

2016: I

Macro-Financial Review



Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

MACRO-FINANCIAL REVIEW

Notes

1. Unless otherwise stated, this document refers to data available on 31 May, 2016.
2. Unless otherwise stated, the aggregate banking data refer to all credit institutions operating in the Republic of Ireland.
 - *Domestic banks* refer to Allied Irish Banks (AIB) plc (including EBS), Bank of Ireland (BOI) and Permanent TSB (PTSB). The term *domestic banks*, unless stated otherwise, excludes the Irish Bank Resolution Corporation (IBRC) which has been in Special Liquidation since 7 February, 2013.
 - *Foreign-owned resident banks* are foreign banking groups that have a subsidiary in the Republic of Ireland.
3. The following symbols are used:

e	estimate	H	half-year
f	forecast	rhs	right-hand side
Q	quarter	lhs	left-hand side

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Preface

The Macro-Financial Review offers an overview of the current state of the macro-financial environment in Ireland. Its aims are twofold: (i) to help the public, financial-market participants and international and national authorities better evaluate financial risks; and (ii) to promote informed dialogue on the financial system's strengths and weaknesses and efforts to strengthen its resilience.

The Review assembles some of the material kept under surveillance by the Financial Stability Committee of the Central Bank of Ireland. The Review focuses on downside risks but better-than-expected outcomes are also possible. It evaluates developments since the previous Review, published in December 2015.

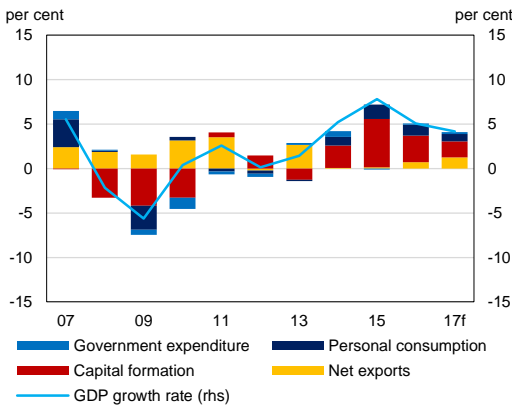
Réamhrá

Tugann an tAthbhreithniú Macra-Airgeadais forbhreathnú ar staid reatha na timpeallachta macra-airgeadais in Éirinn. Tá dhá aidhm aige: (i) cuidiú leis an bpobal, le rannpháirtithe margaidh airgeadais agus le húdaráis idirnáisiúnta agus náisiúnta chun measúnú a dhéanamh ar rioscaí airgeadais; agus (ii) díospóireacht fheasach a chur chun cinn maidir le láidreachtaí agus laigí an chórais airgeadais mar aon le hiarrachtaí chun a stóinseacht a neartú.

San Athbhreithniú, bailítear cuid den ábhar a bhíonn faoi fhaireachas an Choiste um Chobhsaíocht Airgeadais de chuid Bhanc Ceannais na hÉireann. Díríonn an tAthbhreithniú ar rioscaí ar an taobh thíos ach féadfaidh na torthaí a bheith níos fearr ná mar a bhíodhas ag súil leis. Déanann an tAthbhreithniú measúnú ar fhorbairtí ón Athbhreithniú deireanach a foilsíodh i mí na Nollag 2015.

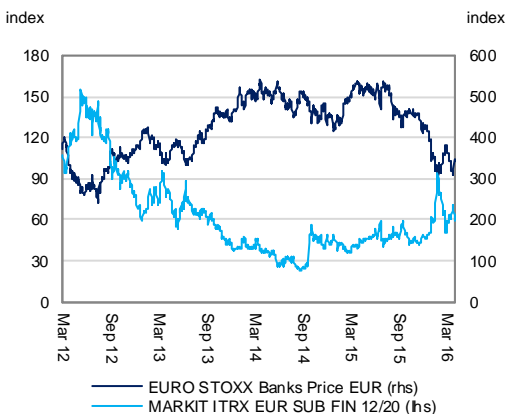
1. Overview

Chart A1: Composition of Irish GDP growth



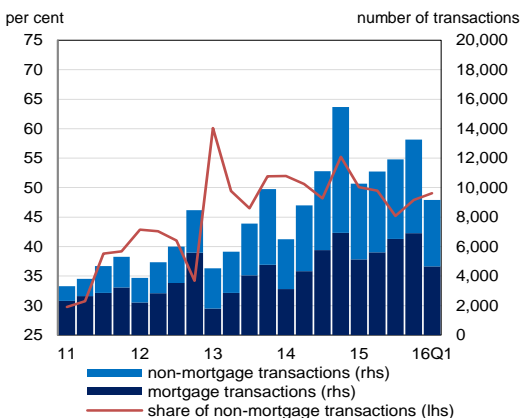
Source: CSO and Central Bank of Ireland.
Notes: 2016 and 2017 are forecasts from the Central Bank's Quarterly Bulletin No. 2 2016.

Chart A2: Eurostoxx banks equity and iTraxx Europe subordinated financial CDS index



Source: Bloomberg and Markit iTraxx.
Notes: Markit iTraxx is a generic European sub-ordinated financial CDS index.

Chart A3: Financing for residential property transactions



Source: Property Services Regulatory Authority.

Output grew strongly in Ireland in 2015. Real GDP is projected to grow by 5.1 per cent in 2016 and by 4.2 per cent in 2017, with increases in consumption, investment and net exports contributing (Chart A1). Risks to the domestic economic outlook over this forecast horizon, however, are weighted to the downside, stemming mostly from the external economic environment. Geopolitical tensions, the migrant crisis in Europe, and the outcome of the referendum on whether the UK should remain in the EU are among the factors influencing economic uncertainty at this time. The prospects for global economic growth remain relatively subdued, with lower growth in EMEs contributing. Persistently low inflation is evident in the EA and is not supportive of debt sustainability in its corporate and sovereign sectors.

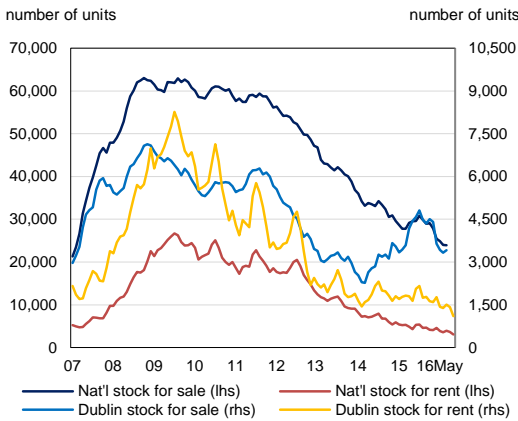
International financial markets have been relatively volatile of late. A disorderly adjustment of compressed risk premia in financial markets is a threat to global and EA financial stability. Since the last Review, bank equity prices have declined and the cost of insuring against default on bank debt (through credit default swaps) has fluctuated (Chart A2). Challenges to banking stability in the EA include low interest rates, low nominal growth, a large stock of NPLs, and an exposure to EMEs.

