Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

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Notes

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

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

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

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

6. The following symbols are used:

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

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

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Section 1

Forecast Summary Table

	2016	2017	2018[f]	2019[f]
Real Economic Activity				
(% change)				
Personal consumer expenditure	4.0	1.6	2.6	2.5
Public consumption	3.5	3.9	3.2	2.0
Gross fixed capital formation	51.7	-31.0	9.2	9.0
Underlying Domestic Demand[1]	5.1	2.9	4.4	4.1
Exports of goods and services	4.4	7.8	5.0	4.3
Imports of goods and services	18.5	-9.4	5.2	4.6
Gross Domestic Product (GDP)[2]	**5.0**	**7.2**	**4.7**	**4.2**
Gross National Product (GNP)	**11.5**	**4.4**	**4.2**	**4.0**
Modified Gross National Income (GNI*), Nominal	**8.9**	**3.0**	**n/a**	**n/a**
External Trade and Payments				
Balance-of-Payments Current Account (€ million)	-11,375	24,920	22,573	21,164
Current Account (% of GDP)	-4.2	8.5	7.2	6.4
Prices, Costs and Competitiveness				
(% change)				
Harmonised Index of Consumer Prices (HICP)	-0.2	0.3	0.7	0.8
of which: Goods	-3.1	-2.1	-0.6	-1.3
Services	2.5	2.5	1.9	2.6
HICP excluding energy	0.4	-0.1	0.2	0.8
Consumer Price Index (CPI)	0.0	0.3	0.6	0.9
Compensation per Employee	2.2	0.8	2.8	3.3
Labour Market				
(% change year-on-year)				
Total employment	3.6	2.9	2.6	1.9
Labour force	1.9	1.1	1.2	1.3
Unemployment rate (ILO)	8.4	6.7	5.4	4.8
Technical Assumptions[3]				
EUR/USD exchange rate	1.11	1.13	1.21	1.17
EUR/GBP exchange rate	0.82	0.88	0.88	0.88
Oil price ($ per barrel)	44.05	54.40	74.49	73.54
Interbank market - Euribor[(3-month fixed)	-0.26	-0.33	-0.31	-0.16

1 Underlying Domestic Demand is the sum of consumption, government and underlying investment spending. The latter excludes intangibles and transport related spending from total investment.

2 Ireland's headline national account aggregates and their components have become significantly affected by the globalised activities of Irish resident multi-national enterprises. Consequently, GDP does not accurately measure the income flowing to Irish residents. GNI* along with corresponding adjusted presentations of the BOP/IIP provide more reliable and accurate estimates of the resources available to domestic residents and Ireland's international balance sheet.

3 The technical assumption made is that exchange rates remain unchanged over the forecast horizon. Oil prices and interest rates are assumed to move in line with the futures market. Euribor is the rate at which euro interbank term deposits are offered by one prime bank to another, within the euro area

Comment

The Irish economy continues to grow at a robust pace, supported by the strength of activity on the domestic side of the economy and a favourable international growth environment. While problems of interpretation with parts of the National Accounts continue to make it difficult to account accurately for the different drivers of growth in the economy, the evidence from a broad range of domestic spending and activity indicators suggests that domestic economic activity has continued to grow at a solid pace. This expansion has been underpinned by continuing strong and broad-based growth in employment and increasing earnings, supported by ongoing favourable financial conditions and improving sectoral balance sheets. In addition, some key components of domestic investment, such as building and construction, are continuing to rebound, though from a relatively low base.

Looking ahead, the outlook remains positive and the Central Bank's central forecast is that the economy will grow at a relatively strong pace in 2018, with a slight moderation in growth in prospect next year. However, there are material domestic and external risks to this forecast.

The main stimulus to growth in coming years is expected to come from the projected strength of domestic demand, reflected in the positive outlook for the growth of consumer spending and underlying investment (which excludes the volatile categories of investment in intangibles and aircraft). The main driver of growth in underlying activity will be the continuing growth in employment and incomes, although, following its very strong growth in recent years, employment growth is expected to gradually moderate in coming years. Notwithstanding this gradual slowing, underlying domestic demand is projected to grow by 4.4 per cent this year and 4.1 per cent in 2019. To improve the tracking and forecasting of domestic economic activity, the Central Bank has developed a new domestic activity indicator, which is discussed in Box C, page 21.

The projections for the labour market indicate that the economy is heading towards full employment and, while some extra capacity is possible through broader participation in the labour market, under the central forecast, capacity is set to tighten.

As the economy gets closer to full employment, there is a question of the extent to which the cyclical strength of the economy may come to pose a risk to the sustainability of stable and balanced growth and give rise to overheating dynamics. While overall price inflation remains very subdued and wage growth, though picking-up somewhat, remains moderate, the prospect is for some further increase in the growth rate of average hourly earnings over this year and next, though, on balance, wage pressures are projected to remain largely contained. However, as the economy moves towards full capacity over the next year or so, the risk remains that the continued strong expansion of the economy could give rise to overheating.

In addition to risks on the domestic side, Ireland remains exposed to a number of substantial international tail risks. While the prospects for growth in trading partner countries remain broadly favourable, the international outlook continues to be characterised by uncertainty, relating to potential 'hard Brexit' scenarios, protectionist pressures and shifts in the international tax regime that could penalise small economies as a location for multinational production activity. Given the position of Ireland as a small, highly open economy with a high degree of integration in global value chains and the important role of multinational firms within the economy, the state of global economic and trading conditions and significant movements in major exchange rates have an important bearing on Irish economic performance.

Therefore, while the central forecast is positive, given the degree of openness of the Irish economy and the scale of Ireland's trade, technological and financial linkages to the broader international economy, unexpected events can prompt significant upward or downward changes to the growth path of the economy relative to any forecast. It is important that policymakers are mindful of such vulnerabilities in order to ensure that the Irish economy remains resilient if any of these tail risks arise. In such circumstances, policy choices need to take account of the potential for unexpected outcomes and not place undue reliance on central projections.

In the macro-financial area, the recent increase in and setting of the new rate on the countercyclical capital buffer (CCyB) acknowledges the exposure and susceptibility of the Irish economy to a downturn or the materialisation of cyclical systemic risk, potentially arising from an external shock. In increasing the CCyB rate at this stage, the Central Bank is looking to enhance the resilience of the banking sector against potential losses associated with the build-up of cyclical systemic risk and thereby support a sustainable provision of credit to the real economy throughout the financial cycle.

In the fiscal area, the intrinsic volatility of the Irish economy raises the importance of building buffers during good times in order to allow the economy to withstand any future adverse developments and enable more robust counter-cyclical interventions in the event of any future economic downturn. The still-high level of public debt also argues for taking a prudent approach. With the latest national accounts data indicating that the Gross Government debt-to-GNI* ratio stood at 111 per cent in 2017 (see Box B, page 15), a key priority remains the need to reduce the level of public indebtedness in order to create room to respond to any future adverse shocks.

The downside risks to the forecasts also highlight the importance of balance in framing fiscal policy. While the strong economic performance has boosted fiscal capacity and provides resources that can be used to boost the capital stock or attain social objectives, in aggregate, fiscal policy needs to remain focused on underpinning stability and reducing uncertainty. The pursuit of macroeconomic and financial stability requires the conduct of a counter-cyclical fiscal policy to alleviate demand pressures during phases of strong growth. One aspect of this issue is explored in an article that appears in this Bulletin, 'Irish Government Investment, Financing and the Public Capital Stock' (see pages 64-76). This highlights one key challenge that exists in framing fiscal policy at a time of strong growth: the desire to increase the public capital stock, while limiting the risk of overheating. More generally, given the cyclical strength of the economy and the outlook for 2019, prudence dictates that raising spending or reducing revenue in some areas requires countervailing measures to limit the risk of overheating dynamics emerging.

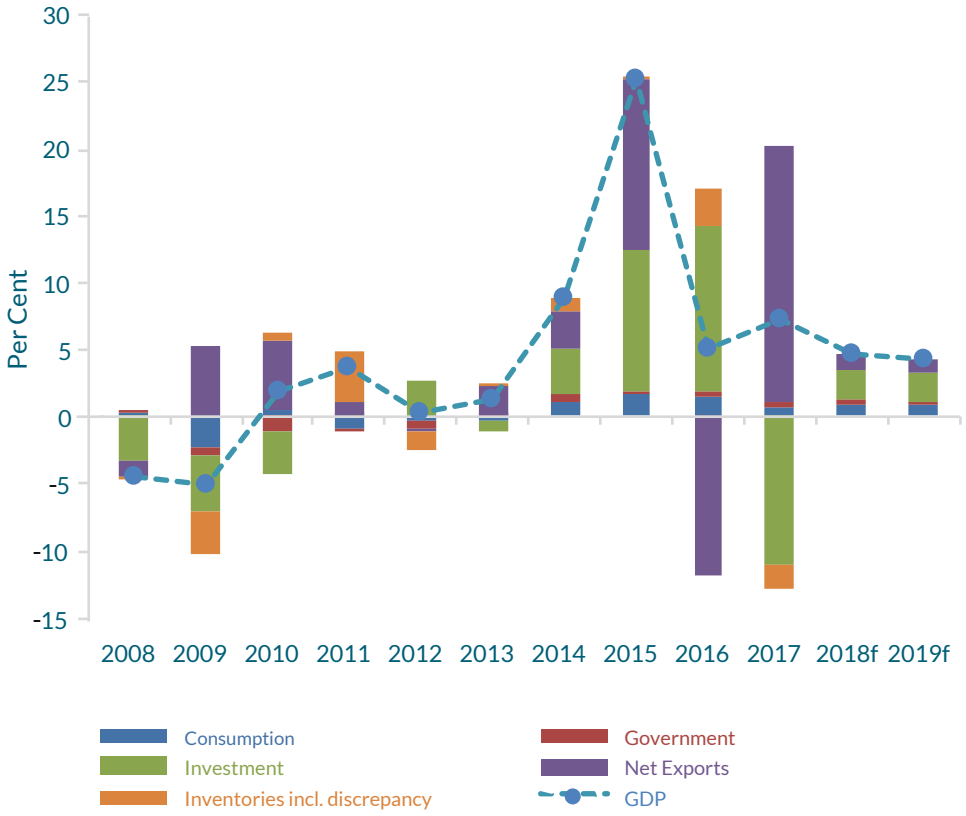
The Irish Economy

Overview

- *Following a strong performance last year, the outlook for the Irish economy remains positive though headline GDP growth continues to distort the underlying trend. The latest National Income and Expenditure (NIE) accounts indicate that GDP growth last year was 7.2 per cent. Excluding the contribution to headline growth from the globalised activities of multinational enterprises (MNEs) based here, the underlying growth rate in 2017 was in the region of 5 per cent and broadly balanced with positive contributions from both domestic demand and net exports. A similar outlook is in prospect for this year with some moderation in growth next year as the economy approaches full employment. In the absence of divergent trends in the globalised sectors of the economy, GDP growth of 4.7 per cent this year, moderating to 4.2 per cent in 2019 will be broadly in line with the underlying trend.*
- *The outturn for the domestic economy in 2017 and the outlook for this year and next is broadly consistent with trends in supplementary growth indicators such as underlying domestic demand and with the Bank's Business Cycle Indicator (BCI) (see Box C below). The BCI is a statistical indicator that captures the common components of the main drivers of growth in the domestic economy. It is highly correlated with growth in underlying domestic demand and employment.*
- *Domestic demand continues to be the main growth driver in the Irish economy with underlying domestic demand projected to increase by 4.4 per cent this year and 4.1 per cent in 2019. This reflects the positive outlook for private consumption and investment spending. Consumer spending, which was weaker than expected last year reflecting a drag from declining car sales is projected to increase in volume terms by 2.6 per cent this year and by 2.5 per cent in 2019, underpinned by strong growth in employment and earnings.*
- *A decline in total investment of 31 per cent last year was mainly driven by a decrease in R&D related IP investment. Excluding these volatile elements, the underlying trend in investment expenditure was positive last year and this trend is projected to continue this year and in 2019. In the absence of divergent trends in IP and aircraft investment, this will be reflected in a strong recovery in total investment. In the construction sector, both housing and non-residential building should continue the strong recovery of recent years. In addition, the outturn for the first quarter of this year suggests that underlying machinery and equipment expenditure is likely to recover strongly this year and in 2019 reflecting the strength of both external and domestic demand.*
- *A strong export performance last year was led by buoyant services exports. A similar outcome is in prospect for this year and in 2019 with improved external demand conditions supporting sustained growth in total exports, with a shift in composition from goods exports to the more dynamic services side. Imports are projected to rebound strongly this year, following a decline last year, mainly related to a sharp decline in purchases of R& D related IP assets. Strong import growth this year and in 2019 will be sustained by buoyant domestic demand. Overall, net exports are likely to make a small positive contribution to overall growth this year and in 2019.*
- *The strength and sustainability of the recovery in recent years is most evident in the performance of the labour market which has seen employment growth averaging over 3 per each year since 2012. The strong momentum in employment continued into 2018 with annual employment growth of 2.9 per cent in the first quarter. For the year as a whole, employment is forecast to increase by 2.6 per cent, followed by 1.9 per cent growth in 2019. The unemployment rate is projected to average 5.4 per this year and 4.8 per cent in 2019.*

- *Following a very subdued outturn last year, a gradual pick-up in inflation is forecast for this year and in 2019. This reflects the fading impact of past sterling weakness on goods price inflation, higher energy price inflation and a gradual pick-up in domestic inflationary pressures that pushes services inflation higher. Headline inflation, as measured by the Harmonised Index of consumer Prices (HICP), is projected to average 0.7 per cent this year, rising to 0.8 per cent in 2019.*
- *Risks to the outlook for the economy are tilted on the downside and are mainly external but could be exacerbated by domestic developments in an economy that is rapidly approaching full capacity. While the near-term outlook for the world economy remains positive and supports Irish growth prospects, recent unilateral tariff increases by the US and retaliatory measures by its trading partners including the EU, China and Canada, highlight Ireland's exposure to potential disruptions to world trade. Other external risks that have the potential to undermine growth prospects here include a disruptive UK exit from the European Union next year, changes to international tax regimes that can have an impact on FDI decisions by multinational firms and disruptive movements in bilateral exchange rates. In the domestic economy, while inflationary pressures remain well contained, the gradual erosion of spare capacity increases the prospects of overheating. In the labour market, unemployment is approaching levels that have triggered an acceleration in wage inflation in the past. A corresponding erosion in domestic cost competitiveness would leave the economy dangerously exposed at a time of increasing uncertainty regarding international growth prospects.*

Figure 1: Contributions to GDP Growth



Source: CSO and Central Bank of Ireland

Box A: The International Economic Outlook

By Monetary Policy Division

Global economic activity strengthened further, with world growth posting a 3.8 per cent increase in 2017. The latest IMF World Economic Outlook report projects that advanced economies will continue to expand above potential this year and next before decelerating, while growth in emerging market economies will rise before levelling off. The IMF expects global growth to tick up to 3.9 per cent this year and next, supported by strong momentum, favourable market sentiment, accommodative financial conditions, and the expansionary fiscal policy in the United States.

In the euro area, growth remains solid but moderated from the very high levels registered in 2017, with GDP growing by 0.4 per cent on a quarterly basis and by 2.5 per cent on an annual basis in the first quarter of 2018. Private consumption remains robust, supported by ongoing employment gains and by growing household wealth. Business investment is fostered by favourable financing conditions, rising corporate profitability and solid demand. Housing investment remains robust. In addition, the broad-based expansion in global demand is expected to continue, thus providing impetus to euro area exports.

The June 2018 Eurosystem staff macroeconomic projections broadly reflected this assessment, foreseeing GDP to increase by 2.1 per cent in 2018 (revised down compared with the March projections), 1.9% in 2019 and 1.7 per cent in 2020. The ECB assesses that risks surrounding the growth outlook remain broadly balanced, in spite of more prominent uncertainties related to global factors, including the threat of increased protectionism.

Sentiment indicators signal that the euro area expansion in output and new business regained some traction at the end of the second quarter, although failed to recover fully the momentum lost earlier in the year. The Markit PMI Composite Output Index posted 54.9 in June, up from 54.1 in May. However, the average reading over the second quarter as a whole (54.7) was the weakest registered since the fourth quarter of 2016. At the same time, both the consumer confidence indicator and economic sentiment indicator by the European Commission decreased in June, by 0.7 points to −0.5 and by 0.2 points to 112.3 respectively.

Euro area annual HICP inflation is expected to be 2.0 per cent in June 2018, up from 1.9 per cent in May 2018, mainly reflecting increases in energy prices. Measures of underlying inflation have remained broadly stable, but subdued overall, with the HICP excluding energy and unprocessed food increasing by 1.2 per cent year-on-year. The June Eurosystem staff macroeconomic projections for the euro area foresee annual HICP inflation at 1.7 per cent in 2018 and in 2019 (revised up notably compared with the March forecast), and by 1.7 per cent in 2020 (unchanged).

In June, the Governing Council of the ECB concluded that, with inflation expectations well anchored, the underlying strength of the euro area economy and the continuing ample degree of monetary accommodation provide confidence that a sustained convergence of inflation towards target will continue in the period ahead. Accordingly, after September 2018, the net asset purchase programme (APP) will be reduced to €15 billion per month until December 2018 and then end, unless incoming data will not confirm the current medium-term inflation outlook. At the same time, the Governing Council said that it expects the key ECB interest rates to remain at their present levels through the summer of 2019.

In the United Kingdom, the Bank of England's most recent projections expect GDP to grow by around 1.75 per cent per year on average over the forecast horizon, conditioned on the gently rising path of Bank Rate implied by market yields at the time. According to projections, growth will continue to rotate towards net trade and business investment and away from consumption.

CPI inflation continued to fall back gradually as the effects of sterling's past depreciation faded, and is expected to reach the 2 per cent target in two years. Accordingly, the Bank of England's Monetary Policy Committee voted unanimously, at its June meeting, to leave the Bank Rate unchanged at 0.5% and the stock of bond purchases unchanged at £445 billion.

Turning to the United States, economic activity has been rising at a solid rate, with real GDP increasing by 0.5 per cent on a quarterly basis and by 2.8 per cent on an annual basis in the first quarter of 2018. Labour market has continued to strengthen, with strong job gains and a declining unemployment rate. Annual headline inflation and inflation excluding energy and food have moved close to 2 percent.

The US Federal Open Market Committee (FOMC) expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labour market conditions, and inflation near the 2 per cent objective over the medium term. Based on this assessment, the FOMC decided to raise the target range for the federal funds rate to 1.75 per cent to 2 per cent at its June meeting.

Demand

Domestic Demand Overview

Growth in the economy will continue to be driven by domestic spending. Both consumer and investment expenditures are expected to continue growing strongly through the rest of this year and into 2019. Underlying domestic demand is expected to grow by 4.4 and 4.1 per cent in 2018 and 2019, respectively. [4]

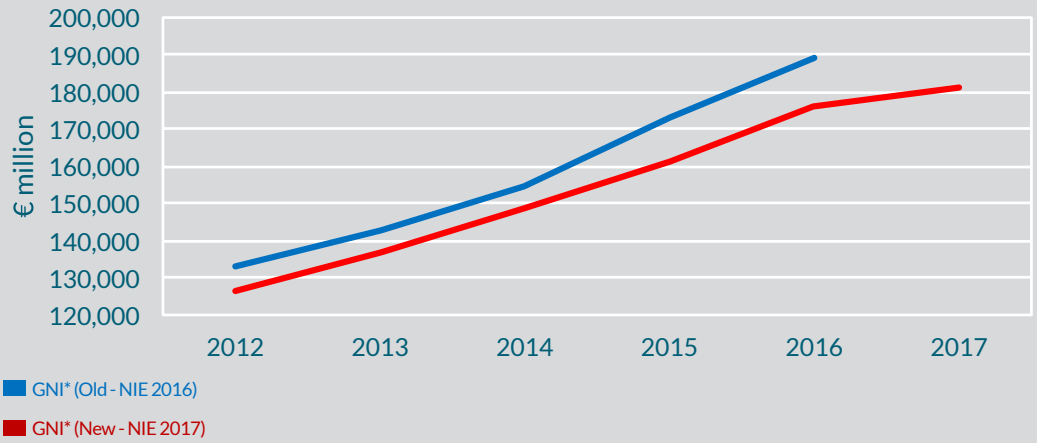
4 Underlying demand is the sum of consumption, government and underlying investment spending. The latter excludes intangibles and transport related spending from total investment.

Box B: Revisions to CSO National Accounts and Balance of Payments Statistics
By Thomas Conefrey[5]

The Annual National Income and Expenditure (NIE) Accounts and Balance of Payments data for 2017 were published by the CSO on 19 July 2018. The releases contained the first estimate of modified Gross National Income (GNI*) for 2017, as well as revisions to data for previous years. This Box describes a number of the main revisions to the data and draws out some implications for our understanding of recent developments in the Irish economy.

The large-scale relocation of intellectual property (IP) assets to Ireland since 2015 by foreign-owned multinational enterprises means that standard National Accounts aggregates such as GDP are no longer meaningful indicators of either the size or rate of growth in the Irish economy. Since 2017, the CSO has published a new adjusted measure of national income called GNI* to provide a more reliable estimate of the size of the economy. To calculate GNI*, three items are deducted from headline GNI: depreciation on imported IP assets, depreciation on aircraft leasing and the retained income of redomiciled PLCs. In the new National Accounts data (NIE 2017) data published by the CSO on 19 July, the level of GNI* has been revised down significantly compared to the previous estimates (NIE 2016). For 2016, the level of GNI* was revised down by 7 per cent, or €13.3 billion (see Table 1 and Figure 1).

Box B Figure 1: Revisions to GNI*: NIE 2016 to NIE 2017



Source: CSO, National Income and Expenditure Accounts.

The downward revision to GNI* is due predominantly to three factors:[6]

1. The CSO has implemented a modification to the treatment of R&D expenditure and related depreciation in the Balance of Payments that is consistent with their treatment in the National Accounts framework. Previously, expenditure on R&D was treated as investment in the National Accounts but as intermediate consumption in the Balance of Payments. The CSO has now corrected this inconsistency resulting in an upward revision to net factor income outflows. This arises because R&D expenditure is now treated as investment (which increases profits) rather than a cost (which reduces profits). The resulting higher profit outflows reduces GNP and GNI (and hence GNI*).

5 Irish Economic Analysis Division.

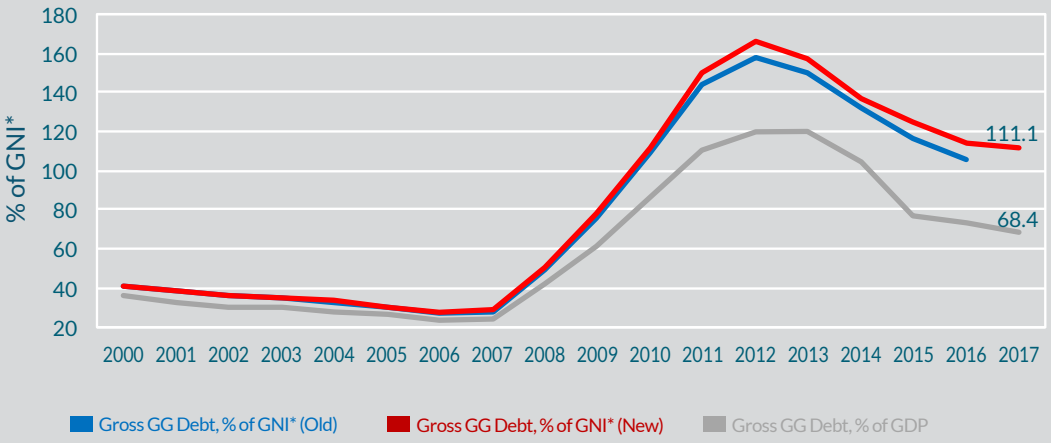
6 See https://cso.ie/en/releasesandpublications/in/nie/informationnotice-developmentsandrevisionsinthenationalincomeandexpenditure2017andthebalanceofpaymentsquarter12018results/

2. Following a review, the CSO identified additional purchases of R&D-related IP assets over recent years. This resulted in upward revisions to its depreciation adjustment for R&D-related IP assets.

3. The CSO has modified the calculation of the GNI* indicator in the NIE 2017 results through an expansion of the base used when calculating the depreciation related to intangibles. The basis for the GNI* depreciation adjustment has been extended to include trade in R&D-related IP products and imports of R&D services. As well as (2) above, this increases the depreciation amount subtracted from GNI to arrive at GNI*. As shown in Table 1 below, the CSO's new higher estimate of depreciation on R&D-related IP imports accounts for most of the downward revision to GNI* in all years (€8.8 billion of the €13.3 billion downward revision in 2016).

The decrease in the estimated level of GNI* in the new (NIE 2017) data means that the General Government gross debt-to-GNI* ratio stands at 114 per cent of GNI* in 2016, compared to the previous figure (based on NIE 2016) of 106 per cent. For 2017, the Gross Debt to GNI* stands at 111 per cent (see Figure 2 below), up from 28.5 per cent in 2007.

Box B Figure 2: Gross General Government Debt



Source: CSO, National Income and Expenditure Accounts and Government Finance Statistics.

