircraft purchases), and given the forecasts for building and construction investment, overall investment is forecast to contract by 13.2 per cent and 0.8 per cent in 2011 and 2012, respectively – driven for the most part by reductions in capital expenditure as residential and commercial output bottom out.

### *Stock Changes*

Stocks are likely to have fallen modestly last year after a large fall in 2009. As a result, the contribution from stock changes to GDP growth in 2010 was quite large at about 1.3 percentage points. Inventory levels will likely pick up somewhat this year but the contribution from stock changes will moderate to about 0.5 percentage points. The contribution from stocks is assumed to flatten into next year.

### *Government Consumption*

The volume of government consumption declined annually by 5.3 per cent in the first three quarters of 2010. For 2010 as a whole, a real decline in government consumption of 4.8 per cent is estimated, as compared with the Budget 2011 estimate for a 3.9 per cent decline. On the basis of expenditure plans set out in the Budget and in the National Recovery Programme, the volume of Government consumption is projected to decline by 4.7 per cent this year and by 3 per cent in 2012.

**Table 2:** Merchandise Trade (Adjusted) 2009, 2010[e], 2011[f] and 2012[f]

| | 2009 | % change in | | 2010e | % change in | | 2011[f] | % change in | | 2012[f] |
|---|---|---|---|---|---|---|---|---|---|---|
| | € million | Volume | Price | | Volume | Price | | Volume | Price | |
| Merchandise Exports | 77026 | 6.6 | 1.5 | 83385 | 4.3 | 0.7 | 87544 | 3.8 | 0.6 | 91415 |
| Merchandise Imports | -44659 | 1.0 | 1.5 | -45785 | 0.7 | 0.6 | -46384 | 2.5 | 0.6 | -47835 |
| Merchandise Trade Balance (Adjusted) | 32367 | | | 37600 | | | 41160 | | | 43580 |
| % of (GNP) | 24.7 | | | 29.8 | | | 32.7 | | | 34.1 |

## External Demand and the Balance of Payments

### *Merchandise Trade*

According to the most recent Quarterly National Accounts, the upward momentum in merchandise export activity continued during the third quarter of 2010, with the volume of merchandise exports increasing by 12.9 per cent, year-on-year. Such an outturn represents a sharp acceleration relative to the 5.1 per cent increase of the second quarter and, furthermore, it is the strongest such outturn since the first quarter of 2001. While the strength of the third quarter performance largely related to the continuing buoyancy of the broad chemicals sector, the broadening out of the recovery to include sectors such as food and beverages further boosted merchandise export activity. It is, however, anticipated that merchandise export growth moderated somewhat in the final quarter of 2010 reflecting adverse weather effects, which are likely to have disrupted transportation, together with weakened external demand, as signalled by the loss of momentum in the measures of world trade volumes in October. Despite such signs of weakening in the fourth quarter, the strength of merchandise export activity in the third quarter of 2010 surprised on the upside and, accordingly, the outlook for 2010 has been revised upwards, with a volume increase of 6.6 per cent estimated for 2010.

While the recovery in external demand is expected to continue into 2011, its pace seems set to slow somewhat reflecting the declining boost from the inventory cycle and fiscal stimuli. Amid such moderation in external demand, some loss of momentum in merchandise export activity is anticipated. Accordingly, merchandise exports are expected to grow at a more modest rate in 2011, with an average annual increase in the region of 4.3 per cent currently projected. Looking ahead to 2012, it is envisaged that merchandise exports will remain reasonably strong, sustained by continued growth in external demand, with a volume increase of around 3.8 per cent.

Following double-digit declines throughout 2009 and a further, albeit more modest, decline in the first quarter of 2010, merchandise imports have since returned to growth, with an increase in volume terms of 5.1 per cent annually in the third quarter of 2010. This recovery in merchandise import flows largely stems from the buoyant performance of merchandise exports given the import-intensive nature of such activity. An increase in merchandise imports of around 1 per cent is projected for 2010 as a whole. Further growth in merchandise imports is projected in 2011 despite some envisaged loss of momentum in export-induced demand. The backdrop of weak domestic demand is also expected to weigh somewhat on merchandise imports this year and, as a result, some slowing to around 0.7 per cent is projected. As regards 2012, merchandise imports seem set to be supported by a combination of export-driven demand together with a modest recovery in domestic demand. Accordingly, an increase in merchandise import volumes in the region of 2.5 per cent is projected.

**Chart 2:** Volume of Exports


Source: CSO Quarterly National Accounts.

**Table 3:** Balance of Payments 2010, 2011[f] and 2012[f]

| € million | 2009 | 2010[e] | 2011[f] | 2012[f] |
|---|---|---|---|---|
| **Current Account** | | | | |
| Merchandise Trade Balance (Adjusted) | 32367 | 37600 | 41160 | 43580 |
| Services | -8415 | -6937 | -4169 | -1720 |
| Net Factor Income from Rest of the World | -27901 | -30790 | -32930 | -35041 |
| Current International Transfers | -901 | -970 | -1020 | -1070 |
| **Balance on Current Account** | **-4850** | **-1097** | **3041** | **5749** |
| (% of GNP) | -3.7 | -0.9 | 2.4 | 4.5 |

### *Services, Factor Incomes and International Transfers*

Following the impressive performance of services exports in the second quarter of 2010, the upward trend in services exports continued into the third quarter. According to the Quarterly National Accounts, services export volumes increased by 13.6 per cent annually in the third quarter. At a sectoral level, services export activity during the third quarter of 2010 was largely boosted by strong growth in computer services and business services, with year-on-year increases of 17.5 per cent and 16.5 per cent, respectively, in value terms. When combined, these two sectors accounted for 10.9 percentage points of the 12.6 per cent increase in the value of services exports during the third quarter of 2010. Available indicators point to some moderation of services export activity in the final quarter of 2010. The new export orders index of the Services PMI dropped to 49.7 in December, with 50 marking the boundary between expansion and contraction. This represents the first contraction in the export orders index in sixteen months. Consistent with a somewhat weaker outturn for the fourth quarter of 2010, an average annual increase in services export volumes of 10.4 per cent is projected for 2010 as a whole. Services exports are expected to grow at a more modest pace in 2011 and 2012, in line with the less buoyant outlook for external demand.

Services imports also increased strongly in the third quarter of 2010, with a volume increase of 14.7 per cent annually in the third quarter. At a sectoral level, much of this strength stemmed from business services and royalties and licenses, with year-on-year increases in value terms of 23.7 per cent and 18.2 per cent, respectively. Services imports are estimated to have increased further during the final quarter of 2010 to yield an average annual increase of 7.2 per cent in volume terms. As regards the outlook for 2011 and 2012, somewhat more modest increases in services imports are expected.

A noticeable feature of current account developments in the third quarter of 2010 was the 20.2 per cent increase in factor income inflows, which outpaced the 14.5 per cent growth in the larger factor income outflows over the same period. Such impressive growth in factor income inflows may relate to the recent relocation of a number of foreign-owned companies to Ireland. The corollary of such inflows is that corresponding factor outflows may arise over forthcoming quarters, however, the precise timing and magnitude of such outflows is subject to some uncertainty. Reflecting the strong export performance of the multi-national sector during 2010, net factor income outflows more generally are projected to rise for the year as a whole. A further increase in net factor outflows is likely in 2011 and 2012 reflecting continued strong export growth in the foreign-owned exporting sectors of the economy. A negative contribution to the current account arising from the international transfer component is estimated to have occurred in 2010 and is expected to continue into 2011 and 2012. Taking the prospective trends of the various components of the current account together, the current account deficit is estimated to have narrowed to around 0.9 per cent of GNP in 2010. The current account is expected to move into surplus in 2011, with a projected surplus in the region of 2.4 per cent of GNP, followed by a surplus of 4.5 per cent of GNP in 2012.

## Supply

### *Industry and Services Output*

The manufacturing sector continues to show signs of ongoing resilience, with industrial output data over the first eleven months of 2010 indicating that the sector expanded by 7.1 per cent in the year to November. In contrast to the bumpy trajectory evidenced in 2009, annual output growth expanded across each month as the year progressed.

**Table 4:** Industry and Manufacturing Output, Annual Percentage Change

| | Modern | Other | Manufacturing | Total Industry |
|---|---|---|---|---|
| 2000 | 19.1 | 9.7 | 14.6 | 14.3 |
| 2001 | 16.3 | 5.5 | 11.4 | 11.0 |
| 2002 | 13.0 | 2.6 | 8.5 | 8.2 |
| 2003 | 7.0 | 4.0 | 5.6 | 5.7 |
| 2004 | 0.3 | 2.5 | 1.1 | 1.2 |
| 2005 | 5.2 | 2.3 | 4.1 | 4.0 |
| 2006 | 4.1 | 1.6 | 3.3 | 3.1 |
| 2007 | 6.9 | 3.0 | 5.6 | 5.2 |
| 2008 | -0.8 | -4.1 | -2.6 | -2.5 |
| 2009 | 2.2 | -14.1 | -4.1 | -3.8 |
| 2010e | 8.9 | 1.3 | 6.7 | 5.6 |
| 2011f | 3.7 | 0.5 | 2.4 | 2.1 |
| 2012f | 3.5 | 0.3 | 2.5 | 2.3 |
| Average 2000-2010 | 7.6 | 0.0 | 5.1 | 4.9 |

**Note:** Industrial production indices are produced by the CSO and report output volumes excluding the effect of price changes. To remove the impact of prices Wholesale Price Indices (WPIs) are used as deflators. These WPIs were updated in June 2010 and have resulted in revisions to the series back to 2006. Overall these changes served to dampen output growth relative to what was published in Bulletins prior to Q4 2010 (particularly relating to the Modern sector).

Overall, the modern sector continues to dominate manufacturing performance. Output growth in the latter accelerated throughout 2010, expanding by 9.5 per cent over the year to November 2010. Following exceptionally strong growth in chemicals posted in the opening quarter of 2010, the modern sector's principal constituents – chemicals and pharmaceuticals – have each reverted to more stable growth levels. Growth momentum in the modern sector is now more evenly balanced between these two components, producing between them growth of 17.3 per cent over the year to November. The modern sector however, remains wedded to the fortunes of these two components both in value-added and output volume terms, in contrast to those of computers, electronics and electrical equipment which remain stubbornly weak. Stripping out the buoyancy attributable to the strength of chemicals and pharmaceuticals, industrial output contracted by 2.6 per cent over the year to November.

One of the most notable headlines in industrial performance this quarter relates to the bounce-back in the traditional sector, which, for the first time in more than three years, has posted positive year-on-year growth. Having been relegated to double digit declines throughout 2009, the sector has sustained positive year-on-year growth since August 2010. Although the pace of decline in output excluding chemicals and pharmaceuticals weakened appreciably as 2010 progressed, persistent negative growth in the latter indicates that the recent improvement in traditional output performance has as yet, proved insufficient to counter the drag from the non-chemical components of the modern sector. The latter fell by 8.4 per cent in the year to November, driven by weak performances in particular in computers, electronics and optical products.

Reflecting the sustained improvement in performance of the modern sector throughout 2010, relative to the last Bulletin, the 2010 full year estimate has been revised upwards to 8.9 per cent, with further albeit more moderate expansion envisaged in both 2011 and 2012. Given the recovery of activity levels in the traditional sector, this subsector is no longer expected to act as a drag on growth prospects for industry overall. There is possibility of upside risk to the outlook for the traditional sector given the recent buoyancy in agri-food exports. Manufacturing output is expected to post a strong, full-year 2010 performance, consistent with strong fourth quarter export data (up 18 per cent year-on-year according to latest Irish Exporters Association data; driven by buoyant manufacturing and agri-food exports). The anticipated, ongoing strength of exports is likely to prove a source of stimulus helping to propel the industrial sector over the coming quarters.

**Table 5:** Summary of Agricultural Output and Income 2009, 2010[e], 2011[f]

| | 2009 | % change in | | | 2010[eb] | % change in | | | 2011[f] |
|---|---|---|---|---|---|---|---|---|---|
| | € million | Value | Volume | Price | € million | Value | Volume | Price | € million |
| Goods Output at Producer Prices[a] | 4,712 | 16.3 | 6.2 | 9.5 | 5,479 | 3.6 | 1.1 | 2.5 | 5,676 |
| Intermediate Consumption | 4,071 | 0.3 | 3.3 | -2.9 | 4,083 | 3.0 | 0.8 | 2.2 | 4,206 |
| Net Subsidies plus Services Output less Expenses | 1,844 | -3.8 | | | 1,773 | -1.0 | | | 1,756 |
| Operating Surplus | 1,560 | 46.0 | | | 2,278 | 3.1 | | | 2,349 |

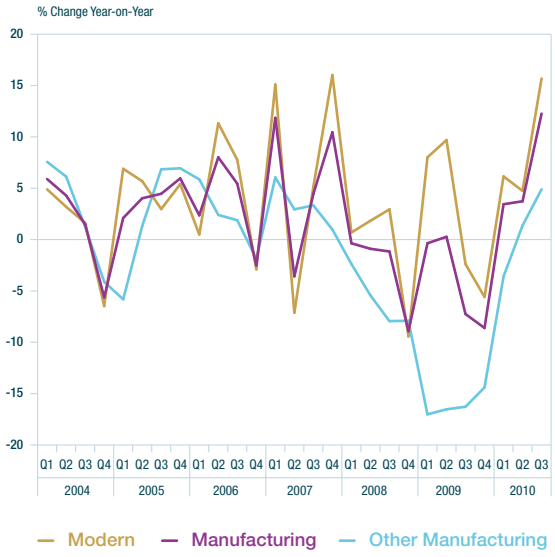
**a** Including the value of stock changes.

**b** CSO estimates.

Alongside strong Purchasing Manager Index (PMI) data from the UK, the EU and the US, the latest Irish PMI data to December 2010 point to ongoing expansion in manufacturing. Irish PMI data indicate that, with the exception of September last, the sector expanded (albeit at a marginal pace) in each month since March 2010. Output growth continues to be supported by a rise in new orders, boosted considerably by a rise in December export orders to Asia, the Middle East and Britain in particular. New export orders continue to accelerate at a faster pace than overall output, confirming that sectoral expansion continues to be powered by external demand. Reflecting the rise in the cost of raw materials, input cost inflation accelerated for the third successive month. However, competitive pressures proved sufficient to prevent pass-through to output charges, with the latter falling in three of the past four months.

The divergence in performance between the services and manufacturing sectors continues to widen, with latest third quarter National Accounts indicating that the pace of contraction in other services accelerated into the third quarter of 2010, falling by 2.9 per cent in annual terms. This evidence is slightly at odds with softer data contained in the Services PMI, which point towards ongoing (albeit marginal) expansion in the services sector in the third quarter. Subsequently, PMI services activity decreased in December, with new export business falling for the first time in sixteen months. Despite the first indication of input cost inflation in two years, service charges decreased sharply over the month suggesting competitive pressures in the services sector, have also, to date, proven sufficient to keep user price rises at bay.

**Chart 3:** Volume of Industrial Production




Source: CSO.

### *Agricultural Output*

Preliminary CSO price estimates signal a considerable improvement for the agricultural sector in 2010. The estimates suggest that output prices were up 11.7 per cent while input prices declined by 1.8 per cent when compared to 2009 levels in annual terms. In particular, cereal prices climbed by 58.7 per cent reflecting faltering global production. Similarly, dairy prices rose by 28.2 per cent following a robust recovery in international demand. Combined with the declines in fertiliser input prices, which are estimated to have fallen 12.6 per cent for the year, there is an implied increase in the overall terms of trade of 13.7 per cent in 2010. This has primarily arisen from the positive output price movements for farmers.

The recently released Quarterly National Accounts also confirm that there was an upturn with the volume of output in agriculture, forestry and fishing up 5.3 per cent in the third quarter of 2010 compared with the previous quarter. This followed marginal quarterly changes in the second (up 0.3 per cent) and first quarter (down 0.5 per cent) of 2010. The annual growth rate registered in the third quarter of 2010 was 12.2 per cent relative to the same quarter last year.

The outlook for the sector is for some continued improvement in incomes following the resurgence that was experienced in 2010. Global commodity prices are expected to rise steadily due to anticipated global supply constraints over the coming year, while the downward pressure on input prices is expected to stabilise in the near term before a recovery is seen during 2011, suggesting some remaining potential for positive income growth next year. Risks to the downside remain, however, with increasing energy prices and demand for farming inputs potentially eroding the recent declines in input prices. The severity of global weather conditions experienced recently may also apply upward pressure on input prices.

### *The Labour Market*

According to the Quarterly National Household Survey, the annual rate of decline in employment continued to decelerate in the third quarter of 2010, with a year-on-year fall of 3.7 per cent. However, on a seasonally adjusted basis, the decline in employment accelerated in the third quarter, with a fall of 1.3 per cent. While this represents the largest such decline since the third quarter of 2009, this acceleration may partly reflect the difficulties associated with adjusting for seasonality during periods of volatility. Eleven of the thirteen sectors recorded a decline in employment in year-on-year terms, albeit of varying magnitude. Despite having an employment share of just 6.2 per cent, the construction sector dominated sectoral employment losses in the third quarter, accounting for around 2 percentage points of the year-on-year fall in employment. Employment excluding construction fell by 1.9 per cent, year-on-year, in the third quarter of 2010. Initial indicators for the fourth quarter of 2010 are consistent with the labour market showing some signs of improvement. The number of persons on the Live Register, in seasonally adjusted terms, fell by an average of around 1,900 persons per month in the final quarter of 2010. This represents a marked improvement on the average monthly increases of 3,600 and 1,900 persons in the second and third quarters of 2010, respectively. While factors other than rising labour demand may be responsible for the fall in new claimants during the fourth quarter, the pace of the contraction in employment is nevertheless likely to have decelerated during the final quarter of 2010, producing an average annual employment decline of 4.1 per cent.

Labour demand weakness is expected to persist throughout the projection horizon, with the recovery in the labour market expected to lag that of output. A fall in employment in the region of 1 per cent is projected in 2011, with some additional significant job losses expected, most notably, in the financial and construction sectors. Moreover, the employment outlook for 2011 is in line with the projected export-led nature of activity, which tends to be somewhat less labour-intensive. Public sector redundancies are expected to exert further downward pressure on employment levels during 2011 and, to a somewhat lesser extent, 2012. Looking ahead to 2012, a modest recovery in employment is envisaged, with growth in the region of 0.2 per cent.

The contraction in labour demand continued to have a dampening effect on the size of the labour force in the third quarter of 2010, as evidenced by the 2.4 per cent year-on-year decline. The dominance of labour force participation as the driver of this labour force contraction continued in the third quarter of 2010. Approximately 68 per cent of the year-on-year decline in the labour force was due to a fall in participation as reflected in the 1.3 percentage point fall in the participation rate. While labour force participation remained the single largest driver of the labour force decline in the year to the third quarter, net outward migration also applied downward pressure, with the number of non-Irish nationals in the labour force tentatively estimated to have declined by 40,900 during the year to the third quarter of 2010. Some further falloff in the labour force is estimated to have occurred in the final quarter of 2010, to yield an average annual decline of 2.0 per cent. The seasonally adjusted unemployment rate reached 13.6 per cent in the third quarter of 2010 up from 13.2 per cent in the second quarter. Long-term unemployment continued to rise markedly in the year to the third quarter, with the long-term unemployment rate more than doubling over this period, to reach a 13 year high of 6.5 per cent. Taking account of the estimated employment and labour force declines for 2010 as a whole, the unemployment rate is expected to average around 13.6 per cent in 2010.

The falloff in the labour force is expected to continue in 2011, with an average annual decline of around 0.9 per cent currently expected. It is envisaged that this downward movement will increasingly reflect the response of migratory flows as the impact of falling participation begins to moderate. Weak labour demand conditions are expected to continue to weigh upon labour

**Table 6:** Employment and Unemployment 2010[e], 2011[f] and 2012[f]

| | 2010[e] | 2011[f] | 2012[f] |
|---|---|---|---|
| Agriculture | 86 | 86 | 86 |
| Industry (including construction) | 361 | 355 | 357 |
| Services | 1,404 | 1,391 | 1,393 |
| Total Employment | 1,851 | 1,832 | 1,836 |
| Unemployment | 293 | 292 | 285 |
| Labour Force | 2,144 | 2,123 | 2,120 |
| Unemployment Rate (%) | 13.6 | 13.7 | 13.4 |

**Note:** Figures may not sum due to rounding.

force participation in 2011 and 2012, with the participation rate expected to fall back further, albeit to varying degrees across these two years. Reflecting the projected gradual improvement in economic activity and employment, the size of the labour force is expected to remain broadly unchanged in 2012. Taking account of the outlook for employment and the labour force in 2012, unemployment is expected to decline as employment growth returns, with the unemployment rate averaging around 13.4 per cent.

### *Pay*

Average weekly earnings on a whole economy basis declined by 1.4 per cent, year-on-year, in the third quarter of 2010. This compares with a fall of 1.2 per cent annually in the previous quarter. The weakness of average weekly earnings during the third quarter of 2010 was most pronounced in the public sector and can largely be explained by the public sector wage cut, which took effect in January 2010. While a downward adjustment in average weekly earnings also occurred in the private sector in the third quarter, the magnitude of this decline differed substantially relative to that of the public sector; the 4.5 per cent fall in average weekly earnings in the public sector considerably outpaced the 0.3 per cent decline in the private sector. Moreover, the difference between public and private sector wage developments widens further when the negative carryover effects arising from the introduction of the public sector pension levy introduced in April 2009 are taken into account[1].

A decomposition of the 0.3 per cent fall in average weekly earnings in the private sector reveals declines in both average hourly earnings and hours worked, with year-on-year falls of 0.2 per cent and 0.3 per cent, respectively. The 0.3 per cent fall in average weekly hours worked during the third quarter of 2010 is amongst the lowest year-on-year declines recorded in the available series. Within average hourly earnings, irregular earnings, such as bonus payments, increased by 13.7 per cent annually in the third quarter of 2010. By comparison, average hourly earnings excluding irregular earnings fell by 0.5 per cent over the same period. Such a combination of developments suggest that in the third quarter of 2010 private sector firms relied somewhat less upon the flexible elements of pay such as bonus payments and hours worked to reduce labour costs than had been the case throughout 2009. Amid weak domestic economic activity and rising unemployment, it seems likely that wages remained under downward pressure in the fourth quarter of 2010, with a decline in compensation per non-agricultural employee of 2.5 per cent estimated for the year as a whole.

Cyclical factors and, in particular, weak labour market conditions, are expected to weigh further upon wage developments in 2011. Looking ahead to 2012, wages seem set to increase modestly in line with stabilising economic conditions. Wage increases are, however, projected to be modest as the backdrop of high unemployment is expected to continue to exert some downward pressure. No further reductions in public sector pay are assumed in 2011 and 2012, in line with the pay policy element of the Public Service Agreement. Accordingly, compensation per non-agricultural employee is expected to weaken further in 2011, with a decline of 0.2 per cent, before recording a relatively modest increase of 0.3 per cent in 2012. Combining the outlook for wages with that of employment suggests that a fall in the non-agricultural pay bill of 6.5 per cent is likely in 2010 followed by a 1.2 per cent fall in 2011 while a slight increase of 0.6 per cent is projected for 2012.

1 Public sector earnings in the CSO's Earnings and Labour Costs Survey are calculated before deduction of the public sector pension levy.

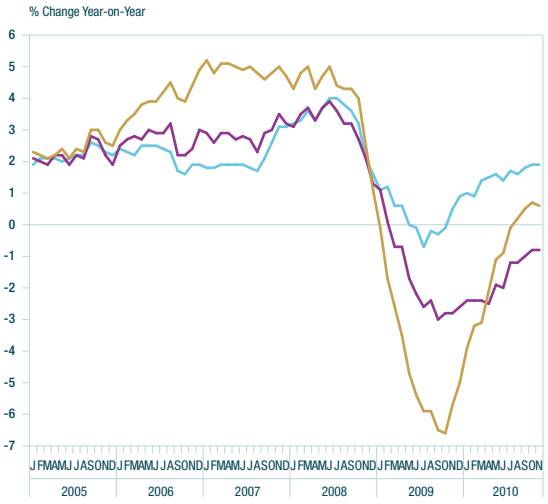
## Inflation

### *Consumer Prices*

Irish HICP inflation in 2010 was estimated to be -1.6 per cent, similar to the inflation rate recorded for 2009 of -1.7 per cent. Downward pressures on the price level from domestic factors intensified during 2010. However, there was also a reversal in pressures from international factors, which explains some of the resilience in the price level in 2010. In particular, energy prices contributed 0.8 percentage points to HICP inflation, as oil prices in euro terms increased by 36.3 per cent following a fall of 32.7 per cent in 2009. International food commodity prices also shifted upwards from the middle of the year. In addition, sterling was 3.7 per cent stronger vis-a-vis the euro, which put upward pressure on UK import prices. Furthermore, the narrowing of the differential between the Irish and UK VAT rates helped to stem the flow of cross-border shopping. Meanwhile, on the domestic front, the weakness in the labour market and falls in disposable income were reflected most evidently in price trends for items of a discretionary nature. For example, strong price falls were recorded for hotels and restaurants services and for personal care items. The price level was also variously affected by indirect tax measures such as a reduction of excise duties on alcohol and the introduction of carbon taxes.

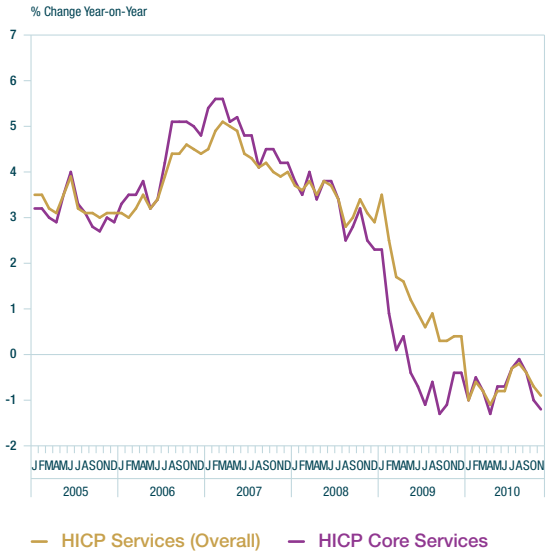
Although international oil prices and food commodity prices have shifted upwards in recent months, the overall impact of upward price pressures from international sources is likely to ease somewhat in 2011 relative to 2010. Downward pressures from domestic sources are generally likely to be strong again during this year reflecting continued weakness in the labour market and falling disposable incomes. To the extent that retail profit margins are likely to have come under significant pressure recently in an environment of weak consumer demand and heightened price sensitivity, consumer price trends will be heavily influenced by developments in the cost base of retail firms. In this respect, firms may have further scope for price reductions due to recent sharp declines in commercial retail rents and further declines in labour costs although higher energy and food commodity prices will also filter through. However, there are some one-off domestic factors that may provide some offset to price declines likely to be recorded for items of a more discretionary nature. For example, medical insurance fees are set to increase quite markedly this year and will impact significantly on the administered services component of services inflation. Also, assuming a full pass-through, the indirect tax measures contained in Budget 2011 are estimated to contribute 0.3 percentage points to HICP inflation.

**Chart 4:** Consumer Prices




Source: CSO.

**Chart 5:** Services Sector Inflation




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

Source: CSO.

Summing up, price pressures will remain subdued this year, with a central projection of 0.3 per cent for HICP inflation. There is significant uncertainty surrounding this forecast and risks on the whole are tilted to the downside. While there is upside risk from the evolution of international commodity prices, this is more than offset by the downward risk arising from the impact of weaker than anticipated consumer demand. Meanwhile, CPI inflation rate is likely to be somewhat higher

**Table 7:** Inflation Measures – Annual Averages, Per Cent

| Measure | HICP | HICP excluding Energy | Services[a] | Goods[a] | CPI |
|---|---|---|---|---|---|
| 2008 | 3.1 | 2.6 | 3.4 | 2.9 | 4.1 |
| 2009 | -1.7 | -1.0 | 1.2 | -4.1 | -4.5 |
| 2010[e] | -1.6 | -2.7 | -0.7 | -2.4 | -1.0 |
| 2011[f] | 0.3 | -0.5 | 0.2 | 0.6 | 0.8 |
| 2012[f] | 0.5 | 0.4 | 0.7 | 0.2 | 0.6 |

**a** Goods and services inflation refer to the HICP goods and services components.

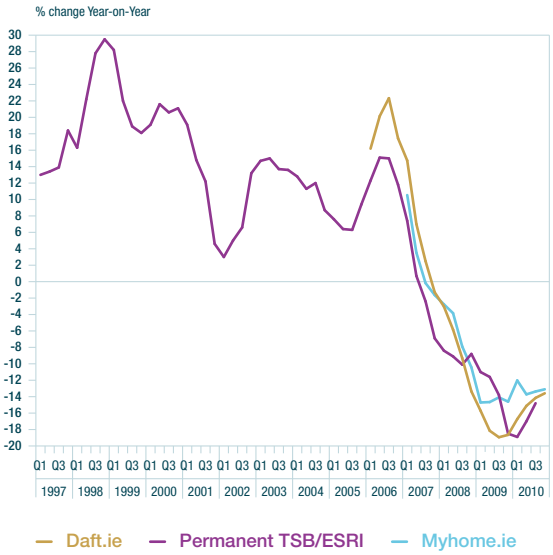
than the HICP inflation rate for 2011 mainly reflecting the impact of base effects of mortgage interest rate increases and market expectations of an ECB base rate increase towards the end of this year. Demand is set to remain muted during 2012 and the pricing power of firms will remain constrained. Technical assumptions normally indicate a marginal direct impact of exchange rates and international commodity prices on the domestic price level beyond a one year horizon. As such, domestic factors will tend to dominate and a stabilisation in consumer demand is reflected in a slight increase in the HICP price level of 0.5 per cent.

### *Property Prices*

The permanent tsb/ESRI house price index indicated some moderation in house price falls nationally during 2010, with prices recording a quarterly fall of just 1.3 per cent by the third quarter of last year and 36.1 per cent from peak in the final quarter to 2006. However, the Daft Asking Price Index indicates that strong price falls continued with asking prices falling by about 4.9 per cent in the fourth quarter of last year and by over 40 per cent from the peak. The MyHome.ie Property Barometer largely corroborates these findings. Despite improvements in affordability, a combination of elevated uncertainty, credit constraints and expectations of further house price falls were reflected in low transaction volumes during 2010. According to the CSO, private residential rents fell by 1 per cent in the three month period to November. This follows a fall of 0.6 per cent recorded in August and a rise of 1.2 per cent in May. Rents appeared to have stabilised earlier this year, helped by the formation of new households. However, rents may be coming under renewed downward pressure as labour market weakness and strong outward migration persists. The impact of Budget 2011 on disposable incomes and a review of the rent supplement scheme are also likely to weigh on rents next year.

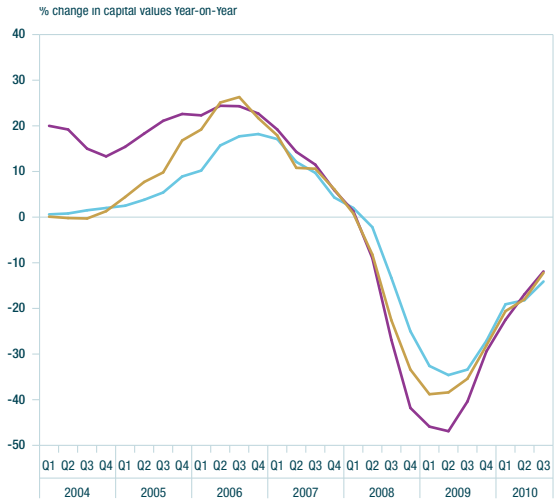
With the caveat of limited market activity, commercial property price declines continued to moderate throughout the course of last year. According to data from the Society of Chartered Surveyors/Investment Property Databank, capital values in retail, office and industrial sectors recorded declines of 2.6 per cent, 2.3 per cent and 4 per cent, respectively, in the third quarter of 2010. Capital values in the Irish commercial property market have now fallen by almost 60 per cent since their peak in the third quarter of 2007. Commercial rents fell sharply as distressed tenants exerted significant downward pressure as evidenced by a 5 per cent fall in the Jones Lang LaSalle rental index in the third quarter of 2010 and a fall of almost 20 per cent for the nine months to September 2010. Similar to trends in capital values, the industrial sector recorded the largest rental decline of 29.8 per cent in the year to September 2010. The office and retail sector registered rental declines of 20.7 and 15.7 per cent over the same period.

**Chart 6:** National House Price Indices




Note: Myhome.ie and Daft.ie indices are based on asking prices whereas the PTSB/ESRI index is based on residential mortgage drawdowns.

**Chart 7:** SCS/IPD Irish Commercial Property Index

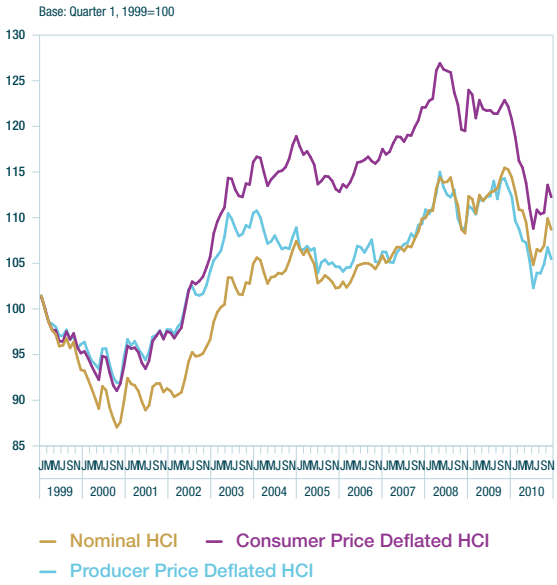



Source: SCS/IPD.

## Competitiveness

The overall price and cost competitiveness position of the economy improved further in 2010 assisted by favourable exchange rate movements, nominal wage and price declines across many sectors along with an upturn in economy-wide productivity measures. Some of the improvement in competitiveness may be cyclical in nature reflecting the protracted downturn in the economy. Also, 'headline' unit labour costs may have fallen significantly but unit labour costs in the Irish manufacturing sector, in particular, are heavily influenced by compositional effects.

**Chart 8:** Harmonised Competitiveness Indicators

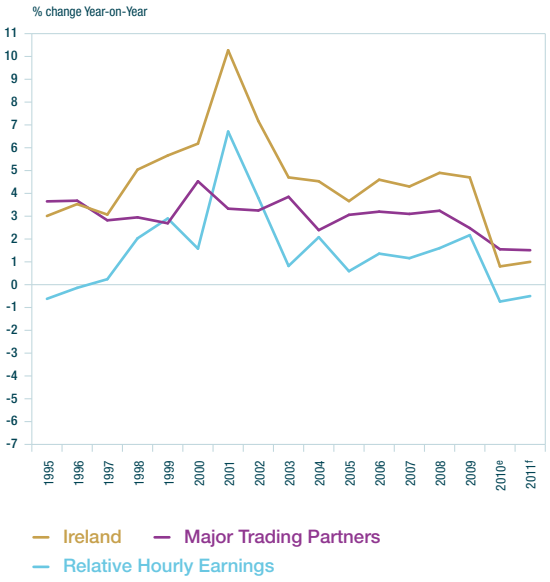



Sources: Central Bank of Ireland and ECB.

### *Exchange Rate Developments*

The euro exchange rate was volatile last year, with a significant depreciation against both the dollar and sterling, by 5 per cent and 3.7 per cent respectively. The euro exchange rate depreciated through much of the year against the two currencies. In the final quarter of 2010, the euro regained some ground, with a quarter-on-quarter appreciation of 3.2 per cent against sterling and by 5.3 per cent against the dollar. The depreciation against sterling in particular will have provided a timely boost for indigenous Irish exporters, whose principal export market is the UK. The movements in the euro exchange rate can be summarised by developments in the nominal Harmonised Competitiveness Indicator (HCI), which is a trade weighted exchange rate. Over the first eleven months of 2010, the nominal HCI depreciated by 4 per cent. The real or consumer price deflated HCI declined by 7.5 per cent over the same period, due to lower consumer price inflation in Ireland relative to our main trading partners, which points to an improvement in Irish price competitiveness in 2010.

**Chart 9:** Hourly Earnings in Manufacturing (in Local Currency)




Source: Central Bank of Ireland calculations.

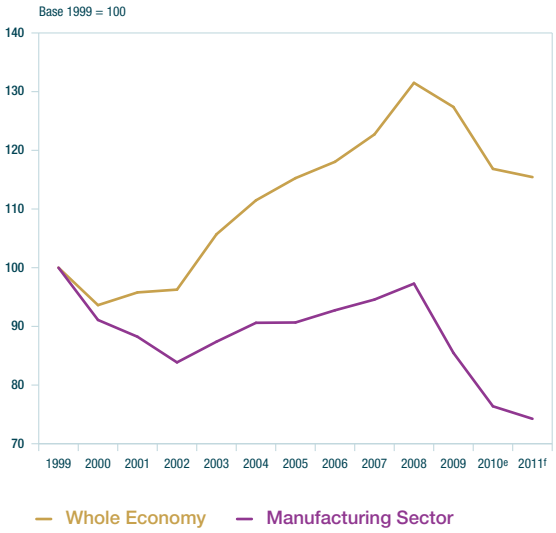
### *Productivity and Cost Competitiveness*

The latest National Accounts data when combined with estimates for the 2010 outturn for output and employment point to a strong rebound in productivity growth last year. On a GDP basis, productivity growth of 3.9 per cent is estimated for 2010, the strongest annual increase since 2002. On a GNP basis, which perhaps is more reflective of underlying developments, productivity growth of 1.6 per cent is estimated. The marked improvement last year reflected the sharp reduction in output in low productivity sectors (principally construction) and an upturn in the high value added export orientated sectors. Further improvements in productivity growth are projected in 2011 and 2012, albeit at a more moderate pace, as much of re-balancing in the economy away from the construction sector has already occurred. On a GDP basis, average annual productivity growth of 2 per cent is projected in 2011 and 2012, with average annual growth of 1 per cent using the GNP measure.

The marked upturn in productivity growth last year coupled with a reduction in compensation per employee, resulted in a sharp improvement in Irish unit labour costs, with an estimated annual fall of 6.1 per cent. Some caution is however warranted in interpreting unit labour costs indicators for Ireland, given the heavy presence of multinational and high value added foreign owed enterprises. The nature of the multinational sector in Ireland, in particular the high value added content of output in certain key sub sectors such as pharmaceuticals, combined with a relatively low labour share can often result in standard productivity measures being overstated. As a result, a degree of caution is needed in interpreting such statistics for Ireland particularly for the manufacturing sector. For a discussion on the impact of compositional effects on Irish unit labour costs, see Box A.

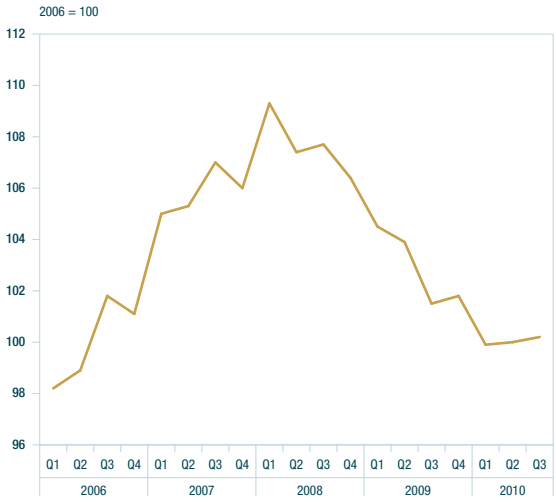
Another indicator of price and cost developments is the new 'Services Producer Price Index' (SPPI), which is an experimental series produced by the CSO. This series measures the prices charged for a range of services by domestic service producers to businesses. Preliminary data from this index show that services prices in 2010 continued to fall. In the first three quarters of 2010, the SPPI was down 3.2 per cent year-on-year. Most of the sub-sectors recorded price declines over the period, with notable declines for some transportation services and also in architecture and engineering services. The latest trends, however do point to a moderation in the rate of price decline, with prices in the third quarter down 1.3 per cent annually, but up 0.2 per cent quarter-on-quarter.

**Chart 10:** Irish Unit Wage Costs Relative to Main Trading Partners (in Common Currency)




Source: Central Bank of Ireland, European Central Bank and AMECO.

**Chart 11:** Services Producer Price Index




Source: CSO, experimental Services Producer Price Index (SPPI).

## **Box A:** Compositional Effects in Recent Trends in Irish Unit Labour Costs *By Derry O'Brien*[2]

**The indicator most frequently used in cross-country assessments of developments in cost competitiveness is the change in unit labour costs for the whole economy relative to those of main trading partners. Indeed, recent favourable international commentary pointing to a rapid recovery in competitiveness of the Irish economy is often made on the basis of sharp falls in measures of Ireland's whole economy relative unit labour costs. However, 'headline' unit labour cost developments may also partly reflect large shifts in the sectoral composition of the economy. This could potentially suggest a marked improvement in competitiveness even in the absence of improvements in competitiveness at the sectoral level. This box investigates to what extent structural shifts in the Irish economy may explain recent large movements in aggregate relative unit labour costs.**

The fall in unit labour costs in recent years was evident across many sectors but was especially dramatic in the manufacturing sector. As has been well-documented, productivity in the high-tech multinational firms tends to be strongly influenced by transfer pricing activity and certain sub-sectors are dominated by these multinationals. For example, although relatively acyclical in nature, the performance of the high output but low employment chemicals sector was buoyant during 2010 relative to 2008 and this is likely to have had an undue influence on aggregate improvements in productivity and unit labour costs. Therefore, it is possible that the changing sectoral composition in manufacturing, shifting even more towards certain high value-added sectors, was an important explanatory factor behind the sharp fall in unit labour cost across the sector. Indeed, it is notable that the output share of the broad chemicals sector increased from 40 per cent in 2008 to 54 per cent in 2010. At the same time, the computer and electronic manufacturing sector, which has lower productivity than the broad chemicals sector albeit higher than more traditional sectors, has seen its share fall from 17 per cent in 2008 to 9 per cent in 2010.

**Table 1:** Output Weights of Selected Sectors in Irish Manufacturing in Recent Years

| | 1999 | 2007 | 2008 | 2009 | 2010* |
|---|---|---|---|---|---|
| **Food and Beverages** | 0.21 | 0.18 | 0.18 | 0.18 | 0.17 |
| **Broad Chemicals** | 0.35 | 0.40 | 0.40 | 0.49 | 0.54 |
| **Computer and Electronic Equipment** | 0.14 | 0.17 | 0.17 | 0.12 | 0.09 |
| **Miscellaneous Instruments and Supplies and Transport Equipment** | 0.06 | 0.09 | 0.10 | 0.10 | 0.11 |
| **Other** | 0.24 | 0.15 | 0.14 | 0.11 | 0.10 |

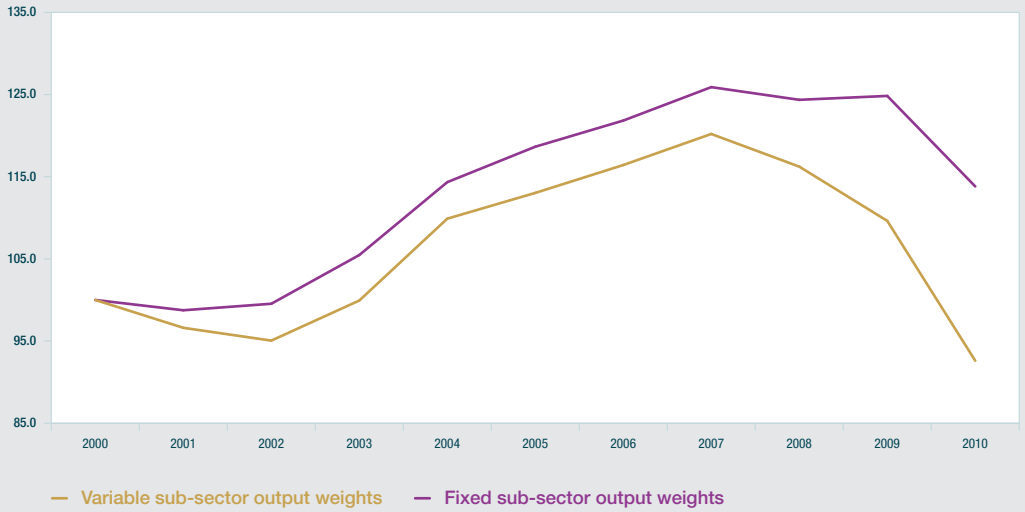
**Source:** CSO. *Covers 2010 Q1 to Q3. Weights derived from gross value added in 2005 and industrial production sub-indices as proxy for value added.

It helps to view the aggregate unit labour cost measure as an index derived by applying implicit output weights to sectoral unit labour cost indices. A shift share type analysis is performed whereby the output weights are fixed at 2000 average levels. Chart 1 presents two measures of relative unit labour costs in Irish manufacturing: (1) the variable weighted measure is the standard approach and allows the output weights of the sub-sectors in Irish manufacturing to vary over time; and (2) the constant weighted measure fixes the output weights at the average levels pertaining in 2000. There is some divergence between the two series up to 2007 but the compositional effects are not very large. However, after 2007, there is a quite notable divergence as the variable weighted measure falls at a much faster pace than the constant weighted measure. Indeed, on a variable weighted basis, the fall in relative unit labour costs between 2007 and 2010 is about 23 per cent, but when weights are kept constant, the fall is much less dramatic at about 9.6 per cent. Clearly, compositional effects explain a significant proportion of the improvement in labour cost competitiveness in the Irish manufacturing sector in recent years. As was noted earlier, the even greater prominence of the high value-added but relatively low employment chemicals sector was an important factor driving the improvement in aggregate manufacturing competitiveness.

2 The author is an economist in the Bank's Department of Economic Analysis and Research. The views expressed in the Box are the personal responsibility of the author.

## Box A: Compositional Effects in Recent Trends in Irish Unit Labour Costs *By Derry O'Brien*[2]

**Chart 1:** Compositional Effects in Irish Manufacturing Relative Unit Labour Costs




Source: CSO.

Note: Unit labour costs measures for the 22 trading partners take variable output weights only in the construction of both the relative variable weighted measure and in the relative fixed weighted measure. The measures are on a common currency basis. Production volume indices for Ireland are taken as a proxy for value added.

Turning to competitiveness developments in the wider private sector, there were also large shifts in the shares of the broad sectors (see Table 2). In particular, the share of the labour intensive construction sector fell rapidly in recent years while at the same time, the share of the relatively high productivity industrial sector made significant gains. This suggests that headline unit labour cost indicators may exaggerate the extent of any recent improvements in underlying labour cost competitiveness. The next stage of the analysis tests for compositional effects by fixing output weights at 2000 average levels across the broad sectors of the business sectors of Ireland and 21 main trading partners. Finally, the full extent of compositional effects is investigated by fixing output weights at 2000 average levels in the business sectors and also across the sub-sectors of the Irish manufacturing sector.

**Table 2:** Output Weights of Sectors in Irish Business Sector in Recent Years

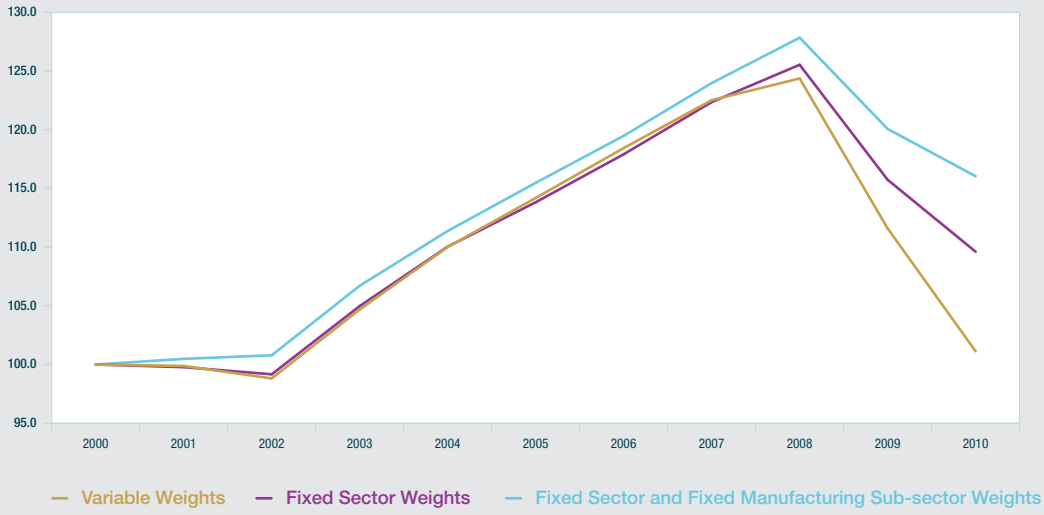
| | 2000 | 2007 | 2008 | 2009 | 2010* |
|---|---|---|---|---|---|
| **Industry** | 0.37 | 0.25 | 0.25 | 0.28 | 0.31 |
| **Construction** | 0.08 | 0.10 | 0.08 | 0.06 | 0.04 |
| **Trade, Transport and Communication** | 0.17 | 0.17 | 0.16 | 0.16 | 0.15 |
| **Finance and Business Services** | 0.38 | 0.48 | 0.51 | 0.50 | 0.50 |

**Source:** CSO NIE. *Average of the first two quarters of 2010.

## **Box A:** Compositional Effects in Recent Trends in Irish Unit Labour Costs *By Derry O'Brien*[2]

Chart 2 presents three measures of relative unit labour costs for Ireland where: (1) the output weights vary across all sectors (variable weights); (2) the output weights are held constant at 2000 averages for Ireland and trading partners but are allowed to vary within Irish manufacturing (fixed sector weights); and (3) the output weights are held constant at 2000 averages for broad business sectors in Ireland and main trading partners and are also held constant for Irish manufacturing sub-sectors (fixed sector and fixed manufacturing sub-sector weights). The 'headline' unit labour cost measure, which is based on variable output weights, recorded a 17.5 per cent improvement in competitiveness between 2007 and the first half of 2010. However, such headline measures were heavily impacted by compositional effects and recent movements should be interpreted with caution. Indeed, when broad sectoral compositional effects are taken into account, the improvement in competitiveness is less pronounced at about 10.4 per cent over the same period. When manufacturing compositional effects are also factored in, the improvement in underlying labour cost competitiveness amounts to about 6.4 per cent relative to 2007, which would suggest a return to the competitiveness position pertaining around 2005.

**Chart 2:** Compositional Effects in Irish Business Sector Relative Unit Labour Costs




Sources: OECD MEI, CSO.

Note: The broad sectoral analysis uses OECD series on unit labour costs, real output and total labour costs for four sectors: industry (ISIC categories C_E); construction (F); trade, transport and communication (G_I); and financial and business services (J_K). The aggregation of these four sectors is referred to as the business sector. The excluded sectors are the public sector (L_Q) and agriculture and fishing (A_B). Manufacturing unit labour costs indices are used as proxies for industry unit labour costs.

## The Public Finances

### *The 2010 Outturn*

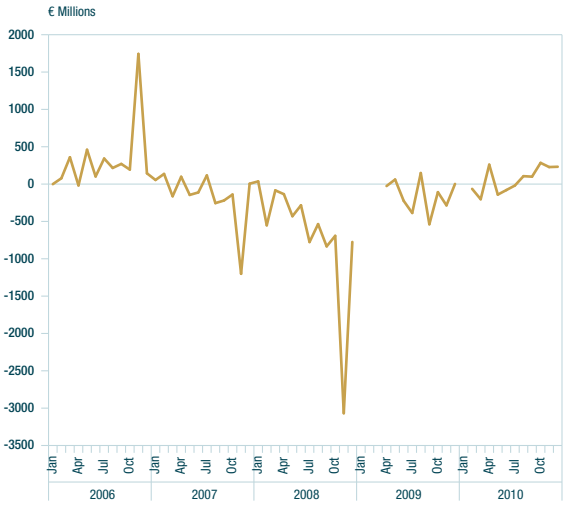
The end-2010 Exchequer returns, released in early January show an Exchequer deficit of €18.7 billion, compared with a deficit of €24.6 billion in 2009 (Table 8). The 2010 outturn was in line with what was projected in last month's Budget (deficit of €18.8 billion). The large annual improvement in the 2010 Exchequer deficit mainly reflects the non re-occurrence of payments to Anglo Irish Bank and the National Pension Reserve Fund (NPRF), which combined amounted to €7 billion in 2009.

On the revenue side, tax receipts amounted to €31.75 billion in 2010, a fall of 3.9 per cent year-on-year, as compared with declines of 14 per cent in 2008 and 19 per cent in 2009. Taxes stabilised as the year progressed as can be seen from Charts 12 and 13 and ended the year 2.3 per cent or €703 million ahead of profile. In particular, the quarterly tax take was ahead of expectations in each of the final three quarters of the year by increasing amounts. Specifically, in quarter 1 2010, taxes were €266 million behind target but in quarters 2, 3 and 4, excesses as against targets amounted to €39 million, €186 million and €744 million respectively. The improvement in tax revenues was helped in the main by robust corporation tax receipts. On the downside, income tax receipts ended the year approximately €250 million (or 2.2 per cent) behind target reflecting, in part, very weak labour market conditions. Finally, in terms of revenues, non-tax receipts increased by €1.9 billion last year to reach €2.7 billion due to fees from the Bank Guarantee Schemes and increased Central Bank surplus income.

On the expenditure side, total voted expenditure amounted to €46.4 billion in 2010, down 1.5 per cent year-on-year (a fall of €0.7 billion), due in part to a significant decline in capital spending. Net-voted current expenditure at end-December amounted to €40.5 billion, which was an increase of 0.6 per cent (€261 million) on 2009 levels. Current spending also ended the year 0.6 per cent ahead of target (€231 million) due mainly to shortfalls in Departmental PRSI and health levy receipts. Net-voted capital spending in 2010 amounted to €5.9 billion, an annual fall of 14.3 per cent (down €990 million), which was marginally behind its expected profile. The cost of servicing the National Debt increased by over €1.6 billion last year to reach €4.8 billion, thus accounting for 15 per cent of overall tax receipts.

In terms of the broader General Government Balance (GGB), Budget 2011 estimated a deficit of 31.9 per cent of GDP (€50.1 billion), up from 14.4 per cent in 2009 (Table 8). The unprecedented assistance to the banking sector resulted in this exceptionally large deterioration in the GGB last year. In particular, the inclusion of the full upfront capital support to Anglo Irish Bank, INBS and EBS added just over 20 per cent of GDP to the headline deficit last year. The underlying deficit, net of these transfers is estimated at 11.6 per cent of GDP. The capital transfers to the Banks added €31.6 billion to the debt stock in 2010 and resulted in an estimated General Government debt to GDP ratio of 94.2 per cent (up from 65.5 per cent in 2009).

**Chart 12:** Excess/Shortfall in Monthly Tax Outturns




Note: Discontinuity in series due to lack of data.
Source: Central Bank of Ireland calculations.

**Table 8:** Budgetary Outturn for 2010

| | 2009 €m | 2010 €m | % Change |
|---|---|---|---|
| ***Current Expenditure*** | | | |
| - Central Fund Services[a] | 4,992 | 6,504 | 30.3 |
| - Net Voted Expenditure[b] | 40,256 | 40,517 | 0.6 |
| **Total** | **45,248** | **47,021** | **3.9** |
| **Current Revenue** | | | |
| - Tax revenue | 33,043 | 31,753 | -3.9 |
| - Non-tax revenue[c] | 838 | 2,689 | 220.9 |
| **Total** | **33,881** | **34,441** | **1.7** |
| **Current Budget Balance** | **-11,367** | **-12,580** | |
| **Capital Budget Balance** | **-13,274** | **-6,165** | |
| ***Exchequer Balance*** | **-24,641** | **-18,745** | |
| **General Government Balance (% of GDP)[d]** | **-14.4** | **-31.9** | |
| **Underlying General Government Balance** | **-11.9** | **-11.6** | |
| **Source and Application of Funds** | | | |
| Total Borrowing/Repayments | -24,474 | -12,618 | |
| Total Increase in Exchequer Deposits | -167 | -6,127 | |
| ***Exchequer Balance*** | **-24,641** | **-18,745** | |

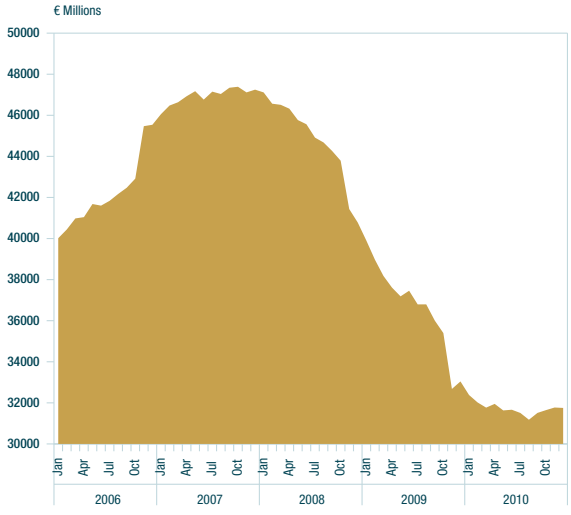
**a** Debt servicing, judicial salaries and pensions and EU Budget contribution.

**b** Government current expenditure on areas such as Social Welfare, Health, etc.

**c** Central Bank surplus income, National Lottery surplus, interest and dividends. The increase in 2010 is primarily driven by receipts from the Bank Guarantee Scheme.

**d** Budget 2011 estimate.

**Chart 13:** Annualised Tax Receipts




Source: Central Bank of Ireland calculations.

### *Exchequer Financing*

The Exchequer deficit of €18.7 billion last year was financed by Government borrowing of €12.6 billion. This was facilitated by the NTMA raising approximately €20 billion in the bond markets last year.

### *Budget 2011*

The 2011 Budget was presented to the Dáil on 7th December, following a series of developments culminating in the provision of a €67.5 billion financial support package from the EU and the IMF, subject to strict conditions. The Budget followed the publication of the 'National Recovery Plan (NRP)', which set out a €15 billion consolidation package to 2014, of which Budget 2011 was the first step.

As identified in the NRP, the 2011 Budget implemented a €6 billion fiscal adjustment aiming to bring the General Government Deficit down to 9.4 per cent of GDP in 2011. As regards the scale of the €6 billion adjustment in 2011, expenditure based measures contribute €3.9 billion with tax and PRSI measures accounting for €1.4 billion. In total, these permanent measures amount to €5.3 billion. The remainder, approximately €0.7 billion are classified as "Other" items, and are a series of non-recurring once-off measures principally relating to asset disposals and licensing impacting in 2011.

There are additional consolidation measures signalled through 2012 to 2014 to bring the total consolidation package to €15 billion, excluding the aforementioned once-off items. In terms of borrowing, the gross government debt to GDP ratio is expected to increase to 98.6 per cent of GDP in 2011. Sharper increases in the debt ratio are mitigated over the projection horizon reflecting a decision to partly run down previously built up Exchequer cash balances. These cash balances had been accumulated on a precautionary basis by the NTMA.

On the expenditure side, the 2011 Budget entails cuts to current expenditure amounting to €2.1 billion with a further €1.9 billion in savings on the capital side. These cuts had been signalled in the NRP. The main adjustments on the current expenditure side arise from reductions in welfare, public sector pay and savings in the health, children and the education budgets.

Following these measures, gross voted current spending is set to fall to €52.8 billion a decrease of 3.2 per cent in year-on-year terms, with a 24.7 per cent reduction in gross voted capital spending. Despite these cuts, significant pressures remain on the current expenditure side due to the operation of automatic stabilisers and a higher national debt interest burden.

On the revenue side, tax-raising and PRSI measures announced in Budget 2011 are expected to raise about €1.4 billion on a gross basis this year, mainly through a broadening in the income tax base. Furthermore, the introduction of a Universal Social Charge (USC), which was previously classified as an 'Appropriation in Aid', will add significantly to taxes in 2011[3]. As a result, on an unadjusted basis, tax revenues are expected to amount to €34.9 billion this year, representing a 10.7 per cent annual increase. However, the underlying increase in tax revenues, as a result of the Budget is about 1 per cent, when allowance is made for the USC change and when account is taken for negative revenue tax buoyancy effects[4].

As mentioned, the overall consolidation package in the 2011 Budget amounts to about €6 billion, with approximately €5.3 billion expected to exert an economic impact[5]. Taking on board the measures in Budget 2011, the Department of Finance is projecting that the General Government Deficit will improve to 9.4 per cent of GDP this year, with a debt to GDP ratio of 98.6 per cent.

**3** Approximately €2 billion in receipts from the Health Levy, will now be part of the USC.

**4** The estimated loss in tax revenue as a result of Budget 2011 measures is just over €1.2 billion.

**5** The remaining €0.7 billion in measures (e.g. asset disposals) are not expected to have a major effect on the economy in the short run.

# An Timpeallacht Gheilleagrach

I ndiaidh an mheathlúcháin throm ar fhostaíocht, ar aschur agus ar na cuntais fhioscacha le blianta beaga anuas, arna ghéarú le caillteanais throma iarbhír agus ionchasacha atá tagtha chun cinn san earnáil baincéireachta, méadaíodh na torthaí ar fhiachas na hÉireann i mí na Samhna 2010, mar gheall ar mheon neamhfhabhrach sa mhargadh idirnáisiúnta, chuig leibhéal nach bhféadfaí freastal air le tacaíocht ó iasachtaithe na hearnála poiblí nó príobháidí. Sna himthosca seo, ba léir gur ghá dul i muinín shaoráidí maoiniúcháin AE agus CAI.

Agus tacaíocht á fáil aici ó chistiúchán Chlár AE-CAI, beidh caoi ag Éirinn áitiú ar na margaí idirnáisiúnta go bhfuil an coigeartú fioscach faoi lán seoil aici, go bhfuil rioscaí sa chóras baincéireachta faoi smacht agus gur laghdaíodh cláir chomhardaithe na mbanc, agus gur daingníodh feabhsuithe ar iomaíochas an gheilleagair.

Ó tharla go ndíríonn an nóta tráchta seo ar fhobairtí maicreacnamaíocha agus airgeadais, ní bheadh sé iomchuí plé cuimsitheach a dhéanamh anseo ar raon iomlán na mbeartas atá dírithe ar fhás agus nach mór a chur i bhfeidhm agus a athneartú le linn na tréimhse seo um chomhdhlúthú agus um athchóiriú.

Le pacáiste iomlán na ngníomhaíochtaí beartais faoin gClár thuas, áirithítear go mbeifear in ann filleadh ar fhás eacnamaíoch inbhuanaithe. Is doiligh, áfach, luas agus uainiú an téarnaimh a thuar go beacht. Go háirithe, is doiligh a thomhas go beacht a mhéid a fhéadfar aistarraingt ghlan éilimh fhioscaigh a fhritháireamh le tosca na hearnála príobháidí agus le tosca idirnáisiúnta.

Ag féachaint do na tosca go léir, is é creatlach lárnach an Bhainc, go dtosóidh geilleagar na hÉireann ag fás arís de réir a chéile in 2011 i ndiaidh an chúngaithe shuntasaigh a mhair trí bliana. Cé nach bhfeicfear an t-iompú tosaigh ar leibhéil fosataíochta go dti deireadh na bliana seo, táthar ag súil go mbeidh fuinneamh leis an ngníomhaíocht fhoriomlán eacnamaíoch le linn 2011 agus 2012. Meastar go mbeidh fás tuairim is 1 faoin gcéad ar OTI in 2011 agus tuairim is 2.3 faoin gcéad in 2012. Meastar go bhfanfaidh OTN mórán mar an gcéanna i mbliana ach go mbeidh fás tuairim is 1.5 faoin gcéad uirthi in 2012. Is ionann na meastacháin seo agus atbhreithniú suntasach anuas ar na cinn a foilsíodh san Fheasachán Ráithiúil deireanach agus a tiomsaíodh ar bhonn comhdhlúthúcháin fhioscaigh de €3 billiún in 2011, i bhfad níos lú ná an ceann atá buiséadaithe anois, agus a tiomsaíodh ar bhonn rochtana leanúnaí margaidh ar mhaoiniú ar théarmaí réasúnta. Cé gurb é seo creatlach lárnach an Bhainc, d'fhéadfadh raon torthaí, idir thorthaí níos láidre agus thorthaí níos laige, a bheith i gceist chomh maith.