There is considerable uncertainty around the outcome of the referendum on the UK's membership of the EU on 23 June and around developments in the event of a majority vote for the UK to leave the EU. It is likely that a vote to leave the EU (a pro-Brexit vote) would have both short-term and long-term effects. A negative impact on Irish exports to the UK, for example, could be expected. The effects on the profitability and business models of Irish-based financial institutions, including banks and insurers, could be material and could vary across firms and sectors depending on the nature of the new relationship agreed between the UK and EU and their exposure to UK markets. The Central Bank has been engaging with firms across all parts of the financial sector, with a particular focus on the firms with the largest UK exposures, to ensure they are prepared for risks associated with a potential Brexit.¹

The improvement in output growth in Ireland in recent years has been accompanied by an increase in the number of persons in employment and a decline in the unemployment rate (to 7.8 per cent in May 2016). Although continuing to decline, household sector debt remains high, at almost 160 per cent of disposable income in 2015Q4. This leaves households vulnerable to adverse movements in income or interest rates. While year-on-year growth in loans for house purchase remains negative, gross

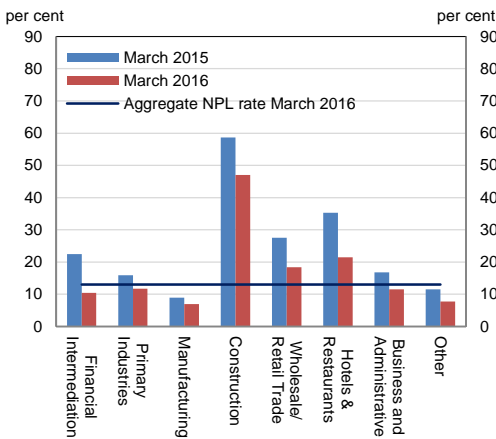
¹ A discussion of the potential implications for the Irish financial sector of a UK exit from the EU is contained in Box 6 in [Macro-Financial Review 2015: II](#)

Chart A4: Stock listed for sale or rent on Daft.ie



Source: Daft.ie

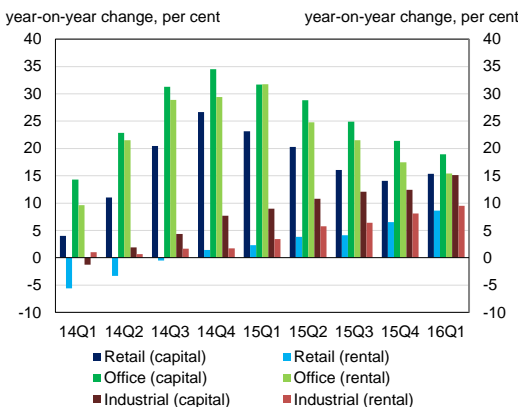
Chart A5: SME/Corporate non-performing loans by sector



Source: Central Bank of Ireland.

Notes: Loans classified as non-performing as a share of total loans outstanding.

Chart A6: Breakdown of commercial property capital and rental value growth by sector



Source: MSCI/IPD.

new lending has picked up (amounting to €4.4 billion in 2015), with short-dated fixed rate mortgages accounting for an increasing share of new loans.

The pace of house price inflation slowed markedly through 2015. A year-on-year growth rate of 7.1 per cent was recorded in April 2016. The number of residential property transactions – both mortgage- and non-mortgage-financed - increased last year (Chart A3). Notwithstanding an increase in past two quarters, the share of non-mortgage, predominantly cash, buyers in overall residential property transactions has been below 50 per cent since early 2015. The rental market has seen strong growth in rental values for a number of years now, with a 10 per cent increase recorded in 2015. A scarcity of housing units for sale or rent is a feature of the residential property market of late (Chart A4). While leading indicators of construction activity point to an increase in housing supply occurring in the near future, it is unlikely to be sufficient to address the current housing shortfall.

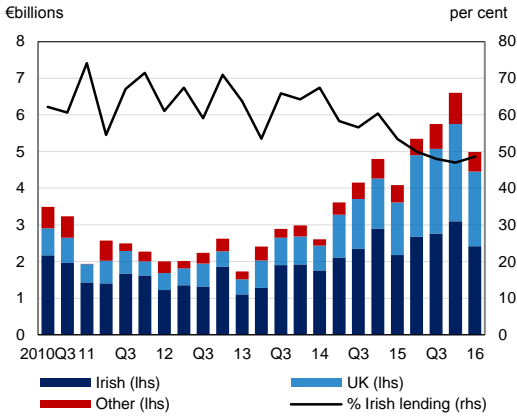
It is important that household borrowing for house purchase remains prudent. The LTV and LTI caps introduced in 2015 were enacted to enhance the resilience of banks and households to financial shocks. The Central Bank will review the impact of the measures on an annual basis, with the outcome of the first review due in November 2016.

Favourable demand conditions are supporting recovery in the NFC trading environment. There are indications of a modest improvement in firms’ financing conditions, although the overall credit environment remains weak. The domestic NFC sector remains highly indebted, including relative to other EA Member States, and the decline in the debt-to-GDP ratio in recent years reflects output growth, with debt remaining broadly unchanged. Although non-performing corporate loans as a proportion of total corporate loans have been falling, there is much variation in NPL rates across sectors (Chart A5). High levels of debt, or repayment difficulties associated with such debt, can act as a drag on economic activity if it restricts firms’ borrowing and investment opportunities.

Annual total returns on Irish CRE continue to outperform many CRE markets elsewhere. While the office sector was the first sector to experience a turnaround in recent years, recovery is now evident in the retail and industrial sectors as well (Chart A6). Low supply and rising rents are two issues facing the CRE market. Developers, financiers and planning authorities will need to manage the delivery of new supply in a prudent manner. A greater level of international investment and foreign non-bank funding is now evident in the CRE market. This can assist the dispersal of risk arising from this sector beyond Ireland but it also leaves the sector vulnerable to changes in external financing conditions and in international investor sentiment.