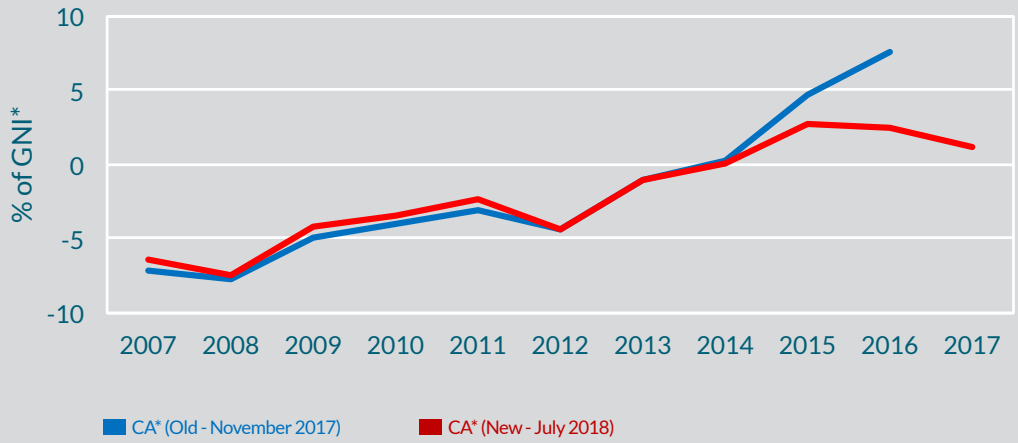
The impact of contract manufacturing on goods exports and imports as measured in the National Accounts has been evident for a number of years. Contract manufacturing involves firms resident in Ireland manufacturing products abroad under contract; the products are included in the Irish National Accounts as imports and exports even if they never physically come to Ireland and no domestic labour is used in the production of these goods. The value of goods exports related to contract manufacturing amounted to €64.7 billion in 2017, 34 per cent of total goods exports.

Recent trends in the National Accounts and Balance Payments data suggest that globalisation activities of MNEs is also affecting the data on services trade. Exports of pharmaceutical products and information and communication (ICT) services make up a large share of overall goods and services exports in the National Accounts. Up to 2015, increases in pharmaceutical and ICT exports resulted in a related rise in imports of services in the category royalties/licences. This reflected the use of IP assets based abroad in the production of goods and services by Irish firms.

However, following the movement of large amounts of intellectual property (IP) assets to Ireland by multinational firms, imports of royalties/licences declined because, with the IP assets now already located in Ireland, this eliminates the need to import these services. Moreover, a new development evident in the CSO data since 2017 is the rise in exports of royalties/licences. The majority of the increase in royalties/licences exports is in the ICT sector and stems from the large of amount of IP assets based in Ireland since 2015 – these assets are now generating a related increase in services exports.

Reflecting these developments, the CSO has modified its methodology for calculating the underlying current account of the balance of payments (CA*) to adjust for exports of IP and R&D services. Combined with the revision to net factor income outflows in the National Accounts discussed above, this has resulted in revisions to the CSO's previously published estimate of the underlying current account balance (CA*). The previous estimate of CA* showed a surplus of €13.4 billion in 2016, or 7.6 per cent of GNI*. In the new data, the surplus has been revised down to €4.5 billion or 2.6 per cent of GNI* (Figure 3); the 2017 figure is a surplus of 1.2 per cent of GNI*.

Box B Figure 3: Modified Current Account Balance (CA*), % of GNI*



Source: CSO, Balance of Payments Statistics.

The recent release of the 2017 National Accounts by the CSO, and the revisions contained therein, demonstrate the ongoing challenges faced by users in interpreting these data for Ireland. In particular, it is difficult to accurately identify the drivers of growth in the Irish economy using the current published data due to a range of complications in the accounts, not least the inclusion of imports and exports of goods manufactured abroad under contract by MNCs in the Irish National Accounts. In addition, the current National Accounts do not provide a single overall measure of the rate of growth in Irish economic activity. While a range of different indicators point to continued strong growth in the economy (see Box C), each of these individual indicators are partial measures and omit important elements of economic activity. For example, underlying domestic demand excludes the contribution of net exports to overall growth. This makes it difficult to analyse adequately fundamental questions such as the current cyclical position of the economy or the extent to which growth is being driven by domestic or external factors. While the publication of new adjusted headline measures such as GNI* is welcome, further progress is needed to address

the considerable problems which remain. Implementation of the proposals outlined by Honohan (2016) and FitzGerald (2018) – who recommend the publication of "trimmed" National Accounts that strip out the offshore activities of MNEs – would help to resolve some of the current challenges.[7]

Box B Table 1: Revisions to National Accounts Data

	2012	2013	2014	2015	2016	2017
NIE 2016 - Old Data						
GDP	175,561	180,298	194,537	262,037	275,567	
Net factor income	-33,549	-28,309	-29,715	-56,048	-48,818	
GNP	142,012	151,990	164,822	205,990	226,749	
GNI	143,402	153,193	165,866	207,234	227,742	
Less: Factor income of redomiciled PLCs	7,102	6,477	6,855	4,666	5,786	
Depreciation on R & D related IP imports	586	705	771	25,047	27,793	
Depreciation on aircraft leasing	2,653	3,006	3,782	4,642	5,001	
GNI*	**133,060**	**143,005**	**154,457**	**172,878**	**189,163**	
GNI* - annual % change		7.5	8.0	11.9	9.4	
NIE 2017 - New Data						
GDP	175,216	179,922	195,293	262,466	273,238	294,110
Net factor income	-35,345	-29,285	-31,407	-62,043	-51,082	-60,961
GNP	139,871	150,637	163,886	200,423	222,156	233,149
GNI	141,261	151,840	164,929	201,667	223,150	234,221
Less: Factor income of redomiciled PLCs	7,097	6,474	6,851	4,663	5,778	4,851
Depreciation on R & D related IP imports	4,964	5,400	5,667	31,016	36,677	43,119
Depreciation on aircraft leasing	2,755	3,060	3,783	4,606	4,869	5,068
GNI*	**126,444**	**136,906**	**148,628**	**161,382**	**175,827**	**181,182**
GNI* - annual % change		8.3	8.6	8.6	9.0	3.0
Difference (NIE 2017 - NIE 2016)						
GDP	-345	-376	756	429	-2,329	
Net factor income	-1,796	-976	-1,692	-5,995	-2,264	
GNP	-2,141	-1,353	-936	-5,567	-4,593	
GNI	-2,141	-1,353	-937	-5,567	-4,592	
Less: Factor income of redomiciled PLCs	-5	-3	-4	-3	-8	
Depreciation on R & D related IP imports	4,378	4,695	4,896	5,969	8,884	
Depreciation on aircraft leasing	102	54	1	-36	-132	
GNI*	**-6,616**	**-6,099**	**-5,829**	**-11,496**	**-13,336**	

7 See Honohan, P. 2016. "Towards a Trimmed GDP Concept." https://www.cso.ie/en/media/csoie/newsevents/documents/reportofth-eeconomicstatisticsreviewgroup/A_trimmed_GDP_for_Ireland.pdf and FitzGerald, J. 2018. "Problems Interpreting National Accounts in a Globalised Economy – Ireland." https://www.esri.ie/pubs/QEC2015SUM_SA_FitzGerald.pdf

Consumption

The forecast for personal consumption expenditure has been revised down relative to the previous Bulletin reflecting a weaker than expected outturn in 2017 (see below). For 2018, growth in consumer spending of 2.6 per cent is now expected, moderating to 2.5 per cent in 2019. The forecast is underpinned by positive employment and income developments and prospects.

The recently published National Income and Expenditure Accounts (NIE) reported a 1.6 per cent rise in the volume of consumer spending in 2017. This was lower than expected and also lower than the preliminary estimate (of 1.9 per cent). Overall last year, goods related consumption grew by a surprisingly weak 1.1 per cent with services items up 2 per cent. There were fairly significant revisions to the consumption data in the NIE with goods related items revised downwards between the preliminary QNA data and the NIE. The relatively low goods figure appears to reflect weaker new private car sales in 2017.

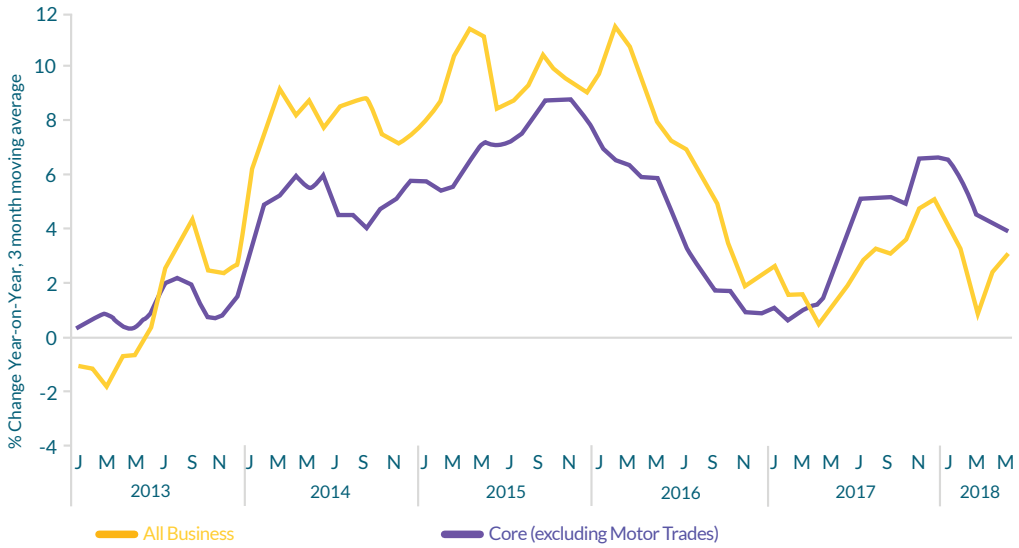
In the first quarter of this year, personal consumption grew by 2.7 per cent in year-on-year terms. On a seasonally adjusted basis, however, consumption contracted by 0.3 per cent over the quarter. This weakness reflected weak services related consumption, specifically professional services and higher spending by non-residents. However, other data, principally the monthly retail sales figures (to May), continue to point to robust levels of consumer spending.[8] On the other hand, more qualitative indicators, such as the ESRI/KBC Consumer Sentiment survey point to some weakness of late, with the index in June recording its lowest reading in over a year. This moderation appeared to reflect concerns relating to global risk factors and higher fuel costs. Despite this, sentiment remains largely positive.

8 Core retail sales (i.e. sales excluding motor trades) grew by 4.5 per cent in the year to May relative to the same period in 2017.

Table 1: Expenditure on Gross National Product 2016 to 2019[f]

	2016 €	% change in		2017 €	% change in		2018[f] €	% change in		2019[f] €
	millions	volume	price	millions	volume	price	millions	volume	price	millions
Personal Consumption Expenditure	96,908	1.6	1.4	99,896	2.6	1.7	104,285	2.5	1.9	108,870
Public Net Current Expenditure	27,780	3.9	2.5	29,585	3.2	1.7	31,050	2.0	2.0	32,311
Gross Domestic Fixed Capital Formation	97,645	-31.0	2.4	69,035	9.2	3.2	77,813	9.0	3.2	87,526
Building and Construction	17,710	16.1	6.0	21,790	13.9	6.0	26,325	12.7	6.0	31,457
Machinery and Equipment	19,518	-11.2	1.1	17,516	5.5	1.4	18,738	5.5	1.1	19,992
Intangibles	60,418	-51.1	0.7	29,730	8.0	2.0	32,751	8.0	2.0	36,078
Value of Physical Changes in Stocks	6,437	-45.4	0.5	3,532			3,532			3,532
TOTAL DOMESTIC DEMAND	228,770	-13.3	1.9	202,048	4.9	2.2	216,681	4.7	2.4	232,239
of which: Underlying Domestic Demand	151,565	2.9	2.2	159,312	4.4	2.3	170,205	4.1	2.5	181,717
Exports of Goods & Services	328,235	7.8	-0.3	352,556	5.0	-0.2	369,103	4.3	0.8	387,759
FINAL DEMAND	557,005	-0.9	0.5	554,604	4.9	0.6	585,783	4.4	1.4	619,999
Imports of Goods & Services	-285,882	-9.4	1.6	-263,268	5.2	0.1	-277,184	4.6	1.2	-293,602
Statistical Discrepancy	2,114			2,773			2,773			2,773
GROSS DOMESTIC PRODUCT	273,237	7.2	0.4	294,109	4.7	1.1	311,372	4.2	1.5	329,170
Net Factor Income from Rest of the World	-51,082	19.5	-0.1	-60,961	6.5	-0.2	-64,754	4.8	0.8	-68,402
GROSS NATIONAL PRODUCT	222,155	4.4	0.5	233,148	4.2	1.5	246,618	4.0	1.6	260,768
EU subsidies less taxes	993			1,071			1,133			1,198
GROSS NATIONAL INCOME	**223,148**	**4.4**	**0.5**	**234,219**	**4.2**	**1.5**	**247,751**	**4.0**	**1.7**	**261,966**
MODIFIED GROSS NATIONAL INCOME	**175,824**	**n/a**	**n/a**	**181,181**						

Figure 2: Index of Volume of Retail Sales



Source: CSO

Box C: A monthly indicator of domestic economic activity
By Thomas Conefrey and Graeme Walsh [9]

Deciphering the pace of growth in economic activity in Ireland has become increasingly difficult in recent years due to the impact of globalisation on standard National Accounting aggregates such as GDP. At the same time, a wide range of other high-frequency data are published by the CSO that shed light on the performance of different parts of the economy. In this box, we describe the construction of a single monthly indicator of economic activity using a large panel of carefully selected high-frequency data. The indicator is designed to capture trends in underlying domestic economic activity – that is, economic activity carried out in Ireland that has an impact on the employment and incomes of Irish residents.

The monthly dataset draws information from a range of relevant data sources covering the labour market, retail sales, industrial production, Exchequer tax receipts, financial market conditions, the housing market, and consumer prices.[10] Information from these data sources is complemented with soft data from well-known consumer and business sentiment surveys. An overview of the dataset is shown in Table 1.[11] The individual time-series used to calculate the indicator are carefully selected to ensure that they provide meaningful information on economic conditions in Ireland. For example, although overall industrial production is a highly relevant indicator of economic activity for most countries, we do not use this series in computing the business cycle indicator for Ireland. This is because headline industrial production data for Ireland include the impact of goods produced abroad under contract manufacturing arrangements.[12] For the purposes of calculating the indicator, we instead use industrial production in the traditional sector as this better reflects trends in output produced by firms in Ireland.

9 Irish Economic Analysis Division.

10 The panel is balanced from 2000M06, although the majority of series are available back to the late 1990s.

11 A more detailed table is shown in the *Economic Letter*.

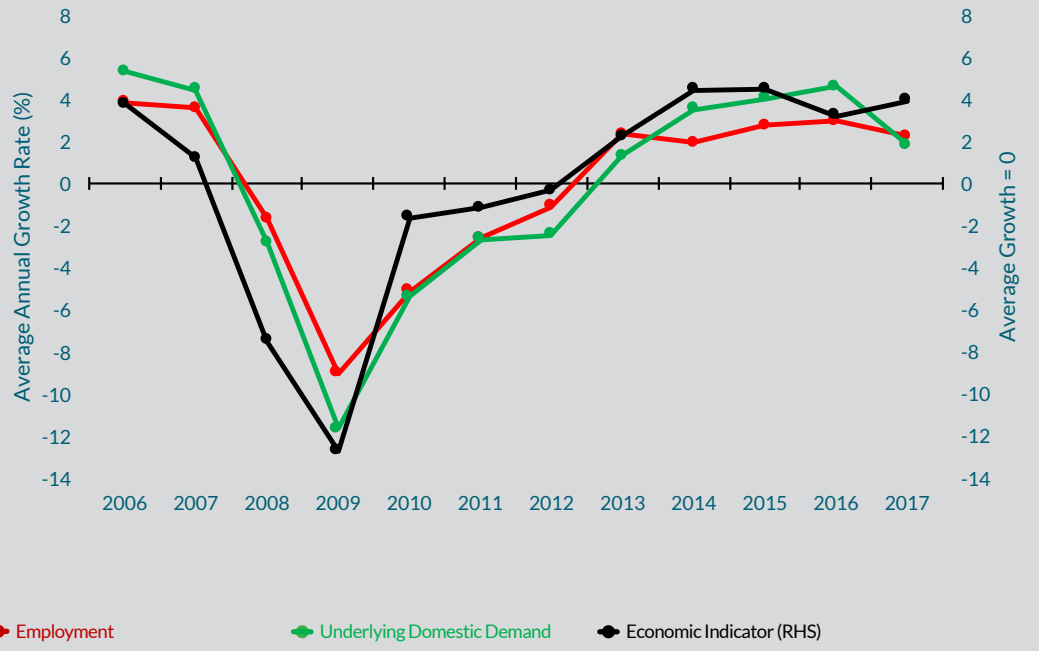
12 Contract manufacturing occurs where a company in Ireland engages a company abroad to manufacture products on its behalf. Even though the goods never pass through Ireland, the sale of the good is recorded as an Irish export of goods, while the contracted production is considered an import of services.

The indicator is created using a statistical technique called principal components analysis (PCA).[13] The PCA technique provides a summary of a large amount of relevant data. In essence, the indicator is a single factor extracted from the full panel of data, which is common to each of the series and explains most of the variation across all the data.[14]

The indicator is shown in Figure 1 alongside employment and underlying domestic demand. The chart shows that the indicator tracks movements in employment and underlying domestic demand quite closely in recent years. For example, the indicator is highly correlated with reliable measures of economic activity such as modified domestic demand (ρ=0.84) and employment (ρ=0.85) while it is less correlated with GDP (ρ=0.68), especially from 2011 onwards. This is not surprising given the well-known problems for Ireland with using GDP as a measure of domestic economic activity. The indicator suggests that the economy moved into an expansionary phase around early 2013, after five years of below average growth. The most recent data signal that the economy continues to grow at a robust pace, underpinned in particular by improvements in the labour market (see Figure 2).

As discussed below, the indicator can be used to provide an estimate of the growth in underlying domestic demand. Based on the most recent data, the indicator implies that underlying domestic demand grew by 4.6, 5.2, and 4.1 per cent in 2015, 2016, and 2017 respectively.[15] These estimates are quite close to the actual outturn for underlying domestic demand, particularly for 2015 and 2016. For 2017, the indicator suggests stronger growth in underlying domestic demand than the current National Accounts estimate.

Box C Figure 1: Indicators of economic activity



Note: LHS data are demeaned. RHS are aggregated from monthly to annual.
Source: CSO and authors' calculations.

13 The analysis presented in this box updates and extends previous similar work by Conefrey and Liebermann (2013).

14 The methodology also differentiates between the noise component of various economic series and underlying changes that provide useful information on economic developments. By design, the indicator has an average value of zero and a standard deviation of one. Values of the indicator above zero imply higher than average growth in economic activity; values below zero suggest growth is lower than its long-run average.

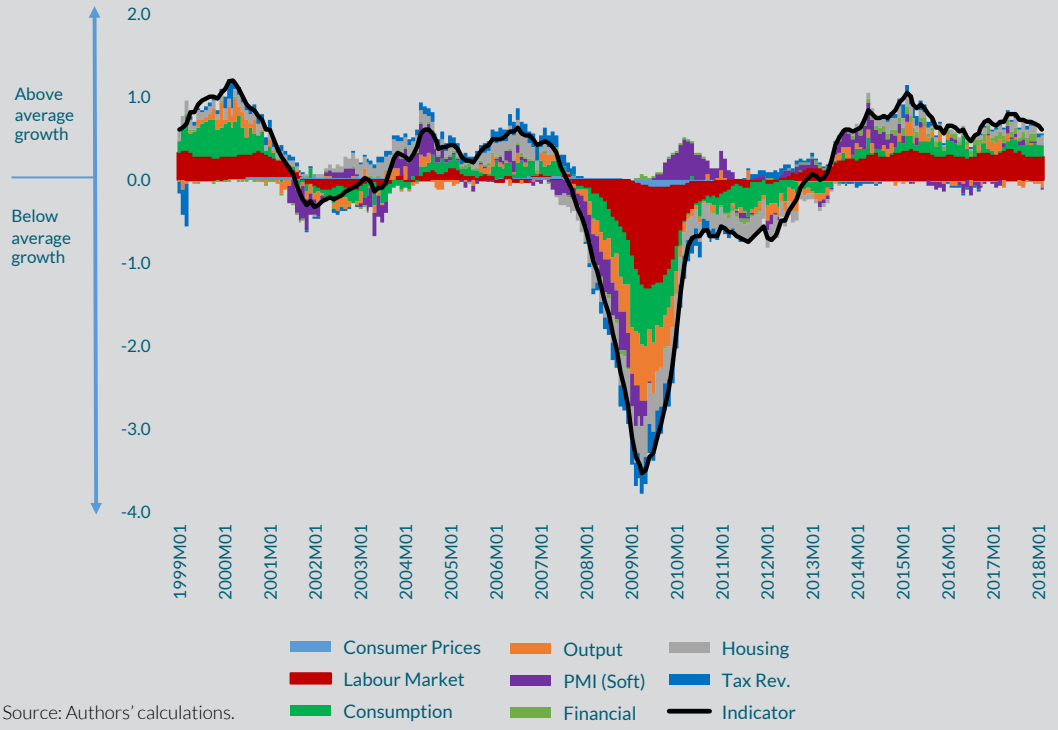
15 These figures are derived from a bridge equation that links the indicator to underlying domestic demand.

To understand the key driving factors behind the indicator at each point in time, figure 2 shows a historical decomposition of the indicator. This chart shows the contributions from the different variables in the dataset.[16]

The decomposition shows that in the late 1990s, the main contributions came from consumer spending and improvements in the labour market. During the 2008-2012 downturn, labour market conditions deteriorated, and both consumers and firms cut spending. Consumer spending remained below trend around 2011-2012. Since 2014, there have been significant improvements in labour market conditions with annual average employment growth of 3.1 per cent from 2013-2017. The labour market is a key driver of the indicator over recent years, as it was during the late 1990s. However, unlike the 1990s, there is a relatively smaller contribution from consumer spending.

The indicator is also a useful forecasting tool that provides helpful information in real time on the current state of the business cycle and is used as part of the Bank's forecasting framework.[17] Moreover, because the dataset used to calculate the indicator is monthly and therefore timelier than the Quarterly National Accounts, we can use this early information to produce preliminary estimates of economic activity. This is done using an econometric approach known as "nowcasting", which is used by many Central Banks and other professional forecasters to produce timely estimates of economic activity. We demonstrate the usefulness of the indicator as a quantitative measure in a forthcoming *Economic Letter* and find that it performs well in providing early estimates of the growth in underlying domestic demand.

Box C Figure 2: Historical decomposition



Source: Authors' calculations.

16 Note that this is not a historical decomposition in terms of structural shocks as found in the VAR literature.
17 For related work on monitoring current economic developments, see Box A: A Macroeconomic Heat Map, by Byrne, S., and Smyth, D. in Quarterly Bulletin No. 2, 2016.

Box C Table 1: Overview of the dataset

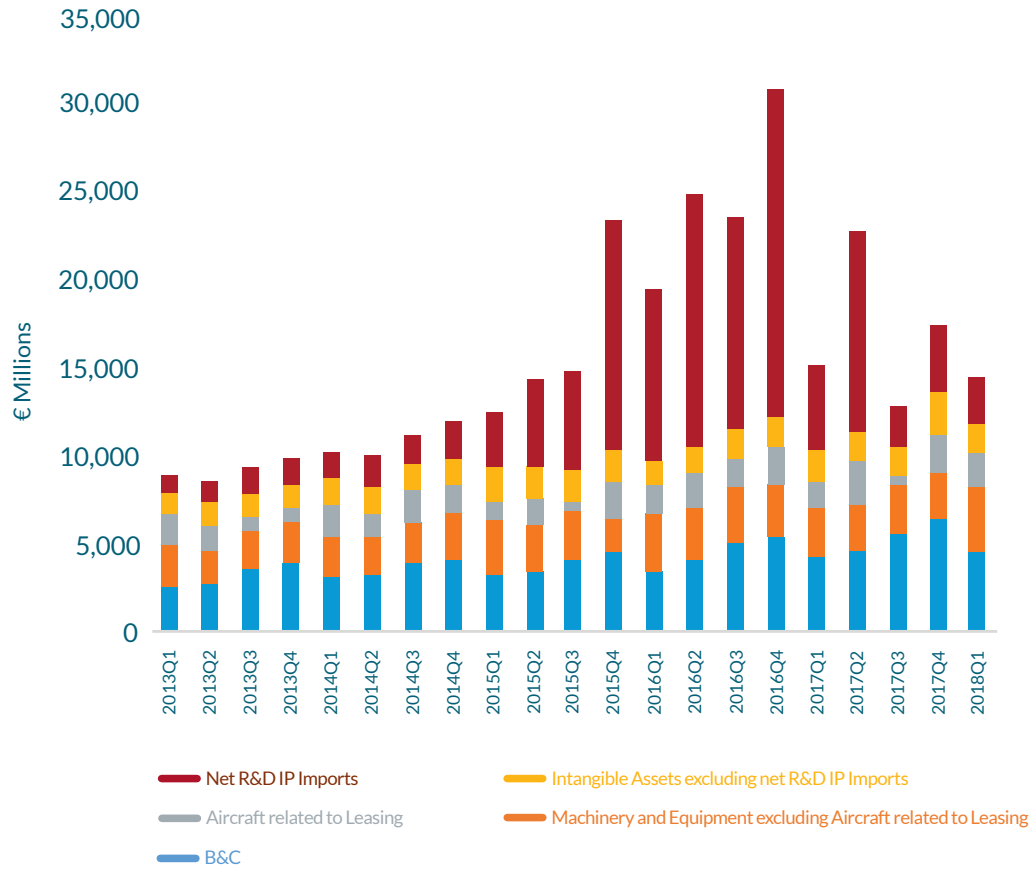
BLOCK	NO.	PUBLICATION	SOURCE	TRANSFORMATION
Output	1	Purchasing Managers Index	IHS Markit	Annual Change
	2	Industrial Production Volumes	CSO	Annual Percent Change
Labour	3	Live Register	CSO	Annual Change
	4	Monthly Unemployment Rate	CSO	Annual Change
Trade	5	Merchandise Trade Volumes	CSO	Annual Percent Change
Consumption	6	Retail Sales	CSO	Annual Percent Change
	7	Consumer Sentiment	KBC / ESRI	Annual Change
	8	Vehicle Licenses	CSO	Annual Change
Fiscal	9	Exchequer Returns	PER Databank	Annual Change
Financial	10	ISEQ Index	CSO	Log Difference
	11	Exchange Rates	CSO	Log Difference
	12	Interest Rates	CSO	Level
Housing	13	House Prices	CSO	Annual Change
	14	New House Guarantee Registrations	CSO	Annual Change
Prices	15	Consumer Prices	CSO	Annual Percent Change

Investment

Headline investment declined by 31 per cent in 2017. As illustrated in Figure 3, this was largely driven by a decrease in R&D related IP investment and a decline in machinery and equipment investment compared to the previous year. Underlying investment, however, which excludes the intangibles and transport components of investment, increased by 6.2 per cent in 2017. Building and construction investment continued to grow strongly, with new dwellings investment up 42.9 per cent. Non-residential construction increased by 15.6 per cent over the same period. Machinery and equipment investment, as pointed to in the previous Quarterly Bulletin, continued to display unusual weakness last year and, excluding the aircraft component, was down 12.9 per cent in 2017. Intangible investment declined by 50.1 per cent in 2017.