Leanfaidh an difríocht atá le feiceáil cheana féin idir feidhmiú earnálacha éagsúla de chuid an gheilleagair agus is dócha go mbeidh aon fhás teoranta cuid mhaith don earnáil onnmhairiúcháin sa bhliain 2011. Ar an gcaoi sin, de réir mar a fhillfear go céimseach ar fhás foriomlán aschuir, beidh an cion ón taobh eachtrach le feiceáil, ar cion é atá ag dul i méid agus a bheidh níos láidre ná éifeacht dhiúltach tosca intíre.

Cé gur tháinig moilliú anuraidh ar an téarnamh geilleagrach domhanda sa dara leath den bhliain, táthar ag súil go dtiocfaidh feabhas de réir a chéile ar fhuinneamh an fháis idirnáisiúnta i mbliana. Maidir leis an bhfás ar phríomh-mhargaí onnmhairiúcháin na hÉireann, tugtar le tuiscint sna meastacháin ó na príomhghníomaireachtaí idirnáisiúnta réamhaisnéise, go bhfuil sé leordhóthanach chun tacú le fás sách láidir ar onnmhairí, ainneoin go mbeidh sé níos ísle i mbliana ná mar a bhí an bhliain seo caite. Is dealraitheach go mbeidh an cion glan ó thrádáil eachtrach suntasach, fad a leanfaidh an fás ó allmhairí de bheith sách spadánta. Meastar freisin go mbeidh barrachas ar an iarmhéid reatha foriomlán arís i mbliana.

Leanann na hionchais maidir le héileamh intíre de bheith íseal. Cé go bhfuil maolú ag teacht ar an gcúngú ar chaiteachas tomhaltóirí, is dealraitheach go leanfaidh deitéarmanaint bhunúsacha tomhaltais de bheith lag. Táthar ag súil go dtiocfaidh cúngú breise ar chaiteachas tomhaltóra i mbliana toisc go meastar go dtiocfaidh laghdú beag eile ar fhostaíocht in 2011, rud a chuirfidh le cánacha níos airde ar ioncam, agus toisc go mbeidh teaghlaigh ag iarraidh féichiúnas a laghdú. Ó 2011 ar aghaidh, is dealraitheach go mbeidh an téarnamh ar thomhaltas mall agus céimseach. Tagann treochtaí i margadh an tsaothair leis an dearcadh seo agus níltear ag súil ach le méadú measartha ar fhostaíocht an bhliain seo chugainn. Maidir le hinfheistíocht, cé go bhfuil maolú le teacht ar ráta an chúngaithe, tugtar le tuiscint leis an gcoigeartú leanúnach san earnáil foirgníochta agus leis an gcoigeartú atá beartaithe i gcaiteachas caipitil phoiblí, go bhfuil laghdú mór ar chaiteachas i gceist leis an ionchas don bhliain 2011.

Ar ndóigh, ní chuirfidh an comhaontú um maoiniú seachtrach ann féin deireadh leis na dúshláin a bhaineann le beartas meántéarmach ná ní athróidh sé cineál na réiteach atá ar fáil. Mar shampla, maidir leis an airgeadas poiblí, is í an eochairthosaíocht an bhearna mhór a tháinig chun cinn idir ioncam agus caiteachas le linn an choir chun donais a líonadh. Fiú in éagmais iompaithe chodarsnaigh i meon an mhargaidh agus fiú dá bhféadfaí neamhaird a thabhairt ar na costais a bhaineann le caillteanais na mbanc atá faoi ráthaíocht, chaithfí an bhearna sin a tháinig chun cinn go tobann idir ioncam an rialtais agus caiteachas an rialtais a laghdú chun go bhféadfaí teacht chun cinn an fhiachais a thabhairt faoi smacht. Ar ndóigh, dá mba lú go mór na costais a bhainfeadh le tacaíocht a thabhairt don earnáil baincéireachta agus dá mba lú an brú sna margaí fiachais cheannasaigh, thabharfadh sé sin deis ama don tír an coigeartú a dhéanamh. Ní chuirfeadh sé deireadh, áfach, leis an ngná atá le 'athnormalú' a dhéanamh ar airgeadas an rialtais. Bhí an Rialtas ag brath rómhór ar fhoinsí ioncaim neamh-inbhuanaithe, nach mbeadh fós ar bun i ndiaidh an bhorrtha réadmhaoine agus, chomh maith leis sin, bhí an bonn cánach ioncaim laghdaithe ag an Rialtas. Tháinig méadú mór, mear ar chaiteachas an Rialtais le linn an bhorrtha freisin. Leis na coigeartuithe a rinneadh le cúpla bliain anuas agus na cinn a fógraíodh sa bhuiséad, táthar ag druidim i dtreo na claontaí seo a cheartú. Is í an phríomhaidhm anois leanúint sa treo seo chun go mbainfear staid amach ina gcuirfear rátaí cánach réasúnta i bhfeidhm maidir le bonn cobhsaí níos leithne sa chaoi go mbeidh ioncam i gcomhréir le caiteachas, an staid atá i réim i bhformhór na dtíortha.

Maidir leis an earnáil baincéireachta, féadfar breathnú ar na beartais a comhaontaíodh faoin gClár mar dhiansaothrú ar an gcur chuige a bhí ann cheana féin seachas mar athrú bunúsach air. Sa chéad chéim, cuimsítear faisnéis mhionsonraithe a chur ar fáil san fhearann poiblí maidir le riocht chláir chomhardaithe na mbanc agus le brabúsacht ionchasach na mbanc. Tá an tAthbheithniú ar Cheanglais Chaipitil Stuamachta (PCAR) á nuashonrú ag an mBanc Ceannais faoi láthair chun go gcuirfí san áireamh aon fhaisnéis bhreise agus aon ionchais nuashonraithe fhoriomlána. Déanfar PCAR a bhailíochtú go seachtrach agus beidh sé mar bhonn do mheasúnú a dhéanfar ar an gcaipiteal breise a bheidh ag teastáil chun freastal ar na caighdeáin is airde caipitil atá beartaithe do na bainc i gcomhthéacs Chlár AE-CAI. Ag an am céanna, cuirfear i bhfeidhm clár dí-ghiarála lena laghdófar cláir chomhardaithe na mbanc trí shócmhainní a dhíol, agus ar an gcaoi sin, feabhsófar a staid maoiniúcháin agus éascófar dóibh na caighdeáin leachtachta atá á leagan síos don todhchaí mar chuid de thionscadal Basel III a bhaint amach. Is í an phríomhchúis atá leis na gníomhaíochtaí seo, cobhsaíocht na hearnála baincéireachta a fheabhsú agus a chur ar chumas na hearnála cabhrú le téarnamh an gheilleagair. Cé go mbeidh an margadh réadmhaoine agus foirgníochta lag go ceann tréimhse fada, níor cheart go gcuirfí siar gníomhaíocht a chabhródh le tosca inbhuanaithe a athbhunú do na margaí sin.

Is é athbhunú an iomaíochais an dara toisc is tábhachtaí i gcomhthéacs luas agus neart an téarnaimh a chinneadh. Is ríshoiléir gur gá gníomhaíocht leathan thar réimse leathan chuige seo, nach mbainfidh go hiomlán le sainchúram an Bhainc Ceannais maidir le beartas maicreacnamaíoch agus airgeadais ach is ríthábhachtach an caillteanas in iomaíochas costais a tharla le linn bhlianta tosaigh na mílaoise. Is léir go gcaithfidh an t-éileamh seachtrach ról níos mó a ghlacadh sa gheilleagar amach anseo, mar atá ag tarlú cheana féin. Ní bheidh deiseanna fostaíochta ag gabháil leis an éileamh sin ach amháin a mhéid a fhéadfar struchtúr costais réalaíoch a athbhunú. Cé go bhfuil feabhas tagtha ar staid iomaíochais an gheilleagair le dhá bhliain anuas, ní foláir é a fheabhsú tuilleadh. Go deimhin, an feabhas a léirítear leis an titim i gcostais aonad saothair sa gheilleagar trí chéile, ní thugann sé léargas cruinn dúinn ar an riocht ina bhfuilimid; earnáil ar earnáil, níl costais aonad saothair tite chomh mór sin. Comhéifeacht na titime ar chion na n-earnálacha a bhfuil táirgiúlacht íseal agus fostaíocht ard acu, rinne sí difear mór do chostas foriomlán aonad saothair. Ní foláir filleadh ar an staid a bhí i réim ag tús na deichbliana deiridh, díreach tar éis d'Éirinn dul isteach san Aontas Eacnamaíoch agus Airgeadaíochta.

Tá roinnt mhaith de ghnéithe struchtúrtha an gheilleagair a bhí ann ag an am sin fós ar marthain inniu. Tá lucht saothair oilte, solúbtha ann fós, tá rátaí cánach tarraingteacha ann d'fhiontair agus meastar i bhformhór na suirbhéanna idirnáisiúnta go bhfuil an timpeallacht ghnó in Éirinn fabhrach do ghnó. Rinneadh tagairt cheana féin dá bhfuil ag teastáil i dtéarmaí costas saothair, maidir le tuarastal agus le fás táirgiúlachta, ní hamháin in earnáil na n-earraí intrádála agus i ngach earnáil den gheilleagar, lena n-áirítear san earnáil phoiblí agus in earnálacha cosanta den earnáil phríobháideach. Sa chomhthéacs seo, is gá níos mó a dhéanamh ná na barraíochtaí a tháinig chun cinn le blianta beaga anuas a chasadh siar. Níl an tír in ann freastal ar na neamhéifeachtúlachtaí agus na costais arda a bhí ina bpríomhthréith le fada d'earnálacha cosanta áirithe, agus a leanann de thionchar a bheith acu ar an téarnamh eacnamaíoch i gcoitinne. I bhfianaise a n-idirthuilleamaíochta, ní foláir d'earnálacha éagsúla uile an gheilleagair rannchuidiú le téarnamh marthanach.

# Financing Developments in the Irish Economy

## Overview

After a period of relative calm, the final months of 2010 were characterised by increasing tensions in the euro area sovereign debt markets, and difficulties for Irish-owned banks in accessing wholesale funding. This was accompanied by increased recourse to Eurosystem refinancing operations by Irish-owned credit institutions and further pressures on the sovereign reflecting market concerns about the fiscal position, including the impact of bank recapitalisation.

Yields on Irish Government debt reached unsustainable levels through Autumn 2010 amid wider tensions in euro area sovereign debt markets. As a result of these pressures, the Irish Government requested financial assistance from the International Monetary Fund (IMF) and the EU Commission in consultation with the ECB and Ecofin. The package agreed in November 2010 with the IMF/EU will see funds provided to the State by the IMF, the European Financial Stability Facility and the European Financial Stabilisation Mechanism. The programme will allow the time and flexibility to achieve the consolidation of the public finances by 2014 as outlined in the Government's National Recovery Plan, and the necessary restructuring of the Irish-owned banks, without the State having to access funding at unsustainable interest rates.

The financial position of the Irish resident private sector in recent months has been impacted by developments in Government and the Irish-owned credit institutions, as well as the wider prevailing economic conditions. This is particularly the case for the household sector and indigenous non-financial corporations (NFCs), who have significant recourse to the resident banking system for their external funding requirements. The recent key developments in the financial position of the various economic sectors, which are discussed in detail in the remaining sections, are:

- The overall size of the NFC sector financial balance sheet continued to grow in recent quarters, although the funding profile of the sector has changed somewhat, with an increased reliance on equity as opposed to loans.
- The stock of credit advanced to the domestic NFC sector by resident credit institutions continued to contract, with NFC loans declining by 1.9 per cent in the year ending November 2010. Interest rates on new NFC loans also increased towards the end of 2010, particularly for smaller loan amounts.
- The pace of deleveraging by the household sector increased in mid-2010, mostly driven by a reduction in loan liabilities.
- The stock of lending by resident credit institutions to households continues to decline in an environment of weak demand for both consumer and housing-related lending, with total loans to households falling by 4.8 per cent on an annual basis in November 2010. Meanwhile interest rates on loans to households in Ireland, particularly for house purchase, generally increased through the second half of 2010 to a greater extent than those in the euro area as a whole.
- Investment funds and insurance corporations continued to expand over the period, largely reflecting business with non-residents and the establishment of new companies in these sectors in Ireland.

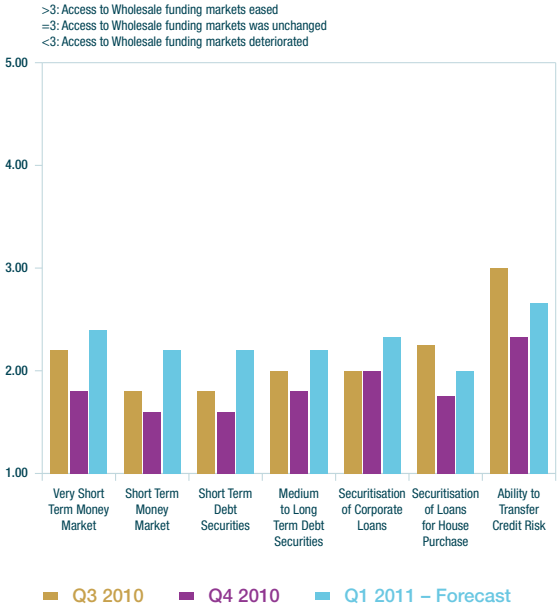
The Irish results of the recent Bank for International Settlements triennial derivatives survey are also discussed separately.

## Monetary Financial Institutions

### *Funding*

For Irish-owned credit institutions[1], the increased difficulty in sourcing funding in wholesale markets was compounded by continued market uncertainty over expected losses on loans that remain to be transferred to NAMA as well as on their non-NAMA loan book. There were redemptions of debt securities issued by MFIs of €32.8 billion during Q3 2010, with the largest proportion amounting to €27 billion taking place during September, as a significant volume of debt securities issued under the Government's original guarantee scheme established at end-September 2008, matured during this month. Redemptions of debt securities continued during October and November, albeit at a slower pace, with net redemptions of €18 billion over the two-month period. The difficulties being faced by Irish resident credit institutions in wholesale funding markets were reflected in the responses on funding market conditions contained in the Irish Responses to the Euro Area Bank Lending Survey (BLS) for Q4 2010 conducted in January 2011. Respondents noted that access to wholesale funding markets deteriorated across the maturity spectrum during the final quarter of 2010 (Chart 1). This deterioration in market access was most pronounced for the inter-bank unsecured money market along with short and medium term debt securities. Respondents to the survey expect access to wholesale funding markets to deteriorate further, albeit to a lesser extent, during the first quarter of 2011.

**Chart 1:** Access to Wholesale Funding Markets




Source: Irish Responses to the Euro Area Bank Lending Survey.

Following the intensification of the situation during Q3 2010 and the subsequent financial support package agreed with the IMF and the EU authorities in November 2010, the Central Bank announced details of updated capital requirements to be met in the coming months by Irish-owned banks. In addition to the second Prudential Capital Assessment Review (PCAR), there will be a first Prudential Liquidity Assessment Review (PLAR) in early 2011. Both of these measures aim to provide the most transparent and precise information on the actual and prospective finances of the Irish-owned banks, in order to restore market confidence.

Deposits held in Irish resident credit institutions by the Irish private sector fell by an average annual rate of 4.8 per cent for the three months ending November 2010. The three-month average net flow of deposits was minus €2.1 billion, with a particularly large negative flow in November totalling €5.2 billion. This negative flow of deposits in the last three months has primarily been driven by a fall in deposits from Other Financial Intermediaries (OFIs), Insurance Corporations and Pension Funds (ICPFs) and households.

Overnight private-sector deposits fell by an annual rate of 3.3 per cent, based on the average for the three months ending November 2010. There was a substantial negative net monthly flow of €2.5 billion of overnight deposits in November. Again, these developments were driven by a sharp decline in both household and OFI/ICPF overnight deposits. Households also reduced their deposits with agreed maturity up to two years, with an average net flow of minus €476 million recorded for the three months ending November. Total private-sector deposits with agreed maturity up to two years fell by an average annual rate of 13.6 per cent during this period. Deposits with agreed maturity over two years increased, however, by an annual average rate of 23.7 per cent over the three months ending November 2010, driven by a rise in OFI and ICPF deposits in this category.

1 Irish-owned credit institutions are those whose head office is within the State and are covered under the Government's Eligible Liabilities Guarantee Scheme. Irish-resident credit institutions refer to the entire population of credit institutions with offices in the Republic of Ireland, whether that be on a branch or subsidiary basis, irrespective of the location of their head office.

Private-sector deposits from other euro area residents fell by an average annual rate of 2.5 per cent in the three months ending November 2010, while deposits from non-euro area residents fell by 29.2 per cent. Overall, the annual rate of change in total non-resident private-sector deposits averaged minus 20.7 per cent over the three-month period.

The decline in deposits in recent months has contributed to a decline in both M1 and M2 in Ireland. The annual pace of growth of currency in circulation has also moderated significantly in recent months, averaging 6.4 per cent for the three months ending November 2010. As a result, Irish resident M1 fell by an average annual rate of 3.1 per cent in the three-month period. Overall, the Irish contribution to euro area M3 decreased by 23.3 per cent on an annual basis in November, with an average annual decline of 19.1 per cent in the three months ending November. This declining contribution to euro area M3 has been partially offset by an increase in Irish resident money market fund (MMF) shares/units, which recorded an annual growth rate of 17.7 per cent in November 2010. The role of MMFs is further explored in Box 1. In contrast to the decline in the Irish contribution, euro area M3 increased by 1.9 per cent on an annual basis in November.

Given the ongoing tensions in the money markets, the Eurosystem has continued to offer refinancing operations at a fixed rate tender with full allotment. Irish resident credit institutions' borrowings from the Central Bank as part of these Eurosystem monetary policy operations increased significantly in recent months, from just over €95 billion in August 2010 to €138.2 billion in November. Of this increase, €36.9 billion was due to a rise in Eurosystem borrowing by domestic market credit institutions[2] over the period, bringing Eurosystem borrowing by these institutions to €97.3 billion at end-November 2010.

Eurosystem official interest rates have remained at historically low levels since May 2009. The cost of borrowing in the inter-bank market has, however, continued to rise in recent months in light of ongoing financial market uncertainty. In October 2010, the one-month, three-month and twelve-month EURIBOR registered increases of 22, 15 and 11 basis points respectively, relative to the previous month. Meanwhile, retail interest rates on both households' and non-financial corporations' deposits in Ireland have, broadly speaking, declined in recent months[3].

### *Aggregate Credit Developments*

The main asset category on the Irish resident credit institutions' balance sheet is credit advanced to Government and the private sector. Credit advanced to the Irish resident private sector by the domestic banking system remains subdued. Loans to the private sector fell by an average annual rate of 3.8 per cent in the three months ending November 2010. Holdings of securities issued by the Irish resident private sector have increased in recent months and grew particularly strongly in November, by €5.3 billion. This increase was due to a rise in holdings of debt securities issued by OFIs, most notably debt issued by NAMA in purchasing land and development loans from participating credit institutions. Credit advanced to Irish general government has increased over 2010, largely due to an increase in promissory notes issued to the banking sector, which are treated as loans in the Government accounts. Loans to Government increased significantly throughout 2010, rising to €22.6 billion in November 2010 from just €1.3 billion at the end of 2009. Credit institutions' holdings of securities issued by the Irish Government have also increased throughout 2010, by approximately €3.8 billion since December 2009. Government bonds are used as collateral by banks for ECB monetary policy operations. With regard to credit advanced to non-residents, one noteworthy feature was a very significant increase in loans to the other euro

**2** Domestic market credit institutions are those with a significant retail presence in the State, including both Irish and foreign-owned institutions. This category excludes the activities of more internationally focused credit institutions such as those in the IFSC. A list of domestic market credit institutions is available at http://www.centralbank.ie/data/site/cmbs/Credit%20Institutions%20Resident%20in%20the%20Republic%20of%20Ireland.pdf.

**3** There are a small number of exceptions to this. Interest rates on outstanding NFC deposits with agreed maturity have increased in recent months. Furthermore, interest rates offered on new business deposits (both household and NFC) have risen in recent months. However, in both cases, the volumes concerned represent a small proportion of the overall volume of deposits.

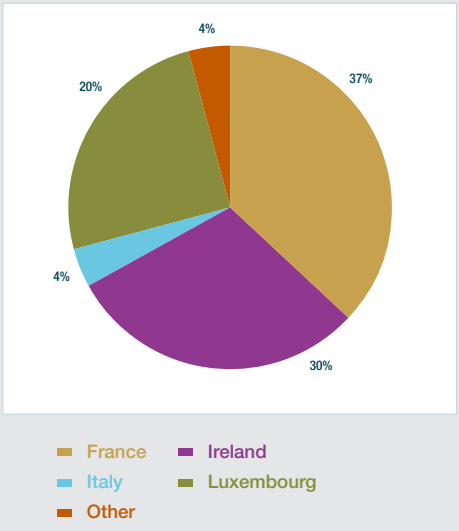
## Box 1: Money Market Funds

Money market fund (MMF) shares/units are included in the measure of M3 (the broad money supply measure) as their units are close substitutes for deposits. MMFs are classified as MFIs by the ECB due to this defining characteristic. Ireland, France and Luxembourg accounted for 92.5 per cent of MMF shares/units in issue in the euro area in Q3 2010, with Ireland accounting for the second largest proportion at that point in time. However, MMF shares/units in issue have been falling in the euro area since the second quarter of 2009. The outflows at the onset of the financial markets turmoil were due to investor uncertainty over MMFs' exposure to riskier sub-prime bonds, and more recently, because the opportunity cost of holding MMF shares is high due to low short-term interest rates.

MMF shares/units in issue in Ireland have increased since the end of 2009. The increase was in the region of €37 billion with nearly two thirds of this accounted for by positive inflows into MMF shares. The remainder of the increase was accounted for by positive revaluation of the shares held by MMFs, meaning that assets invested in by the funds have appreciated. In contrast, there have been large outflows from French and Luxembourg MMFs' shares/units.

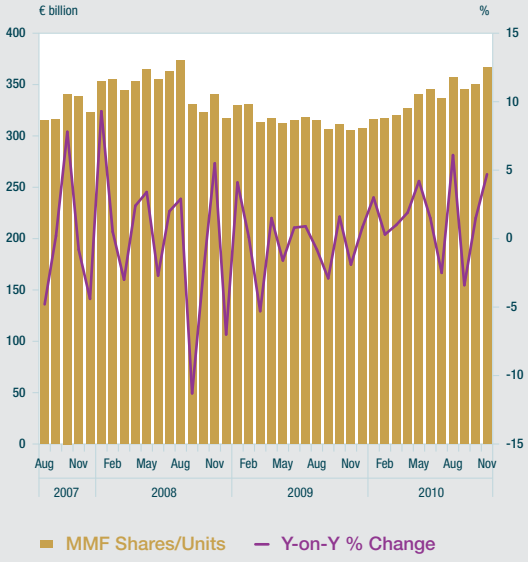
MMFs primarily invest in money market instruments, other MMF shares/units, other transferable debt instruments with short maturities, and bank deposits, or pursue a rate of return that approaches the interest rates of money market instruments. Irish resident MMFs invest mostly in debt securities or bonds. Over 87 per cent of total assets were invested in this category at end-November 2010. A high proportion of this was invested in non-euro securities issued by MFIs, particularly in the short-term category of up to one year. These MFIs were located outside the euro area, and the securities were mostly US dollar or sterling denominated.

**Chart 1:** Share of MMFs' Shares/Units in Issue in the Euro Area, Q3 2010




Source: European Central Bank.

**Chart 2:** MMF Shares/Units, Amount Outstanding and Y-on-Y Change




Source: Central Bank of Ireland.

Deposits and loan claims increased as a proportion of MMFs' balance sheets during 2007 and 2008, and as a consequence, bonds fell to below 90 per cent. This most likely reflected a desire by the funds to remove some of their assets from riskier categories like corporate bonds, short-term paper, and complex short-term structured securities, etc. This trend may also have reflected the fact that during the worst of the financial crisis, there were severe liquidity restrictions, and very few new investment opportunities in securities. Towards the end of the third quarter of 2009, however, the proportion of MMF assets held in deposits reduced again, to just over 9 per cent.

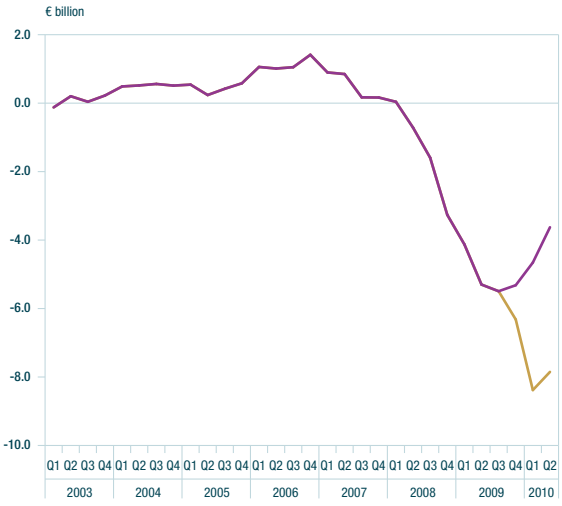
area general government sector of approximately €73 billion in October 2010, equivalent to an annual increase of 682 per cent. This exceptional development relates to the accounting treatment of large transactions involving IFSC banks and another euro area government-sponsored asset purchase vehicle. The counterpart to the increased government lending is a decline in the holdings of securities issued by non-residents, which represents the assets transferred.

## Government

### *Debt and Deficit Developments*

The evolution of the Government surplus/deficit is now compiled by the Central Bank on a quarterly basis as part of the new Quarterly Financial Accounts series. Chart 2 depicts quarterly developments in the four-quarter moving average of the surplus/deficit up to Q2 2010. The deficit includes capital transfers of €16.9 billion for Anglo Irish Bank and Irish Nationwide Building Society up to Q2 2010. Further capital transfers will be recorded in the Q3 and Q4 2010 deficit as additional promissory notes are issued to the banks. The Government capital injections into Bank of Ireland and Allied Irish Banks are treated as financial transactions (or investments) in Government accounts and therefore do not impact the deficit. The impact on the surplus/deficit of including the capital transfers into the Irish-owned banks between Q4 2009 and Q2 2010 is also depicted in Chart 2, and shows a reduction in the four-quarter moving average deficit between Q1 2010 and Q2 2010 of €530 million when capital injections are included, and of €1.03 billion excluding capital injections.

**Chart 2:** The Four-Quarter Moving Average of the Government Surplus/Deficit (Q1 2003 – Q2 2010)

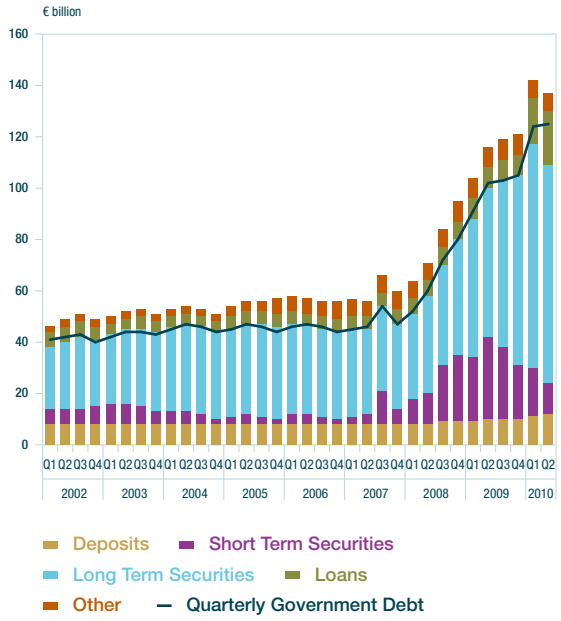



Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

Government liabilities fell overall by approximately 3 per cent during Q2 2010 as depicted in Chart 3, despite an increase in promissory notes issued to the banking sector. These notes are treated as loans in the Government accounts and amounts issued totalled €2 billion during Q2 2010. The decline in liabilities occurred in part due to the lower market value of securities issued, as Irish Government bond yields rose in line with the increased turmoil in the sovereign debt markets, and because Government used deposits built up in previous quarters to repay debt securities during Q2 2010. At end-Q1 2010 Government deposits stood at nearly €33 billion, forming almost 40 per cent of all Government financial assets. By Q2 2010 deposits had fallen to €26 billion. Quarterly Government debt, which is based on the standard Excessive Deficit Procedure (EDP) measure of debt, and has some methodological differences in compilation, remained more or less unchanged in Q2 2010.[4]

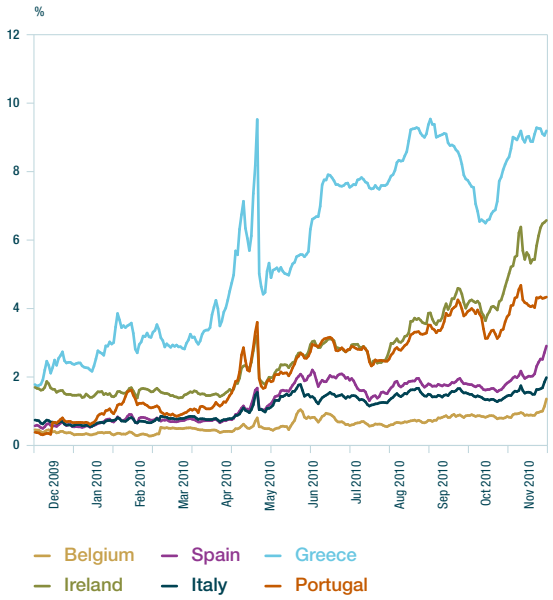
4 Government liabilities in Quarterly Financial Accounts (QFA) differ from the EDP measure of debt as they are calculated on a non-consolidated basis, and employ different coverage and valuation criteria. Therefore, in line with international government statistical standards, QFA government liabilities are generally higher than EDP debt.

**Chart 3:** Government Liabilities (Q1 2002 – Q2 2010)




Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

**Chart 4:** Selected Euro Area Ten-Year Sovereign Bond Spreads over German Bunds




Source: Thomson Reuters Datastream.

### *Sovereign Debt Market*

Financial markets' concerns about sovereign risk in several euro area countries were increasingly evident from mid-October 2010, following market concerns about the capacity of peripheral countries, and in particular Ireland, to service future debt obligations. Concerns were also expressed about the size of possible European Financial Stability Facility support requirements, and about the application of burden-sharing on future issuance of sovereign bonds. Consequently, there was a persistent upward trend in long-term government bond yields for all euro area sovereign issuers during October and November reflecting bond holders' concerns. Steeper increases were apparent for several euro area Member States, including Ireland, where the spread over German bunds increased substantially over the period (Chart 4).

Deterioration in the Irish position in the international bond markets was, however, evident before mid-October, arising from the downgrade of Irish Government debt by Standard and Poor's rating agency to AA- during August 2010. This reflected deterioration in the funding position of banks as a significant amount of debt issued under the initial Credit Institutions (Financial Support) Scheme 2008 needed to be re-financed during September 2010.

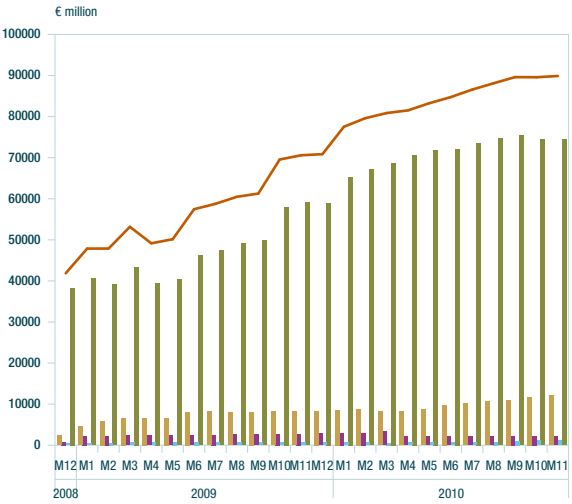
Despite slight moderation in the increase in early October, yields began a persistent upward trend as markets remained concerned about whether Government finances were on a sustainable path. These concerns arose from higher realised and expected losses on loans transferred from Irish-owned banks to NAMA as well as other non-NAMA bound loan books, and the corresponding increase in Government support, where necessary, to enable these banks to meet their new capital requirements.

There was slight respite from the upward trend in early November for both Irish and other euro area sovereign yields, resulting from reports that proposed burden-sharing on sovereign bonds would only apply to issuance post-2013. This respite proved to be only temporary. In the case of Ireland, Government bond yields rose sharply amid market concern about the increasing reliance of the Irish banking system on Eurosystem support. The yields on Irish Government ten-year bonds rose to be in excess of eight per cent mid-November.

**Chart 5:** Irish Government Ten-Year Bond Yields


Source: Thomson Reuters Datastream.

**Chart 6:** Holders of Irish Government Bonds




Source: Central Bank of Ireland.

On 28 November 2010, the Minister for Finance announced details of a joint IMF/EU financial support programme for Ireland totalling €67.5 billion. The ten-year bond yield on Irish Government debt peaked at 9.2 per cent on the first trading day following the announcement, before falling back in subsequent days to around 8 per cent.

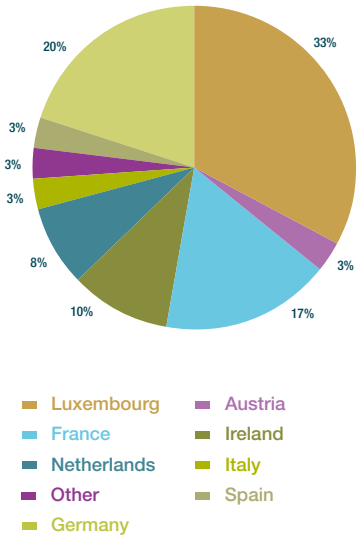
The outstanding nominal volume of Government bonds in issue remained at €89.9 billion at end-November 2010, owing to the cancellation of Government bond auctions in September by the National Treasury Management Agency. At end-November, the holders of Government bonds continued to be predominantly non-resident, where almost 85 per cent of Government bonds in issue were held by foreign investors. Resident holders predominantly comprise banks, arising from the use of Government bonds as collateral for Eurosystem monetary policy operations.

## Institutional Investors: Investment Funds, Insurance Corporations & Pension Funds

### *Investment Funds*

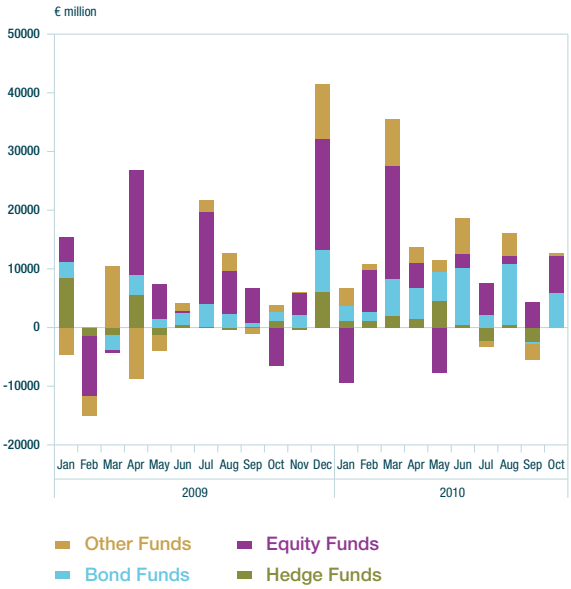
Irish resident investment funds accounted for 10 per cent of total shares in issue in the euro area in Q3 2010 (Chart 7). Investment funds in Ireland recorded an overall increase of €55.3 billion in their shares/units in issue between Q1 2010 and Q3 2010. Approximately €37.8 billion of the increase was due to transactions or inflows, with the remainder due to positive revaluations from exchange rate or market price changes. Shares of over €11 billion were issued by new funds launched during the six months to end-September 2010. While the value of shares/units in issue, or the net asset value (NAV), increased in Ireland in the first three quarters of 2010, corresponding data for the euro area showed a decline in Q2 2010, primarily in Spain, France and the Netherlands, as financial markets experienced considerable volatility reflecting investors' concerns about the sovereign debt situation in the euro area. Total euro area investment funds' shares increased then in Q3 2010 after the level of volatility in financial markets subsided. However, the annual growth rate, adjusted for transactions, declined to 7.1 per cent, from 10.2 per cent in Q2 2010.

**Chart 7:** Proportion of Euro Area Investment Funds Shares/Units in Issue by Member State, September 2010




Source: European Central Bank.

**Chart 8:** Month-on-Month Change in the Net Asset Value of Irish Resident Investment Funds




Source: Central Bank of Ireland.

The month-on-month change in the NAV of Irish resident investment funds is shown in Chart 8. It also shows these trends by type of investment fund – equity funds, bond funds, hedge funds and other funds (comprising mixed funds, real estate funds and other). Overall, the value of equity funds' shares in issue in Ireland increased by €10 billion, to €233.8 billion, over the six months to end-September 2010. Positive revaluations during Q3 2010, as well as inflows of €6 billion into equity funds, accounted for the increase. This was despite a large decline in the value of shares in issue in May 2010 as the major international stock market indices fell.

There was a substantial rise in the value of bond funds in Ireland over the six months to end-September 2010; they increased by €32.3 billion, bringing the total value of shares in issue to €151 billion. During the second quarter of 2010, there were positive revaluations of the shares of bond funds, which was then reversed during the third quarter of 2010. However, sizeable positive inflows in both quarters ensured that the value of bond funds increased.

Hedge funds in Ireland accounted for 50 per cent of total shares in issue in the euro area at end-September 2010. Changes in outstanding hedge fund shares in issue in Ireland can fluctuate from positive to negative from month to month (Chart 8). In the third quarter of 2010, there were both outflows from hedge funds and negative revaluations causing the value of shares in issue to decline to €50 billion, from €54.6 billion in the previous quarter.

### *Insurance Corporations and Pension Funds*

Irish resident insurance corporations and pension funds (ICPFs) accounted for 8 per cent (€282 billion) of the total financial assets of the Irish financial sector in Q2 2010. This sector has significant links and interconnectedness to both the domestic economy and the rest of the world. Within the domestic economy it has an active role as ICPF liabilities are an important store of household financial wealth. The household sector now has greater exposure to the performance of the industry, as there is a greater move towards unit-linked insurance policies and defined contribution pension schemes, which apportion risk directly to the policyholder. The Irish resident insurance sector has increasing links with the rest of the world through the expansion of the reinsurance industry and the rise in the number of general insurers locating their pan-European headquarters in Ireland.

## **Box 2:** Developments in the Foreign-Exchange and OTC Interest Rate Derivatives Market in Ireland: 2007 – 2010

**By Aisling Menton***

Every three years, the Bank for International Settlements (BIS) coordinates a survey on the turnover in foreign exchange (FX) instruments and over-the-counter (OTC) interest rate derivatives and amounts outstanding of OTC derivative products. The objective of the survey is to provide the most comprehensive and internationally consistent information on the size and structure of global foreign exchange markets, allowing policymakers and market participants to better monitor patterns of activity in the global financial system. The survey in 2010 involved 53 central banks and monetary authorities.

This box will concentrate on the turnover part of the survey in Ireland[5]. Usually for Ireland the reporting population differs from survey to survey. This box examines those reporters common to the 2007 and the 2010 survey and analyses changes between the two surveys. By removing differences due to changes in the reporting population, it allows for more complete analysis of the trends in the results. Thirteen institutions completed both surveys. The Central Bank issued a press release on the full results of the turnover part of the survey on 1 September 2010.

Previous triennial surveys used the expression 'traditional foreign exchange markets' to refer to spot transactions, outright forwards and foreign exchange swaps. This expression, however, excluded currency swaps and currency options, which were discussed separately. From 2010, the survey is divided into two sections: one looks at foreign exchange instruments, including spots, outright forwards, foreign exchange swaps, currency swaps and OTC FX options bought and sold, while the other looks at OTC interest rate derivatives, including forward rate agreements (FRAs), interest rate swaps and options.

### *Foreign-Exchange Market Turnover*

The value of transactions in FX instruments increased by 30 per cent between the 2007 survey and the 2010 survey. Average daily turnover among the selected institutions increased from $9.4 billion to $11 billion. The global FX market turnover was 20 per cent higher in April 2010 than in April 2007.

The volume of spot transactions declined between April 2007 and April 2010, when average daily turnover fell from $4.1 billion to $3.1 billion. This is in stark contrast to the results of the global BIS survey, which recorded a 48 per cent increase in spot transactions. Spots are usually single short-term outright transactions involving the exchange of two currencies at a rate agreed on the date of the contract for future value or delivery. Spots are used to buy and sell foreign currency at current market exchange rates. In Ireland, spot activity fell due to a slowdown in global trading activity.

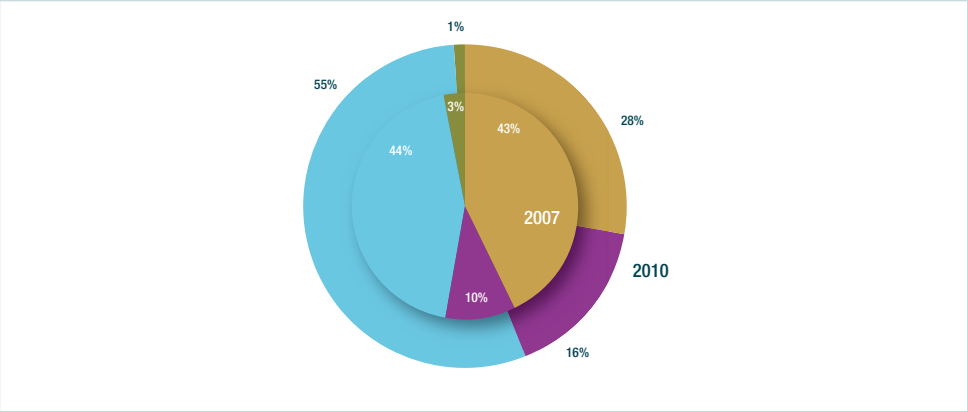
Turnover in outright forwards also recorded a substantial increase between the two periods rising from 9.7 per cent of turnover in 2007, to 16 per cent in 2010. Outright forwards are transactions involving the exchange of two currencies at a rate agreed on the date of the contract for value or delivery at an unspecified date – usually of longer time maturity than spots. Turnover in outright forwards also grew strongly in the global survey.

* The author is an Economist in the Central Bank's Statistics Department.

5 The Irish results of the turnover part of the BIS triennial derivatives survey were published on the Central Bank website (http://www.centralbank.ie/sta_othe.asp) in September 2010, and the tables of outstanding amounts were published in November 2010.

## Box 2: Developments in the Foreign-Exchange and OTC Interest Rate Derivatives Market in Ireland: 2007 – 2010

**Chart 1:** Proportion of FX Instruments – 2007 and 2010




Foreign exchange swaps (FX swaps) continue to be the largest traded derivative instrument of foreign exchange in Ireland. They accounted for 55 per cent of turnover in April 2010, and their average daily turnover increased from $4.2 billion in April 2007 to $6.1 billion in April 2010. FX swaps were the most important instrument in the Euro Money Market Survey 2010.[6] FX swaps involve the exchange of two currencies on a specific date and a reverse exchange of the same two currencies at a future date, at rates agreed at the time of the contract. The growth in FX swaps in Ireland contrasts with the international experience, as the global survey results show that FX swaps were flat over the period. Not all reporters recorded an increase in turnover in FX swaps. Some undertook little new business, which meant a lower requirement for FX swaps, as for example, less commercial paper and debt securities were being issued. In addition, outflows of non-euro deposits, and deals maturing without being replaced all accounted for lower demand from some institutions. Those reporters recording an increase in FX swaps cited the use of FX swaps as a cash management tool, and changes in funding patterns with larger receipts in US dollar (USD) and sterling, being converted into euro using FX swaps. This corresponds with responses received in the ECB Euro Money Market Survey, where the FX swaps market was the only OTC derivatives market to grow in 2010, compared to 2009. Some survey participants reported increasing uses of FX swaps to fund USD assets. Also, it became more difficult for European banks to issue certificate of deposits (CDs) in US dollars. To circumvent this, European banks issued CDs in euro and converted the proceeds into USD via short-term FX swaps. In the Irish survey, the maturity profile of FX swaps changed in line with the euro area survey. The proportion of FX swaps that were for seven days or less increased from 44 per cent in 2007 to 67 per cent in 2010.

The final instruments in the FX category are currency swaps and OTC options bought and sold. These three instruments together accounted for 0.8 per cent of turnover in 2010.

6 ECB, 2010. 'Euro Money Market Survey, December 2010', www.ecb.int, December 2010.

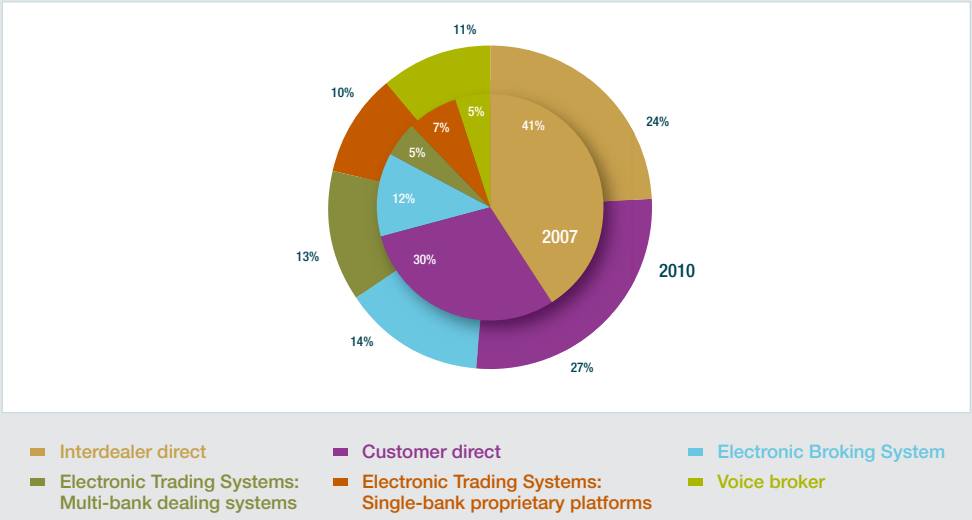
## Box 2: Developments in the Foreign-Exchange and OTC Interest Rate Derivatives Market in Ireland: 2007 – 2010

While globally, turnover with other financial institutions became the largest counterparty[7], in the Irish results, turnover with reporting dealers remained the largest counterparty among the selected institutions. Turnover in FX swaps with reporting dealers almost doubled between the two surveys. Turnover with other financial institutions increased substantially with spots and outright forwards largely responsible. Results from the BIS suggest that the increase in other financial institutions as a counterparty is driven by greater activity by high frequency traders, more trading by smaller banks, and the emergence of retail investors as a significant category of FX market participants.

The dollar remained the largest currency, but its proportion of turnover declined between the two surveys. There was a 50 per cent rise in the reported turnover in euro, and together with the dollar they accounted for nearly 95 per cent of all turnover in the 2010 survey. In terms of currency pairs, the USD/EUR increased its share to over two fifths of total turnover in April 2010.

One of the main reasons given by the BIS for the increase in turnover in the global FX market is the increased use of electronic trading platforms. These are transforming FX markets by reducing transaction costs and increasing market liquidity (King and Rime, 2010).[8] Electronic trading has become an increasingly popular way to execute trades and its proliferation has encouraged the growth of the FX market. This is shown in the results of the 2010 survey for the selected institutions in Ireland, where the proportion of trades that are carried out directly between the dealer and customer declined by 19 percentage points, but still accounted for just over half of turnover. In contrast, trades carried out through electronic broking systems, electronic multi-bank platforms and electronic single-bank proprietary platforms increased by 97 per cent between the two surveys. The increase in electronic trading was mostly in FX swaps, with nearly half of trades executed electronically.

**Chart 2:** How FX Trades Were Executed – 2007 and 2010




7 BIS, 2010. 'Triennial Central Bank Survey; Report on Global Foreign Exchange Market Activity in 2010'. Monetary and Economic Department, December 2010.

8 King, M., and D. Rime, 2010. 'The $4 Trillion Question: What Explains FX Growth Since the 2007 Survey?'. *BIS Quarterly Review*, December 2010.

**Box 2:** Developments in the Foreign-Exchange and OTC Interest Rate Derivatives Market in Ireland: 2007 – 2010

### *OTC Interest-Rate Derivatives*

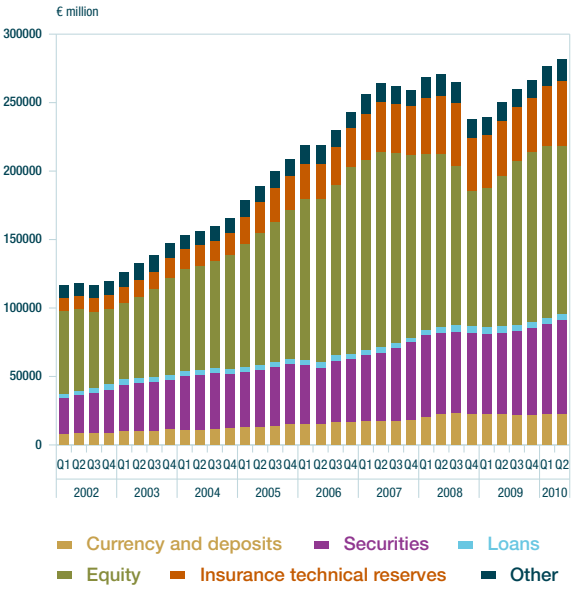
Turnover in single currency interest rate derivatives declined between the two surveys, with an average daily turnover of $4.8 billion in April 2010, compared with $6.1 billion in April 2007. Most of the decline was recorded in interest rate swaps (IRSs). An IRS is an agreement to exchange periodic payments related to interest rates on a single currency. Reasons given for the decline of interest rate swaps included a decline in non-euro deposits, lower customer demand for IRSs, lower use of overnight indexed swaps in cash management and lower propriety trading volumes. The winding down of assets of subsidiaries of foreign banks located in Ireland also contributed. One institution reported wide monthly fluctuations, and advised that caution is required when comparing two months data. However, a small number of institutions did report increased turnover in IRSs. IRS swaps can be used to lower funding costs, and hedge against changes in value of debt securities issued.

Forward-rate agreements (FRAs) are interest rate forward contracts in which the rate to be paid or received on a specific obligation for a set period of time is determined at contract initiation. The proportion of FRAs in previous Irish surveys dropped dramatically with the introduction of the euro, when they became less popular with Irish banks.[9] FRAs are mainly used for managing short-term interest rate risk. The downturn in the use of FRAs is probably also related to the success of the euro interest-rate swap market. Notwithstanding this decline, FRAs volume in Ireland actually increased in the April 2010 survey compared to the April 2007 survey. Traders use this instrument to actively manage the floating side of their interest rate swap book, particularly in light of the extreme volatility seen over the last few years. FRAs would also be used frequently to express a trading view. However, the proportion of single currency interest rate derivates accounted for by FRAs has fallen dramatically; they accounted for 87 per cent of turnover in the 1995 survey. Other explanations given for the decline in popularity of FRAs are contained in the 2010 ECB Euro Money Market Survey, where FRAs fell by 10 per cent in the 2010 survey against the 2009 survey. The FRA segment has suffered from both lower hedging needs, as expectation of interest rate changes were low in the period under review, and less activity in propriety trading.

Following several years of strong returns on equity, and balance sheet growth, the industry faced challenges in late 2008, with the value of total assets falling by 10 per cent in Q4 2008, mostly due to declining equity values following the collapse of Lehman Brothers. The financial position of the ICPF sector did, however, improve significantly through 2009 and into 2010.

Underlying these changes in the balance sheet position of the ICPF sector are transactions and other changes such as valuation effects arising from price movements in equity and debt markets (Chart 10). The financial crisis is reflected by disinvestment and the fall in the value of portfolio holdings between Q4 2008 and Q3 2009. Since the last quarter of 2009 the sector has begun to expand due to positive asset transactions in conjunction with significant other changes, which reflect both valuation effects and other changes in volume (driven primarily by an increase in the number of insurance companies locating in Ireland).

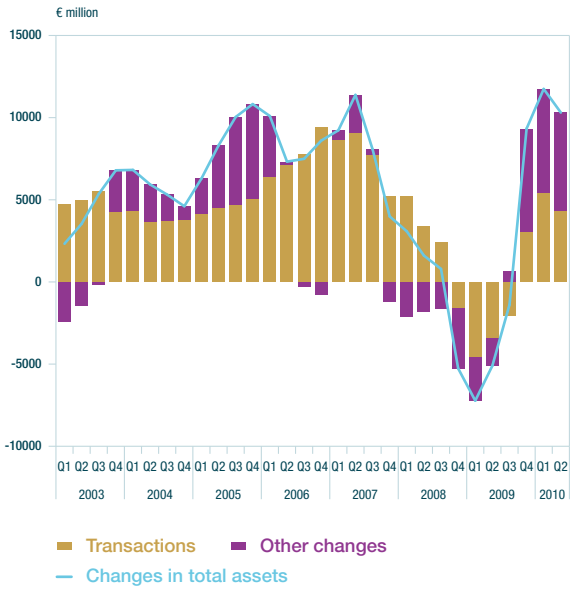
**Chart 9:** ICPFs – Asset Portfolio (Q1 2002 – Q2 2010)




Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

9 Menton, A., 2008. 'Irish Results of the BIS Foreign Exchange and Over-the-Counter Derivatives Survey 2007'. Central Bank of Ireland Quarterly Bulletin No.2, April 2008.

**Chart 10:** ICPFs – Contribution of Transactions in Assets and Valuation Changes to Changes in Total Assets, Four-Quarter Moving Average (Q1 2002 – Q2 2010)

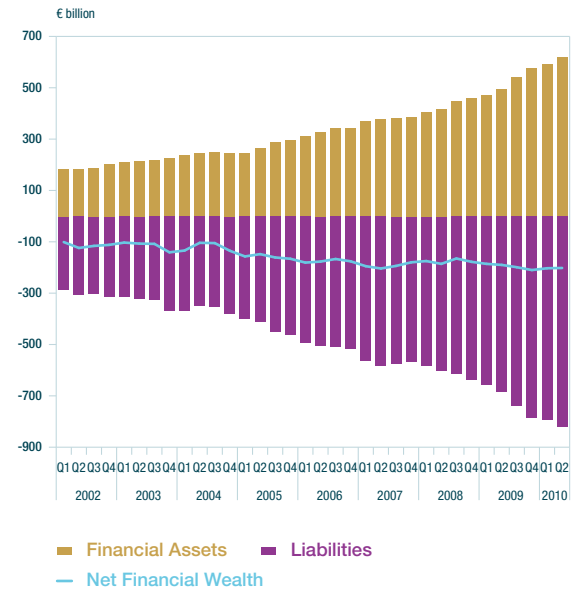



Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

## Non-Financial Corporations

The overall growth in the non-financial corporate (NFC) sector balance sheet continued in Q2 2010 as depicted in Chart 11. The total financial assets of the sector was €618 billion at end-Q2 2010; while total liabilities were €820 billion.

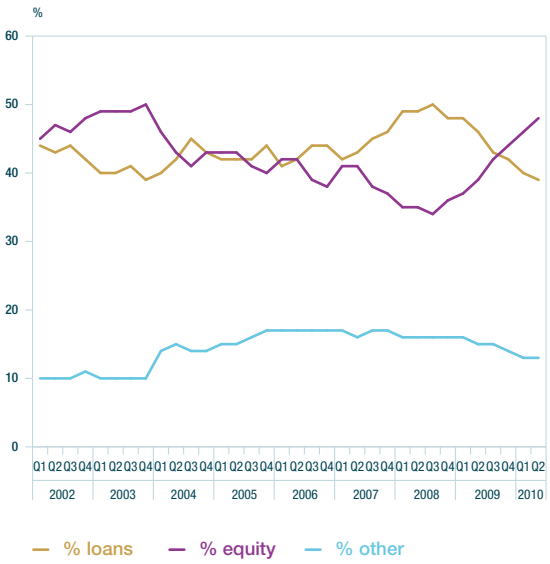
**Chart 11:** Non-Financial Corporates' Net Financial Wealth (Q1 2002 – Q2 2010)




Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

The primary funding instruments of the non-financial corporate sector are: loans; shares and other equity; and other (primarily trade credits and other accounts receivable). The relative contributions of each of these as sources of funding to the sector are depicted in Chart 12. From Q3 2004 onwards, funding through loans tended to be proportionately higher than equity funding. This trend was reversed however in Q4 2009, as credit from MFIs declined. The Irish non-financial corporate sector consists of both the indigenous domestic industry and multinational companies located in Ireland, who have very different profiles in terms of funding. Domestic NFCs are generally more dependent on Irish resident credit institutions for finance. By comparison, multinational NFCs have more widespread access to funding via international capital markets and inter-group activities. The remainder of this section discusses separately trends in lending by resident credit institutions to the Irish resident NFC sector, which is particularly relevant to indigenous corporations, and the wider financing position and performance of multinationals.

**Chart 12:** Non-Financial Corporates' Funding (Q1 2002 – Q2 2010)



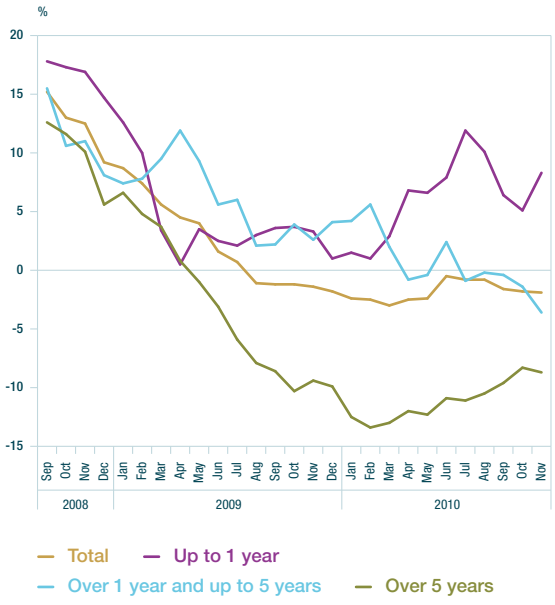

Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

### *Credit Advanced to the NFC Sector by Irish Resident Credit Institutions*

Credit advanced to the resident NFC sector (inclusive of loans and securities) by Irish resident credit institutions declined on an annual basis by 2.4 per cent in the year ending November 2010. The monthly net flow of credit to the NFC sector, which removes any non-transaction effect, e.g write-downs, securitisation, foreign exchange effects etc, averaged minus €357 million in the three months ending November 2010.

The annual rate of change for loans to NFCs averaged minus 1.8 per cent in the three months ending November 2010. The equivalent measure for the euro area as a whole was plus 0.2 per cent. Underlying the trend in Ireland, loans to NFCs with an original maturity of over five years continued to contract significantly with an average annual decline of minus 8.9 per cent in the three months ending November, suggesting an ongoing decline in borrowing by NFCs for capital investment purposes. Over the same period, however, loans with an original maturity of up to one year increased at an average rate of 6.6 per cent. These shorter-term loans would include the use of overdraft facilities.

**Chart 13:** Loans to Irish Resident NFCs, Annual Rate of Change




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

Survey results from the latest round of the euro area Bank Lending Survey (January 2011) show that developments in lending to domestic NFCs by Irish resident credit institutions during Q4 2010 reflected broadly unchanged levels of loan demand when compared with the previous quarter. Similarly, credit standards applied to NFC loan applications were also broadly unchanged during Q4 2010, and were expected to remain unchanged during Q1 2011.

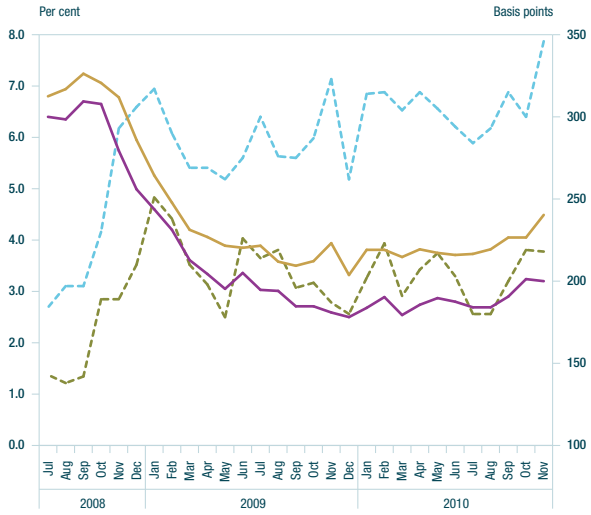
Turning to developments in credit by sector of economic activity, the most recent data show that the outstanding amount of credit advanced to the non-property non-financial business sectors[10] fell by €1.9 billion, or 4.6 per cent, during the third quarter of 2010. Excluding write-downs and changes in bad debt provisions, the underlying decline in credit to these sectors was 2.3 per cent over the quarter. The underlying decline in credit to the property-related business sectors, which excludes the significant impact of NAMA transfers during this quarter and changes in impairment provisions, is estimated to have been €1 billion, or 1 per cent, during Q3. Over the nine months ending Q3 2010, the underlying amount of credit advanced to the non-property non-financial business sectors declined by 6.8 per cent whereas the equivalent decline in credit to the property-related sectors was 3.1 per cent.

Interest rates on new short-term or variable rate loans to NFCs, agreed by Irish resident credit institutions, have increased in recent months, following a stabilisation in the second quarter of 2010. These rates have recorded an increase of 76 basis points between July and November in the case of small NFC loans (less than €1 million) and an increase of 51 basis points in the case of large loans (over €1 million). As a result, the margin between these lending rates and the main referencing operations rate offered by the Eurosystem, as well as that over the three-month EURIBOR has increased slightly in recent months, in spite of the increase in inter-bank rates.

Interest rates on new short-term loans to NFCs also increased within the euro area overall, between July and November 2010, although to a lesser extent than in Ireland. Euro area interest rates on new short-term or variable rate loans of less than €1 million increased by 28 basis points during this period, while the increase in rates on loans over €1 million was 16 basis points. The pattern among rates on outstanding NFC loans was similar during this period. Interest rates increased across all maturities between July and November in both Ireland and the euro area, with significantly larger increases recorded in Ireland.

10 The non-property non-financial business sectors are defined as business sectors excluding construction, real estate activities and the financial intermediation sector. Social and personal sectors are also excluded in this categorisation.

**Chart 14:** Interest Rates on New NFC Loans with Floating Rate and up to One Year Initial Fixation




Source: Central Bank of Ireland.

### *Multinational NFC Developments*

Recourse by resident multinational NFCs, both foreign and Irish owned, to market-based funding as an alternative to bank funding continued to increase in Q3 2010, albeit at a slower pace than during the first two quarters of 2010. In Q3 2010 net debt issuances were €69 million, this compares to a total of €659 million during the first half of 2010. The pace of issuance increased significantly, however, during October and November of 2010, with net issuances of €621 million over these two months alone. Despite declining values of listed equity, namely shares, during Q3 2010, the value of multinational NFCs' equities rebounded in October, by €14 billion, and again in November, by €5 billion, largely reflecting improvements in the market valuation for a number of multinational NFCs which have recently established their global headquarters in Ireland.

The trend of foreign investment by Irish-owned multinational NFCs continued during the third quarter of 2010, where €2.4 billion was invested over the quarter. This resulted in the total stock of foreign investment rising to nearly €197 billion at end-September. Meanwhile, foreign-owned multinational NFCs continued to reinvest in their Irish operations, with inflows amounting to €6.1 billion during the third quarter of 2010. However, outflows related to inter-company lending of €5.9 billion, where Irish-based foreign-owned multinational NFCs lend to foreign affiliates, largely offset these inflows. Nevertheless the volume of foreign investment in Irish-based foreign-owned multinational NFCs was €241 billion at end-September.