While there has been an improvement in fiscal performance in recent years, the General Government gross debt-to-GDP ratio

Chart A7: Domestic banks' new lending

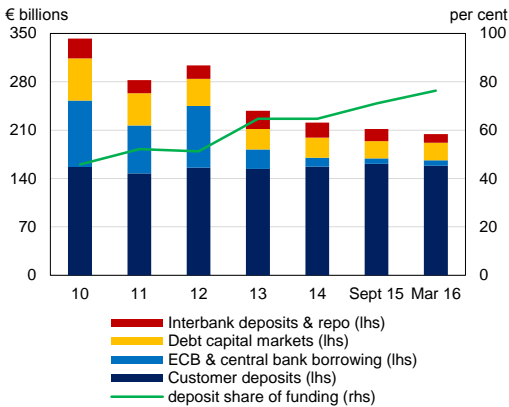


Source: Central Bank of Ireland.
Notes: Data are consolidated.

remains high, leaving the public finances vulnerable to economic and financial shocks. Maintaining fiscal discipline, including in line with the preventive arm of the Stability and Growth Pact, would assist in keeping the public finances on a sustainable path. Irish sovereign bond yields remain low and the State is pre-funded in relation to its 2016 needs. Fiscal performance in Ireland and in other Member States, investor sentiment, and monetary policy are among the factors that could affect yield values, and market conditions more generally. There is some evidence that liquidity conditions in secondary fixed income markets may have deteriorated in recent years and that, as a consequence, financial shocks could prove disruptive to bond market activity.

In the banking sector, the workout of impaired loans and the disposal of NPLs are ongoing. Both NPLs and related provisions, however, remain elevated. Bank capital has improved, with domestic banks having refinanced preference shares and increased their fully-loaded common equity capital base in 2015.

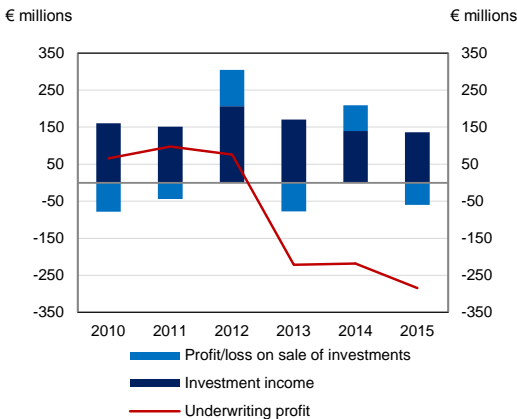
Chart A8: Funding profile of domestic banks



Source: Central Bank of Ireland.
Notes: Data are consolidated.

Domestic banks returned to profitability in 2014 but it remains weak and varies at individual bank level. In aggregate, write-backs of impairment provisions accounted for most of the growth in domestic banks' profits last year. While loan books have continued to decline in size, there has been a rise in new lending, mainly in the UK (Chart A7). Income growth was underpinned by lower funding costs, which exceeded the fall in interest income. Banks' funding requirements continue to decline. Customer deposits accounted for about three-quarters of total funding at end-March 2016 (Chart A8).

Chart A9: Non-life insurers' underwriting profits and investment income and gains

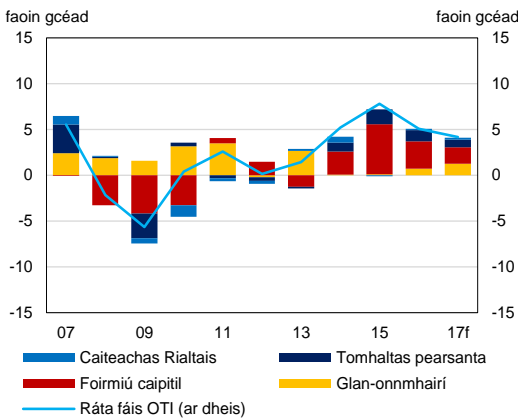


Source: Central Bank of Ireland.
Notes: Data are an aggregation of domestically focused high-impact firms who collectively write approximately 80 per cent of Irish-risk business. Profit/loss on sale of investments includes realised and unrealised gains and losses.

The domestic non-life insurance sector continues to face a difficult operating environment with all of the high-impact firms reporting underwriting losses in 2015 primarily due to current challenges in the Irish motor market (Chart A9). The domestic life sector is experiencing growth, notwithstanding the challenges firms face in attracting new business. There are likely to be implementation challenges for firms in making the transition to the Solvency II regulatory framework, which came into force on 1 January 2016. In the non-bank financial intermediaries sector, risks centre on the potential for intermediaries, in Ireland and abroad, to play a destabilising role in international financial markets at times of market stress.

1.1 Forbhreathnú

Cairt A1: Comhdhéanadh d'fhás OTI na hÉireann



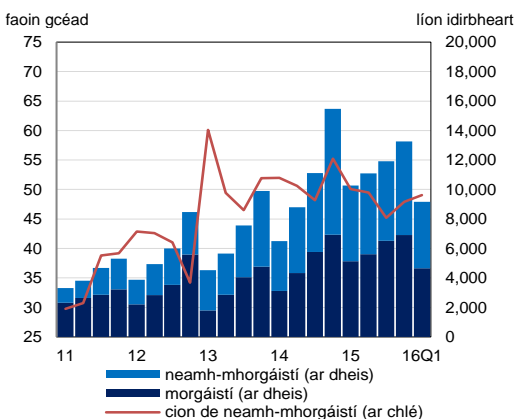
Foinse: CSO agus Banc Ceannais na hÉireann.
Nótaí: Is réamhaisnéisí iad 2016 agus 2017 ó QB2 2016 an Bhainc.

Cairt A2: Cothromas banc Eurostoxx agus innéacs iTraxx Europe um CDS fo-ordaithe airgeadais.



Foinse: Bloomberg agus Markit iTraxx
Nótaí: Is innéacs cineálach Eorpach um CDS fo-ordaithe airgeadais é Markit iTraxx.

Cairt A3: Idirbhearta maoine cónaithe a mhaoiniú



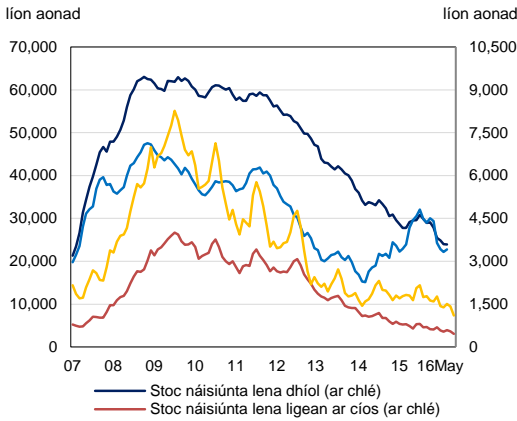
Foinse: An tÚdarás Rialála Seirbhísí Maoine.