For the first quarter of 2018, the Quarterly National Accounts indicate that headline investment fell by 3.8 per cent year-on-year. As was the case last year, the underlying figure, presents a more positive picture however – up 6.2 per cent year-on-year. Building and construction investment was up 11.4 per cent year-on-year, while machinery and equipment net of transport equipment (mainly planes) investment staged a recovery - up 16.4 per cent. Within the building component, new dwellings investment continued its strong increase - up 27.2 per cent. Non-residential investment increased by 11.2 per cent. Intangible investment declined by 33.1 per cent.

Figure 3: Gross Fixed Capital Formation (Constant Prices)

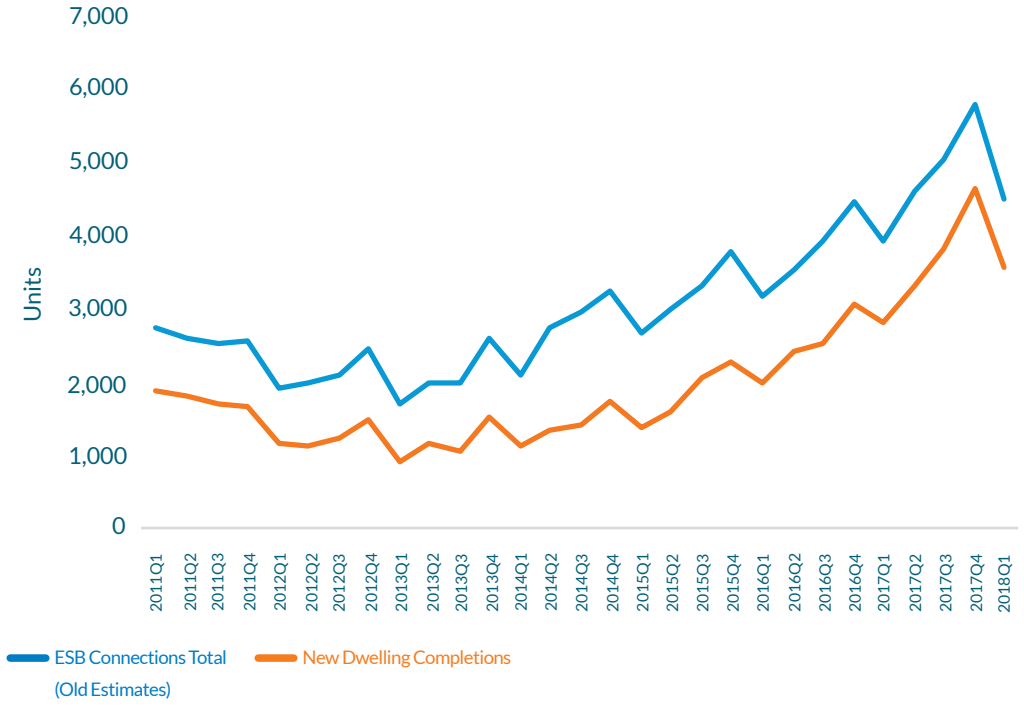


Source: CSO

New estimates of housing supply are available from the CSO. The new completions data are still based on the ESB connection series but make adjustments using other data sets (Building Energy Rating, Building Control Management System) to account for reconnections (houses vacant for more than 2 years), non-residential connections and previously complete dwellings in unfinished ghost estates. The new estimates are, as expected, below the ESB connection series previously used for our forecasts. The new methodology results in a downward level shift in estimates of new house completions (see Figure 4). Based on this new data, and using other forward-looking indicators such as registrations and loans for new homes (see Box C in Quarterly Bulletin 2 2018), completions are expected to number 17,500 and 22,000 this year and next. The estimates for the growth rate of new housing are largely unchanged, for 2018 and 2019, residential construction investment is expected to increase by 22.4 per cent and 25 per cent, respectively.

For the non-residential sector, activity is forecast to increase by 15 and 12 per cent in 2018 and 2019 respectively. The robust pace of activity in the construction sector is corroborated by survey data from the Ulster Bank Construction PMI, registering a value of 60.4 and 62 in June of 2018 for residential and commercial construction respectively.[18] Building and construction activity overall is forecast to increase by approximately 14.1 and 12.7 per cent in 2018 and 2019.

Figure 4: New Dwellings Completions and ESB Connections



Source: CSO

As indicated, underlying (excluding aircraft leasing) machinery and equipment investment softened considerably in 2017. The Quarterly National Accounts for the first quarter of 2018 point to an increase of underlying machinery and equipment investment of approximately 16 per cent year-on-year. We expect underlying machinery and equipment investment to continue to recover in 2018 and 2019 to around trend growth of 5.5 per cent.

18 A value over 50 indicates expansion.

Bearing in mind prospects for all components of investment, underlying investment is forecast to increase by 11.7 and 10.9 per cent in 2018 and 2019 respectively. This is a slight upward adjustment compared to the previous *Quarterly Bulletin*.

Government Consumption

Government consumption grew by 3.9 per cent in 2017 according to the NIE. In the first quarter of the year, public consumption grew by 3.7 per cent year-on-year. For this year and 2019, we expect public consumption to grow by 3.2 and 2.0 per cent, respectively, based on the latest projections for government spending from the Stability Programme Update.

External Demand and Balance of Payments

Exports and Imports

The export outturn for 2017 has been revised upwards by 0.9 per cent, from 6.9 per cent to 7.8 per cent, according to the NIE. Such an improved outturn related solely to the services side as goods exports were revised downwards. Having weighed upon goods export growth in 2016, it is noteworthy that contract manufacturing activity outside of the State by multi-national enterprises based here fell further last year, albeit with considerable intra-year variation.

A somewhat different picture in terms of the performance of exports appears to be emerging from QNA data for the first quarter of 2018. Goods export volume year-on-year growth of 10.0 per cent substantially outpaced the corresponding 1.1 per cent increase in services exports. Despite such a buoyant first quarter outturn for goods exports, contract manufacturing activity fell further during the early part of 2018. Slower contract manufacturing was however offset by a buoyant 'underlying' goods export performance. The most noteworthy development at a sectoral level was the buoyancy of the pharmaceuticals and medical devices sector, with year-on-year growth averaging more than 20 per cent in value terms over this period. Weak services export growth in the year to the first quarter was partly due to strong downward base effects. Nevertheless, computer services, Ireland's largest services export sector, continued to grow strongly, with a 16.6 per cent year-on-year increase in value terms.

In terms of the outlook for exports for the year as a whole, available external demand indicators point to sustained growth in the near term. The most recent assumptions for weighted trading partner demand are broadly unchanged for both 2018 and 2019 relative to previous estimates. Furthermore, the new export orders index of the Manufacturing and Services Purchasing Managers Index (PMI) exceeded long-run averages during the second quarter of 2018. A further key determinant of the short-term outlook for Irish goods exports is the level of contract manufacturing. A neutral contribution continues to be assumed, with contract manufacturing growing in line with underlying goods exports. Reflecting such a combination of factors, the outlook for exports is broadly unchanged relative to the previous Quarterly Bulletin - export volumes are expected to rise by 5.0 per cent this year followed by 4.3 per cent in 2019. While external demand growth seems set to remain robust in the near term, the implementation of higher trade tariffs and the possibility of further protectionist measures represent a key risk to the prospects for external demand. In view of this and given the continuing uncertainty surrounding the international outlook arising from Brexit, the balance of risks for external trade have worsened somewhat relative to the previous Quarterly Bulletin, with risks remaining tilted to the downside.

The decline in imports observed throughout 2017 continued into the first quarter of 2018, albeit at more modest rates. Overall import volumes fell 1.1 per cent, year-on-year, in the first quarter of 2018, due solely to a services import volume decline. A buoyant goods import performance, with an annual increase of 7.9 per cent, may relate to recent improved levels of exporting activity. Services import volumes fell by 5.4 per cent annually in the first quarter of 2018, which may be largely attributed to the business services sector and specifically research and development.

Looking ahead, the fundamental factors underpinning import growth seem set to remain strong, albeit easing somewhat during the course of 2018 and 2019, as both domestic demand and export growth are expected to slow. As a result, overall import volumes are projected to increase by 5.2 per cent this year, followed by 4.6 per cent in 2019. While the projected profile of imports will reflect the final demand outlook as well as its composition, considerable uncertainty surrounds the short-term outlook given the importance of IP imports and how these will evolve, particularly in view of the pronounced weakness in 2017. Based on the forecasts for exports and imports, net exports seem set to continue to support GDP growth over the forecast horizon, albeit at more modest rates relative to 2017. A positive contribution to GDP growth in 2018 from net trade of 1.3 percentage points is currently anticipated, falling to 0.9 percentage point in 2019.

Table 2: Goods and Services Trade 2016 to 2019[f]

	2016 €	% change in		2017 €	% change in		2018[f] €	% change in		2019[f] €
	millions	volume	price	millions	volume	price	millions	volume	price	millions
Exports	328,235	7.8	-0.3	352,556	5.0	-0.2	369,103	4.3	0.8	387,759
Goods	193,160	1.9	-2.0	192,854	3.4	-1.8	195,822	3.0	-0.1	201,495
Services	135,076	16.2	1.8	159,701	6.9	1.5	173,281	5.8	1.6	186,265
Imports	285,882	-9.4	1.6	263,268	5.2	0.1	277,184	4.6	1.2	293,602
Goods	87,072	-5.4	3.5	85,214	4.0	-1.8	87,004	3.5	0.6	90,570
Services	198,809	-11.1	0.7	178,054	5.8	1.0	190,180	5.2	1.5	203,032

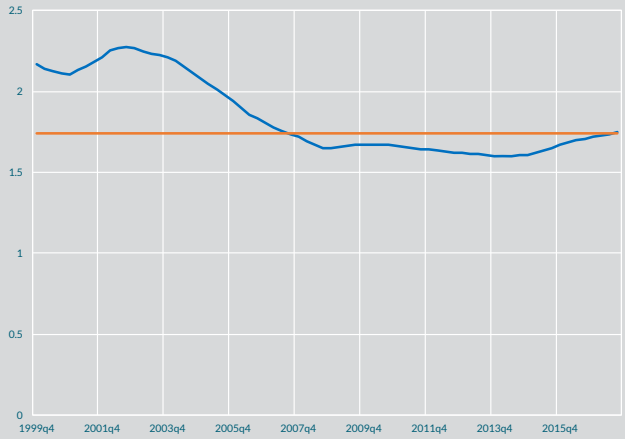
Box D: The response of Irish Exports to World Demand

Stephen Byrne and Suzanne Linehan [19]

Developments in external demand together with the relative prices of traded goods and services[20] are two of the key factors driving Irish exports. It is, therefore, important when forecasting to have a clear understanding of the nature of the relationship between these two factors and exports. Empirical estimates [21] suggest that the impact of changes in external demand on Irish exports are almost double the corresponding effect of changes in relative prices. In view of this and given that external demand conditions represent a key risk to the medium-term outlook, this box looks at the responsiveness of exports to external demand and the stability of this relationship over time as the nature of Irish exports has undergone substantial change in recent times.[22]

Using aggregate national accounts data together with a measure of external demand compiled by the ECB[23], the export demand elasticities are estimated by regressing the annual difference in external demand (expressed in logs) on the annual difference in exports (expressed in logs).[24] In Figure 1, a simple long-run elasticity of annual external demand growth to export growth is presented together with this elasticity estimated on a recursive basis. A long-run elasticity of 1.74 is found implying that a 10 per cent increase in external demand should lead to a 17.4 per cent increase in total Irish exports. Previously, long-run external demand elasticities have generally been found to be close to one and therefore our estimate of 1.74 for Irish exports points to a comparatively high degree of responsiveness.

Box D Figure 1: Total Export Elasticity to External Demand



Source: CSO and authors' calculations

Examining its stability over time, we find that the aggregate export demand elasticity has varied within a reasonably narrow 1.6 to 2.3 range over the 20-year sample period. In the early 2000s, the elasticity was estimated to have reached a high of around 2.3 per cent. A marked reduction in the responsiveness of exports to trading partner demand is evident from 2004 to 2008 followed by stabilisation around a value of 1.6 per cent throughout the 2009 to 2014 crisis period.

19 Irish Economic Analysis Division

20 Export competitiveness is measured as the relative price between domestic prices and foreign prices, both measured in a common currency. Higher domestic prices, relative to foreign prices, decrease a country's export competitiveness.

21 The elasticity of exports to relative prices (measured by the real effective exchange rate) is ~-0.91.

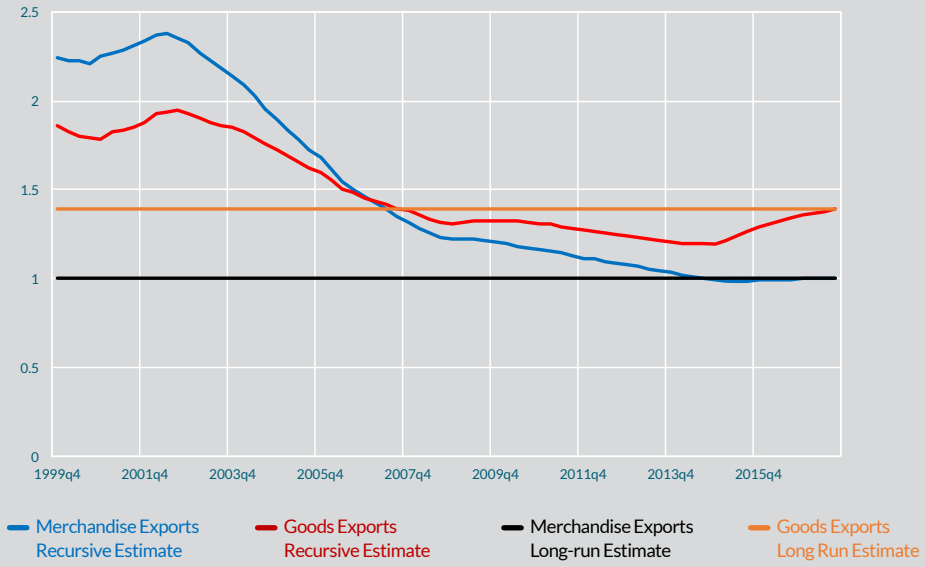
22 Byrne, S. and O'Brien, M., 2015. The Changing Nature of Irish Exports: Context, Causes and Consequences. Central Bank Quarterly Bulletin, 2, pp.58-72.

23 The measure of external demand referred to throughout this box is compiled by the ECB for the purposes of their macro projection exercises and are expressed in the form of an export demand index, known as WDR. This index is calculated as a weighted geometric average of the import volumes of Ireland's trading partners. The weights used for each country are based on bilateral trade flows.

24 The long-run estimate is based on all available quarterly data from the CSO covering the Q1 1997 to Q4 2017 period.

More recently, some strengthening of the relationship is evident (see Figure 1). Much of this recent increase in aggregate export demand elasticity is thought to reflect changes in the composition of Irish exports, particularly the trend towards increasing fragmentation in the production of final goods and services across borders or the rise of global value chains and in particular, contract manufacturing.

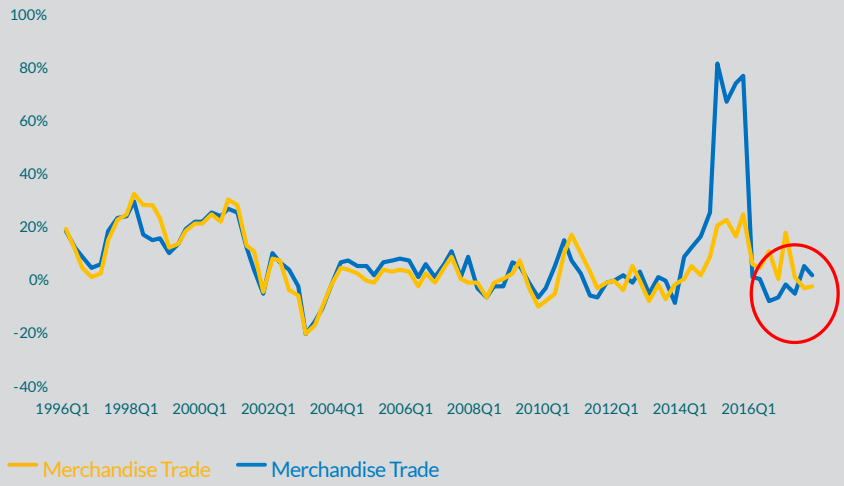
Box D Figure 2: Goods Export Elasticity to External Demand



Source: CSO and authors' calculations

Over the past four years, the relationship between Irish exports and trading partner demand has been complicated by the increasing prominence of contract manufacturing in the National Accounts. Contract manufacturing refers to goods produced overseas (in China for example) and shipped to a third country (e.g. the USA) organised by a firm resident in Ireland. Although the goods do not cross the Irish border, they are included in our national accounts following the change to the ownership concept in the ESA2010 national accounting framework.

Box D Figure 3: National Accounts Goods and Merchandise Exports Y-o-Y Growth



Source: CSO

The relationship between contract manufacturing-related activity and external demand is not clear given it is a relatively recent phenomenon (figure 3). In an attempt to address the distortions arising from contract manufacturing, we estimate the goods export elasticity using both QNA data and the CSO's monthly External Trade Statistics (ETS) or customs-based data.[25] As expected, the equivalent ETS or merchandise exports elasticity over the full sample of 1.0 is lower than the 1.4 per cent QNA or goods export estimate (i.e. including contract manufacturing). It is noteworthy that the long-run external demand elasticity are generally found to be close to one. As is the case with the aggregate export demand elasticity, a pronounced reduction is evident in both the merchandise/ETS and the goods/QNA estimate over the 2004-2008 period. In order to limit the distortions arising from contract manufacturing, we conclude that the merchandise exports represents a reliable measure of underlying goods exports and is used in constructing our forecasts for export growth.

Net Trade, Factor Incomes and International Transfers

In line with the adjustment made to the National Accounts aggregates to account for the effects of globalisation, a modified current account measure, known as Current Account* (CA*), is also published by the CSO on an annual basis. This measure adjusts for the depreciation of Irish-resident, foreign-owned IP, depreciation-related to aircraft leasing, re-domiciled income and the cost of leased aircraft and R&D-related IP imports. The CSO have also recently implemented a further Balance of Payments modification to the treatment of R&D expenditure and related depreciation that is consistent with their treatment in the National Accounts framework.[26] Combining these various adjustments in the form of CA* for 2017 presents a significantly different picture to that of the unadjusted current account – a modest CA*surplus of €2.2 billion or 0.7 per cent of GDP compares with an unadjusted surplus of €24.9 billion or 8.5 per cent of GDP. The impact of methodological changes on national accounts aggregates including GNI* and CA* are discussed in Box B above. Of particular note is the increase in net factor income (NFI) outflows and the consequent reduction in the CA* balance.

25 Goods under contract manufacturing in Ireland are not registered by customs in the ETS yet are booked in the QNAs.

26 As a result, Balance of Payments profits will be increased by the value of R&D expenditure in the period and decreased by the depreciation on the accumulation of R&D assets purchased over previous periods. This modification is evident as an increase in the reinvested earnings of multi-national enterprises (MNEs) in the Current Account, with a corresponding balancing flow in the Financial Accounts of the Balance of Payments.

As regards the outturn for the first quarter of 2018, a current account surplus of almost €9.6 billion was recorded, representing a year-on-year increase of around €4.5 billion or 89 per cent in year-on-year terms. A noteworthy development in annual terms was the magnitude of the reduction in the size of the services deficit, falling to around €1.3 billion in the first quarter of 2018 from €5.4 billion in the same quarter of 2017 owing both to the buoyancy of the services exports and the falloff in services imports. The narrowing of the services deficit was, however partly offset by the widening of the merchandise trade surplus while net investment income outflows were broadly unchanged over the same period.

Taking account of the trade forecasts outlined above, the trade balance is projected to average close to 29 per cent of GDP in 2018 and 2019. Net factor income outflows are expected to increase in 2018, with a further pick-up envisaged in 2019, albeit more modest. Reflecting the prospective trends across these components, a headline current account surplus of around 7.3 per cent of GDP is estimated for 2018, followed by a narrowing to 6.4 per cent of GDP in 2019.

Table 3: Balance of Payments 2016 to 2019f

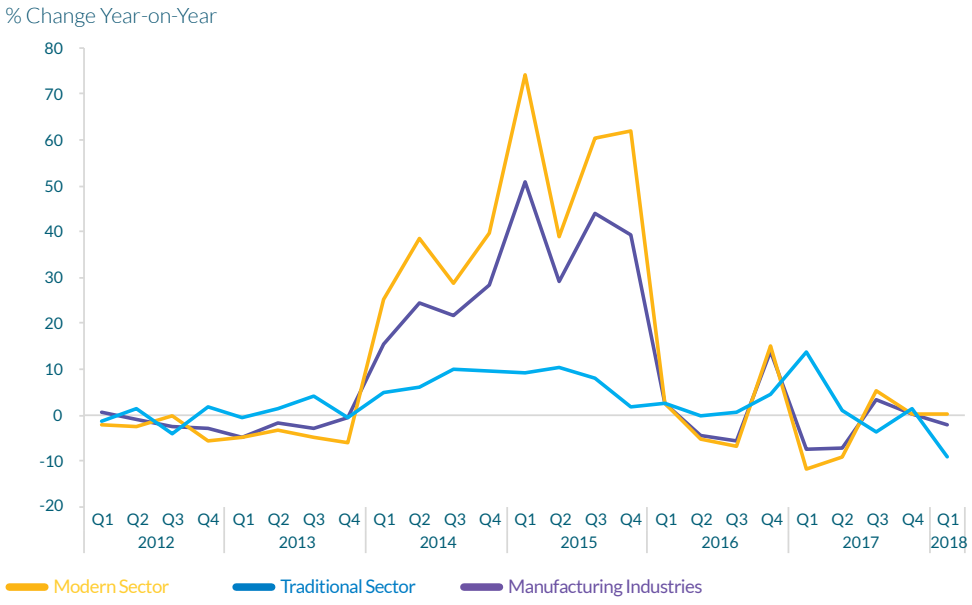
	2016	2017	2018f	2019f
Trade Balance	42,355	89,287	91,918	94,157
Goods	106,088	107,640	105,718	105,969
Services	-63,733	-18,353	-13,799	-11,811
Net Factor Income from the Rest of The World	-49,917	-59,777	-64,754	-68,402
Current International Transfers	-3,813	-4,590	-4,590	-4,590
Balance on Current Account	-11,375	24,920	22,573	21,164
(% of GDP)	-4.2	8.5	7.2	6.4

Supply

The strength of the economy last year was also evidenced by data on the supply side in the NIE with all of the main sectors recording gains. There were robust increases in a number of sectors in 2017, notably, manufacturing (+7.6 per cent) and construction (+15.2 per cent). On the services side, the information and communications (ICT) sector grew by 16 per cent, in part reflecting the R&D related activity. Double-digit growth was also recorded in the professional, administrative and support services sector (+11.2 per cent). Data so far in 2018 confirm further large increases in output in the ICT and construction sectors as well as financial and insurance services. All of the mains services sectors posted gains in the first quarter although these data remain volatile, with the ICT sector for example, registering growth of 33.9 per cent year-on-year. In contrast, manufacturing and agricultural output recorded declines of 1.4 and 6.2 per cent, respectively.

Other data on the output side points to continued growth in 2018. The headline Purchasing Manager Indices (PMIs) for industry, services and construction have been relatively stable, and in positive territory in the first half of the year. Similarly, the economy wide monthly services index (which measures output in the NFC traded sector at current prices) recorded a 6.6 per cent increase in the first 5 months of the year, relative to the same period in 2017. Within this, there were notable gains in wholesale trades, accommodation, ICT and administrative and support services.

Figure 5: Volume of Industrial Production



Source: CSO

The Labour Market

The labour market continues to offer strong evidence of the underlying strength in the economy. For 2018 as a whole, we expect the level of employment to increase by 2.6 per cent, translating into an additional 57,000 jobs. This forecast is underpinned by significant momentum in the labour market at present and robust domestic spending levels. In 2019, the pace of employment growth is expected to moderate to 1.9 per cent. Labour force growth has been much weaker than the employment recovery,

although a pick-up in growth is anticipated as the labour market tightens. Overall, the labour force is expected to grow by 1.2 per cent this year and by 1.3 per cent in 2019. These forecasts imply a further large fall in the rate of unemployment to an average of 5.4 per cent this year and 4.8 per cent in 2019. This outlook in turn motivates the forecasts for higher rates of wage inflation over the short-term (see below).

The latest data from the Labour Force Survey (LFS) were very strong with employment up 0.7 per cent in the first quarter of the year. This followed robust numbers in the latter part of 2017. In total, there were an additional 63,100 persons in employment in the first quarter of 2018 relative to a year earlier. This brought the number of persons at work to 2,220,500, a new peak level for the Irish economy. Job gains were again concentrated in full-time positions with broad based increases across most sectors. In particular, there were sizable increase in employment in public administration and defence and in administrative and support services. While the construction sector has continued to recover strongly following the crisis, employment excluding construction reached 2,100,200 persons in the first quarter of the year. This amounts to an increase of 18 per cent (or an additional 314,000 persons in employment) relative to lows reached in 2011 and is indicative of the balanced nature of the labour market recovery to date.