Investment income earned abroad by Irish-owned multinational NFCs increased by €1.2 billion to nearly €4 billion during the third quarter of 2010. These increased inflows of direct investment income are largely attributable to multinational NFCs who have established their headquarters in Ireland. Investment income paid abroad to foreign direct investors, increased by €967 million from Q2 2010 to €10.8 billion during Q3 2010. This reflects the estimated higher rate of return on investment earned by foreign-owned multinational NFCs in Ireland of around 5.8 per cent, based on internal Central Bank calculations. In contrast, the equivalent rate of return on investments abroad by Irish-owned multinational NFCs is approximately 1.5 per cent.

## Households

Household net worth (the difference between total assets[11] and liabilities) continued to decline in Q2 2010, falling to €440 billion as depicted in Chart 15. The decline in household net worth was largely driven by falling housing asset values[12] and, to a lesser extent, declines in the value of financial assets, particularly insurance technical reserves[13]. During Q2 2010, households also continued to reduce the high debt levels accumulated in the years preceding the crisis. However, the decline in households' total assets outstripped the decline in liabilities, leading to an overall fall in net worth.

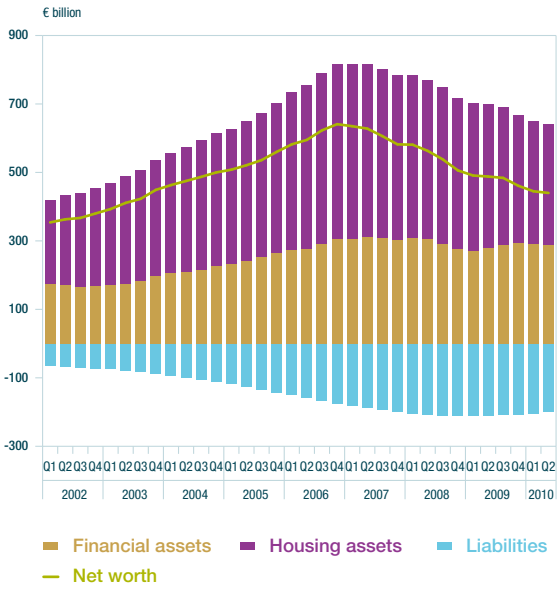
**11** Total assets comprise financial and non-financial assets. Housing assets are used as a proxy for all non-financial assets. The Central Bank estimate of housing assets is based on the size and value of the housing stock.

**12** The inclusion of an estimate for housing assets allows for a complete balance sheet for the household sector to be compiled. Households' housing assets are based on internal Central Bank estimates.

**13** Insurance technical reserves include life assurance policies and pension funds.

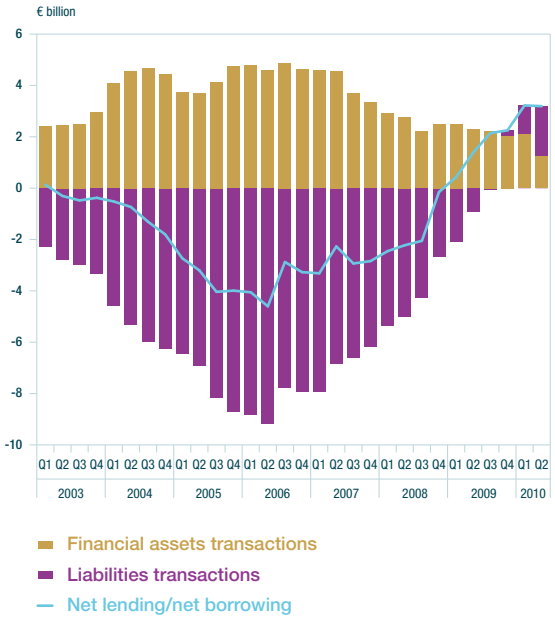
The transactions underlying these balance sheet positions in recent quarters show how households continue to be net lenders, as they have been since late 2008 (i.e. financial asset transactions have been greater than liability transactions). Households have been undergoing a period of deleveraging since late 2009 as they have sought to reduce high debt levels. This continued in Q2 2010 as the rate at which households continued to reduce borrowing increased further. However lower investment in financial assets over the period led to a slight decline in household net lending compared to Q1 2010. The high household net lending figures indicate that household saving continues to be high in Q2 2010. The higher household savings in Q2 2010 was, however, attributable to the deleveraging of the household balance sheet with the reduction in financial liabilities more prominent than the rise in financial assets. Indeed, household deposits with resident credit institutions, a significant component of household financial assets, have been declining in recent quarters, indicating the use of existing assets in part to reduce leverage.

**Chart 15:** Household Assets, Liabilities and Net Worth (Q1 2002 – Q2 2010)




Sources: Quarterly Financial Accounts and internal CBI estimates.

**Chart 16:** Household Net Lending/Borrowing, Four-Quarter Moving Average, (Q1 2003 – Q2 2010)



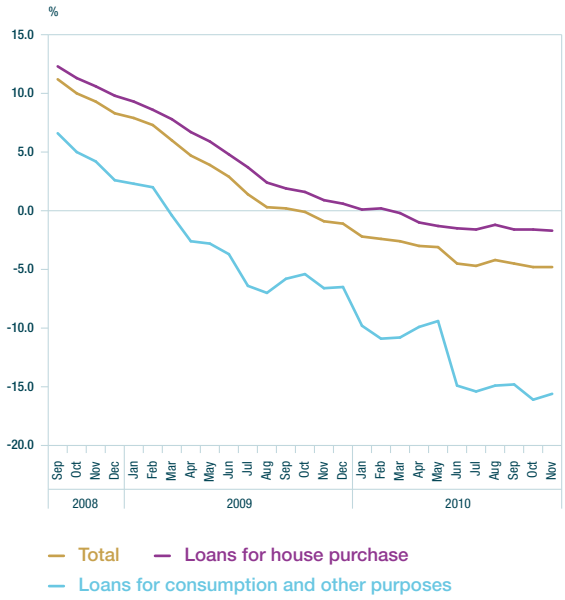

Source: Quarterly Financial Accounts for Ireland, Central Bank of Ireland.

### *Lending to Households by Irish Resident Credit Institutions*

The majority of Irish households' financial liabilities comprise loans advanced by resident credit institutions. Lending to Irish households by these institutions remained on a downward trajectory in recent months. The annual rate of change in loans advanced to households was minus 4.8 per cent in November 2010, and averaged minus 3.7 per cent in the first eleven months of 2010. The monthly net flow of household loans averaged minus €643 million during this period. By contrast, in the euro area overall, household loans increased by 2.7 per cent in November, and by an average rate of 2.5 per cent in the period January to November 2010.

All categories of loans have contributed to the overall decline in lending to households. The annual rate of change in loans for consumption purposes averaged minus 14.9 per cent in the three months ending November 2010, while the monthly net flow averaged minus €272 million. Meanwhile, lending for house purchase recorded an average annual rate of change of minus 1.6 per cent in the three months ending November, and an average negative net flow of transactions of €163 million.

**Chart 17:** Loans to Irish Households, Annual Rate of Change




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

The Irish results of the latest round of the euro area Bank Lending Survey indicate that developments in lending to households during Q4 2010 broadly reflected unchanged levels of demand compared with Q3 2010. Underlying this, however, was differing trends in terms of demand for loans for house purchase and consumer and other loans. The demand for loans for house purchase decreased marginally and this was attributed to less favourable housing market prospects and reduced consumer confidence. Loan demand for consumer credit and other purposes was unchanged for the third consecutive quarter. During the first quarter of 2011, demand for loans from households is expected to remain unchanged for consumer loans, whereas it is expected to decline somewhat for house purchase loans.

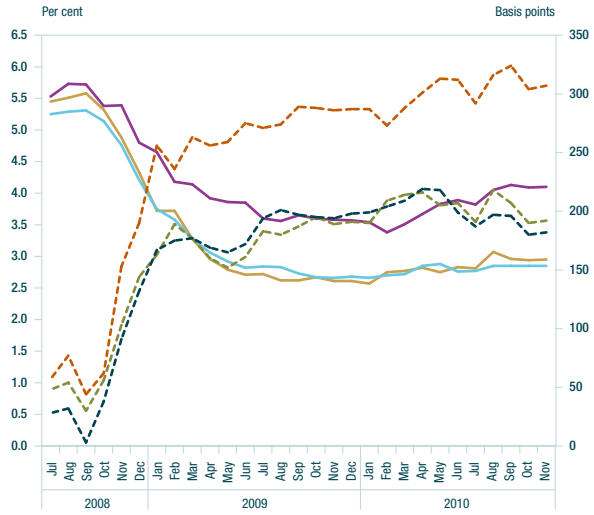
The latest data on the breakdown of residential mortgages up to Q3 2010, continue to show that the decline in residential mortgages outstanding has been concentrated in lending for buy-to-let (BTL) properties and holiday homes (HHs) which have contracted by €2.5 billion and €25 million respectively compared to the previous quarter. Principal dwelling house (PDH) mortgages increased by €1.5 billion during Q3 2010. The total amount of residential mortgages outstanding declined by 3.3 per cent over the year ending Q3 2010. When the impact of changes in impairment provisions are excluded, it is estimated that PDH mortgages increased by 1.9 per cent on a quarterly basis in Q3 2010, with BTL and HH mortgages falling by an underlying 8.4 per cent and 2 per cent respectively over the period.

The household sector continues to face increased borrowing costs. Interest rates on loans to household customers rose again in recent months across almost all categories of lending. New mortgages with floating rates or up to one year fixation had a weighted average rate of 2.95 per cent in November 2010, compared to 2.61 per cent at the end of 2009. The average rate of interest for new mortgages fixed for more than one year increased more substantially during this period by 53 basis points to 4.1 per cent. Average rates for existing mortgages have also increased during this period, although to a lesser extent. For mortgages with original maturity of over five years, the average rate of interest has increased by 17 basis points since the end of 2009, to 2.85 per cent in November 2010.

Interest rates on new consumer credit loans with floating rates or short initial rate fixation periods rose again during November and have increased substantially throughout the first eleven months of the year. At the end of 2009, the average interest rate on such loans was 3.63 per cent. In November 2010 it was 6.06 per cent, an increase of 2.43 percentage points.[14] Rates on new consumer credit loans with longer initial rate fixation periods have remained relatively stable throughout the course of the year, averaging 10.46 per cent in November compared to 9.65 per cent in December 2009. With regard to outstanding consumer and other loans, those with original maturity of less than one year have experienced a sharp increase of approximately 1.98 percentage points since the end of 2009, bringing the average rate to 9.04 per cent at end-November 2010. By comparison, the increases in rates on consumer and other loans with longer original maturity have been relatively modest.

**14** This is still a relatively low rate of interest. It should be noted that the household sector also includes unincorporated businesses and the self-employed.

**Chart 18:** Mortgage Interest Rates to Households




— New floating rate mortgages, interest rate (LHS)
— New mortgages, fixed for over one year, interest rate (LHS)
— Outstanding mortgages, interest rate (LHS)
-- New floating rate mortgages, margin over 3 month Euribor (RHS)
-- New mortgages, fixed for over one year, margin over 3 month Euribor (RHS)
-- Outstanding mortgages, margin over 3 month Euribor (RHS)

Source: Central Bank of Ireland.

In the euro area, interest rates on mortgages have not increased to the same extent as in Ireland throughout the first ten months of 2010. Rates on new mortgages with short initial rate fixation periods were just 10 basis points higher in November than at end-December 2009, while rates on new mortgages with longer initial rate fixation periods fell during this period, by approximately 55 basis points. Rates on outstanding mortgages have also fallen since the end of 2009 across all categories of rate fixation. A similar pattern is evident among interest rates on consumer loans, where increases in euro area rates have been much more moderate than the increases in Irish rates during the first ten months of 2010.

# Developments in the International and Euro Area Economy

The global economic recovery slowed in the second half of last year, in line with an expected easing in trade and inventory dynamics. In advanced economies, the pace of recovery remains generally sluggish and uneven, reflecting the adjustment to imbalances accumulated in the years leading up to the financial crisis. Emerging economies, which generally have much lower levels of public and private debt, continue to expand at a faster pace, though policy tightening is starting to have an impact. Looking ahead, this uneven pattern of recovery is expected to persist, as monetary policy easing, which has significant lagged effects, underpins domestic demand in the advanced economies but fiscal support wanes. Uncertainty remains relatively high, reflecting, amongst other things, concerns about high levels of sovereign debt and the scale of future balance sheet adjustment. Inflationary pressures are generally subdued in advanced economies, amid substantial excess capacity, but underlying pressures are evident in many emerging economies.

The pattern of global recovery is one of buoyancy in global trade and emerging markets in tandem with tepid and uneven growth in advanced economies. Trade and inventories recovered strongly from particularly sharp declines during the financial crisis notwithstanding some moderation in the second half of 2010. Though overall growth rates slowed in advanced economies, domestic demand has, in general, been reasonably resilient. Low interest rates and a partial easing in financing conditions are offsetting, to some extent, the impact of deleveraging where debt levels are high. Ongoing substantial fiscal stimulus is an additional support, particularly in the US, and may partly explain the differential in growth estimates for last year, of 2.7 per cent for the US and 1.7 per cent for the euro area. Nevertheless, consumer confidence remains relatively weak in advanced economies as growth fails to sustain rates consistent with unemployment reduction. Germany is the key exception, benefiting from lower debt levels and particular exposure to emerging market demand. Despite the difficulties experienced by a number of smaller economies, including Ireland, there is little evidence, as yet, of a general impact on the real economy from sovereign debt concerns at a global level. Emerging economies have also benefited from the tailwinds of policy stimulus and recovering trade volumes while, with the exception of emerging Europe, few firms and households are constrained by debt and bank lending has been robust. China, India and Brazil stand out with projected growth rates of 10.5, 9.7 and 7.5 per cent respectively for 2010 and increasing signs of momentum in domestic demand, benefiting neighbouring economies in particular. Overall, the global economy is estimated to have expanded by 4.6 per cent last year, having contracted by 1.0 per cent in 2009.

The outlook for global growth is for the somewhat softer patch evident in the second half of last year to persist into this year but for the recovery to improve gradually as the year progresses. In advanced economies, growth indicators remained mildly positive during the final quarter of last year and forward-looking indicators suggest some further momentum into this year. Amid ongoing deleveraging in some economies, fiscal support will continue to wane with most European economies set to implement significant consolidation measures. This is evident in the latest OECD projections in Table 1, though the moderation in US growth may be eroded somewhat by the extension of tax reductions announced after the projections were prepared. Nevertheless, monetary policies remain generally accommodative and financial conditions should continue to improve gradually. In emerging economies, growth is expected to remain dynamic, though moderating somewhat due to lower trade growth and policy tightening.

**Table 1:** OECD Projected Changes in Real GDP in Selected Economies

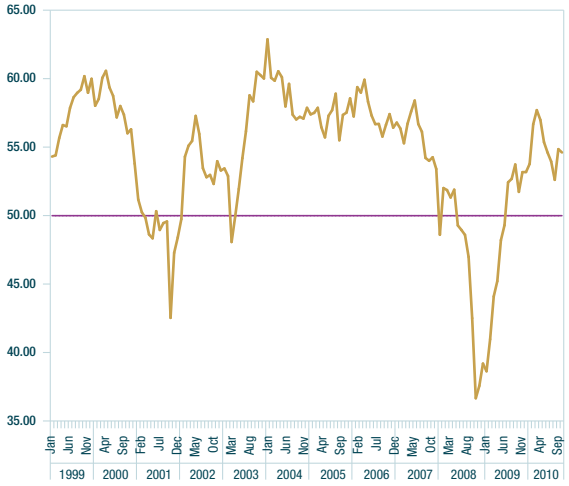
| | Percentage Change | | |
|---|---|---|---|
| | 2010 | 2011 | 2012 |
| **Global** | 4.6 | 4.2 | 4.6 |
| **United States** | 2.7 | 2.2 | 3.1 |
| **Japan** | 3.7 | 1.7 | 1.3 |
| **Euro area** | 1.7 | 1.7 | 2.0 |
| **United Kingdom** | 1.8 | 1.7 | 2.0 |
| **China** | 10.5 | 9.7 | 9.7 |

**Source:** OECD Economic Outlook, Nov 2010.

Uncertainty surrounding growth forecasts remains high. This relates in particular to financial market tensions, which have been relatively concentrated but also persistent. In addition, while global imbalances have improved somewhat, the risk of disorderly unwinding remains. The impact of fiscal consolidation measures is also a source of some uncertainty. On the positive side, there might be scope for global trade to outperform expectations for a significant deceleration in growth.

Inflation developments primarily reflect commodity prices and differences in growth dynamics. Food and energy prices increased significantly over the course of last year and these comprise a relatively large share of consumer price indices in emerging economies. In advanced economies, underlying inflation rates generally remain subdued in the context of spare economic capacity, which is expected to persist for some time. Second round effects from commodity prices are not in evidence. Inflation expectations remain well anchored, which is limiting the scope for the materialisation of both upside and downside risks to inflation. In emerging economies, dynamic growth has started to feed into underlying inflationary pressures in addition to commodity price effects and, as a consequence, monetary policies have started to tighten.

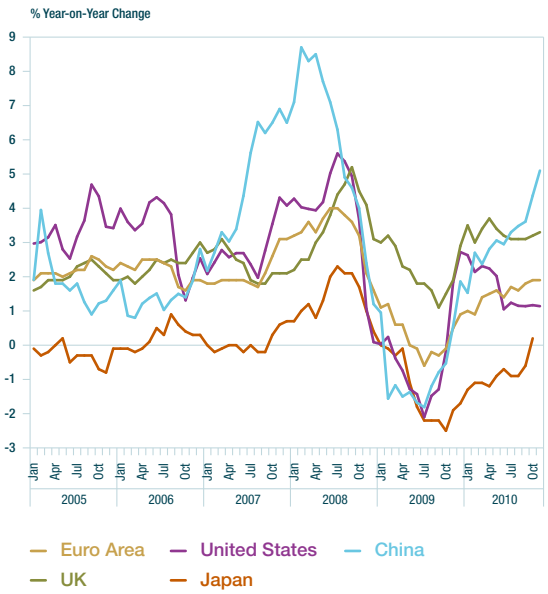
**Chart 1:** Global PMI Output Index




Source: Markit PMI.

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

**Chart 2:** Inflation in the Major Economies




Source: Reuters EcoWin.

**Table 2:** Euro area GDP and expenditure components: percentage change over the previous quarter

| | 2009 | 2010 | | |
|---|---|---|---|---|
| | Q4 | Q1 | Q2 | Q3 |
| Personal Consumption | 0.2 | 0.2 | 0.1 | 0.1 |
| Government Consumption | 0.0 | 0.0 | 0.0 | 0.1 |
| Fixed Investment | -0.2 | -0.1 | 0.4 | -0.1 |
| Inventories | 0.0 | 0.7 | 0.4 | 0.1 |
| Exports | 0.8 | 1.0 | 1.7 | 0.7 |
| Imports | -0.4 | -1.5 | -1.6 | -0.6 |
| GDP | 0.2 | 0.4 | 1.0 | 0.3 |

**Source:** Eurostat.

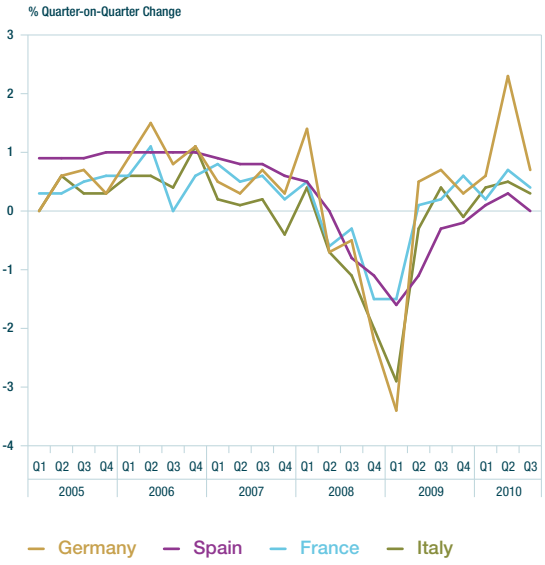
## Section 1: Euro area

### *Economic Growth – Recent Developments*

The underlying momentum behind economic recovery remained intact throughout last year, despite a slowdown in overall growth rates in the second half, but the pace remains muted and varies widely between countries. The euro area economy expanded by 0.3 per cent in the third quarter, easing from an exceptional rate of 1.0 per cent in the previous quarter, which had been boosted by inventory accumulation and the impact of delayed construction projects due to bad weather earlier in the year. Over these two quarters, private consumption continued to expand at a moderate pace while net trade made small positive contributions. The euro area economy has been recovering since the second quarter of 2009 but at the much slower pace typical of a post-banking crisis recovery rather than the normal cyclical pattern.

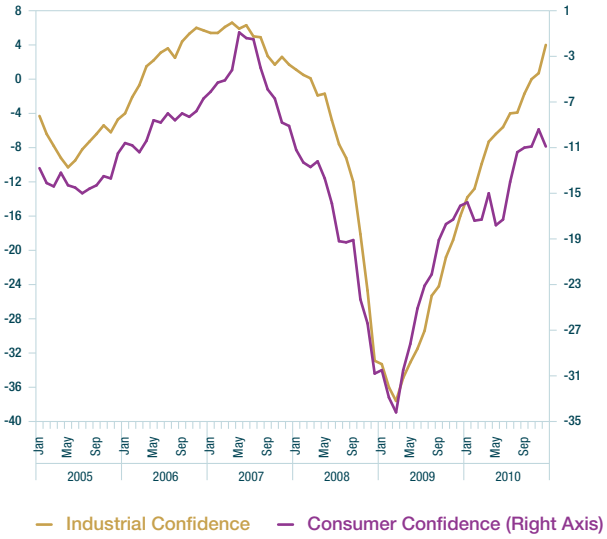
All of the components of domestic demand are constrained to an extent. Consumers remain cautious in the light of weak labour markets and tight credit conditions while some are focused on paying down high debt levels. Businesses are more optimistic in the light of significant earnings growth but capacity utilisation is below its long-run average, allowing firms to meet demand without the need for investment. Government spending, meanwhile, has been largely flat, with fiscal consolidation underway in a number of member states. The external side has been more positive, with export growth proving quite resilient in the light of a relatively strong exchange rate, despite slowing in the third quarter. Indicators for the final quarter are broadly positive, with retail sales and industrial production expanding steadily in October and survey indicators improving across a range of categories up to November. Germany was the stand-out performer last year, expanding by 3.9 per cent in the year to the third quarter compared to a rate of just 1.1 per cent in the rest of the euro area, and this is explored in Box 1. Meanwhile, growth in Spain, Greece and Ireland was well below the euro area average, reflecting adjustment to imbalances accumulated before the crisis.

**Chart 3:** Euro Area GDP Growth




Source: Reuters EcoWin.

**Chart 4:** Euro Area Confidence Indicators



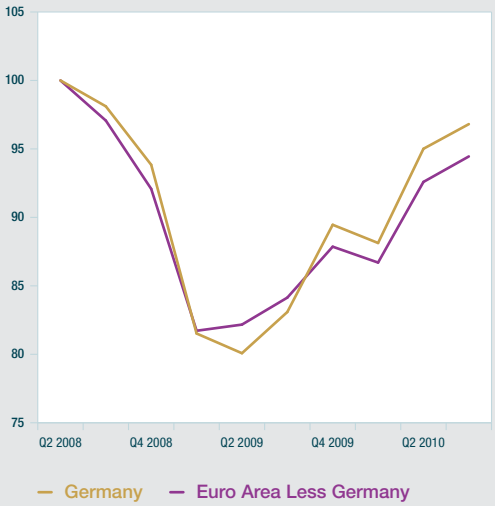

Source: Reuters EcoWin.

## **Box 1:** Dynamic German growth and spillover effects to the rest of the euro area *by Brian Golden*[1]

The German economy performed particularly strongly in 2010, with the latest OECD forecasts pointing to growth of 3.5 per cent last year and 2.5 per cent this year. There is strong potential for spillover effects to the rest of the euro area as Germany accounts for 29 per cent of the euro area economy and 45 per cent of German imports are from other euro area countries. Near neighbours stand to be the main beneficiaries.

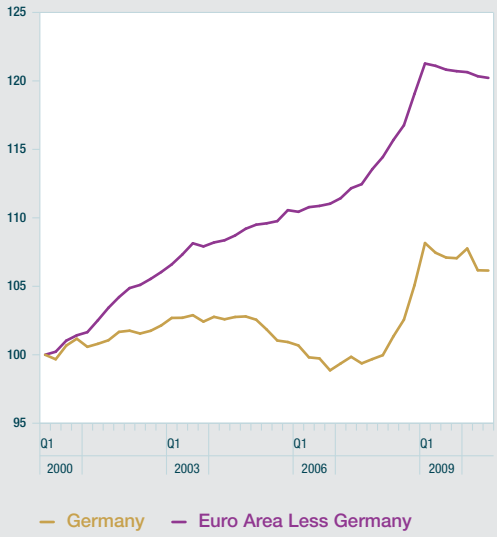
The initial phase of economic recovery in Germany was similar to the rest of the euro area but the dynamic was stronger. Led by global trade, exports and inventories rebounded from sharp declines in the midst of the financial crisis. Meanwhile, the other elements of domestic demand were subdued, with investment in particular declining sharply. As can be seen in Chart A, German exports were particularly affected by the financial crisis but have more strongly recovered lost ground since then. German exports are heavily weighted towards capital goods feeding into industrial and infrastructural development in dynamic Asian economies. Growth in German exports to Asia was 42 per cent in the year to September 2010, compared to 20 per cent growth in other exports. This performance is underpinned by competitiveness gains over the past decade, as shown by the improvement in relative unit labour costs in Chart B, with similar competitiveness gains achieved relative to other advanced economies. Germany had started the decade in a weak competitive position but governments and social partners agreed to years of substantial wage restraint to address this.

**Chart A:** Export Volume Growth Since Q2 2008




Source: Reuters Ecowin.

**Chart B:** Unit Labour Cost Growth Since Q1 2000




Source: Reuters Ecowin.

The transmission of external stimulus to domestic demand has been much stronger in Germany, compared to relative weakness in the rest of the euro area and dependence on fiscal stimulus in the US. Typical of a cyclical recovery, increased exports initially fed through to business investment, followed by private consumption, as shown in the table below. The slowdown in the contribution of domestic demand to growth in the third quarter was almost entirely driven by inventories and construction. Discounting inventories, which have been particularly volatile in line with restocking on a global scale, domestic demand contributed 0.7 to 1.1 of a percentage point to growth in each of the first three quarters of 2010.

The foundations for domestic demand appear solid. As for the euro area as a whole, capacity utilisation in manufacturing declined to a record low[2] in mid-2009 but the recovery in Germany has been significantly stronger and, by the third quarter of 2010, had reached its long run average.

1 The author is an economist in the Bank's Monetary Policy and International Relations Department.

2 Survey data in this section is from the European Commission business and consumer surveys, compiled since 1990.

**Box 1:** Dynamic German growth and spillover effects to the rest of the euro area *by Brian Golden*[1]

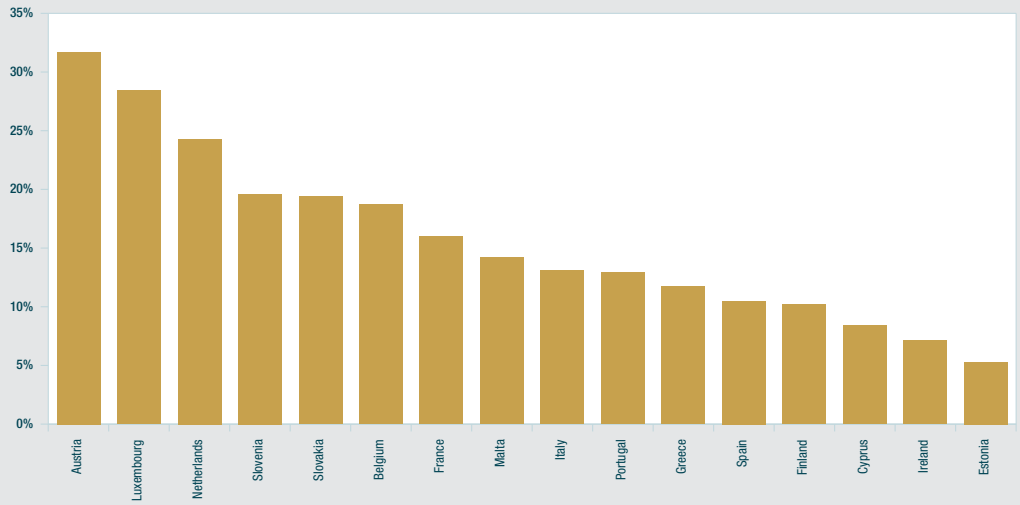
**Table:** Contribution of expenditure components to change in quarter-on-quarter real GDP, Q4 2009 to Q3 2010

| | 2009 | 2010 | | |
|---|---|---|---|---|
| | Q4 | Q1 | Q2 | Q3 |
| Personal consumption | 0.0 | 0.1 | 0.3 | 0.3 |
| Government consumption | -0.1 | 0.4 | -0.2 | 0.2 |
| Investment – machinery & equipment | -0.1 | 0.3 | 0.3 | 0.2 |
| Investment – construction | -0.1 | -0.1 | 0.7 | 0.0 |
| Inventories | -1.3 | 1.0 | 0.7 | -0.3 |
| Domestic demand | -1.5 | 1.7 | 1.8 | 0.4 |
| Net trade | 1.8 | -1.1 | 0.5 | 0.3 |
| GDP | 0.3 | 0.7 | 2.3 | 0.7 |

With new orders and business confidence also relatively buoyant in Germany, business investment looks set to be underpinned by further increases in demand pushing more firms towards capacity constraints in an environment where firms are confident about the future. Looking at private consumption, consumer confidence has also recovered relatively strongly in Germany, to a record high. This has been supported by a significant decline in German unemployment, from 7.5 to 6.7 per cent in the year to October 2010, compared to an increase from 10.9 to 11.5 per cent in the rest of the euro area. In addition, household and corporate debt levels are low relative to the rest of the euro area across a range of measures. Public finances are in relatively good shape. A fiscal deficit of 3.7 per cent of GDP and public debt at 76 per cent is expected for last year, relative to 7.3 per cent and 88 per cent respectively for the rest of the euro area. This allows government spending to contribute to growth in a sustainable manner, provides support to business and consumer confidence and maintains low government bond yields. Germany also faces challenges evident to varying extents in other economies, particularly arising from a relatively old population, structural unemployment in the east, fiscal problems in some local governments and loan losses in certain banks. Nevertheless, the foundations exist for the German economy to continue to expand at a solid pace going forward.

Spillover effects to the rest of the euro area from German domestic demand are substantial with neighbouring countries benefiting most. Chart C shows that Germany accounts for a substantial share of the exports of each euro area country and particularly so for smaller neighbouring economies.

**Chart C:** Share of Germany in Each Euro Area Country's Total Exports – Jan-Sept 2010




Sources: Reuters Ecowin, Federal Statistics Office, Germany.

### *Economic Growth – Outlook*

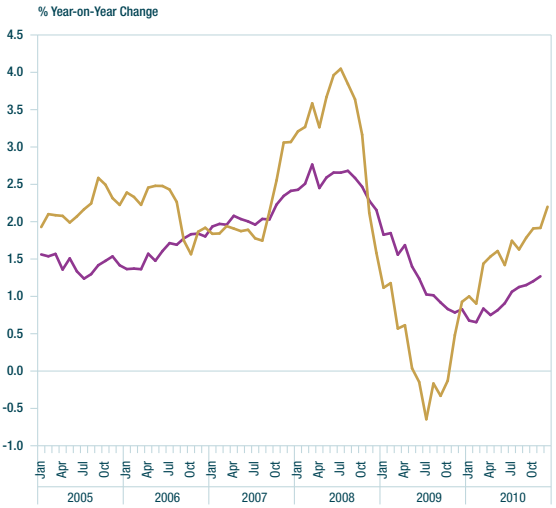
Looking ahead, the recent pattern of recovery is expected to persist with external demand providing the main impetus for growth this year, despite a slowdown in world trade dynamics. Domestic demand is expected to improve gradually as the year progresses, reflecting ongoing support from monetary policy and the further normalisation of financial conditions amid constraints from deleveraging and fiscal consolidation. The OECD is forecasting that growth in the euro area this year will match last year, at 1.7 per cent, and increase to 2.0 per cent next year. The December Eurosystem staff projections are slightly more pessimistic, with growth of 1.6 to 1.8 per cent expected for last year, 0.7 to 2.1 per cent for this year and 0.6 to 2.8 per cent for next year, largely due to a somewhat weaker contribution from net exports. The Eurosystem assessment is also that risks to these projections are tilted to the downside.

Uncertainty regarding the growth outlook remains relatively high. Financial market tensions have eased somewhat for the euro area as a whole but have also become more concentrated on certain sovereign debt markets. The euro area is also sensitive to the risk of global imbalances unwinding in a disorderly fashion. The extent of the negative impact of fiscal consolidation and elevated commodity prices are additional sources of uncertainty. There is some potential for global trade to outperform the significant slowdown built into forecasts and for German demand to impact more strongly than expected on intra-euro area exports. In addition, investment may recover sooner than expected given high levels of business confidence.

### *Inflation – Recent Developments*

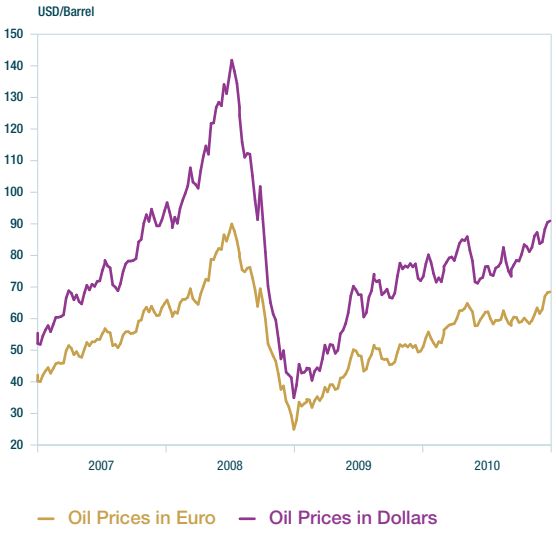
Headline HICP inflation in the euro area was 2.2 per cent in December according to a preliminary estimate from Eurostat, up from 1.9 per cent in November. It increased steadily from around 1 per cent at the start of the year, driven by price increases and base effects in food and energy. HICP inflation excluding energy was 1.3 per cent in November, up marginally from 1.2 per cent in October. This measure of core HICP inflation has gathered momentum since its trough of 0.7 per cent in February 2010. Non-energy industrial goods, which have been driving the core rate, have been gradually increasing from very low levels recorded at the start of last year, reflecting increases in indirect taxes and the past depreciation of the euro. Meanwhile producer price inflation, which has also been on an upward trend since mid-2009 led by the energy and intermediate goods components, was 4.4 per cent in October 2010. Against the background of fragile labour market conditions, labour cost indicators weakened further in the third quarter of 2010. The increase in total hourly annual labour costs declined sharply to 0.8 per cent in the third quarter from 1.6 per cent in the second quarter, an historical low since the series began. Negotiated wages also reached an historical low of 1.4 per cent in October, down from 1.9 per cent in the second quarter while compensation per employee also fell.

**Chart 5:** Euro Area Inflation




Source: Reuters EcoWin.

**Chart 6:** Oil Prices – Brent Crude




Source: Reuters EcoWin.

### *Oil and other Commodity Prices*

Crude oil prices, which have largely traded within a relatively narrow range of $70-$80 per barrel since autumn 2009, turned markedly higher in December, hitting a two year high of $91 per barrel, around 18 per cent above the price at the start of the year. A combination of unusually cold weather and continued positive momentum in demand in the third quarter helped push oil prices higher. Growing uncertainty over demand and supply factors could potentially increase price volatility this year.

Non-energy commodity prices have also increased sharply towards the end of last year and were around 39 per cent higher in December 2010 in euro terms than at the beginning of the year. Food prices have also increased sharply since the middle of 2010 (see box 1). Equally, metals prices have been increasing on the back of strong demand from China and other fast growing emerging economies. It is expected that capital expenditure on mining next year will surpass the level set in 2008. In this regard, there is potential for equipment bottlenecks to occur which in turn could lead to cost inflation and push commodity prices higher again.

### **Box 2:** Global Food Commodity Price Increases and HICP Inflation by John Larkin[3]

Sharp increases in food commodity prices in recent months evoke the sharp spike seen in 2007-2008 (see chart A). This box will look at the drivers behind both episodes of price rises, the similarities and differences between them and the potential impact on euro area HICP inflation.

**Chart A:** HWWI World Food Index, USD


Source: Reuters EcoWin.

Apart from robust economic growth and increased demand from emerging markets, a combination of factors contributed to the rise in food commodity prices in 2007-2008. These included demand-side factors such as the increased use of some food commodities in the production of bio-fuels like corn based ethanol (largely instigated by higher fuel prices) and supply-side factors such as adverse weather conditions, high agricultural input prices and government policies such as export controls which reduced stocks to very low levels. These factors, it has been argued, were exacerbated by speculators and panic buying by large importers.

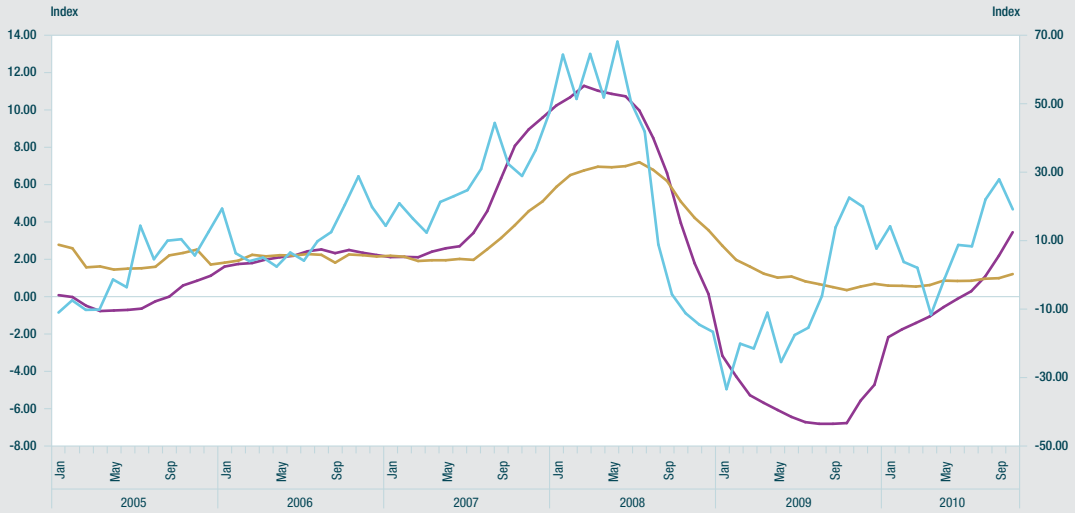
The food commodity price spike of 2010 is somewhat different in nature and appears, for now, to be driven by increases in a smaller number of specific commodities rather than the broad-based global commodity price rise that was witnessed two years earlier. Wheat, for example, is seen as a driver of the price spike. Its price has increased sharply, primarily due to adverse weather conditions impacting key grain producing regions. Nevertheless, an increasing number of commodities are beginning to see price increases and government trade policy responses, such as restrictions on exports, risk amplifying the food crisis as in 2008. The prices of some grains are approaching 2008 levels and the increased price volatility is causing headline inflation to tick up in several economies, particularly in emerging markets.

## **Box 2:** Global Food Commodity Price Increases and HICP Inflation by John Larkin[3]

Focusing on the potential impact on euro area HICP inflation, the pass-through of food price increases to the consumer level can be limited due to the relatively small share of agricultural products in euro area imports and the provisions of the EU's common agricultural policy which to some extent dilute the impact of external developments on euro area agricultural markets. Increases in EU internal market food prices would be much more relevant to euro area inflation than increases in international food prices.

Thus far, there is little evidence of the elevated food commodity prices impacting food prices at the consumer level in the euro area. However, as Chart B illustrates, we would usually expect price rises to be present in producer prices prior to being transmitted to consumers. There is evidence of this happening. Food producer prices have increased significantly in the last few months from 0.3 per cent year-on-year in July to 4.2 per cent in November. However, this is well below the peak of 11.3 per cent reached in the food price spike in 2008.

**Chart B:** Impact of Food Price Increases on Euro Area Producer and Consumer Prices




While it is likely that the increase in commodity prices will pass through to the consumer, there are a couple of factors that suggest the current food commodity price shock may not have the same impact at the consumer level as it did in 2008. Firstly, as mentioned, the price increases are so far not as broad based as two years ago. Dairy and meat prices, for example, have not seen the same price increases as in 2008. Secondly, the Food and Agriculture Organisation of the United Nations (FAO) expects supplies of major food crops in 2010/11 to be more sufficient than two years ago, primarily because of larger reserves. For example, the ending stocks in the 2010/11 period of coarse grain, rice and wheat are estimated to be 15 per cent, 22.5 per cent and 31 per cent higher than they were in 2007/08.[4]

3 The author is an economist in the Bank's Monetary Policy and International Relations Department.

4 Crop Prospects and Food Situation Report No. 4 December 2010, Food and Agricultural Organisation of the United Nations.

**Table 3:** Contributions to percent change in real US GDP, annualised growth rates

| | 2009 | 2010 | | |
|---|---|---|---|---|
| | Q4 | Q1 | Q2 | Q3 |
| Personal Consumption | 0.7 | 1.3 | 1.5 | 1.7 |
| Government Consumption | -0.3 | -0.3 | 0.8 | 0.8 |
| Fixed Investment | -0.1 | 0.4 | 2.1 | 0.2 |
| Inventories | 2.8 | 2.6 | 0.8 | 1.6 |
| Exports | 2.6 | 1.3 | 1.1 | 0.8 |
| Imports | -0.7 | -1.6 | -4.6 | -2.5 |
| GDP | 5.0 | 3.7 | 1.7 | 2.6 |

**Source:** BEA.

### *Inflation – Outlook*

The December ECB staff projections estimate that HICP inflation averaged between 1.5 per cent and 1.7 per cent in 2010 and will be between 1.3 per cent and 2.3 per cent in 2011 and between 0.7 per cent and 2.3 per cent in 2012. Overall, HICP inflation is projected to stay close to 2 per cent in the first quarter of 2011 reflecting oil and food price base effects, the past depreciation of the euro and non-oil commodity price rises. Inflation is expected to moderate thereafter as the impact of these factors dissipates. Compared with September's staff projections, the projection range for 2011 has been revised marginally upwards while the range for 2010 remains unchanged. The risks to this outlook are seen as broadly balanced.

## Section 2: External Environment

### *Emerging EU Member States*

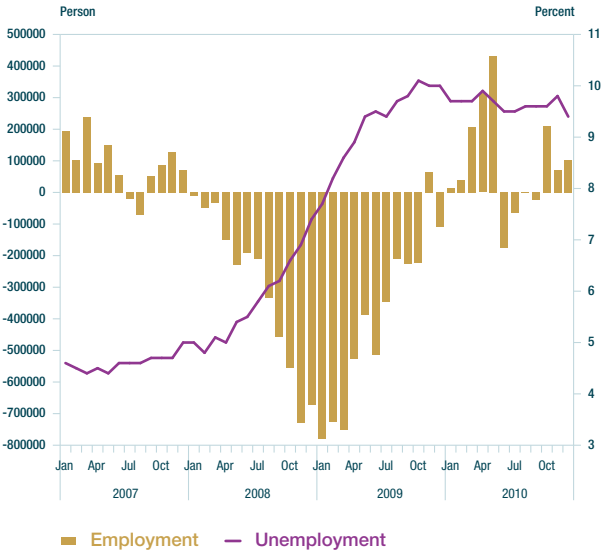
Estonia joined the euro area on 1 January 2011, having been deemed to have met the convergence criteria for membership by the European Council last summer. This was facilitated by fiscal consolidation amounting to almost 10 per cent of GDP last year to bring the fiscal deficit under control. Estonia underwent a severe recession during the global crisis, as domestic overheating pressures went into reverse, with the economy contracting by 20 per cent over 2008 and 2009. Competitiveness gains have underpinned a resumption of growth since late 2009, though the pattern of recovery has been uneven and tempered by ongoing deleveraging by firms and households.

The economies of the remaining seven emerging non-euro area EU member states continued to recover over the course of last year, driven by external demand and inventories. The speed and pattern of recovery differs markedly across economies, however, reflecting adjustment to varying imbalances leading up to the downturn with, in particular, output continuing to contract in Romania and Latvia. Looking ahead, domestic demand is expected to recover gradually, which should offset the impact of somewhat weaker global growth. Inflation remains moderate, with increases in indirect taxes, energy, food and administered prices disguising relatively subdued underlying pressures. Spare capacity and high unemployment are likely to dampen underlying price pressures for some time. Fiscal deficits increased significantly during the crisis but the process of correction is underway. Imbalances in trade and capital flows have largely been eliminated.

### *United States*

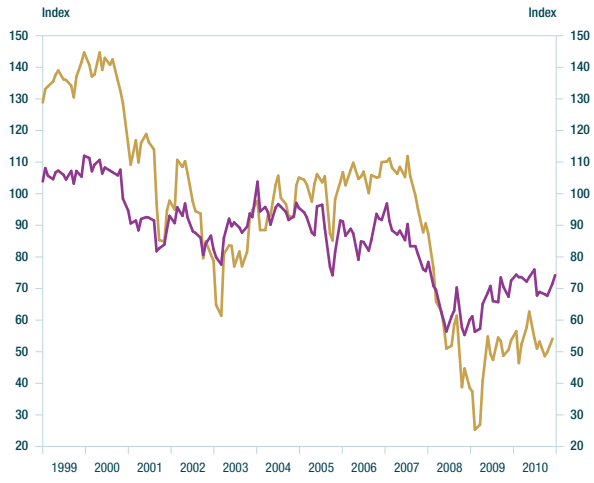
Final third quarter figures from the Bureau of Economic Analysis (BEA) indicate that economic activity in the US continued to expand in the third quarter of 2010. Real GDP increased by an annualised rate of 2.6 per cent, reflecting positive contributions from personal expenditure, inventories and exports. The contribution of government spending held constant after making a strong contribution to growth in the previous quarter. Growth in private consumption accelerated, continuing a trend from earlier quarters, and accounted for three-quarters of total GDP growth. However, a significant portion of the rise in domestic demand was met by imports which continued to exceed exports to the extent that net exports subtracted 1.7 percentage points from overall growth (see Table 3). The contribution of non-farm inventory investment picked up again following a significant decline in the previous quarter but this was in line with expectations due to seasonal effects in preparation for winter energy demand and increased private expenditure in the peak household shopping period of the year. Net exports are expected to make a positive contribution to GDP growth in the fourth quarter. On balance, this suggests a modest annual growth for 2010 as a whole with the OECD estimating an outturn of 2.7 per cent.

**Chart 7:** US Employment Situation




Source: Reuters EcoWin.

**Chart 8:** US Consumer Confidence




Source: Reuters EcoWin.

Looking ahead, survey-based indicators point to a gradual improvement in economic activity but overall the recovery is expected to remain moderate in the medium term. Low levels of consumer confidence (albeit rising over the past quarter), a weak expansion in industrial production and the need for further household balance sheet adjustment may constrain the prospects for this coming year. In particular, there are two significant considerations which might moderate the outlook for 2011. First, GDP growth would need to occur at a higher level than is currently expected to generate sufficient employment opportunities to make a dent on the current high unemployment rate of 9.4 per cent. According to the US Bureau of Labor Statistics (BLS), long duration unemployment is still very high but may have passed its peak. The participation rate is still below the 66 per cent threshold which prevailed on average for 20 years before the recession. Second, the recovery in the housing market is being held back by excess supply and weak demand, not helped by considerable uncertainty regarding the treatment by banks of foreclosures which are temporarily suspended. Currently more than 20 per cent of borrowers owe more than their home is worth and an additional one-third have equity cushions of 10 per cent or less, putting them at risk of negative equity should house prices decline much further. The OECD is projecting growth of 2.7 per cent for this year and 3.1 per cent for next year.

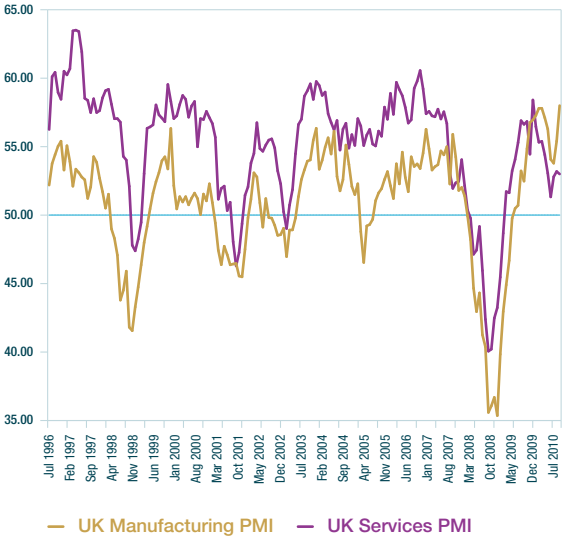
Price developments indicate that the annual CPI inflation rate has remained at a low level over the past few months, while core inflation has decelerated further. With a dual mandate for controlling inflation and fostering maximum employment, the US Federal Open Market Committee (FOMC) announced on 2 November 2010 that it would undertake further quantitative easing in the form of USD 600 billion purchases of longer-term Treasury securities over a seven month period. At the same time, the FOMC maintains the target range for the federal funds rate at 0 to 0.25 per cent and continues to anticipate that economic conditions including low rates of resource utilisation, subdued inflation trends and stable inflation expectations are likely to warrant “exceptionally low levels for the federal funds rate for an extended period”.

### *United Kingdom*

The UK economy continues to recover from the recession but at a slower pace than in previous recovery cycles. The detailed release of the third quarter national accounts confirmed a GDP growth estimate of 0.7 per cent, quarter-on-quarter, or 2.7 per cent in year on year terms. Net trade made its first positive contribution to GDP growth during 2010 as export volumes increased by 1.5 per cent, quarter-on-quarter, helping to offset an unexpected moderation in both private consumption and investment. Private final domestic demand (excluding inventories and government), which fell sharply during the recession, is strengthening as the recovery progresses.

Survey indicators have remained supportive of continued growth, although a number of readings have softened in recent months. Sluggish private sector employment has been highlighted in recent months by PMI data, with staffing levels barely rising in October and November following falls in the previous two months. In the Bank of England's Agents' survey, manufacturing and services both reported an expectation of reduced capacity over the next six months. A composite of the Markit/CIPS Purchasing Managers' Indices, showing expectations of the level of business activity in twelve months time, suggests that firms expect activity to increase, albeit with expectations that are more subdued than during the first half of 2010.

**Chart 9:** PMI Indicators for the UK




Source: Markit PMI.

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

The 2011 fiscal consolidation will get underway from April according to the plans of the UK Public Spending Review set out on 20 October last. The substantial fiscal tightening and weak real income growth create headwinds to growth, which is projected to remain relatively subdued throughout 2011. The recovery should regain momentum in 2012 when exports are expected to increase further and if business investment grows more robustly. During 2011, unemployment is set to fall gradually from its end-2010 rate of 7.9 per cent. Overall, growth is expected to increase slightly from 1.7 per cent this year to 2.0 per cent next year, according to OECD projections.

Inflation is likely to remain above the Bank of England 2 per cent target for most of 2011. The Bank of England's Monetary Policy Committee's (MPC) assessment is that current elevated rates of inflation largely reflect a number of temporary influences, including the VAT increases in January 2010 and 2011, past oil prices and the continued pass-through of higher import prices following the depreciation of sterling since mid 2007. The temporary impact of those factors has offset the downward pressure on inflation from spare capacity – pressure which can, in part, be seen in the labour market, where annual nominal earnings growth has been subdued at 2.2 per cent in the three months to October 2010. Most recently, the Bank of England's Monetary Policy Committee (MPC) maintained an accommodative monetary policy stance. The Bank Rate and the stock of asset purchases were left unchanged at 0.5 per cent and £200 billion, respectively.

### *Japan*

According to its second preliminary estimate, Japan's Cabinet Office revised third quarter GDP growth up from 0.9 per cent to 1.1 per cent quarter on quarter, or from 3.9 per cent to 4.5 per cent at an annualised pace. The rise in third quarter growth was due entirely to stronger domestic demand, while net exports were flat. Private consumption was underpinned by temporary factors, such as government subsidies for purchases of low-emission cars and household appliances and greater demand for cigarettes ahead of a tax hike on tobacco that was introduced on 1 October. Private residential investment rose by 1.3 per cent supported by government measures. Capital spending rose for the fourth straight quarter but growth decelerated to 0.8 per cent from 1.8 per cent in the second quarter. It contributed 0.1 percentage point to overall real growth compared with a 0.2 point contribution a quarter previously. Inventory changes added 0.1 of a percentage point after a negative contribution in the previous quarter.

The Cabinet Office expects the effects of its main stimulatory policies to fade this year, and forecasts a slowdown in export growth due to a cooling world economy and the appreciation of the yen. The latest trade data show that weakening growth in the US, Europe and China will continue to hurt Japan's exports. Nonetheless, Japan's current account surplus, a measure of trade with the rest of the world, expanded by 2.9 per cent in October year-on-year. According to the Bank of Japan Policy Board members' projection, Japan's economy is estimated to have recorded 2.1 per cent growth in fiscal 2010, and this will be followed by 1.8 per cent in fiscal 2011, and 2.1 per cent in fiscal 2012. The OECD growth projections are less optimistic at 1.7 per cent and 1.3 per cent for the calendar years 2011 and 2012.

The Bank of Japan's quarterly Tankan survey, released mid December, confirmed that the recovery is fading, with small businesses struggling and investment demand still weak. Significantly, business confidence among large manufacturers has worsened for the first time in seven quarters as it is expected that the yen's trading value against the dollar will average 83.87 yen for the period between September and March 2011, a record high level since 1996.

On the price front, domestic corporate goods prices were lower in the second half of 2010, mainly due to the slack in supply and demand conditions for products and the appreciation of the yen. The pace of decline has moderated reflecting movements in international commodity prices. Consumer prices (excluding fresh food) are declining on a year-on-year basis due to the substantial slack in the economy as a whole, but temporarily moderated in the third quarter of 2010 as the tobacco tax took effect. Domestic corporate goods prices are expected to be on a moderate uptrend for the time being, mainly due to the uptick in international commodity prices, although the effects of the yen's appreciation to date are likely to remain. The year-on-year pace of decline in consumer prices is expected to slow as the aggregate supply and demand balance improves gradually.

### *Emerging Asia*

As the recovery in the rest of the global economy continues at a slower rate, growth rates in emerging Asia maintain their robust momentum and continue to surpass those observed for the high income countries of the US, Japan and the EU. However, national accounts data for the third quarter of 2010 indicate that GDP growth was somewhat slower than in the previous two quarters. The contribution of net exports has declined in relative terms but domestic private demand and gross fixed capital formation have taken over as the drivers of economic growth. There are, however, substantial upward price pressures in the region.

China's growth has moderated somewhat, in recent quarters with a shifting composition. GDP growth declined from 10.6 per cent in the first half of 2010 to a still strong 9.6 per cent, year on year, in the third quarter. Investment and urban consumption have decelerated, and so have imports. Meanwhile, with exports strong, net external trade has contributed significantly to growth and the external surplus is rising again and has reached pre-crisis levels in recent months. There are significant upward price pressures, with consumer price inflation increasing to 5.1 per cent in the year to November. The OECD GDP projection for 2010 is for growth to average 10.5 per cent with growth forecast at 9.7 per cent for both 2011 and 2012. The easing in growth is in response to a deceleration in global demand and the fading impact of infrastructure spending under the government's stimulus plan which peaked during 2009 and the first half of 2010. The overall expansion nonetheless should remain supported by domestic demand and a robust labour market. The People's Bank of China has indicated that it is shifting the focus of its policies from enhancing growth to addressing inflationary pressures. It has recently targeted credit conditions for the third time in quick succession by increasing the reserve requirements for commercial banks in order to withdraw excess domestic liquidity from the market by 50 basis points.

Elsewhere, India recorded real GDP growth of 10.6 per cent year on year in the third quarter, compared with 10.3 per cent in the previous quarter. The services sector in Asia's third largest economy, accounting for over half of GDP, grew 9.8 per cent in the third quarter. Investment growth slowed on an annualised basis to 11.1 per cent from 19 per cent in the previous quarter, while annualised private consumption stood at 9.3 per cent, pointing to inflationary risks. India's central bank kept benchmark interest rates unchanged in December after six increases during 2010.

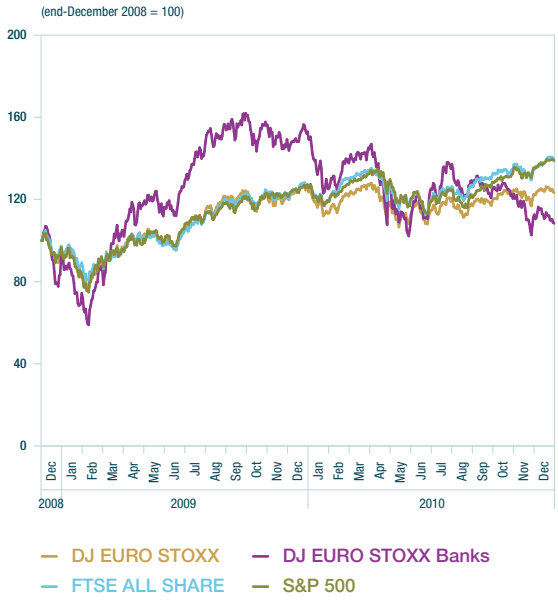
## Section 3: Financial Markets

### *Equity Markets*

Euro area stock prices faced increased volatility in the second half of 2010, reflecting the mounting concerns regarding sovereign debt and banking sector difficulties in a number of peripheral Member States, including Ireland, and the possibility of contagion effects spreading to the wider euro area. Financial sector stocks in the euro area fell sharply in the months leading up to the agreement of the IMF/EU financial assistance package for Ireland, and the DJ EURO STOXX Banks Index recorded a fall of 25.6 per cent in the period end-July to end-November. Bank share prices staged a brief recovery in early December 2010, but finished the year down 26.9 per cent on an annual basis.

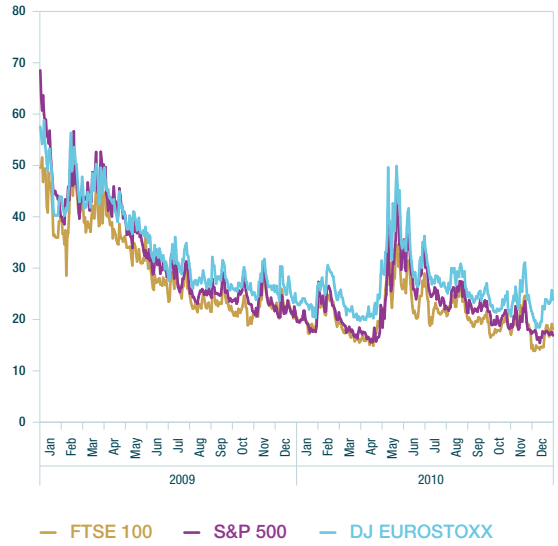
Other major international stocks finished the year on a relatively positive note, in spite of a brief dip in November. The FTSE All Share was up 10.9 per cent at the end of December on an annual basis, and had increased by 23.2 per cent relative to its 2010 low, recorded in July. US stock prices also performed strongly in the final months of the year and increased by 12.8 per cent at end-December on an annual basis.

**Chart 10:** International Share Price Indices




Source: Thomson Reuters Datastream.

**Chart 11:** Implied Equity Market Volatility




Source: Thomson Reuters Datastream.

Note: S&P 500 is the implied volatility of S&P 500 options taken from the VIX index. FTSE 100 is the implied volatility of FTSE 100 options taken from the FTSE 100 Volatility index. DJ EURO STOXX is the implied volatility of DJ EURO STOXX 50 options taken from the VSTOXX index.

### *Foreign Exchange Developments*

Following a sharp depreciation against the other major international currencies in the second quarter of 2010, the euro strengthened during the third quarter of the year. By October, the average monthly value of the euro had increased by 13.8 per cent, 5.9 per cent and 2.4 per cent against the US dollar, sterling and the Japanese yen respectively, relative to June 2010. The strengthening of the euro during this period was largely due to more positive than expected news regarding euro area GDP growth during the second quarter of the year, combined with the easing of market concerns over the euro area sovereign debt difficulties following the creation of the European Financial Stability Facility. This proved to be relatively short-lived, however, as market tensions heightened once again in the fourth quarter of the year, contributing to a further decline in the value of the euro against other major currencies. The euro fell by almost 9 per cent against the dollar in November alone, from $1.42 to $1.30, and fell by over 4 per cent against sterling during the same month. By end-December 2010, the euro was trading at 7.2 per cent below its end-December 2009 level against the dollar and at 3.1 per cent below its equivalent level against sterling.

### *Sovereign Debt Market*

The final months of 2010 were characterised by heightened tensions in European sovereign debt markets, as concern mounted once again regarding the financial position of some euro area Member States. While much of the increased market pressure during this period stemmed from concerns regarding country-specific weaknesses and banking sector difficulties, doubts were also expressed about the capacity of the European Stabilisation Fund to meet possible future requirements. These concerns were reflected in a steep upward trend in 10-year government bond yields for several euro area Member States during October and November, particularly Ireland. Looking to the US, 10-year government bond yields increased somewhat, amid mixed macroeconomic news and ongoing concern over the strength and sustainability of the recovery in the US economy. In addition, the announcement of a larger than expected package of economic stimulus measures in December contributed to some fresh concerns regarding the size of the public deficit. The yield on ten-year bonds increased to 2.6 per cent in mid-December, up from a 2010 low of 2.4 per cent in early-October.

# Information on the EU-IMF Programme

On 21 November, the Irish Government requested external financial support to put in place a wide-ranging reform programme to restore confidence and return the economy to a path of sustained growth and job creation. On 28 November, the Government agreed, in principle, to the provision of an €85 billion financial support programme for Ireland by members of the EU (represented by the European Central Bank (ECB) and the European Commission), and the International Monetary Fund (IMF), on the basis of specified conditions. Comprehensive details in relation to the programme are contained in IMF Country Report No. 10/366 *Staff Report on Ireland*, available at http://www.imf.org/external/pubs/ft/scr/2010/cr10366.pdf

## Where will the funds come from?

External support totalling €67.5bn is available, with €22.5bn from the IMF's Extended Fund Facility (EFF) and €22.5bn from the European Commission's European Financial Stability Mechanism (EFSM). The remainder will be sourced from the European Financial Stability Fund (EFSF) and a series of bi-lateral loans (€3.8bn UK, €400m Denmark and €600m Sweden).

## Will Ireland contribute its own funds to the Programme?

Ireland's contribution to the Programme funding will amount to €17.5bn, with €12.5bn coming from the liquid assets of National Pensions Reserve Fund (NPRF) and €5bn from accumulated Exchequer cash balances. This brings the total size of the Programme to €85 billion.

## How will the external assistance be funded?

IMF funds released through the EFF will be issued in the form of Special Drawing Rights (SDRs). SDRs are the unit of account of the IMF, and represent an international reserve asset, which can be exchanged for freely usable currencies. SDR values are based on a weighted basket of currencies (euro, Japanese yen, pound sterling and US dollar).Under a non-concessional loan agreement (such as the EFF Facility) the Fund can allocate SDRs to members as a multiple of their SDR quotas.

EFSM bonds will be raised by means of the European Commission borrowing on capital markets in its own name, with bonds guaranteed by the EU Budget. The EFSF will lend to the Irish government on behalf of euro zone Member States. Bonds issued by the EFSF will be backed by government securities from euro zone Member States (not including Ireland or Greece).