Tháinig méadú láidir ar an aschur in Éirinn in 2015. Meastar go dtiocfaidh fás 5.1 faoin gcéad ar fhíor-OTI in 2016 agus 4.2 faoin gcéad in 2017, agus cuirfidh méaduithe ar thomhaltas, ar infheistíocht agus ar ghlan-onnmhairí leis an bhfás sin (Chart A1). Ar a shon sin, is rioscaí ar an taobh thíos iad na rioscaí don ionchas eacnamaíoch intíre thar thréimhse na réamhaisnéise seo agus eascraíonn siad don chuid is mó as an timpeallacht eacnamaíoch sheachtrach. Ar na tosca atá ag dul i gcion ar an éiginnteacht eacnamaíoch i láthair na huairé, tá teannas geopholaitiúil amháil an ghéarchéim imirceach, agus toradh an reifrinn i dtuobh cibé acu an ceart don Ríocht Aontaithe fanacht san AE. Tá an t-ionchas don fhás eacnamaíoch domhanda maolaithe i gcónaí agus tá fás níos ísle i ngeilleagair éiritheacha ag cur leis an méid sin. Tá boilsciú íseal le feiceáil i gcónaí sa limistéar euro rud nach dtacaíonn le hinbhuanaitheacht fiachais sna hearnálacha corparáideacha agus ceannasacha.

Tá na margáí airgeadais idirnáisiúnta sách luaineach le déanaí. Tá coigeartú mí-ordúil ar phrémheanna riosca comhbhrúite ina bhagairt don chobhsaíocht airgeadais dhomhanda agus don chobhsaíocht airgeadais sa limistéar euro. Ó foilsíodh an tAthbheithniú deireanach, tá laghdú tagtha ar phraghsanna ghnáthscaireanna banc agus tá an costas a bhaineann le hárachú in aghaidh mainneachtana fiachais bainc (trí bhabhtáil mainneachtana creidmheasa) ag luainiú (Chart A2). Ar na dúshlán atá ann don chobhsaíocht bainc éireachta sa limistéar euro, áirítear rátaí ísle úis, fás ainmniúil íseal, stoc mór iasachtaí neamhthuillmheacha agus neamhchosaint ar gheilleagair éiritheacha.

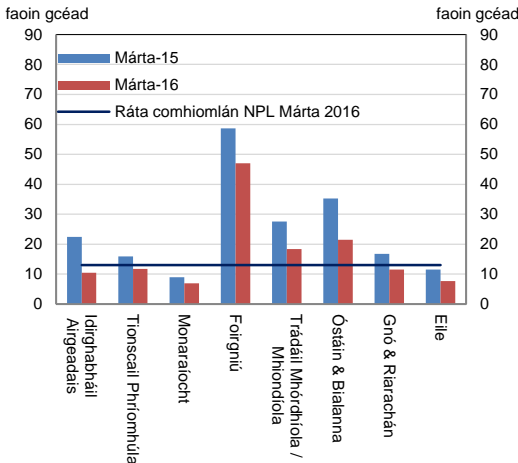
Tá éiginnteacht mhór ag baint le toradh an reifrinn i dtaca le ballraíocht na Ríochta Aontaithe san AE an 23 Meitheamh agus le forbairtí i gcás ina vótálfadh tromlach sa RA ar son imeacht as an AE. Is dócha go mbeadh éifeachtaí gearrthéarmacha agus fadtéarmacha araon ag vótáil ar son imeacht as an AE (vótáil ar son Brexit). D'fhéadfaí a bheith ag súil le hiarmhairt dhiúltach ar onnmhairí Éireannacha chuig an an RA, mar shampla. D'fhéadfadh go mbeadh éifeachtaí ábhartha aige ar bhrabúsacht agus ar shamhlacha gnó institiúidí airgeadais atá bunaithe in Éirinn, lena n-áirítear bainc agus árachóirí, agus d'fhéadfadh go mbeadh na héifeachtaí sin éagsúil i measc gnólachtaí agus earnálacha ag brath ar an gcinéal caidrimh nua a aontófar idir an RA agus an AE agus ag brath ar a neamhchosaint ar mhargáí RA. Bhí rannpháirtíocht ag an mBanc Ceannais le gnólachtaí ar fud na hearnála airgeadais, agus béim ar leith ar na gnólachtaí sin a bhfuil na neamhchosaintí is mó RA acu, chun a áirithiú go

Cairt A4: Stoc liostaithe ar Daft.ie lena dhíol nó lena ligean ar cíos



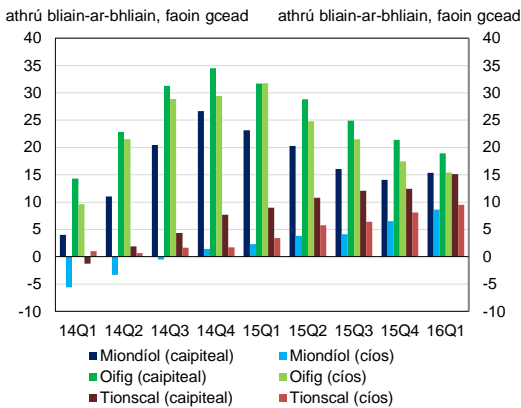
Foinse: Daft.ie

Cairt A5: Iasachtaí neamhthuillmheacha FBM/Corparáidí de réir earnála



Foinse: Banc Ceannais na hÉireann. Nótaí: Iasachtaí arna n-aicmiú mar iasachtaí neamhthuillmheacha mar chion de na hiasachtaí iomlána gan íoc

Cairt A6: Miondealú ar chaipiteal maoiníochta trachtála agus ar an méadú ar luach cíosa de réir earnála



Foinse: MSCI/IPD.

bhfuil siad ullamh le haghaidh na rioscaí a bhaineann le Brexit ionchasach.²

Leis an bhfeabhas ar an bhfás aschuir in Éirinn le blianta beaga anuas, tá méadú tagtha ar an líon daoine atá i bhfostaíocht agus tá laghdú tagtha ar an ráta dífhostaíochta (go dtí 7.8 faoin gcéad i mí Bealtaine 2016). Cé go bhfuil laghdú ag teacht i gcónaí ar fhiachas earnáil na dteaghlach, tá sé fós ard ag tuairim is 160 faoin gcéad d'ioncam indiúscartha i R4 2015. Fágann sé sin go bhfuil teaghlaigh soghonta i leith gluaiseachtaí neamhfhábhracha ar ioncam nó ar rátaí úis. Cé go bhfuil fás bliain-ar-bhliain ar iasachtaí um thithe a cheannach díúltach i gcónaí, tá méadú tagtha ar oll-iasachtú nua (arbh ionann é agus €4.4 billiún in 2015), agus b'ionann cion méadaitheach d'iasachtaí nua agus morgáistí gearrthéarmacha ráta sheasta.