The labour force grew by 31,700 persons in the year to the first quarter reflecting roughly equal contributions from demographic (reflecting migration and working age population changes) and participation effects (despite an unchanged participation rate). These numbers coupled with the robust increase in employment resulted in a fall in unemployment in the first quarter to 132,900 persons, an unemployment rate of 5.7 per cent. This was the lowest rate of unemployment recorded since the first quarter of 2008. Furthermore, within this, the rate of long-term unemployment declined to 2.1 per cent. This rate has been declining at a marked pace in recent quarters and is now close to an historic low (1.2 per cent in 2002). These data indicate that the labour market continues to tighten, with some mitigation provided by increases in net inward migration and higher rates of labour force participation.

More recent labour market data from both the live register and monthly unemployment series point to continued positive momentum in the second quarter of the year. The seasonally adjusted unemployment rate fell to 5.1 per cent in June – its lowest level in over a decade with unemployment averaging 5.2 per cent in the second quarter.

Pay

In light of current conditions and prospects for the labour market, wage growth is expected to pick-up over the forecast horizon. Economy-wide compensation of employees (which reflects the combined impact of employment, hours and earnings) is forecast to increase by 5.5 per cent this year and by 5.3 per cent in 2019. This follows an increase of 4.7 per cent in 2017 based on the recently published NIE. Over the forecast horizon, with the labour market expected to tighten further (with unemployment falling below 5 per cent), higher rates of wage inflation are anticipated with compensation per employee forecast to increase by 2.8 per cent this year and by 3.3 per cent in 2019.

Recent labour market releases points to a gradual pick-up in wage inflation with the Earnings Hours and Employment survey reporting a 2.7 per cent rise in hourly earnings in the first quarter of the year with the public sector averaging 3.2 per cent. Previous work published by the Bank (see Linehan et

al, (2017)) highlighted a non-linear relationship between (real) wages and unemployment in Ireland. Specifically wages tend to be more responsive at unemployment rates below 5 per cent (and above 10 per cent). With unemployment expected to fall below 5 per cent in 2019, a pick-up in wage increases is likely over the forecast horizon.

Table 4: Employment, Labour Force and Unemployment 2016 to 2019[f]

	2016	2017	2018[f]	2019[f]
Agriculture	112	110	116	118
Industry (including construction)	394	412	424	437
Services	1,626	1,672	1,712	1,740
Total Employment	**2,132**	**2,194**	**2,251**	**2,295**
Employment Growth (%)	3.6	2.9	2.6	1.9
Labour Force	2,327	2,352	2,380	2,411
Labour Force (%)	1.9	1.1	1.2	1.3
Unemployment	195	158	129	116
Unemployment Rate (%)	8.4	6.7	5.4	4.8

Note: Figures may not sum due to rounding

Inflation

Consumer Prices

HICP inflation remained at 0.7 per cent in June 2018 as the pace of negative goods price inflation moderated while services inflation remains around the 2 per cent margin. The increase in the price of services predominantly reflects the strength in domestic demand and is reflected in higher private rents, as well as increases in the price of hotels and restaurants. The rise in global oil prices have passed through to increases in the price of energy products such as home heating and transport fuel (Figure 6). HICP inflation excluding energy was 0 per cent year-on-year in June 2018. The weakness of goods price inflation has remained a puzzle over the last number of quarters (see Box E). Lower import costs are a major factor, as the euro's strength against the sterling, and to a lesser extent the dollar, continues to weigh on the price of goods with a high import content (Figure 7). The euro/sterling exchange rate was approximately 3 per cent higher year-on-year in June 2018, while the euro/dollar was 7 per cent higher year-on-year. Box E examines some other possible reason for low goods prices in Ireland.

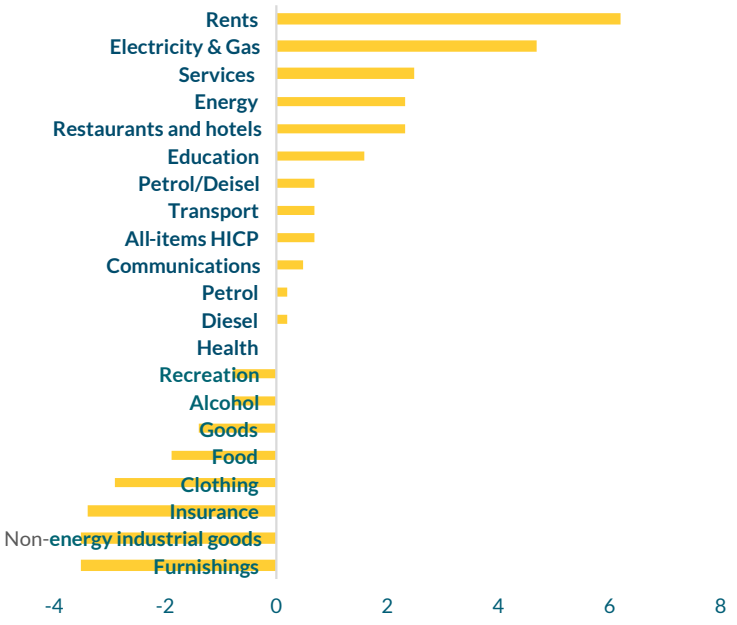
External cost pressures have increased since the time of the last Bulletin projection. Oil prices, both in terms of current spot rates and financial market expectations proxied by futures prices, have increased. A continued upward trend could lead to further upward pressure in goods price inflation. Domestically generated inflation is, in turn, conditional on the pace of wage growth. With wage growth projected to pick up over the forecast horizon, it is expected that services inflation will continue to rise over the horizon.

Conditional on the market implied path for oil prices, exchange rates as well as the Bank's own projections for growth in real activity – inflation is projected to pick up moderately this year and next. Current assumptions point to a forecast of 0.7 and 0.8 per cent for HICP inflation in 2018 and 2019, respectively (see Table 5). Goods prices are projected to decline by 0.6 and 1.4 per cent in 2018 and

2019, respectively; the more moderate decline in 2018 is due to rising energy prices. Services prices, meanwhile, are projected to rise by 2.2 and 3.1 per cent over the same period.

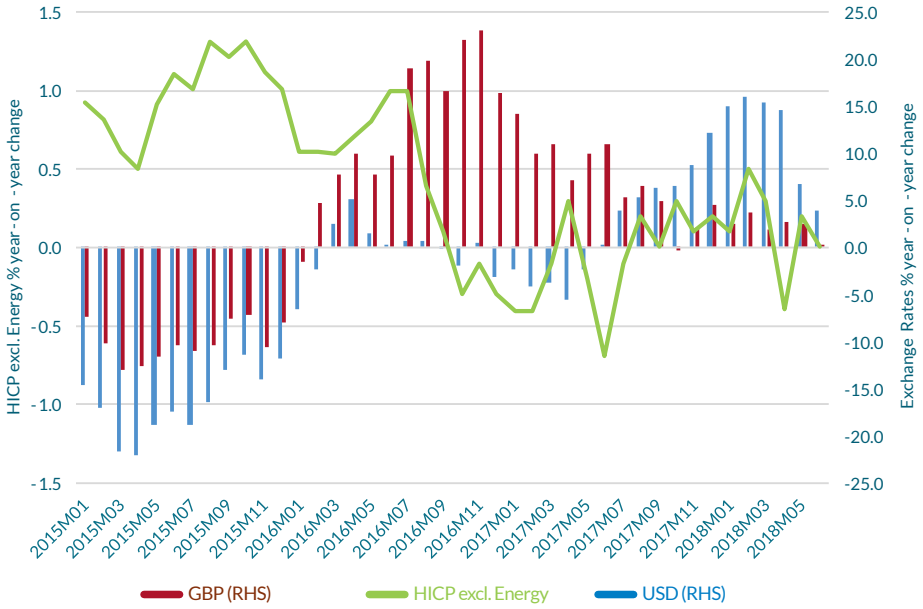
Uncertainty surrounding the forecast primarily relates to external factors. For example, developments in the negotiations surrounding the UK's exit from the European Union may result in a deviation in the path for the Euro/Sterling exchange rate away from that which is assumed in the current forecast.

Figure 6: Consumer Prices by Commodity



Source: CSO

Figure 7: Consumer Prices by Commodity



Source: CSO and Eurostat.

Table 5: Inflation Measures - Annual Averages, 2016 to 2019[f]

Measure	HICP	HICP excluding Energy	Services[a]	Goods[a]	CPI
2016	-0.2	0.4	2.5	-3.1	0.0
2017	0.3	-0.1	2.5	-2.1	0.3
2018[f]	0.7	0.2	1.9	-0.6	0.6
2019[f]	0.8	0.8	2.6	-1.3	0.9

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

Box E: Why Are Prices For Some Consumer Goods Falling in Ireland?

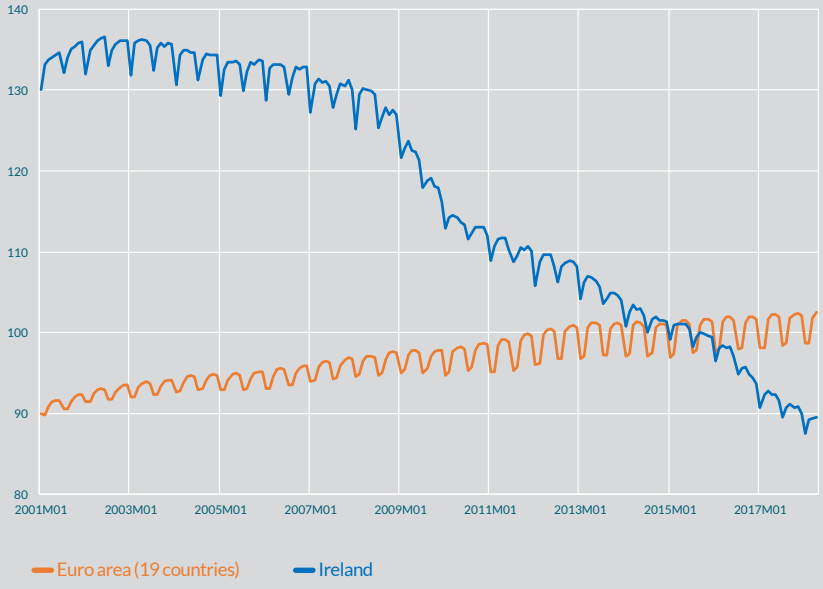
By Stephen Byrne and John Scally[27]

Since the end of the great recession, consumer price inflation in Ireland has been persistently low. The 12-month moving average headline inflation rate has not been above 0.5 per cent since November 2013. Inflation was projected to be higher over much of this period, as the economy has been in a recovery and expansion phase. However, global disinflationary shocks over the period, mostly related to the fall in oil prices, meant that the outturn for prices was lower than forecast over much of 2013-2017. Even allowing for this, the weakness in Irish inflation still stands out from the rest of the euro area.

This box argues that global and domestic cyclical shocks do not fully explain the persistence and scale of the weak inflation puzzle in Ireland, which is predominantly the result of a significant decline in goods prices. In particular, we examine the Non-Energy Industrial Goods (NEIG) category of the Harmonised Index of Consumer Prices (HICP), which has exhibited a strong downward trend in Ireland that has not been evident in other euro area countries. NEIG encompasses a broad range of consumer products including consumer electronics, clothing and footwear, household furnishings and transport equipment. It accounts for a significant portion of the HICP – approximately 21 per cent of the overall expenditure basket. We examine the possible factors behind the persistent decline in NEIG prices in Ireland.

Figure 1 plots developments in NEIG prices since 2000. There is a strong downward trend in Irish NEIG prices compared with the euro area, which has an upward trend. Another interesting feature of the Irish data is the seasonal pattern. While price dips in January and July are standard in each euro area country, Irish NEIG prices do not fully recover from these declines, resulting in a strong downward trend in the series, particularly after the 2007/8 period.

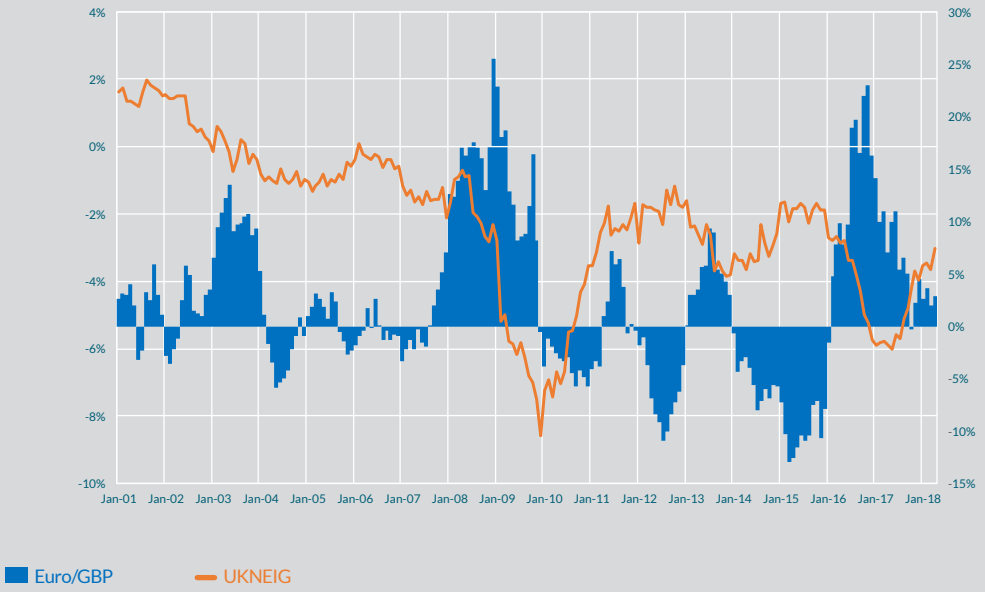
Box E Figure 1: Non-Energy Industrial Goods Prices



Source: Eurostat and authors' calculations

There are several reasons why NEIG prices in Ireland may be falling. In a small open economy, much of inflation in the NEIG category is imported and as such, exchange rates and oil prices play an important role. Reddan and Rice (2017)[28] find that sterling is more important for Irish consumer goods prices than the currencies of our other trading partners. Figure 2 plots the change in the annual GBP/Euro rate against the annual change in NEIG inflation. Periods of significant exchange rate appreciation (bars above the zero axis on the right-hand-side) are associated with declines in NEIG inflation. The decrease in the price of oil over the period between 2013 and 2015 coincided with strong downward input cost pressures on manufactured consumer goods, particularly on certain NEIG items. However, the partial recovery in oil prices since the middle of 2015 have not been reflected in increases in the rate of NEIG inflation.

Box E Figure 2: NEIG Inflation and the GBP/Euro Exchange Rate



Source: Eurostat and authors' calculations

In order to estimate whether these factors explain the persistent declines in NEIG prices, we carry out a conditional forecast of NEIG inflation, with the oil price, the euro/sterling exchange rate and growth in underlying domestic demand as the conditioning variables over the period 2013 to 2016. Figure 3 shows the results. The in-sample conditional forecast predicts a much less pronounced decline in NEIG inflation than that which materialised. This hints that these factors alone do not fully explain the persistent negative NEIG inflation.

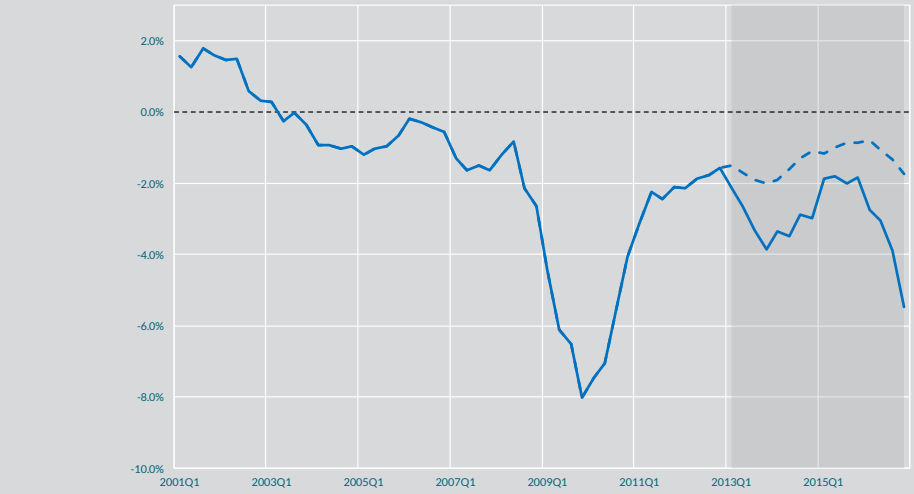
Examining the subcomponents of NEIG in more detail, the clothing and footwear category, which accounts for 22 per cent of NEIG and 4.5 per cent of the overall HICP has displayed a pronounced decline over the past five years. The seasonality in Clothing and Footwear stems from the summer and winter sales but there is an interesting phenomenon in the Irish data that is not present in other euro area countries. After summer and winter discounting, clothing and footwear prices do not quite return to their former levels. This results in a persistent downward trend.

One explanation for the strong downward trend could lie in the difficulty of measuring changes in quality in these goods. Recent research by the Central Statistics Office [29] outlines their current quality adjustment techniques in the measurement of clothing and footwear and computer prices.

28 Exchange Rate Pass-Through to Domestic Prices, Economic Letter Series, Volume 2017, No. 8, Central Bank of Ireland.

29 Central Statistics Office, Quality adjustment in the Irish CPI, May 2018

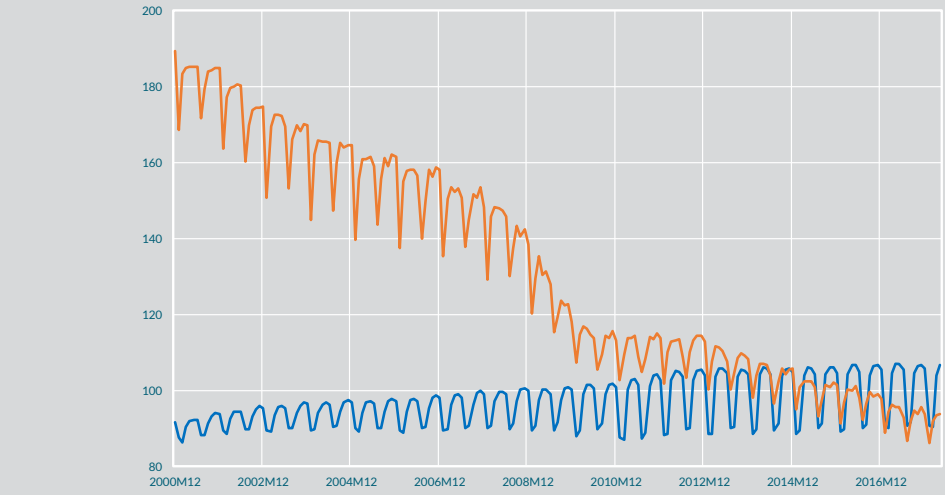
Box E Figure 3: Non-Energy Industrial Goods Prices



Source: Eurostat and authors' calculations

Take the example of clothing the CSO employ a large number of pricers who price clothing in various stores around Ireland each month in order to measure price changes. A pricer takes the price of a particular item in a particular store in the first month and charts the price of that product each month until it goes out of stock, at which point a replacement must be chosen. It is the job of the the pricer to decide whether the replacement is comparable or not comparable.[30] If the replacement is deemed "not comparable", a price change is imputed as the average of the other items within that heading (e.g. clothing). Given that a large (<80 per cent) proportion of replacements within the clothing and footwear category are deemed non-comparable, this may explain some of the downward bias in the price of clothing and footwear.

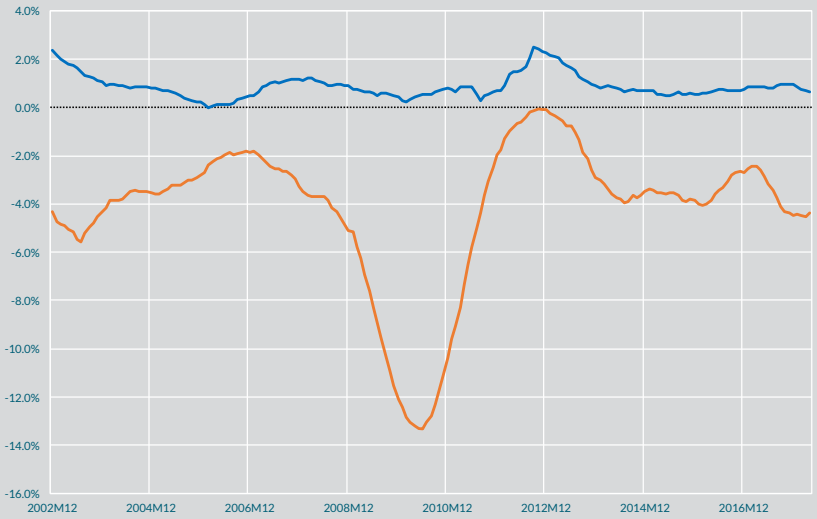
Box D Figure 4a and b: Non-Energy Industrial Goods Prices. Levels and Growth Rates.



Source: Eurostat and authors' calculations

30 Although the CSO have ultimate discretion to decide on comparability or non-comparability.

Box D Figure 4a and b: Non-Energy Industrial Goods Prices. Levels and Growth Rates.



Source: Eurostat and authors' calculations

This bridged overlap method is also used in the measurement of the price of certain electronic items. In the case of such items, this is particularly problematic as price changes are generally introduced at the beginning of the product cycle. For example, phone manufacturers typically set the prices of their devices at the time they are released. If the price is higher than that of the previous model, this is typically due in part to increases in quality (better camera, memory, etc.) and in part a price increase. The premise of the bridged overlap method is that this price increase is entirely due to increases in quality and so no price change is recorded.

To conclude, the persistent declines in NEIG prices are the main reason for muted overall inflation in Ireland over the past five years. Some of the declines have been due to global disinflationary shocks such as the oil price decline, and more due to exchange rate movements affecting the price of imported goods from the UK. This box shows however that these declines do not fully explain the extent of the persistent negative goods inflation. We suggest that some of the remaining unexplained decline may be attributed to the difficulty in conducting quality adjustment in the NEIG category leading to a downward bias in the series.

Residential Property

The latest data show that the residential property prices continued to grow at a strong pace during the first months of 2018. Prices grew by 12.4 per cent in annual terms in May. Developments in the housing market can provide information about household spending more generally, as developments in household income and confidence affect the decision to buy a house and to spend more generally through the same channels. Statistical indicators of house price valuation, such price-to-rent and price-to-income ratios remain above historical averages, while prices no longer look under-valued compared to model-based estimates. The Central Bank's Macro Financial Review provides a detailed overview of the analysis of house prices undertaken in the Bank.

On the rental side, prices have continued to grow at a robust pace. According to the latest rental report by property website Daft showed, average asking prices for rentals grew by 11.5 per cent year-on-year in the first quarter of 2018. The CSO's HICP "Private Rents" series, which takes account of outstanding tenancies, grew by 7 per cent year-on-year in May.

Commercial Property

The latest data from the MSCI/IPD database show that the pace of growth in commercial property prices has moderated in recent quarters. Overall, commercial property prices grew by 2.1 per cent year on year in the first quarter of 2018. On an annual basis, the office, retail and industrial sectors grew by 2.6, 0.2 and 6 per cent, respectively, in the first quarter.

Competitiveness

The latest Harmonised Competitiveness Index (HCI) data for June 2018 show that the nominal HCI increased by 2.4 per cent on an annual basis. In real terms, the HCI rose by 0.8 per cent when deflated with consumer prices. These developments suggest a decline in competitiveness in Ireland, linked to the exchange rate movements, although weakness in consumer price inflation is offsetting some of this fall.

The Public Finances

Overview

The latest Government Finance Statistics reported a general government deficit of 0.6 per cent of GNI* in 2017, down from 0.8 per cent in 2016. This continued the run of strong deficit reductions that started in 2010, but the pace of improvement has slowed markedly in recent years. Concerning the fiscal rules, the European Commission's assessment in May this year concluded that Ireland achieved its Medium Term Objective (MTO) in 2017 when the structural balance came in at -0.1 per cent of GDP. [31] However, this improvement is expected to be reversed in 2018 before the MTO is once again achieved in 2019. In the case of public debt, the general government debt-to-GNI* ratio continued its improving trend last year, declining to 111.1 per cent from 114.1 per cent in 2016. As a percentage of GDP, the debt ratio declined to 68.4 per cent in 2017. The debt ratios, both as a percentage of GNI* and GDP, have declined rapidly in recent years, although it should be stressed that nominal outstanding debt remains at an elevated level. Ireland will be subject to the debt reduction benchmark from 2019 onwards, which will require sufficient annual progress to bring the debt ratio below 60.0 per cent of GDP.

31 Under the Stability and Growth Pact, Ireland's Medium Term Objective (MTO) is a structural deficit of no less than 0.5 per cent of GDP.

Table 6: Annual Government Finance Statistics, 2012 to 2017 (% of GNI*)

	2012	2013	2014	2015	2016	2017
Headline GG Deficit	-11.2%	-8.0%	-4.8%	-3.1%	-0.8%	-0.6%
Underlying GG Deficit	-11.4%	-8.4%	-4.8%	-1.9%	-0.8%	-0.6%
GG Gross Debt	166.1%	157.3%	136.8%	124.9%	114.1%	111.1%

Exchequer Returns

The Exchequer ran a modest deficit in the first six months of the year compared to a large surplus in the same period last year. However, once-off factors relating to AIB share sale receipts were responsible for the surplus in 2017. Excluding transactions that do not have an impact on the general government balance, the Exchequer ran a deficit of €3.2 billion in the year to June, compared to a deficit of €2.0 billion last year (see Table 6).[32] This outturn was almost €700 million better than expected as higher than predicted revenues, and lower than anticipated government expenditure, both contributed to the positive surprise.