## What is the interest rate going to be and how is it arrived at?

The average interest rate on the available external funding from across these three sources has been calculated by the NTMA as 5.82 per cent, on the basis that the average life of the borrowings, which involve a combination of longer and shorter dated maturities, is 7.5 years. However the actual cost will depend on prevailing market rates at the time of drawdown. The interest rate applying to borrowings from the IMF facility is 5.7 per cent, with a similar rate applying to borrowings from the EFSM. The EFSF and bilateral loans will be charged at a rate of 6.05 per cent. However the actual cost will depend on prevailing market rates at the time of drawdown.

Further details of these mechanism's respective funding approaches are set out in a Technical Note on Programme Borrowing rates published by the NTMA, (http://www.ntma.ie/home/php), with the precise derivation of the interest rate applicable in the IMF case contained in an IMF press release (IMF Press Release 10/462 dated 28th November 2010 see http://www.imf.org/external/np/sec/pr/2010/pr10462.htm). In addition to the surcharge applied, the standard 'rate of charge' on our funding from the EFF will depend on the prevailing SDR interest rate at the time of drawdown.

## How and when will these mechanisms raise funds to support Ireland?

The inaugural bond issuance of the EFSM was held on January 5th, in which the Commission issued €5bn in 5 year notes via syndicated sale, at an annual rate of 2.59%. The Commission charged 293.5 basis points in annual surcharge, resulting in funds being loaned to the Irish government at a rate of 5.51% (lower than the then prevailing 5 year bond yield of 7.6-7.8%). In total, the EFSM plans to go the market four times in 2011 to raise a planned €17.6bn for Ireland, together with a further €4.9bn to be raised next year.

Subject to market conditions, the EFSF plans to issue its first 5 year bond benchmark issue towards the end of January 2011. In total, the EFSF plans to issue up to €16.5 billion in 2011 including 3 benchmark bonds of €3-5 billion per transaction, with up to a further €10bn to be raised in 2012.

## What policy measures have been agreed as part of the Programme?

The Programme outlines a comprehensive set of measures to achieve downsizing and reorganisation of the banking system over time, together with measures to safeguard the public finances and achieve fiscal sustainability. Access to funding will be strictly conditional on the achievement of specific fiscal targets and the implementation of the structural reforms set out in the Programme. Details of the required structural reforms are set out in the Memorandum of Economic and Financial Policies (MEFP), (http://www.finance.gov.ie/documents/publications/reports/2010/EUIMFmemo.pdf) with implementation of the latter to be monitored by means of a number of structural benchmarks. The Programme's Memorandum of Understanding (MoU) (http://www.finance.gov.ie/documents/publications/reports/2010/EUIMFmemo.pdf) also sets out the suite of required quarterly actions, with regard to fiscal consolidation, financial sector reforms and structural fiscal reforms, to be implemented between end-December 2010 and the final quarter of 2013.

## How do these relate to the National Recovery Plan?

The required actions with regard to fiscal consolidation align with details set out in the Government's National Recovery Plan (NRP) 2011-2014, published on November 24th. (http://www.budget.gov.ie/RecoveryPlan.aspx)

## What is the proposed scheduling of the funding drawdown?

As set out in the IMF Staff Report on Ireland (http://www.imf.org/external/pubs/ft/scr/2010/cr10366.pdf) it is proposed that the IMF segment of external funding assistance (€22.5bn) be scheduled as set out in the table below. An initial €5.8bn in assistance was received on Programme approval by the IMF Executive Board and was disbursed in January 2011. On the basis that the €22.5bn funding assistance equates with access of SDR 19.5bn (equivalent to 2,322 per cent of our SDR quota), subject to successful completion of quarterly reviews, forthcoming quarterly drawdowns could be expected to follow the trajectory below.

**Proposed EFF Access and Phasing Schedule**

| Availability | SDR min | % total SDR | € million |
|---|---|---|---|
| **Dec-10** | 5,012.4 | 25.75% | 5,794 |
| **Mar-11** | 1839.1 | 9.45% | 2,126 |
| **Jun-11** | 1839.1 | 9.45% | 2,126 |
| **Sep-11** | 1839.1 | 9.45% | 2,126 |
| **Dec-11** | 1839.1 | 9.45% | 2,126 |
| **Mar-12** | 1417.2 | 7.28% | 1,638 |
| **Jun-12** | 1417.2 | 7.28% | 1,638 |
| **Sep-12** | 1417.2 | 7.28% | 1,638 |
| **Dec-12** | 1417.2 | 7.28% | 1,638 |
| **Mar-13** | 357 | 1.83% | 413 |
| **Jun-13** | 357 | 1.83% | 413 |
| **Sep-13** | 357 | 1.83% | 413 |
| **Nov-13** | 357 | 1.83% | 413 |
| TOTAL | 19,465.8 | 100.00% | 22,500 |

**Source:** IMF Finance Department.

**Note:** Euro amounts based on IMF SDR phasing schedule, where SDR 19.5bn equates to €22.5bn.

The €5bn raised from the EFSM auction on January 5th was disbursed to Ireland by the European Commission on January 12th. Successful future EFSM and EFSF bond auctions will be disbursed to Ireland 5 business days post settlement. In the first quarter of 2011, the EU (under the auspices of the EFSM) and the EFSF will disburse €11.7 billion to Ireland in total. Disbursements envisaged by the programme over the subsequent quarters are subject to the requirements of Ireland and to quarterly reviews by the Commission in cooperation with the International Monetary Fund (IMF) and in liaison with the European Central Bank (ECB).

Detailed auction schedules, together with the results of future EFSM and EFSF auctions and disbursements will be posted on the Commission's website (http://ec.europa.eu/ireland/press_office/index_en.htm).

# An Overview of the European Systemic Risk Board (ESRB)[1]

## 1. Introduction

The ongoing financial crisis has highlighted serious deficiencies in the assessment of systemic risks in the existing European (and indeed global) framework of financial regulation and supervision. To address these deficiencies, the European Union (EU) has developed a new financial supervision framework for Europe. Part of this wider reform involves the establishment of the European Systemic Risk Board (ESRB) to address risks and vulnerabilities arising at the level of the system as a whole. The ESRB will be responsible for the macroprudential oversight of the financial system in the EU.

There is no single definition of macroprudential policy. According to the Bank for International Settlements (BIS) the broad goal of macroprudential policy is to limit systemic risk – the risk of financial system disruptions that can destabilise the macroeconomy.[2] The ESRB will play an important role over the coming years in addressing systemic risks at the European level, the success of which will be key in mitigating future crises. The practical implications of the ESRB's establishment and actions will be significant both for central banks across the EU which will have a significant role in contributing to the analysis of the ESRB, and also for private citizens who will stand to benefit significantly to the extent that improved macroprudential supervision mitigates future financial crises.

With the first meeting of the ESRB scheduled for January 2011, the objective of this paper is to provide an overview of the overall structure, mandate and objectives of the ESRB, as well as promoting a discussion of some of the challenges facing the ESRB in the fulfilment of its tasks. To this end, Section 2 outlines the development and organisational structure of the ESRB, and Section 3 sets out its mandate, objectives and powers. Section 4 discusses some of the challenges for the ESRB in achieving its objectives, and Section 5 concludes.

## 2. The New European Supervisory Framework and the ESRB

### *2.1 Development of the ESRB*

The establishment of a European Systemic Risk Board was first proposed in the 'DeLarosière Report' published in February 2009. This Report was produced by the High Level Group, chaired by Mr Jacques DeLarosière, which was mandated by the EU Commission to put forward recommendations on how to strengthen the European Supervisory Arrangements to better protect citizens and restore trust in the financial system. The Report recommended the establishment of a new European Supervisory Framework. The framework would have two pillars: macroprudential and microprudential supervision. The macroprudential pillar would involve the establishment of a macroprudential oversight body while the microprudential pillar would involve the restructuring and strengthening of the microprudential supervisory structures which already existed in Europe.

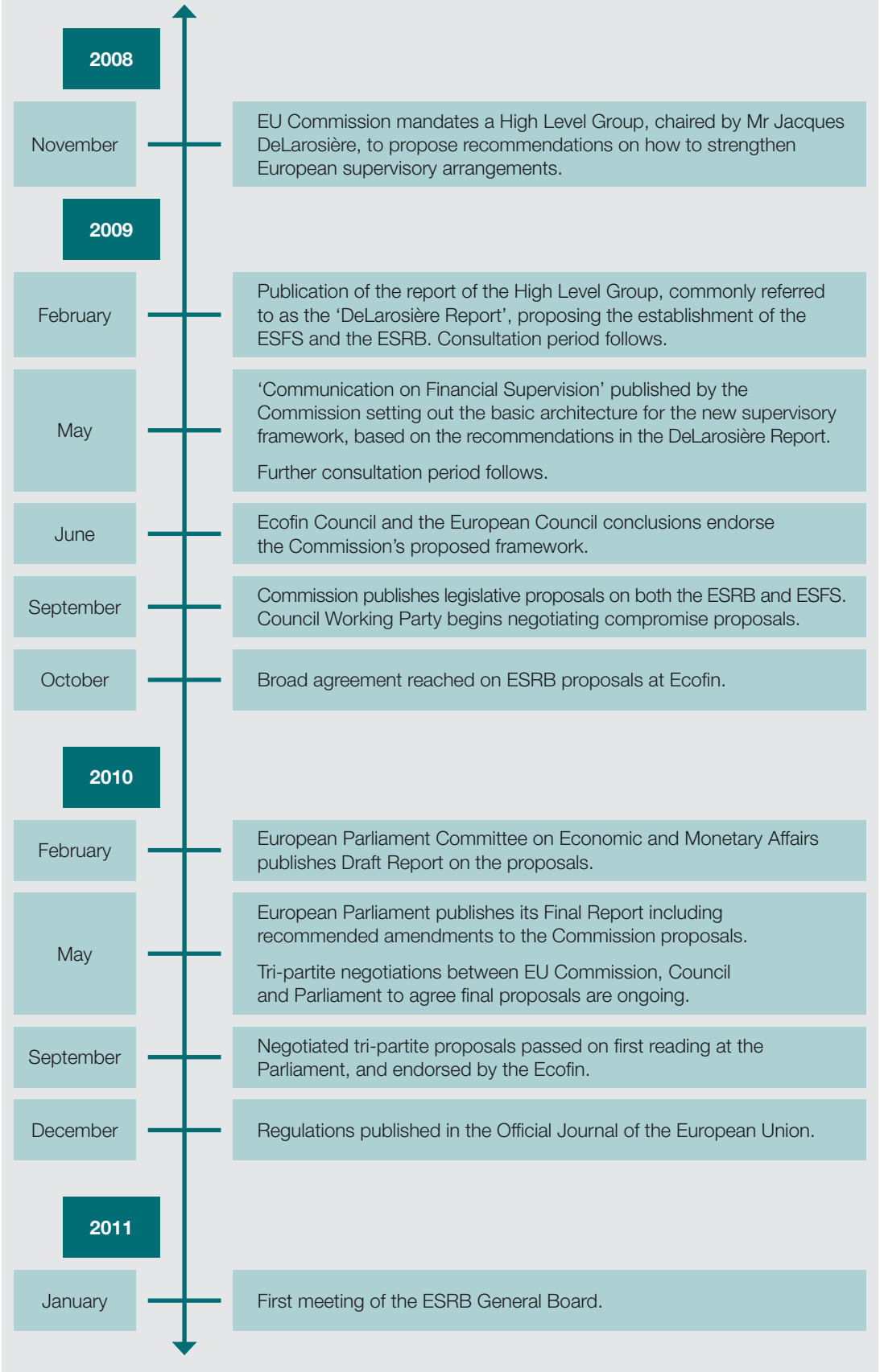
As indicated in Figure 1, the European Regulations establishing the new supervisory framework were agreed in September 2010, and came into force on 16 December 2010, the day after its publication in the Official Journal of the European Union. These regulations established a European System of Financial Supervisors (ESFS), of which the ESRB is the macroprudential pillar.[3] The microprudential pillar is a network of supervisors, comprising three new European Supervisory Authorities (ESAs) (one each responsible for banking, securities and markets, and insurance and occupational pensions), national supervisory authorities in Member States, a Joint Committee of the ESAs to cover cross-sectoral issues and the European Commission. (See Box 1 for more details on the overall structure of the framework and the microprudential pillar.) The macroprudential and microprudential pillars will have significant interaction, with cooperation envisaged in terms of the sharing of data and risk assessments, in addition to a certain crossover of personnel.

1 Prepared by Rebecca Stuart, Financial Stability Division.

2 BIS (2010), Chapter 7, p. 89.

3 Five regulations were put in place for the establishment of the ESFS. One regulation each establishes the ESRB and each of the three European Supervisory Authorities. A fifth Regulation confers tasks on the ECB in relation to the ESRB. For the purposes of this paper, the regulations are referred to as: 'the ESRB Regulation', 'the EBA Regulation' or 'the ECB Regulation'. Complete references for these regulations are provided at the end of the paper.

**Figure 1:** ESRB Proposals timeline



**Box 1:** The European System of Financial Supervisors (ESFS) and Role of the European Supervisory Authorities (ESAs)

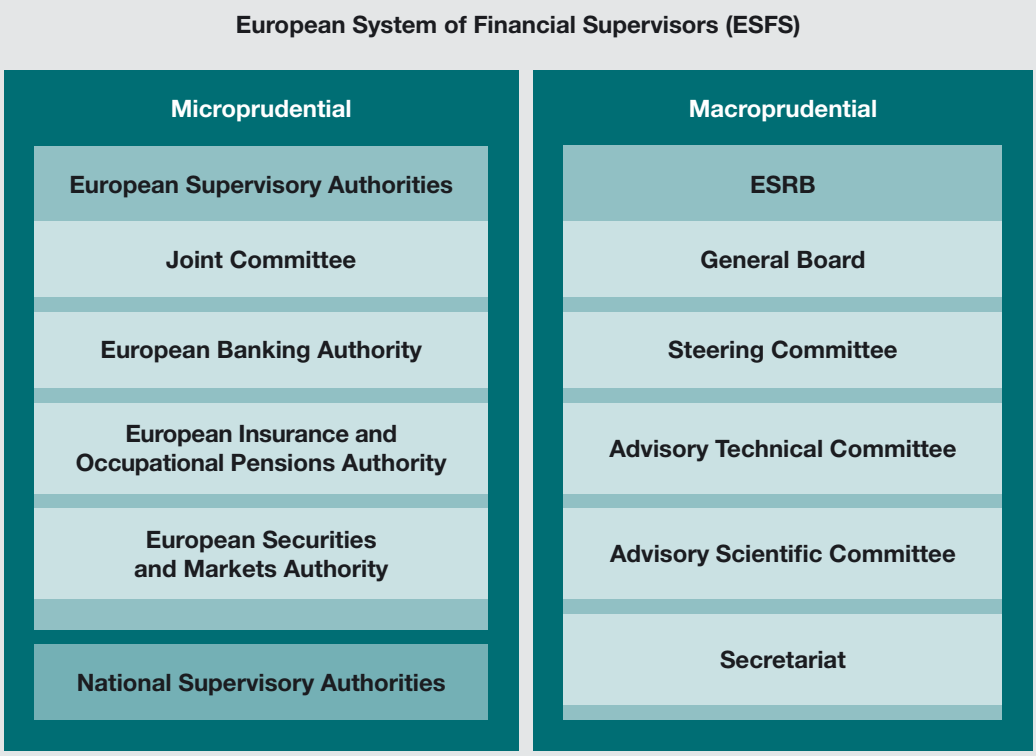
The proposed new European Supervisory Framework can be envisaged as a network of supervisors forming the European System of Financial Supervisors (ESFS), involving both micro and macroprudential supervision. This Box outlines the overall structure of the ESFS, providing an overview of some of the main tasks of the authorities that form the microprudential pillar of the system, and details some of the key areas of interaction between the ESFS and the ESRB.

### *Structure of the ESFS*

Within the ESFS, the ESRB is tasked with macroprudential oversight. The remainder of the ESFS focuses on microprudential oversight. Figure A illustrates the different bodies in each pillar of the ESFS.

The Regulations establishing the microprudential pillar define three new authorities, the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), and the European Securities and Markets Authority (ESMA). These are referred to collectively as the European Supervisory Authorities (ESAs). A Joint Committee of the ESAs has also been established to address cross-sectoral issues. Another component of the ESFS is the competent national supervisory authorities, who maintain responsibility for the day-to-day supervision of their respective financial institutions.

**Figure A:** Structure of the ESFS



**Box 1:** The European System of Financial Supervisors (ESFS) and Role of the European Supervisory Authorities (ESAs)

### *Key responsibilities of the ESAs*

The ESAs replace the existing Level 3 committees [Committee of European Banking Supervisors (CEBS), Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) and Committee of European Securities Regulators (CESR)], taking over those committees' existing tasks but also expanding their scope and powers considerably. The role of the ESAs is set out in the ESA Regulations and, in particular, include the following:

- contribute to the establishment of high-quality common regulatory and supervisory standards and practices. To achieve this, the ESAs may develop binding technical standards, which, once in place, may entitle the ESAs to address decisions to individual financial institutions in instances where the competent national authority fails to comply with the standard;
- contribute to a common supervisory culture, ensuring consistent, efficient and effective application of relevant European Directives and preventing regulatory arbitrage, by, among other things, issuing guidelines and recommendations to relevant authorities;
- have an enhanced role in coordinating cross border supervision. The ESAs will have a role in ensuring the efficiency of colleges of supervisors, and will have a role in mediating between competent authorities in cross-border disputes, with powers up to, an including addressing decisions to individual financial institutions;
- coordinate any actions undertaken by the relevant competent national supervisory authorities, in emergency situations, and, in exceptional circumstances, adopt decisions requiring authorities to take certain actions. Where the authority does not comply with the decision of an ESA, the ESA may adopt an individual decision addressed to a specific financial institution; and
- play a role in the assessment and measurement of systemic risk and the development and coordination of recovery and resolution plans. They will cooperate closely with the ESRB, in particular by providing the ESRB with the necessary information for the achievement of its tasks and by ensuring a proper follow-up to the warnings and recommendations of the ESRB.

In addition, ESMA will be responsible for regulating credit rating agencies.

### *Interaction between the ESAs and the ESRB*

It has been noted that macroprudential policies work best when set in close cooperation with microprudential authorities.[1] There are a number of areas of overlap between the ESRB and the ESAs outlined throughout this paper.

As noted above, the ESAs have a role in the analysis of systemic risk, and will cooperate closely with the ESRB in the conduct of this task. In this regard, the ESAs and ESFS will work together to develop (i) a colour coding system corresponding to different levels of risks, and (ii) a risk dashboard, a common set of quantitative and qualitative indicators to identify and measure systemic risk.

Further, Section 2.2 sets out the structure of the ESRB, and there is significant presence of both ESA representatives and national supervisors. In addition, there is ESRB representation (non-voting) on both the Board of Supervisors of each ESA and on the Joint Committee.

In addition to the ESAs providing data to the ESRB necessary for systemic risk assessments, the ESRB will also provide the information on systemic risks necessary for the ESAs to complete their tasks.

Finally, it is envisaged that the ESRB may issue warnings and recommendations to the ESAs at different times.

**1** See BIS (2010b).

### 2.2 *Structure of the ESRB*

The ESRB Regulation establishes a General Board, a Steering Committee, an Advisory Technical Committee (ATC), an Advisory Scientific Committee (ASC) and a secretariat. Figure 2 gives an overview of the membership of the various parts of the ESRB structure. Further detail on membership and the role of each part of the structure is provided in the remainder of this section.

*What is the General Board?*

The General Board will be the main decision-making body of the ESRB, and will be comprised of both members with and without voting rights. As set out in Figure 2, the voting members of the General Board will be the President and Vice-President of the ECB, the Chairs of the three ESAs, a member of the European Commission, the Chair of the Advisory Technical Committee and the Chair and two Vice-Chairs of the Advisory Scientific Committee. Non-voting members of the General Board will be representatives of national supervisory authorities and the President of the Economic and Finance Committee (EFC).

Meetings of the General Board will take place four times a year, although extraordinary meetings may also be called. Decisions will be taken by simple majority voting, with a quorum of two thirds of members with voting rights required.[4] The ESRB Regulation requires that the members of the ESRB will act impartially and solely in the interest of the European Union as a whole, and will not seek or take instruction from Member

**Figure 2:** Structure of the ESRB

**General Board (Chair + 2 Vice-Chairs)**

Voting: ECB's General Council, Chairs of ESAs, one member of the European Commission, Chair of the ATC, Chair and two Vice-Chairs of the ASC

Non-voting: Representatives of EU national supervisory authorities, President of EFC

***Total Number of Members: 65***

**Steering Committee**

Chair and first Vice-Chair of the ESRB, Vice-President of the ECB, 4 EU NCB Governors, Chairs of ESAs, one member of European Commission, President of EFC, Chair of the ATC, Chair of the ASC

**Advisory Technical Committee (ATC)**

Representatives: one from ECB, one from each NCB, one per Member State from competent national supervisory authority, one from each ESA, two from the Commission, one from the EFC, one from the ASC

**Advisory Scientific Committee (ASC)**

Representatives: Chair of the ATC, 15 experts representing a wide range of skills and experience proposed by the Steering Committee and appointed by the General Board

**Secretariat**

(ensured by the ECB)

**Source:** ECB (2010a).

4 The only exception to this is the decision to make warnings and recommendations public, which requires a two-thirds majority. The issuance and publication of warnings and recommendations is detailed in Section 3.

States, EU institutions or any other public or private body. Provision is also made in the ESRB Regulation for the participation of external representatives in the ESRB, where relevant and subject to strict confidentiality rules. In particular, the ESRB Regulation refers to the potential participation of high-level representatives from international financial organisations carrying out activities directly relevant to the tasks of the ESRB, or from relevant authorities in third countries, in particular those from the European Economic Area (EEA).

*Who will be the Chair and Vice-Chairs of the General Board?*

The General Board will have a Chair and two Vice-Chairs. The first Chair of the General Board will be the President of the ECB, Mr Jean-Claude Trichet, for a term of 5 years. For subsequent terms, the Chair will be designated according to the modalities determined on the basis of an examination of the ESRB Regulation 3 years after its entry into force. The First Vice-Chair will be elected by and from the Members of the General Council of the ECB (the 27 national central bank (NCB) governors and the ECB President and Vice-President) for a period of 5 years. Governor Mervyn King of the Bank of England has been selected as the initial First Vice-Chair. The Second Vice-Chair will be the Chair of the Joint Committee of the ESAs.

*What is the function of the Steering Committee?*

The Steering Committee will assist the decision-making process of the ESRB by preparing meetings of the General Board, reviewing the documents to be discussed and monitoring the progress of the ESRB's ongoing work. As such, the Steering Committee will meet at least four times a year, in advance of General Board meetings. On the basis of the significant number of Members of the General Board, it is likely that the Steering Committee will play an important role in giving direction and focus to the discussion at General Board meetings.

*Who will be on the Steering Committee?*

As noted in Figure 2, the Steering Committee will be composed of the Chair and First Vice-Chair of the ESRB (President Trichet and Governor King, respectively), Vice-President of the ECB (Mr Vitor Constâncio), President of EFC (Mr Thomas Weiser), one member of European Commission, the Chair of the ATC, the Chair of the ASC, the Chairs of ESAs (Mr Andrea Enria, Mr Gabriel Bernardino and Mr Steven Maijoor for EBA, EIOPA and ESMA, respectively) and 4 EU NCB governors. The four NCB governors are elected by the ECB General Council Members who are also on the General Board, for a period of three years. The ESRB Regulation makes provision that in this election, 'regard to the need for a balanced representation of Member States between those within and outside the euro area' is taken.[5]

*What is the purpose of the Advisory Technical Committee (ATC)?*

The ATC is the means through which Member States may participate directly in the work discussed at the General Board as the majority of the composition will be representatives from national central banks and the competent national supervisory authorities (Figure 2). The ATC is charged with providing assistance and advice relevant to the work of the ESRB.

*What is the purpose of the Advisory Scientific Committee (ASC) and how are the members chosen?*

The mission of the ASC is the same as that of the ATC: to provide advice and assistance relevant to the work of the ESRB. The ASC will be comprised of experts 'representing a wide range of skills and experiences', they must not be members of the ESAs, and will be chosen on the 'basis of their general competence as well as for their diverse backgrounds in academic or other sectors, in particular in small and medium size enterprises, trade unions or as providers or consumers of financial services'. The members of the ASC will be proposed by the Steering Committee and approved by the General Board for a four-year renewable term. The Chair of the ATC will also be a member of the ASC. The ASC will be important in providing a viewpoint external to the established thinking of central banks and supervisors.

*What is the role and reporting structure of the Secretariat?*

The Secretariat will be responsible for the day-to-day business of the ESRB, and will be provided by the ECB. For the ECB, this will involve providing analytical, statistical, logistical

5 See Article 11 of ESRB Regulation.

and administrative support to all levels of the ESRB structure – the General Board, Steering Committee and Advisory Committees – as outlined above. The Head of the Secretariat will be appointed by the ECB, in consultation with the General Board of the ESRB. The Chair of the General Board and the Steering Committee will give directions to the Head of the Secretariat on behalf of the ESRB.

## 3. Objectives, Tasks and Powers

### *Objectives and tasks*

As noted above, the objective of the ESRB is to 'contribute to the prevention or mitigation of systemic risks to financial stability in the EU that arise from developments within the financial system and taking into account macro-economic developments, so as to avoid widespread financial distress'. This will involve the analysis of relevant information, identification and prioritisation of systemic risks, and the issuance of recommendations for remedial action in response to risks identified, and the publication of these recommendations where appropriate. The ESRB is also responsible for monitoring the follow-up to warnings and recommendations.

In addition, the ESRB is also responsible for issuing a confidential warning to the European Council when the ESRB deems that an emergency situation may arise, providing an assessment of the situation in order to enable the Council to determine the need to adopt a decision addressed to the ESAs determining the existence of an emergency situation.

### *Issuance of risk warnings and recommendations*

Where the ESRB identifies a significant risk it will provide warnings, and where appropriate issue recommendations for remedial action, including, where appropriate, for legislative initiatives. The ESRB Regulation notes that the 'warnings can be general or specific in nature' and is not specific on what areas of policy may be covered by warnings and recommendations, other than noting that they can be addressed to the EU as a whole, to one or more Member States, to one or more of the ESAs, to one or more of the national supervisory authorities, or to the Commission in respect of the relevant EU legislation. As such, it is possible for the ESRB to issue warnings and recommendations on all areas of financial supervision and regulation, and activities in national financial systems. However, it is also possible for much broader policy issues to be included in the ESRB's analysis, including monetary policy and fiscal policy developments as they may contribute or mitigate systemic risks to the financial system. The ESRB Regulation does not specifically include the possibility that a warning or recommendation could be directed to a specific financial institution, or group of financial institutions. In instances where the ESRB is concerned about a potential systemic risk arising from an individual financial institution, it seems likely that a warning or recommendation will be issued to the relevant national supervisory authority.

These recommendations shall include a specified timeline for a policy response. Recommendations are not legally binding but are issued on a 'comply or explain' basis: addressees shall communicate the actions undertaken in response to a recommendation, or provide adequate justification in case of inaction. Where the ESRB does not believe the follow-up appropriate, it will (subject to strict confidentiality rules) inform the Council and, where relevant, the relevant ESAs. The ESRB may also decide, on a case-by-case basis, whether or not to publish a recommendation. Such a decision would be subject to a two-thirds majority vote by the General Board, the one exception to the simple majority rule.

The ability to make public warnings and recommendations seems intended to provide additional incentive to addressees to respond as the ESRB sees fit to recommendations which it has issued. This may be particularly important in light of the non-binding nature of the ESRB's recommendations; with no legal power to enforce action, the threat of exposure to the authorities to which the addressee is accountable and a potential adverse market reaction, is the ESRB's greatest enforcement tool. At the same time, the threat of a significant adverse market reaction might inhibit the ESRB's ability to make recommendations public.

### *Accountability*

The important role entrusted to the ESRB requires strict accountability lines to be drawn. At least annually, but more frequently in the event of widespread financial distress, the ESRB Chair will be heard by the European Parliament, marking the publication of the ESRB's annual report to the Council and Parliament. The Chair of the ESRB will also hold confidential oral discussions at least twice a year with the Chair and Vice-Chairs of the Economic and Monetary Affairs Committee of the European Parliament. In addition, a review clause in the legislation allows for a review, by the Council and Parliament, of the structures of the ESRB after a period of 3 years.

**Box 2:** Indicators to identify and assess macro-financial risks

Section 4 outlines the challenges facing the ESRB in successfully achieving its objectives, one of which is the identification and assessment of systemic risks. This Box outlines some of the tools available for such analysis.

Four broad categories of tools for assessing macro-financial risks are identified: traditional financial stability indicators, early-warning indicators, macro-stress testing and contagion and spillover models.[1]

Financial stability indicators allow for the assessment of the current position of the sectors being assessed. These may be individual indicators, such as CDS spreads, market volatilities or credit aggregates, or composite indicators which combine a number of indicators to calculate a financial stress index. These indicators are important in assessing the present condition of the sectors analysed, but are not necessarily forward looking. This is the role of early warning indicators (EWIs). EWIs are based on variables that have predicted past crises well. These indicators are monitored with respect to certain thresholds which, when exceeded, are likely to indicate future stress. The credit-to-GDP gap is an example of an EWI, and is currently being proposed as the metric on which countercyclical capital buffers will be based.[2] These indicators are important in monitoring the build-up of risks, but do not provide significant scope for scenario analysis, or the potential impact of an unwinding of the risks on individual financial institutions. Macro-stress testing allows this to take place, thus enabling early corrective action if vulnerabilities are identified. In a stress test, the impact of an adverse shock in the real economy is fed through banks' loan books in order to quantify the impact on capital, thus assessing the potential overall impact. The final type of indicator, contagion and spillover models, are used to assess the impact of stress in one financial institution on other financial institutions. Financial institutions act as counterparties to each other, and financial stress can thus be transmitted from one bank to another. Network analysis attempts to quantify this exposure.

In the Central Bank of Ireland, the domestic aspects of the crisis as well as the development of the ESRB at EU level have meant that the Economic Policy and Financial Stability Directorate has had to reassess the weight applied to various issues in terms of what and how work is carried out within the business area. One of the conclusions of this reassessment is that the conjunctural financial stability assessment will be strengthened by a commitment to analysis underpinned by advanced empirical research. This involves rigorous statistical analysis across the main areas of responsibility for the department: systemic risk assessment, comparative analysis of the Irish banking sector, and both macro and micro level examination of the interaction between the financial system and the real economy.

1 The categorisation of macroprudential indicators draws on Special Feature B in ECB (2010b). Some of the description of these indicators also draws on that Special Feature.

2 See BIS (2010b) for further details.

## 4. Challenges and Implications

### *4.1 Challenges for the ESRB in achieving its tasks*

The recent financial crisis has clearly highlighted the need to link macro-financial assessments with mitigating policy actions. In addition, such mitigating actions will often require cross-border cooperation between authorities in light of the highly integrated nature of the financial system today. At the same time, there are significant challenges for the ESRB in achieving its tasks, of which six main areas are highlighted below.

First, it will be very challenging for the ESRB to correctly identify and target risks for mitigation. Early warning indicators remain imperfect (meaning that the implied probability of risks emerging are measured with error), while the impact of risks identified is very difficult to quantify. For the ESRB to be credible it must avoid issuing warnings on risks that never materialise – Type I errors – or it will run the risk of being dismissed for 'crying wolf'. At the same time, it would be very damaging were the ESRB to fail to warn on a significant risk that actually materialises – a Type II error. As such, it is likely that judgement, as opposed to hard triggers, will have to be used in assessing whether risks are significant and systemic. This in turn allows

scope for disagreement, forbearance, and political motives to take hold. In this regard it is likely that the Steering Committee will have an important role in driving and focussing the discussion at the General Board level.

Second, assuming the ESRB can develop methods to identify risks with reasonable accuracy, a key challenge will then be identifying the correct policy response. There is relatively limited experience of practically implementing macroprudential policy.[6] In addition to a lack of a common definition of macroprudential policy, or indeed systemic risk, it is not the case that there is a single policy tool for macroprudential policy purposes, as there is for monetary policy. Consequently, it is likely that a range of tools will have to be employed at all times.

Third, the interaction between different macroprudential tools, and between macroprudential tools and other policy areas, will be difficult to assess. In particular, macroprudential policies are likely to target, through various means, credit supply. The impact of such policies on the transmission of monetary policy will be key. There is relatively little historical experience for the General Board to draw on when making policy recommendations, and as such there is clearly the potential for unintended consequences relating to the implementation of untested measures.

Fourth, another challenge arises from the non-binding nature of recommendations. It is reasonable that Member States wish to maintain final control over the actions taken within their financial systems as long as they bear the costs of financial crises. However, for the ESRB to be effective, it is essential that warnings and recommendations cannot be easily ignored. As noted above, it may be difficult to use the threat of the publication of a recommendation to prompt a response from an addressee, if there is significant danger of a negative market reaction. Therefore, in order to ensure an adequate response from addressees, the ESRB must establish a convincing record in mitigating risks and vulnerabilities. Yet, by their nature, if mitigating actions are successful, the impact of the counterfactual will not be observed. This means that, over time, the incentive to respond seriously to recommendations may diminish.

Fifth, the integrated nature of the financial system requires significant cross-border cooperation in terms of both supervision and crisis management, as highlighted by the current cirsis. The ESRB has power across the whole of the European Union, but no further. A key challenge for the ESRB will be engaging and cooperating at a broader global level, both with national authorities in other major financial centres, and with international organisations such as the IMF and FSB, to ensure that macroprudential risks arising externally to the EU, but with implications for the European financial system, may be addressed effectively.

Finally, macroprudential policy alone is not sufficient to mitigate future crises. Within Europe, therefore, a strong macroprudential framework must be complemented by a range of other policies, including sound microprudential, crisis management, monetary and fiscal policies, in order to be effective.

### *4.2 Challenges for National Central Banks (NCBs), including the Central Bank of Ireland, in fulfilling their role in the ESRB*

The establishment of the ESRB will involve a significant increase in the scope and responsibilities of national central banks (NCBs), including the Central Bank of Ireland, as they relate to macroprudential policy. NCBs play a central role in the ESRB, with NCB governors forming the majority of the voting members of the General Board, NCB staff participating on the Advisory Technical Committee, and staff secondments from national authorities being key for part of the Secretariat's staffing requirements. Integrated central banks and financial regulators, such as the Central Bank of Ireland, have a greater role, providing the relevant national supervisory experts to all levels of the ESRB in addition to the central banking representatives.

For NCBs, including the Central Bank of Ireland, participation in the ESRB is likely to require a more formal assessment than heretofore of financial stability conditions in other Member States and the EU as a whole, including contributing to risk identification, topical analysis, risk assessment, the provision of certain data, and monitoring and responding to ESRB warnings and recommendations. To this end, and in the context of a broader re-organisation

**6** For a survey of macroprudential measures implemented in a number of countries, see BIS (2010c).

**7** See Chapter 4 of CBFSAI (2010) for further detail on current work being undertaken in the area of Financial Stability by the Central Bank of Ireland.

of the financial stability area, work is underway within the Central Bank of Ireland on a number of projects aimed at enhancing the depth and scope of macro-financial assessments.[7] The Bank is also participating in the work of the Eurosystem's Macroprudential Research (MaRs) network, which will contribute to the ESRB by providing policy-directed research. It consists of three workstreams (i) financial stability and the general economy, (ii) early warning and systemic risk indicators, and (iii) contagion.

A key challenge for NCBs relates to risk warnings and recommendations. As noted in Section 2, the ESRB can issue warnings and recommendations on any issue that may pose a threat to the stability of the financial system. This is likely to draw NCBs into commenting on new areas of policy analysis. For instance, fiscal policy, an area many NCBs would not have commented on traditionally, could be examined by the ESRB. Further, the interaction of monetary policy and macroprudential objectives may also pose an issue – the same NCB governors who set monetary policy will also be responsible for setting macroprudential policies. It is likely that there will be times when price stability and financial stability objectives do not coincide. As such, NCB governors may be in a position where they are setting monetary policy contrary to financial stability objectives, while at the same time, through their role on the ESRB, issuing risk warnings and recommendations to third parties regarding systemic risks arising from their behaviour.

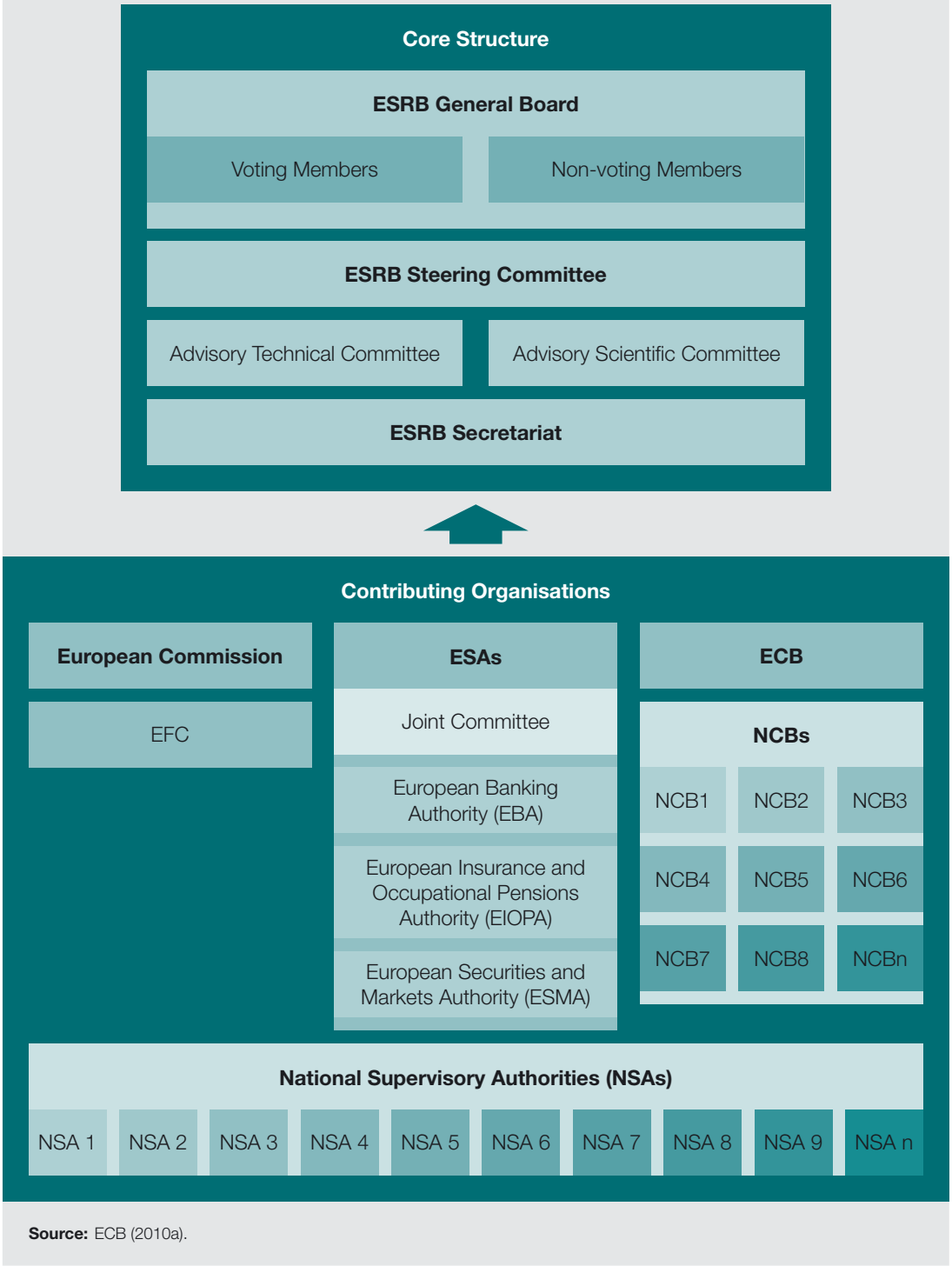
In addition, a challenge that must be addressed by central banks relates to the differing lines of accountability relating to warnings and recommendations issued by the ESRB on the one hand, and to their requirement to protect national financial stability on the other. Accountability lines need to be carefully defined to avoid issues of conflict in situations when, for instance, the ESRB, which is not directly accountable to individual national governments, issues directions to national authorities, who are accountable to their national governments.

## 5. Conclusion

The role of the ESRB in implementing macroprudential policy at a European level will strengthen the assessment of, and response to, systemic risks across the European financial system, and address an important failing that existed in advance of the crisis. As part of a strengthened overall supervisory framework, the ESRB can provide an important service in crisis prevention.

However, it is important that expectations for the success of the ESRB are set at a reasonable level. The challenges outlined in this paper can be seen as difficulties that the ESRB can, and must, address. In addition, there are external challenges, which are beyond the control of the ESRB. As noted above the current crisis has highlighted a number of weaknesses in the regulatory and supervisory architecture, for which numerous proposals on areas for improvement have been put forward. The use of macroprudential policy, and the role of the ESRB, must be seen in the context of the range of these proposals. For instance, it is necessary that the reform of microprudential supervision, through both the culture of supervision and the underlying regulatory rules as being addressed by Basel III are successful. A number of crisis management issues, such as resolution and early intervention frameworks, also remain outstanding at both the national and international level.

**Annex:** Detailed Overview of ESRB Organisation Structure




**Source:** ECB (2010a).

## References

CBFSAI, (2010), 'Banking Supervision: Our New Approach', 21 June.

BIS, (2010a), 80th Annual Report, 28 June.

BIS, (2010b), 'Countercyclical capital buffer proposal', Basel Committee on Banking Supervision, Consultative Document, July.

BIS, (2010c), 'Macroprudential instruments and frameworks: a stocktaking of issues and experiences', Committee on the Global Financial System, CGFS Papers No 38, May.

ECB, (2010a), Presentation at ESRB Contact Persons Workshop, mimeo.

ECB, (2010b), 'Financial Stability Review', June.

***Regulations***

Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC.

Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC.

Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board.

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# Large-Value Payment System Design and Risk Management

by David Cronin*

**Abstract**

This article considers how wholesale (also often called large-value) payment systems can be organised, how they have evolved over recent decades and what are the forces currently at play in shaping settlement mechanisms. The various risks that arise in large-value payment systems are identified and the two basic models of organising settlement – deferred net settlement and gross settlement – are explained. There has been a move away from the former type of settlement to the latter over time. Queuing and liquidity-saving mechanisms are also now being used in system design so as to reduce risk and further improve efficiency in payments.

* The author is a Senior Economist in the Financial Stability Department. He would like to thank Frank Browne and Paul O'Brien for helpful comments. The views expressed in this article are nevertheless those of the author and do not necessarily reflect those of the Central Bank of Ireland or the European System of Central Banks.

## 1. Introduction

In discussing payments and payment systems, a distinction is usually made between retail and wholesale payments with the principal differences between the two relating to transaction size – with the former involving relatively small value amounts and the latter relatively large value transfers – and the parties involved – typically non-banks making retail payments and banks engaging in wholesale payments. Both types of payment also bring with them a distinct set of issues that dominate discussion and policy formulation in that area. In wholesale payments, a key concern is the form in which settlement of payments takes place.

The purpose of this article is to examine how wholesale (also often called large-value) payment systems are organised, how they have evolved over recent decades and what are the forces currently at play in shaping settlement mechanisms. Most initiatives and innovations in payments are aimed at improving efficiency. In large-value payments, there is a particular emphasis on using them to reduce risks or to manage them better. Different forms of risk can arise in large-value payment systems but for the purpose of this article three key types of risk are highlighted.

The first is credit (or counterparty) risk, which is the risk that a counterparty to a payment will not settle an obligation for full value, either when due or at any time thereafter. The term credit risk ties in, or is associated, with risk types such as market or price risk (the risk of losses arising from movements in market prices), replacement risk (the risk that, owing to a counterparty to a transaction failing to meet its obligation on the settlement date, the other party may have to replace, at current market prices, the original transaction) and principal risk (the risk that the seller of a financial asset, such as currency, will deliver that asset but not receive payment, or that the buyer will pay but not take delivery).[1] Credit risk has a temporal quality to it – some difficulty arises during the time between when a payment is agreed and when it falls due to be settled so that settlement does not take place as intended and may not occur in the future either.

A particular issue in foreign exchange systems is that the separate settlement legs of a foreign exchange transaction need to be synchronised in order to avoid the risk that a counterparty will fail before all payments are completed. It is particularly relevant when the exchanging banks operate in different time zones and when their trading hours may not overlap with one another. This form of risk is often termed “Herstatt risk” after a German bank which, in 1974, was closed down without it forwarding an amount of US dollars it had agreed to deliver against a quantity of Deutsche marks it had already received as part of that foreign exchange transaction.

The second risk type is liquidity risk. This shares with credit risk the characteristic that it is a risk that a counterparty will not settle an obligation in full when due. It differs from credit risk in that the counterparty intends to meet its obligations and can do so at some future time but cannot carry them out at the originally agreed time because it does not have sufficient funds (or liquidity) to hand.

Credit risk and liquidity risk pertain to the bilateral relationship that arises in settling a particular payment, i.e., between the payer and payee to that transaction.[2] The third risk type, systemic risk, addresses how those bilateral party-based risks, if realised, can impact other payment system participants and the good functioning of the payment system as a whole. Systemic risk, then, is the risk that the inability of a participant to meet its obligations in a payment system will cause other participants to be unable to meet their obligations when due. It includes situations in which credit or liquidity problems for one or more participants create similar difficulties for other participants in the payment system and it also refers to the possibility of a chain reaction in an interlinked payment or settlement system (Emmons, 1997). Systemic risk, therefore, can be understood as encompassing both the possibility of system failures and of other events which have an adverse, if not calamitous, impact on payment systems’ performance.

1 These and other risk definitions of risk draw on the glossary in European Central Bank (2007).

2 The term “settlement risk” is used to designate the risk that settlement of a payment will not take place as expected and embraces both credit and liquidity risks.

Historically, deferred net settlement was the norm in large-value payments systems. In recent decades, however, new settlement procedures have been adopted with the purpose, inter alia, of addressing the type of risks mentioned above. During the 1990s, gross settlement in real-time came to be adopted as the predominant settlement mode in large-value payments. Payments systems which combine elements of both gross and net settlement – so-called hybrid systems – are now feasible. In section 2, the concepts and basic models of deferred net settlement (DNS) and real-time gross settlement (RTGS) are outlined. Recent developments in payment systems, including variants on the basic settlement models, are considered in section 3. Section 4 concludes.

## 2. Settlement options in large-value payment systems

### *2.1 Methods of settlement in payments*

Large-value, or wholesale, payments can be seen as involving two elements. One is the transfer of payment information between the payer and payee banks – termed "processing" – and the other is settlement – that is the actual transfer of funds between the banks. Central banks act, in effect, as the settlement agents between commercial banks in most payment systems. Discussions of large-value payment systems tend to focus on the settlement aspect of payments as real-time processing of payment messages is a feature of both DNS and RTGS. Large-value payments are usually settled by the transfer of deposits held at the central bank from one commercial bank to another. Banks face a choice as to when and how settlement occurs. DNS and RTGS represent two of the options available.

DNS recognises that commercial banks are able to reduce the amount of central bank deposits they need to settle payments if they agree to defer settling those payments between themselves for a period of time. Payment inflows and outflows can then be offset ("netted") against one another over a period of time, such as the business day, and at a specified time, usually the end of each day, the net amount owed between any two banks is settled by a transfer of central bank deposits from the account of the net payer to the other bank. The phrase "deferred net settlement" then captures the essence of this settlement method: payments are settled on a deferred basis and the amount to be exchanged between any two banks is arrived at by netting off payments against one another, establishing an outstanding balance to be paid from one bank to the other. A simple example would be where Bank A has to make one payment to Bank B on a particular day with a value of €100 million while Bank B also happens to have one payment to make to Bank A, with a value of €70 million. In DNS, rather than Banks A and B making two separate settlements during the day, the payments are deferred for settlement until end-day when the two payments are netted, or offset, against one another with a single settlement then occurring with Bank A forwarding funds to Bank B equal to the difference between the two payment amounts, i.e., €30 million. This principle can be extended to deal with many payments and can also be applied on a multilateral (i.e., multi-bank) basis.

This basic description of DNS highlights a fundamental tension or trade-off at work in settling large-value payments. In allowing settlement to be deferred until end-day, netting of payments against one another can be employed. This will, generally, reduce the amount of central bank money required to settle the daily volume of payments. Against that, in allowing a delay to occur between a payment obligation arising and its settlement, a credit risk arises as it is possible that payees will not receive the amounts owed to them.

This credit risk can be avoided by requiring individual payment obligations to be settled instantaneously as they arise, what is termed "real-time gross settlement" (the aforementioned RTGS). Under this method, each payment is settled on an individual basis, in which case there is no netting of payments against one another. By not allowing netting, payment by this method takes place in a gross settlement format and on a bilateral basis. While eliminating credit risk, the downside of this settlement method is that it does not permit the economisation on the use of settlement balances that netting can achieve.

DNS and RTGS can be seen as the basic, generic forms of settlement in large-value payment systems.[3] In the remainder of this section, the basic models of DNS and RTGS are each considered more closely.

3 It is worth emphasising again that the focus is on the form of settlement of payment. The transmission, processing and clearing of payments need not necessarily differ between the two types of system or any intermediate configuration.

### 2.2 Deferred net settlement

In DNS systems, settlement occurs at a discrete lag to the receipt of payment instructions. Banks do not exchange the total value of settlement amounts owed to one another but rather the net amount due between them, with the net debtor settling that amount by transferring deposits to the net creditor.

Payment messages are transmitted in real-time so that a participating bank's net position can be calculated on a bilateral or multilateral basis during the business day. At a specified time, usually at the end of the business day, the net amount owed between the parties at that time is exchanged. Net settlement systems then involve a record of financial obligations developing over a pre-specified period of time at the end of which the net amounts of funds due to, or from, participants are transferred as appropriate.

The principal benefit of net settlement is that it allows banks to economise on their holdings of settlement balances, or at least reduce the immediate need for liquidity until the end of the business day when final settlement is made. To follow up on the earlier example involving payments between Bank A and Bank B, when the two payments are netted against each other, Bank A is only required to transfer €30 million in settlement balances to Bank B. If netting of these payments was not allowed, Bank A would have to access €100 million from its central bank settlement account, as opposed to the €30 million it needs at end-day under the netting scheme. Bank B would also have to access €70 million of settlement balances to meet its payment to Bank A. Such an economisation on the amount of settlement balances required to meet payment obligations is typical of DNS and is one of its advantages. The fact that net settlement of transactions typically occurs at the end of the business day also means that there are no intraday calls on banks' holding of settlement balances with the central bank. That settlement occurs at a specified time in the day can also aid banks' funds management.

The downside to DNS is that the total value of payment commitments remaining outstanding at any time during the day can be quite large. In agreeing to wait until end-day to settle the net amount outstanding, Bank B, in the example above, is incurring the risk that the €30 million net amount owed to it will not be received. If individual payments were settled as they arose, this credit risk would not occur. In DNS, individual institutions are thus exposing themselves to the possibility of default on net amounts owing to them. This is the main weakness of DNS systems: credit risk arises in them. It also means that the system of payments is potentially under threat as a failure of, say, Bank A to pay Bank B the net amount owed to it can impair Bank B's ability to meet its own net debts with respect to other banks.[4]

A number of measures can be introduced in DNS systems to manage credit risk. It is possible, for example, to put a quantitative limit on the net debit and/or net credit positions of banks. Such "caps" place a limit on the credit exposure which participants can run vis-a-vis each other. A payment will not enter the system when a cap could be breached by doing so. Loss-sharing rules, which indicate how losses arising from the default of a participant in the system are to be shared among the affected parties, are another means of addressing credit risk in DNS.

### 2.3 Real-time gross settlement

In contrast to DNS, RTGS involves final settlement of each individual payment being made at the same time as it is processed, that is at the time the instructions of the payer are transmitted to the central bank, so that the transaction can be considered to be settled in "real time". In principle at least, RTGS systems see final settlement of interbank funds transfers occurring on a continuous, transaction-by-transaction basis throughout the processing day. This form of settlement ensures that no credit risk arises.

RTGS, however, at least in its purest form, can place substantial liquidity demands on banks as they cannot reduce settlement amounts through netting. Referring again to the earlier example, under RTGS Bank A would have to draw down, or access, €100 million at the time of the day that Bank B forwarded its payment for settlement. Likewise, Bank B would have to provide €70 million when its payment to Bank B fell due. Under DNS, in contrast, Bank A alone would have to provide settlement balances (of €30 million) at end-day.

**4** Emmons (1997) points out that the primary benefits and costs of netting often move in parallel to one another. For instance, the longer final settlement is deferred the greater the potential exposure of individual recipient banks to the possibility of payer banks defaulting. At the same time, the longer the period before settlement occurs the greater the reduction in settlement obligations that can likely be achieved through netting.

As a general rule, the greater the number of two-way payment flows between agents and the more those payment flows balance each other out the greater do the benefits of netting outweigh its costs.

Gridlock is a situation that can arise in RTGS systems. It occurs when a substantial number of payments in the system cannot be settled owing to one or more payers being unable to make outgoing payments. Those payers may be unable to settle those payments due to settlement rules or to a lack of funds or liquidity on their part. This, in turn, can have further effect on the payments system as their payees may have been dependent on the receipts from those payments to fund their own outgoing payments, and so on. In this way, an impediment to settling some payments can lead to a broadly-based or system-wide disruption to payments being settled. A number of variants on the basic RTGS model can help address gridlock; they are discussed in the next section.

Gross settlement procedures can be applied in foreign exchange. Such systems are often referred to as payment-versus-payment (PVP) systems.[5] They involve a pair of financial transfers being made simultaneously in separate national RTGS systems and, therefore, being settled on a gross basis and with finality. Such a mechanism is a means of avoiding Herstatt risk as the final transfer of a payment in one currency takes place at the same time that the final transfer of a payment in another currency occurs.

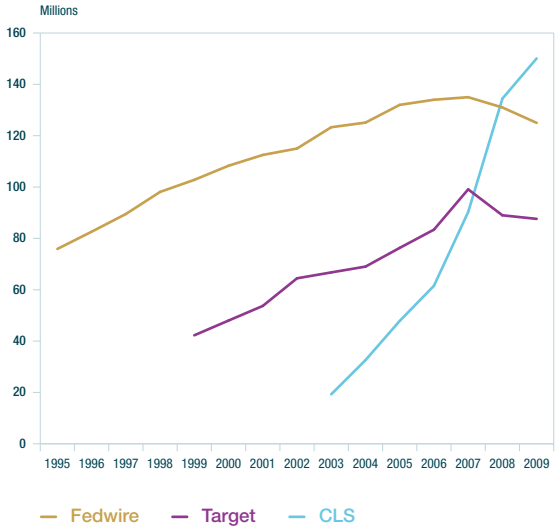
## 3. How modern large-value payment systems operate

### *3.1 The move to RTGS*

The Bank for International Settlements (BIS) (2005) identifies the 1990s as a period of major transformation in the design of large-value payment systems, with a move away from employing DNS systems to a widespread adoption of RTGS systems. The context in which this switch occurred involved a substantial rise in the volume of large-value payments, including a pickup in international payments flows.

This is illustrated in Charts 1 to 3, which focus on three major large-value payment systems. The US Fedwire system is the longest-lived of these. It saw payment volume rise by close to two-thirds between 1995 and 2009 (Chart 1), while payment value nearly tripled, in nominal terms, in the same period (Chart 2). TARGET is an interbank payment system for the real-time processing of cross-border transfers within the European Union. Data are available from 1999 for this system and Charts 1 and 2 show large pickups in the volume and value of payments in TARGET over time. Payment value has increased as a proportion of GDP in both the Fedwire and TARGET payment systems since 2000 (Chart 3). CLS (Continuous Linked Settlement) is the third payment system whose payment volumes and values are shown in the charts. It permits foreign exchange settlement between major banks. It has been in operation since 2002 and, as can be seen from Charts 1 and 2, has seen substantial growth in both payment volume and value in its short history.

**Chart 1:** Total payment volumes in major large-value payment systems




(Data for charts sourced from BIS payment statistics website, December 2010).

5 Gross settlement can also be applied in securities settlement systems, in a form known as delivery-versus-payment (DVP). This involves the title to the security and payment being exchanged simultaneously.

**Chart 2:** Total payment values in major large-value payment systems

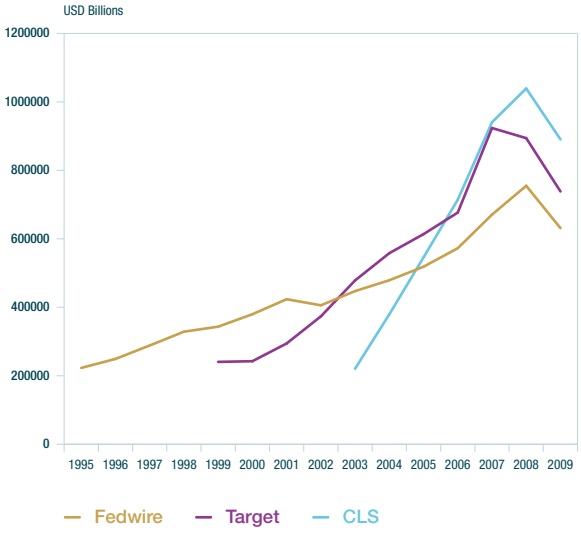
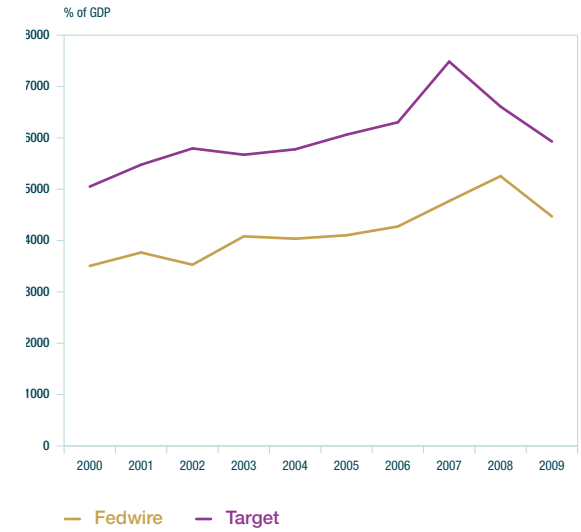



**Chart 3:** Total payment values as a proportion of GDP




Nowadays, wholesale payment systems are open longer hours and, as Bech, Preisig and Soramaki (2008) point out, they process a considerable amount of relatively low-value payments. This has resulted in a greater volume and aggregate value of payments being settled in wholesale payment systems, as illustrated in Charts 1-3.

These developments in themselves render multilateral netting procedures, on which DNS systems depend, more difficult to operate and help explain the move to RTGS. The latter settlement type addresses specific risks that arise in large-value payment systems. The most important of these is systemic risk. RTGS's appeal in reducing this type of risk was set out in a study by the Bank for International Settlements (1997): it removes the possibility of an unwinding of payments, which can be a source of systemic risk in net settlement systems, and it allows banks to process and settle payments throughout the day, which reduces the possibility of settlement pressures arising at particular points in time, such as at end-day. Adopting RTGS into payment systems, as occurred in the 1990s, then can be seen as an appropriate response to the need for sensible risk management in large-value payments systems, offering, as it does, a mechanism for limiting certain risks in the settlement process by effecting final settlement of payments on a real-time basis.

Central bank policies and some innovations in the area of large-value payments have aided RTGS's viability and adoption. Leinonen and Soramaki (2005) indicate that a wide variety of system configurations can now be achieved to address specific types of transaction flows. These include many of the risk and liquidity management techniques used in RTGS systems (outlined below).

Central banks are heavily involved in the design and operation of payment systems. There are a number of reasons for why this is the case. As the Bank for International Settlements (2003) notes, most, if not all, interbank payment systems use the central bank as the settlement institution and central bank money as the settlement asset. These choices reflect the status of the central bank as a default-free settlement institution; the use of its settlement asset in itself helping to reduce systemic risk and liquidity needs through banks having to hold only one form of settlement asset; and the flexibility that the central bank has to determine the amount of that asset available for settlement purposes. Central banks are also likely to be cognizant of the social benefits of a smooth-functioning payment system and for this reason will most usually be proactive in endeavouring to minimise systemic disruptions.

The BIS study acknowledges that while central banks have long played an important role in payment systems, the widespread adoption of RTGS has required them to play a more proactive and leading role in payments. RTGS necessitates more central bank money being supplied for

settlement purposes than DNS, as netting of payments does not occur. The willingness and ability of central banks to support RTGS has allowed that settlement form come to the fore in large-value payment systems.

In the following two subsections, a number of RTGS-based settlement mechanisms employed in modern payment systems and the rationale behind them are discussed.

### *3.2 RTGS with intraday/daylight credit*

Intraday credit (also termed daylight credit) is often provided by the central bank to system participants in RTGS systems. In a RTGS system with intraday credit, a payer bank might not have sufficient deposits at the central bank to meet a settlement obligation but payment can still take place by that bank drawing on an intraday credit facility at the central bank to meet any shortfall. Settlement then is achieved but a credit risk remains insofar as a liability arises between the payer bank and the central bank equal to the amount of intraday credit received. This might not represent a difficulty if payment flows throughout the day largely "even" each other out so that the intraday position of the banks is never too large, thus leaving them in a position to settle their outstanding positions with the central bank at a specified time towards the end of the day. There is, however, always the possibility that the intraday credit positions of banks may become quite large. This can be addressed by requiring banks availing of the intraday credit facility to post collateral or by placing a cap on the amount of daylight credit that they can receive.

Dhumale (2002) indicates that central banks provide intraday credit so as to avoid the effects of a liquidity shortage emerging in large-value payment systems. In granting intraday credit to banks, central banks are also aware of the credit risk they face but accept it on the basis of the impact that an insufficient amount of liquidity in the payment system could have on activity. In any case, central banks dictate the terms upon which intraday credit is provided to banks and this can reduce the credit risks they face. While an intraday credit facility could be provided at a zero charge, it is often priced (the US Federal Reserve, for example, charges a fee for intraday overdrafts) or credit might only be granted if collateralised by the borrower (as is the practice in the Eurosystem). Providing interest-free, uncollateralised intraday credit to commercial banks is not really an option for central banks as it would likely lead banks to manage their intraday flows of liquidity less effectively and possibly create a moral hazard problem whereby banks assume the central bank would bail them out if liquidity difficulties arise.

Cross-border collateral can be used by banks that operate in a number of national payment systems to secure intraday credit from central banks. Manning and Willison (2006) demonstrate that the amount of collateral that banks require in total can be reduced if they are allowed to use their collateral stock on a cross-national basis, provided liquidity needs are imperfectly correlated across the banking group.[6]

An alternative to collateralisation is to impose a charge on credit given to system participants. The main argument in favour of charging for intraday credit, as opposed to providing it without charge, is that it would encourage banks not to utilise that credit anymore than was necessary. Charging for intraday credit, however, can also have some less desirable effects. Manning and Willison (2006) point out that the actual cost of intraday credit may be an important consideration in determining whether a bank decides to participate directly or not in a RTGS system. Rochet (2005) shows that if a bank chooses to use bilateral agreements with other banks or makes payment flows through a competing DNS system in response to the pricing of daylight credit, the effective bypassing of the RTGS system may increase systemic risk.

Quantitative limits, or caps, on the amount of intraday credit granted can also be imposed by central banks. Kahn and Roberds (1999) put forward two reasons why caps on the amount of intraday credit extended to banks are desirable. Firstly, caps lower the incidence of default and, as a result, help reduce certain costs associated with default, such as legal costs. Secondly, imposing caps discourages excessive risk-taking on the part of payment system participants. Kahn and Roberds stress that it is important to set caps at the right level to ensure intraday credit is used as efficiently as possible.

6 The Correspondent Central Banking Model (CCBM) exists within the Eurosystem to allow the cross-border use of collateral to support Eurosystem credit operations or to obtain liquidity in TARGET, the Eurosystem's large-value payment system.