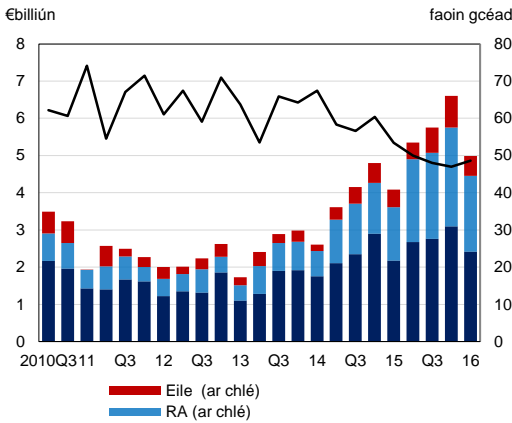
Tháinig moilliú suntasach ar luas an bhoilscithe ar phraghsanna tithe le linn 2015. Taifeadadh ráta fáis bliain-ar-bhliain 7.1 faoin gcéad i mí Aibreáin 2016. Tháinig méadú ar líon idirbheart maoiníochta - idirbhearta a maoiníodh le morgáiste agus idirbhearta nár maoiníodh le morgáiste araon (Chart A3). D'ainneoin méadú sa dhá ráithe dheireannacha, bhí an cion de cheannaitheoirí neamh-mhorgáiste, go mórmhór ceannaitheoirí airgid in idirbhearta foriomlána maoiníochta, faoi bhun 50 faoin gcéad ó thús 2015. Tá fás láidir feicthe le blianta anuas ar luachanna cíosa sa mhargadh cíosa agus taifeadadh méadú 10 faoin gcéad orthu sin in 2015. Tá ganntanas aonad tithíochta ina ghné den mhargadh maoiníochta le déanaí (Chart A4). Cé go dtugann príomhtháscairí na gníomhaíochta foirgníochta le tuiscint go dtiocfaidh méadú go luath ar an soláthar tithíochta, ní dócha gur leor é chun dul i ngleic leis an easnamh reatha tithíochta.

Tá sé tábhachtach go leanfaidh iasachtaíocht teaghlach um thithe a cheannach de bheith stuama. Tugadh teorainneacha CIL agus CII isteach in 2015 chun stóinseacht na mbanc agus na dteaghlach i leith turraingí airgeadais a fheabhsú, Déanfaidh an Banc Ceannais athbhreithniú ar iarmhairt na mbeart sin ar bhonn bliantúil, agus beidh an toradh an chéad athbhreithnithe sin ar fáil i mí na Samhna 2016.

Tá imthosca fabhracha éilimh ag tacú le téarnamh ar thimpeallacht trádála NFC. Tá comharthaí ann go bhfuil feabhas measartha ar dhálaí maoiníocháin gnólachtaí, cé go bhfuil an timpeallacht fhoriomlán creidmheasa lag i gcónaí. Tá fiachas mór ag earnáil intíre NFC, i gcoibhneas le Ballstáit eile an limistéir euro, agus freagraíonn an laghdú ar chóimheas fiachais-OTI le blianta beaga anuas don fhás ar aschuir, agus is beag athrú atá ar fhiachas. Cé go bhfuil laghdú tagtha ar iasachtaí corparáideacha neamhthuillmheacha mar chion d'iasachtaí iomlána corparáideacha, tá éagsúlacht mhór i rátaí iasachtaí neamhthuillmheacha thar fho-earnálacha (Chart A5).

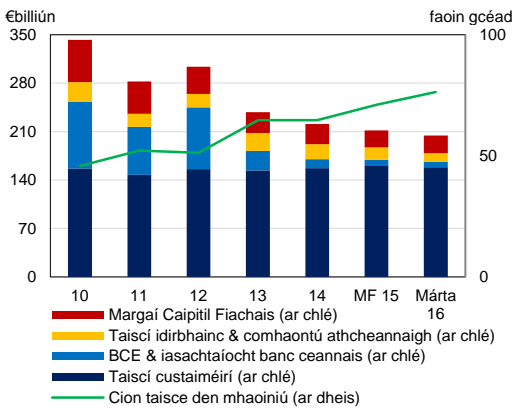
² i mBosca 6 den *Macro-Financial Review* 2015: II, pléitear na himpleachtaí ionchasacha a bheadh ann don earnáil airgeadais Éireannach dá n-imeodh an RA as an AE.

Cairt A7: Iasachtú nua ag na bainc intíre



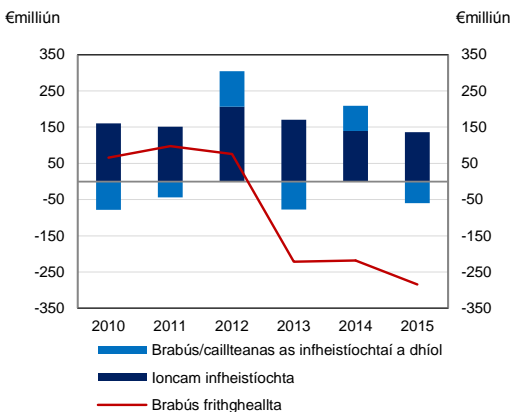
Foinse: Banc Ceannais na hÉireann.
Nótaí: Rinneadh na sonraí a chomhdhlúthú

Cairt A8: Próifíl maoiniúcháin na mbanc intíre



Foinse: Banc Ceannais na hÉireann.
Nótaí: Rinneadh na sonraí a chomhdhlúthú

Cairt A9: Brabús frithghéalta agus ioncam infheistíochta agus gnóthachain de chuid árachóirí neamhsaoil



Foinse: Banc Ceannais na hÉireann.
Nótaí: Is ionann na sonraí agus comhiomlánú gnóthachtaí ardtionchair atá dírithe go hintíre agus a sheolann tuairim is 80 faoin gcéad de ghnó riosca na hÉireann. Folaíonn brabús/caillteanas ar infheistíochtaí gnóthachain agus cailleanais réadaithe agus neamhréadaithe.