Table 7: Analytical Exchequer Statement, January to June 2018 (€ millions)

	Jan - June 2018 €m	Jan - June 2017 €m	Annual Change (%)	Outturn vs Profile (€m)
Revenue	**31,851**	**30,356**	**4.9**	**+354**
- Tax Revenue	24,941	23,415	6.5	+168
- Appropriations-in-Aid	5,837	5,619	3.9	+16
- Other Revenue	1,073	1,322	-18.8	+169
Expenditure	**35,010**	**32,400**	**8.1**	**-346**
- Current Primary Expenditure	29,160	27,240	7.1	-100
- Capital Expenditure	1,968	1,523	29.2	-175
- Interest on National Debt	3,879	3,637	6.6	-74
Balance	**-3,160**	**-2044**	**-54.6**	**+699**

Source: Department of Finance

Note: The figures in the Table exclude transactions with no general government impact, giving a closer approximation to the General Government balance.

32 The Government reports this figure – the Exchequer balance excluding transactions with no general government impact - in its Analytical Exchequer Statement, to provide a closer approximation to the general government balance (GGB). Given the importance of the general government measure from an international and fiscal governance perspective, the figures in the remainder of this section are reported on this basis. In other words, they exclude transactions that do not affect the GGB.

Total government revenue grew by a solid 4.9 per cent in the first six months of the year and was some €354 million above the profile underpinning the Budget. This reflected positive developments in both tax and non-tax revenues. Corporation tax, a key driver of revenue over-performance in recent years, was once again ahead of profile and was 14.6 per cent higher than in the same period last year. Income tax also reported solid year-on-year growth and came in slightly above profile. Meanwhile, excise and stamp duties and VAT were all weaker than anticipated at Budget time, but collectively were higher than in the same period last year. The evolution of the other revenue components was broadly as expected, with the Central Bank Surplus Income coming in slightly above profile.

Government expenditure, by comparison, was somewhat lower at the halfway point of the year than forecast. Spending was 8.6 per cent higher in annual terms, with increases in both current and capital spending (up 7.1 per cent and 29.2 per cent respectively), led in nominal terms by developments in health, education and housing. Interest payments also increased year-on-year by 6.6 per cent. However, expenditure in all three broad categories was below expectations, with the exception of a number of individual vote groups, most notably Health. The overall Exchequer position at the mid-point of the year is a favourable one and suggests the Government is on target to achieve the projections it made at Budget time.

Funding and Other Developments

The State's funding requirements for 2018 are relatively modest, with €10.1 billion of bonds set to mature over the course of the year and an Exchequer deficit of just over €1.5 billion projected in June's Summer Economic Statement. Against this backdrop, the National Treasury Management Agency (NTMA) set an issuance target of €14 to €18 billion for the year and had already successfully issued more than €12 billion of benchmark bonds in the first seven months of the year. Recent months also saw a further €1.5 billion of floating rate treasury bonds cancelled. As a result, €11.5 billion of these long dated bonds – issued in connection with the liquidation of Irish Bank Resolution Corporation – have now been cancelled, with €13.5 billion still outstanding.

An Timpeallacht Gheilleagrach

Tá borradh maith i gcónaí faoi gheilleagar na hÉireann agus tá neart na gníomhaíochta ar an taobh intíre den gheilleagar mar aon le fás fabhrach idirnáisiúnta ag tacú leis an mborradh sin. Cé gur doiligh míniú beacht a thabhairt ar spreagthaí éagsúla an fháis i bhfianaise na bhfadhbanna a bhaineann le léirmhíniú ar chodanna áirithe de na Cuntais Náisiúnta, tugann an fhianaise ó raon leathan táscairí a bhaineann le caiteachas agus gníomhaíocht intíre le tuiscint go bhfuil an ghníomhaíocht eacnamaíoch intíre ag fás ar luas maith i gcónaí. Bhí an fás láidir, leathan ar fhostaíocht, mar aon le tuilleamh méadaithe, arna gcothú ag dálaí fabhracha airgeadais agus ag cláir chomhardaithe earnála atá ag feabhsú, mar bhonn agus mar thaca faoin leathnú seo. De bhreis air sin, leanann an t-athbhorradh faoi phríomhghnéithe áirithe den infheistíocht intíre, amhail tógáil agus foirgníocht, cé gur tosaíodh ó bhonn sách íseal.

Ag féachaint romhainn, tá an t-ionchas dearfach i gcónaí agus tuartar i réamhaisnéis lárnach an Bhainc Ceannais go leanfaidh an fás ar an ngeilleagar ar luas measartha láidir in 2018 ach go mbeidh maolú beag ar an bhfás sin an bhliain seo chugainn. Ar a shon sin, gabhann rioscaí ábhartha intíre agus seachtracha leis an réamhaisnéis seo.

Meastar gur ó neart réamh-mheasta an éilimh intíre a thiocfaidh an príomhspreagadh don fhás sna blianta atá romhainn, rud a léirítear san ionchas dearfach don fhás ar chaiteachas tomhaltóirí agus ar bhuninfheistíocht (lena n-eisiatar na gnéithe luaineacha den infheistíocht i sócmhainní doláimhsithe agus in aerárthaí). Is é an fás leanúnach ar fhostaíocht agus ar ioncaim a bheidh ina phríomhspreagadh don fhás ar bhunghníomhaíocht, ach go meastar go maolóidh an fás ar fhostaíocht, a bhí an-láidir le blianta beaga anuas, de réir a chéile thar thréimhse na réamhaisnéise. D'ainneoin an mhoillithe chéimsigh seo, meastar go dtiocfaidh méadú 4.4 faoin gcéad ar an mbunéileamh intíre i mbliana agus go dtiocfaidh méadú 4.1 faoin gcéad air in 2019. D'fhonn gníomhaíocht eacnamaíoch intíre a rianú agus a réamhaisnéisiú, tá táscaire nua gníomhaíochta intíre forbartha ag an mBanc Ceannais agus pléitear i mBosca C, leathanach 21 é.

Tugann na réamhaisnéisí don mhargadh saothair le fios go bhfuil an geilleagar ag druidim i dtreo na lánfhostaíochta agus, cé go bhfuil acmhainn bhreise féideartha trí rannpháirtíocht níos leithne sa mhargadh saothair, meastar sa réamhaisnéis lárnach go dtiocfaidh cúngú ar an acmhainn sin. De réir mar a bhíonn an geilleagar ag druidim i dtreo na lánfhostaíochta, tá ceist ann i dtaobh a mhéid a bheidh riosca ag gabháil le neart timthriallach an gheilleagair d'inmharthanacht fáis chobhsaí, chothromaithe agus a mhéid a eascróidh dinimic an róbhorrtha as. Cé go bhfuil boilsiú foriomlán praghsanna maolaithe i gcónaí agus go bhfuil an fás ar phánna maolaithe, ach ag dul i méid, tá an t-ionchas ann go dtiocfaidh méadú breise ar an ráta fáis ar mheántuilleamh in aghaidh na huaire i rith na bliana agus an bhliain seo chugainn. É sin ráite, meastar go gcoinneofar srian don chuid is mó ar bhrúnna pá. De réir mar a bheidh an geilleagar ag gluaiseacht i dtreo na lánacmhainneachta sa bhliain atá romhainn, tá riosca ann i gcónaí go n-eascróidh an róbhorradh as leathnú láidir an gheilleagair. I dteannta na rioscaí ar an taobh intíre, tá Éire neamhchosanta i gcónaí ar rioscaí suntasacha idirnáisiúnta éagsúla. Cé go bhfuil na hionchais fáis sna comhpháirtithe trádála fabhrach tríd is tríd,

tá éiginnteacht ann ó thaobh an ionchais idirnáisiúnta mar gheall ar an bhféidearthacht go mbeidh 'Brexit crua' ann, mar gheall ar bhrúnna cosantaíocha agus aistrithe sa chóras cánach idirnáisiúnta lena bhféadfaí pionós a ghearradh ar gheilleagair bheaga as iad a bheith ina suíomh do ghníomhaíocht táirgeachta ilnáisiúntach. I bhfianaise go bhfuil geilleagar beag, oscailte ag Éirinn le hardleibhéal lánpháirtíochta ó thaobh slabhraí luacha domhanda agus i bhfianaise an róil thábhachtaigh atá ag gnólachtaí sa gheilleagar, bíonn tionchar tábhachtach ag staid na ndálaí domhanda eacnamaíocha agus trádála agus ag gluaiseachtaí suntasacha i mór-rátaí malairte ar fheidhmíocht eacnamaíoch na hÉireann.

Dá bhrí sin, cé go bhfuil an réamhaisnéis lárnach dearfach, d'fhéadfadh teagmhais gan choinne athruithe suntasacha aníos nó anuas a spreagadh ar chonair fáis an gheilleagair i gcomparáid le réamhaisnéisí, i bhfianaise oscailteacht gheilleagar na hÉireann agus raon na nasc trádála, teicneolaíochta agus airgeadais idir Éire agus an geilleagar idirnáisiúnta níos leithne. Tá sé tábhachtach go ndíreoidh lucht déanta beartais aird ar leochaileachtaí den sórt sin chun a áirithiú go mbeidh geilleagar na hÉireann athléimneach dá dtiocfadh aon cheann de na rioscaí sin chun cinn. Sna himthosca sin, ní mór an fhéidearthacht go dtiocfaidh torthaí gan choinne chun cinn a chur san áireamh agus gan a bheith róspleách ar réamh-mheastacháin lárnacha.

Sa réimse macra-airgeadais, aithnítear le socrú ráta nua ar an gcúlchiste fritimthriallach (CCyB) go bhfuil geilleagar na hÉireann neamhchosanta ar chor chun donais nó ar theacht chun cinn riosca shistéamaigh thimthriallaigh agus go bhfuil sé leochaileach don chéanna. Trí ráta CCyB a ardú ag an bpointe seo, teastaíonn ón mBanc Ceannais stóinseacht na hearnála baincéireachta a fheabhsú i leith caillteanais ionchasacha a bhaineann le carnadh riosca shistéamaigh thimthriallaigh agus, ar an gcaoi sin, tacú le soláthar inmharthana creidmheasa chuig an bhfíorgheilleagar le linn an timthrialla airgeadais. Sa réimse fioscach, baineann tábhacht ar leith le maoláin a chothú le linn tréimhsí borrtha chun go mbeidh an geilleagar ábalta aon fhorbairtí díobhálacha amach anseo a sheasamh agus chun go bhféadfar idirghabháil fhritimthriallach níos láidre a dhéanamh i gcás cor chun donais eacnamaíoch amach anseo. Ba cheart cur chuige stuama a ghlacadh freisin i bhfianaise leibhéal an fhiachais phoiblí atá ard i gcónaí. Ó tharla go dtugann na sonraí cuntas náisiúnta is déanaí le tuiscint gurbh ionann cóimheas Ollfhiachais le OIN* agus 111 faoin gcéad in 2017 (féach Bosca B, leathanach 15), is príomhthosaíocht i gcónaí é leibhéal an fhéichiúnais phoiblí a laghdú chun go bhféadfar freagairt d'aon turraingí díobhálacha amach anseo.

Leis na rioscaí ar an taobh thíos, tarraingítear aird ar an tábhacht a bhaineann le cothromaíocht le linn beartas fioscach a fhoirmiú. Cé gur chuir an fheidhmíocht láidir eacnamaíoch leis an acmhainn fhioscach agus go gcuireann sí acmhainní ar fáil lenar féidir an stoc caipitil a threisiú nó cuspóirí sóisialta a bhaint amach, ar an iomlán, ní mór don bheartas fioscach díriú ar bhonn a chur faoin gcobhsaíocht agus ar éiginnteacht a laghdú. D'fhonn cobhsaíocht mhaicreacnamaíoch agus airgeadais a shaothrú, ní mór beartas fioscach fritimthriallach a leanúint chun brúnna a mhaolú le linn tréimhsí maithe fáis. Scrúdaítear gné amháin den tsaincheist sin in alt atá san Fhaisnéis Ráithiúil seo, 'Irish Government Investment, Financing and the Public Capital Stock' (féach leathanaigh 64-76).

Tarraingíonn sé seo aird ar cheann de na príomhdhúshláin atá ann ó thaobh beartas fioscach a fhoirmiú le linn tréimhse fáis láidir: fonn an stoc caipitil phoiblí a mhéadú, agus riosca an róbhorrtha á theorannú ag an am céanna. I dtéarmaí níos ginearálta, más rud go méadófar caiteachas nó go laghdófar ioncam i réimsí áirithe, beidh bearta frithchúitimh de dhíth chun an riosca go dtiocfaidh dinimic an róbhorrtha chun cinn a theorannú, i bhfianaise neart timthriallach an gheilleagair agus i bhfianaise an ionchais don bhliain 2019.

Financing Developments in the Irish Economy

Overview

Financing conditions for households have improved further since the start of 2018. The pick-up in mortgage lending during Q1 2018 continued into the second quarter and more forward-looking indicators suggest further increases in the short-to-medium term. Notwithstanding the substantial deleveraging of the household sector in recent years, Irish households remain the fourth most highly indebted in the EU. Furthermore, there remains a significant cohort of mortgages in long-term arrears (720 days +) that still need to be restructured.

Whereas the deleveraging of the household sector shows signs of completion, the NFC sector lags behind although the pace of deleveraging has slowed markedly. While gross new lending to Non Financial Corporations (NFCs) continues to increase, the stock of outstanding credit is declining, albeit at a reduced rate, as repayments remain higher than new lending. The NFC sector is highly indebted at an aggregate level, but a substantial portion of this debt relates to multi-national corporations (MNCs) and other non-Irish entities. Consequently, the links to the macro-financial environment are more limited than the headline figures would suggest. Interest rates on new lending to SMEs continue to decline, and the margin between interest rates on existing and new loans to small and medium size enterprises (SMEs) has tightened further.

Irish banks continue to rebalance their funding towards private sector deposits and their issuance of debt securities has started to stabilise after a long decline. Owing to the improvement in banks' credit dynamics, the Central Bank of Ireland activated the countercyclical capital buffer (CCyB), effective from July 2019. Regarding the non-bank financial sector, Irish resident money market and investment funds saw differing trends in their net asset values since the start of the year, although both fund types sustained valuation losses.

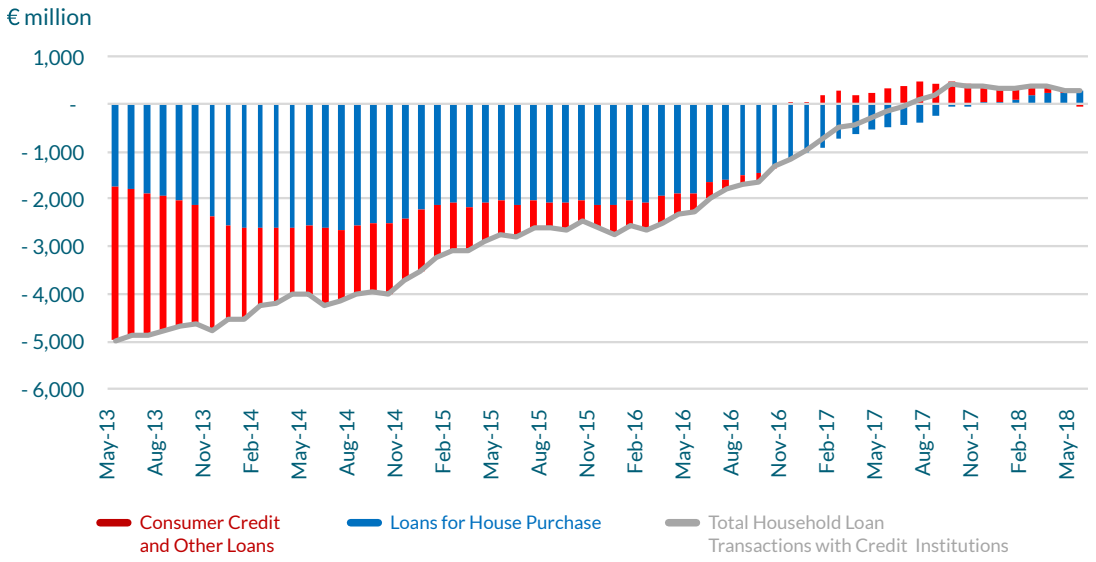
Household Sector

Households' balance sheets improved further during Q4 2017 and household net worth increased by €14.8 billion - surpassing its pre-crisis peak - to €726.8 billion. The increase in household net worth was mainly due to growth in the value of both the housing stock and households' financial assets.

Household debt sustainability continues to improve and debt as a proportion of disposable income fell by 2.5 percentage points to 136.9 per cent, its lowest level since Q1 2004. Notwithstanding the ongoing reductions in household indebtedness, it remains the fourth highest in the EU. In addition, mortgaged homeowners aged 30-45 have the highest debt-to-income ratios, leaving them more exposed to adverse shocks.

Since turning positive last year, lending to households continues to increase at a modest but steady pace, with growth of 0.3 per cent year-on-year recorded at end-May. However, this headline figure masks over a divergence regarding developments in mortgage and non-mortgage lending. Lending to households for house purchases increased by €295 million or 0.4 per cent in the 12 months to end-May 2018, while the growth rate of new mortgage rate agreements climbed to 33 per cent over the year to end-Q1 2018.[1] Looking ahead, the value of mortgage approvals – a leading indicator of mortgage lending – increased further in April according to Banking & Payments Federation Ireland. While developments in mortgage drawdowns are positive, overall household lending remains muted (Chart 1). Non-mortgage lending has been losing momentum since September 2017 and decreased by 0.1 per cent in the 12 months to end-May, as a decline in other loans of €168 million more than offset an increase in consumer credit (including credit cards) of €152 million. Box A examines recent trends in credit and debit card expenditure, including the increased popularity of contactless transactions.

Chart 1: Household Loan Transactions with Credit Institutions Measured as a 12-Month Moving Sum



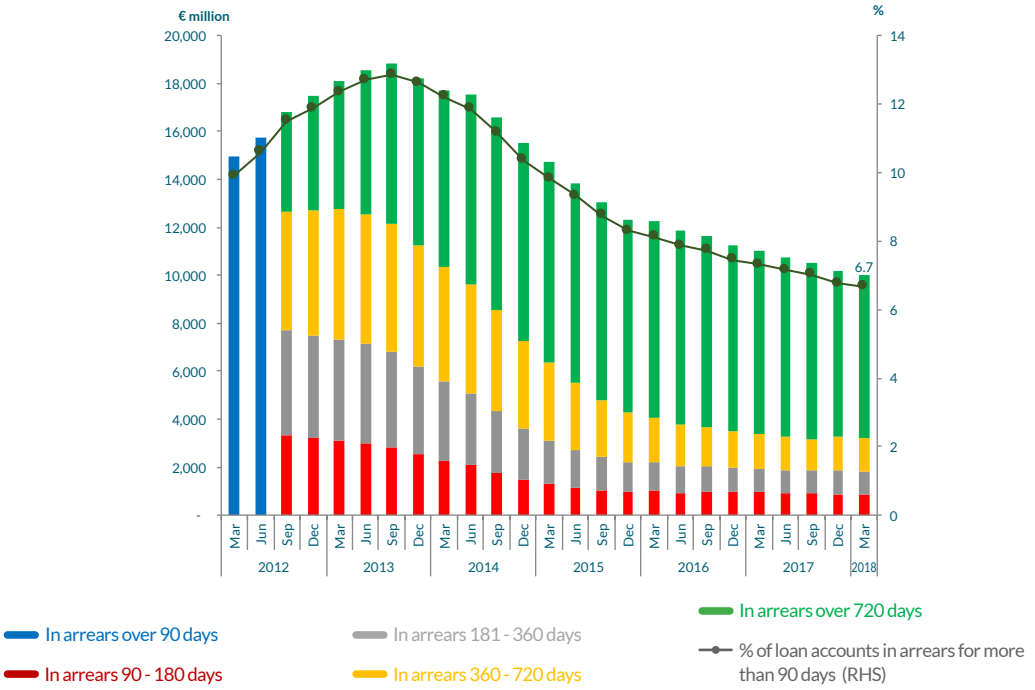
Source: Table A.1 Credit and Banking Statistics, Central Bank of Ireland.

1 To calculate new mortgage rate agreements, data on loans to households for house purchases on a floating rate and up to one-year fixation plus data on loans over year one-year fixation in Table B.2.2 - Volumes were subtracted from the corresponding data in Table B.2.1 - Volumes. Both tables form part of the Central Bank's retail interest rate statistics data.

The number of mortgage accounts in arrears for principal dwelling houses (PDHs) increased marginally to 71,833 during Q1 2018 but this was largely attributable to technical issues relating to the timing of payments. The number of PDH mortgages in arrears over 90 days declined for the eighteenth successive quarter to 6.7 per cent of all loan accounts (Chart 2). Regarding buy-to-let (BTL) mortgages, the number of accounts in arrears declined further to 22,545 in Q1 2018. Although the number of BTL mortgages in arrears is much lower compared to PDH mortgages, the proportion in arrears over 90 days (15.2 per cent at end-Q1 2018), remains much higher.

Banks and non-bank entities completed 5,446 new restructure arrangements during Q1 2018, as the total number of restructured mortgages declined to 138,610. Long-term restructure agreements now account for over 80 per cent of all restructures (Chart 3) although the percentage of borrowers meeting the terms of their new arrangement varies across restructure type. Recent research shows that for 39 per cent of mortgages in arrears over 720 days, there has been no engagement between lender and borrower.[2] The resolution of these loans represents a significant challenge.

Chart 2: PDH Mortgage Accounts in Arrears Over 90 Days

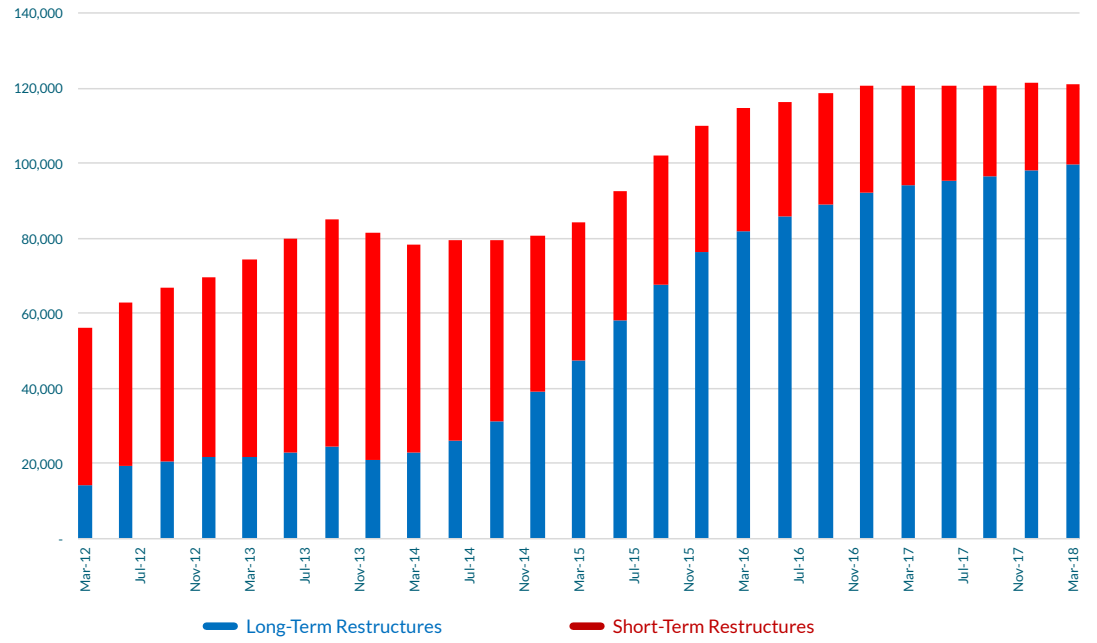


Source: Residential Mortgage Arrears and Repossession Statistics, Central Bank of Ireland.

As banks continue to reduce their stock of Non-Performing Loans (NPLs), the level of ownership of PDH and BTL mortgages by retail credit firms and unregulated entities has come into focus. Non-bank entities own just 7 per cent of PDH mortgages, but the risk profile of their mortgage book compares unfavourably with banks. Whereas 5.3 per cent of banks' PDH mortgages are in arrears over 90 days, this figure climbs to 15.5 per cent and 53.2 per cent for retail credit firms and unregulated entities respectively. Although the proportion of banks' restructured mortgages meeting the terms of their new arrangement has oscillated around 87 per cent for some time, the equivalent figure for retail credit firms and unregulated entities is much lower, at just 71 per cent and 61 per cent respectively. Box B discusses recent enhancements to the mortgage arrears that provide an additional breakdown of the data by loan owner.

2 McCann Fergal (2017) Resolving a Non-Performing Loan Crisis: The ongoing case of the Irish Mortgage Market. 10/RT/17.

Chart 3: Mortgage Restructures by Restructure Term



Source: Residential Mortgage Arrears and Repossession Statistics, Central Bank of Ireland.

Irish mortgage rates are the highest across the euro area and they have started to stabilise. The weighted average interest rate on new variable mortgage rate agreements increased from 3.29 per cent in April to 3.33 per cent in May and has averaged this rate since June 2017. Although the majority of PDH mortgage rates are floating, the popularity of fixed rate mortgages continues to increase and they now account for over 54 per cent of new mortgage agreements.