### *3.3 Queuing and liquidity-saving systems*

A queued gross settlement procedure is another variant on the basic RTGS model that can help tackle liquidity issues. Should the payer bank not have sufficient funds with the central bank with which to settle a transaction as it arises then the payment is placed in a queue for settlement and only released and completed when the bank accumulates enough funds to permit settlement to be made. As McAndrews and Trundle (2001) point out, one beneficial effect of queuing then is that it does not give rise to settlement risk.

Centrally-located queuing arrangements can operate on a first-in, first-out (FIFO) rule. Alternative queuing arrangements are possible too. The queue of payments, for example, could be re-ordered to allow a "bypassing" of some payments by others to occur, perhaps in response to sending banks close to the front of the queue not having sufficient funds available to hand with which to settle particular payments while banks further down the queue are in a position to settle immediately. Contributing to the viability of queuing systems is that not all payments require instantaneous settlement, thus allowing banks some flexibility as to when payments are released for settlement and allowing them to be queued until sufficient liquid balances arise.

The concept of queuing has lent itself to the development of certain settlement procedures that can reduce the liquidity burden on banks in settling payments. Martin and McAndrews (2008) term those procedures "liquidity-saving mechanisms" (LSMs). They rely primarily on various queuing mechanisms for settling payments that condition the release of queued outgoing payments on the arrival of offsetting incoming payments. Liquidity is saved, or economised, in the following way. A payment is placed in a queue and only released for settlement when an incoming payment arrives. The two payments may be netted off against one another with the net balance outstanding settled immediately with a transfer of central bank money. This netting off of payments reduces the amount of liquidity required for settlement compared to an uncoordinated gross settlement procedure and in that way is "liquidity saving".[7]

In practice, LSMs depend on computer algorithms searching payment queues to find offsetting payments. Those algorithms are capable of searching payment queues to find the largest subset of pending payments that can be settled and can do so while acknowledging and respecting banks' views that specific payments must be settled first. Another example of how new information technology can be used to address settlement needs is where a transaction is "split" to reflect the amount of liquidity available for settlement being less than the full amount of the transaction. In this case, a portion of the transaction equating to the amount of available liquidity is settled with the benefit that the liquidity inflow to the recipient bank can be used to settle its own payment commitments.

Just as queuing can be used at system level to reduce liquidity needs, queuing within a bank can also take place. It involves banks sequencing their own incoming and outgoing transfers. This allows them to control intraday payment flows by arranging the timing of outgoing payments according to the amount of liquidity received from incoming payments. This scheduling can also be used to determine the preferred level of intraday liquidity held by the bank (as well as respecting any formal reserve requirements imposed on them) and its use of intraday/daylight credit. In principle, a successful sequencing of payment flows can reduce substantially the amount of liquidity required for payments for the bank in question.

It is, nevertheless, possible that what may prove beneficial for one bank could involve delaying settlement of some payment outflows and have a negative impact on liquidity management in payee banks. For such reasons, modern payment systems often put in place policies that encourage the processing and settlement of a certain proportion of a day's payments by specified times. Faster settlement could also be achieved by a transaction pricing policy that makes earlier payments cheaper to execute. Throughput guidelines set by the payment system operator, requiring that a given fraction of the value of payments should be settled by a given time during the operating day, can also ensure early settlement and, according to Buckle and Campbell (2003), are a means of reducing aggregate liquidity requirements within the payment system.

**7** Another settlement mechanism that can be used is where small-value and less urgent payments are settled on a net basis on several occasions during the day while large-value and urgent payments are settled on a RTGS basis (O'Brien, 2004).

## 4. Conclusion

Up to the 1990s, DNS was the prevailing settlement option in large-value payment systems. In the meantime, there has been a move away from this settlement method to RTGS. It is now becoming increasingly feasible to merge features of both DNS and RTGS in hybrid payment systems. This article has sought to review the means by which each of these settlement methods can address the various risks and other issues that arise in large-value payment activity.

The review emphasises that the main advantage RTGS has over DNS is that it effectively eliminates the credit risk that can be incurred in the payment process and, therefore, removes that particular risk as a threat to the good functioning of the payment system. Against that, a liquidity risk arises in RTGS – the potential that a commercial institution will be unable to meet its payment obligations as they come due because of an inability to liquidate assets or obtain adequate funding. Central banks are often required to take a role here by providing intraday credit to such institutions to enable them to settle payments.

This, in principle at least, exposes central banks to credit risk. Different policy options, however, exist to help central banks minimise that risk and to affect payment activity more generally. Central banks can require, for example, that any intraday credit provided by them is collateralised by the recipient bank. Innovations are also helping to reduce the amount of liquidity needed in large-value payment systems. Leinonen and Soramaki (2005, p. 22) point out that while most large-value payment systems currently operated by central banks are RTGS systems, they tend to be acquiring an increasing number of liquidity-saving features over time.

It will be interesting to see how technology will interact with policy in the coming years in moulding large-value payment mechanisms. The distinction between large-value and small-value payments may become redundant over time. A recent study by the World Bank (2008) indicates that some RTGS systems are already being designed to handle both payment sizes. It also argues that more national payment systems will use technological improvements to allow all payments, whether large or small, to be made on a RTGS basis. In itself, this could reduce considerably the quantity of large-value payments that need to be processed and settled as they are replaced by a greater number of smaller value payments. This could have positive consequences in reducing the risks inherent in payment activity and could influence policy. At the very least, it suggests that the future of payments will prove stimulating for all parties concerned.

## References

Bank for International Settlements (1997), *Real-time gross settlement systems.*

Bank for International Settlements (2003), *The role of central bank money in payment systems.*

Bank for International Settlements (2005), *New developments in large-value payment systems.*

Bech M., Preisig C. and Soramaki, K. (2008), "Global trends in large-value payments", New York Federal Reserve Bank *Economic Policy Review*, No. 2, pp. 59-82.

Buckle S. and Campbell E. (2003), "Settlement bank behaviour and throughput rules in an RTGS payment system with collateralised intraday credit", Bank of England *Working Paper*, no. 209.

Dhumale, R. (2002), "Managing systemic risk through secured settlements", in Pringle R. and Robinson M. (ed.s), *E-money and payment systems review*, Central Banking Publications, London, pp. 91-109.

Emmons W. (1997), "Recent developments in wholesale payment systems", Federal Reserve Bank of St. Louis *Review*, November/December, pp. 23-43.

European Central Bank (2007), *Payment and securities settlement systems in the European Union: euro area countries*, August.

Kahn C. and Roberds W. (1999), "The design of wholesale payment networks: the importance of incentives", Federal Reserve Bank of Atlanta *Economic Review*, 3Q, pp. 30-39.

Leinonen H. and Soramaki K. (2005), "Simulating interbank payment and securities settlement mechanisms with the BoF-PSS2 simulator", in Leinonen H. (ed.) *Liquidity, risks and speed in payment and settlement systems – a simulation approach*, pp. 15-70.

Manning M. and Willison M. (2006), "Modelling the cross-border use of collateral in payment systems", Bank of England *Working Paper*, no. 286.

Martin A. and McAndrews J. (2008), "An economic analysis of liquidity-saving mechanisms", Federal Reserve Bank of New York *Economic Policy Review*, September, pp. 25-39.

McAndrews J. and Trundle J. (2001), "New payment system design: causes and consequences", Bank of England *Financial Stability Review*, 11, pp. 127-136.

O'Brien P. (2004), "Role of payment system oversight in financial stability/financial infrastructure", Central Bank and Financial Services Authority of Ireland *Financial Stability Report*, pp. 153-158.

Rochet J. (2005) "Regulation of banks' liquidity: why and how?", paper presented at Bank of England conference, *The Future of Payments*, London.

World Bank (2008), *Payment systems worldwide: a snapshot. Outcomes of the Global Payment Systems Survey 2008*.

# Firms' Financing During the Crisis: A Regional Analysis

Sarah Holton and Martin O'Brien*

**Abstract**

This article reviews the evidence available on the external financing conditions for firms in Ireland, the euro area, the United Kingdom and the United States since the onset of the financial crisis in terms of both volume and interest rates. Particular attention is paid to the role of bank-based funding, which tends to be more relevant to European firms than those in the United States. Bank-based funding, through loans to non-financial corporations (NFCs), has been negatively impacted in all regions examined during the financial crisis that began in 2007 with larger corporations reverting to other market based sources of credit such as debt and equity issuance. Survey-based evidence has indicated both supply constraints and weak demand have interacted to lead to the reduction in bank lending to non-financial corporations. Comparable measures, where available, on the activity in lending by banks to small to medium sized enterprises (SMEs) are also examined specifically in the paper.

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## 1. Introduction

Firms' access to finance has important implications for investment and growth. Both NFCs and SMEs[1] are vital for the health of the economy in terms of the employment they offer and their contribution to GDP growth. Ayyagari et al. (2007) find that SMEs' contribution to both employment and GDP shows a strong positive correlation with GDP per capita across a wide number of both developed and developing countries. Firms can finance themselves from either internal funds (cash flows and retained earnings) or external funds (bank or market finance), which are not perfect substitutes due to differences in costs (Fazzari, Hubbard and Petersen, 1988). External finance is the topic of interest in this paper.

The pecking order theory of firms' capital structure, which addresses firms' financing choices, states that firms prefer internal to external sources of financing (Myers, 1984). However, unpredictability in cash flow, profits and investment opportunities mean that internally generated funds may be more or less than investment outlays. If it is less, firms will need to resort to external sources of financing. Restricted access to external finance can lead to firms becoming financially constrained[2], which can have economic consequences if the constraint is binding. Financial constraints can amplify macroeconomic effects of shocks to cash flows and reduce firms' level of investment (Fazzari, Hubbard and Petersen, 1988). Rajan and Zingales (1998) find that increased access to external finance has a supportive influence on economic growth by reducing financing costs of financially dependent firms and allowing them to pursue opportunities which can lead to long term growth. Measuring financial constraints is not straightforward. Flows of financing are driven both by demand and supply factors. If investment opportunities decrease, firms' demand for financing can also fall, so that flows will decline without any change in the supply.

This paper addresses these issues with reference to the recent declines in credit during the financial crisis which began in 2007. The global financial crisis was triggered by the US subprime crisis, which involved large write downs on bank balance sheets from mortgage delinquencies and large declines in stock market capitalisations of these banks. There was high uncertainty about the extent and spread of the problem, so that money market participants became reluctant to lend to each other and the markets, particularly for asset backed commercial paper, dried up. These funding problems were amplified as leveraged investors were forced to unwind their positions causing more losses and higher margins and haircuts which further exacerbated funding problems. The crisis intensified with the collapse of Lehman Brothers bank in September 2008.

The financial turmoil did not just affect securities and institutions associated with US sub-prime lending however, as the under pricing of risk was a global phenomenon. There are many factors which caused the build up of risks that led to the financial crisis; large scale securitisation of loans, maturity mismatch of assets and liabilities, procyclical leverage behaviour of financial intermediaries and a low interest rate environment are only some of the causes of excessive lending and the underpricing of risk[3]. Analysis of these causes is beyond the scope of the paper, but the impact of the crisis on bank lending and whether it was due to supply factors from stress to banks balance sheets, or private sector demand factors is examined.

We examine the external financing experience of NFCs broadly, and SMEs in particular, over this period with reference to Ireland, the euro area, the US and the UK. Section 2 focuses on the general external financing structure of NFCs across the different regions before the onset of the financial crisis. Section 3 analyses the behaviour of financing flows to NFCs and SMEs throughout the financial crisis and the heightened financial turmoil following the collapse of Lehman Brothers, paying particular attention to the role of bank funding. Section 4 looks at the cost of bank funding to NFCs and SMEs. Section 5 tries to identify the different factors driving the decrease in bank loans to NFCs and SMEs by referring to surveys which distinguish between credit supply and demand factors. Section 6 draws a number of conclusions.

1 Not all SMEs are in the NFC sector, as those non-financial SME businesses that are not incorporated, e.g. sole-traders, are included in the household sector. Our discussion of SMEs in this paper will incorporate in so far as possible the entire SME sector, i.e. including those in the household sector.

2 Korajczyk and Levy (2003) define a firm as financially constrained if it does not have sufficient cash to undertake investment opportunities and if it faces severe agency costs when accessing financial markets.

3 Brunnermeier (2009) and Buiter (2007) provide useful overviews of the causes and development of the financial crisis.

**Table 1:** NFC Loans† and Debt Securities as a Percentage of Total Financial Liabilities

| | 2001 Q4†† | 2004 Q4 | 2007 Q4 | 2008 Q3 | 2008 Q4 | 2009 Q1 | 2009 Q2 | 2009 Q3 | 2009 Q4 | 2010 Q1 | 2010 Q2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Loans*** | | | | | | | | | | | |
| Ireland | 44.1 | 42.6 | 46.4 | 50.3 | 47.7 | 47.4 | 45.4 | 42.9 | 41.5 | 40.3 | 38.8 |
| Euro Area | 29.2 | 30.4 | 29 | 33.5 | 35.2 | 36.3 | 35.2 | 33.6 | 33.1 | 32.8 | 33.5 |
| United Kingdom | 23.0 | 28.2 | 29.5 | 34.1 | 37.2 | 37.6 | 34.6 | 32.1 | 30.8 | 31.3 | 32.6 |
| Euro Area* | 36.2 | 36.4 | 35.3 | 39.4 | 40.3 | 41.3 | 40.6 | 39.2 | 38.5 | 38.3 | 39.0 |
| United States | 9.8 | 9.3 | 10.6 | 12.3 | 13.5 | 13.8 | 12.7 | 11.6 | 11.1 | 10.6 | 11.2 |
| ***Equity*** | | | | | | | | | | | |
| Ireland | 45.4 | 43.1 | 36.8 | 33.7 | 36.2 | 36.7 | 39.2 | 42.1 | 43.9 | 46.2 | 47.8 |
| Euro Area | 51.9 | 50.8 | 54.2 | 48.0 | 45.2 | 43.6 | 45.4 | 47.8 | 48.4 | 48.7 | 47.3 |
| United Kingdom | 63.0 | 56.7 | 56.4 | 50.3 | 46.8 | 46.5 | 48.8 | 50.3 | 51.9 | 51.5 | 50.4 |
| Euro Area* | 49.1 | 47.1 | 50.9 | 46.1 | 41.7 | 40.8 | 43.1 | 46.4 | 46.9 | 48.2 | 47.6 |
| United States | 52.6 | 53.9 | 55 | 49.2 | 42.8 | 39.8 | 43.1 | 46.5 | 47.6 | 48.7 | 45.3 |
| ***Debt Securities*** | | | | | | | | | | | |
| Ireland | 0.1 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.4 |
| Euro Area | 3.2 | 3.3 | 2.6 | 2.9 | 3.1 | 3.2 | 3.2 | 3.3 | 3.2 | 3.4 | 3.5 |
| United Kingdom | 8.7 | 9.8 | 9.9 | 11.0 | 11.4 | 11.0 | 12 | 13.3 | 13.1 | 13.0 | 12.6 |
| Euro Area* | 5.1 | 5.3 | 4.2 | 4.7 | 4.8 | 5.0 | 5.1 | 5.3 | 5.2 | 5.5 | 5.6 |
| United states | 13.5 | 13.7 | 12.9 | 14.9 | 16.6 | 17.9 | 17.2 | 16.4 | 16.2 | 16.2 | 17.4 |

**Sources:** Central Bank of Ireland, ECB, Federal Reserve Board, Office for National Statistics.

† Data for United States refers to Non-farm Non-financial businesses.

†† Data for Ireland refers to Q1 2002.

* Data has been adjusted by consolidating inter-NFC loans and netting out NFCs equity investment.

## 2. Overview of Firms' Financing

Analysing firms' financing sources across regions requires recourse to a number of different data sources. This can be challenging as measurements and definitions can vary depending on the sources. With this caveat in mind, an important definitional distinction between NFCs and SMEs should be outlined. NFCs are defined as corporations which are not engaged in financial intermediation but are active primarily in the production of market goods and non-financial services. However, SMEs when mentioned in the paper are not always all NFCs and sometimes include some small financial intermediaries and non-incorporated businesses (as in Box 1). The relevant definition of SMEs will be given in the text, as they are defined slightly differently depending on the region and the source from which the data are taken. Notwithstanding the definition and consistency issues, a comparison across data sources and regions offers valuable information about different financing structures and the effects of the crisis.

The structure of external finance varies across firms, with SMEs in general being particularly reliant on bank based funding (Beck et al., 2008). There are also regional differences between firms' external financing structures. The financial liabilities of NFCs mostly comprise loans received (from banks, other financial intermediaries, public bodies and other non-financial corporations), equity issued, and debt securities issued. In Table 1, the share of the three main liability instruments in total financial liabilities from the various financial accounts publications are presented for NFCs resident in Ireland, the euro area, the United Kingdom and the United States[4]. The remaining "other" financial liability category (which is not

4 The most comparable sector to the ESA95 NFC definition used in the EU is the Non-Farm Non-Financial Business Sector from the US Flow of Funds release. Due to different methods of compilation, particularly related to the consolidation of inter-company loans in the US Flow of Funds data, direct comparisons between the US and EU data are not appropriate. Therefore, we adjust the euro area series as much as possible to be more comparable with US data in Table 1. For a discussion on this see ECB (2009).

shown in Table 1, but which makes up the remainder of total liabilities) is comprised of accounts payable, for instance unpaid taxes and trade credit received from suppliers.

A comparison of the US and the euro area shows substantially greater reliance of euro area NFCs on loan finance. By contrast, US NFCs rely significantly more on debt securities than their euro area counterparts. While the relative importance of loans in the respective financial liabilities position of both US and euro area NFCs has increased over the past decade, loans still comprise around three times the share of financial liabilities for euro area NFCs than US NFCs, as shown in Table 1. The share of equity in euro area NFC liabilities (adjusted) declined substantially at the onset of the financial crisis but has recovered through 2009 and into 2010 to be just below its pre-crisis share at 47.6 per cent. The relative importance of equity for US NFCs followed a similar trajectory at the beginning of the crisis, but is still well below its pre-crisis share. Developments in the US and euro area in this regard reflect negative stock market developments during 2008, particularly in the US which has a higher publicly quoted element in their equity liabilities than euro area NFCs, and some substitution of equity financing with other forms of financing since 2008. Some of the difficulties for US NFCs in equity financing have been offset by an increased use of corporate debt securities. Debt instruments were always a significant part of US NFC financial liabilities over the past decade, whereas they have remained a relatively small part of euro area NFCs' funding profile.

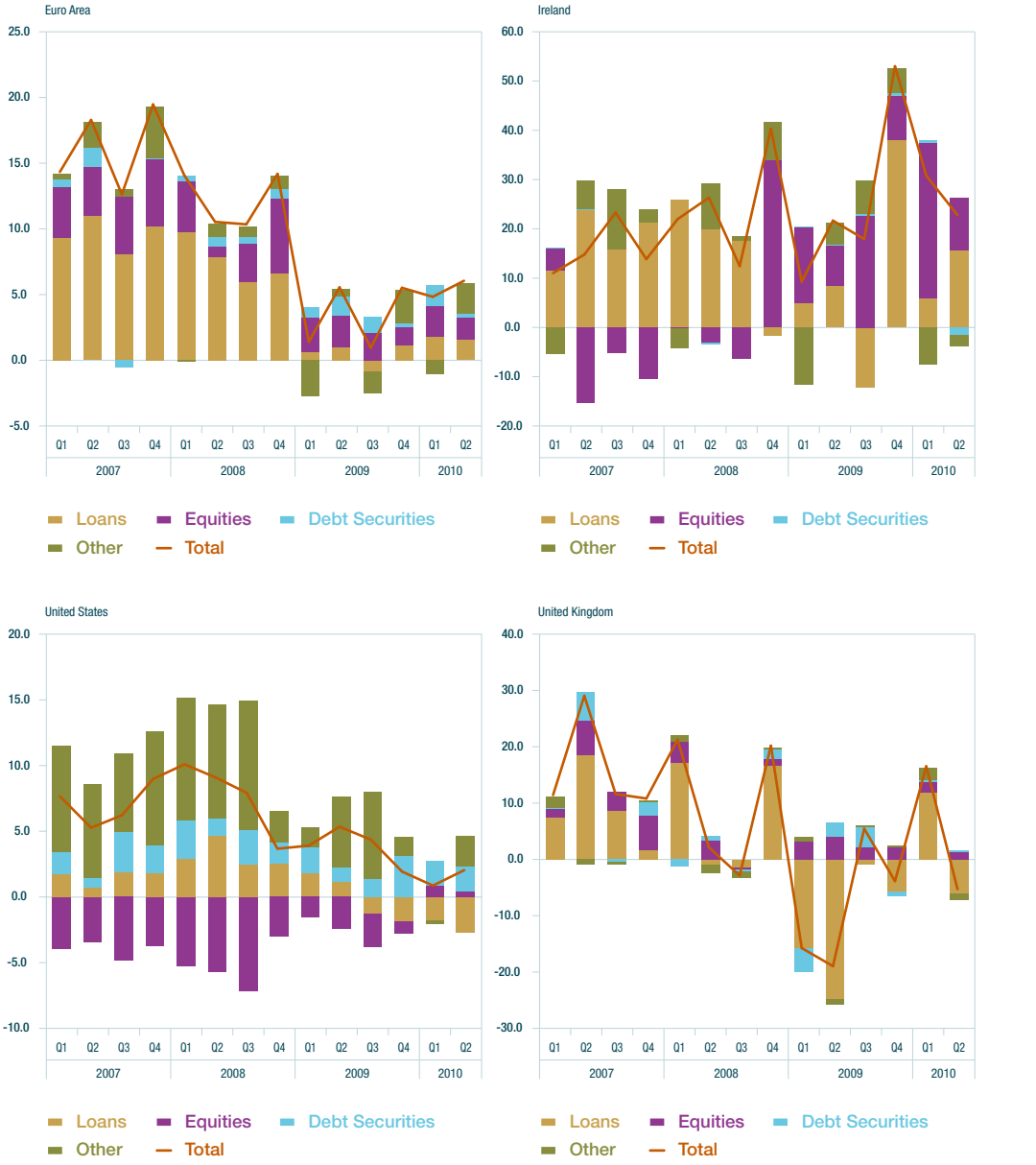
Within the EU, the structure of NFC financial liabilities is also quite diverse. NFCs in Ireland are much more reliant on loans than UK or euro area resident NFCs. The large share of loans in Irish NFC financial liabilities not only relates to loans from banks, but also reflects the significance of multi-national corporations in Ireland and the related scale of inter-company lending between affiliated companies. The existence of treasury operations, cash pooling facilities, etc. at some large multi-national corporations in Ireland reduces their reliance on domestic bank funding. Debt instruments do not feature significantly in the funding position of Irish resident NFCs. In contrast, UK NFCs have increased their use of debt securities over the past decade, from an already relatively high position by European standards, of 8.7 per cent of total liabilities at end-2001 to circa 13 per cent in recent quarters. The rise in the share of debt securities for UK NFCs has come at the expense of the share of equity in the UK NFC funding profile, which now stands at just 50 per cent of total liabilities. However, this remains above the corresponding share for the euro area. Recourse to loans as a source of funding has also risen for UK NFCs when compared with the position in 2001, but remains low by European standards.

The relative importance of banks in providing finance in the form of loans to NFCs in the EU, and in particular in the euro area, when compared with the US, is well documented in the literature (ECB, 2009). A number of institutional factors have been identified as potential determinants of deeper financial markets in the US which could explain the larger role of market based funding there. Among these are a more robust legal infrastructure surrounding the enforcement of shareholder and creditor rights and the greater availability of information on individual corporations performance to reduce credit market frictions through lower informational asymmetries. The actual effect of these demand led factors is, however, likely to be ambiguous in comparing advanced economies such as the euro area and the US[5]. More salient factors explaining the larger role for market based funding in the US may be more supply orientated, specifically the relatively more embedded culture of capital market disintermediation. This has been supported by widespread use of financial innovation (e.g. securitisation and loan syndication) and the more active role of institutional investors such as investment funds and insurance corporations and pension funds in providing finance directly to NFCs (ECB, 2007).

Given the importance of bank based financing in Europe relative to the US, one would expect that the financial crisis, which originated in the banking sector, may have more adversely affected European NFCs. Moreover, SMEs, which are most reliant on bank based funding, would have experienced a worse effect than larger NFCs who have access to other market based sources of external funds. However, the banking crisis quickly spread to other sectors of the economy leading to uncertainty in debt markets. The next section addresses the effects on all these sources of funding.

**5** For example, higher enforcement of creditor rights may make firms less likely to take on debt (whether in the form of loans or in debt securities) and increase their preference for equity finance, whereas the willingness of creditors to provide debt financing would tend to be higher in environments where their rights are more concrete (de Jong et al, 2008).

**Chart 1:** NFC Financial Liabilities Quarterly Flows, as a Percentage of GDP




Sources: ECB, Central Bank of Ireland, Federal Reserve Board, Office for National Statistics.

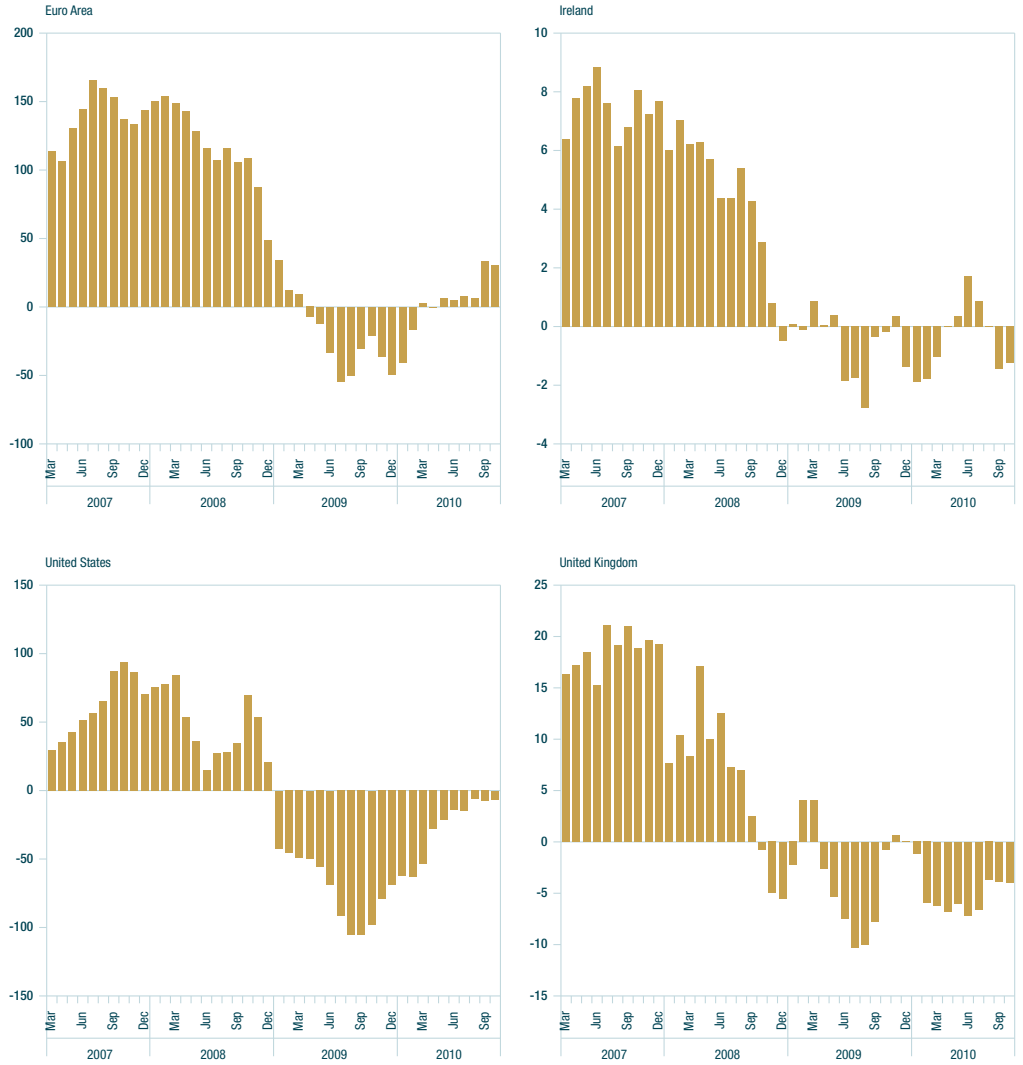
## 3. Flows of Finance During the Crisis

The previous section outlined differences in the composition of the stock of NFC financial liabilities, and how this has changed somewhat during the crisis for Irish, euro area, UK and US firms. This section examines the flows of financing for both NFCs and SMEs during the crisis. Overall, bank loan flows to NFCs declined and were replaced in varying degrees by other sources of finance, such as market debt and inter-company loans. In section 3.2, we use proxies for loan flows to large and small enterprises and find some evidence of improvement in the flow of loans to SMEs, but overall a trend is difficult to interpret given the paucity of data and numerous possible interpretations and interrelations.

### *3.1 NFCs*

Many of the trends that were identified in the previous section are evident also in the quarterly financial flows data, shown in Chart 1. Although the data are not directly comparable, both the euro area and the US saw a contraction in loans to NFCs as the financial crisis heightened towards the end of 2008, which was offset somewhat by

**Chart 2:** Bank Loans to NFCs (Three Month Sum of Flows until October 2010, Billions of Domestic Currency)[6]



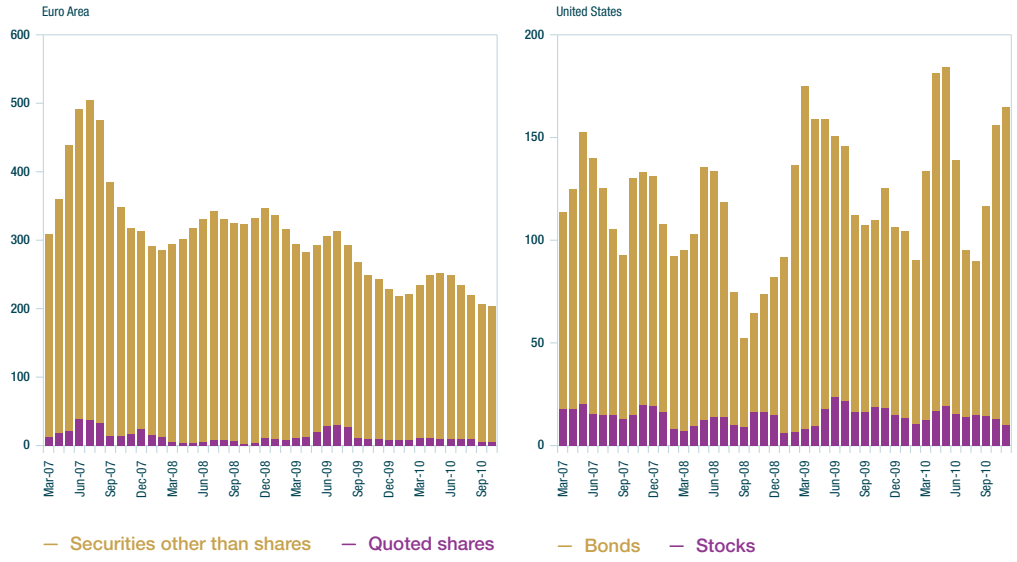

Sources: ECB's Statistical Data Warehouse, Central Bank of Ireland, Bank of England, Board of Governors of the Federal Reserve System.

robust debt securities issuance in both cases. Unlike the euro area, US equity flows declined during 2007 and this decline intensified in Q3 2008, before the outflow attenuated thereafter. Overall, the euro area, which is more dependent on loans, appears to have experienced a more significant decline in funding flows than the US.

Notably, flows in the UK and Ireland tend to be more volatile that those in the euro area and US, mainly because of the smaller population of firms. Throughout 2009 the UK experienced negative loan flows, particularly at the beginning of the year. The contraction in loan flows was far stronger than any positive flows in market based securities. In fact, the debt securities issuance at the beginning of 2009 also shows evidence of being hampered. The composition, and overall flow, of funding in Ireland meanwhile changed significantly following the collapse of Lehman Brothers. There was a sharp decline in loans beginning in Q4 2008, which was matched by a contemporaneous large increase in equity issuance. This did not reflect in its entirety a direct substitution of bank lending with equity, as there were some large multi-nationals, which were incorporated in Ireland during that quarter. Flows also became increasingly volatile,

6 Loan flows for Ireland, the euro area and the UK are all adjusted for securitisations, as this is a more accurate reflection of the credit going to the private sector. Euro area loan flows adjusted for securitisation at the NFC sector level are only available from February 2009, so the series unadjusted for securitisation is used before this to enable comparison with the other regions. The trends in the loan flows to NFCs adjusted and unadjusted for securitisation are likely to have been very similar, particularly as most of the securitisation took place for household mortgages.

**Chart 3:** New Issuance of Market Securities by NFCs (Three Month Sum of Flows until October 2010 for the Euro Area and November 2010 for US, Billions of Domestic Currency)




Source: Euro area data from the ECB's Statistical Data Warehouse. US data from the Federal Reserve Board's statistical supplement.

with positive loan flows at end 2009 and into 2010. These positive flows could have been a result of increased bank lending or from inter-company loans.

In distinguishing between the role of bank lending and other sources of loans for NFCs, it is useful to note that since the current crisis began in the financial sector, bank loan flows were particularly negatively affected. Overall, the crisis has put pressure on banks to reduce the size of their balance sheets, which resulted in a decrease in lending to the private sector, which is shown for all regions in Chart 2. Bank loans clearly decreased following the onset of the crisis in the second half of 2007 and the decline was exacerbated by the collapse of Lehman Brothers in September 2008. At the onset of the turmoil in the second half of 2007, bank loan flows to NFCs in all regions began to decrease albeit remaining positive and showing some improvement, particularly for the US and the UK, in the first half of 2008 following the initial decline. All regions show a steep decline after the collapse of Lehman Brothers and negative bank loan flows throughout 2009. The subsequent trend in bank loan flows has varied across regions however. The euro area and the US show strong evidence of a recovery, with the former region registering positive loan flows for the majority of 2010 and the latter showing a steady decline in negative flows over the last 12 months. Ireland and the UK on the other hand show persistent negative flows with no strong evidence of improvement.

When comparing bank loans with loan flows from the quarterly financial accounts, the UK, euro area and US show largely consistent results. The weak but positive total loan flows in the euro area compared to negative bank loan flows in 2009, suggests that inter-company loans were a feature of this period. For Ireland this is an even more salient feature of the data. Total NFC loan liabilities in the quarterly financial accounts data, which includes both loans sourced from banks and inter-company loans, were mainly positive for Ireland through 2009 and the first half of 2010. Bank loan flows to NFCs on the other hand show an almost diametrical picture suggesting that, as the flow of bank loans decreased, NFCs replaced bank finance with inter-company loans to a large extent[7]. This is most likely due to the significant size of the multi-national sector in Ireland, which would allow Irish resident NFCs access funds from their parent companies and affiliates abroad, whereas domestically owned NFCs may not have this possibility.

Monthly gross debt securities and equities issuance shown in Chart 3 for the euro area and the US gives an indication of how NFCs helped to supplement weak loan flows with market based financing. Although Chart 3 shows a decline in securities issuance in the euro area over the period, it should be noted that securities issuance in the first half of 2007 was around the highest ever seen in the euro area, so that although the current levels are below these, they are about the same, if not greater than pre-crisis

7 The difference between total loans in the financial accounts and the bank loans could also be due to loans from non-resident banks. However, this is likely to be very small and the breakdown is not available.

levels. For instance, the average monthly gross issuance from January 2000 until August 2007 was around €85 billion, and has been around €90 billion since. Overall, euro area debt securities issuance has remained healthy, particularly relative to bank flows, and is somewhat alleviating bank based funding pressures. Gross issuance of corporate bonds by US NFCs declined significantly around the time Lehman Brothers collapsed. However, it rebounded quickly and has been strong ever since, allowing US NFCs to replace their bank loan finance also. As already mentioned, debt securities issuance is almost completely irrelevant for Irish firms.

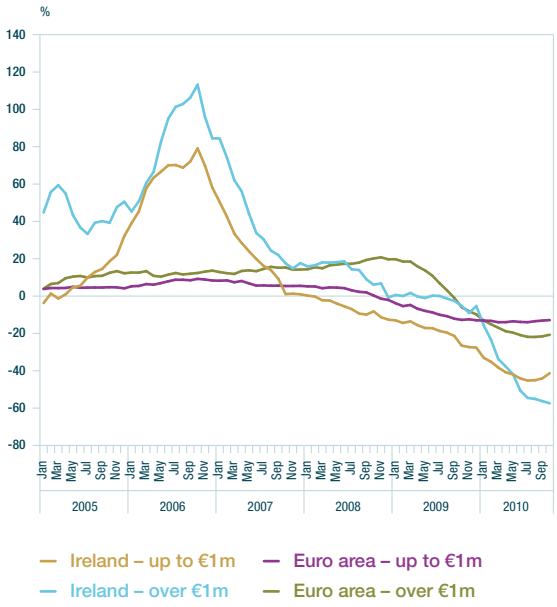
### *3.2 SMEs*

SMEs have a significant contribution in terms of employment and output across all the regions being examined here. In the euro area, for example, it is estimated that 68.3 per cent of private sector employment is provided by SMEs, whereas the ratio is slightly higher for Ireland (68.5 per cent) and somewhat lower for the UK (54.8 per cent). SMEs' contribution to 2008 value added in the euro area, Ireland and the UK is estimated as 58.8 per cent, 51.7 per cent and 50.7 per cent respectively (EU Commission). In general, Ayyagari et al. (2007) find that the SME contribution to both employment and GDP shows a strong positive correlation with GDP per capita. Monitoring the financing conditions of SMEs is, therefore, an important feature in determining the prospects for the economy more widely.

Comparative data within the euro area on the actual volumes of SME lending does not currently exist. In part this relates to the fact that SMEs are not just in one economic sector, e.g. NFCs, used in compiling euro area monetary and financial statistics, but are also found in the household and the non-bank financial intermediary sectors. A proxy measure that some have used for those SMEs that are in the NFC sector is the new business volumes on loans sanctioned for NFCs, which are published for loans up to €1 million (SME proxy) and over €1 million separately as shown in Chart 4[8]. The annual change in the value of NFC loans sanctioned up to €1 million declined consistently during the crisis in Ireland through to July 2010, turning negative in February 2008. In the euro area, these small NFC loan sanctions also declined, but not to the same extent, and the pace of contraction has remained relatively stable at approximately 15 per cent on an annual basis through 2009 and 2010. In most recent months, the pace of contraction has eased somewhat in Ireland, but it is still significantly higher than the pace of contraction in new lending volumes up to €1 million in the euro area as a whole.

The annual rate of change in larger NFC loans turned negative much later than those for smaller NFC loans and up until Q1 and Q2 2010 the volume of larger NFC loan sanctions was falling at a slower pace than the smaller NFC loan sanctions of up to €1 million. This situation has, however, changed through 2010, as from February 2010 and June 2010, NFC loan sanctions over €1 million have fallen to a greater extent than the sanctions up €1 million in the euro area and Ireland respectively. This could suggest that, relative to larger firms at least, SMEs are now facing more favourable financing conditions through banks. However, as mentioned above, larger NFCs also have greater recourse to and availability of funds through debt and equity markets, and as such may not have significant demand for bank lending at this stage of the business cycle. Also, while the contraction in the volume of new lending may be easing for smaller NFC loans, repayments on such loans may be higher, which would mean an overall decline in the level of SME lending in the economy (see Box 1).

**Chart 4:** NFC New Business Volumes, Rate of Change in Annual Flows

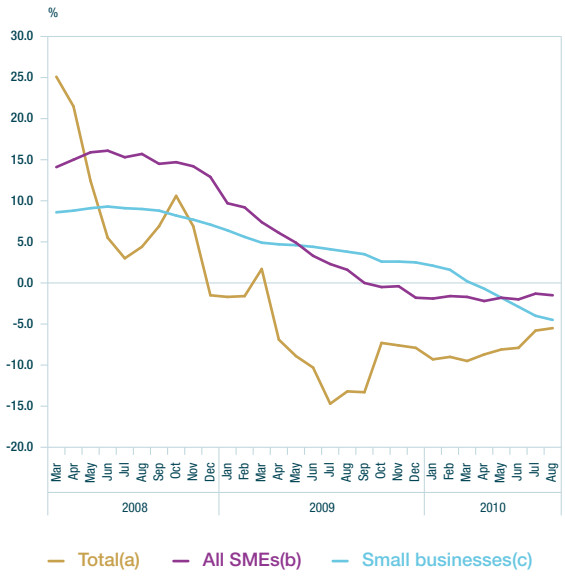



Source: ECB Statistical Data Warehouse.

8 This measure is compiled primarily as an input to calculating market interest rates on NFC loans, refers only to euro denominated business and also incorporates the values of renegotiated or restructured loans during a given period.

Similar to the euro area, the UK and the US do not have definitive sources for figures on SME lending and rely on analysis based on the size of loans issued as opposed to the underlying characteristics of the customer. In the UK the Department of Business, Innovation and Skills (DoBIS) and the British Bankers Association (BBA) separately publish analyses of SME and small business lending based on surveys of the main retail institutions (Chart 5)[9]. Both these series show that lending to SMEs has been declining on an annual basis from late 2009, with lending to small business being 4.5 per cent lower on an annual basis in August 2010. This compares with an aggregate decline in business lending in the UK of 5.4 per cent in the year ending August 2010[10]. Indeed looking at both the SME and aggregate business lending series together would suggest that SMEs are currently faring better in terms of bank funding than larger corporations in terms of loans. However, UK banks holdings of securities issued by private NFCs have risen in recent quarters, indicating a shift in the funding profile of larger NFCs by UK banks.

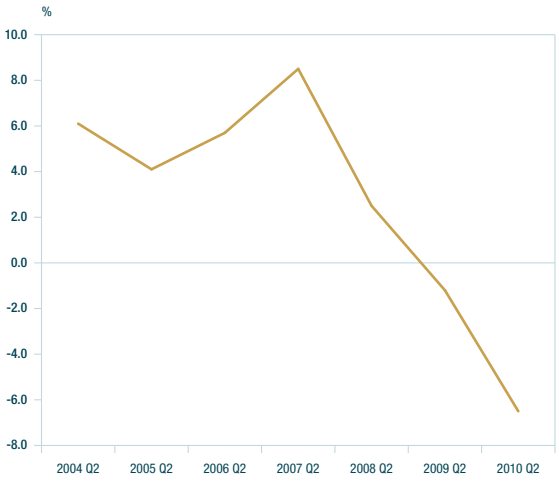
**Chart 5:** Annual Rate of Change in Lending to UK Businesses




Source: (a) Bank of England, (b) DoBIS, (c) BBA.

For the United States, the most commonly used reference for SME lending is the detail supplied by banks to the Federal Deposits Insurance Corporation (FDIC) in the quarterly 'Report of Condition and income', or Call report. Up until 2009, banks reporting to FDIC only reported their proxy for small business lending with respect to the second quarter. After growing in excess of 4 per cent on an annual basis from 2004 to 2007, the rate of growth in small business lending has slowed significantly in recent years, and by mid-2010 was contracting on an annual basis by 6.5 per cent (Chart 6).

**Chart 6:** Annual Rate of Change in Lending by US Banks to Domestic Small Businesses




Source: FDIC Call Report. Small business lending defined as outstanding amount of loans up to $1 million issued for commercial or industrial purposes plus loans secured by non-farm non-residential properties.

All of the measures on the volume of SME lending discussed above refer to proxies based on the size of the loan sanctioned. The thresholds applied differ significantly across regions to differentiate lending between small, medium and large enterprises. While for the most part these can be seen as reasonable approximations, none of these proxies look at the underlying characteristics of the bank customer to determine whether it is in fact SMEs that are driving the trend as highlighted. A new data series from the Central Bank of Ireland allows for such distinction to be made in the Irish market, and a summary of these data over recent quarters is found in Box 1.

**9** BBA series refers to small business customers of the seven largest retail banks, defined as those with annual bank account debit turnover of less than £1 million. DoBIS series refers to SME customers of the four largest retail banks, defined as having annual bank account debit turnover less than £25 million.

**10** Bank of England Trends in Lending, October 2010.

## **Box 1:** Trends in Lending to Irish SMEs

The Central Bank of Ireland recently published *Lending to Irish Small and Medium Sized Enterprises Q1-Q3 2010* (December 2010)[11], to give a comprehensive view on SME lending activity during the first three quarters of 2010. This series will be published on a quarterly basis in a new statistical release *Trends in Business Credit* which will be available from late-Spring 2011. SMEs are defined as any entity engaged in an economic activity, irrespective of legal form (i.e. corporation, partnership, sole-trader, etc.), which employs fewer than 250 persons and whose annual turnover does not exceed €50 million.

The main trends evident in the data collected so far are:

- The outstanding amount of SME lending averaged €69.3 billion over the first three quarters of 2010, of which approximately €11.7 billion related to financial intermediation, €24.2 billion was with respect to the property related sectors and €33.3 billion related to the non-property non-financial, or 'core', sectors.
- SME loans account for approximately 28 per cent of the total amount of business credit advanced by Irish resident credit institutions, with this share rising to 62 per cent for core SME sectors.
- Over the six months ending Q3 2010, there was an underlying decline of 5.1 per cent in total SME lending, with the decline in lending to the core SME sectors being 4.5 per cent over the same period. This indicates that repayments on SME loans have been greater than draw-downs over the period.
- The underlying decline in SME lending in the six months ending Q3 2010 has been proportionately greater than the underlying decline in total business related lending over the period.

**Chart 1:** Underlying Quarterly Change in SME Loans and Comparable Total Loans, Q2 2010 and Q3 2010


- The underlying decline in core SME lending is taking place in a context where gross new lending, i.e. the amount of new loans drawn-down by SME customers, has averaged approximately €700 million each quarter so far in 2010.

**11** Available at http://www.centralbank.ie/sta_late_pubs.asp.

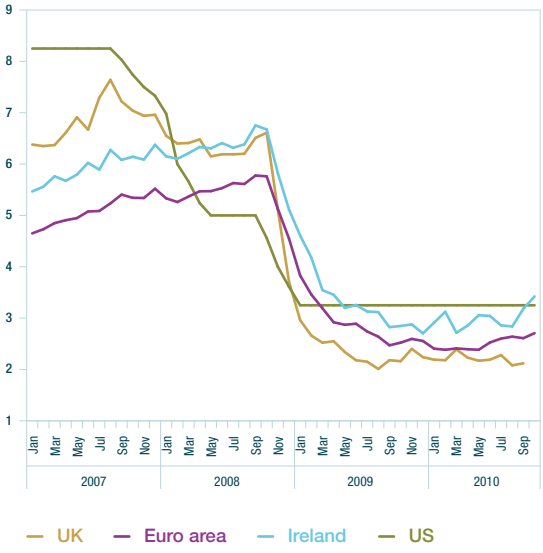
## 4. Cost of Funding

In response to the financial crisis, central banks cut policy rates in each region to alleviate the funding conditions of banks, and ultimately, the private sector. On October 8 2008, the Federal Reserve Bank, the ECB, and the Bank of England (along with the Central Banks of Canada and Sweden) coordinated cuts in the policy rate of 50 basis points each. However, the total reduction in policy rates since September 2008 for the euro area, US and UK were 325, 175 and 450 basis points respectively. This section looks at how these cuts were transmitted to NFCs and SMEs.

### *4.1 NFCs*

As can be seen in Chart 7, the cuts in the lending rates to NFCs in each region were comparable to the policy rate cuts; Ireland and the euro area experienced a fall of over 300 basis points, the UK a fall of around 440 basis points and the US a fall of 175 basis points, in lending rates to NFCs.

**Chart 7:** Interest Rates on Loans to NFCs[12]




Sources: ECB, Central bank of Ireland, Federal Reserve Board, Bank of England.

Comparing cost of debt financing for NFCs across regions can be difficult, due to the many different instruments and maturities that are issued. However, it is possible to say that in general there was a significant increase in the cost of issuing bonds after the financial turmoil intensified in September 2008 across all regions. Some bond classes saw yields reaching historic levels. Therefore the increase in bond issuance that was seen around this time (Chart 2) was costly. However, yields have come down significantly in recent months and many are now around, or below, their pre Lehman levels.

### *4.2 SMEs*

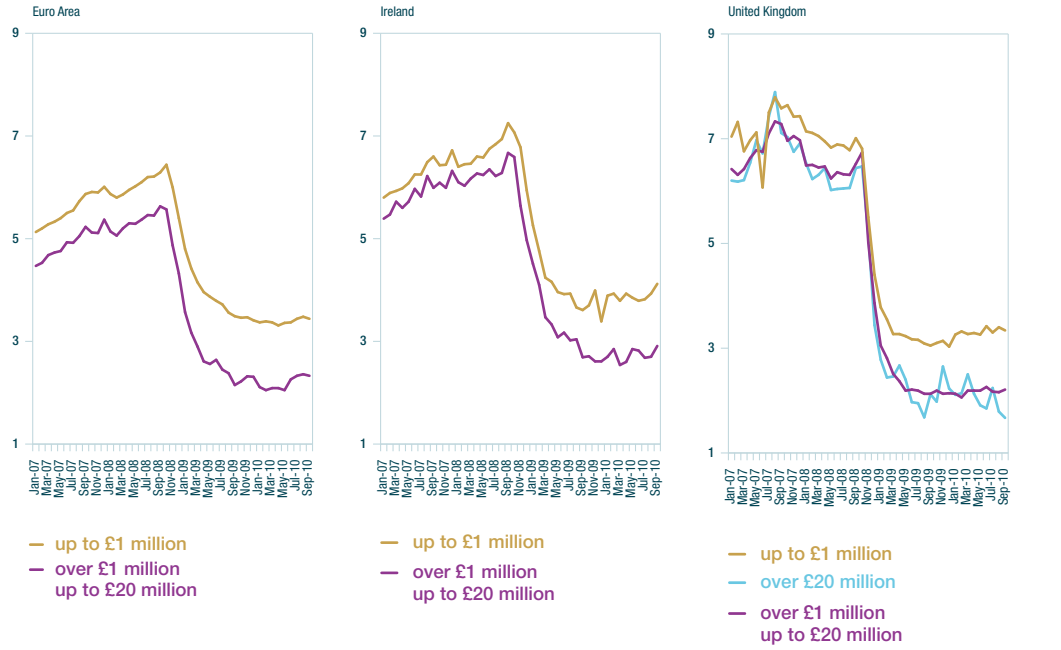
There is evidence that the interest rate cuts were not uniform across all categories of loans in the euro area, Ireland and the UK[13]. Chart 8 shows the rates on loans of different sizes. In September 2008, the spread between loans up to and over €1 million was about 60 and 70 basis points for Ireland and the euro area respectively. These spreads currently stand at around 100 and 110 for Ireland and the euro area respectively. For the UK, the spread between loans up to £1 million and over £1 million was about 50 basis points. This spread currently stands at around 140 basis points.

Therefore, assuming that it is mostly SMEs taking smaller loans, it is possible to say that they face tighter terms and conditions than larger corporations, particularly since the onset of the financial crisis. Beck and Demirguc-Kunt (2006) find that due to fixed transaction costs and information asymmetries, small firms which demand smaller loans have higher transaction costs and face higher risk premiums, as they are typically "more opaque and have less collateral to offer." The fact that interest rates on smaller loans are almost always higher than on larger loans is evidence of the riskier perception of this category. The increase in the spread as the financial crisis intensified probably indicates the heightened risk aversion since the crisis and the need for an even higher risk premium for loans to smaller firms.

**12** The rate for the UK is a weighted average interest rate on other loans and new advances to private NFCs. For the euro area and Ireland the rate is an annualised agreed new business rate for NFCs' loans other than revolving loans and overdrafts, convenience and extended credit card debt across all maturities. For the US, interest rate data are scant, so the rate here is the bank prime loan rate, which is given to the most credit worthy customers and so should be seen as a lower bound.

**13** This breakdown is not available for US loans.

**Chart 8:** Interest Rates on Loans to NFCs




Sources: ECB, Central bank of Ireland, Bank of England.

## 5. Disentangling Supply and Demand Using Survey Based Measures

A decrease in credit, such as that illustrated in Section 3, does not necessarily always indicate a supply constraint from banks. Lower economic growth and investment opportunities can also lead to a decrease in the demand for credit. This section attempts to disentangle the supply and demand factors driving the decline in credit and compare the dynamics across regions.

### *5.1 Bank Lending Surveys*

Surveys are conducted throughout the euro area, the UK and the US asking banks how supply and demand for credit has changed and their expectations for the future[14]. The responses therefore are based on the banks' own assessments and opinions, and questions are qualitative rather than quantitative in nature. The supply of credit is captured by questions regarding the credit standards applied to loans, which are basically the internal guidelines or criteria that guide a bank's loan policy. Banks are also asked how demand for loans has changed. These surveys are important as they offer information on the functioning of the monetary transmission mechanism, and whether a decline in credit needs a policy response, or whether it is merely a cyclical regularity.

Chart 9 shows the responses for all the regions. Euro area and Ireland have the same type of survey, while the UK and US have slightly different questions and measurement techniques which are detailed in the notes to the Charts. Even though the surveys are slightly different they can still be compared with this caveat in mind.

Chart 9a shows there was a marked tightening in credit standards on loans to NFCs in the euro area at the onset of the financial crisis in the third quarter of 2007. Banks have reported a consistent tightening since then. Although the magnitude of the tightening began to abate from the beginning of 2009 onwards, it has yet to reach a point of reporting no change or an easing of credit standards (i.e. a rise to 3 or above). The situation for both large and small companies was broadly the same. Marginally tighter credit standards were applied to large companies at the beginning of the crisis. The likely rationale for this being that lending to SMEs is conducted to a greater extent by credit institutions which fund themselves by means of deposits rather than in the capital and money markets and so were therefore less affected by refinancing problems due to the financial market crisis (Bundesbank, 2009). There was also a decline in credit demand in the second half of 2007 after the crisis began. The decrease in demand was not as pronounced as the supply, and it has already begun increasing in the second half of 2010, unlike supply.

**14** Bank survey data are available from 1990 for the US, from 2007 Q2 and in Ireland and the euro area from 2003 Q1.

**Chart 9a:** Changes in Credit Standards and Demand in Euro Area[15]


**Chart 9b:** Changes in Credit Standards and Demand in Ireland


As shown in Chart 9b, the tightening reported by Irish banks which began in the second half of 2007 was similar but more severe than that reported by euro area banks. However, Irish banks in the latest quarter have reported that standards remained unchanged, perhaps due to the sharper contraction at the beginning of the crisis. The contraction in credit demand in Ireland was also reported to be much stronger than in the euro area. The latest Irish banks' responses show an increase in demand for large companies and unchanged demand for SMEs.

**15** Source: ECB and Central Bank of Ireland. Participating institutions are asked to report how credit standards changed on loans to enterprises and demand for loans or credit lines to enterprises changed apart from normal seasonal fluctuations, over the past three months. Credit standards key: 1 = tightened considerably; 2 = tightened somewhat; 3 = basically unchanged; 4 = eased somewhat; 5 = eased considerably. Demand key: 1 = decreased considerably; 2 = decreased somewhat; 3 = remained basically unchanged; 4 = increased somewhat; 5 = increased considerably.

The distinction between large and small and medium-sized enterprises is based on annual sales. A firm is considered large if its annual net turnover is more than €50 million.

For details see http://www.centralbank.ie/frame_main.asp?pg=sta_home.asp&nv=sta_nav.asp.

**Chart 9c:** Changes in Credit Standards and Demand in the United States[16]


**Chart 9d:** Changes in Credit Standards and Demand in the United Kingdom[17]

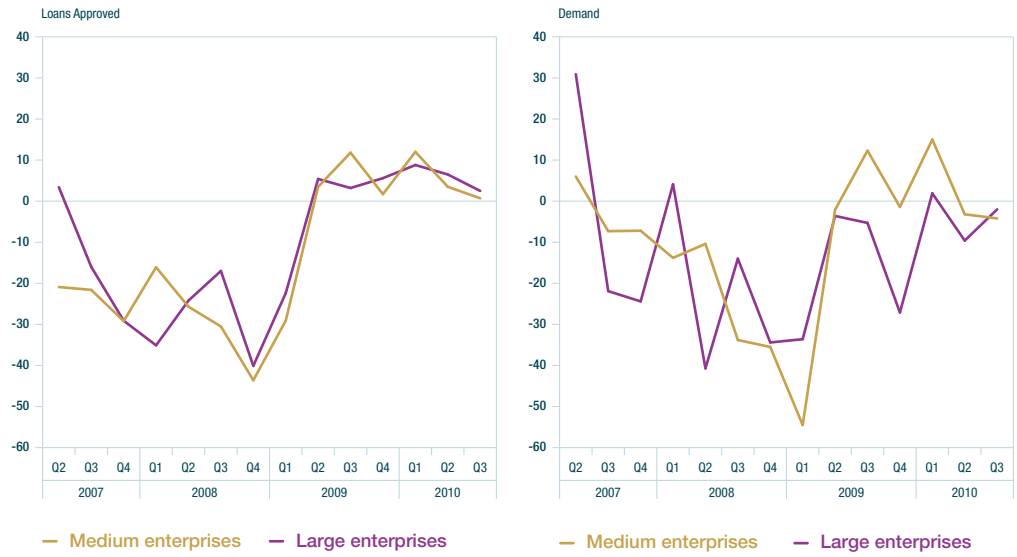



Chart 9c shows that the US experienced a sharp tightening of standards at the onset of the crisis in the third quarter of 2007, but the turnaround in standards was quicker in the US than in the euro area. Like the UK, conditions were similar for large and small companies and both had a net loosening of standards by the second half of 2010. The reported decline in demand came slightly earlier in the US than in the euro area. The contraction became very pronounced in the third quarter of 2008. Although the decline in demand became less severe, it has yet to show a convincing increase and the latest round of responses showed a stronger decline in demand than the previous round.

**16** Source: Board of Governors of the Federal Reserve System. Net percentage of domestic respondents reporting tightening standards for commercial and industrial loans and net percentage of domestic respondents reporting stronger demand for commercial real estate loans. Small firms are generally defined as firms with annual sales of less than $50 million. For details see http://www.federalreserve.gov/boarddocs/snloansurvey/.

**17** Source: Bank of England Credit Conditions Survey. Positive balances indicate that on balance lenders reported that the availability of (demand for) credit to be better (higher) than over the previous 3 month period. Small businesses are defined as those with an annual turnover of under £1 million. For continuity, the definition of medium-sized PNFCs is unchanged and includes all businesses with an annual turnover of under £25 million. For details see http://www.bankofengland.co.uk/publications/other/monetary/creditconditions.htm.

The calculations and survey methods used in the UK are slightly different so comparisons should be made with caution. Similar to Ireland and the euro area, Chart 9d shows that UK banks reported a tightening of credit conditions in the third quarter of 2007, as measured by loans approved. The reported level of tightening began to turnaround by the beginning of 2009 and by the second quarter more loan applications were being approved than not. Demand declined sharply at the beginning of the turmoil and medium enterprises had the strongest reported decrease in demand. Demand began to turnaround at the beginning of 2009 and returned for some time to positive territory for medium sized NFCs. However, the level of reported demand appears to be volatile and the latest observation shows slightly negative demand for both medium and large NFCs.

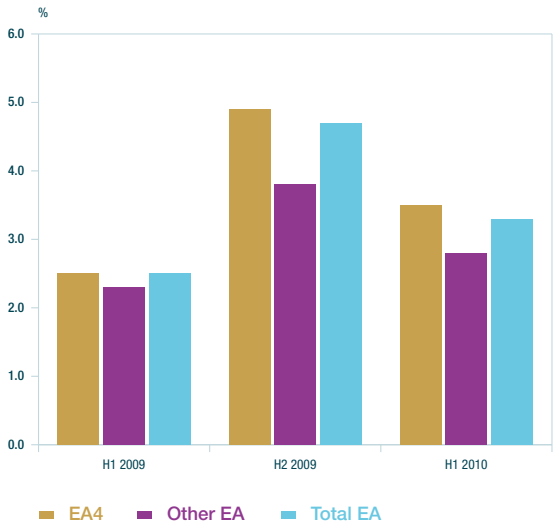
Overall, it is obvious that supply and demand measures tend to be positively correlated, so that periods of credit expansion or contraction could be caused by either or both. It is also obvious that the four areas analysed have had similar experiences and trends, although the euro area is the only region that has yet to show a loosening in credit standards. Even though bank loan flow data in Section 3 show differences across regions, the bank surveys all tend to report similar movements in supply and demand. However, magnitudes of demand and supply responses can be difficult to compare given the different survey methods and the qualitative nature of the surveys.

### *5.2 SME surveys*

A number of surveys of SMEs have been undertaken in recent quarters in Ireland and the euro area to highlight the demand and supply side issues that would affect the flow of SME lending. The most recent demand survey for Ireland was the second Mazars Review of SME Lending (December 2009), with reference to the seven months ending September 2009. Over that period, 36 per cent of SME respondents had applied to a bank for credit, with approximately 70 per cent of those applications relating to working capital needs. SME respondents indicated that 28 per cent of applications were turned down. This included "informal" applications that would not have been processed by banks, as the decline rate reported to Mazars by participating banks over the period was approximately 14 per cent.

The ECB conduct a survey of SME financing conditions in the euro area every six months since the first half of 2009. SMEs in almost every member state are surveyed, although the survey is not designed to be representative in each member state. The survey is representative for Germany, France, Italy and Spain separately (EA 4) and for the euro area as a whole. Looking at the overall external financing needs reported by SMEs in the euro area, it is unsurprising to see that that a significantly higher percentage of respondents indicated an increase in their financing requirement during 2009 (Chart 10). This trend eased in the first half of 2010, with slightly more SMEs in the EA 4 reporting a rise in external financing needs than those in other euro area member states.

**Chart 10:** Net Percentage of SMEs Reporting an Increase (+) or Decrease (-) in External Financing Needs during the Previous Six Months




Source: ECB.

During the first half of 2010, 24 per cent of euro area SMEs applied for a bank loan, down from 29 per cent in the second half of 2009. For the EA 4, 27 per cent of SMEs applied for a loan, whereas only 16 per cent of SMEs in the other euro area member states applied for a loan. There has been quite a diverse experience across the euro area with regard to the results of bank loan applications, particularly during 2009 (Table 2). On average over the 18 months from January 2009 to June 2010, 57 per cent of SMEs that applied for a bank loan received most or all of what they applied for, in contrast to an average of 20 per cent of SMEs whose application was declined for the most part or its entirety. However, SMEs in the non-EA 4 member states had

**Table 2:** Percentage of Bank Loan Applications in the Previous Six Months by Outcome

| | Applied and received most or all of what was required | | | Applied and was refused most or all of what was required | | |
|---|---|---|---|---|---|---|
| | EA 4 | Other EA | Total EA | EA 4 | Other EA | Total EA |
| H1 2009 | 62 | 55 | 60 | 30 | 32 | 29 |
| H2 2009 | 42 | 51 | 40 | 12 | 38 | 13 |
| H1 2010 | 72 | 68 | 72 | 19 | 21 | 19 |

**Source:** ECB.

significantly higher rates of refusal for bank loan applications, particularly in 2009. While this refusal rate declined in the first half of 2010, it remained higher than the euro area total and that of the EA 4.

Overall, the results of the various demand side SME surveys in Ireland (Mazars) and the euro area (ECB) show that Irish SMEs were more likely during 2009 to apply for bank loans than SMEs in the euro area as a whole, but the success rates of these applications were broadly similar. The indicators for 2010 in the euro area suggest that demand is somewhat lower, but that the success rate for these fewer applications has risen.

Comparing the responses of the bank lending surveys and the SME surveys, one can see some notable discrepancies. While banks in the euro area reported a decline in demand for credit throughout 2009, SMEs reported an increase in needs for external financing. On the other hand, tight credit standards on loans reported by banks were reflected in the SME responses, as they report lower credit availability over the same period.