Féadfaidh ardéibhéil fiachais, nó deacrachtaí aisiocaíochta a bhaineann leis an bhfiachas sin, a bheith ina sracadh ar ghníomhaíocht eacnamaíoch má shrianann siad deiseanna iasachtaíochta agus infheistíochta.

Leanann torthaí iomlána bliantúla ar CRE na hÉireann (CR) de ghníomhaíocht mhargáí CRE in áiteanna eile a sháru. Cé gurbh í an earnáil oifige an chéad earnáil ina bhfacthas feabhas le blianta beaga anuas, tá téarnamh le feiceáil anois sna hearnálacha miondíola agus tionscail chomh maith (Chart A6). Is iad soláthar íseal agus cíosanna méadaitheacha dhá shaincheist atá ag bagairt ar mhargadh CRE. Ní mór d'fhorbróirí, d'airgeadaithe agus d'údarais pleanála soláthar nua a bhainistiú ar mhodh stuama. Tá leibhéal níos airde infheistíochta idirnáisiúnta agus maoiniúcháin eachtraigh neamhbhainc le feiceáil anois i margadh CRE. Féadfaidh go gcuideoidh sé seo le díchur rioscaí a eascraíonn as an earnáil seo lasmuigh d'Éirinn ach fágann sé go mbíonn an earnáil soghonta i leith athruithe ar dhálaí seachtracha maoiniúcháin agus ar sheintimint infheisteoirí idirnáisiúnta.

Cé go bhfuil feabhas tagtha ar fheidhmíocht fhioscach le blianta beaga anuas, tá cóibheas glan fiachais-OTI an Rialtais Ghinearálta ard i gcónaí, rud a fhágann go bhfuil an t-airgeadas poiblí soghonta i leith turraingí eacnamaíoch agus airgeadais. Má chothabháiltear smacht fioscach, i gcomhréir le bearta coisctheacha an Chomhaontaithe Cobhsaíochta agus Fáis, cuideoidh sé sin leis an airgeadas poiblí a choinneáil ar chonair inmharthana. Tá na torthaí ar bhannaí ceannasacha na hÉireann íseal i gcónaí agus tá an Stát réamh-mhaoinithe i leith a chuid riachtanas don bhliain 2016. Tá feidhmíocht fhioscach in Éirinn agus i mBallstáit eile, seintimint infheisteoirí agus beartas airgeadaíochta ar na tosca a d'fhéadfadh difear a dhéanamh do luachanna torthaí agus do dhálaí margaidh i gcoitinne. Tá fianaise éigin ann go bhfuil dálaí leachtachta i margáí tánaisteacha ioncain sheasta tar éis dul i léig agus, dá bhrí sin, go bhféadfadh go gcuirfeadh turraingí airgeadais isteach ar ghníomhaíocht mhargadh na mbannaí.

San earnáil baincíreachta, tá iasachtaí lagaithe á n-oibriú amach agus iasachtaí neamhthuillmheacha á ndiúscairt ar bhonn leanúnach. Ar a shon sin, tá iasachtaí neamhthuillmheacha agus soláthairtí gaolmhara ard i gcónaí. Tá feabhas tagtha ar chaipiteal na mbanc sa mhéid go ndearna na bainc intíre a scaireanna tosaíochta a athmhaoiniú agus a mbonn caipitil gnáthscaireanna a mhéadú in 2015.

D'fhill na bainc intíre ar bhrabúsacht in 2014 ach tá an bhrabúsacht sin lag i gcónaí agus bíonn sí éagsúil ar leibhéal na mbanc aonair. San iomlán, bhí brabús na mbanc intíre anuraidh inchurtha don chuid is mó d'aisiompú soláthairtí um lagú. Cé go leanann leabhair iasachta de bheith ag laghdú ó thaobh méide, tá méadú tagtha ar iasachtú nua, go príomha sa RA (Chart A7). Bhí costais maoiniúcháin níos ísle a sháraigh an laghdú ar ioncam úis, mar bhonn taca faoin méadú ar ioncam.

Leanann riachtanais maoiniúchain na mbanc de bheith ag dul i laghad. B'ionann taiscí custaiméirí agus tuairim is trí cheathrú den mhaoiniú iomlán ag deireadh mhí an Mhárta 2016 (Chart A8).

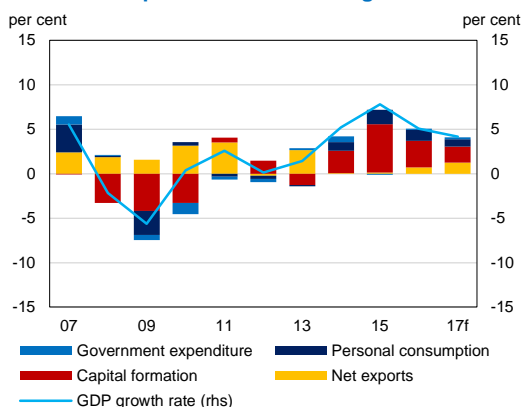
Leanann an earnáil árachais neamhshaoil de bheith ag gníomhú i dtimpeallacht oibríochtúil chrua agus thuiriscigh na gnólachtaí ardtionchair go léir cailteanais frithgheallta in 2015 a bhí inchurtha go príomha do na dúshláin reatha atá i margadh mótar na hÉireann (Chart A9). Tá fás san earnáil árachais intíre saoil d'ainneoin na ndúshlán atá ann do ghnólachtaí ó thaobh gnó nua a mhealladh. Is dócha go mbeidh dúshlán cur chun feidhme ann do ghnólachtaí le linn dóibh aistriú chuig creat rialála Shócmhainneacht II a tháinig i bhfeidhm an 1 Eanáir 2016. In earnáil na n-idirghabhálaithe airgeadais neamhbhainc, baineann na rioscaí le cumas idirghabhálaithe, in Éirinn agus thar lear, ról díchobhsaitheach a bheith acu i margáí airgeadais idirnáisiúnta tráthanna a bheidh dálaí anáis sa mhargadh.