Box A: Recent Developments in the Credit and Debit Card Return

By Bernard Kennedy[5]

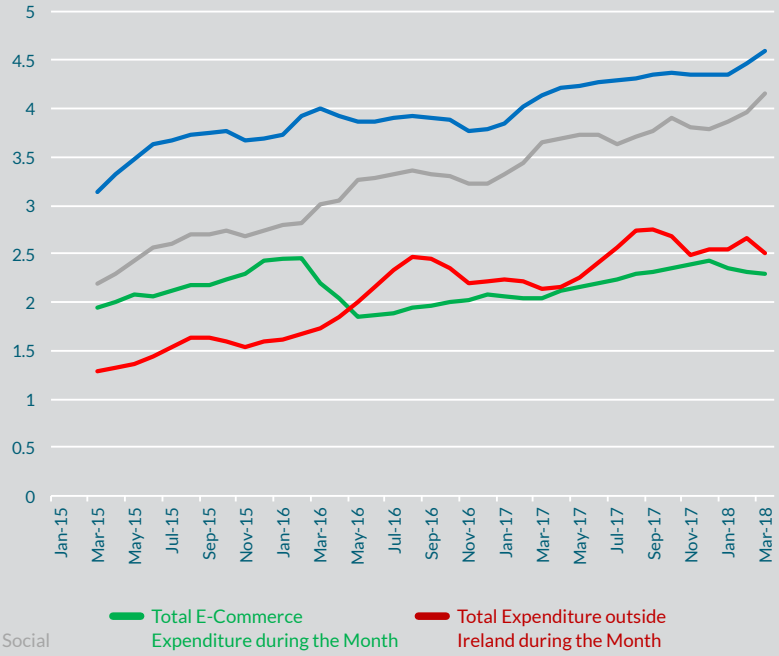
The enhancements to the Central Bank of Ireland's Credit and Debit Card Return (CDR) since 2015 provide users with a more granular breakdown on spending by economic sector, by card type, and by location of transaction. In this Box, we document the increased popularity of debit card, and in particular contactless transactions over the past three years. Although the sample of data only covers this limited period, there is some tentative evidence that the increased use of debit cards has come at the expense of credit cards and cash transactions. The co-movement of retail sales and total card-based spending – along with the main changes in the CDR return since 2015 – are also examined in this box.

According to the CDR return, the volume of debit card transactions has increased at a much faster pace than credit card transactions or cash.[6] Box A Chart 1 shows the ratio of debit-to-credit card expenditure since 2015 for retail, social, e-commerce spending, and expenditure outside spending outside Ireland.[7] In this chart, debit cards account for an increased share of expenditure with a similar pattern also emerging in the case of expenditure on services.[8]

A likely explanation for the increase in debit card transactions is the prevalence of both contactless-enabled payment terminals and contactless-enabled debit cards. According to Banking & Payments Federation Ireland's latest *Payments Monitor*, contactless transactions accounted for 82 per cent of the 152 million increase in payment volumes during 2017. During Q4 2017, the average payment per contactless transaction was €12.24 and this has remained relatively stable in recent quarters. At the same time, debit cards accounted for 96 per cent of all contactless transactions, indicating the increasing use of debit cards for small value transactions.

Box A Chart 1: Ratio of Debit-to-Credit Card Expenditure

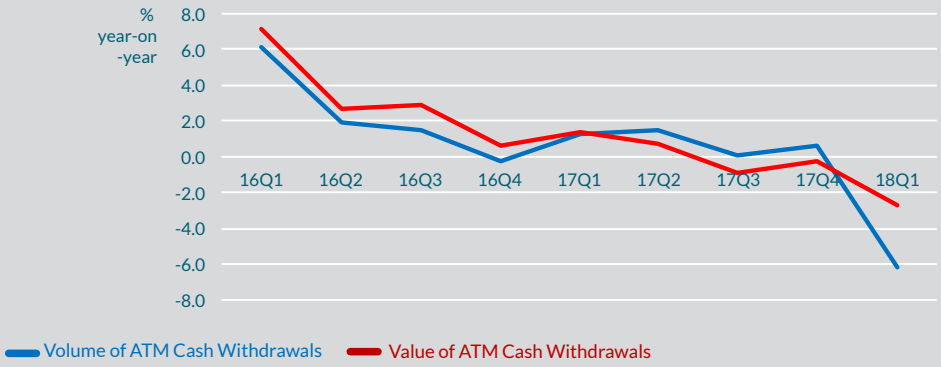
A value > 1 means that more was spent on debit cards than credit cards



Sources: Credit and Debit Card Return, Central Bank of Ireland; and author's calculations.

Regarding cash usage, data from the CDR return shows a marked slowdown in the volume and value of ATM cash withdrawals starting in 2016 (Box A Chart 2). As the dataset remains short, caution is required when inferring any behavioural changes. The data, however, may point to a possible plateauing in the popularity of cash as a payments medium.

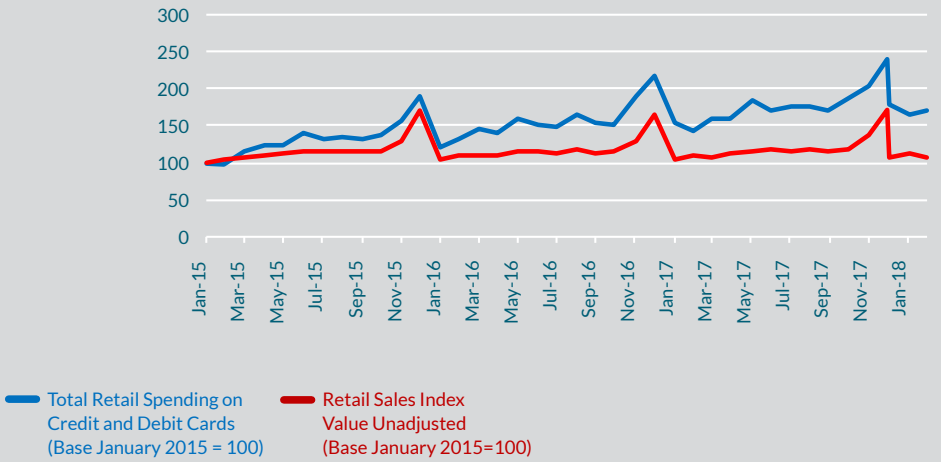
Box A Chart 2: Value and Volume of ATM Cash Withdrawals



Sources: Credit and Debit Card Return, Central Bank of Ireland; and author's calculations.

Since 2015, the CDR return distinguishes between credit and debit cards with a secondary distinction between personal and business credit cards. At the same time, the revised CDR return provides a greater breakdown on spending by economic sector – retail, services, social, and other – with further detail for each of these sectors by sub-category. Box A Chart 3 shows the co-movement between total credit and debit card spending and the value of retail sales, excluding motor sales. Both series display a strong co-movement and we see a similar co-movement with the various sub-components of retail sales and the corresponding total spend on credit and debit cards.

Box A Chart 3: Credit and Debit Card Spending and Retail Sales Values excl. Motor Sales



Sources: Credit and Debit Card Return, Central Bank of Ireland; and author's calculations.

5 Statistics Division, Central Bank of Ireland.

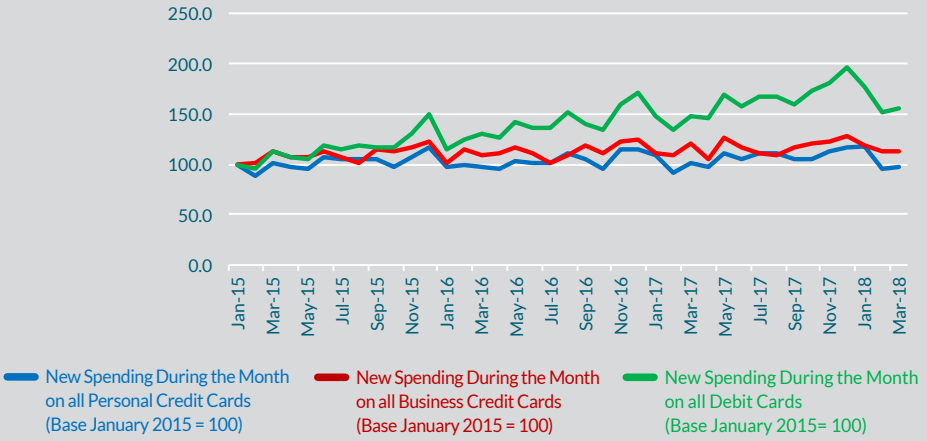
6 It must be recalled that the total number of credit card transactions on all personal and business credit cards in the reporting period include cash advances although this is likely to be quite small.

7 The credit and debit card return reports total spending on (i) Retail (ii) Services (iii) Social (iv) Other (v) E-Commerce Expenditure and (vi) Expenditure Outside Ireland.

8 In the CDR return, services are defined as follows: Service products are entities over which ownership rights cannot be established. Services cannot be traded separately from their production. Businesses in service industries are involved in activities such as retail, transport, distribution, and accommodation and food. Ireland.

Box A Chart 4 shows the total spending undertaken on all credit cards, including breakdowns for personal and business credit cards since 2015. Initially, total debit and credit card spending were increasing at a similar pace but in 2016 total spending on debit cards started to de-couple from credit cards. Moreover, this process commenced shortly after the payment limit on contactless transactions was increased from €15 to €30 in October 2015 and more merchants were able to facilitate contactless payments.

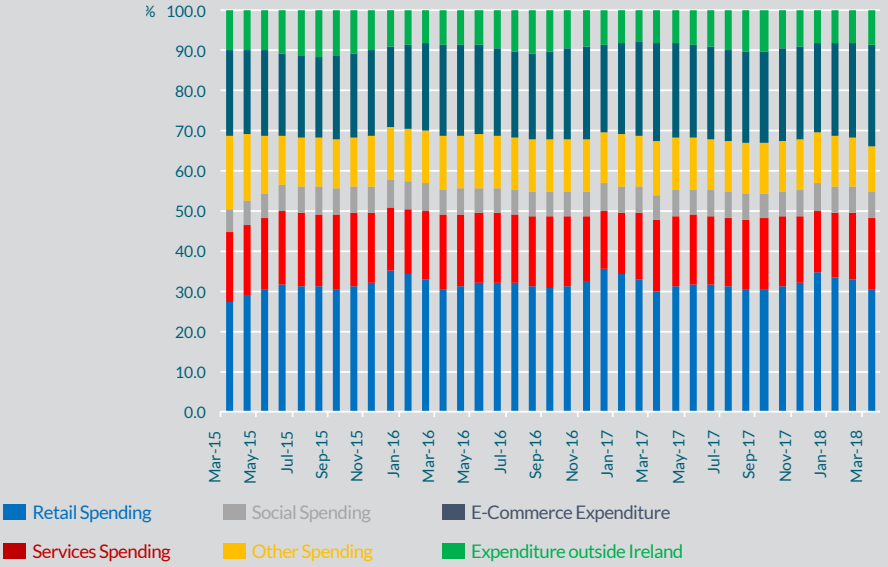
Box A Chart 4: New Spending Per Month Credit Cards and Debit Cards



Sources: Credit and Debit Card Return, Central Bank of Ireland; and author's calculations.

Box A Chart 5 shows the change in the share of expenditure for the six spending categories that feature in the CDR return. The spending category 'other' has experienced the largest change in absolute terms since the first quarter of 2015 of any category, declining by seven per cent.[9] The expenditure category e-commerce has increased its share of total card expenditure by almost four per cent between March 2015 and March 2018.

Box A Chart 5: Changes in the Share of Expenditure on Credit and Debit Cards Combined



Sources: Credit and Debit Card Return, Central Bank of Ireland; and author's calculations.

Data collected by the Central Bank of Ireland as part of the CDR return helps the bank to monitor two of its strategic objectives: effective and efficient payment systems and currency services; and independent economic advice and high quality financial statistics. The improvements to the CDR return since 2015 give some guidance on changing consumer behaviour between different payment mediums. Data on outlays across both credit and debit cards, as well as the various sub-components, provide policy-makers with a valuable complement to retail sales statistics. The co-movement between total card spending and retail sales is consistent with the positive outlook for personal consumption that is highlighted in the Bank's latest projections.

9 This may reflect the increased ability of participants to correctly assign spending to the various categories.

Non-Financial Corporation Sector

The NFC sector remains highly indebted at an aggregate level, with total NFC debt amounting to 201.4 per cent of GDP at end-Q4 2017. At the same time, NFC indebtedness is inflated by the presence of multinational firms operating in Ireland and this in turn reduces the risks to the domestic economy. Consequently, the risks posed by this elevated level of indebtedness to the domestic economy are substantially less than the headline figures imply.

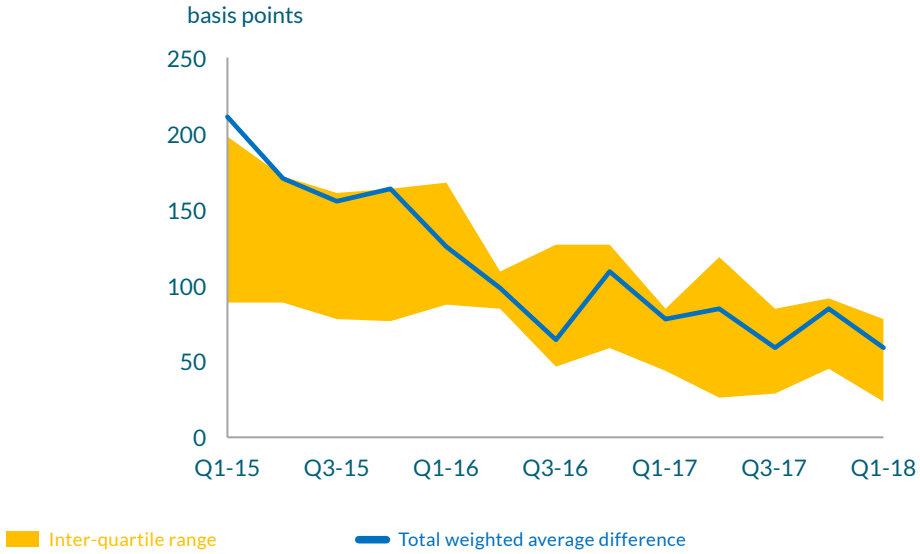
The latest banking data indicate that the deleveraging of NFCs at an aggregate level has continued since the start of 2018. Total credit advanced to Irish enterprises continues to decline, albeit at a reduced rate of minus 5.7 per cent year-on-year in Q1 2018 compared to minus 8.7 per cent one year earlier. When financial intermediation and property-related sectors are excluded, the overall picture is slightly more positive. Total credit advanced to this cohort of Irish private-sector enterprises increased by 0.3 per cent in the year to end-March 2018. The latest data shows that net lending to NFCs declined further during April and May with the decline concentrated in short-term loans.

On an annual basis, gross new lending to core small-and medium-sized enterprises (SMEs)[3] was €3.6 billion in the four quarters to Q1 2018, representing a 3.3 per cent increase over the same period in the previous 12 months. However, loans outstanding to SMEs continued to decline as loan repayments exceeded drawdowns. The margin between rates charged on the outstanding stock of non-financial SME drawdowns and new drawdowns continues to decline, falling from 78 basis points in Q1 2017 to 59 basis points in Q1 2018 (Chart 4).

Notwithstanding the positive trends in NFC lending, the latest ECB/EC SAFE survey points to the continuation of some challenges facing SMEs as they attempt to access bank-based sources of financing. Banks' rejection rates for SMEs loans and overdrafts are more than twice the rate in comparative countries and borrower discouragement, at 9 per cent, compares unfavourably with comparator countries.

3 Core SMEs refer to SMEs excluding Financial Intermediation and Property Related Sectors.

Chart 4: Differential Between SME Interest Rates on Outstanding Loans Less SME Interest Rates on New Drawdowns

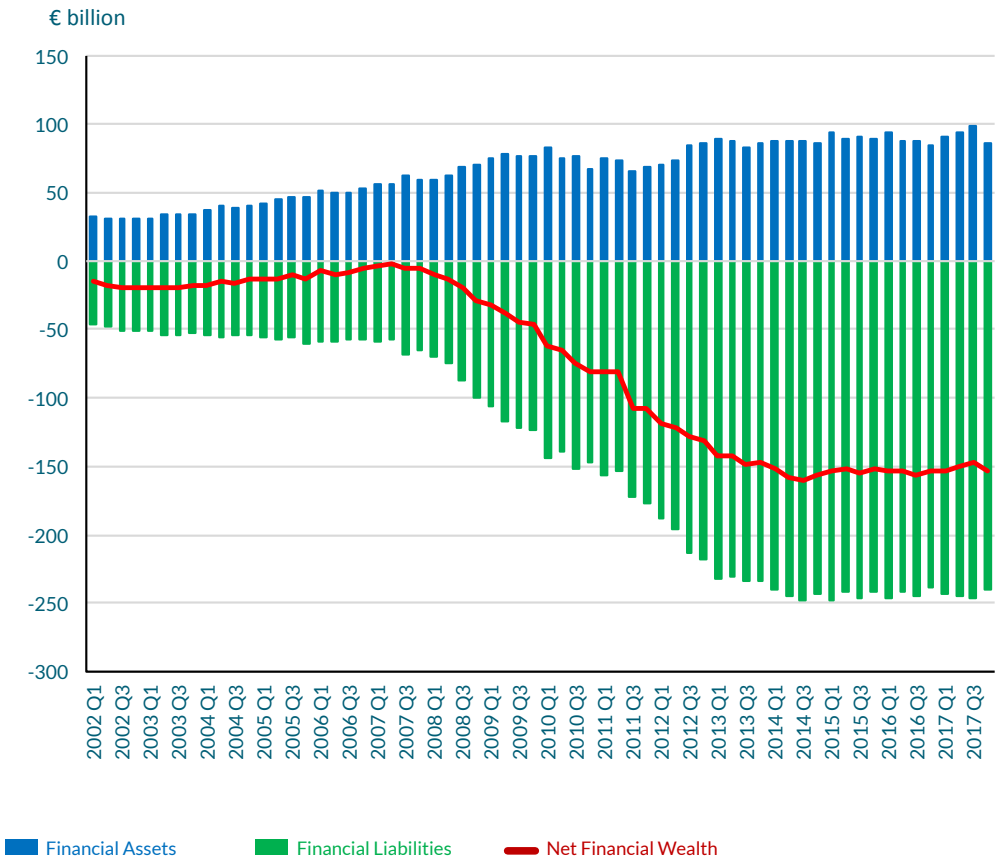


Source: Business Credit and Deposit Statistics, Central Bank of Ireland.

Government Sector

Government debt decreased by €6.3 billion during the fourth quarter of 2017, mainly due to the early repayment of €1.0 billion in bilateral loans to Sweden and Denmark and €4.5 billion in loans to the IMF, which all formed part of the 2010 EC/ECB/IMF financial support programme for Ireland. Elsewhere, debt security redemptions also contributed to the decline in government debt during the fourth quarter of 2017. Although government debt decreased during Q4 2017, government net worth declined due to the unwinding of the Government's deposit holdings that typically occurs during the fourth quarter of each year (Chart 5).

Chart 5: Government Net Worth



Source: Quarterly Financial Accounts, Central Bank of Ireland.

In early March 2018, the spread of Ireland's 10-year government bond yield over the German equivalent fell to a low of 13 basis points and stabilised around this level until the end of Q1 2018. During the weeks that followed the spread tightened further and, although there was some reversal during May, the spread started to tighten again during June.

Consistent with its previously announced plans, the NTMA issued €5.5 billion in new bonds during the second quarter of 2018 through three separate auctions. €4 billion was raised through the syndicated sale of a new 15-year benchmark Treasury bond in April, €1 billion was raised through the sale of the benchmark Irish Government bond in May, and €500 million was raised through the auction of Treasury bills with a twelve-month maturity during June. Following this, the NTMA announced the cancellation of the Irish Floating Rate Treasury Bond of €1 billion that was due to mature on 18 June 2047.

Financial Sector

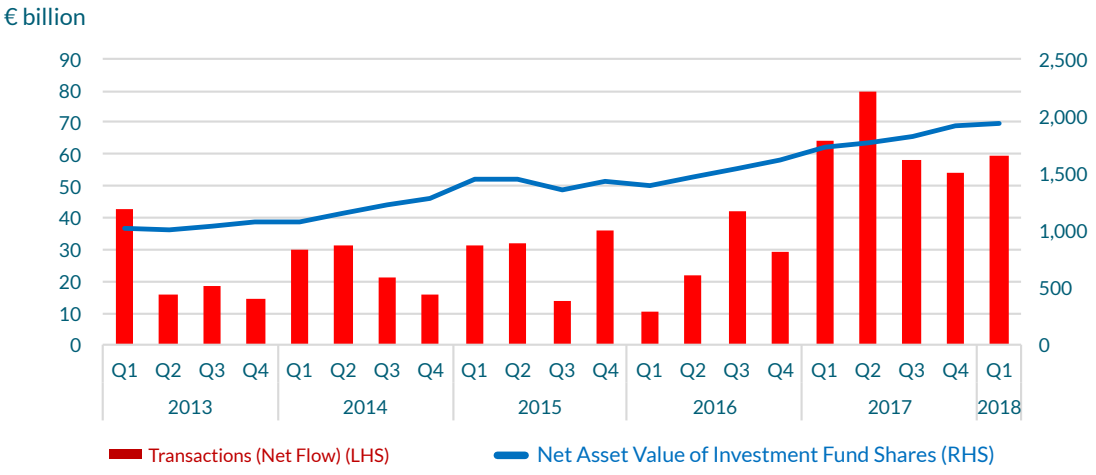
Since the start of 2018, private sector deposits at Irish resident banks increased further, based on strong inflows from the household, NFC and OFI sectors. Household deposits account for around 50 per cent of private sector deposits, which typically represent a more stable funding source compared with debt securities. However, the growth in household deposits has been concentrated in overnight deposits and current accounts, whereas deposits with a maturity up to and over two years have declined markedly. Reliance on eurosystem funding is unchanged over the past year at just over €5 billion, while the volume of outstanding debt securities shows signs of stabilising after a long decline since 2010.[4]

At the start of Q3 2018, the Central Bank of Ireland activated the countercyclical capital buffer (CCyB) in respect of banks operating in Ireland – its principal macroprudential policy tool. Since its inception in December 2015, the Irish CCyB has remained at 0 per cent. In response to rapid economic growth, persistent vulnerabilities in the financial system, but above all a strengthening in credit dynamics, banks in Ireland will be required to hold an extra capital buffer equivalent to 1 per cent of their Irish risk-weighted assets from 5 July 2019.

Non-Bank Financial Sector

The net asset value of Irish resident investment funds (IFs) increased by 1.2 per cent (€23 billion) during Q1 2018 to €1,935 billion (Chart 6). The total value of assets held by IFs also increased by €53 billion to €2,293 billion. Net transactions contributed €108 billion to the increase in total assets, although this was somewhat offset by negative revaluations of €54 billion. Most fund types reported an increase in their total assets. This pattern was most evident in hedge funds, where net transactions of €44 billion more than offset valuation losses of €22 billion.

Chart 6: Value of Investment Funds Shares / Units



Source: Investment Fund Statistics, Central Bank of Ireland.

4 The increase in Irish headquartered banks' issuance of debt securities between January and April 2018 reported in Table A.4.2 is separate from the debt securities issued by banks' holding companies as part of their MREL requirements.

The total equity holdings of all funds increased by €5 billion to over one trillion euro (€1,004 billion) between Q4 2017 and end-Q1 2018. Total purchases of equities amounted to €34 billion, with €17 billion of this accounted for by purchases of equities/units in other investment funds. Purchases of Irish and Cayman Island investment fund equity were the largest components, amounting to €6 billion and €8 billion respectively. However, negative revaluations of €29 billion partially offset the increase in equity purchases. More specifically, US NFC equities incurred the largest valuation loss of €8 billion during Q1 2018.

The net asset value of Irish-resident money market funds (MMFs) declined to €479.4 billion during Q1 2018, from €486.9 billion at end-Q4 2017. Net transactions of minus €5.1 billion drove this decrease, with exchange rate movements accounting for the remainder. USD denominated funds saw substantial subscriptions and redemptions over the quarter: January saw a record net subscription of €17.5 billion, quickly followed by a record net redemption of €10.9 billion in February.

Total debt securities held by MMFs at end-March 2018 amounted to €365.9 billion. The stock of debt securities increased by €4.1 billion from the previous quarter, with net purchases of €5.3 billion being partly offset by negative revaluations. The largest increases by issuer country, in all currencies, were seen in stocks of Dutch (€5.9 billion) and Australian (€3.9 billion) debt security holdings. Regarding other euro area debt securities, MMFs made sizable net purchases of Austrian and Finnish debt issuances (€0.6 billion and €0.5 billion respectively) whilst recording sales of German and French debt securities of €1.5 billion and €4.4 billion respectively.

The total asset value of Irish-resident Special Purpose Entities (SPEs) declined by €59 billion to €675 billion in Q1 2018. This largely reflected technical reclassification issues as a small number of Other SPEs are no longer availing of taxation provisions under Section 110 of the Tax Consolidation Act 1997, which defines the reporting population. Financial Vehicle Corporations (FVCs), or securitisation SPEs, reported a small increase in total assets of €1.3 billion to €402 billion, though Other SPEs, or non-securitisation SPEs, declined by €60 billion to €272 billion, based on the reclassification outlined above.

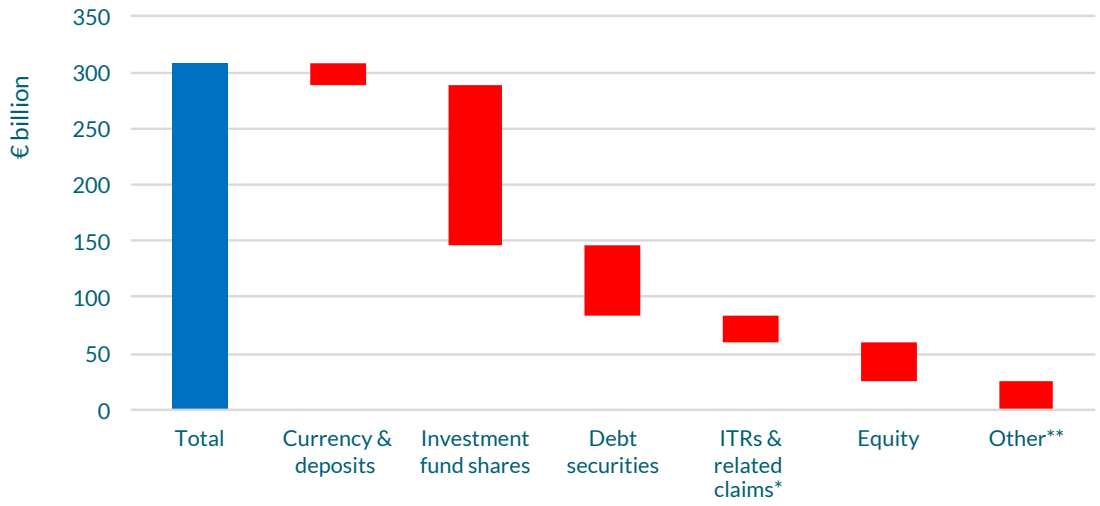
Regarding FVCs, the main movement in Q1 2018 was in Cash Collateralised Debt Obligations, where total assets increased by €5.8 billion to €61 billion, offset by slight declines across many of the other securitisation categories. The pattern of securitisation based on a relatively broad range of assets in smaller vehicles continues to gain momentum. This activity is gradually replacing mortgage-backed securitisation in relatively large vehicles. The total number of FVCs increased by 24 to a record high of 988 during Q1 2018. The main sponsors of FVCs are banks, though at 43 per cent, this is well below their historical share. Financial auxiliaries represent an ever-increasing share of FVC sponsors, standing at 32 per cent in Q1 2018. These comprise a range of investment entities including asset and capital managers, and investment advisory services.