## 6. Conclusion

There are a number of sources of information, both qualitative and quantitative, on the financing situation of firms. This paper used a number of these sources in order to analyse the financing conditions that faced firms, more specifically NFCs and SMEs, during the crisis. Bank balance sheet data used alongside surveys and NFC balance sheet information can help to create a comprehensive and full picture of overall financing conditions that may be difficult to form from looking at one source only.

Bank loan flows decreased in all regions during the recent financial crisis. The quarterly financial accounts of NFCs showed that while the euro area and the US both maintained healthy debt security issuance over this period, Irish NFCs showed increased reliance on inter NFC loans and the UK suffered greater volatility. Despite the different loan flows across regions in 2010, bank surveys in all regions reported similar demand and supply conditions, although differences in the survey methodologies make outright comparisons dubious.

In Ireland, where directly comparable measures of bank lending flows to SMEs and larger NFCs are available, it is evident that the outstanding amount of SME loans has declined in recent months to a greater extent than those of larger corporations. Given that the pace of contraction in new lending sanctions on smaller NFC loans has eased in recent months, this would suggest that repayments of loans by SMEs are quite strong. This is consistent with bank surveys, which indicate that the decline in credit is not merely a supply side issue, but also a demand side one. Although, surveys of SMEs themselves indicated that some firms that demanded bank finance were refused. Using survey evidence from both banks and SMEs is important, as it can highlight potential blockages to the flow of credit through, for example, differing interpretations of what constitutes an application for a loan.

Given the importance of firms and in particular SMEs to the economy, it is important to monitor ongoing credit flows alongside the data and survey sources used in this paper to establish a clear picture of the financing needs and demands of these sectors and the extent to which they are being met. The new SME lending data for Ireland published by the Central Bank of Ireland is a significant contribution towards this objective.

## References

Aggarwal, R. and Zong, S. (2006), "The cash flow–investment relationship: International evidence of limited access to external finance", *Journal of Multinational Financial Management*, 16 pp. 89–104.

Ayyagari, M., T. Beck and A. Demirguc-Kunt (2007), "Small and Medium Enterprises Across the Globe", *Small Business Economics*, 29(4): pp. 415-434

Bank of England (2010) 'Trends in Lending, October 2010', http://www.bankofengland.co.uk/publications/other/monetary/trendsinlending.htm.

Beck, T. And A. Demirguc-Kunt (2006), "Small and medium-size enterprises: Access to finance as a growth constraint", *Journal of Banking & Finance* 30: pp. 2931–2943

Beck, T., A. Demirgüç-Kunt, and Vojislav Maksimovic (2008), "Financing Patterns around the World: Are Small Firms Different?", *Journal of Financial Economics* 89, pp. 467-87.

Brunnermeier, M. (2009), "Deciphering the Liquidity and Credit Crunch 2007–2008", *Journal of Economic Perspectives*, Volume 23, Number 1, pp. 77–100

Buiter, W. (2007), "Lessons from the 2007 Financial Crisis", CEPR Discussion Paper No. DP6596

Central Bank of Ireland (2010), 'Lending to Irish Small and Medium Sized Enterprises', http://www.centralbank.ie/sta_late_pubs.asp.

Central Bank of Ireland (2010), 'Quarterly Financial Accounts for Ireland', http://www.centralbank.ie/sta_qfa_data.asp.

de Jong, A., R. Kabir and T. Nguyen (2008), 'Capital Structure Around the World: The roles of firm and country specific determinants', *Journal of Banking and Finance*, 32(9): pp 1954-1969.

Deutsche Bundesbank (2009), "Bank Lending Survey: an interim assessment and current developments", Monthly Report, January 2009.

ECB (2007), 'Corporate Finance in the euro area', ECB Occasional Paper Series, No.63.

ECB (2009), 'The External Financing of Households and Non-Financial Corporations: A comparison of the Euro Area and the United States', Monthly Bulletin, April 2009.

ECB, "Survey on the access to finance of SMEs in the euro area", http://www.ecb.int/stats/money/surveys/sme/html/index.en.html.

EU Commisision (2009), 'Annual Report on EU Small and Medium Sized Enterprises', DG for Enterprise and Industry.

Fazzari, S. M., R. G. Hubbard, and B. C. Petersen, (1988) "Financing Constraints and Corporate Investment", *Brookings Papers on Economic Activity*, Vol. 1, pp. 141-195.

Federal Reserve Board (2010), 'Flow of Funds Accounts of the United States', http://www.federalreserve.gov/RELEASES/z1/.

Korajczyk, R. and A. Levy (2005), "Capital structure choice: macro economic conditions and financial constraints", *Journal of Financial Economics*, 68, pp. 75–109

Mazars Review on SME Lending, 2009.

Myers, S. C. (1984), "The Capital Structure Puzzle", *The Journal of Finance*, 39(3): pp. 575-592.

Office for National Statistics (2010), 'Financial Statistics', http://www.statistics.gov.uk/statbase/product.asp?vlnk=376.

Rajan, R. and L. Zingales (1998), "Financial Dependence and Growth", *The American Economic Review*, Vol. 88, No. 3, pp. 559-586.

# Irish Money and Banking Statistics: A New Approach

Rory McElligott and Martin O'Brien*

**Abstract**

The Central Bank of Ireland (CBI) recently undertook a complete review of the *Monthly Statistics* publication and this culminated in a new framework for the publication of the national banking statistics released in July 2010 as *Money and Banking Statistics*. The aim of this paper is to provide users with an overview of the new structure, the concepts employed and motivation behind the review. Full details are provided on the new approach to calculating transactions and growth rates and the conceptual advantages of this approach. The new framework should provide users with a more detailed, clearer and easily accessible picture of the underlying financing activity through the banking sector in Ireland. Several uses of the data are also explored in the paper, including a more refined sectoral approach to the analysis of credit flows to the real economy, rather than the broad private-sector credit (PSC) approach that was frequently used in the past. Recent developments in household and corporate deposits are also discussed. One of the main advantages of the new *Money and Banking Statistics* is the direct comparability with similar measures for the euro area. This allows for the credit boom and subsequent downturn witnessed in Ireland in the past decade to be meaningfully placed in a wider context.

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## Section 1: Introduction

Monetary and financial statistics provided by central banks play a key role in informing monetary policy formulation and economic analyses for both domestic and European policy-makers and in contributing to wider financial stability. They are also widely used by professional analysts and the general public. The most prominent aspect of these data historically related to the activities of the banking sector, and the consequent implications for the evolution of monetary aggregates (e.g. deposits) and their counterparts (e.g. credit)[1] as presented in the Central Bank of Ireland *Monthly Statistics*. Since July 2010, the *Monthly Statistics* publication has been discontinued and replaced with a new monthly statistical series, *Money and Banking Statistics*. The new series was introduced to overcome a number of conceptual and methodological issues that were making meaningful interpretations of developments in the Irish money and banking data difficult for users through the old *Monthly Statistics*, in particular the developments in the flow of bank lending into the economy since the onset of the financial crisis. The presentation of data in the new *Money and Banking Statistics* is also more aligned with that of the ECB for euro area monetary aggregates, as well as those published by many other national monetary authorities in the European System of Central Banks.

In this paper we provide an overview of the new series, which is currently available back to 2003. Full details are provided on the new approach to calculating transactions and growth rates, and the conceptual advantages of this approach. The new framework should provide users with more detailed, clearer and easily accessible information on the financing activity through the banking sector in Ireland. A significant advantage of the new presentation is the more direct comparability with other available data for the euro area as a whole and other Member States. Several uses of the data are also explored in the paper, including a more refined sectoral approach to the analysis of credit flows to the real economy, rather than the broad private-sector credit (PSC) approach that was used in the past. Recent developments in household and corporate deposits are also discussed at a sectoral level.

The paper proceeds as follows: Section 2 discusses the motivation for the changes introduced in *Money and Banking Statistics* and the analytical benefits arising from this new approach; Sections 3, 4 and 5 provide an overview of developments in private-sector credit and deposits from the new data series, placing them in a comparative euro area context and Section 6 concludes.

## Section 2: Motivation for and Benefits of the New *Money and Banking Statistics*

The new presentation of the Central Bank *Money and Banking Statistics* is designed to provide more detailed and informative data on the Irish banking market. It also aims to address a number of weaknesses in the methodological and dissemination framework that had became apparent in recent years. The main issues that the Central Bank aimed to address were:

- to improve the ability of users to understand real economy financial activities;
- to provide greater clarity on flows of credit and money;
- to provide a balance sheet for the domestic Irish banking system[2];
- to improve accessibility and comparability of the data.

The remainder of this section explores in detail the many conceptual difficulties that arose with the old presentation of *Monthly Statistics*. These problems had become particularly acute in recent years when flows of credit to the real economy, (whether corporate or households), were under increased scrutiny. However, due to a number of methodological and conceptual factors, the ability to draw reliable conclusions from the data was seriously reduced.

1 The statistical outputs of the Central Bank have increased substantially in the past year and now encompass detailed data on other aspects of the financial sector, e.g. investment funds, as well as quarterly financial accounts for each economic sector, and data on securities issuance. See http://www.centralbank.ie/sta_home.asp to access the complete array of Central Bank statistical outputs.

2 The Domestic Market Credit Institutions' balance sheet provides data on the sub-set of Irish resident credit institutions which have a significant retail presence in the State and whose primary focus is on the provision of banking services to Irish households and non-financial corporations. This category excludes more internationally focussed institutions, such as those based in the IFSC. The new breakdown replaces the previous distinction between retail clearing, non-clearing with domestic business, non-clearing with predominantly foreign business, etc.

### 2.1 *Methodological & Conceptual Issues*

The most commonly referenced statistic from the old *Monthly Statistics* publication was PSC. Recent developments have shown that this is no longer an appropriate gauge of the credit flowing to the domestic real economy, particularly as shadow banking activity[3] is included in PSC. For statistical purposes, the private sector comprises Insurance Corporations and Pension Funds (ICPFs), Other Financial Intermediaries (OFIs), Non-Financial Corporations (NFCs) and Households, with these sectors being defined in accordance with the international statistical framework laid down in the European System of Accounts (ESA 95). The first two categories are part of the financial sector and their investment, deposit and financing decisions are more likely to be driven by developments in the financial sector, rather than by real economy considerations. Indeed, it is frequently the case that the credit flows in these categories are directly related to the financing activities of banks.

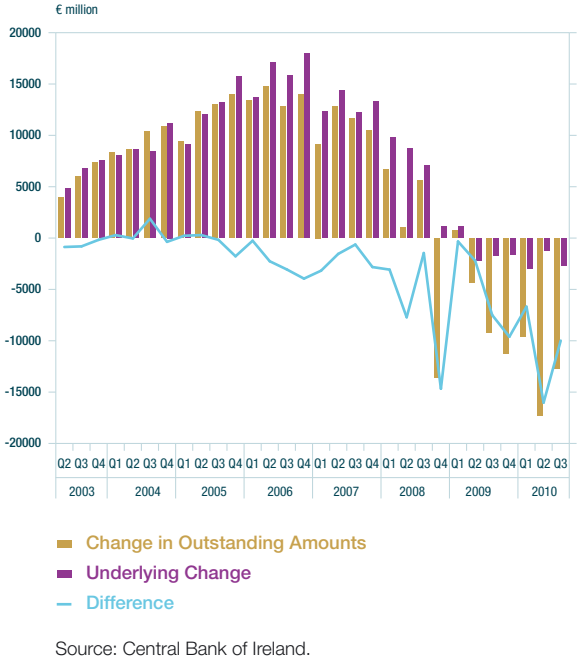
One case in point, which is particularly relevant to Ireland, relates to bank purchases of debt securities issued by special-purpose vehicles (SPVs), which, in many cases, act as an alternative financing mechanism for banks. For example, Bank A sells securitised loans to an Irish resident SPV. The SPV (classified in the private sector as an OFI) then issues debt securities, which are frequently traded on secondary markets. Bank B may purchase these debt securities and report this as credit advanced to an Irish private-sector OFI, resulting in a transaction motivated by bank financing being included in private sector-credit. This also results in a compositional change in the sectoral distribution of credit which does not actually reflect underlying economic activity. Developments in PSC can, therefore, be misleading, when the activities of non-bank financial intermediaries are included. Instead, an approach which disaggregates PSC by sector is much more informative.

To understand credit conditions within an economy, users need to be able to separate period-on-period changes in the credit institution balance sheet between those changes arising from underlying transactions and those due to other factors. The new series facilitates this differentiation. Any balance sheet item, (for example loans), can change from one month to the next due to a number of factors:

- new lending or repayments (true transaction, or underlying business related events);
- revaluation changes (write-downs/write-offs and changes in impairment provisions)[4];
- reclassifications (bank incorrectly classifying loans);
- securitisation and other loan transfers (e.g. transfers to the National Asset Management Agency (NAMA));
- exchange-rate movements, which change the book value of non-euro denominated loans when reported in euro.

Developments in credit are best understood by examining underlying transactions (the derivation of which are described in Box 1), rather than comparing balance sheet changes over time. This is increasingly true in the current climate, when non-transaction effects are particularly significant. The difficulties in interpretation are highlighted in Chart 1, which compares the quarterly flow of NFC and household loans (after adjusting for non-transactions effects) with the quarterly change in on-balance sheet loans.

**Chart 1:** Loans to Irish Households and NFCs, Quarterly Change in Outstanding Amounts and Quarterly Underlying Change




Source: Central Bank of Ireland.

3 Shadow banking refers to the activity of financial institutions which are non-depositary, i.e. they are not credit institutions and as such are not subject to the same degree of regulation and oversight as traditional banks. These include special purpose vehicles (SPVs) and investment funds, among others, which are considered part of the 'other' financial intermediary sector. In many cases these institutions act as wholesale finance providers for credit institutions or as intermediaries between credit institutions. Their inclusion in PSC and deposit data therefore distorts to an extent the true level of interaction of the banking system with the real economy.

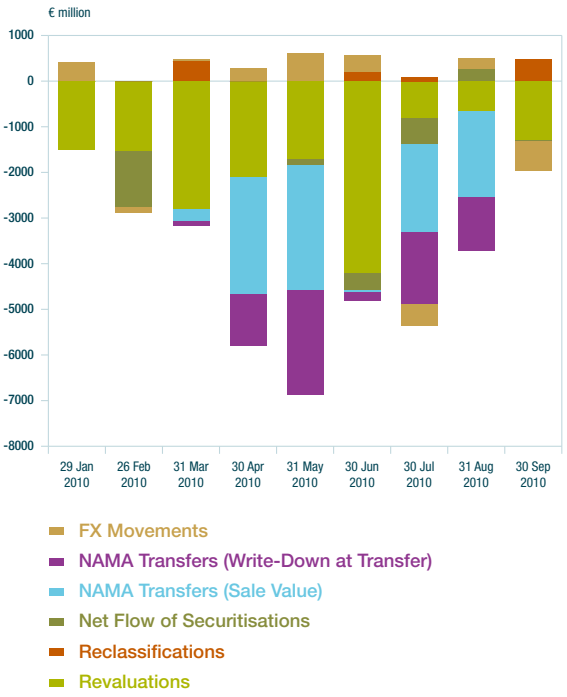
4 Valuation changes are also particularly relevant for changes in the carrying value of securities, where those securities are subject to fair-value reporting.

Without the adjustment to the underlying flow, any inference from the data would have been misleading, in particular since mid-2007. The difference between the two series can be explained by the non-transaction related effects listed above – the inclusion or exclusion of which leads to significantly different rates of change being analysed. For example, at end-Q3 2010, loans to NFCs had declined by an underlying 1.6 per cent year-on-year, compared with a decline in on-balance sheet outstanding amounts of 31.2 per cent over the same period. In effect, for the period Q2 2003 to Q1 2009, the changes in outstanding loan amounts underestimated the level of underlying increase in lending to households and NFCs, whereas from Q2 2009 onwards they overestimated the underlying decrease in loans to these sectors.

Prior to 2008 much of the difference between changes in the outstanding amount of loans and the underlying loan flows were due to the securitisation of residential mortgages[5]. During 2009 and 2010, the impact of securitisation has been compounded by a rise in impairment provisions, particularly on property-related lending, as well as transfers and write-downs related to the establishment of NAMA. For illustration, Chart 2 highlights the difference between the underlying flows and changes in on-balance sheet amounts on a monthly basis during 2010 and breaks this difference into its component parts. The impact of NAMA transfers is particularly noticeable through 2010.

Excluding the non-transaction changes is, therefore, essential to interpreting the underlying flows of loans to the real economy. Similarly, underlying trends in deposits can be distorted by reclassifications or exchange-rate movements. Under the old statistical presentation, such an analysis would not have been possible.

**Chart 2:** Breakdown of Differences Between Monthly Changes in Outstanding Amounts and Underlying Transactions for Household and NFC Loans




Source: Central Bank of Ireland.

### 2.2 *Presentation of New Data*

The new series are presented in a user-friendly time-series on the Central Bank of Ireland website[6]. The suite of tables published covers all resident credit institutions as well as providing separate balance sheet information on 'Domestic Market Credit Institutions' – in essence, these represent banks with a retail presence in Ireland while excluding the more internationally focussed IFSC banks. This allows for a more coherent analysis of developments in the balance sheets of those institutions who undertake business within the domestic real economy. In *Money and Banking Statistics*, underlying transactions are presented for the major series of interest, as well as annual rates of change based on these transactions. The methodology and formulae used to compile the growth rates is also discussed in Box 1.

5 In the old series, growth rates were adjusted to take account of residential mortgage securitisations.

6 http://www.centralbank.ie/frame_main.asp?pg=sta_home.asp&nv=sta_nav.asp.

**Box 1:** Transactions and Growth Rates in *Money and Banking Statistics*

The presentation of data in *Money and Banking Statistics* is for the most part consistent with that in the *Money, Banking and Investment Funds* section of the Euro Area Statistics in the ECB *Monthly Bulletin*. To calculate transactions, or flows ($F_t$), the following formula is used:

$$F_t = (0A_t - 0A_{t-1}) - RV_t - RC_t - FX_t - NF_t$$

Where *OA* refers to the outstanding amount on-balance sheet of the item in question; *RV* are any revaluation effects due to, for example, loan write-downs or changes in the market value of securities held; *RC* are any reclassifications reported due to, for example, the correction of long-term reporting errors or a new Member State joining the euro area; *FX* are changes in the euro outstanding amounts of non-euro denominated items due to movement in exchange rates; and *NF* is the net flow of securitised or otherwise transferred loans to a non-credit institution.

To calculate annual rates of change, the following formula is used, which calculates the cumulative change resulting from monthly transactions or flows.

$$\Delta\% = \left[ \prod_{i=0}^{11} \left( 1 + F_{t-i}^{M} \Big/ 0A_{t-1-i} \right) - 1 \right] \text{x } 100$$

Alternatively, a notional index of outstanding amounts can be constructed by setting a base period and indexing changes from that time with each monthly underlying percentage change.

$$F_t^M \Big/ 0A_{t-1}$$

In essence changes over a 12-month period in the notional index of outstanding amounts will be the same as those calculated using the first growth rate formula above. This notional index is applied to outstanding amounts for various categories of credit in Ireland and the euro area in Section 3 of this article.

* For a detailed discussion see the 'Handbook for the Compilation of Flows Statistics on the MFI Balance Sheet', ECB (2006). Available at http://www.ecb.int/pub/pdf/other/handbookcompilationflowstatisticsmfibalance200602en.pdf.

## Section 3: Loans and Other Credit Advanced to the Private Sector

The new *Money and Banking Statistics* facilitates direct comparability with similar measures for the euro area. This allows for the credit boom witnessed in Ireland in the early part of this decade, as well as the contraction in credit over the last two years, to be meaningfully placed in a wider context. In this section we discuss trends in lending by resident credit institutions to the domestic private sector since 2003, concentrating mainly on households and NFCs, and compare these credit developments for Ireland and the euro area as a whole[7]. We then examine the rise in credit institutions' holdings of securities issued by the domestic private sector, and the implications of this for aggregate credit measures and other monetary developments.

### *3.1 Loans to the Domestic Private Sector*

The largest proportion, albeit decreasing, of credit advanced to the Irish private sector by credit institutions in Ireland and the euro area as a whole, is in the form of loans. In 2003 loans accounted for approximately 95 per cent of credit outstanding on credit institutions' balance sheets in Ireland. This continued to be the case through to 2009. Since then, however, the share of loans in Irish private-sector credit has fallen to approximately 83 per cent (see next section) and is now similar to that of the euro area (82.6 per cent, September 2010).

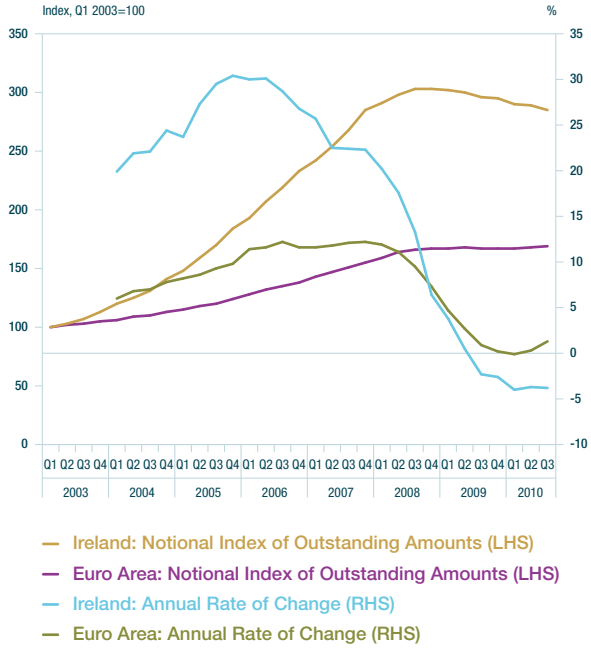
From Q1 2003 to Q3 2010, the outstanding amount of loans to the domestic private sector in Ireland increased by 185 per cent (Chart 3). This corresponded to annual growth rates in excess of 20 per cent through most of 2004 to 2007. These annual growth rates peaked in Q4 2005 at approximately 30 per cent and have been declining consistently since then, before

7 The euro area flows and growth rates of loans to NFCs and households are only adjusted for securitisations and other transfers post Q4 2008. Corresponding Irish data are adjusted for securitisations and other transfers from the beginning of the series in 2003. The total flow and corresponding growth rates of loans to the private sector in aggregate for the euro area are, however, adjusted for securitisations and other transfers back to 2003, as is the comparable Irish data.

turning negative during Q3 2009. Outstanding private-sector loans in Ireland peaked during Q3 2008 at €419.7 billion based on the notional index[8]. The ensuing intensification of the international financial crisis, which heightened the already emerging weaknesses of the domestic financial system (Honohan, 2010), as well as the contraction in general economic activity, all contributed to the fall in loans outstanding from their peak. By Q3 2010, Irish private-sector loans had fallen by 6 per cent from their Q3 2008 peak, with almost three fifths of this decline happening during 2010.

In contrast, developments in the euro area as a whole were much less dramatic. Loans to the euro area private sector increased steadily from 2003 through to the onset of the international financial crisis. This included double-digit rates of annual growth from 2006 through to mid-2008, peaking significantly later than Ireland at 12.2 per cent in Q4 2007. Growth rates have since slowed, but have only turned slightly negative in one quarter (minus 0.1 per cent, Q1 2010). From Q2 2010, private-sector loans in the euro area have begun to rise again, as the credit cycle appears to have passed its trough, something not yet true for Ireland.

**Chart 3:** Loans to the Domestic Private Sector, Notional Index of Outstanding Amounts (LHS) and Annual Rate of Change (RHS)




Sources: Central Bank of Ireland and ECB.

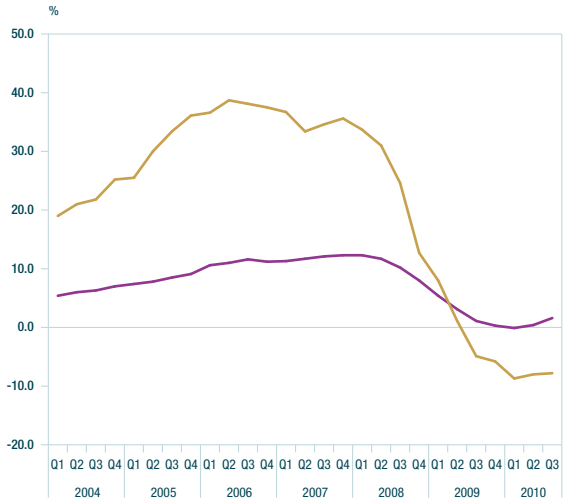
The macroeconomic context in which these developments in private-sector loans took place must also be considered. Growth in lending obviously contributes to economic activity by funding consumption and investment. In turn, positive economic conditions improve investor and consumer confidence as well as their financial position, thus encouraging demand for and supply of credit to finance further investment and consumption. While much analysis in the past has focussed on changes in lending (a flow) compared with changes in GDP (a change in a flow) it is also informative to directly compare flows; for example by looking at the ratio of the underlying changes, or transactions in lending to nominal GDP. This provides an estimate of the direct contribution of lending to economic output in a particular period[9] and the developments in leveraging of the private sector through time, as well as allowing for comparisons in this contribution across countries/areas. Our focus on the underlying flows of lending is consistent with recent findings by Biggs et al (2009) that the flow of credit is more highly correlated with GDP than the stock of credit, particularly during periods of economic recovery.

For Ireland, the growth in lending outstripped that of nominal GDP for most of the period up to end-2007. This caused the ratio of annual loan flows to nominal GDP to rise in excess of 30 per cent from Q3 2005 through to Q2 2008 (Chart 4). This ratio averaged almost 3.2 times higher than that of the euro area through to mid-2008, but has declined swiftly since then and turned negative in Q3 2009. This has come at a time when nominal GDP has also been falling, suggesting that the private-sector contribution to nominal output is becoming increasingly reliant on current income, savings or other forms of credit such as securities issues. Consequently, the contribution from bank loans has reduced as deleveraging takes place. The decline in resident private-sector deposits over the same period also suggests that existing funds were used to finance economic activity. In the euro area, this share of credit institutions' flow of loans to the private sector in nominal GDP also declined through 2009, albeit at much lower rates than in Ireland, and was approximately zero in Q2 2010.

8 Notional outstanding amount values are derived by adjusting the outstanding amounts reported on credit institutions' balance sheets to reflect the underlying flows, or transactions, in these balance sheet items over time. These notional outstanding amounts can be represented in index form (Chart 3), or in value terms. Changes in the notional index of outstanding amounts correspond to the official growth rates published for loans, deposits, etc. by the Central Bank in *Money and Banking Statistics* and in euro area statistics published by the ECB. The notional index is explained in Box 1.

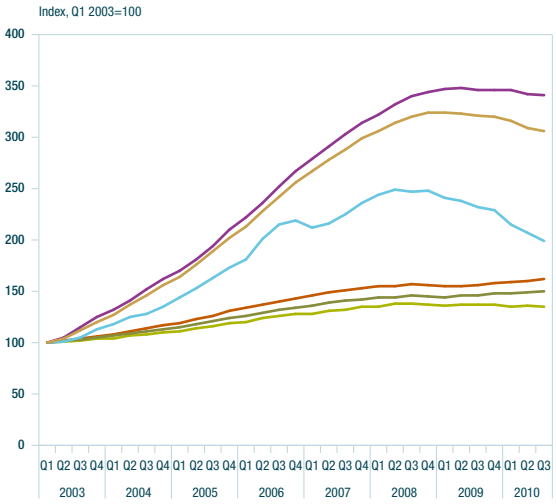
9 A simplifying, but not entirely implausible assumption in this presentation is that loans drawn down in a given period are immediately used to finance consumption or investment in the same period.

**Chart 4:** Loans to the Domestic Private Sector, Net Flow as a Share of GDP, Four-Quarter Sum




Sources: Central Bank of Ireland, ECB and Eurostat.

**Chart 5:** Loans to the Domestic Household Sector, Index of Notional Outstanding Amounts




Sources: Central Bank of Ireland and ECB.

### *3.1.1 Lending to Resident Households*

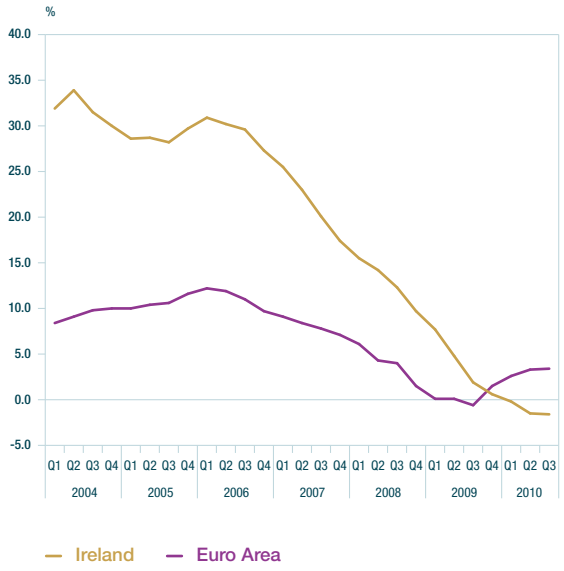
In order to better appreciate the role of lending in the real economy, it is useful to examine the dynamics of loan growth in the household and NFC sectors separately. Chart 5 shows the evolution of the index of notional outstanding amounts of credit institutions' loans to households in Ireland and the euro area, broken down by purpose of the loan, i.e. for house purchase or consumption purposes. Household lending in Ireland peaked in aggregate during Q1 2009 at a notional outstanding value of €191 billion, equivalent to just over €87,000 for each person in the labour force at the time. Since that peak, lending to households had fallen by 5.5 per cent by Q3 2010, with just over three quarters of that decline happening during 2010 alone. In contrast, lending to households in the euro area has continued to rise despite the prevailing economic conditions, albeit at a slower pace than during the years prior to 2008.

The developments in aggregate household lending mask different underlying dynamics between lending for house purchase and lending for consumption purposes (Charts 6 and 7 respectively). Generally, housing related lending has not declined as sharply as consumer loans in both Ireland and the euro area. In part this reflects the shorter maturity of consumer loans compared with housing related lending, which can contribute to faster reductions in the outstanding amounts of consumer loans.

Lending for house purchase peaked in Ireland during Q2 2009 at a notional outstanding amount of €158.3 billion. Annual growth rates in lending for house purchase had been around 30 per cent through to the end of 2006, but eased since then as the growth in the housing market began to decline, before turning negative in Q1 2010. Growth rates for lending for house purchase in the euro area[10] followed a similar trajectory, although these rates were much lower in absolute terms than those for Ireland up until Q3 2009. However, euro area lending for house purchase has not contracted as sharply as in Ireland and grew at greater than 3 per cent on an annual basis at end-Q3 2010.

**10** Unlike the aggregate household lending series for the euro area, the flows and growth rates of lending for house purchase and consumption are not yet adjusted for the impact of securitisations and transfers, whereas the Irish series are adjusted fully for these effects. The result of this is that the rates of change in lending for house purchase and consumption in the euro area are slightly biased downwards.

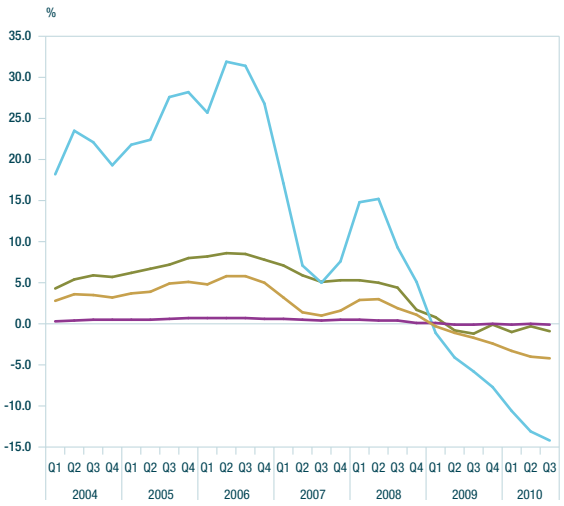
**Chart 6:** Loans to the Domestic Household Sector for House Purchase, Annual Rate of Change




Sources: Central Bank of Ireland and ECB.

Loans to households for consumption purposes peaked in Ireland in mid-2008, following a number of years where consumer loan growth ranged between 20 and 30 per cent annually (Chart 7). There was a significant slowdown in the growth of consumer lending from late-2006 to the end of 2007, which coincided with a decline in the *ESRI/KBC Consumer Sentiment Index* at that time. While there was a brief acceleration in consumer lending in 2008, the decline from Q2 2008 has been sharp, particularly in relation to the developments at euro area level. Consumer credit in Ireland had fallen by 19.8 per cent from peak by Q3 2010, again with the majority of this decline happening in 2010. The experience in the euro area as a whole has been much less volatile, with consumer loans peaking in Q3 2008 and falling by 2.1 per cent from that peak. Looking at trends in the ratio of the net flow of consumer loans to personal consumption from the national accounts, one can see the pattern of increasing reliance on leveraging in Ireland to fund consumption compared to developments in the euro area. While the ratio has remained relatively low and stable in the euro area over the past number of years, it was on average almost seven times higher in Ireland from 2004 to mid-2008, and indicates that much more of euro area consumption has been financed through current income, savings and non-bank credit as opposed to loans from credit institutions. By Q2 2010, however, the Irish ratio had moved into negative territory due to deleveraging, thereby triggering a drag on consumption and contributing to a rise in the household savings ratio to approximately 4.5 per cent of disposable income, having been between 1 to 2 per cent through 2008 and 2009[11].

**Chart 7:** Loans to the Domestic Household Sector for Consumption Purposes



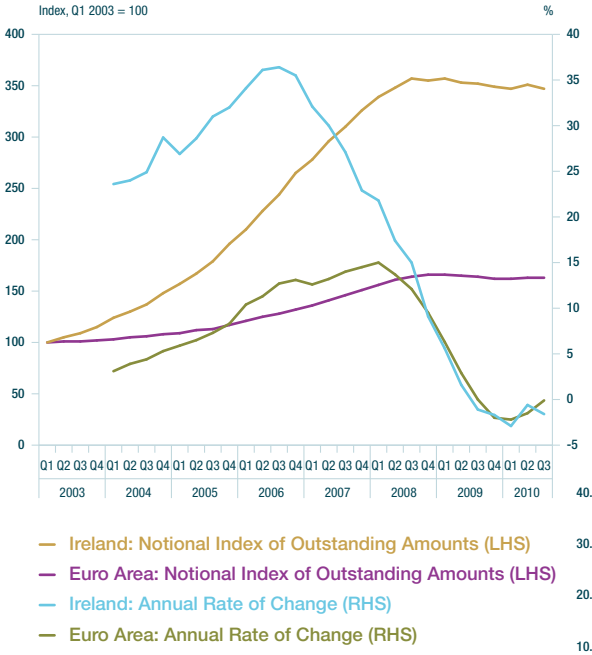

Sources: Central Bank of Ireland, ECB and Eurostat.

### *3.1.2 Lending to Resident Non-Financial Corporations*

Developments in Ireland and the euro area in terms of NFC loans followed a similar pattern to that of loans to households between 2003 to 2007, with a much higher rate of growth recorded for Ireland. NFC loan growth peaked in Ireland in mid-2006 at 36 per cent (Chart 8). Both Irish and euro area loans to NFCs peaked in Q1 2009, and the adjustments from peak have followed similar paths for the most part since then, in contrast to that for household lending. By Q3 2010, NFC lending in Ireland was 2.9 per cent below peak, with that of the euro area being 1.6 per cent below peak.

**11** Calculation based on Quarterly Financial Accounts data.

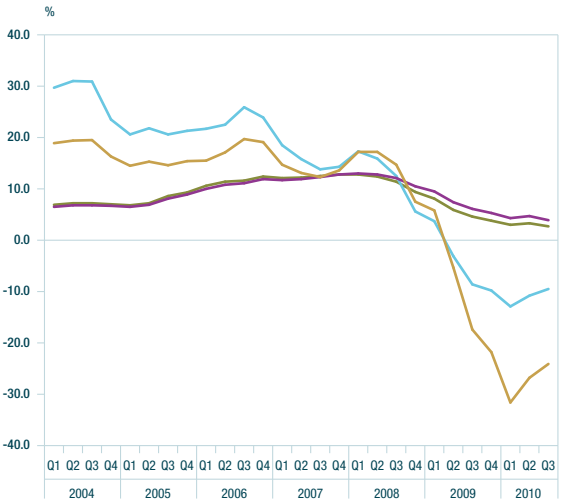
**Chart 8:** Loans to the Domestic NFC Sector, Notional Index of Outstanding Amounts (LHS) and Annual Rate of Change (RHS)




Sources: Central Bank of Ireland and ECB.

Underlying these aggregate developments, however, are very different trends in longer-term and shorter-term NFC loans. Longer-term NFC loans, with an original maturity of over five years, can typically be seen as the type of funding that firms would access for investment-type projects, whereas shorter-term loans, with an original maturity of up to one year, are more likely to reflect facilities for working capital, etc. Comparing developments in Ireland to the euro area, it is in the longer-term maturity where the more stark differences are found. Longer-term Irish NFC loans were growing in excess of 20 per cent on an annual basis up to early 2007, and averaged 15 per cent from then to mid-2008 (Chart 9). Through 2009 and into 2010 there has been a significant collapse in the outstanding amount of longer-term NFC loans in Ireland. This was not evident in the euro area as a whole, which has seen longer-term NFC loans continue to grow albeit at a slower pace. From peak, longer-term NFC loans in Ireland fell by 17.4 per cent by Q3 2010. The ratio of the net flow of longer-term NFC loans to gross fixed capital formation (GFCF) turned negative in mid-2009 and reached as low as minus 30 per cent in Q1 2010. This happened despite the share of NFCs' investment in GFCF remaining relatively stable and indicates that forms of financing other than bank lending, e.g. retained earnings, inter-company loans, securities issues, have had to be increasingly used to sustain NFC investment over the past two years. While a significant portion of this decline is related to the scale of the collapse in property and real estate development, i.e. a demand-led reduction in longer-term NFC loans, it is possible that supply constraints could contribute to other forms of NFC capital investment becoming credit constrained due to a lack of optimal bank funding through long-term loans. Recent Bank Lending and SME surveys indicate that the decline in longer-term NFC loans reflects both demand and supply-side dynamics, as in addition to the imposition of tighter lending criteria by banks, demand for new lending has also been weak[12].

**Chart 9:** Loans to Domestic NFCs, Over Five Years Original Maturity




Sources: Central Bank of Ireland, ECB and Eurostat.

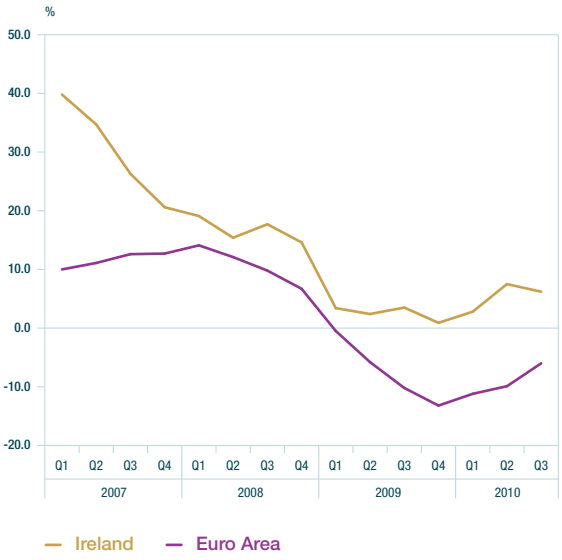
In contrast, resident credit institutions' short-term lending to Irish NFCs, which would include the use of overdraft facilities, has continued to grow over the past two years (Chart 10). While short-term lending to firms in the euro area as a whole fell by 13 per cent in 2009, these facilities were still expanding in Ireland. By Q3 2010, euro area short-term NFC loans were still contracting on an annual basis by 6 per cent, whereas in Ireland they had risen by over 6 per cent.

**12** See, for example, the *Irish Responses to the Euro Area Bank Lending Survey*, available at http://www.centralbank.ie/euro_area.asp, and the Mazars Review of Lending to SMEs, Q4 2009.

Together, Charts 9 and 10 highlight the challenges for Irish firms in financing longer-term investment requirements, particularly those firms that are more dependent on bank loans as a source of external finance. The increase in short-term borrowing by NFCs at the expense of longer maturity loans may also raise concerns, insofar as it would indicate a greater reliance by NFCs on bank funding to meet working capital needs. As stated above, however, the weaknesses in aggregate NFC longer-term borrowing to date probably reflect subdued levels of demand. The difficulties faced by the domestic banking system in accessing longer-term funding may also inhibit the supply of long-term loans to resident NFCs. To the extent that this restricts capital investment and the resulting rise in potential output, it could pose a challenge to the domestic financial system playing an active role in an Irish economic recovery. One of the main objectives of recent banking policy in Ireland and at a European level has been to limit the potential for these supply-side constraints to become binding. The ability to monitor underlying developments in NFC lending that the new presentation of *Money and Banking Statistics* allows can contribute to better informing domestic policy in this regard.

It is not unlikely, however, that a recovery in the flow of lending to NFCs, and indeed to households, will lag the wider recovery in economic output in any case. Such a scenario would be in line with the findings of Claessens *et al* (2009), who report that *credit-less* recoveries are common following recessions that overlap with financial crises and credit contractions. They also find that in such instances, lending can lag GDP by approximately five quarters in the recovery phase. The recent increases in Irish GDP towards the end of 2010 have been led by the export-oriented multinational corporate sector, which would tend to be less reliant on the domestic banking system as a source of funding. This would also suggest that a lag can be expected between increasing economic activity and a recovery in bank lending in Ireland.

**Chart 10:** Loans to Domestic NFCs, Up to One Year Original Maturity, Annual Rate of Change

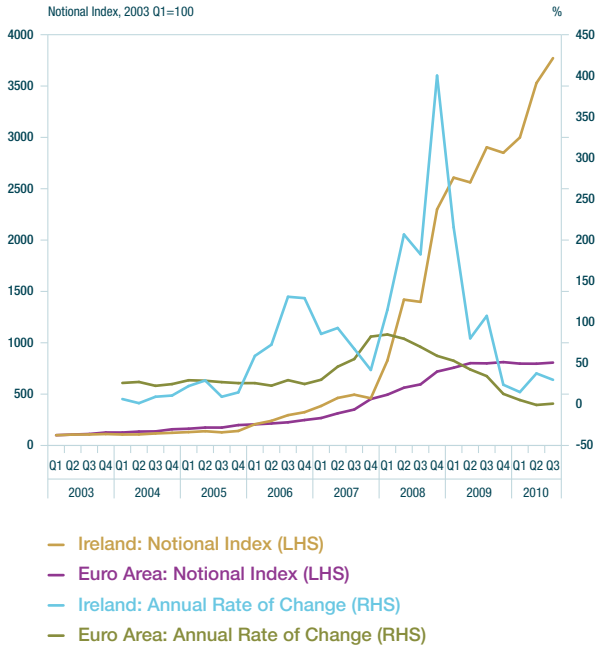



Source: Central Bank of Ireland and ECB.

## Section 4: Holdings of Securities Issued by the Domestic Private Sector: The Role of Securitisation and NAMA

Credit institutions' holdings of debt and equity securities issued by the Irish private sector have become an increasingly important feature of total credit, reaching approximately 17 per cent of the outstanding amount of PSC in Q3 2010. The vast majority of this expansion relates to debt securities and in particular securities issued by non-bank financial intermediaries (or OFIs). There has been a similar experience in the euro area as a whole (Chart 11), although not on the same scale. The rise in securitisation activity internationally largely explains this phenomenon for both Ireland and the euro area.

**Chart 11:** Credit Institutions' Holdings of Debt Securities Issued by OFIs

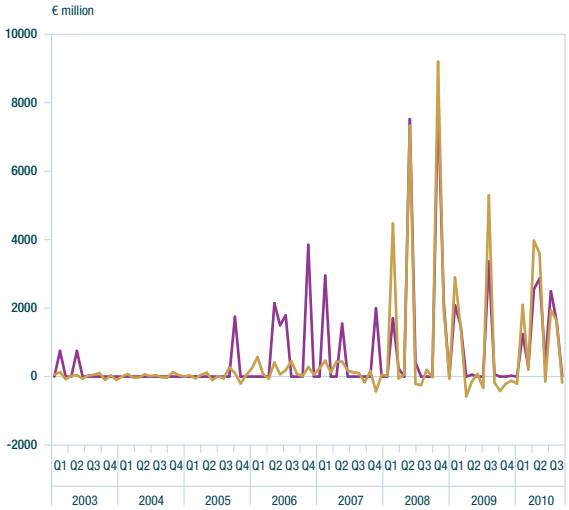



Sources: Central Bank of Ireland and ECB.

At its simplest, securitisation is a process whereby a bank establishes a separate special-purpose vehicle (SPV) to which loans with similar characteristics are transferred. From an ESA 95 perspective, SPVs are in the OFI sector. To fund this transfer, the SPV issues debt securities. In Ireland, the first securitisation took place in 1996 and up until 2008 securitisations by Irish resident credit institutions predominantly related to residential mortgages. Initially securitisation was used by smaller banks and building societies to fund their business model. From 2005 to 2007, securitisation became more common in larger credit institutions, as shown by the net monthly flow of securitised loans in Chart 12. However the market for asset-backed securities issued by SPVs collapsed globally in 2007, as the US sub-prime mortgage market which had been largely funded through securitisation declined dramatically. It would seem counter-intuitive, therefore, that the securitisation of loans by Irish credit institutions became more prolific than ever in 2008, 2009 and 2010.

The rise in securitisation since early 2008, by credit institutions in Ireland, as in other parts of the euro area, arose from the use of internal securitisation activities to improve the liquidity profile of their balance sheets. In essence, the vast majority of debt securities issued by SPVs established by credit institutions in Ireland during 2008 and 2009 were retained by the originating credit institution, which effectively transformed the loan assets on the credit institution's balance sheet into debt security assets. This can be seen in the almost perfect correlation between the net flow of loans securitised and holdings of OFI debt securities since 2008 in Chart 12. In turn, these debt securities were in most cases eligible to be used as collateral in Eurosystem refinancing operations. This afforded credit institutions access to significant liquidity throughout 2008 and 2009. During this period, other loans apart from residential mortgages, particularly NFC loans were also securitised. The largest and most important SPV in terms of Irish money and banking statistics is NAMA – its activities and their impact are summarised in Box 2.

**Chart 12:** Monthly Net Flow of Irish Resident Credit Institutions' Holdings of OFI Debt Securities and Irish Private-Sector Loan Securitisations




Source: Central Bank of Ireland.

## **Box 2:** Transfer of Loans to NAMA

The National Asset Management Agency (NAMA) was established to purchase land and development loans from participating credit institutions*, with the first transfers taking place in March 2010. From both a statistical and a funding objective standpoint, the transfer of loans to NAMA has a similar effect to the retained securitisations seen during 2008 and 2009. Indeed, the NAMA process is a type of securitisation, although unlike most securitisations, the debt securities issued by the NAMA master SPV are backed by a government guarantee in addition to the underlying loans. The NAMA master SPV is a private-sector entity, as the majority of its share capital is sourced from private investors. As such, credit institutions record the OFI sector as the counterpart for NAMA securities held. Bonds issued by the NAMA master SPV are eligible collateral for refinancing activity with the Eurosystem, further improving the liquidity profile of participating institutions.

As mentioned in Section 2, the transfer of loans to NAMA from the participating credit institutions' balance sheets has caused significant declines in the outstanding amount of loans to the private sector reported in *Money and Banking Statistics*. Without adjusting for the impact of these transfers, the underlying decline in lending into the economy would be overstated. Therefore, in calculating transactions and growth rates for loans, the Central Bank makes the necessary adjustments in the *Money and Banking Statistics* to avoid this mis-representation.

Another factor to be considered is that the loans being purchased by NAMA are done so at a discounted value. In measuring the underlying flow, or transactions in loans, these discounts are treated as revaluation effects, as described above, which, if not adjusted for, would overstate the contraction of bank lending into the economy. Any impairment recognised on NAMA bound loans prior to transfer are also accounted for in calculating transactions and growth rates in the month that those impairments were recognised. By end-Q3 2010, loans with a nominal outstanding amount of €27.3 billion had been acquired by NAMA (Table 1), over 80 per cent of which were issued by the offices of the participating credit institutions in the Republic of Ireland. These loans issued by within-the-State offices would have previously been included in the outstanding amounts (net of impairment provisions) in the *Money and Banking Statistics* produced by the Central Bank. Table 1 provides a detailed synopsis of the NAMA transfers, and shows that a little over half of the so-called 'haircut' applied in purchasing land and development loans from the participating institutions had already been recognised in impairment provisions prior to the time of transfer. The remainder of the haircut was recognised as a write-down at the time of transfer. In return for these loans and some related derivative instruments, the participating institutions received just under €13 billion in NAMA debt securities up to end-Q3 2010.

**Table 1:** NAMA Transfers up to end-Q3 2010, € million

| *Loans to:* | Irish Residents | OMUM Residents | ROW Residents | Total |
|---|---|---|---|---|
| **Gross Outstanding Amount** | 22,666 | 245 | 4,444 | 27,355 |
| **Carrying Value Prior to Transfer** | 15,970 | 211 | 3,733 | 19,913 |
| ***Impairments Recognised Prior to Transfer*** | *6,483* | *44* | *895* | *7,422* |
| **Sale Value of Loans** | 9,441 | 157 | 3,237 | 12,836 |
| ***Write-downs at Time of Transfer*** | *6,528* | *54* | *495* | *7,077* |
| **Sale Value of Non-Loan Instruments (estimate)** | | | | 115 |
| **Securities Received from NAMA SPV** | | | | 12,951 |

**Sources:** Central Bank of Ireland and NAMA.

* Allied Irish Bank, Bank of Ireland, Anglo Irish Bank, the Educational Building Society and Irish Nationwide Building Society.

## Section 5: Deposits from the Private Sector

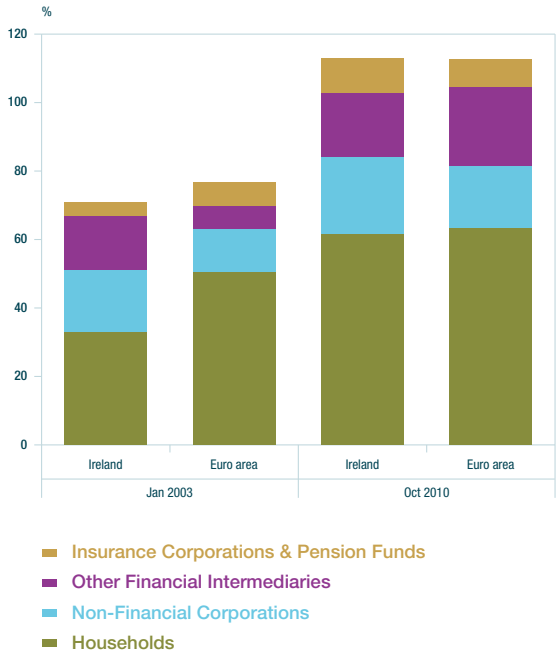
Deposits in the banking system are a key indicator for users for a number of reasons. Deposits are first and foremost an asset of the depositor. Developments in, for example, household deposits give key insights into the current and future economic behaviour of the sector. Not only are increases and decreases in deposit markets important but so are the movements within deposit categories. For example the movement of funds from short-term demand deposits to long-term fixed deposits would be a firm indicator that the private sector are locking up savings with implications for the levels of consumption and/or investment in the near term, as this money is no longer as accessible. Monetary analysts may also interpret this as reducing inflationary risk as these deposits lose a degree of 'moneyness'. On the other side of the coin, deposits are a key funding source for the banking system and the movement of deposits can offer insights into the funding opportunities and pressures facing banks.

The new *Money and Banking Statistics* provide much more detail on the Irish deposit market than has previously been available. Extra details in the new series include breakdowns by sector of counterpart and by deposit product type.

### *5.1 Deposits from the Irish Private Sector*

Irish private-sector deposits rose from €99.3 billion in January 2003 to a peak of €187.1 billion in August 2009 and have since declined to €172.2 billion at end-November 2010. Despite this recent decline the size of the Irish private-sector deposit market has still increased significantly over the period relative to GDP (Chart 13). In early-2003, private-sector deposits were 71 per cent of GDP, and the largest share of this was deposits from Irish households at 33 per cent of GDP. The latest data show a much higher level of deposits, equivalent to over 110 per cent of GDP, with the household sector still accounting for the largest share. The composition and relative size of the Irish private-sector deposit market is remarkably similar to the euro area as a whole, as shown in Chart 13.

**Chart 13:** Private-Sector Deposits by Sector as a Percentage of GDP

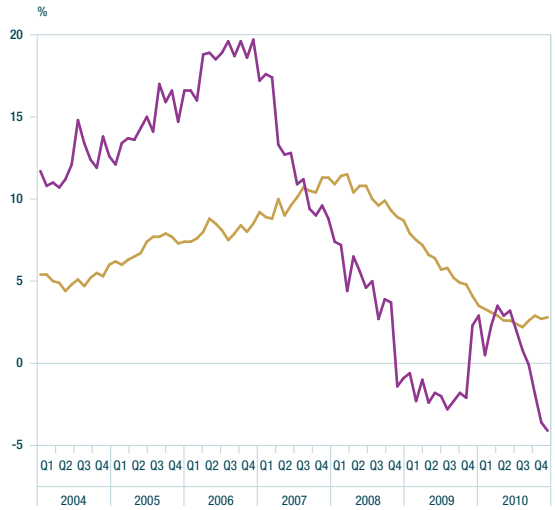



Sources: Central Bank of Ireland and ECB.

While the 2003 Irish deposit market was slightly smaller than the euro area market relative to GDP, they now stand at about the same size. The start and end points may have been similar but as can be seen in Chart 14 below both areas took different paths. In the case of Ireland the growth rate in deposits was very high and driven by strong economic growth and increased saving rates in the country. The growth rate increased steadily and peaked at nearly 20 per cent in late 2006. The inflows of deposits then declined sharply and in October 2008 the first annual fall in private-sector deposits was recorded. Private-sector deposits have continued to fall since then, albeit with some volatility driven by non-bank financial companies. In recent months the decline in private-sector deposits accelerated in the face of continued concerns about the Irish economy and the banks' financial positions.

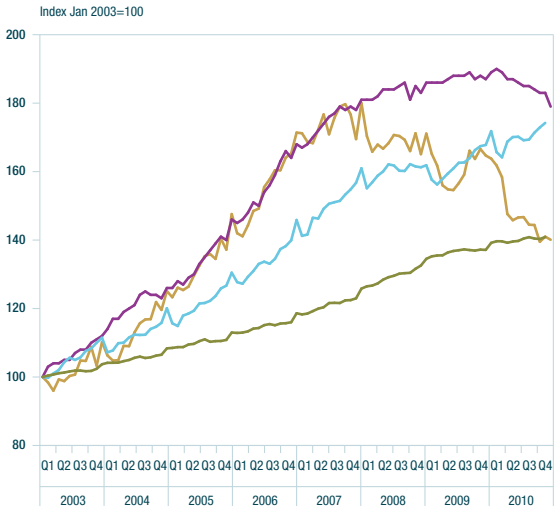
In the period 2003 to 2007 the euro area deposit growth rate also increased at a lower rate than in Ireland. The volatility in this growth was also much lower and, despite the economic concerns throughout the euro area, private-sector deposits continued to grow. It is also interesting to note the different composition in growth over the period.

**Chart 14:** Private-Sector Deposits; Annual Rate of Change




Sources: Central Bank of Ireland and ECB.

**Chart 15:** Deposits from Domestic Households and NFCs, Notional Index of Outstanding Amounts

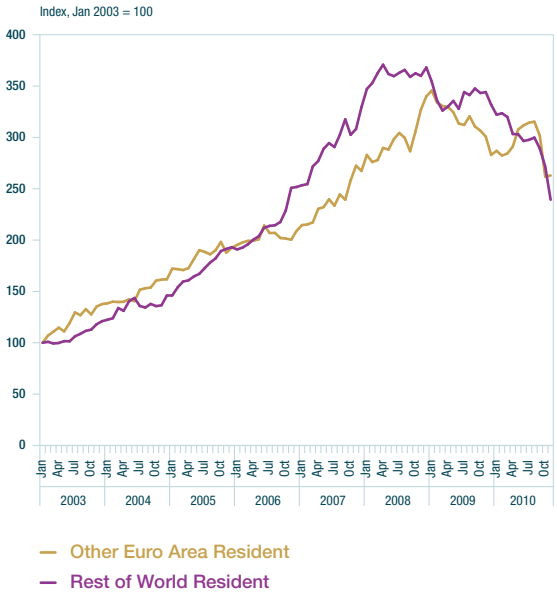



Sources: Central Bank of Ireland and ECB.

Chart 15 presents indices for the notional outstanding amounts of household and NFC deposits. The divergence between the Irish household and NFC deposit level is very evident since late-2007. While the rate of increase in household deposits slowed after this period, the level of deposits did not actually begin to fall until January 2010. In recent months the decrease in household deposits has accelerated, partly due to the seasonal decline in deposits. The deposit outflows in November 2010 were particularly strong. In contrast, the level of deposits from Irish NFCs has declined significantly from the 2007 peak and had declined by some 22 per cent by November 2010. This equates to €10 billion less deposits with Irish resident credit institutions. The fall may be an indication that corporates are using their cash reserves to finance ongoing activities through the current economic difficulties, or alternatively, are finding other investments or locations for deposits. The sectoral developments in euro area deposits contrast with the Irish experience, with both household and NFC deposit levels relatively unaffected by the recent global economic slowdown. In the same period that Irish NFC deposits declined by 22 per cent, total euro area NFC deposits increased by 14 per cent.

The discussion above has focused on the deposits from the Irish private sector. The Irish banking system also raises deposit funding from non-resident counterparties. Details of the developments in deposits with Irish resident credit institutions by depositors' residency (Other Monetary Union Member State, or Rest of World) are presented in Chart 16. Developments in non-resident deposits are characterised by a very sharp increase in deposits from 2003 to 2008, which have since declined considerably, although they are still significantly above 2003 levels. This trend is more noticeable for non-euro area counterparties. Deposits grew by over 270 per cent and 246 per cent from Rest of World and Other Monetary Union Member State (OMUM) residents respectively, from 2003 to their peak against an 88 per cent increase in Irish private-sector deposits. Rest of world private-sector deposits have since declined by 35 per cent, deposits from OMUM residents have declined by 24 per cent, and Irish private-sector deposits have declined by 8 per cent from their peak.

**Chart 16:** Deposits by Residency of Counterpart; Index of Notional Amounts




Source: Central Bank of Ireland.

## Section 6: Conclusion

*Money and Banking Statistics* provide comprehensive and comparable data in a user-friendly format. The methodology for compiling transactions and growth rates results in more meaningful and user-friendly information for policy-makers, analysts and the general public. In this paper, we have used the new series to place the developments in credit and deposits in Ireland in an appropriate economic and international context as an example of how the *Money and Banking Statistics* can be used. In terms of credit, it is informative to see the impact of NAMA, etc, on the credit aggregates, as well as the developments in bank balance sheets and credit flows during the boom period and subsequent downturn.

The data show how growth in lending for investment and for consumption purposes outstripped the GFCF and personal consumption components of GDP, indicating the increased reliance on leverage during the boom period. The subsequent negative trends in lending, or de-leveraging, coincides with very weak consumption and investment activity. NFC lending data show that while loan growth remains negative overall, there has been an increase in short-term borrowing. This may indicate increased reliance on bank funding for working capital purposes. This has also been accompanied by a significant decline in deposits from the Irish NFC sector, indicating that companies are also utilising cash reserves.

The decline in NFC deposits is indicative of the wider decline in both Irish resident private-sector and non-resident deposits over the past year. Non-resident deposits in Irish resident credit institutions are now back to 2006 levels, as are the level of Irish private-sector deposits. The deposit base of Irish resident credit institutions had increased quite substantially from 2003 to 2008. This growth was, however, surpassed by that of credit on the asset side of the credit institutions' balance sheet, and led to more recourse to non-deposit sources of funding for the Irish banking system over this period.

The experience of previous banking crises would suggest that a *credit-less* recovery is the likely outcome over the coming years. The more detailed information now provided by the Central Bank in *Money and Banking Statistics* will enable us to analyse credit developments more accurately and help ascertain whether this does indeed become the eventual outcome.

## References

Biggs, M., T. Mayer and A. Pick (2009), 'Credit and Economic Recovery', DNB Working Paper Series, No. 218.

Central Bank of Ireland (2010), 'Money and Banking Statistics', http://www.centralbank.ie/sta_late_pubs.asp.

Central Bank of Ireland (2010), 'Money and Banking Statistics: Explanatory Notes', http://www.centralbank.ie/data/site/cmbs/Money_and_Banking_Statistics_Explanatory_Notes.pdf.

Claessens, S., M. Ayhan Kose, and M.E. Terrones (2009), 'What Happens During Recessions, Crunches and Busts?', *Economic Policy*, 24 (60): 653-700.

ECB (2006), 'Handbook for the Compilation of Flows Statistics on the MFI Balance Sheet', http://www.ecb.int/pub/pdf/other/handbookcompilationflowstatisticsmfibalance200602en.pdf.

Honohan, P. (2010), 'The Irish Banking Crisis: Regulatory and Financial Stability Policy 2003–2008', http://www.centralbank.ie/data/NewsFiles/The%20Irish%20Banking%20Crisis%20Regulatory%20and%20Financial%20Stability%20Policy%202003-2008.pdf.