2. Macroeconomic environment

2.1 Macroeconomic overview

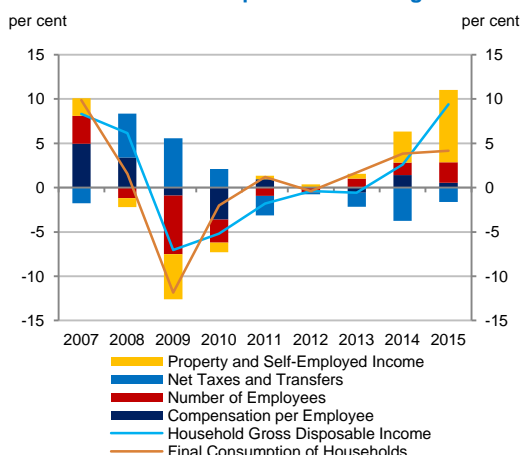
GDP growth of 7.8 per cent occurred in Ireland in 2015. The prospects for 2016 have improved since the last Review, with GDP projected to increase by 5.1 per cent this year, to be followed by a 4.2 per cent rise in 2017. Real GNP is forecast to rise by an average of 4.2 per cent over the period. Domestically, consumption and investment are supporting stronger growth, driven in part by further, albeit less rapid, improvements in the labour market. Accommodative monetary policy, an improving fiscal situation, and continuing positive business and consumer sentiment underpin the macroeconomic outlook. Risks to the economic outlook for Ireland are on the downside and stem mainly from the potential for weaker demand in its main trading partners, and in particular arising from Brexit uncertainty.

Chart 1: Composition of Irish GDP growth



Source: CSO and Central Bank of Ireland.
Notes: 2016 and 2017 are forecasts from the Central Bank's Quarterly Bulletin No. 2 2016.

Chart 2: Household disposable income growth



Source: CSO.

Domestic environment

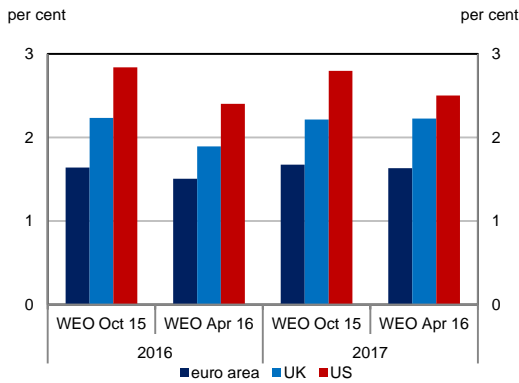
Real GDP growth was 7.8 per cent in 2015 and is projected to remain strong in both 2016 and 2017 (Chart 1). Investment has been the main driver of GDP growth of late, but the aggregate investment figure is dominated by a rise in intellectual property assets, which, as they were imported, contributed to the small contribution of net exports to GDP growth last year. Real GDP growth prospects, averaging 4.6 per cent this year and next, continue to be driven by consumption and investment, with a rising contribution from net exports expected. Growth in real GNP is also expected to be strong, at 4.7 and 3.7 per cent in 2016 and 2017, respectively.

While aggregate investment is not fully reflective of domestic conditions, domestic business investment growth remains positive, with non-aircraft machinery and equipment and non-residential construction investment growing by 13.3 and 9.1 per cent, respectively, in 2015 and survey-based evidence indicating that the rate of SME investment is improving.³ Residential investment remains well below what underlying demand in the form of household formation would require. Overall business sentiment remains strong, while acknowledging the possible adverse effects of a pro-Brexit vote in the UK referendum.

The expansion in investment is occurring as aggregate savings in the economy are increasing. The overall rise in economy-wide savings has been driven by the household sector, whose gross disposable income increased by over 9 per cent in 2015 while its nominal consumption rose by just 4.2 per cent (Chart 2). Disposable income growth is predominantly driven by property income and self-employed income. The propensity to consume

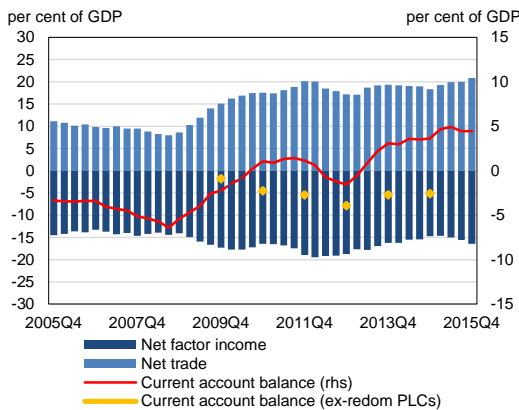
³ See Carroll, J. et al (2016) "Irish SME Investment in Economic Recovery", Central Bank of Ireland Quarterly Bulletin No. 2 2016.

Chart 3: Real GDP growth forecasts, 2016-2017



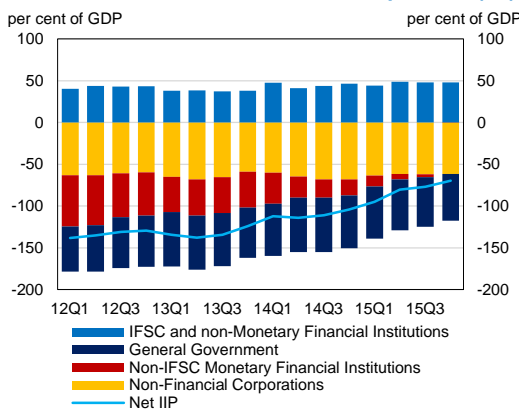
Source: IMF World Economic Outlook (WEO) Database.

Chart 4: Balance of payments current account



Source: CSO.
Notes: Data are expressed in four-quarter moving averages. The impact of re-domiciled PLCs are published on an annual frequency with the latest data available for 2014.

Chart 5: Net international investment position (IIP)



Source: CSO.
Notes: Data are expressed as a percentage of 4-quarter nominal GDP. Last observation 2015 Q4. Non-IFSC Monetary Financial Institutions includes the domestically relevant banking sector and the Central Bank of Ireland.

out of such income is much lower than that of income from employment and helps explain the increase in the savings rate.⁴ The rise in savings does, however, increase the availability of own funds for non-incorporated SMEs that could potentially be used for expansion or for servicing existing debt. The boost to household incomes from lower energy prices has also been evident.⁵

The rise in the number of people employed and in average wage rates is evidence of continuing improvement in the labour market. The outlook for the labour market is positive, with the unemployment rate expected to have an average value of 8.2 per cent in 2016 and 7.5 per cent in 2017, having stood at 9 per cent at end-2015 and 10.2 per cent twelve months earlier. Employment growth is anticipated to ease in 2016 and 2017.