SPEs leaving the reporting population led to sharp declines in intra-group financing and loan origination activity in Q1 2018 within other SPEs. There was also a decline in external financing activity of €4.8 billion, mainly driven by Russian-sponsored SPEs (€3.8 billion). Nevertheless, the number of Other SPEs rose by 39 to 1,148.

The total asset value of Irish-resident Insurance Corporations (ICs) decreased by €3 billion to €309 billion in Q1 2018, but remains marginally higher compared with Q1 2017. ICs' assets are spread across several investment categories with shares in IFs making up the single biggest asset holding at 46 per cent of ICs total assets (Chart 7) and these shares are concentrated in equity funds, bond funds and mixed funds.

Insurance Technical Reserves (ITRs) account for 85 per cent of liabilities in the ICs balance sheet. The majority of these ITRs represent amounts set aside to cover future estimated claims. The split of ITRs between life (90 per cent) and non-life (10 per cent) is consistent with the dominance of life insurance in the Irish insurance sector.

Chart 7: Assets of Irish Insurance Companies



*Insurance Technical Reserves and Related Claims or Reinsurance Recoverables.
**Loans, Non-Financial Assets, Financial Derivatives, Remaining Assets.

Source: Insurance Corporation Statistics, Central Bank of Ireland.

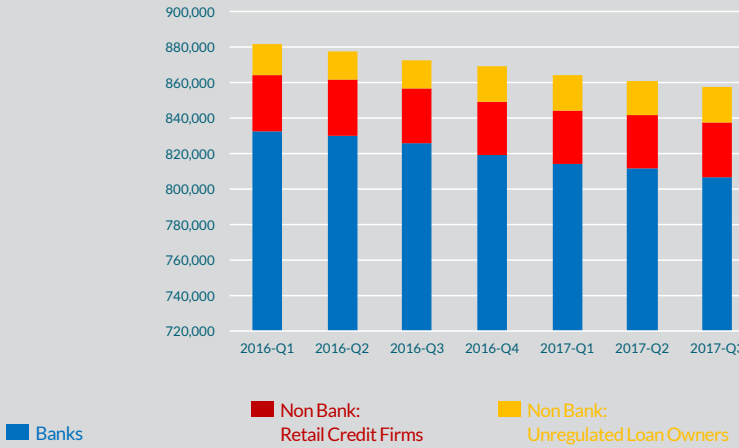
Box B: Recent Enhancements to Mortgage Arrears Statistics.
By Ciaran Meehan and Aisling Menton[10]

The Central Bank's Mortgage Arrears Statistics were enhanced in June 2018 to provide an additional breakdown of the data by loan owner type. The new data by loan holder type is available from Q1 2016 and will be updated along with the mortgage arrears statistics on a quarterly basis. The data is broken into three groups:

- Credit Institutions (banks) – regulated entities with banking licences.
- Retail Credit Firms (RCFs) – regulated entities that provide credit directly to individuals.
- Unregulated Loan Owners (ULOs) – any other entity that owns residential mortgages and is not regulated.[11]

The publication of data by loan owner type follows on from an increased focus over recent years on mortgage loans sales from regulated credit institutions to unregulated entities. This box seeks to analyse and compare recent trends in the Mortgage Arrears Statistics across the different types of loan owner. Banks continue to be the main holder of mortgage accounts in Ireland, representing 93 per cent of all mortgage accounts outstanding at end-Q1 2018 (Box B Chart 1). The overall number of mortgage accounts held by banks has declined in recent years, due to a combination of mortgage redemptions, resolution of arrears cases, and loan sales. Conversely, the number of mortgage accounts held by RCFs and ULOs has been increasing. RCFs hold 43,266 mortgage accounts at end-Q1 2018, representing 5 per cent of total mortgages outstanding. This is an increase of 11,665 accounts (or 37 per cent) over the past two years. The holdings of mortgages by ULOs is smaller at 2 per cent of total mortgages outstanding. The number of mortgage accounts held by ULOs has increased by 9 per cent since March 2016 - a slower pace than that seen in RCFs.

Box B Chart 1: Total Number of mortgage accounts outstanding



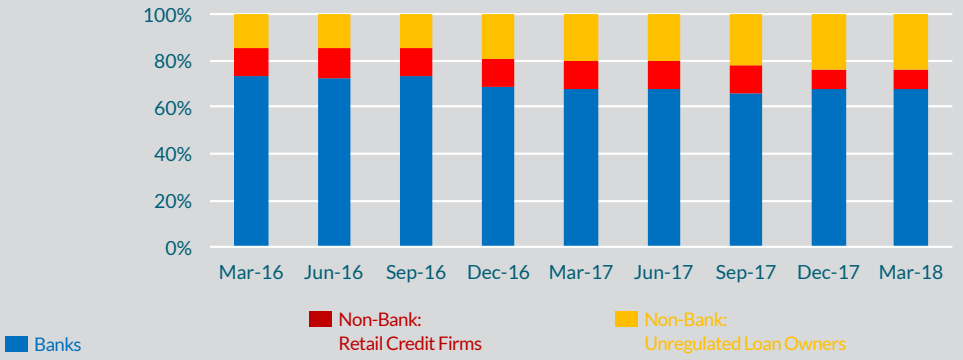
Source: Residential Mortgage Arrrears and Repossession Statistics, Central Bank of Ireland.

At end-March 2018, 11 per cent of all mortgage accounts were in arrears (PDH and BTL). The arrears rate for principal dwelling house mortgages (PDH) was lower at 10 per cent; however, buy-to-let mortgages (BTL) remain elevated with 19 per cent of accounts in arrears. There are significant differences in the loan quality held across different loan owner types. For banks, 9 per cent of all mortgage accounts held were in arrears. This figure increases to 21 per cent for RCFs and increases further to 68 per cent for ULOs. Similarly, the proportion of accounts in long-term arrears (over 720 days past due), is significantly higher for ULOs when compared with Banks and RCFs. For ULOs, some 52 per cent of accounts were in arrears greater than 720 days, compared to 4 per cent for banks and 8 per cent for RCFs. While ULOs hold just 2 per cent of all mortgage accounts, the poor loan quality in the portfolios means that ULOs hold almost 1 in 4 accounts in long-term arrears. At end-March 2018, ULOs held 24 per cent of all accounts in arrears over 720 days, up from 14 per cent two years earlier (Box B Chart 2).

10 Statistics Division, Central Bank of Ireland.

11 The Consumer Protection (Regulation of Credit Servicing Firms) Act, 2015 was enacted to ensure that relevant borrowers, whose loans are sold to third parties, maintain the same regulatory protections they had prior to the sale.

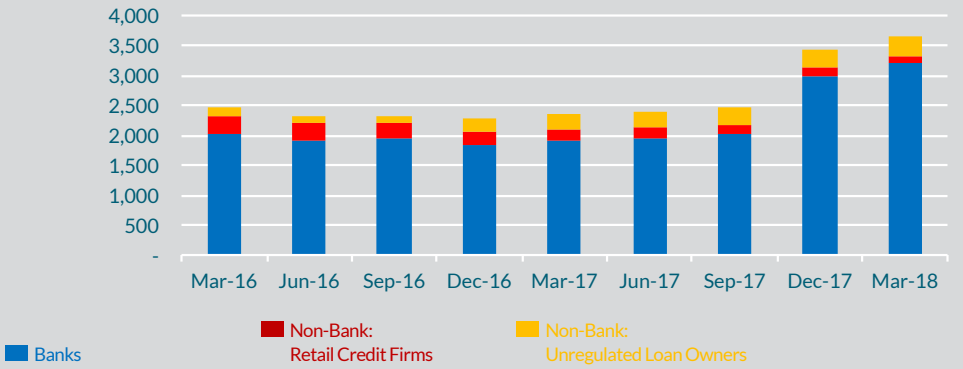
Box B Chart 2: Proportion of Accounts in Arrears over 720 days, by Entity Type



Source: Residential Mortgage Arrears and Reposession Statistics, Central Bank of Ireland.

Since March 2016, 6,013 properties repossessed across all loan owners. The majority of properties, at 4,305, were voluntarily surrendered or abandoned. The remainder, at 1,708, were repossessed on foot of a Court Order. Some 4,798 properties were disposed of in the same period. As a result, loan owners were in possession of 3,641 properties at end-March 2018 (Box B Chart 3). A breakdown by loan holder type reveals that banks repossessed 5,574 properties, RCFs 242 and ULOs 197 over the period. There was a large increase in BTL properties in possession in Q4 2017, which was impacted by an initiative for assisted voluntary surrender of properties. The data on arrears and legal proceedings indicates that there has been no material difference in the number of legal proceedings issued between banks and non-banks, as a percentage of the total number of PDH accounts in arrears. Approximately one out of every five accounts in arrears has had some form of legal proceedings initiated by their loan owner.

Box B Chart 3: Properties in Possession by Entity Type

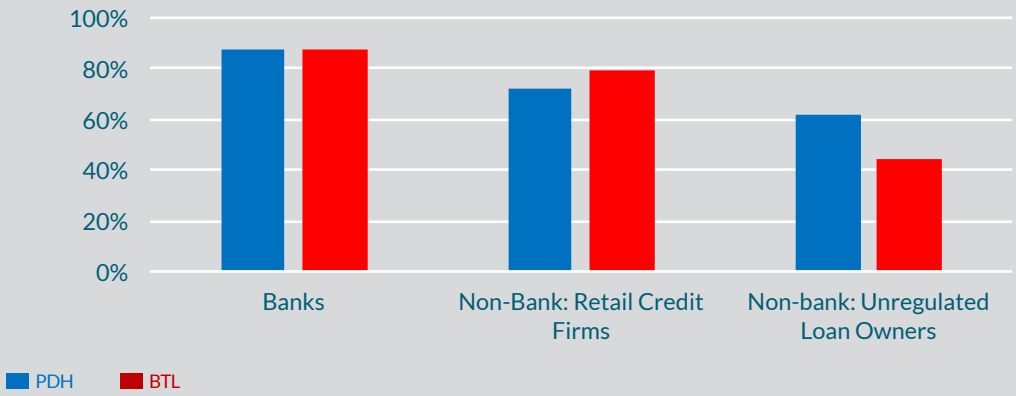


Source: Residential Mortgage Arrears and Reposession Statistics, Central Bank of Ireland.

The total number of mortgage accounts classified as restructured has declined by 6 per cent over the two-year period. This is in line with a decline in the overall number of accounts in arrears and total accounts outstanding. The decline in overall restructures masks differences across loan holders. Banks were the sole driver of this decline, with RCFs and ULOs increasing the number of accounts restructured over the period. Breaking this down by mortgage type shows that BTL accounts restructured declined across all entity types.At end-March 2018, 16 per cent of all accounts held by ULOs were classified as restructured - the vast majority being PDH accounts (22 per cent), with only 382 BTL accounts (5 per cent) being classified as restructured. Reduced Payment (greater than Interest Only) was the most popular restructure arrangement for ULOs, representing one out of every three restructure arrangements.

Given that the credit quality of the loan books held by ULOs is generally worse than the other entity types, it is unsurprising that the number of restructured accounts meeting the terms of their arrangement is lower for ULOs than other entities (Box B Chart 4). In total, 86 per cent of restructured accounts were meeting the terms of their arrangement at end-Q1 2018. For banks, this figure is similar for both PDH and BTLs at 87 per cent. However, for ULOs, just 61 and 45 per cent of PDH and BTL accounts respectively were meeting the terms of the arrangement. For RCFs, the figures were higher at 72 and 79 per cent for PDH and BTL accounts, respectively.

Box B Chart 4: Proportion of Accounts Meeting Terms of Restructures by Entity Type, Q1 2018



Source: Residential Mortgage Arrears and Repossession Statistics, Central Bank of Ireland.

A review of the arrears profile of restructured mortgages reveals a sharp contrast between loan holders. At end-Q1 2018, 80 per cent of restructured accounts held by banks were performing and not in arrears, compared to 67 per cent for RCFs and just 45 per cent for ULOs. Some 40 per cent of restructured accounts held by ULOs are in arrears over 90 days. The comparative figure for banks and RCFs, was 11 and 15 per cent respectively. The proportion of restructured accounts in arrears over 90 days has fallen across all loan holder types. Interestingly, for banks, nearly two thirds of all accounts in arrears were not classified as restructured. This rises to three quarters for RCFs and as high as 87 per cent for ULOs.

Section 2

Signed Article

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

Irish Government Investment, Financing and the Public Capital Stock

By Rónán Hickey, Matija Lozej and Diarmaid Smyth[1]

Abstract

Expenditure reductions played a key role in the Irish fiscal consolidation process over the period 2008 to 2013, with declines in public investment spending particularly notable. This appears to have had a marked impact on the public capital stock, which we estimate has grown only modestly in recent years. At a global level, concerns have been raised about the consequences of low public investment for long-term potential growth. With this in mind, plans to increase government capital spending in Ireland should lead to a significant increase in the public capital stock. An important consideration is how this investment is financed. Using the Central Bank's Dynamic General Equilibrium model, we show that adopting budget neutral investment spending can generate the long-term benefits of a higher public capital stock while at the same time limiting the risk of overheating dynamics and negative consequences for the public finances.

1 The authors are Senior Economists in the Irish Economic Analysis Division. The views expressed in this article are those of the authors only, and do not necessarily reflect the views of the Central Bank of Ireland. The authors would like to thank Mark Cassidy, Thomas Conefrey, John Flynn, Reamonn Lydon and Terry Quinn for comments and suggestions.

1. Introduction

Following very strong growth prior to the financial crisis, the Irish economy has experienced a prolonged period of subdued government investment spending. This reflects the important role that expenditure reductions played in bringing the public finances back to sustainable levels and, within that, the large role that investment spending played. Two-thirds of the Government's consolidation measures were expenditure related, while public investment spending recorded a peak to trough decline of 65 per cent between 2008 and 2013. Plans are now in place to increase government investment in the coming years, with medium term spending of 4 per cent of GNI* targeted.[2,3] This would represent a significant increase from the 2017 outturn of 2.7 per cent, Against this backdrop, we look at two aspects of higher investment spending: (i) the potential impact on the public capital stock; and (ii) the macroeconomic consequences of how investment is financed.

This Article proceeds as follows. Section 2 takes a closer look at developments in government investment spending, putting the recent evolution in the context of what happened prior to the financial crisis and examining wider euro area trends. Reductions in investment expenditure were a key component of adjustment in economies receiving financial support, with the decline experienced in Ireland similar to that in Spain, Greece and Portugal. We also consider the impact that these spending reductions have had on the public capital stock. Economic literature typically finds a positive relationship between public capital and economic output, and, at a global level, low government investment has led to concerns about longer term potential growth rates. While data issues complicate calculating the public capital stock, we use information on non-financial assets of government and net investment to produce an estimate. This highlights very modest increases in the stock of public capital in recent years.

Section 3 then takes a forward-looking approach. It first assesses the potential impact of the Government investment projections in the 2018 Stability Programme Update on the public capital stock. While this requires assumptions on depreciation, it appears that the level of public capital will increase by a sizable margin in the years ahead. The Section then uses the Central Bank's Dynamic General Equilibrium model to assess how the financing of government investment affects key macroeconomic variables. In particular, we look at the difference between investment that is fully debt financed relative to budget neutral financing. Both boost output in the longer term, consistent with the positive relationship between public capital and output growth generally identified in the literature. However, the impact on output growth and debt is notably different in the short term. This is particularly important in the current environment where the labour market seems close to full employment and highlights the balancing act that exists between strengthening the productive capacity of the economy, while not generating capacity constraints or increasing risks of overheating.

2. Public spending and the Capital Stock

2.1 Developments in Capital Expenditure since the Crisis

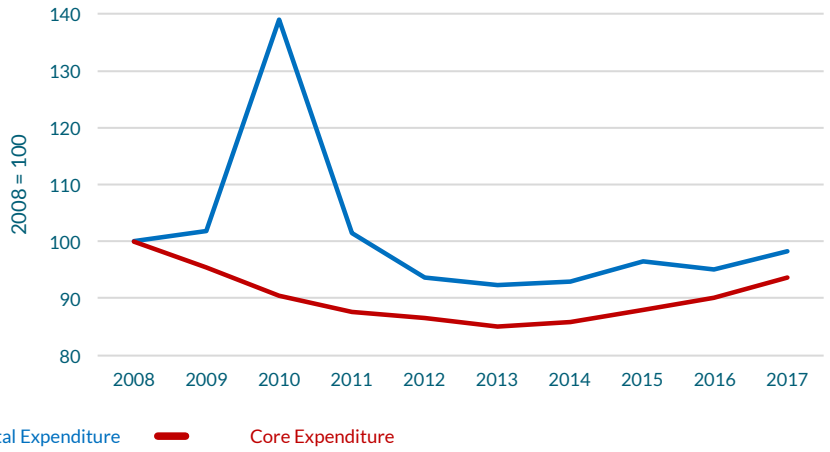
Expenditure reductions played a key role in the recent Irish fiscal consolidation process. Reflecting the Department of Finance's (2011) view that spending led adjustments would be more successful in reducing deficits and stabilising debt ratios, approximately two-thirds of the Government's adjustment measures came via reductions in government expenditure. This followed rapid growth in the years prior to the crisis; in nominal terms spending increased by 57 per cent in the five years to 2007, compared to an increase of 20 per cent for the euro area as a whole. Chart 1 outlines Irish Government spending from 2008 to 2017. Abstracting from the spike in government spending in

2 Note all calculations in this Article were done prior to the release of the 2017 National Income and Expense Accounts and the Government Income and Expenditure results to 2017.

3 GNI* refers to modified Gross National Income. This is an adjusted measure of the size of the economy designed to remove the impact of globalisation activities which artificially boost the level of GDP.

2010 related to banking related measures, there was a decline of 8 per cent in spending between 2008 and 2013, before it gradually picked up. Changes in total expenditure are not an ideal measure of spending adjustments, however, due to the impact of capital transfers to the financial sector and higher interest costs.[4] Accordingly the Chart also shows what we call 'core' government spending – excluding these two components. This provides a more accurate picture of the measures taken by successive governments in order to bring the public finances back to more sustainable levels. Relative to 2008, 'core' government spending reached a peak decline of 15 per cent in 2013 and the gradual nature of its subsequent recovery meant it was still 6 per cent below its pre-crisis peak in 2017, four years after the conclusion of the Economic Adjustment Programme.

Chart 1: Trends in Government Expenditure

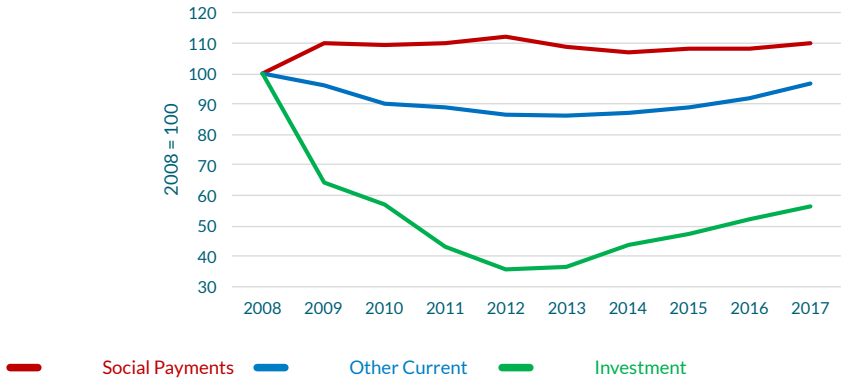


Source: Eurostat and authors' calculations.
Note: 'Core' expenditure refers to government spending less capital transfers to the financial sector and interest costs.

Chart 2 looks at components of core spending. It illustrates the increase in social payments that occurred over the period as unemployment increased sharply in the wake of the crisis. These payments were 12 per cent higher in 2012 as the unemployment rate averaged 15.5 per cent that year. Despite this, the drop in other areas of current spending was broadly the same as for core spending (Chart 1). This highlights the significant role that government investment spending played in reducing total expenditure with the former declining by two-thirds between 2008 and 2012. As a result, and despite its small relative weight in total expenditure (capital spending represented 13 per cent of core spending in 2008), it accounted for just over half of the nominal core spending reduction that took place between 2008 and 2013 (€6.2 billion out of a total reduction of €11.3 billion). Furthermore it was still just over half of its pre-crisis peak last year.

4 In 2010, for example, public spending increased sharply, despite the Government introducing more than €5 billion of spending reductions that year. This primarily reflected the €31 billion promissory note issued to provide capital support to Anglo Irish Bank and Irish Nationwide. Government interest costs also increased by €1.3 billion that year.

Chart 2: Trends in Expenditure Components



Source: CSO and authors' calculations.

Chart 3 shows government investment spending as a percentage of GNI* over a longer time frame. In common with broader government expenditure, this highlights the very strong increases recorded in investment spending prior to the crisis (reaching a peak of 6.1 per cent of GNI* in 2008). Spending growth was particularly marked in the period 2006 to 2008, increasing by 40 per cent in those two years alone. This spending was primarily driven by increases in transport investment and, to a lesser extent, housing and education.[5]

Government investment may have been expected to fall back once key capital projects had been delivered,[6] and reflecting the phase of the cycle. The close relationship between public investment spending and economic activity is well established. Looking at the cyclical behaviour of fiscal policy in OECD countries, Lane (2003) finds that investment is the most pro-cyclical component of public spending, with a particularly strong pro-cyclical relationship identified in Ireland. The subsequent decline in investment was very large; in 2013 investment spending had declined to levels not seen since the mid 1990s (2.5 per cent of GNI*) and the improvement since has been very gradual.[7] The Chart also outlines depreciation in the government sector. This allows us to highlight the sharp fall in net investment (investment less depreciation) that also occurred, both in an absolute sense and relative to pre-crisis levels. Annual net investment spending averaged just 0.6 per cent of GNI* in the 5-year period to 2017, compared to an average rate of 2.7 per cent in the years immediately prior to the crisis. Furthermore, the announced capital expenditure adjustments between 2008 and 2013 could also have understated the actual level of adjustment borne by capital in the event that certain projects were delayed or postponed.[8]

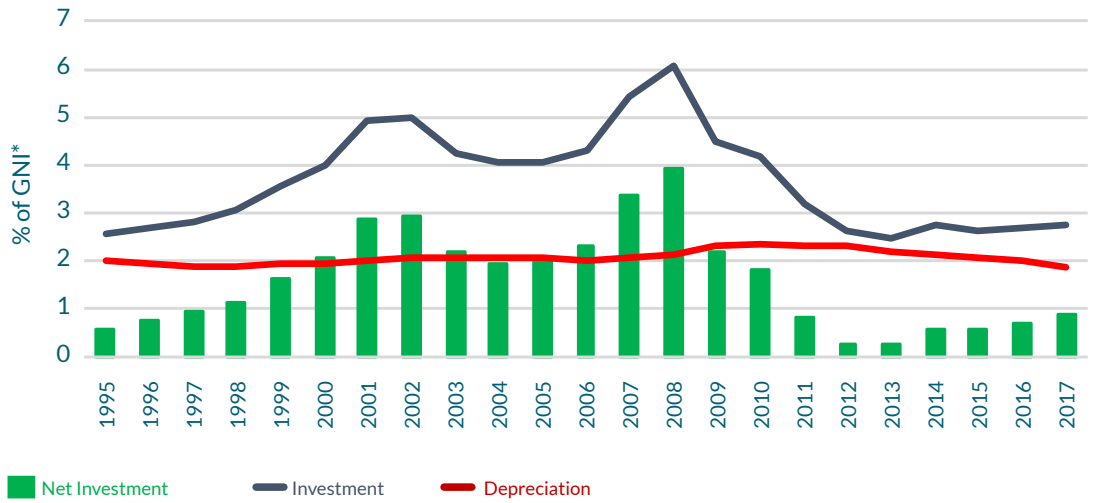
5 The Eurostat data on government expenditure by function – formally the Classification of the Functions of Government (COFOG) - can be used to take a detailed look at the structure of government expenditure across the euro area. Developed by the OECD it breaks expenditure down in to 10 'divisions', each of which is further subdivided in to around 6 groups. In relation to housing, around half of the increase in 'Housing and Community Amenities' in Ireland between 2006 and 2008 was due to housing development. This included house building (new builds by local authorities increased by around 1,000 over the period), home improvement grants and acquisition of land. The remainder reflected increased spending on community development and water supply investment.

6 For example, there were several very large transport related projects delivered in the 2000s including an upgrade and extension of the motorway network, the Luas light rail system and the Dublin Port tunnel.

7 In the euro area while levels of public investment spending are heterogeneous, the ECB (2016) noted that the average level of public investment (in the decade up to 2005) was 3 per cent of GDP. This ratio increased to 3.6 per cent in 2009 before falling back below 3 per cent during the financial crisis.

8 Bedogni and Scott (2017) and IFAC (2018) highlight sizeable gaps between capital expenditure outturns and investment plans over the past decade.