**Explanatory notes for the data produced in the Statistical Appendix, including the list of credit institutions resident in the Republic of Ireland are available in electronic format from the Statistics section of the Central Bank website: www.centralbank.ie. Further detailed tables are also published on this website.**

## Notice

The statistical outputs of the Central Bank are currently being updated and enhanced with a significant amount of new statistical series being made available for the first time. As a result, a number of tables have changed in the Statistical Appendix of the Quarterly Bulletin, or have been replaced. In the majority of cases, previously published series remain available in electronic format on the Central Bank website, or from other official sources. Some previously published series are presented in different formats. The majority of tables currently included in the Statistical Appendix of the Bulletin are available in electronic format on the Central Bank website, along with a more extensive suite of data covering Sections A, B, C, D and part of E above in terms of scope, frequency and length of time series available. The transition process for data published in the Statistical Appendix of the Bulletin will continue in the coming quarters, with further changes to the currently published tables likely to take place. Previously published tables, which remain broadly unchanged in the current Bulletin but whose number and title have changed as a result of the ongoing update are:

| Previous Title | | New Title | |
|---|---|---|---|
| C2: | Financial Statement of the Central Bank of Ireland | A.2 | Financial Statement of the Central Bank of Ireland |
| C8: | All Credit Institutions: Sectoral Distribution of Advances | A.14 | Distribution of Advances to Irish Private Sector, by Sector of Economic Activity |
| C9: | All Credit Institutions: Sectoral Distribution of Advances and Deposits | A.15 | Distribution of Advances to Non-resident Private Sector, and Deposits from Private Sector by Sector, of Economic Activity |
| C13: | Analysis of Residential Mortgages *vis-á-vis* Irish Residents | A.16 | Analysis of Residential Mortgages *vis-á-vis* Irish Residents |
| C10: | All Credit Institutions: International Business: Analysis by Currency, Sector and Maturity | A.17.1 | Credit Institutions: International Business: Analysis by Currency, Sector and Maturity |
| C11: | All Credit Institutions: International Business: Analysis by Geographic Area | A.17.2 | Credit Institutions: International Business: Analysis by Geographic Area |
| B1: | Official and Selected Interest Rates | B.3 | Official and Selected Interest Rates |
| D1: | Government Debt and Government-Guaranteed Debt | E.1 | Government Debt |
| D2: | Government Stock – Nominal Holdings | E.2 | Government Stock – Nominal Holdings |
| B4.1: | Harmonised Competitiveness Indicators for Ireland (HCIs) | E.3 | Harmonised Competitiveness Indicators for Ireland (HCIs) |
| B4.2: | Harmonised Competitiveness Indicators for Ireland (HCIs) | E.3 | Harmonised Competitiveness Indicators for Ireland (HCIs) |
| B5: | Indices of Relative Wage Costs in Manufacturing Industry | E.4 | Indices of Relative Wage Costs in Manufacturing Industry |

# Section A

## Money and Banking

## Table A.1: Summary Irish Private Sector Credit and Deposits

| | Credit Advanced to Irish Private Sector | | | | | | |
|---|---|---|---|---|---|---|---|
| | Households | | | | Non-financial corporations | | |
| | | Loans for house purchase | Consumer loans | Other loans | | Loans | Securities |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ***Outstanding amounts – € million*** | | | | | | | |
| **2009** | | | | | | | |
| November | 140,256 | 110,130 | 23,906 | 6,220 | 153,997 | 152,517 | 1,481 |
| December | 140,085 | 110,210 | 23,802 | 6,072 | 146,548 | 145,448 | 1,099 |
| **2010** | | | | | | | |
| January | 139,762 | 110,055 | 23,711 | 5,996 | 144,015 | 142,933 | 1,082 |
| February | 139,096 | 109,983 | 23,371 | 5,742 | 141,344 | 140,338 | 1,006 |
| March | 137,345 | 109,434 | 22,154 | 5,756 | 139,527 | 138,570 | 957 |
| April | 136,222 | 108,470 | 21,986 | 5,766 | 134,182 | 133,254 | 928 |
| May | 135,707 | 108,224 | 21,857 | 5,626 | 128,538 | 127,620 | 918 |
| June | 140,188 | 107,676 | 21,437 | 11,076 | 119,376 | 118,467 | 909 |
| July | 139,200 | 107,385 | 20,705 | 11,110 | 113,830 | 112,934 | 897 |
| August | 139,078 | 107,411 | 20,604 | 11,063 | 109,969 | 109,057 | 912 |
| September | 139,096 | 107,813 | 20,400 | 10,883 | 107,754 | 106,861 | 894 |
| October | 138,165 | 107,524 | 20,028 | 10,613 | 104,100 | 103,355 | 745 |
| November | 137,593 | 107,127 | 19,767 | 10,699 | 94,706 | 93,955 | 751 |
| ***Transactions – € million*** | | | | | | | |
| **2009** | | | | | | | |
| November | -202 | -59 | -98 | -45 | -194 | -118 | -76 |
| December | 292 | 266 | -20 | 46 | -1,435 | -1,056 | -379 |
| **2010** | | | | | | | |
| January | -1,020 | -152 | -854 | -14 | -758 | -715 | -43 |
| February | -355 | 227 | -415 | -166 | -72 | -12 | -60 |
| March | -510 | -190 | -137 | -183 | -380 | -326 | -54 |
| April | -1,209 | -907 | -326 | 23 | 274 | 307 | -33 |
| May | -253 | -167 | -73 | -13 | 358 | 360 | -1 |
| June | -1,493 | -98 | -453 | -942 | 1,049 | 1,054 | -5 |
| July | -703 | -149 | -568 | 15 | -549 | -549 | -1 |
| August | -278 | -197 | -84 | 3 | -496 | -496 | – |
| September | -279 | -86 | -158 | -35 | -404 | -404 | – |
| October | -783 | -192 | -386 | -205 | -478 | -335 | -143 |
| November | -193 | -212 | -271 | 291 | -190 | -184 | -6 |
| ***Growth rates – per cent*** | | | | | | | |
| **2009** | | | | | | | |
| November | -0.9 | 0.9 | -7.0 | -7.1 | -1.7 | -1.4 | -32.8 |
| December | -1.1 | 0.6 | -7.3 | -6.0 | -2.3 | -1.8 | -49.2 |
| **2010** | | | | | | | |
| January | -2.2 | 0.1 | -9.7 | -10.6 | -3.0 | -2.4 | -50.5 |
| February | -2.4 | 0.2 | -10.8 | -12.1 | -3.0 | -2.5 | -47.0 |
| March | -2.6 | -0.2 | -10.6 | -12.3 | -3.3 | -3.0 | -32.6 |
| April | -3.0 | -1.0 | -10.5 | -7.7 | -2.8 | -2.5 | -35.8 |
| May | -3.1 | -1.3 | -10.1 | -7.2 | -2.8 | -2.4 | -36.7 |
| June | -4.5 | -1.5 | -13.1 | -22.4 | -0.9 | -0.5 | -36.4 |
| July | -4.7 | -1.6 | -14.3 | -22.1 | -1.1 | -0.8 | -34.7 |
| August | -4.2 | -1.2 | -13.8 | -21.9 | -1.1 | -0.8 | -35.4 |
| September | -4.5 | -1.6 | -14.1 | -20.6 | -2.0 | -1.6 | -42.8 |
| October | -4.8 | -1.6 | -14.9 | -23.3 | -2.3 | -1.8 | -50.9 |
| November | -4.8 | -1.7 | -15.8 | -20.6 | -2.4 | -1.9 | -48.9 |

## Table A.1 – *continued*

| Irish Private Sector Deposits | | | | | | | |
|---|---|---|---|---|---|---|---|
| Insurance corporations and pension funds/ Other financial intermediaries | | | Total | | | | |
| | Loans | Securities | | Households | Non-financial corporations | Insurance corporations and pension funds/ Other financial intermediaries | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| | | | | | | | ***Outstanding amounts – € million*** |
| | | | | | | | **2009** |
| 87,153 | 41,894 | 45,260 | 184,703 | 98,258 | 41,442 | 45,003 | November |
| 88,200 | 43,072 | 45,128 | 183,761 | 99,148 | 40,613 | 44,000 | December |
| | | | | | | | **2010** |
| 88,340 | 43,355 | 44,985 | 183,525 | 99,488 | 40,248 | 43,788 | January |
| 87,474 | 40,459 | 47,015 | 185,385 | 99,305 | 39,439 | 46,641 | February |
| 86,622 | 39,452 | 47,169 | 183,625 | 98,115 | 36,717 | 48,793 | March |
| 90,491 | 39,346 | 51,145 | 184,556 | 98,395 | 36,331 | 49,830 | April |
| 94,920 | 40,297 | 54,622 | 183,987 | 97,891 | 36,980 | 49,116 | May |
| 95,755 | 41,168 | 54,587 | 180,420 | 97,253 | 37,148 | 46,020 | June |
| 96,354 | 39,879 | 56,475 | 179,345 | 97,184 | 36,383 | 45,778 | July |
| 98,084 | 40,367 | 57,717 | 178,696 | 96,470 | 36,469 | 45,757 | August |
| 96,164 | 38,653 | 57,512 | 175,259 | 96,221 | 34,937 | 44,101 | September |
| 98,273 | 38,381 | 59,891 | 176,695 | 96,242 | 35,255 | 45,198 | October |
| 105,625 | 40,331 | 65,294 | 172,161 | 93,951 | 35,277 | 42,933 | November |
| | | | | | | | ***Transactions – € million*** |
| | | | | | | | **2009** |
| -668 | -468 | -200 | -451 | -347 | -497 | 394 | November |
| 298 | 406 | -109 | -1,428 | 846 | -222 | -2,052 | December |
| | | | | | | | **2010** |
| -585 | -400 | -185 | -624 | 305 | -502 | -426 | January |
| 1,624 | -488 | 2,113 | 1,775 | -187 | -842 | 2,804 | February |
| -970 | -1,117 | 147 | -1,730 | -1,196 | -2,674 | 2,139 | March |
| 3,524 | -445 | 3,969 | 708 | 259 | -459 | 908 | April |
| 3,159 | -271 | 3,430 | -1,609 | -607 | 207 | -1,209 | May |
| 123 | 7 | 117 | -1,844 | -581 | 8 | -1,271 | June |
| 1,663 | -317 | 1,980 | -443 | -16 | -547 | 121 | July |
| 1,682 | 39 | 1,642 | -948 | -743 | -17 | -187 | August |
| -624 | -446 | -178 | -2,661 | -180 | -1,246 | -1,235 | September |
| 2,403 | 16 | 2,387 | 1,578 | 34 | 372 | 1,172 | October |
| 6,205 | 907 | 5,298 | -5,205 | -2,353 | -221 | -2,631 | November |
| | | | | | | | ***Growth rates – per cent*** |
| | | | | | | | **2009** |
| 2.9 | -14.0 | 28.5 | 2.9 | 2.4 | -0.3 | 7.9 | November |
| 3.0 | -10.0 | 20.6 | 0.5 | 1.5 | -4.3 | 3.2 | December |
| | | | | | | | **2010** |
| 2.7 | -10.4 | 20.3 | 2.3 | 1.9 | -2.1 | 7.1 | January |
| 1.5 | -10.9 | 16.8 | 3.5 | 1.6 | -2.1 | 13.1 | February |
| -0.1 | -11.5 | 12.9 | 2.9 | 0.6 | -5.4 | 15.4 | March |
| 5.8 | -10.8 | 24.2 | 3.2 | 0.3 | -5.8 | 18.0 | April |
| 10.1 | -10.7 | 33.0 | 2.0 | -0.8 | -5.1 | 14.9 | May |
| 9.3 | -11.3 | 31.9 | 0.8 | -1.3 | -6.3 | 12.0 | June |
| 12.7 | -10.3 | 37.8 | -0.1 | -1.8 | -9.2 | 12.1 | July |
| 8.7 | -9.4 | 25.7 | -1.9 | -3.0 | -13.1 | 11.3 | August |
| 9.8 | -8.8 | 27.3 | -3.6 | -1.9 | -14.8 | 2.8 | September |
| 13.3 | -8.2 | 33.4 | -4.1 | -2.4 | -15.4 | 2.5 | October |
| 21.3 | -5.0 | 45.8 | -6.7 | -4.5 | -14.9 | -4.3 | November |

## Table A.2: Financial Statement of the Central Bank of Ireland

**Assets**

| | | Gold and Receivables | Lending to euro area credit institutions relating to monetary policy operations in euro | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Main refinancing operations | Longer-term refinancing operations | Fine-tuning reverse operations | Structural reverse operations | Marginal lending facility | Credits related to margin calls |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| 25 December | 123,797 | 132 | 91,958 | 7,525 | 84,433 | – | – | – | – |
| **2010** | | | | | | | | | |
| 29 January | 129,956 | 148 | 97,733 | 14,325 | 83,408 | – | – | – | – |
| 26 February | 118,199 | 148 | 84,998 | 7,470 | 77,528 | – | – | – | – |
| 26 March | 114,042 | 148 | 81,043 | 6,805 | 74,238 | – | – | – | – |
| 30 April | 113,743 | 159 | 81,253 | 7,990 | 73,263 | – | – | – | – |
| 28 May | 124,836 | 159 | 92,644 | 15,580 | 76,853 | – | – | 211 | – |
| 25 June | 129,636 | 159 | 94,790 | 17,379 | 76,853 | – | – | 558 | – |
| 30 July | 125,101 | 195 | 89,456 | 32,285 | 57,171 | – | – | – | – |
| 27 August | 130,410 | 195 | 95,061 | 31,400 | 62,671 | – | – | 990 | – |
| 24 September | 161,368 | 195 | 119,106 | 55,235 | 62,671 | – | – | 1,200 | – |
| 29 October | 185,815 | 185 | 130,039 | 61,510 | 68,529 | – | – | – | – |
| 26 November | 202,401 | 185 | 136,436 | 62,135 | 73,764 | – | – | 537 | – |
| 31 December | 204,453 | 204 | 132,010 | 63,655 | 56,025 | 12,330 | – | – | – |

**Liabilities**

| | | Banknotes in circulation | Liabilities to euro area credit institutions relating to monetary policy operations in euro | | | | | | Other liabilities to euro area credit institutions in euro |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Current accounts (covering the minimum reserve system) | Deposit facility | Fixed-term deposits | Deposits related to margin calls | Fine-tuning reverse operations | |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| 25 December | 123,797 | 12,219 | 13,893 | 8,840 | 5,053 | – | – | – | – |
| **2010** | | | | | | | | | |
| 29 January | 129,956 | 11,471 | 16,181 | 7,455 | 8,726 | – | – | – | – |
| 26 February | 118,199 | 11,482 | 11,012 | 8,462 | 2,550 | – | – | – | – |
| 26 March | 114,042 | 11,678 | 15,719 | 8,163 | 7,556 | – | – | – | – |
| 30 April | 113,743 | 11,685 | 12,091 | 5,961 | 6,130 | – | – | – | – |
| 28 May | 124,836 | 11,779 | 14,547 | 6,249 | 8,298 | – | – | – | – |
| 25 June | 129,636 | 11,877 | 13,083 | 11,673 | 1,410 | – | – | – | – |
| 30 July | 125,101 | 12,013 | 16,021 | 10,226 | 5,795 | – | – | – | – |
| 27 August | 130,410 | 12,028 | 12,116 | 9,991 | 1,442 | 683 | – | – | – |
| 24 September | 161,368 | 11,952 | 12,534 | 7,346 | 3,467 | 1,721 | – | – | – |
| 29 October | 185,815 | 11,932 | 14,627 | 11,475 | 652 | 2,500 | – | – | – |
| 26 November | 202,401 | 12,206 | 8,196 | 6,086 | 110 | 2,000 | – | – | – |
| 31 December | 204,453 | 12,293 | 11,414 | 8,264 | 3,150 | – | – | – | – |

## Table A.2 – *continued*

**Assets**

| Other claims on euro area credit institutions in euro | Claims on euro area residents in foreign currency | Claims on non-euro area residents in euro | Claims on non-euro area residents in foreign currency | Securities of other euro area residents in euro | General Government debt in euro | Other assets |
|---|---|---|---|---|---|---|
| 636 | 132 | 1,037 | 1,278 | 15,150 | – | 13,474 |
| 479 | 197 | 1,250 | 1,267 | 15,131 | – | 13,751 |
| 283 | 201 | 1,421 | 1,264 | 15,241 | – | 14,643 |
| 318 | 144 | 1,339 | 1,321 | 15,298 | – | 14,431 |
| 421 | 138 | 1,199 | 1,414 | 15,512 | – | 13,647 |
| 489 | 109 | 1,175 | 1,508 | 16,501 | – | 12,251 |
| 261 | 137 | 1,282 | 1,477 | 17,219 | – | 14,311 |
| 495 | 161 | 1,516 | 1,576 | 16,951 | – | 14,751 |
| 473 | 181 | 1,388 | 1,558 | 17,176 | – | 14,378 |
| 313 | 148 | 1,142 | 1,555 | 17,714 | – | 21,195 |
| 721 | 135 | 1,118 | 1,399 | 17,612 | – | 34,606 |
| 463 | 107 | 1,334 | 1,429 | 17,773 | – | 44,674 |
| 514 | 142 | 883 | 1,382 | 18,224 | – | 51,094 |

**Liabilities**

| Debt certificates issued | Liabilities to other euro area residents in euro | Liabilities to non-euro area residents in euro | Liabilities to euro area residents in foreign currency | Liabilities to non-euro area residents in foreign currency | Counterpart of Special Drawing Rights allocated by the IMF | Revaluation Accounts | Capital and reserves | Other liabilities |
|---|---|---|---|---|---|---|---|---|
| – | 25,759 | 10 | – | – | 838 | 215 | 1,290 | 69,573 |
| – | 32,106 | 16 | – | – | 844 | 210 | 1,319 | 67,809 |
| – | 30,265 | 13 | – | – | 844 | 210 | 1,315 | 63,058 |
| – | 31,286 | 14 | – | – | 844 | 210 | 1,530 | 52,761 |
| – | 29,299 | 12 | – | – | 874 | 237 | 1,531 | 58,014 |
| – | 25,048 | 10 | – | – | 874 | 237 | 1,531 | 70,810 |
| – | 24,898 | 10 | – | – | 874 | 237 | 1,531 | 77,126 |
| – | 24,483 | 27 | – | – | 934 | 264 | 1,531 | 69,828 |
| – | 26,714 | 27 | – | – | 934 | 264 | 1,531 | 76,796 |
| – | 25,919 | 15 | – | – | 934 | 264 | 1,531 | 108,219 |
| – | 23,716 | 12 | – | – | 884 | 225 | 1,531 | 132,888 |
| – | 26,438 | 15 | – | – | 884 | 225 | 1,531 | 152,906 |
| – | 15,890 | 10 | – | – | 897 | 229 | 1,531 | 162,189 |

## Table A.4: Credit Institutions Aggregate Balance Sheet

### Total Assets

| | | Loans to Irish residents | | | | Holdings of securities issued by Irish residents | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Monetary financial institutions | General government | Private Sector | | Monetary financial institutions | General government | Private Sector |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| November | 1,317,479 | 506,651 | 170,611 | 1,374 | 334,667 | 82,759 | 27,721 | 8,298 | 46,740 |
| December | 1,323,584 | 505,270 | 175,356 | 1,310 | 328,605 | 82,110 | 27,663 | 8,219 | 46,228 |
| **2010** | | | | | | | | | |
| January | 1,337,057 | 506,656 | 179,296 | 1,310 | 326,050 | 81,834 | 27,492 | 8,275 | 46,067 |
| February | 1,310,404 | 487,385 | 166,179 | 1,313 | 319,893 | 83,457 | 27,320 | 8,117 | 48,020 |
| March | 1,316,908 | 496,305 | 168,629 | 12,308 | 315,367 | 83,883 | 27,887 | 7,870 | 48,126 |
| April | 1,307,198 | 488,712 | 167,718 | 12,172 | 308,822 | 88,638 | 28,599 | 7,965 | 52,073 |
| May | 1,344,794 | 493,041 | 174,141 | 15,276 | 303,624 | 91,771 | 28,386 | 7,844 | 55,541 |
| June | 1,342,980 | 486,296 | 171,594 | 14,877 | 299,824 | 92,082 | 28,396 | 8,189 | 55,496 |
| July | 1,317,279 | 479,501 | 172,924 | 14,565 | 292,013 | 93,884 | 27,936 | 8,576 | 57,372 |
| August | 1,342,229 | 486,046 | 174,175 | 23,369 | 288,503 | 97,687 | 29,604 | 9,454 | 58,629 |
| September | 1,311,672 | 488,736 | 181,029 | 23,098 | 284,609 | 97,089 | 27,879 | 10,804 | 58,405 |
| October | 1,246,608 | 472,623 | 169,882 | 22,840 | 279,901 | 92,991 | 21,276 | 11,079 | 60,637 |
| November | 1,238,874 | 457,104 | 162,604 | 22,620 | 271,879 | 94,354 | 16,990 | 11,318 | 66,046 |

### Total Liabilities

| | | Deposits from Irish residents | | | | Debt securities issued | | |
|---|---|---|---|---|---|---|---|---|
| | | | Monetary financial institutions | General government | Private sector | Irish resident | Euro area | Rest of the world |
| | 32 | 33 | 34 | 35 | 11 | 36 | 37 | 38 |
| ***Outstanding amounts – € million*** | | | | | | | | |
| **2009** | | | | | | | | |
| November | 1,317,479 | 356,276 | 168,071 | 3,502 | 184,703 | 51,340 | 28,753 | 99,505 |
| December | 1,323,584 | 358,312 | 171,275 | 3,276 | 183,761 | 50,754 | 26,979 | 101,448 |
| **2010** | | | | | | | | |
| January | 1,337,057 | 361,644 | 175,054 | 3,066 | 183,525 | 50,106 | 28,230 | 104,252 |
| February | 1,310,404 | 350,036 | 161,843 | 2,808 | 185,385 | 50,215 | 28,487 | 104,813 |
| March | 1,316,908 | 351,492 | 164,851 | 3,016 | 183,625 | 56,009 | 29,055 | 104,852 |
| April | 1,307,198 | 353,113 | 165,391 | 3,165 | 184,556 | 56,379 | 28,469 | 106,924 |
| May | 1,344,794 | 357,307 | 169,902 | 3,418 | 183,987 | 55,809 | 28,197 | 102,592 |
| June | 1,342,980 | 351,821 | 168,405 | 2,995 | 180,420 | 54,951 | 26,685 | 99,261 |
| July | 1,317,279 | 350,249 | 167,786 | 3,118 | 179,345 | 53,925 | 26,469 | 92,857 |
| August | 1,342,229 | 351,679 | 169,916 | 3,068 | 178,696 | 54,028 | 26,358 | 94,829 |
| September | 1,311,672 | 355,063 | 176,672 | 3,132 | 175,259 | 47,202 | 23,525 | 77,353 |
| October | 1,246,608 | 343,001 | 163,092 | 3,214 | 176,695 | 39,602 | 22,982 | 72,487 |
| November | 1,238,874 | 332,129 | 156,630 | 3,338 | 172,161 | 35,334 | 22,862 | 71,579 |

## Table A.4 – *continued*

| Loans to non-residents | | Holdings of securities issued by non-residents | | Central bank balances | | Remaining assets | | |
|---|---|---|---|---|---|---|---|---|
| Euro area | Rest of the world | Euro area | Rest of the world | Resident | Non-resident | Resident | Non-resident | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
| | | | | | | | | ***Outstanding amounts – € million*** |
| | | | | | | | | **2009** |
| 90,255 | 252,170 | 148,759 | 162,911 | 10,874 | 162 | 28,915 | 34,024 | November |
| 84,734 | 254,222 | 149,857 | 163,561 | 16,123 | 165 | 35,435 | 32,107 | December |
| | | | | | | | | **2010** |
| 88,299 | 255,315 | 149,786 | 164,995 | 18,118 | 171 | 37,157 | 34,725 | January |
| 86,442 | 254,549 | 146,281 | 167,742 | 12,661 | 163 | 36,644 | 35,080 | February |
| 85,746 | 258,546 | 145,927 | 166,978 | 18,832 | 162 | 25,979 | 34,549 | March |
| 88,437 | 253,421 | 144,573 | 167,122 | 13,780 | 163 | 26,797 | 35,556 | April |
| 89,233 | 275,860 | 141,897 | 173,051 | 13,095 | 174 | 28,638 | 38,033 | May |
| 90,265 | 283,665 | 138,737 | 170,699 | 10,124 | 3 | 34,623 | 36,486 | June |
| 88,174 | 269,019 | 136,648 | 162,980 | 17,392 | 2 | 34,384 | 35,295 | July |
| 93,471 | 283,596 | 137,428 | 166,672 | 9,986 | 2 | 26,947 | 40,393 | August |
| 98,773 | 263,195 | 133,106 | 158,121 | 11,560 | 102 | 24,067 | 36,924 | September |
| 159,883 | 235,598 | 104,345 | 108,923 | 15,800 | 2 | 23,323 | 33,119 | October |
| 136,477 | 249,412 | 119,266 | 103,181 | 11,740 | 2 | 34,328 | 33,011 | November |

| Deposits from non-residents | | Capital & reserves | | Borrowing from the Eurosystem relating to monetary policy operations | Remaining liabilities | | |
|---|---|---|---|---|---|---|---|
| Euro area | Rest of the world | Resident | Non-resident | | Resident | Non-resident | |
| 39 | 40 | 41 | 42 | 43 | 45 | 46 | |
| | | | | | | | ***Outstanding amounts – € million*** |
| | | | | | | | **2009** |
| 210,470 | 330,124 | 55,885 | 29,352 | 77,984 | 35,330 | 42,459 | November |
| 199,688 | 324,936 | 59,174 | 30,841 | 90,899 | 42,193 | 38,361 | December |
| | | | | | | | **2010** |
| 203,782 | 321,327 | 59,904 | 31,669 | 95,773 | 40,104 | 40,267 | January |
| 201,455 | 322,282 | 58,369 | 31,441 | 83,048 | 40,118 | 40,140 | February |
| 203,104 | 319,444 | 57,917 | 30,337 | 82,573 | 40,828 | 41,296 | March |
| 208,378 | 306,162 | 54,637 | 31,236 | 79,293 | 40,125 | 42,483 | April |
| 223,587 | 314,698 | 54,908 | 32,043 | 90,473 | 40,819 | 44,360 | May |
| 226,949 | 312,566 | 62,133 | 30,346 | 92,340 | 40,109 | 45,819 | June |
| 226,149 | 306,975 | 60,643 | 29,864 | 89,454 | 36,783 | 43,911 | July |
| 228,358 | 313,361 | 59,054 | 29,826 | 95,062 | 36,692 | 52,982 | August |
| 215,333 | 292,055 | 57,868 | 29,526 | 121,138 | 47,912 | 44,697 | September |
| 186,064 | 272,475 | 57,129 | 29,302 | 130,039 | 51,513 | 42,013 | October |
| 188,749 | 247,289 | 62,972 | 27,156 | 138,199 | 69,689 | 42,916 | November |

## Table A.4.1: Credit Institutions (Domestic Group) – Aggregate Balance Sheet

### Total Assets

| | | Loans to Irish residents | | | | Holdings of securities issued by Irish residents | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Monetary financial institutions | General government | Private Sector | | Monetary financial institutions | General government | Private Sector |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| November | 793,949 | 447,996 | 125,940 | 554 | 321,502 | 63,298 | 13,980 | 8,004 | 41,314 |
| December | 798,244 | 442,714 | 129,073 | 497 | 313,143 | 62,915 | 14,045 | 8,076 | 40,793 |
| **2010** | | | | | | | | | |
| January | 808,046 | 441,955 | 130,912 | 501 | 310,542 | 62,748 | 13,862 | 8,132 | 40,754 |
| February | 787,485 | 429,331 | 124,524 | 503 | 304,304 | 64,943 | 14,157 | 7,974 | 42,813 |
| March | 791,662 | 438,276 | 126,921 | 11,499 | 299,856 | 65,254 | 14,530 | 7,755 | 42,969 |
| April | 777,901 | 429,032 | 124,341 | 11,363 | 293,327 | 70,049 | 15,251 | 7,850 | 46,947 |
| May | 791,730 | 430,974 | 129,092 | 14,471 | 287,412 | 73,309 | 15,180 | 7,729 | 50,400 |
| June | 791,289 | 424,661 | 127,703 | 14,079 | 282,879 | 74,339 | 15,215 | 8,075 | 51,050 |
| July | 784,683 | 418,280 | 128,814 | 13,769 | 275,697 | 76,226 | 14,750 | 8,461 | 53,015 |
| August | 781,731 | 419,651 | 125,251 | 22,573 | 271,827 | 80,112 | 16,483 | 9,328 | 54,301 |
| September | 767,398 | 421,159 | 130,541 | 22,302 | 268,316 | 79,830 | 15,016 | 10,680 | 54,134 |
| October | 761,852 | 413,758 | 127,516 | 22,279 | 263,964 | 83,557 | 15,244 | 10,955 | 57,358 |
| November | 766,635 | 404,352 | 126,956 | 22,209 | 255,187 | 89,214 | 15,240 | 11,198 | 62,775 |

### Total Liabilities

| | | Deposits from Irish residents | | | | Debt securities issued | | |
|---|---|---|---|---|---|---|---|---|
| | | | Monetary financial institutions | General government | Private Sector | Irish Resident | Euro Area | Rest of the world |
| | 32 | 33 | 34 | 35 | 11 | 36 | 37 | 38 |
| ***Outstanding amounts – € million*** | | | | | | | | |
| **2009** | | | | | | | | |
| November | 793,949 | 311,338 | 131,716 | 3,502 | 176,120 | 39,316 | 12,429 | 47,824 |
| December | 798,244 | 310,657 | 131,137 | 3,276 | 176,244 | 38,830 | 12,037 | 47,220 |
| **2010** | | | | | | | | |
| January | 808,046 | 312,198 | 133,932 | 3,064 | 175,201 | 38,152 | 14,349 | 47,015 |
| February | 787,485 | 306,976 | 127,283 | 2,806 | 176,887 | 38,806 | 14,417 | 48,033 |
| March | 791,662 | 308,369 | 130,326 | 3,016 | 175,027 | 44,526 | 15,288 | 49,087 |
| April | 777,901 | 308,788 | 130,221 | 3,160 | 175,407 | 44,890 | 15,014 | 50,830 |
| May | 791,730 | 309,968 | 132,707 | 3,417 | 173,843 | 44,316 | 14,482 | 48,939 |
| June | 791,289 | 306,634 | 132,698 | 2,995 | 170,941 | 43,555 | 13,644 | 46,857 |
| July | 784,683 | 304,471 | 131,367 | 3,112 | 169,991 | 42,464 | 13,408 | 42,263 |
| August | 781,731 | 301,650 | 129,318 | 3,067 | 169,265 | 42,650 | 13,474 | 40,934 |
| September | 767,398 | 303,922 | 134,712 | 3,131 | 166,080 | 35,751 | 11,013 | 23,977 |
| October | 761,852 | 303,395 | 133,503 | 3,212 | 166,681 | 34,827 | 10,353 | 23,406 |
| November | 766,635 | 297,035 | 133,266 | 3,337 | 160,432 | 34,554 | 10,771 | 22,348 |

**Table A.4.1 – *continued***

| Loans to non-residents | | Holdings of securities issued by non-residents | | Central bank balances | | Remaining assets | | |
|---|---|---|---|---|---|---|---|---|
| Euro area | Rest of the world | Euro Area | Rest of the world | Resident | Non-resident | Resident | Non-resident | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | |
| | | | | | | | | ***Outstanding amounts – € million*** |
| | | | | | | | | **2009** |
| 10,626 | 151,326 | 26,178 | 52,689 | 7,564 | .. | 24,635 | 9,636 | November |
| 9,786 | 151,044 | 26,760 | 53,277 | 11,568 | .. | 31,164 | 9,017 | December |
| | | | | | | | | **2010** |
| 12,466 | 154,513 | 26,170 | 52,949 | 14,810 | 2 | 32,943 | 9,490 | January |
| 11,669 | 152,469 | 25,507 | 51,724 | 9,504 | 2 | 32,376 | 9,959 | February |
| 11,314 | 152,921 | 24,510 | 51,285 | 15,753 | 2 | 21,939 | 10,409 | March |
| 11,838 | 148,501 | 23,521 | 51,155 | 10,696 | 2 | 22,656 | 10,452 | April |
| 11,428 | 157,650 | 22,541 | 50,758 | 9,658 | 2 | 23,995 | 11,414 | May |
| 10,904 | 161,884 | 22,198 | 50,086 | 6,168 | 2 | 30,458 | 10,590 | June |
| 10,335 | 157,269 | 21,709 | 48,159 | 11,922 | 2 | 30,554 | 10,226 | July |
| 10,677 | 159,438 | 21,860 | 48,191 | 7,582 | 2 | 23,482 | 10,737 | August |
| 9,816 | 150,200 | 21,069 | 45,856 | 9,524 | 2 | 19,775 | 10,167 | September |
| 10,251 | 145,727 | 19,676 | 46,444 | 12,491 | 2 | 20,161 | 9,785 | October |
| 10,698 | 154,354 | 19,094 | 38,994 | 9,738 | 2 | 30,598 | 9,591 | November |

| Deposits from non-residents | | Capital & reserves | | Borrowing from the Eurosystem relating to monetary policy operations | Remaining liabilities | | |
|---|---|---|---|---|---|---|---|
| Euro area | Rest of the world | Resident | Non-resident | | Resident | Non-resident | |
| 39 | 40 | 41 | 42 | 43 | 45 | 46 | |
| | | | | | | | ***Outstanding amounts – € million*** |
| | | | | | | | **2009** |
| 30,589 | 211,281 | 39,493 | 10,799 | 45,069 | 27,889 | 17,923 | November |
| 26,372 | 202,181 | 40,877 | 11,779 | 58,474 | 35,418 | 14,398 | December |
| | | | | | | | **2010** |
| 29,375 | 202,434 | 41,104 | 12,249 | 64,323 | 32,974 | 13,873 | January |
| 27,923 | 198,424 | 39,238 | 11,711 | 53,883 | 34,109 | 13,962 | February |
| 25,106 | 194,294 | 39,441 | 10,959 | 54,073 | 34,460 | 16,059 | March |
| 24,599 | 186,281 | 36,015 | 11,807 | 50,323 | 33,285 | 16,067 | April |
| 25,018 | 193,937 | 34,950 | 11,624 | 59,523 | 32,464 | 16,510 | May |
| 24,183 | 192,759 | 41,179 | 11,314 | 59,811 | 35,103 | 16,250 | June |
| 29,799 | 194,251 | 40,290 | 10,991 | 58,319 | 32,620 | 15,808 | July |
| 29,644 | 193,129 | 38,255 | 10,938 | 60,419 | 32,356 | 18,281 | August |
| 24,374 | 178,470 | 37,847 | 11,186 | 82,988 | 43,392 | 14,478 | September |
| 22,428 | 170,614 | 37,150 | 10,882 | 85,654 | 48,021 | 15,123 | October |
| 17,618 | 155,013 | 41,917 | 8,655 | 97,319 | 65,877 | 15,529 | November |

## A.14: Distribution of Advances to Irish Private Sector by Sector of Economic Activity

| € million | | | Resident Non-Government Credit | |
|---|---|---|---|---|
| | | | June 2010 | September 2010 |
| **1.** | **Agriculture and Forestry** | | 4,797 | 4,761 |
| | 1.1 | Farming of cattle and other animals | 1,844 | 1,829 |
| | 1.2 | Dairy farming | 1,114 | 1,098 |
| | 1.3 | Other agricultural activities | 1,674 | |
| | 1.4 | Forestry and logging | 166 | 164 |
| **2.** | **Fishing** | | 310 | 316 |
| **3.** | **Mining and quarrying** | | 433 | 413 |
| **4.** | **Manufacturing** | | 6,443 | 5,918 |
| | 4.1 | Food products derived from agricultural activities | 2,063 | 1,977 |
| | | 4.1.1 Processing of meat | 269 | 268 |
| | | 4.1.2 Processing of dairy products and other food products | 1,795 | 1,709 |
| | 4.2 | Food (non-agricultural activities)/beverages/tobacco | 680 | 545 |
| | 4.3 | Textiles, textile products; leather and leather products | 64 | 57 |
| | 4.4 | Wood, pulp, paper products, publishing/printing | 971 | 901 |
| | 4.5 | Chemicals, man-made fibres, rubber/plastic products | 562 | 543 |
| | 4.6 | Machinery/equipment | 629 | 590 |
| | 4.7 | Computers and office machinery | 39 | 40 |
| | 4.8 | Other manufacturing | 1,435 | 1,265 |
| **5.** | **Electricity, gas and water supply** | | 806 | 644 |
| **6.** | **Construction** | | 9,966 | 7,879 |
| **7.** | **Wholesale/retail trade & repairs** | | 11,747 | 11,493 |
| | 7.1 | Sale/maintenance/repair of vehicles; retail sale of fuel | 1,911 | 1,794 |
| | 7.2 | Wholesale/commission trade (except vehicles) | 2,482 | 2,383 |
| | 7.3 | Retail trade; repair of personal/household goods | 6,059 | 6,022 |
| | 7.4 | Other wholesale/retail, not included elsewhere | 1,294 | 1,294 |
| **8.** | **Hotels and restaurants** | | 9,970 | 9,418 |
| | 8.1 | Hotels | 5,683 | 5,190 |
| | 8.2 | Restaurants | 711 | 693 |
| | 8.3 | Public Houses | 3,035 | 2,993 |
| | 8.4 | Other accommodation and catering | 541 | 542 |
| **9.** | **Transport, storage and communications** | | 2,842 | 2,564 |

## Table A.14 – *continued*

| € million | | Resident Non-Government Credit | |
|---|---|---|---|
| | | June 2010 | September 2010 |
| **10.** | **Financial intermediation** | 93,238 | 93,318 |
| 10.1 | Financial leasing | 1,783 | 1,782 |
| 10.2 | Non-bank credit grantors (including credit unions) | 13,280 | 12,437 |
| 10.3 | Investment and unit trusts | 217 | 225 |
| 10.4 | Holding companies | 1,707 | 1,639 |
| 10.5 | Hire-purchase finance companies | 873 | 795 |
| 10.6 | Life insurance companies | 4,438 | 4,445 |
| 10.7 | Pension funds | 235 | 229 |
| 10.8 | Non-life insurance companies | 511 | 377 |
| 10.9 | Security broker/Fund management | 5,413 | 5,029 |
| 10.10 | Other financial intermediation | 64,779 | 66,361 |
| **11.** | **Real estate and business activities** | 76,152 | 69,170 |
| 11.1 | Real estate activities | 71,112 | 64,253 |
| 11.2 | Computer and related services | 162 | 158 |
| 11.3 | Research and development | 33 | 33 |
| 11.4 | Legal, accounting and consulting | 1,725 | 1,681 |
| 11.5 | Advertising | 47 | 49 |
| 11.6 | Other business activities | 3,074 | 2,997 |
| **12.** | **Education (Schools and Colleges)** | 864 | 785 |
| **13.** | **Health and social work** | 2,461 | 2,423 |
| **14.** | **Other Community, Social & Personal Services** | 2,550 | 2,441 |
| 14.1 | Recreational, cultural, sporting and other service activities | 2,345 | 2,245 |
| 14.2 | Churches/religious organisations and charities | 205 | 196 |
| **15.** | **Personal (private households)** | 123,706 | 122,725 |
| 15.1 | House mortgage finance | 107,431 | 107,572 |
| 15.1.1 | Principal dwelling houses | 78,200 | 78,768 |
| 15.1.2 | Buy-to-Let residential properties | 28,032 | 27,631 |
| 15.1.3 | Holiday homes/second houses | 1,199 | 1,173 |
| 15.2 | Other housing finance | 494 | 574 |
| 15.3 | Finance for investment | 1,927 | 1,709 |
| 15.4 | Other personal | 13,854 | 12,871 |
| Total | | 346,286 | 334,269 |

## A.15: Distribution of Advances to Non-resident Private Sector and Deposits from Private Sector by Sector of Economic Activity

| € million | | June 2010 | | |
|---|---|---|---|---|
| | | Non-resident non-Government credit | Non-resident non-Government deposits | Resident non-Government deposits |
| 1. | Agriculture and Forestry | 72 | 28 | 2,195 |
| 2. | Fishing | 6 | 0 | 99 |
| 3. | Mining and quarrying | 583 | 363 | 318 |
| 4. | Manufacturing | 6,236 | 3,932 | 5,876 |
| 5. | Electricity, gas and water supply | 10,149 | 359 | 856 |
| 6. | Construction | 3,126 | 441 | 3,060 |
| 7. | Wholesale/retail trade & repairs | 1,906 | 2,246 | 4,477 |
| 8. | Hotels and restaurants | 1,179 | 123 | 657 |
| 9. | Transport, storage and communications | 20,332 | 5,233 | 3,728 |
| 10. | Financial intermediation | 162,012 | 82,215 | 46,656 |
| 11. | Real estate and business activities | 25,126 | 3,349 | 12,139 |
| 12. | Education (Schools and Colleges) | 1,516 | 82 | 1,708 |
| 13. | Health and social work | 3,465 | 93 | 1,133 |
| 14. | Other Community, Social & Personal Services | 1,333 | 1,516 | 4,793 |
| 15. | Personal (private households) | 4,349 | 3,863 | 80,209 |
| Total | | 241,392 | 103,844 | 167,902 |

## Table A.15 – *continued*

| € million | | September 2010 | | |
|---|---|---|---|---|
| | | Non-resident non-Government credit | Non-resident non-Government deposits | Resident non-Government deposits |
| 1. | Agriculture and Forestry | 153 | 31 | 2,149 |
| 2. | Fishing | 5 | 0 | 78 |
| 3. | Mining and quarrying | 402 | 723 | 404 |
| 4. | Manufacturing | 5,988 | 3,478 | 4,988 |
| 5. | Electricity, gas and water supply | 9,631 | 367 | 724 |
| 6. | Construction | 3,085 | 462 | 2,865 |
| 7. | Wholesale/retail trade & repairs | 1,925 | 998 | 4,149 |
| 8. | Hotels and restaurants | 969 | 76 | 737 |
| 9. | Transport, storage and communications | 19,359 | 3,029 | 3,664 |
| 10. | Financial intermediation | 153,963 | 75,802 | 44,560 |
| 11. | Real estate and business activities | 22,240 | 2,463 | 11,810 |
| 12. | Education (Schools and Colleges) | 1,395 | 62 | 1,763 |
| 13. | Health and social work | 3,453 | 57 | 1,124 |
| 14. | Other Community, Social & Personal Services | 1,243 | 1,391 | 4,870 |
| 15. | Personal (private households) | 4,405 | 3,797 | 78,868 |
| Total | | 228,215 | 92,735 | 162,752 |

## Table A.16: Analysis of Residential Mortgages vis-à-vis Irish Residents

| € million | Variable rate | Fixed rate | *of which:* | | | Total |
|---|---|---|---|---|---|---|
| | | | Over 1 and up to 3 years | Over 3 and up to 5 years | Over 5 years | |
| **2003** | | | | | | |
| 31 March | 34,716 | 10,767 | 6,219 | 2,552 | 1,996 | 45,483 |
| 30 June | 36,467 | 10,445 | 6,034 | 2,539 | 1,871 | 46,912 |
| 30 September | 40,318 | 10,299 | 6,642 | 2,348 | 1,309 | 50,617 |
| 31 December | 44,007 | 10,607 | 7,077 | 2,299 | 1,231 | 54,614 |
| **2004** | | | | | | |
| 31 March | 46,809 | 11,083 | 7,220 | 2,176 | 1,687 | 57,892 |
| 30 June | 50,843 | 10,994 | 7,444 | 1,930 | 1,620 | 61,837 |
| 30 September | 55,731 | 12,887 | 9,313 | 1,880 | 1,694 | 68,618 |
| 31 December | 60,563 | 12,557 | 9,234 | 1,673 | 1,650 | 73,120 |
| **2005** | | | | | | |
| 31 March | 64,448 | 12,359 | 9,065 | 1,633 | 1,661 | 76,807 |
| 30 June | 69,961 | 12,269 | 8,994 | 1,681 | 1,594 | 82,230 |
| 30 September | 75,605 | 12,522 | 9,032 | 1,827 | 1,664 | 88,127 |
| 30 December | 79,720 | 14,539 | 10,171 | 2,553 | 1,815 | 94,259 |
| **2006** | | | | | | |
| 31 March | 84,045 | 16,037 | 11,731 | 2,682 | 1,623 | 100,082 |
| 30 June | 87,124 | 17,214 | 12,071 | 3,333 | 1,810 | 104,338 |
| 29 September | 89,257 | 18,708 | 12,667 | 4,074 | 1,967 | 107,965 |
| 29 December | 90,355 | 20,247 | 12,793 | 5,306 | 2,148 | 110,603 |
| **2007** | | | | | | |
| 30 March | 88,480 | 23,878 | 15,236 | 6,295 | 2,347 | 112,358 |
| 29 June | 88,461 | 27,243 | 19,774 | 4,944 | 2,525 | 115,704 |
| 28 September | 90,880 | 29,642 | 20,060 | 6,952 | 2,630 | 120,522 |
| 31 December | 92,657 | 30,345 | 20,811 | 6,979 | 2,555 | 123,002 |
| **2008** | | | | | | |
| 31 March | 94,026 | 30,359 | 20,662 | 7,115 | 2,582 | 124,385 |
| 30 June | 93,034 | 27,535 | 17,932 | 7,016 | 2,587 | 120,569 |
| 30 September | 95,730 | 27,314 | 17,090 | 7,449 | 2,775 | 123,045 |
| 31 December | 91,433 | 22,857 | 13,272 | 6,878 | 2,707 | 114,290 |
| **2009** | | | | | | |
| 31 March | 93,805 | 19,832 | 10,590 | 6,409 | 2,833 | 113,637 |
| 30 June | 95,777 | 18,083 | 9,243 | 6,160 | 2,680 | 113,860 |
| 30 September | 93,510 | 16,254 | 7,781 | 5,913 | 2,559 | 109,764 |
| 31 December | 94,813 | 15,073 | 6,906 | 5,715 | 2,452 | 109,886 |
| **2010** | | | | | | |
| 31 March | 93,541 | 15,603 | 6,899 | 5,677 | 3,026 | 109,144 |
| 30 June | 92,003 | 15,490 | 7,608 | 6,307 | 1,576 | 107,493 |
| 30 September | 92,248 | 15,328 | 7,322 | 6,531 | 1,475 | 107,577 |

**Notes:**

1. Data relate to residential mortgages as reported on the balance sheets of within-the-State offices of credit institutions, i.e., mortgages extended on a cross-border basis are not included. The total reported above is the same figure as that reported vis-à-vis Irish residents under item 5.6 (Assets) of Table C3: Credit Institutions: Aggregate Balance Sheet and so does not include securitised mortgages.
2. Variable rate includes fixed rate mortgages of up to and including 1 year.
3. Fixed rate mortgages are classified according to the term over which the interest rate is fixed and not the term of the mortgage, e.g., a 20-year mortgage with a two-year fixed interest rate is included under Fixed Rate: Over 1 and up to 3 years.

## Table A.17.1: All Credit Institutions: International Business: Analysis by Currency, Sector and Maturity

| € million | 30 June 2010 | 30 September 2010 |
|---|---|---|
| **Assets** | | |
| **1. Analysis by currency** | | |
| *Irish residents in non-euro* | 69,399 | 64,621 |
| US Dollar | 30,375 | 27,308 |
| Sterling | 28,096 | 26,555 |
| Other | 10,929 | 10,758 |
| *Non-residents in non-euro* | 382,567 | 349,079 |
| US Dollar | 156,211 | 135,051 |
| Sterling | 176,853 | 166,594 |
| Other | 49,503 | 47,433 |
| Non-residents in euro | 292,449 | 295,620 |
| **2. Analysis by sector** | | |
| *Irish residents in non-euro* | | |
| Monetary financial institutions | 31,141 | 31,168 |
| Non-monetary financial institutions | 38,258 | 33,453 |
| *Non-residents in non-euro* | | |
| Monetary financial institutions | 181,326 | 164,351 |
| Non-monetary financial institutions | 201,240 | 184,727 |
| *Non-residents in euro* | | |
| Monetary financial institutions | 153,777 | 157,008 |
| Non-monetary financial institutions | 138,672 | 138,612 |
| **3. Total international business** | **744,414** | **709,320** |

**Note:** Data in this table are currently being collected under new reporting arrangements. As these new arrangements are still in the implementation phase, some estimation has been necessary.

## Table A.17.1 – *continued*

| € million | 30 June 2010 | 30 September 2010 |
|---|---|---|
| **Liabilities** | | |
| **1. Analysis by currency** | | |
| *Irish residents in non-euro* | 53,579 | 47,617 |
| US Dollar | 25,482 | 20,587 |
| Sterling | 16,844 | 17,020 |
| Other | 11,253 | 10,011 |
| *Non-residents in non-euro* | 311,015 | 265,001 |
| US Dollar | 143,488 | 113,783 |
| Sterling | 129,121 | 117,114 |
| Other | 38,406 | 34,104 |
| *Non-residents in euro* | 358,819 | 346,521 |
| **2. Analysis by sector** | | |
| *Irish residents in non-euro* | | |
| Monetary financial institutions | 32,847 | 32,320 |
| Non-monetary financial institutions | 20,731 | 15,297 |
| *Non-residents in non-euro* | | |
| Monetary financial institutions | 230,815 | 198,875 |
| Non-monetary financial institutions | 80,200 | 66,126 |
| *Non-residents in euro* | | |
| Monetary financial institutions | 301,565 | 294,132 |
| Non-monetary financial institutions | 57,253 | 52,389 |
| **3. Total international business** | **723,413** | **659,140** |

## Table A.17.2: All Credit Institutions: International Business: Analysis by Geographic Area

| € million | Liabilities | | | Assets | | | |
|---|---|---|---|---|---|---|---|
| | Denominated in: | | | Denominated in: | | | |
| | Euro | Non-euro | Total | Euro | Non-euro | Total | Net external liabilities[a] |
| | September 2010 | | | | | | |
| **1. EU Countries** | **319,114** | **257,011** | **576,125** | **276,389** | **276,225** | **552,614** | **+40,515** |
| **MU Countries** | **190,410** | **96,199** | **286,609** | **208,176** | **86,657** | **294,834** | **+8,779** |
| Austria | 487 | 141 | 628 | 3,158 | 1,087 | 4,245 | -3,617 |
| Belgium | 41,568 | 13,976 | 55,544 | 5,413 | 916 | 6,329 | +49,215 |
| Luxembourg | 1,183 | 781 | 1,965 | 6,099 | 2,005 | 8,103 | -6,139 |
| Finland | 61 | 62 | 123 | 1,093 | 538 | 1,632 | -1,509 |
| France | 22,586 | 3,502 | 26,088 | 25,910 | 2,273 | 28,183 | -2,095 |
| Germany | 104,548 | 18,018 | 122,567 | 39,101 | 3,997 | 43,098 | +79,469 |
| Greece | 216 | 21 | 237 | 4,096 | 348 | 4,444 | -4,207 |
| Ireland | – | 47,617 | 47,617 | – | 64,621 | 64,621 | – |
| Italy | 6,610 | 679 | 7,289 | 65,373 | 5,552 | 70,925 | -63,636 |
| Netherlands | 8,377 | 10,849 | 19,225 | 16,528 | 3,394 | 19,922 | -697 |
| Portugal | 192 | 43 | 234 | 4,731 | 49 | 4,780 | -4,546 |
| Spain | 2,771 | 229 | 3,000 | 33,687 | 1,391 | 35,078 | -32,077 |
| Other MU[b] | 1,811 | 281 | 2,091 | 2,988 | 486 | 3,474 | -1,383 |
| **Other EU** | **128,704** | **160,812** | **289,516** | **68,213** | **189,567** | **257,780** | **+31,736** |
| Denmark | 8,375 | 408 | 8,782 | 5,161 | 1,552 | 6,713 | +2,069 |
| Sweden | 513 | 422 | 936 | 897 | 1,861 | 2,757 | -1,822 |
| United Kingdom | 119,303 | 159,918 | 279,221 | 55,613 | 180,352 | 235,964 | +43,257 |
| Other EU | 513 | 64 | 577 | 6,542 | 5,803 | 12,345 | -11,768 |
| **2. Other Europe** | **3,564** | **6,643** | **10,206** | **3,002** | **11,581** | **14,583** | **-4,376** |
| Switzerland | 3,331 | 6,281 | 9,612 | 318 | 6,365 | 6,682 | +2,929 |
| Other Europe | 233 | 361 | 595 | 2,684 | 5,216 | 7,900 | -7,306 |
| **3. Other Industrial Countries** | **15,820** | **29,120** | **44,940** | **12,742** | **107,688** | **120,431** | **-75,490** |
| Australia, New Zealand, South Africa | 115 | 101 | 216 | 1,770 | 6,509 | 8,280 | -8,064 |
| Canada | 111 | 8,574 | 8,685 | 1,074 | 8,214 | 9,288 | -603 |
| Japan | 100 | 247 | 347 | 581 | 11,159 | 11,739 | -11,392 |
| United States | 15,494 | 20,198 | 35,692 | 9,317 | 81,807 | 91,124 | -55,431 |
| **4. Offshore Centres** | **5,089** | **15,893** | **20,981** | **508** | **9,469** | **9,977** | **+11,005** |
| **5. Other** | **2,935** | **3,952** | **6,888** | **2,979** | **8,737** | **11,717** | **-4,829** |
| **6. Total International Business** | **346,521** | **312,618** | **659,140** | **295,620** | **413,700** | **709,320** | **-33,177** |

**a** Net external liabilities are based on the selected assets and liabilities which are included in this table. A plus sign denotes net external liabilities; a minus sign net external assets.

**b** Positions vis-a-vis Slovenia, Cyprus, Malta and Slovakia are not statistically significant.

## Table A.17.2 – *continued*

| Liabilities | | | Assets | | | |
|---|---|---|---|---|---|---|
| Denominated in: | | | Denominated in: | | | |
| Euro | Non-euro | Total | Euro | Non-euro | Total | Net external liabilities[a] |
| June 2010 | | | | | | |
| **327,319** | **290,225** | **617,544** | **274,409** | **291,048** | **565,457** | **+67,908** |
| **195,036** | **112,356** | **307,392** | **200,364** | **95,792** | **296,157** | **+27,056** |
| 1,134 | 545 | 1,679 | 3,038 | 1,099 | 4,137 | -2,458 |
| 41,802 | 17,512 | 59,314 | 6,763 | 1,528 | 8,291 | +51,023 |
| 2,171 | 970 | 3,141 | 6,645 | 2,246 | 8,890 | -5,750 |
| 123 | 63 | 186 | 1,275 | 529 | 1,805 | -1,619 |
| 22,482 | 5,013 | 27,495 | 27,256 | 4,718 | 31,975 | -4,480 |
| 105,814 | 19,843 | 125,657 | 30,136 | 4,877 | 35,014 | +90,643 |
| 9 | 20 | 30 | 3,707 | 401 | 4,108 | -4,079 |
| – | 53,579 | 53,579 | – | 69,399 | 69,399 | – |
| 8,572 | 1,365 | 9,936 | 62,289 | 6,624 | 68,913 | -58,976 |
| 8,234 | 12,139 | 20,373 | 16,488 | 2,074 | 18,561 | +1,811 |
| 155 | 33 | 188 | 4,961 | 5 | 4,965 | -4,778 |
| 2,850 | 650 | 3,500 | 34,997 | 1,771 | 36,768 | -33,268 |
| 1,690 | 625 | 2,316 | 2,809 | 521 | 3,331 | -1,015 |
| **132,283** | **177,869** | **310,152** | **74,045** | **195,256** | **269,301** | **+40,852** |
| 7,519 | 529 | 8,047 | 3,592 | 1,714 | 5,306 | +2,741 |
| 189 | 522 | 711 | 965 | 1,889 | 2,854 | -2,143 |
| 123,951 | 176,708 | 300,660 | 63,037 | 185,244 | 248,281 | +52,379 |
| 624 | 111 | 734 | 6,451 | 6,408 | 12,860 | -12,125 |
| **4,018** | **7,045** | **11,063** | **3,415** | **10,996** | **14,411** | **-3,348** |
| 2,839 | 6,759 | 9,598 | 382 | 6,214 | 6,595 | +3,003 |
| 1,179 | 286 | 1,465 | 3,033 | 4,783 | 7,816 | -6,351 |
| **18,436** | **44,074** | **62,510** | **11,535** | **130,128** | **141,663** | **-79,153** |
| 100 | 388 | 488 | 1,917 | 7,129 | 9,046 | -8,558 |
| 787 | 8,981 | 9,767 | 1,197 | 8,976 | 10,173 | -406 |
| 109 | 265 | 374 | 592 | 12,314 | 12,906 | -12,532 |
| 17,440 | 34,441 | 51,881 | 7,828 | 101,709 | 109,538 | -57,657 |
| **4,302** | **18,972** | **23,274** | **473** | **10,611** | **11,084** | **+12,190** |
| **4,743** | **4,277** | **9,021** | **2,616** | **9,183** | **11,799** | **-2,778** |
| **358,819** | **364,594** | **723,413** | **292,449** | **451,966** | **744,414** | **-5,181** |

## Table A.18.1: Money Market Funds – Monthly Aggregate Balance Sheet

| | Total Assets | Deposits and loan claims | Securities other than shares | | | | Money Market Fund Shares/ Units | Other assets including Shares and Other Equities |
|---|---|---|---|---|---|---|---|---|
| | | | Issued by residents | Issued by other euro area residents | Issued by non-euro area residents | | | |
| | | | | | MFIs | Other | | |
| ***Outstanding amounts – € million*** | | | | | | | | |
| **2009** | | | | | | | | |
| October | 313,056 | 26,910 | 5,004 | 76,945 | 158,958 | 43,791 | 804 | 645 |
| November | 306,437 | 25,144 | 4,759 | 79,065 | 154,748 | 41,398 | 817 | 506 |
| December | 310,426 | 28,099 | 4,523 | 78,764 | 153,193 | 43,971 | 822 | 1,053 |
| **2010** | | | | | | | | |
| January | 318,383 | 26,651 | 4,059 | 81,634 | 166,208 | 38,265 | 778 | 787 |
| February | 320,878 | 31,216 | 4,329 | 80,432 | 163,509 | 39,389 | 768 | 1,236 |
| March | 323,544 | 35,302 | 4,428 | 83,493 | 158,067 | 40,990 | 769 | 496 |
| April | 329,395 | 31,970 | 5,361 | 86,720 | 162,582 | 41,381 | 763 | 619 |
| May | 341,710 | 40,235 | 4,384 | 83,350 | 171,387 | 40,565 | 754 | 1,035 |
| June | 346,978 | 37,090 | 4,833 | 84,232 | 172,017 | 47,306 | 720 | 779 |
| July | 339,239 | 47,933 | 3,427 | 80,667 | 166,806 | 38,744 | 1,063 | 599 |
| August | 360,555 | 47,877 | 3,750 | 91,772 | 175,067 | 40,659 | 917 | 512 |
| September | 347,053 | 42,779 | 3,901 | 89,365 | 166,696 | 42,921 | 719 | 672 |
| October | 352,556 | 40,174 | 3,683 | 93,091 | 173,873 | 40,324 | 723 | 687 |
| November | 368,829 | 42,579 | 3,276 | 97,805 | 183,006 | 40,664 | 733 | 766 |

| | Total Liabilities | Money Market Fund Shares/Units | | | Other Liabilities |
|---|---|---|---|---|---|
| | | Issued to residents | Issued to other euro area residents | Issued to non-euro area residents | |
| ***Outstanding amounts – € million*** | | | | | |
| **2009** | | | | | |
| October | 313,056 | 10,734 | 47,601 | 252,532 | 2,189 |
| November | 306,437 | 10,828 | 47,314 | 246,757 | 1,539 |
| December | 310,426 | 11,887 | 44,990 | 250,317 | 3,232 |
| **2010** | | | | | |
| January | 318,383 | 12,745 | 49,899 | 253,792 | 1,947 |
| February | 320,878 | 11,970 | 51,783 | 253,531 | 3,594 |
| March | 323,544 | 14,326 | 52,989 | 253,038 | 3,191 |
| April | 329,395 | 14,425 | 53,626 | 258,405 | 2,939 |
| May | 341,710 | 14,156 | 52,985 | 273,093 | 1,476 |
| June | 346,978 | 11,543 | 54,939 | 278,743 | 1,753 |
| July | 339,239 | 10,302 | 53,250 | 273,121 | 2,566 |
| August | 360,555 | 10,889 | 54,994 | 291,168 | 3,504 |
| September | 347,053 | 11,053 | 54,187 | 279,638 | 2,175 |
| October | 352,556 | 10,428 | 48,965 | 290,662 | 2,501 |
| November | 368,829 | 12,031 | 55,578 | 298,950 | 2,269 |

## Table A.18.2: Money Market Funds – Currency Breakdown of Assets

| | Total | Loans | | | | Securities other than Shares | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Issued by residents | | | |
| | | Euro | Sterling | USD | Other | Euro | Sterling | USD | Other |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2008** | | | | | | | | | |
| December | 316,199 | 10,740 | 18,085 | 21,783 | 574 | 2,471 | 4,395 | 1,660 | 2 |
| **2009** | | | | | | | | | |
| March | 314,739 | 7,384 | 14,814 | 15,661 | 497 | 1,727 | 3,456 | 780 | 0 |
| June | 316,808 | 5,834 | 10,602 | 13,009 | 557 | 1,323 | 2,663 | 683 | 1 |
| September | 308,528 | 4,607 | 8,394 | 14,903 | 460 | 1,005 | 2,412 | 899 | 0 |
| December | 308,551 | 6,608 | 8,193 | 12,983 | 316 | 1,232 | 2,439 | 852 | 0 |
| **2010** | | | | | | | | | |
| March | 322,280 | 7,825 | 6,385 | 20,786 | 306 | 1,458 | 1,980 | 987 | 3 |
| June | 345,479 | 8,795 | 9,923 | 17,999 | 373 | 2,199 | 1,945 | 669 | 20 |
| September | 345,662 | 11,789 | 9,808 | 20,853 | 330 | 1,861 | 1,239 | 798 | 3 |

| | Securities other than Shares | | | | Securities other than Shares | | | |
|---|---|---|---|---|---|---|---|---|
| | Issued by other euro area residents | | | | Issued by non-euro area residents | | | |
| | Euro | Sterling | USD | Other | Euro | Sterling | USD | Other |
| ***Outstanding amounts – € million*** | | | | | | | | |
| **2008** | | | | | | | | |
| December | 28,050 | 13,214 | 9,954 | 215 | 15,035 | 74,543 | 114,380 | 1,098 |
| **2009** | | | | | | | | |
| March | 35,020 | 13,639 | 13,568 | 165 | 13,976 | 76,679 | 115,985 | 1,388 |
| June | 37,560 | 19,420 | 13,963 | 222 | 13,311 | 83,370 | 112,771 | 1,519 |
| September | 43,812 | 17,536 | 12,903 | 308 | 14,170 | 84,170 | 101,382 | 1,569 |
| December | 46,923 | 18,901 | 12,388 | 552 | 15,119 | 80,807 | 100,113 | 1,124 |
| **2010** | | | | | | | | |
| March | 50,509 | 19,647 | 12,775 | 562 | 16,166 | 84,072 | 97,543 | 1,275 |
| June | 48,317 | 21,015 | 14,463 | 437 | 17,682 | 85,703 | 114,646 | 1,293 |
| September | 49,810 | 23,858 | 15,248 | 449 | 14,772 | 85,043 | 108,590 | 1,212 |

# Section B

## Interest Rates

## Table B.1.1: Retail Interest Rates – Deposits, Outstanding Amounts

| | Households | | | | Non-financial corporations | | |
|---|---|---|---|---|---|---|---|
| | Overnight | Redeemable at notice | With agreed maturity | | Overnight | With agreed maturity | |
| | | | Up to 2 years | Over 2 years | | Up to 2 years | Over 2 years |
| ***Rates (%)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 0.64 | 2.24 | 3.28 | 1.98 | 0.30 | 2.05 | 0.92 |
| December | 0.64 | 2.30 | 3.23 | 2.03 | 0.32 | 2.03 | 0.90 |
| **2010** | | | | | | | |
| January | 0.66 | 2.28 | 3.13 | 2.02 | 0.32 | 2.04 | 0.82 |
| February | 0.62 | 2.29 | 3.09 | 2.01 | 0.33 | 1.95 | 0.82 |
| March | 0.65 | 2.33 | 3.03 | 1.95 | 0.23 | 2.01 | 0.82 |
| April | 0.63 | 2.31 | 2.90 | 2.02 | 0.23 | 2.05 | 0.82 |
| May | 0.60 | 2.23 | 2.88 | 1.99 | 0.20 | 2.03 | 0.72 |
| June | 0.66 | 2.23 | 2.86 | 1.91 | 0.20 | 1.98 | 0.73 |
| July | 0.64 | 2.25 | 2.88 | 1.67 | 0.29 | 2.01 | 0.77 |
| August | 0.61 | 2.15 | 2.86 | 1.81 | 0.20 | 2.01 | 0.85 |
| September | 0.63 | 2.17 | 2.82 | 1.83 | 0.18 | 2.05 | 0.86 |
| October | 0.62 | 2.18 | 2.82 | 1.85 | 0.20 | 2.14 | 0.93 |
| November | 0.59 | 2.17 | 2.80 | 1.77 | 0.19 | 2.12 | 2.80 |
| ***Volumes (€ million)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 37,465 | 15,314 | 30,935 | 3,150 | 19,202 | 21,487 | 2,927 |
| December | 37,847 | 15,698 | 30,901 | 3,290 | 19,459 | 21,164 | 2,900 |
| **2010** | | | | | | | |
| January | 37,943 | 16,030 | 30,623 | 3,361 | 18,993 | 20,263 | 2,846 |
| February | 37,814 | 16,340 | 30,489 | 3,345 | 18,215 | 20,683 | 2,823 |
| March | 36,858 | 16,581 | 30,080 | 3,339 | 15,909 | 20,698 | 2,793 |
| April | 37,321 | 16,978 | 29,872 | 3,283 | 16,053 | 19,863 | 2,737 |
| May | 37,016 | 17,226 | 29,365 | 3,176 | 16,035 | 19,951 | 2,715 |
| June | 36,281 | 17,305 | 29,352 | 3,179 | 16,487 | 19,412 | 2,701 |
| July | 36,430 | 17,303 | 29,216 | 3,211 | 16,184 | 19,414 | 2,673 |
| August | 35,860 | 17,212 | 29,289 | 3,124 | 16,237 | 19,453 | 2,677 |
| September | 36,051 | 16,901 | 29,203 | 3,072 | 15,798 | 18,330 | 2,677 |
| October | 36,424 | 16,600 | 29,061 | 3,065 | 16,375 | 17,126 | 2,689 |
| November | 35,935 | 15,856 | 27,914 | 3,028 | 15,970 | 16,802 | 1,756 |

**Notes:** The interest rate and volume data refer to euro-denominated deposits and loans vis-à-vis households and non-financial corporations resident in Ireland and other Monetary Union Member States. Rates reported are weighted averages for each instrument category.