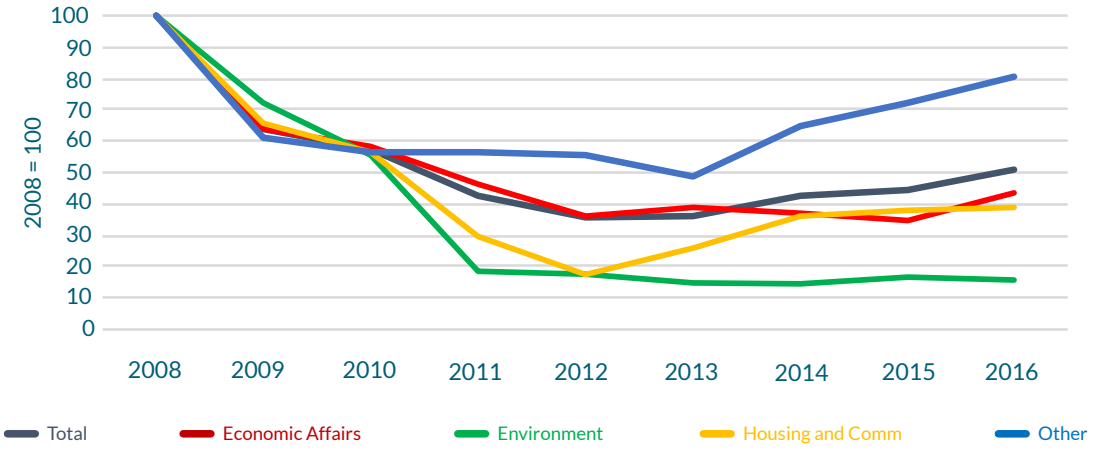
Chart 3: Government Investment and Depreciation



Source: Eurostat and authors' calculations.

Chart 4 shows how the composition of Irish investment spending changed during the consolidation phase and in subsequent years. The bulk of the investment adjustment – approximately 90 per cent – was borne by three broad areas - 'Economic Affairs', 'Housing and Community Amenities' and 'Environmental Protection'. Economic Affairs, which is dominated by transport related investments, accounted for 45 per cent of the overall decline in investment and was 55 per cent below its 2008 peak in 2016. The other two categories accounted for 30 and 15 per cent of the contraction respectively.[9]

Chart 4: Government Investment by Category



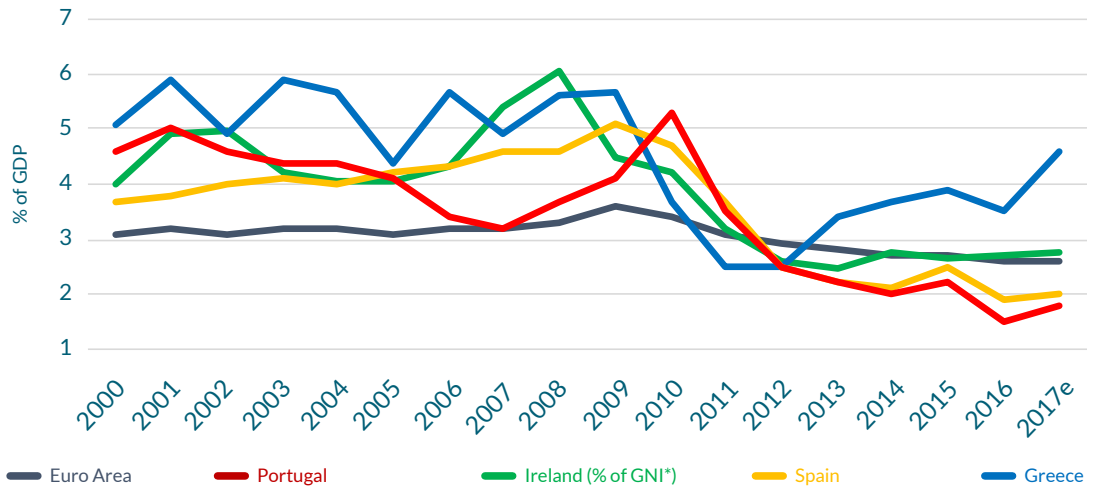
Source: Eurostat and authors' calculations

9 There appears to be a break in the Irish COFOG data in 2011, with some housing expenditure that had previously been placed in the Housing and Community Amenities Division moved to Social Protection. To ensure consistency we have kept all of this expenditure in the Housing and Community Amenities Division in Chart 4.

Reductions in investment spending were an important part of fiscal consolidation in each of the euro area countries that accessed financial assistance programmes following the financial crisis. Peak to trough declines in investment spending ranged from 37 per cent to 71 per cent in these six economies, but when Latvia – which was in a balance of payments programme – is excluded, that range narrows from 55 per cent (Cyprus) to 71 per cent (Portugal). As mentioned above the Irish peak to trough decline in investment spending was close to two-thirds, very similar to that in Greece and Spain. Most of these countries saw growth boosted by unsustainable macroeconomic imbalances prior to the financial crisis. Ireland, Greece, Spain and Portugal were, according to the European Commission's Macro Imbalance Procedure (MIP) scoreboard, the only euro area members that had at least five indicators breaching MIP thresholds in 2007, with these breaches broad based across internal and external indicators.[10]

This imbalanced growth supported sharp increases in total expenditure and the investment component in particular. As Chart 5 shows, investment spending was well above the euro area average in these four economies, but experienced a sharp decline around the turn of the decade. The fact that government investment was commonly used in consolidation programmes could partly reflect the strength of spending in preceding years. However, Bedogni and Scott (2017) have noted that a possible anti-investment bias may exist when reducing expenditure. Given the lack of an intertemporal dimension in metrics of fiscal performance, they point to a greater incentive to maintain current expenditure, reductions of which can be more politically sensitive. The Chart also shows that government investment spending in Ireland was broadly in line with the euro area average (as a percentage of GDP, or GNI* in the Irish case) in recent years.

Chart 5: Government Investment in the Euro Area



Source: Eurostat and authors' calculations.

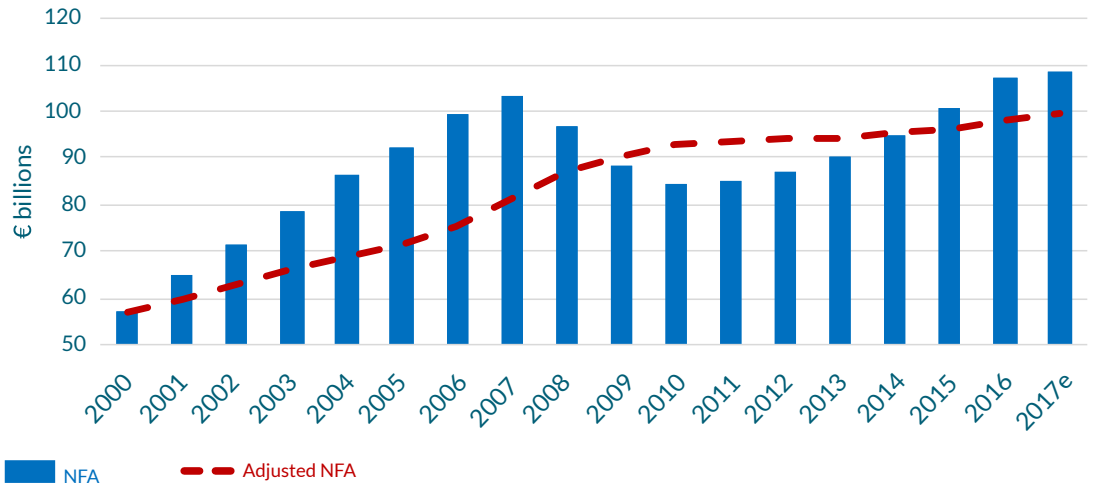
10 This is looking at threshold breaches ex post. The European Commission introduced the MIP procedure in 2011 as part of the 'six pack' reforms.

2.2 Impact on the Public Capital Stock

Government investment differs from government consumption spending because it contributes to the stock of public capital, which can have a longer lasting impact on the economy. While estimates of the effect of public capital on growth vary - and depend on factors such as the composition and efficiency of spending[11] - the literature typically finds a positive relationship between the two (e.g. see de Jong et al., (2017)). The effects of public investment spending tend to be stronger when the spending is more effective and productive. This highlights the need for rigorous assessment and appraisal of planned investment projects. In general, core infrastructure investments (e.g. roads, transport, telecommunications) have higher output effects (Bom and Lighart (2014)). In an Irish context, Fitz Gerald et al (2003) found that returns to investment in physical infrastructure, in particular roads, were high.

The marked reductions in investment spending across the EU following the financial crisis has raised concerns in relation to longer-term growth implications (see OECD (2015), ECB (2016) and European Commission (2017)). The IMF (2014) noted 'sharp continued cuts in public investment may need to be reversed to avoid a depletion of public capital stocks and potentially adverse effects on long term growth'. While data are available for economy wide capital stock levels, estimating the Government's share is problematic due to data related issues (see IMF (2014), ECB (2016) and Kennedy (2016)). In order to assess the impact that recent spending developments have had in Ireland, we use the CSO's 'Non-Financial Assets of General Government' (NFA) data series to produce an estimate of the Irish public capital stock. This is shown in Chart 6. The data includes a wide range of physical assets owned by government such as dwellings, buildings, stocks and equipment. In nominal terms, the stock of the Government's NFA is estimated to have declined sharply between 2007 and 2010 (by €19 billion), but subsequently recovered by €23 billion to reach an estimated €107 billion (57 per cent of GNI*) in 2016.[12]

Chart 6: Non-Financial Assets of Government



Source: Central Statistics Office, authors' calculations

11 For a discussion of efficiency in public investment in the Irish context, see IMF (2017).

12 For more details on the Government's balance sheet and its components, see Barnes and Smyth (2013). The NFA series does not include land.

One problem with using the NFA data is that annual movements reflect both the 'net acquisition of assets' (net investment) and 'other changes'. The latter includes changes in the valuations of existing assets, driven in turn by factors such as market sentiment and cyclical conditions. Such valuation changes have driven most of the movements in NFA in recent years, with just over one-third of the increase since 2010 reflecting net investment. They are also not particularly relevant when it comes to determining the impact that the public capital stock will have on future growth. Accordingly, we construct an alternative stock of NFA – 'adjusted NFA', also shown in Chart 6. We do this by taking the stock of NFA in 2000 at €56.9 billion as a base year and extrapolating this series forward based on the level of net government investment. This illustrative series highlights solid and sustained growth in the stock of assets to 2008 (average annual growth of 5.5 per cent from 2001 to 2008) followed by very modest subsequent increases (average growth of 1 per cent per annum in the 6 years to 2017).

3. Long-term Investment Plans and their Financing

3.1 The National Development Plan

As highlighted above, low levels of government investment spending have been a global phenomenon in recent years. In Ireland a new National Development Plan (NDP), announced in February 2018, commits to increase public capital investment to approximately 4 per cent of GNI* by 2025 – up from 2.7 per cent in 2017 – and to maintain it at that level thereafter.[13] This figure includes central government investment and other spending.[14] Adopting such a medium term target is a positive development, as it can limit surges in public investment during cyclical upswings. The Government's NDP, and more recently the SPU and Summer Economic Statement, provided more detail on spending plans over the medium- term. A sharp increase in the level of government investment is envisaged (by more than 50 per cent), from €5.5 billion in 2017 to €8.3 billion (3.7 per cent of GNI*) in 2021. The nominal level of expenditure can also be extrapolated out to 2027 based on spending commitments in the NDP; we estimate that this would see the annual level of general government investment rising to just over €11 billion (approximately 4 per cent of GNI*) by 2027.

In Chart 7, we show estimated changes in net investment out to 2021 based on government plans. These are calculated using the planned government investment spending figures outlined above and an assumption that government depreciation grows in line with its historical average. This suggests that net investment will be stronger in the coming years than was the case for much of the 2000s. The Chart also shows the impact that such levels of net investment would have on the public capital stock. We follow the methodology from Section 2.2 to estimate the path of adjusted NFA. Based on these estimates, the stock of public capital could increase by a sizeable amount, close to 16 per cent in the 4-year period to 2021, compared to an increase of just 5 per cent in the most immediate 4-year period. This significant acceleration in the growth rate would bring it close to the rates experienced in the early 2000s.

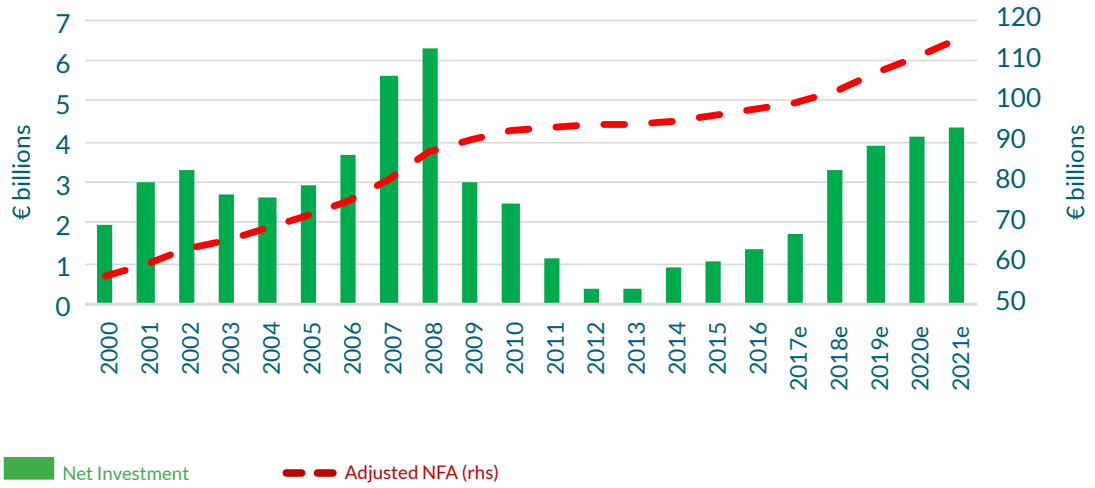
3.2 Modelling the financing of government investment spending

It is important to consider government expenditure decisions in the context in which they are happening. In the current Irish case a range of indicators suggest that the economy is close to capacity. This view received support from the Department of Finance, which provided a number of estimates of potential output in its recent SPU, with the balance pointing to a positive output gap over the period to 2021. The Irish Fiscal Advisory Council, meanwhile, in its most recent Fiscal Assessment

13 For more detailed information, see Department of Public Expenditure and Reform (2018).

14 Central government investment spending accounts for close to 90 per cent of general government investment and is the focus of this Article. Other spending includes spending by commercial semi-state bodies and other state owned enterprises - it is assumed fixed at €2.4 billion (or close to 1 per cent of GNI*) post 2021 in the NDP. Over the period to 2027, the overall investment programme amounts to €116 billion. This includes an Exchequer contribution of €91 billion and a non-Exchequer element of €25 billion (Department of Finance, 2018a and 2018b).

Chart 7: Net Investment and Non-Financial Assets of Government Going Forward



Source: Authors' calculations

Report (IFAC (2018)) cautioned on overheating risks. In such an environment, the manner in which government spending is financed increases in significance, to ensure that it does not exacerbate capacity constraints. Irish economic developments in the mid 2000s provide a good example of the consequences of overheating; unsustainable price pressures – in goods and services, wage costs and property prices; loss of competitiveness and inefficient production decisions.

To illustrate the importance of financing decisions we use the Central Bank's Dynamic General Equilibrium model (discussed in more detail in Clancy et al. (2016)) to analyse the effects of an increase in government investment on economic output and public debt in the Irish economy. The central scenario in the model assumes that government investment spending increases in line with the SPU projections out to 2021, after which it returns to close to its long-run average. Whilst the model necessarily simplifies some real world behaviour, it provides useful insights into the channels through which public investment spending affects the wider economy. Here Ireland is modelled as a small open economy that is a member of a monetary union and trades with the rest of the union, the US and the rest of the world.

Chart 8 displays the results of simulations incorporating two scenarios:

(i) where expenditure is financed fully by issuing debt (dashed red line) and
(ii) where the increase in government spending is offset by an increase in income taxes, so that the operation is ex-ante budget neutral (full blue line).[15]

The increase in public investment and the impact that this has on the public capital stock are shown in panels (a) and (b). These are impulse response functions showing percentage deviations from initial values. Public investment spending is 10 per cent higher in year 1, and peaks at just over 13 per cent higher in years 2 to 4 before gradually returning to its long-run average. The public capital stock, in turn, peaks at around 5 per cent higher than would otherwise be the case. This investment leads to higher levels of output in the medium and long-term in both scenarios (panel (c)), consistent with the positive relationship between public capital and growth discussed above. Finally, in the case of debt-financed investment, the level of public debt increases before gradually returning to its long-run level (panel (d)).

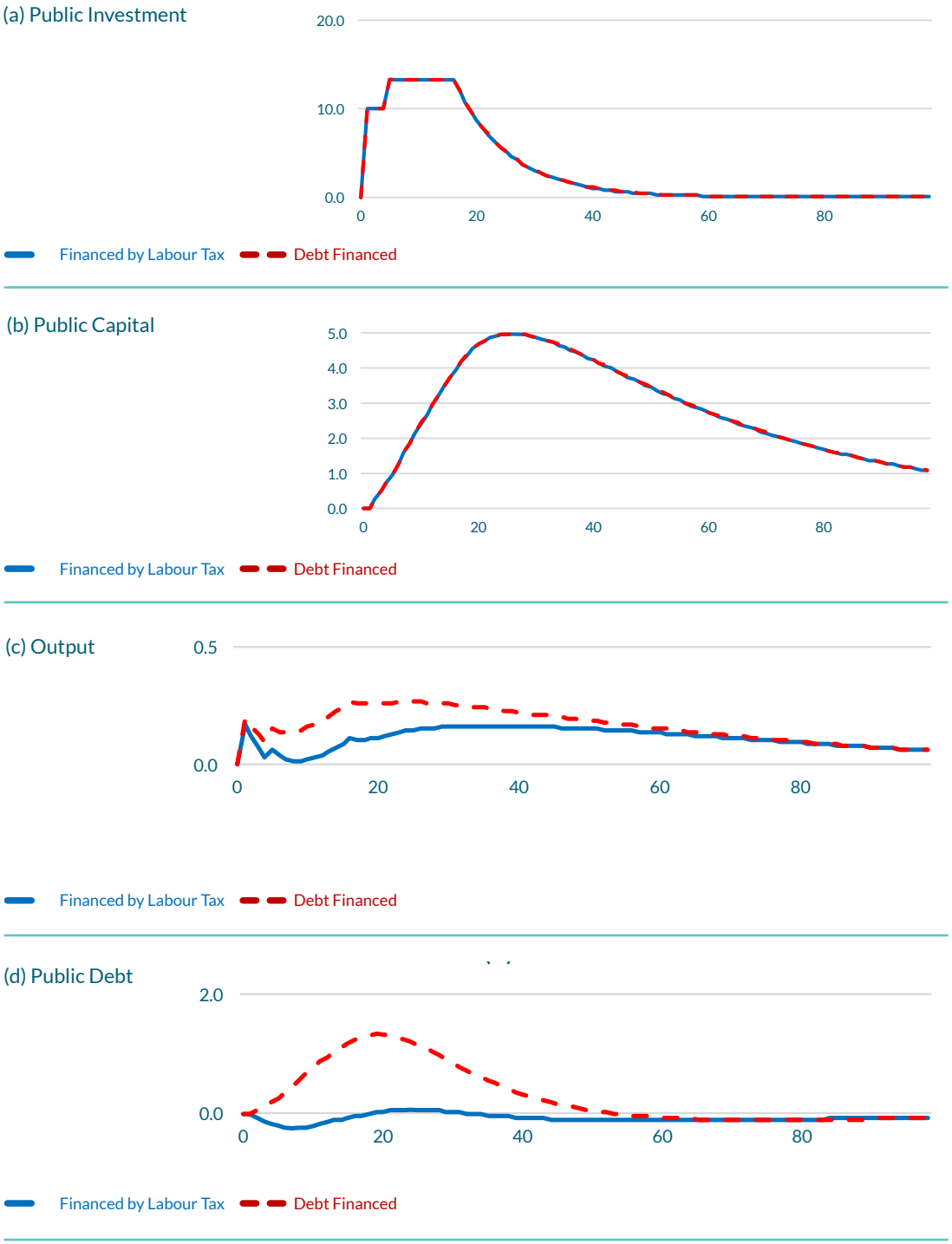
Crucially however, the magnitude of the output increase in the near term in the debt-financed case is significantly stronger than in the case of a budget neutral approach.[16] This is because higher taxes in the latter case restrain the growth in private demand (consumption and (private) investment) thereby partly offsetting higher government expenditure. In both scenarios the increase in public investment leads to higher employment in the short run. The strong increase in employment with debt financing would contribute to wage and price pressure in the economy and potentially erode its competitiveness. While these are stylised examples, they are important in that they highlight potential risks of overheating dynamics emerging, particularly for an economy close to full employment.

While the overall magnitude of the output increases in Chart 8 may not appear substantial, there are three important caveats to consider. First, these modelling scenarios are not designed to provide overly definitive estimates for the effects on output, but more to highlight the channels through which an economy operates and the role of investment and its financing. Second, a key assumption relates to the productivity of investment. The extent to which the investment spending contributes to the productivity of the private sector, thereby reducing its costs, depends on the specific type of investment undertaken. If government investment is in infrastructure, for example, the general view is that its impact is likely to be higher (Aschauer, 1989). The estimates on how productive government capital is vary across the literature (see Leeper et al, (2010), and Bom and Ligthart, (2014)). The simulations here assume that productivity of the new government investment is at a moderate level. Third, in this Article we have not made an allowance for any non-government sources of investment financing. The NDP envisages that close to 20 per cent of investment spending will be sourced outside of the Exchequer. Reflecting these latter two caveats, there are potential upsides to the output effects.

15 Labour taxes are used here for illustrative purposes, there are a wide range of taxes in operation within the economy.

16 While financing with labour taxes has the advantage that it does not increase debt and can to some extent offset some of the short-run stimulus, it is important to note that such taxes are distortionary and can have negative effects on the supply of labour, which can contribute to wage pressures during times of already high aggregate demand. Furthermore, as a result of wage increases, the tax base is somewhat higher ex-post. This contributes to an initial fall in the level of debt (panel (d)).

Chart 8: The effects of a Government Investment increase via Debt and Budget-neutral financing



Source: Authors' calculations

Note: All values are percent deviations from the initial value (which can be interpreted as the percent change from current values). The units on the horizontal axis are quarters.

4. Conclusions

This Article looked at two aspects of higher government investment spending: (i) the potential impact on the public capital stock and (ii) the significance of how investment is financed. In the case of the former, it appears that when valuation changes are excluded, the Irish economy has experienced very modest growth in its public capital stock since the crisis. Using changes in net investment as a proxy, we estimate that the public capital stock increased by just 1 per cent per annum in the 6 years to 2017. This is substantially slower than the pace recorded in the first half of the 2000s. Looking ahead, while assumptions must be made about the pace of depreciation, we estimate that the investment spending envisaged in current government plans will result in a significant increase in the stock of capital, by approximately 16 per cent between 2017 and 2021. This would bring it close to the average annual growth rates experienced in the early 2000s. The issue of investment financing, meanwhile, is particularly relevant in the current environment where the Irish economy appears to be approaching full employment. Using the Central Bank's Dynamic General Equilibrium model, we simulate two scenarios, one where the increase in government investment spending is fully financed by debt and one where it is budget neutral (financed from labour taxes). In both cases, the increase in investment leads to higher output in the longer term, consistent with the positive relationship between public capital and long-term growth found in the literature. The budget neutral scenario, however, avoids the build-up of public debt and reduces the short-run stimulus to the economy. This highlights one key challenge that exists in framing fiscal policy at a time of strong growth; the need to increase the public capital stock, which can be expected to improve the productive capacity of the economy, while limiting the risk of costly overheating dynamics emerging. A stepping up in public investment with an economy at (or close to) full employment conditions may require counter-vailing measures to be introduced.

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Section 3

Statistical Appendix

Statistical Appendix

The publication of the Statistical Appendix of the Quarterly Bulletin was discontinued from Quarterly Bulletin 1 2014. Statistical data compiled by the Central Bank are accessible on the Statistics page of the Central Bank's website, https://www.centralbank.ie/statistics

Some tables, previously published in the Statistical Appendix, have been expanded to provide more comprehensive data. A number of statistical tables, which were not published in earlier Bulletins, have also been added.

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

STATISTICAL TABLES: CENTRAL BANK WEBSITE LINKS

Money and Banking:

https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/bank-balance-sheets/bank-balance-sheets-data

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

Business Credit and Deposits:

https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/business-credit-and-deposits

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

Private Household Credit and Deposits:

https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/private-household-credit-and-deposits

- Credit Advanced to and Deposits from Irish Private Households

Money Market Funds:

https://www.centralbank.ie/statistics/data-and-analysis/other-financial-sector-statistics/money-market-funds

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

Retail Interest Rates:

https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/retail-interest-rates

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

Investment Funds:

https://www.centralbank.ie/statistics/data-and-analysis/other-financial-sector-statistics/investment-funds

- Ireland: Investment Funds Data

Securities Holdings and Issue Statistics:

https://www.centralbank.ie/statistics/data-and-analysis/securities-statistics/securities-issues-and-holding-data

- Securities Issue Statistics
- Holding Data

Special Purpose Entities:

https://www.centralbank.ie/statistics/data-and-analysis/other-financial-sector-statistics/special-purpose-entities

- Irish Special Purpose Entities

Locational Banking Statistics:

https://www.centralbank.ie/statistics/data-and-analysis/credit-and-banking-statistics/locational-banking-statistics

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

Quarterly Financial Accounts:

https://www.centralbank.ie/statistics/data-and-analysis/financial-accounts

- Financial Accounts for Ireland: Q1 2012 to present – ESA 2010

Public Finances and Competitiveness Indicators:

https://www.centralbank.ie/statistics/data-and-analysis/securities-statistics/holdings-of-long-term-irish-government-bonds

- Holdings of Irish Government Long-Term Bonds

https://www.centralbank.ie/statistics/data-and-analysis/competitiveness-reserves-and-national-debt

- Harmonised Competitiveness Indicators for Ireland
- Gross National Debt

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