Data are representative of resident offices of banks and building societies. Credit union data are not included in the interest rates tables.

## Table B.1.2: Retail Interest Rates – Loans, Outstanding Amounts

| | Households | | | | | | |
|---|---|---|---|---|---|---|---|
| | Overdrafts | Loans for house purchases with original maturity | | | Consumer loans and other loans with original maturity | | |
| | | Up to 1 year | Over 1 and up to 5 years | Over 5 years | Up to 1 year | Over 1 and up to 5 years | Over 5 years |
| ***Rates (%)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 12.66 | 2.76 | 2.72 | 2.66 | 7.01 | 5.85 | 3.89 |
| December | 12.60 | 2.75 | 2.67 | 2.68 | 7.06 | 5.86 | 3.90 |
| **2010** | | | | | | | |
| January | 12.60 | 2.81 | 2.67 | 2.66 | 6.93 | 5.85 | 3.88 |
| February | 12.84 | 2.75 | 2.69 | 2.70 | 7.02 | 5.99 | 3.90 |
| March | 12.66 | 2.84 | 2.73 | 2.72 | 7.07 | 6.15 | 3.97 |
| April | 12.93 | 2.86 | 2.72 | 2.85 | 7.11 | 6.17 | 4.20 |
| May | 12.90 | 2.84 | 2.75 | 2.88 | 7.22 | 6.18 | 4.18 |
| June | 12.20 | 2.99 | 2.78 | 2.76 | 8.10 | 5.73 | 4.03 |
| July | 12.52 | 3.01 | 2.79 | 2.77 | 8.13 | 5.77 | 4.06 |
| August | 12.08 | 3.09 | 2.88 | 2.85 | 8.10 | 5.81 | 4.12 |
| September | 12.72 | 3.10 | 2.89 | 2.85 | 8.41 | 5.84 | 4.19 |
| October | 12.83 | 3.20 | 2.92 | 2.85 | 8.85 | 5.91 | 4.23 |
| November | 12.83 | 3.27 | 2.94 | 2.85 | 9.04 | 5.48 | 4.11 |
| ***Volumes (€ million)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 2,743 | 1,052 | 2,128 | 106,399 | 7,559 | 7,900 | 8,581 |
| December | 2,739 | 1,019 | 2,109 | 106,525 | 7,315 | 7,758 | 8,582 |
| **2010** | | | | | | | |
| January | 2,728 | 998 | 2,070 | 106,414 | 7,548 | 7,300 | 8,841 |
| February | 2,686 | 1,025 | 2,049 | 106,359 | 7,430 | 7,131 | 8,640 |
| March | 2,704 | 961 | 1,767 | 106,258 | 6,870 | 6,644 | 8,457 |
| April | 2,653 | 1,011 | 1,726 | 105,219 | 6,836 | 6,602 | 8,432 |
| May | 2,612 | 943 | 1,703 | 105,056 | 6,720 | 6,416 | 8,472 |
| June | 4,090 | 881 | 1,647 | 104,620 | 7,730 | 8,326 | 10,569 |
| July | 4,062 | 853 | 1,594 | 104,427 | 7,281 | 8,215 | 10,638 |
| August | 3,989 | 846 | 1,553 | 104,495 | 7,276 | 8,085 | 10,624 |
| September | 3,968 | 807 | 1,521 | 104,995 | 6,784 | 8,288 | 10,565 |
| October | 3,828 | 772 | 1,462 | 104,808 | 6,751 | 8,056 | 10,412 |
| November | 3,809 | 772 | 1,428 | 104,436 | 6,860 | 7,707 | 10,465 |

**Notes:** The interest rate and volume data refer to euro-denominated deposits and loans vis-à-vis households and non-financial corporations resident in Ireland and other Monetary Union Member States. Rates reported are weighted averages for each instrument category.

Data are representative of resident offices of banks and building societies. Credit union data are not included in the interest rates tables.

## Table B.1.2 – *continued*

**Non-financial corporations**

| Overdrafts | Loans with original maturity | | | |
|---|---|---|---|---|
| | Up to 1 year | Over 1 and up to 5 years | Over 5 years | |
| | | | | ***Rates (%)*** |
| | | | | **2009** |
| 5.69 | 3.05 | 3.23 | 2.95 | November |
| 5.75 | 3.04 | 3.23 | 2.98 | December |
| | | | | **2010** |
| 5.74 | 3.02 | 3.17 | 2.96 | January |
| 5.77 | 3.00 | 3.15 | 2.95 | February |
| 5.89 | 3.08 | 3.23 | 2.92 | March |
| 5.97 | 3.03 | 3.19 | 2.90 | April |
| 5.81 | 2.98 | 3.20 | 2.88 | May |
| 5.27 | 3.13 | 3.06 | 2.85 | June |
| 5.63 | 3.21 | 3.03 | 2.90 | July |
| 5.54 | 3.22 | 3.13 | 2.94 | August |
| 5.42 | 3.25 | 3.19 | 2.96 | September |
| 5.62 | 3.34 | 3.28 | 3.08 | October |
| 5.01 | 3.32 | 3.30 | 3.13 | November |
| | | | | ***Volumes (€ million)*** |
| | | | | **2009** |
| 5,497 | 49,806 | 51,200 | 55,122 | November |
| 5,376 | 47,787 | 46,896 | 54,409 | December |
| | | | | **2010** |
| 5,302 | 47,647 | 46,377 | 52,137 | January |
| 5,271 | 47,375 | 46,066 | 50,583 | February |
| 5,299 | 42,247 | 44,987 | 54,588 | March |
| 5,207 | 40,905 | 41,802 | 53,973 | April |
| 5,114 | 38,451 | 40,061 | 52,255 | May |
| 10,880 | 32,306 | 37,433 | 51,104 | June |
| 10,587 | 30,249 | 36,165 | 49,760 | July |
| 11,337 | 28,595 | 34,967 | 48,968 | August |
| 10,638 | 27,889 | 34,793 | 48,456 | September |
| 10,583 | 26,953 | 32,576 | 44,655 | October |
| 10,687 | 23,129 | 28,259 | 43,342 | November |

## Table B.2.1: Retail Interest Rates and Volumes – Loans and Deposits, New Business

| | Loans | | | | | | |
|---|---|---|---|---|---|---|---|
| | Households | | | | | | |
| | For house purchases | | | For consumption purposes | | | For other purposes |
| | Floating rate and up to 1 year fixation | Over 1 year fixation | APRC | Floating rate and up to 1 year fixation | Over 1 year fixation | APRC | |
| ***Rates (%)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 2.61 | 3.58 | 2.78 | 4.65 | 10.01 | 5.56 | 3.51 |
| December | 2.61 | 3.57 | 2.80 | 3.63 | 9.65 | 4.23 | 2.72 |
| **2010** | | | | | | | |
| January | 2.57 | 3.54 | 2.76 | 5.44 | 9.74 | 6.28 | 2.94 |
| February | 2.75 | 3.38 | 2.94 | 5.63 | 9.99 | 6.40 | 3.25 |
| March | 2.77 | 3.51 | 3.03 | 5.10 | 10.01 | 5.93 | 4.53 |
| April | 2.82 | 3.67 | 3.23 | 5.85 | 9.48 | 6.85 | 3.92 |
| May | 2.75 | 3.83 | 3.14 | 5.30 | 9.76 | 6.34 | 3.86 |
| June | 2.83 | 3.89 | 3.10 | 4.23 | 10.28 | 5.13 | 3.76 |
| July | 2.81 | 3.82 | 3.08 | 6.14 | 10.50 | 7.23 | 3.53 |
| August | 3.07 | 4.05 | 3.36 | 5.79 | 10.67 | 6.73 | 3.98 |
| September | 2.96 | 4.13 | 3.28 | 5.10 | 10.58 | 5.89 | 4.35 |
| October | 2.94 | 4.09 | 3.19 | 6.00 | 9.77 | 6.77 | 4.78 |
| November | 2.95 | 4.10 | 3.24 | 6.06 | 10.46 | 6.84 | 4.79 |
| ***Volumes (€ million)*** | | | | | | | |
| **2009** | | | | | | | |
| November | 1,669 | 322 | .. | 286 | 60 | .. | 114 |
| December | 1,597 | 306 | .. | 418 | 49 | .. | 261 |
| **2010** | | | | | | | |
| January | 1,390 | 264 | .. | 235 | 58 | .. | 163 |
| February | 1,399 | 503 | .. | 288 | 59 | .. | 116 |
| March | 1,771 | 837 | .. | 345 | 68 | .. | 456 |
| April | 1,572 | 1,336 | .. | 177 | 69 | .. | 70 |
| May | 1,442 | 1,158 | .. | 206 | 65 | .. | 74 |
| June | 1,365 | 435 | .. | 295 | 52 | .. | 58 |
| July | 1,353 | 490 | .. | 153 | 55 | .. | 79 |
| August | 1,477 | 555 | .. | 183 | 45 | .. | 100 |
| September | 1,534 | 505 | .. | 265 | 46 | .. | 619 |
| October | 1,175 | 330 | .. | 168 | 43 | .. | 49 |
| November | 1,178 | 389 | .. | 180 | 38 | .. | 132 |

**Notes:** The interest rate and volume data refer to euro-denominated deposits and loans vis-à-vis households and non-financial corporations resident in Ireland and other Monetary Union Member States. Rates reported are weighted averages for each instrument category.

Data are representative of resident offices of banks and building societies. Credit union data are not included in the interest rates tables.

## Table B.2.1 – *continued*

| Loans | | | | Deposits | | |
|---|---|---|---|---|---|---|
| Non-financial corporations | | | | | | |
| Loans up to €1 million | | Loans over €1 million | | Households | Non-financial corporations | |
| Floating rate and up to 1 year fixation | Over 1 year fixation | Floating rate and up to 1 year fixation | Over 1 year fixation | With agreed maturity | With agreed maturity | |
| | | | | | | ***Rates (%)*** |
| | | | | | | **2009** |
| 3.94 | 4.35 | 2.59 | 2.88 | 1.49 | 0.94 | November |
| 3.32 | 4.27 | 2.50 | 3.88 | 1.62 | 1.12 | December |
| | | | | | | **2010** |
| 3.81 | 4.39 | 2.68 | 2.83 | 1.57 | 1.11 | January |
| 3.81 | 4.67 | 2.89 | 2.73 | 1.62 | 1.05 | February |
| 3.67 | 4.71 | 2.54 | 2.52 | 1.59 | 1.05 | March |
| 3.82 | 4.63 | 2.74 | 1.94 | 1.51 | 1.14 | April |
| 3.75 | 4.60 | 2.87 | 2.57 | 1.51 | 1.09 | May |
| 3.71 | 4.10 | 2.80 | 3.16 | 1.45 | 1.04 | June |
| 3.73 | 4.44 | 2.69 | 2.56 | 1.55 | 1.27 | July |
| 3.82 | 4.67 | 2.69 | 2.93 | 1.60 | 1.25 | August |
| 4.05 | 4.69 | 2.90 | 3.07 | 1.61 | 1.20 | September |
| 4.05 | 4.93 | 3.24 | 2.69 | 1.65 | 1.26 | October |
| 4.49 | 5.14 | 3.20 | 3.46 | 1.75 | 1.25 | November |
| | | | | | | ***Volumes (€ million)*** |
| | | | | | | **2009** |
| 627 | 85 | 2,761 | 252 | 11,461 | 10,579 | November |
| 1,022 | 74 | 7,219 | 631 | 11,021 | 10,815 | December |
| | | | | | | **2010** |
| 389 | 68 | 1,899 | 196 | 10,080 | 9,080 | January |
| 473 | 80 | 1,325 | 346 | 10,263 | 9,036 | February |
| 618 | 79 | 4,082 | 171 | 11,335 | 10,354 | March |
| 473 | 81 | 1,926 | 410 | 10,616 | 8,039 | April |
| 547 | 72 | 2,183 | 187 | 10,190 | 8,260 | May |
| 635 | 180 | 2,615 | 183 | 10,472 | 8,422 | June |
| 510 | 75 | 2,776 | 326 | 9,953 | 7,858 | July |
| 445 | 68 | 3,879 | 152 | 10,052 | 6,665 | August |
| 535 | 65 | 1,874 | 197 | 11,477 | 8,817 | September |
| 404 | 56 | 1,181 | 161 | 9,299 | 8,037 | October |
| 491 | 58 | 2,162 | 204 | 9,144 | 7,539 | November |

## Table B.3: Official and Selected Interest Rates

| | Eurosystem Official Interest Rates | | | Interbank Market | | | | Clearing Banks' Prime Rates |
|---|---|---|---|---|---|---|---|---|
| Per cent per annum | Marginal lending facility | Deposit facility | Main refinancing operations | Eonia (overnight) | 1 month Euribor | 3 month Euribor | 12 month Euribor | Ireland |
| End-month | | | | | | | | |
| **2009** | | | | | | | | |
| December | 1.75 | 0.25 | 1.00 | 0.41 | 0.45 | 0.70 | 1.25 | 0.75 - 2.00 |
| **2010** | | | | | | | | |
| January | 1.75 | 0.25 | 1.00 | 0.33 | 0.43 | 0.67 | 1.23 | 0.70 - 2.00 |
| February | 1.75 | 0.25 | 1.00 | 0.32 | 0.42 | 0.66 | 1.22 | 0.65 - 2.00 |
| March | 1.75 | 0.25 | 1.00 | 0.40 | 0.40 | 0.63 | 1.21 | 0.65 - 1.90 |
| April | 1.75 | 0.25 | 1.00 | 0.34 | 0.41 | 0.66 | 1.24 | 0.65 - 2.00 |
| May | 1.75 | 0.25 | 1.00 | 0.33 | 0.43 | 0.70 | 1.26 | 0.65 - 2.00 |
| June | 1.75 | 0.25 | 1.00 | 0.54 | 0.49 | 0.77 | 1.31 | 0.65 - 2.00 |
| July | 1.75 | 0.25 | 1.00 | 0.42 | 0.65 | 0.90 | 1.42 | 0.85 - 2.20 |
| August | 1.75 | 0.25 | 1.00 | 0.39 | 0.62 | 0.89 | 1.41 | 1.00 - 2.20 |
| September | 1.75 | 0.25 | 1.00 | 0.88 | 0.63 | 0.89 | 1.43 | 1.03 - 2.20 |
| October | 1.75 | 0.25 | 1.00 | 0.72 | 0.85 | 1.05 | 1.54 | 1.10 - 2.30 |
| November | 1.75 | 0.25 | 1.00 | 0.54 | 0.81 | 1.03 | 1.53 | 1.10 - 2.30 |
| December | 1.75 | 0.25 | 1.00 | 0.82 | 0.78 | 1.01 | 1.51 | 1.15 - 2.30 |

**Note:** 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.

# Section C

## Other Financial Data

## Table C.1: Investment Funds – Aggregate Balance Sheet

| | Total Assets | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Deposits and loan claims | | | Securities other than shares | | |
| | | Domestic Total | OMUMs' Total | ROW Total | Domestic Total | OMUMs' Total | ROW Total |
| ***Outstanding amounts – € million*** | | | | | | | |
| **2009** | | | | | | | |
| June | 375,897 | 5,685 | 1,865 | 12,610 | 3,065 | 29,634 | 79,157 |
| September | 414,566 | 4,991 | 2,474 | 12,936 | 4,123 | 34,227 | 87,934 |
| December | 458,630 | 4,613 | 2,534 | 13,193 | 4,596 | 34,855 | 109,592 |
| **2010** | | | | | | | |
| March | 510,571 | 4,448 | 2,484 | 12,604 | 5,918 | 33,115 | 120,299 |
| June | 553,748 | 4,836 | 2,760 | 18,363 | 5,619 | 34,120 | 144,596 |
| September | 577,972 | 4,649 | 1,733 | 18,011 | 5,721 | 36,471 | 157,039 |
| ***Transactions – € million*** | | | | | | | |
| **2009** | | | | | | | |
| June | -5,828 | -1,019 | 605 | -3,896 | -498 | -2,990 | 17,909 |
| September | 12,333 | -687 | 611 | -202 | 1,218 | 3,699 | 8,021 |
| December | 15,831 | -348 | 10 | -650 | 77 | -1,763 | 14,907 |
| **2010** | | | | | | | |
| March | 25,062 | -197 | -41 | -1,068 | 1,579 | -2,806 | 6,528 |
| June | 19,678 | 377 | 389 | 4,224 | -513 | 654 | 11,017 |
| September | 29,006 | -131 | -968 | 1,068 | 144 | 1,913 | 16,768 |

| | Total Liabilities | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Investment fund shares/units | | | | | | | |
| | | Domestic MFIs | Domestic Non-MFI's | Domestic Total | OMUMs MFI | OMUMs' Non-MFI's | OMUMs' Total | ROW Total | Total |
| ***Outstanding amounts – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| June | 375,897 | 5,305 | 20,053 | 25,357 | 24,686 | 93,317 | 118,003 | 213,718 | 357,078 |
| September | 414,566 | 5,043 | 19,065 | 24,108 | 28,289 | 106,934 | 135,223 | 237,393 | 396,724 |
| December | 458,630 | 5,796 | 21,908 | 27,703 | 32,221 | 121,797 | 154,018 | 259,419 | 441,141 |
| **2010** | | | | | | | | | |
| March | 510,571 | 7,132 | 26,961 | 34,093 | 33,933 | 128,271 | 162,204 | 288,097 | 484,395 |
| June | 553,748 | 9,637 | 36,430 | 46,067 | 34,536 | 130,552 | 165,088 | 309,438 | 520,593 |
| September | 577,972 | 9,122 | 34,482 | 43,603 | 36,418 | 137,666 | 174,084 | 322,055 | 539,743 |
| ***Transactions – € million*** | | | | | | | | | |
| **2009** | | | | | | | | | |
| June | -5,828 | 4,607 | -3,372 | 1,235 | 19,958 | -35,721 | -15,764 | 6,995 | -7,534 |
| September | 12,333 | -475 | -1,797 | -2,272 | 1,480 | 5,594 | 7,074 | 9,141 | 13,943 |
| December | 15,831 | 325 | 1,227 | 1,551 | 2,382 | 9,005 | 11,387 | 5,158 | 18,096 |
| **2010** | | | | | | | | | |
| March | 25,062 | 598 | 2,262 | 2,860 | -89 | -338 | -427 | 13,605 | 16,038 |
| June | 19,678 | 1,798 | 6,798 | 8,596 | -315 | -1,192 | -1,507 | 7,687 | 14,776 |
| September | 29,006 | -605 | -2,288 | -2,894 | 2,012 | 7,604 | 9,615 | 16,295 | 23,017 |

## Table C.1 – *continued*

**Total Assets**

| Shares and other equity | | | Investment fund shares/units (incl. MMF shares) | | | Non-financial assets | | | Other assets |
|---|---|---|---|---|---|---|---|---|---|
| Domestic Total | OMUMs' Total | ROW Total | Domestic Total | OMUMs' Total | ROW Total | Domestic Total | OMUMs' Total | ROW Total | Total |
| 8,782 | 25,725 | 134,295 | 25,714 | 3,526 | 17,861 | 8,876 | 289 | 5,936 | 12,877 |
| 9,915 | 31,883 | 152,107 | 25,247 | 4,138 | 17,478 | 6,881 | 311 | 8,134 | 11,789 |
| 9,018 | 33,188 | 168,351 | 25,863 | 4,557 | 20,094 | 8,290 | 270 | 7,744 | 11,870 |
| 10,390 | 35,532 | 186,836 | 29,445 | 4,950 | 20,395 | 16,242 | 524 | 14,934 | 12,455 |
| 11,109 | 30,508 | 192,061 | 31,628 | 5,005 | 23,218 | 17,286 | 510 | 17,185 | 14,944 |
| 9,627 | 34,523 | 198,468 | 31,457 | 5,472 | 20,963 | 17,621 | 843 | 13,936 | 21,439 |
| -5,794 | -1,039 | -12,456 | 4,337 | 852 | -6,859 | 5,394 | -15 | -1,164 | 804 |
| 1,216 | 734 | 1,777 | -1,056 | 717 | -888 | -2,161 | 22 | 2,421 | -3,109 |
| -1,181 | -712 | 5,709 | -941 | 351 | 1,261 | 661 | -16 | -648 | -885 |
| 850 | 1,927 | 3,031 | 2,211 | 123 | -865 | 7,011 | 271 | 6,451 | 59 |
| 431 | -4,190 | 4,699 | 693 | 46 | 1,226 | -1,422 | -42 | 184 | 1,904 |
| -1,082 | 1,846 | 2,812 | 2,567 | 437 | -918 | 1,719 | 307 | -2,153 | 4,677 |

**Total Liabilities**

| Loans and deposits received | Other liabilities |
|---|---|
| Total | Total |
| 661 | 18,158 |
| 528 | 17,315 |
| 2,581 | 14,908 |
| 4,082 | 22,095 |
| 5,440 | 27,715 |
| 4,206 | 34,023 |
| -243 | 1,949 |
| -190 | -1,421 |
| 710 | -2,975 |
| 1,615 | 7,408 |
| 1,040 | 3,861 |
| -993 | 6,982 |

## Table C.2.1: Securities Issues Statistics: Debt Securities

| € Million | Debt securities: All currencies | | | | | |
|---|---|---|---|---|---|---|
| | Short-term securities | | | | | |
| | **Total** | MFIs | OFIs | IC&PF | NFCs | Govt |
| ***Outstanding amounts*** | | | | | | |
| **2009** | | | | | | |
| December | 95,737 | 46,496 | 36,504 | 0 | 0 | 12,737 |
| **2010** | | | | | | |
| January | 96,030 | 46,771 | 36,708 | 0 | 0 | 12,552 |
| February | 85,841 | 47,448 | 27,097 | 0 | 0 | 11,296 |
| March | 86,210 | 47,975 | 26,183 | 0 | 0 | 12,051 |
| April | 87,766 | 46,971 | 28,816 | 0 | 0 | 11,979 |
| May | 81,067 | 41,251 | 31,898 | 0 | 0 | 7,918 |
| June | 79,680 | 38,201 | 32,506 | 0 | 0 | 8,973 |
| July | 72,122 | 35,251 | 30,230 | 0 | 0 | 6,641 |
| August | 81,035 | 36,883 | 34,992 | 0 | 0 | 9,160 |
| Septembert | 78,742 | 32,609 | 34,470 | 0 | 0 | 11,663 |
| October | 78,130 | 29,094 | 38,804 | 0 | 0 | 10,232 |
| November | 77,637 | 26,792 | 41,395 | 0 | 0 | 9,450 |
| ***Transactions*** | | | | | | |
| **2009** | | | | | | |
| December | | | | | | |
| **2010** | | | | | | |
| January | 293 | 275 | 204 | 0 | 0 | -185 |
| February | -10,201 | 665 | -9,610 | 0 | 0 | -1,256 |
| March | 369 | 528 | -914 | 0 | 0 | 755 |
| April | 1,556 | -1,004 | 2,632 | 0 | 0 | -72 |
| May | -6,699 | -5,720 | 3,083 | 0 | 0 | -4,061 |
| June | -1,387 | -3,050 | 608 | 0 | 0 | 1,055 |
| July | -7,558 | -2,950 | -2,276 | 0 | 0 | -2,332 |
| August | 8,913 | 1,633 | 4,762 | 0 | 0 | 2,518 |
| Septembert | -2,294 | -4,275 | -522 | 0 | 0 | 2,503 |
| October | -612 | -3,515 | 4,334 | 0 | 0 | -1,431 |
| November | -494 | -2,302 | 2,591 | 0 | 0 | -783 |

| € Million | Debt securities: Euro denominated | | | | | |
|---|---|---|---|---|---|---|
| | Short-term securities | | | | | |
| | **Total** | MFIs | OFIs | IC&PF | NFCs | Govt |
| ***Outstanding amounts*** | | | | | | |
| **2009** | | | | | | |
| December | 62,915 | 24,071 | 29,574 | 0 | 0 | 9,270 |
| **2010** | | | | | | |
| January | 62,826 | 23,782 | 29,774 | 0 | 0 | 9,270 |
| February | 52,016 | 24,285 | 20,133 | 0 | 0 | 7,597 |
| March | 54,167 | 25,420 | 20,224 | 0 | 0 | 8,523 |
| April | 57,511 | 26,122 | 22,756 | 0 | 0 | 8,634 |
| May | 56,046 | 24,950 | 25,751 | 0 | 0 | 5,345 |
| June | 55,073 | 21,605 | 26,786 | 0 | 0 | 6,683 |
| July | 50,169 | 20,151 | 24,884 | 0 | 0 | 5,134 |
| August | 58,285 | 20,963 | 29,746 | 0 | 0 | 7,576 |
| Septembert | 58,868 | 19,436 | 29,284 | 0 | 0 | 10,148 |
| October | 59,038 | 16,417 | 33,494 | 0 | 0 | 9,127 |
| November | 60,702 | 16,157 | 36,354 | 0 | 0 | 8,191 |
| ***Transactions*** | | | | | | |
| **2009** | | | | | | |
| December | | | | | | |
| **2010** | | | | | | |
| January | -89 | -289 | 200 | 0 | 0 | 0 |
| February | -10,822 | 491 | -9,640 | 0 | 0 | -1,673 |
| March | 2,151 | 1,135 | 90 | 0 | 0 | 926 |
| April | 3,344 | 702 | 2,532 | 0 | 0 | 110 |
| May | -1,465 | -1,171 | 2,995 | 0 | 0 | -3,289 |
| June | -973 | -3,346 | 1,035 | 0 | 0 | 1,338 |
| July | -4,904 | -1,453 | -1,901 | 0 | 0 | -1,549 |
| August | 8,115 | 812 | 4,861 | 0 | 0 | 2,442 |
| Septembert | 583 | -1,527 | -462 | 0 | 0 | 2,572 |
| October | -612 | -3,515 | 4,334 | 0 | 0 | -1,431 |
| November | 1,664 | -261 | 2,860 | 0 | 0 | -935 |

## Table C.2.1 – *continued*

**Debt securities: All currencies**

**Long-term securities**

| Total | MFIs | OFIs | IC&PF | NFCs | Govt |
|---|---|---|---|---|---|
| 959,790 | 132,681 | 751,528 | 2,302 | 1,997 | 71,283 |
| 970,413 | 135,817 | 752,390 | 2,245 | 2,006 | 77,955 |
| 967,817 | 136,067 | 747,158 | 2,299 | 2,233 | 80,059 |
| 972,759 | 141,941 | 744,918 | 2,385 | 2,201 | 81,313 |
| 982,948 | 144,801 | 750,554 | 2,346 | 3,273 | 81,975 |
| 998,287 | 145,348 | 762,450 | 2,537 | 4,189 | 83,763 |
| 995,603 | 142,696 | 761,563 | 2,557 | 3,537 | 85,249 |
| 940,798 | 138,000 | 711,253 | 2,214 | 2,665 | 86,667 |
| 1,003,201 | 138,332 | 770,593 | 2,457 | 3,615 | 88,204 |
| 967,772 | 115,471 | 756,705 | 2,294 | 3,605 | 89,697 |
| 969,222 | 105,978 | 767,344 | 2,229 | 4,001 | 89,670 |
| 993,806 | 102,983 | 792,312 | 4,310 | 4,227 | 89,974 |
| 10,623 | 3,136 | 863 | -57 | 9 | 6,672 |
| -2,596 | 251 | -5,232 | 55 | 227 | 2,104 |
| 4,942 | 5,874 | -2,240 | 86 | -32 | 1,254 |
| 10,190 | 2,860 | 5,636 | -39 | 1,071 | 662 |
| 15,339 | 547 | 11,896 | 191 | 917 | 1,789 |
| -2,684 | -2,652 | -887 | 21 | -652 | 1,486 |
| -54,805 | -4,697 | -50,310 | -344 | -872 | 1,417 |
| 23,312 | 332 | 20,249 | 243 | 950 | 1,538 |
| -35,428 | -22,861 | -13,888 | -163 | -9 | 1,493 |
| 1,449 | -9,493 | 10,639 | -66 | 396 | -27 |
| 24,583 | -2,995 | 24,967 | 2,081 | 225 | 305 |

**Debt securities: Euro denominated**

**Long-term securities**

| Total | MFIs | OFIs | IC&PF | NFCs | Govt |
|---|---|---|---|---|---|
| 718,360 | 98,355 | 547,409 | 120 | 1,617 | 70,858 |
| 727,609 | 100,469 | 548,008 | 0 | 1,617 | 77,515 |
| 723,770 | 100,292 | 542,013 | 0 | 1,857 | 79,608 |
| 730,972 | 105,637 | 542,714 | 0 | 1,757 | 80,863 |
| 734,414 | 109,444 | 540,552 | 0 | 2,899 | 81,519 |
| 734,169 | 108,778 | 539,264 | 0 | 2,859 | 83,268 |
| 728,284 | 106,381 | 534,964 | 0 | 2,192 | 84,747 |
| 714,431 | 104,508 | 521,244 | 0 | 2,100 | 86,578 |
| 751,680 | 106,360 | 554,891 | 0 | 2,318 | 88,111 |
| 730,361 | 88,980 | 549,454 | 0 | 2,318 | 89,609 |
| 724,716 | 80,992 | 551,825 | 0 | 2,318 | 89,581 |
| 729,823 | 76,902 | 560,461 | 160 | 2,418 | 89,882 |
| 9,249 | 2,113 | 599 | -120 | 0 | 6,657 |
| -3,839 | -177 | -5,995 | 0 | 239 | 2,093 |
| 7,202 | 5,345 | 701 | 0 | -100 | 1,255 |
| 3,442 | 3,807 | -2,162 | 0 | 1,143 | 655 |
| -246 | -666 | -1,289 | 0 | -40 | 1,749 |
| -5,884 | -2,396 | -4,299 | 0 | -668 | 1,479 |
| -13,853 | -1,873 | -13,720 | 0 | -91 | 1,831 |
| 18,468 | 1,852 | 14,866 | 0 | 217 | 1,533 |
| -21,318 | -17,380 | -5,437 | 0 | 0 | 1,499 |
| 1,449 | -9,493 | 10,639 | -66 | 396 | -27 |
| 5,108 | -4,090 | 8,636 | 160 | 100 | 302 |

## Table C.2.2: Securities Issues Statistics: Equities

| € Million | Equity Securities | | | | | |
|---|---|---|---|---|---|---|
| | Quoted securities | | | | | |
| | **Total** | MFIs | OFIs | IC&PF | NFCs | Govt |
| ***Outstanding amounts*** | | | | | | |
| **2009** | | | | | | |
| December | 172,236 | 10,836 | 3,775 | 230 | 157,396 | .. |
| **2010** | | | | | | |
| January | 162,053 | 10,079 | 3,692 | 201 | 148,080 | .. |
| February | 150,012 | 9,931 | 3,948 | 201 | 135,931 | .. |
| March | 153,173 | 9,882 | 4,151 | 243 | 138,897 | .. |
| April | 160,227 | 10,193 | 4,662 | 260 | 145,113 | .. |
| May | 151,846 | 11,022 | 4,987 | 212 | 135,625 | .. |
| June | 153,971 | 11,443 | 4,819 | 222 | 137,487 | .. |
| July | 151,334 | 12,465 | 4,671 | 226 | 133,972 | .. |
| August | 141,843 | 12,304 | 4,187 | 5,053 | 120,299 | .. |
| Septembert | 147,066 | 10,915 | 4,082 | 5,662 | 126,407 | .. |
| October | 159,863 | 10,269 | 4,151 | 5,371 | 140,072 | .. |
| November | 164,832 | 9,112 | 4,909 | 5,365 | 145,446 | .. |
| ***Transactions*** | | | | | | |
| **2009** | | | | | | |
| December | | | | | | |
| **2010** | | | | | | |
| January | 2 | 0 | 0 | 0 | 2 | .. |
| February | 939 | 0 | -17 | 0 | 957 | .. |
| March | 135 | 0 | 0 | 0 | 135 | .. |
| April | 129 | 0 | 0 | 0 | 129 | .. |
| May | 1,949 | 1,725 | 57 | 0 | 167 | .. |
| June | 1,081 | 910 | 0 | 0 | 172 | .. |
| July | 6 | 0 | 0 | 0 | 6 | .. |
| August | 0 | 0 | 0 | 0 | 0 | .. |
| Septembert | 189 | 182 | 0 | 0 | 7 | .. |
| October | 8 | 0 | 0 | 0 | 8 | .. |
| November | 105 | 0 | 0 | 0 | 105 | .. |

## Table C.2.2 – *continued*

| Equity Securities | | | | | |
|---|---|---|---|---|---|
| **Unquoted securities** | | | | | |
| **Total** | MFIs | OFIs | IC&PF | NFCs | Govt |
| 504 | 0 | 14 | 0 | 490 | .. |
| 504 | 0 | 14 | 0 | 490 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 490 | 0 | 14 | 0 | 476 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |
| 0 | 0 | 0 | 0 | 0 | .. |

# Section D

## Quarterly Financial Accounts

**Table D.1:** Financial Balance Sheet By Sector, Q2 2010

| | Total Assets | Total Liabilities | Net Financial Wealth | Total Assets Transactions | Total Liabilities Transactions | Net Financial Borrowing/ Lending |
|---|---|---|---|---|---|---|
| € million | | | | | | |
| **Non-financial corporations** | **617,982** | **819,778** | **-201,796** | **12,685** | **8,746** | **3,938** |
| **Financial corporations** | **3,425,428** | **3,439,034** | **-13,606** | **53,719** | **49,334** | **4,384** |
| Monetary financial institutions | 1,804,608 | 1,821,365 | -16,757 | 44,141 | 44,282 | -141 |
| Other financial intermediaries & financial auxiliaries | 1,338,673 | 1,331,272 | 7,400 | 7,414 | 4,283 | 3,131 |
| Insurance corporations and pension funds | 282,148 | 286,397 | -4,249 | 2,164 | 769 | 1,395 |
| **General government** | **75,977** | **137,195** | **-61,218** | **-5,777** | **-12** | **-5,765** |
| **Households and non-profit institutions serving households** | **287,578** | **198,545** | **89,033** | **-670** | **-3,755** | **3,084** |
| **Rest of the world** | **2,968,982** | **2,780,294** | **188,688** | **22,031** | **27,673** | **-5,642** |

## Table D.1.1: Financial Balance Sheet By Sector, Q2 2010

### Total Assets

| € million | | Gold & SDRs | Currency & Deposits | | | Securities other than shares | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Currency & Transferrable Deposits | Other Deposits | | Short-term securities | Long-term securities | Financial Derivatives |
| **Non-financial corporations** | **617,982** | **0** | **65,263** | **20,456** | **44,807** | **6,671** | **1,288** | **4,494** | **888** |
| **Financial corporations** | **3,425,428** | **1,101** | **659,917** | **63,976** | **595,941** | **1,112,197** | **370,400** | **693,757** | **48,041** |
| Monetary financial institutions | 1,804,608 | 1,101 | 579,408 | 40,113 | 539,296 | 749,070 | 332,822 | 380,962 | 35,286 |
| Other financial intermediaries & financial auxiliaries | 1,338,673 | 0 | 58,461 | 21,037 | 37,424 | 294,206 | 32,293 | 251,092 | 10,821 |
| Insurance corporations and pension funds | 282,148 | 0 | 22,049 | 2,827 | 19,222 | 68,921 | 5,285 | 61,703 | 1,933 |
| **General government** | **75,977** | **0** | **26,243** | **0** | **26,243** | **8,105** | **75** | **7,414** | **615** |
| **Households and non-profit institutions serving households** | **287,578** | **0** | **124,764** | **57,678** | **67,086** | **507** | **0** | **221** | **286** |
| **Rest of the world** | **2,968,982** | **0** | **637,366** | **49,318** | **588,048** | **571,646** | **56,233** | **482,102** | **33,312** |

### Total Liabilities

| € million | | Gold & SDRs | Currency & Deposits | | | Securities other than shares | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Currency & Transferrable Deposits | Other Deposits | | Short-term securities | Long-term securities | Financial Derivatives |
| **Non-financial corporations** | **819,778** | **0** | **0** | **0** | **0** | **3,662** | **0** | **3,537** | **125** |
| **Financial corporations** | **3,439,034** | **0** | **1,132,879** | **133,574** | **999,305** | **617,123** | **63,339** | **511,271** | **42,513** |
| Monetary financial institutions | 1,821,365 | 0 | 1,132,879 | 133,574 | 999,305 | 239,899 | 45,791 | 153,226 | 40,882 |
| Other financial intermediaries & financial auxiliaries | 1,331,272 | 0 | 0 | 0 | 0 | 374,667 | 17,548 | 355,489 | 1,631 |
| Insurance corporations and pension funds | 286,397 | 0 | 0 | 0 | 0 | 2,557 | 0 | 2,557 | 0 |
| **General government** | **137,195** | **0** | **11,873** | **669** | **11,204** | **97,447** | **12,037** | **85,402** | **9** |
| **Households and non-profit institutions serving households** | **198,545** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Rest of the world** | **2,780,294** | **0** | **368,802** | **57,186** | **311,616** | **980,894** | **352,620** | **587,778** | **40,496** |

**n.a.** not available.

## Table D.1.1 – *continued*

### Total Assets

| Loans | | | Shares and other equity | | | | Insurance technical reserves | | | | Other accounts receivable/ payable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short-term loans | Long-term loans | | Quoted shares | Unquoted shares and other equity | Mutual fund shares | | Net equity of households in life insurance reserves | Net equity of households in pension fund reserves | Prepayment of insurance premiums and reserves for outstanding claims | | € million |
| **205,720** | **67,642** | **138,078** | **217,800** | **7,969** | **207,291** | **2,540** | **3,800** | **0** | **0** | **3,800** | **118,729** | **Non-financial corporations** |
| **1,026,686** | **217,065** | **809,621** | **516,895** | **354,890** | **34,386** | **127,620** | **47,075** | **0** | **0** | **47,075** | **61,557** | **Financial corporations** |
| 442,361 | 78,238 | 364,123 | 18,727 | 10,822 | 6,000 | 1,905 | 0 | 0 | 0 | 0 | 13,941 | Monetary financial institutions |
| 579,926 | 136,803 | 443,123 | 375,246 | 287,010 | 28,386 | 59,850 | 0 | 0 | 0 | 0 | 30,834 | Other financial intermediaries & financial auxiliaries |
| 4,399 | 2,024 | 2,375 | 122,922 | 57,058 | 0 | 65,865 | 47,075 | 0 | 0 | 47,075 | 16,782 | Insurance corporations and pension funds |
| **8,316** | **116** | **8,200** | **24,593** | **9,538** | **11,840** | **3,216** | **0** | **0** | **0** | **0** | **8,720** | **General government** |
| **0** | **0** | **0** | **45,174** | **8,410** | **36,764** | **0** | **115,187** | **45,153** | **67,730** | **2,304** | **1,946** | **Households and non-profit institutions serving households** |
| **374,182** | **159,310** | **214,873** | **1,194,538** | **87,541** | **298,436** | **808,562** | **120,909** | **75,259** | **0** | **45,650** | **70,339** | **Rest of the world** |

### Total Liabilities

| Loans | | | Shares and other equity | | | | Insurance technical reserves | | | | Other accounts receivable/ payable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short-term loans | Long-term loans | | Quoted shares | Unquoted shares and other equity | Mutual fund shares | | Net equity of households in life insurance reserves | Net equity of households in pension fund reserves | Prepayment of insurance premiums and reserves for outstanding claims | | € million |
| **318,419** | **95,147** | **223,271** | **391,598** | **n.a.** | **n.a.** | **0** | **0** | **0** | **0** | **0** | **106,099** | **Non-financial corporations** |
| **353,184** | **188,518** | **164,667** | **1,042,143** | **9,483** | **179,147** | **853,513** | **242,423** | **120,412** | **67,730** | **54,281** | **51,282** | **Financial corporations** |
| 0 | 0 | 0 | 434,909 | 4,443 | 86,300 | 344,166 | 0 | 0 | 0 | 0 | 13,678 | Monetary financial institutions |
| 349,653 | 187,135 | 162,518 | 581,426 | 4,819 | 67,260 | 509,347 | 0 | 0 | 0 | 0 | 25,526 | Other financial intermediaries & financial auxiliaries |
| 3,532 | 1,382 | 2,149 | 25,808 | 222 | 25,586 | 0 | 242,423 | 120,412 | 67,730 | 54,281 | 12,077 | Insurance corporations and pension funds |
| **20,590** | **570** | **20,020** | **1,603** | **0** | **1,603** | **0** | **0** | **0** | **0** | **0** | **5,682** | **General government** |
| **189,744** | **9,321** | **180,423** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **8,801** | **Households and non-profit institutions serving households** |
| **732,967** | **150,577** | **582,390** | **563,656** | **321,377** | **153,855** | **88,424** | **44,548** | **0** | **0** | **44,548** | **89,426** | **Rest of the world** |

## Table D.1.2: Financial Transactions By Sector, Q2 2010

### Total Assets Transactions

| € million | | Gold & SDRs | Currency & Deposits | | | Securities other than shares | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Currency & Transferrable Deposits | Other Deposits | | Short-term securities | Long-term securities | Financial Derivatives |
| **Non-financial corporations** | **12,685** | **0** | **1,184** | **883** | **301** | **-1,182** | **-1,795** | **913** | **-300** |
| **Financial corporations** | **53,719** | **0** | **24,499** | **-976** | **25,475** | **18,601** | **23,587** | **-3,679** | **-1,308** |
| Monetary financial institutions | 44,141 | 0 | 26,289 | 662 | 25,627 | 4,502 | 12,277 | -8,260 | 485 |
| Other financial intermediaries & financial auxiliaries | 7,414 | 0 | -1,378 | -1,745 | 367 | 11,604 | 9,858 | 3,771 | -2,025 |
| Insurance corporations and pension funds | 2,164 | 0 | -411 | 107 | -518 | 2,494 | 1,452 | 810 | 232 |
| **General government** | **-5,777** | **0** | **-6,743** | **0** | **-6,743** | **-1,741** | **-25** | **-1,493** | **-223** |
| **Households and non-profit institutions serving households** | **-670** | **0** | **-72** | **-718** | **647** | **14** | **0** | **9** | **5** |
| **Rest of the world** | **22,031** | **0** | **46,690** | **1,114** | **45,576** | **-11,352** | **-12,683** | **679** | **652** |

### Total Liabilities Transactions

| € million | | Gold & SDRs | Currency & Deposits | | | Securities other than shares | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Currency & Transferrable Deposits | Other Deposits | | Short-term securities | Long-term securities | Financial Derivatives |
| **Non-financial corporations** | **8,746** | **0** | **0** | **0** | **0** | **-615** | **0** | **-652** | **37** |
| **Financial corporations** | **49,334** | **0** | **41,660** | **-532** | **42,191** | **-1,282** | **-4,096** | **2,078** | **736** |
| Monetary financial institutions | 44,282 | 0 | 41,660 | -532 | 42,191 | 3,330 | -3,225 | 4,543 | 2,011 |
| Other financial intermediaries & financial auxiliaries | 4,283 | 0 | 0 | 0 | 0 | -4,633 | -871 | -2,487 | -1,276 |
| Insurance corporations and pension funds | 769 | 0 | 0 | 0 | 0 | 21 | 0 | 21 | 0 |
| **General government** | **-12** | **0** | **830** | **4** | **827** | **-2,946** | **-6,633** | **3,686** | **0** |
| **Households and non-profit institutions serving households** | **-3,755** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Rest of the world** | **27,673** | **0** | **23,070** | **832** | **22,238** | **9,184** | **19,812** | **-8,682** | **-1,946** |

**n.a.** not available.

## Table D.1.2 – *continued*

### Total Assets Transactions

| Loans | | | Shares and other equity | | | | Insurance technical reserves | | | | Other accounts receivable/ payable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short-term loans | Long-term loans | | Quoted shares | Unquoted shares and other equity | Mutual fund shares | | Net equity of households in life insurance reserves | Net equity of households in pension fund reserves | Prepayment of insurance premiums and reserves for outstanding claims | | |
| | | | | | | | | | | | | € million |
| **5,206** | **1,789** | **3,416** | **4,299** | **-2,495** | **6,794** | **0** | **-41** | **0** | **0** | -41 | **3,219** | **Non-financial corporations** |
| **12,039** | **-7,040** | **19,078** | **206** | **-2,092** | **-351** | **2,649** | **828** | **0** | **0** | 828 | **-2,454** | **Financial corporations** |
| 8,680 | -6,482 | 15,162 | 961 | 977 | -226 | 210 | 0 | 0 | 0 | 0 | 3,709 | Monetary financial institutions |
| 3,359 | -577 | 3,936 | -388 | -1,265 | -125 | 1,002 | 0 | 0 | 0 | 0 | -5,784 | Other financial intermediaries & financial auxiliaries |
| -1 | 19 | -19 | -367 | -1,805 | 0 | 1,437 | 828 | 0 | 0 | 828 | -379 | Insurance corporations and pension funds |
| **25** | **0** | **25** | **2,230** | **1,108** | **100** | **1,022** | **0** | **0** | **0** | 0 | **452** | **General government** |
| **0** | **0** | **0** | **333** | **193** | **140** | **0** | **-986** | **-586** | **-139** | -261 | **40** | **Households and non-profit institutions serving households** |
| **534** | **251** | **283** | **5,052** | **-7,078** | **-3,300** | **15,431** | **139** | **-71** | **0** | 210 | **-19,032** | **Rest of the world** |

### Total Liabilities Transactions

| Loans | | | Shares and other equity | | | | Insurance technical reserves | | | | Other accounts receivable/ payable | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Short-term loans | Long-term loans | | Quoted shares | Unquoted shares and other equity | Mutual fund shares | | Net equity of households in life insurance reserves | Net equity of households in pension fund reserves | Prepayment of insurance premiums and reserves for outstanding claims | | |
| | | | | | | | | | | | | € million |
| **6,076** | **3,319** | **2,757** | **4,181** | **n.a.** | **n.a.** | **0** | **0** | **0** | **0** | 0 | **-896** | **Non-financial corporations** |
| **-970** | **-55** | **-915** | **15,519** | **0** | **-355** | **15,874** | **-647** | **-657** | **-139** | 149 | **-4,945** | **Financial corporations** |
| 0 | 0 | 0 | 2,850 | 0 | 778 | 2,072 | 0 | 0 | 0 | 0 | -3,557 | Monetary financial institutions |
| -936 | -28 | -908 | 12,372 | 0 | -1,430 | 13,802 | 0 | 0 | 0 | 0 | -2,520 | Other financial intermediaries & financial auxiliaries |
| -35 | -27 | -8 | 297 | 0 | 297 | 0 | -647 | -657 | -139 | 149 | 1,132 | Insurance corporations and pension funds |
| **2,139** | **-257** | **2,396** | **7** | **0** | **7** | **0** | **0** | **0** | **0** | 0 | **-42** | **General government** |
| **-3,619** | **-2,565** | **-1,054** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 | **-136** | **Households and non-profit institutions serving households** |
| **14,177** | **-5,441** | **19,619** | **-7,586** | **-10,536** | **-277** | **3,228** | **586** | **0** | **0** | 586 | **-11,758** | **Rest of the world** |

# Section E

## Public Finances and Competitiveness Indicators

## Table E.1: Government Debt[a]

| € million | 2009 | 2010 | | |
|---|---|---|---|---|
| End-quarter | 31 December | 31 March | 30 June | 30 September |
| **Government Debt** | | | | |
| Amount outstanding (gross) | | | | |
| **Euro-denominated debt** | | | | |
| Government stock | 70,858 | 80,863 | 84,747 | 89,609 |
| Exchequer Bills/Notes, Central Treasury Notes | 9,265 | 9,214 | 4,944 | 6,333 |
| Saving Certificates/Stamps, National Solidarity Bonds | 3,105 | 3,320 | 3,599 | 3,952 |
| Prize Bonds | 1,073 | 1,151 | 1,203 | 1,272 |
| Savings Bonds | 2,761 | 3,105 | 3,517 | 3,885 |
| National Instalment Savings | 456 | 459 | 464 | 473 |
| Ways and means | 1,783 | 2,046 | 2,160 | 2,130 |
| Borrowings from Central Bank, etc. | – | – | – | – |
| Local loans funds | 5 | 5 | 5 | 5 |
| Short-term paper | 1,746 | 521 | 2,020 | 3,481 |
| FX contracts | 5,258 | 4,650 | 973 | 1,332 |
| EIB loans | – | – | – | – |
| Public bond issues | – | – | – | – |
| Private placements | 218 | 217 | 447 | 602 |
| Medium-term notes | – | – | – | – |
| Swaps | 448 | 448 | 448 | 66 |
| **Total euro-denominated debt** | **96,975** | **105,998** | **104,529** | **113,141** |
| **Non-euro-denominated debt** | | | | |
| EIB loans | – | – | – | – |
| Public bond issues | – | – | – | – |
| Private placements | – | – | – | – |
| Medium-term notes | 422 | 450 | 499 | 88 |
| Swaps | -422 | -450 | -499 | -88 |
| Short-term paper | 5,373 | 5,011 | 1,018 | 1,258 |
| FX contracts | -5,381 | -4,794 | -1,023 | -1,264 |
| **Total non-euro-denominated debt** | **-8** | **218** | **-5** | **-6** |
| **Gross debt** | **96,967** | **106,216** | **104,524** | **113,135** |
| **Residual maturity profile** | | | | |
| Amounts due to mature in: | | | | |
| – ≤ 1 year | 19,967 | 18,632 | 9,970 | 7,895 |
| – Over 1 year but ≤ 5 years | 27,849 | 29,283 | 31,727 | 37,933 |
| – Over 5 years but ≤ 10 years | 33,059 | 33,898 | 36,442 | 38,656 |
| – Over 10 years | 16,092 | 24,403 | 26,385 | 28,651 |
| **Total** | **96,967** | **106,216** | **104,524** | **113,135** |

**a** The term Government debt refers to central government debt. An advance release calendar for central government debt is shown on the IMF Special Data Dissemination Standards (SDDS) Bulletin Board.

**Source:** NTMA.

## Table E.2: Government Stock – Nominal Holdings

| € million | 2009 | 2010 | | |
|---|---|---|---|---|
| End-quarter | December | March | June | September |
| 1. Resident[a] | 11,865 | 12,144 | 12,583 | 14,263 |
| – MFIs and Central Bank | 8,297 | 8,234 | 9,778 | 11,019 |
| – General government | 314 | 312 | 416 | 741 |
| – Financial intermediaries | 2,921 | 3,352 | 2,135 | 2,216 |
| i) Financial auxiliaries | 299 | 302 | 285 | 310 |
| ii) Insurance corporations and pension funds | 2,568 | 2,688 | 1,789 | 1,843 |
| iii) Other financial intermediaries | 54 | 362 | 61 | 63 |
| – Non Financial Corporations | 128 | 38 | 32 | 38 |
| – Households | 205 | 208 | 222 | 249 |
| 2. Rest of world | 58,993 | 68,719 | 72,164 | 75,346 |
| Total | 70,858 | 80,863 | 84,747 | 89,609 |
| | | | | |
| 3. Amounts due to mature in: | | | | |
| • Less than 3 years | 11,062 | 10,841 | 16,012 | 16,002 |
| • 3 or more years but less than 5 years | 14,625 | 16,021 | 10,837 | 11,864 |
| • 5 or more years but less than 10 years | 29,296 | 29,815 | 43,861 | 45,751 |
| • 10 or more years but less than 15 years | 8,875 | 24,186 | 14,037 | 15,992 |
| • 15 or more years | 7,000 | | | |
| Total | 70,858 | 80,863 | 84,747 | 89,609 |

**a** Above conform to ESA95 standard. Financial auxiliaries include, for example, insurance and security brokers and investment advisors,etc. Other financial intermediaries include mutual funds, financial leasing, etc.

## Table E.3: Harmonised Competitiveness Indicators for Ireland (HCIs)

| 1999 Q1 = 100 | Nominal HCI (Monthly average) | Real HCI (Deflated by consumer prices) | Real HCI (Deflated by producer prices) |
|---|---|---|---|
| **2005** | | | |
| January | 106.57 | 117.78 | 106.62 |
| February | 105.93 | 116.91 | 106.47 |
| March | 106.53 | 117.26 | 106.87 |
| April | 105.69 | 116.61 | 106.42 |
| May | 104.89 | 115.79 | 106.65 |
| June | 102.84 | 113.67 | 103.93 |
| July | 103.14 | 114.03 | 105.11 |
| August | 103.68 | 114.55 | 105.40 |
| September | 103.36 | 114.48 | 104.90 |
| October | 102.95 | 114.02 | 105.07 |
| November | 102.28 | 113.13 | 104.62 |
| December | 102.36 | 112.83 | 104.62 |
| **2006** | | | |
| January | 102.97 | 113.64 | 104.11 |
| February | 102.36 | 113.32 | 104.54 |
| March | 102.88 | 113.88 | 104.56 |
| April | 103.72 | 114.76 | 105.40 |
| May | 104.73 | 116.04 | 106.89 |
| June | 104.89 | 116.12 | 106.75 |
| July | 105.01 | 116.33 | 106.19 |
| August | 105.00 | 116.67 | 106.86 |
| September | 104.79 | 116.20 | 107.58 |
| October | 104.38 | 115.93 | 105.17 |
| November | 105.00 | 116.35 | 105.10 |
| December | 105.82 | 117.51 | 106.25 |
| **2007** | | | |
| January | 105.07 | 116.93 | 106.24 |
| February | 105.39 | 117.23 | 105.13 |
| March | 106.12 | 118.17 | 105.08 |
| April | 106.78 | 118.87 | 106.19 |
| May | 106.76 | 118.83 | 106.64 |
| June | 106.34 | 118.33 | 107.08 |
| July | 106.91 | 119.05 | 107.26 |
| August | 106.78 | 119.00 | 108.24 |
| September | 107.68 | 119.92 | 107.80 |
| October | 108.49 | 120.67 | 109.19 |
| November | 109.88 | 122.06 | 109.30 |
| December | 109.97 | 122.09 | 110.88 |
| **2008** | | | |
| January | 110.79 | 122.80 | 110.41 |
| February | 110.76 | 123.03 | 111.10 |
| March | 113.22 | 126.11 | 112.69 |
| April | 114.38 | 126.91 | 115.00 |
| May | 113.88 | 126.25 | 113.34 |
| June | 113.92 | 126.07 | 112.51 |
| July | 114.39 | 125.91 | 112.25 |
| August | 112.53 | 123.70 | 113.04 |
| September | 111.33 | 122.41 | 109.91 |
| October | 108.71 | 119.65 | 108.93 |
| November | 108.30 | 119.50 | 108.74 |
| December | 112.34 | 123.98 | 111.29 |
| **2009** | | | |
| January | 112.04 | 123.47 | 110.97 |
| February | 110.46 | 120.91 | 110.37 |
| March | 112.48 | 122.87 | 112.02 |
| April | 111.86 | 121.91 | 111.82 |
| May | 112.33 | 121.72 | 112.30 |
| June | 112.76 | 121.76 | 112.35 |
| July | 112.91 | 121.40 | 114.02 |
| August | 113.21 | 121.39 | 112.05 |
| September | 114.47 | 122.14 | 114.11 |
| October | 115.46 | 122.87 | 114.30 |
| November | 115.27 | 122.18 | 113.26 |
| December | 114.42 | 120.78 | 112.33 |
| **2010** | | | |
| January | 112.82 | 118.82 | 109.63 |
| February | 110.89 | 116.23 | 108.80 |
| March | 110.77 | 115.48 | 107.48 |
| April | 109.48 | 113.80 | 107.26 |
| May | 106.68 | 111.00 | 105.26 |
| June | 104.84 | 108.81 | 102.30 |
| July | 106.53 | 110.86 | 103.94 |
| August | 106.32 | 110.39 | 103.91 |
| September | 106.92 | 110.54 | 104.91 |
| October | 109.91 | 113.58 | 106.73 |
| November | 108.71 | 112.27 | 105.49 |

**Notes:**

1. See article entitled "Measuring Ireland's Price and Labour Cost Competitiveness" in the Bank's Quarterly Bulletin No. 1 of 2010.
2. A rise in an indicator implies a disimprovement in competitiveness while a fall in an indicator implies an improvement.
3. These indicators are available from January 1995 in excel format on the Bank's website.
4. Real HCIs may be subject to revisions to reflect latest available price data.

**Table E.3:** Harmonised Competitiveness Indicators for Ireland (HCIs) – *continued*

| 1999 Q1=100 | Real HCI (Deflated by GDP) | Real HCI (Deflated by whole economy Unit Labour Costs) |
|---|---|---|
| **1995** | | |
| Q1 | 92.51 | 105.70 |
| Q2 | 91.75 | 105.69 |
| Q3 | 92.11 | 106.56 |
| Q4 | 92.17 | 105.85 |
| **1996** | | |
| Q1 | 92.43 | 105.92 |
| Q2 | 93.17 | 106.89 |
| Q3 | 94.67 | 107.52 |
| Q4 | 96.99 | 108.74 |
| **1997** | | |
| Q1 | 98.43 | 108.99 |
| Q2 | 98.22 | 105.19 |
| Q3 | 96.91 | 108.29 |
| Q4 | 99.90 | 106.99 |
| **1998** | | |
| Q1 | 96.06 | 100.89 |
| Q2 | 99.80 | 101.90 |
| Q3 | 100.85 | 102.15 |
| Q4 | 101.99 | 106.59 |
| **1999** | | |
| Q1 | 100.00 | 100.00 |
| Q2 | 97.70 | 100.73 |
| Q3 | 99.22 | 97.43 |
| Q4 | 98.18 | 96.34 |
| **2000** | | |
| Q1 | 96.88 | 94.58 |
| Q2 | 95.31 | 91.88 |
| Q3 | 95.45 | 91.90 |
| Q4 | 94.33 | 90.97 |
| **2001** | | |
| Q1 | 98.55 | 93.59 |
| Q2 | 97.85 | 93.13 |
| Q3 | 100.19 | 95.54 |
| Q4 | 100.34 | 95.61 |
| **2002** | | |
| Q1 | 101.33 | 92.60 |
| Q2 | 101.20 | 94.56 |
| Q3 | 105.32 | 95.76 |
| Q4 | 107.09 | 96.84 |
| **2003** | | |
| Q1 | 110.76 | 102.03 |
| Q2 | 113.42 | 104.62 |
| Q3 | 113.55 | 105.67 |
| Q4 | 114.49 | 104.64 |
| **2004** | | |
| Q1 | 116.04 | 108.69 |
| Q2 | 114.52 | 108.82 |
| Q3 | 114.85 | 110.49 |
| Q4 | 116.36 | 111.78 |
| **2005** | | |
| Q1 | 117.27 | 113.35 |
| Q2 | 116.60 | 112.54 |
| Q3 | 114.81 | 114.65 |
| Q4 | 113.56 | 114.17 |
| **2006** | | |
| Q1 | 116.76 | 114.69 |
| Q2 | 116.89 | 117.06 |
| Q3 | 119.22 | 115.83 |
| Q4 | 116.60 | 118.11 |
| **2007** | | |
| Q1 | 118.58 | 115.32 |
| Q2 | 119.78 | 119.79 |
| Q3 | 117.12 | 124.52 |
| Q4 | 118.33 | 124.48 |
| **2008** | | |
| Q1 | 119.57 | 131.17 |
| Q2 | 120.62 | 133.52 |
| Q3 | 119.24 | 127.70 |
| Q4 | 116.03 | 126.37 |
| **2009** | | |
| Q1 | 113.71 | 125.40 |
| Q2 | 114.58 | 123.98 |
| Q3 | 114.51 | 124.38 |
| Q4 | 111.97 | 128.76 |
| **2010** | | |
| Q1 | 109.49 | 118.86 |
| Q2 | 106.11 | 116.59 |

## Table E.4: Indices of Relative Wage Costs in Manufacturing Industry

| | Average Hourly Earnings[a] | | Unit Wage Costs[a] | |
|---|---|---|---|---|
| 1999=100 | Ireland | Major Trading Partners | Ireland[c] | Major Trading Partners |
| Year | | | | |
| 1990 | 69 | 71 | 166 | 90 |
| 1991 | 73 | 75 | 171 | 94 |
| 1992 | 76 | 79 | 163 | 97 |
| 1993 | 81 | 83 | 164 | 99 |
| 1994 | 82 | 86 | 155 | 98 |
| 1995 | 84 | 89 | 136 | 99 |
| 1996 | 87 | 92 | 135 | 100 |
| 1997 | 90 | 95 | 124 | 100 |
| 1998 | 95 | 97 | 110 | 101 |
| 1999 | 100 | 100 | 100 | 100 |
| 2000 | 106 | 105 | 97 | 99 |
| 2001 | 117 | 108 | 95 | 101 |
| 2002 | 125 | 112 | 88 | 101 |
| 2003 | 131 | 116 | 85 | 100 |
| 2004 | 137 | 119 | 85 | 98 |
| 2005 | 142 | 122 | 84 | 97 |
| 2006 | 149 | 126 | 85 | 97 |
| 2007 | 155 | 130 | 85 | 97 |
| 2008 | 163 | 134 | 86 | 102 |
| 2009 | 171 | 138 | 81 | 110 |
| 2010[e] | 172 | 140 | 73 | 106 |
| 2011[f] | 174 | 142 | 72 | 107 |

| | Relative Hourly Earnings[b] | | Relative Unit Wage Costs[b] | |
|---|---|---|---|---|
| 1999=100 | National Currencies | Common Currency (€) | National Currencies | Common Currency (€) |
| Year | | | | |
| 1990 | 97 | 110 | 185 | 209 |
| 1991 | 97 | 107 | 181 | 201 |
| 1992 | 96 | 109 | 169 | 192 |
| 1993 | 97 | 102 | 165 | 174 |
| 1994 | 96 | 101 | 157 | 166 |
| 1995 | 95 | 101 | 137 | 146 |
| 1996 | 95 | 104 | 135 | 147 |
| 1997 | 95 | 104 | 124 | 136 |
| 1998 | 97 | 101 | 109 | 113 |
| 1999 | 100 | 100 | 100 | 100 |
| 2000 | 102 | 95 | 98 | 91 |
| 2001 | 108 | 102 | 94 | 88 |
| 2002 | 113 | 108 | 87 | 84 |
| 2003 | 113 | 117 | 85 | 87 |
| 2004 | 116 | 122 | 86 | 91 |
| 2005 | 116 | 123 | 86 | 91 |
| 2006 | 118 | 125 | 88 | 93 |
| 2007 | 119 | 130 | 87 | 95 |
| 2008 | 121 | 139 | 85 | 97 |
| 2009 | 124 | 143 | 74 | 85 |
| 2010[e] | 123 | 137 | 68 | 76 |
| 2011[f] | 122 | 135 | 67 | 74 |

**a** In national currencies.

**b** A rise in the index implies a disimprovement in competitiveness while a fall in the index implies an improvement.

**c** Changes in domestic unit wage costs should be interpreted with caution because of the strong influence of the chemicals sector in recent years.

**Sources:** Ireland – Central Statistics Office and Central Bank estimates.
Major trading partners comprise the United Kingdom, the United States, Germany, France, Italy, Belgium, the Netherlands, Spain and Singapore. Data on these were derived from the OECD and other sources.

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