On the fiscal side, the targets required to be met for debt and deficit reduction under the excessive deficit procedure of the Stability and Growth Pact were surpassed in 2015. Ireland is now subject to the achievement of measures under the preventive arm of the Pact, in particular reaching a structural budget deficit of 0.5 per cent of GDP by 2018. The level of government debt remains high. The current strong growth outlook and the supportive policy environment provide an opportunity to make greater progress in terms of debt reduction.

External environment

The prospects for global economic growth remain relatively subdued, mainly arising from lower expected growth in EMEs. The knock-on effects on Ireland’s main trading partners (the EA, the UK, and the US) from the EMEs occur at a time when the expected momentum of growth in those advanced economies is itself easing (Chart 3). The recent recovery in the price of oil should assist commodity-exporting EMEs. This reflects a supply response rather than any substantial pickup in demand.

Expectations are for a further tightening of US monetary policy. While monetary policy in the EA has been eased, there has not been a significant depreciation of the euro against other major currencies. In the opening months of 2016, the euro appreciated against sterling, in part reflecting the uncertainty surrounding the outcome of the UK referendum on Brexit.⁶

The volatility of the euro/sterling exchange rate provides some challenges for indigenous firms who export to the UK, but the wider implications of more muted external demand conditions due to Brexit uncertainty is a downside risk for the Irish economy over the short to medium term. The nature and scale of the macroeconomic effect of a Brexit would be influenced by the extent of any change to the free movement of goods, services, capital, and labour, currently facilitated through the operation of

⁴ See Byrne, S and M. O’Brien (2016) “Drivers of Personal Consumption – A BVAR Approach”, Box C Domestic Economy, [Central Bank of Ireland Quarterly Bulletin No. 2 2016](#).
⁵ See Byrne, S and R. Lydon (2016) “Has real income growth been supported by lower energy prices?”, Box A Domestic Economy, [Central Bank of Ireland Quarterly Bulletin No. 1 2016](#).
⁶ See [MFR 2015:II](#) Box 6: Potential implications for the Irish financial sector of a UK exit from the EU.

the EU single market.

To the extent that persistently low inflation has the potential to reduce inflation expectations and wage formation processes, demand in the EA may be weaker than expected. Geo-political developments, including the migrant crisis, may affect cross-border trade and labour flows.

In recent years, overall Irish export performance has been strong despite sluggish trade at a global level. A higher concentration of Irish exporters in sectors such as pharmaceuticals and ICT can in part explain this. This performance has been reflected in a further improvement in the trade balance and the overall current account balance during 2015 (Chart 4). Developments in the high-tech sectors should support further strong export growth. A rise in equity returns for foreign holders of both direct and portfolio investment led to higher factor income outflows in 2015. Net factor income developments continue to be positively affected by profit inflows for re-domiciled PLCs, which in turn contribute to the magnitude of the overall current account balance (Chart 4).

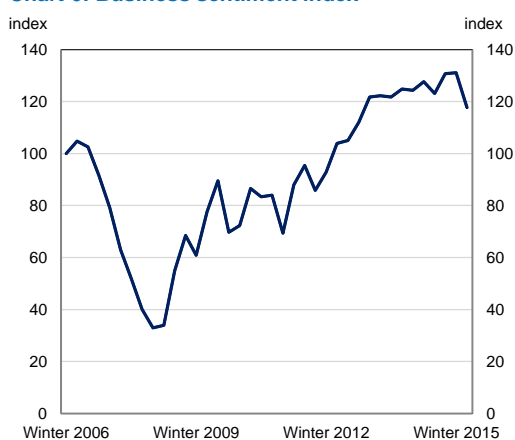
The net international investment position gives a more accurate view of the re-balancing of the external position of the domestically-relevant household and NFC sectors (Chart 5). The deleveraging of household and indigenous NFC balance sheets is in part reflected in the erosion of the net foreign liability of the domestically-relevant banking system (non-IFSC monetary financial institutions and the Central Bank), as their financing needs are predominantly intermediated through banks. The external position of Government has also improved as its net debt position declined during 2015. While these developments improve the resilience of the domestically-relevant sectors of the economy to external shocks, vulnerabilities remain high as gross private and public sector debt levels are still large.

To conclude, risks to the domestic economic outlook appear to be broadly to the downside for 2016 and 2017, stemming mostly from external developments, and their potential to have knock-on effects on domestic activity in terms of investment, the labour market and consumption.

2.2 Non-financial corporate sector

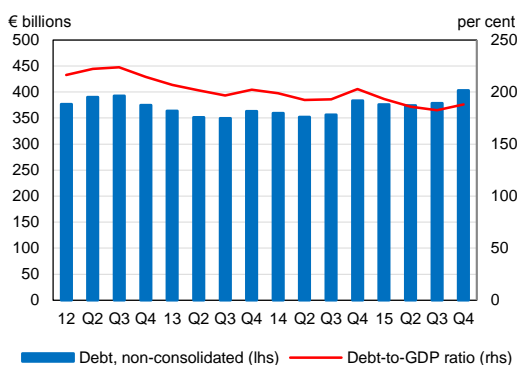
Favourable demand conditions have helped support recovery in the NFC trading environment. Exporting firms, however, are faced with greater uncertainty at this time. High NFC indebtedness persists but non-performing loans, as a proportion of total corporate loans, are now at a six-year low. There are indications of a modest improvement in firm-financing conditions, although the overall credit environment remains weak and firms face relatively high interest rates. Recovery is now evident in all sectors of the Irish CRE market. Low supply and rising rents are two issues facing the market. International investment and foreign non-bank funding in CRE can assist the dispersal of risk arising from this sector but leaves it vulnerable to external financing conditions and investor sentiment.

Chart 6: Business sentiment index



Source: KBC Bank Ireland.
Notes: Index base Winter 2006=100. Last observation: Spring 2016.

Chart 7: NFC indebtedness



Source: Central Bank of Ireland and CSO.
Notes: Debt is made up of loans plus securities other than shares. Last observation: 2015Q4.

Economic environment

Underlying investment, i.e. investment excluding intangibles and aircraft, is seeing strong growth and is forecast to increase by approximately 10 per cent in both 2016 and 2017.⁷ In terms of external demand, exports increased strongly in 2015, growing by almost 14 per cent. Indigenous exporters, supported by a favourable exchange rate, had a record year in terms of the level of exports and number of jobs created.⁸ The weakening of sterling in recent months, however, is likely providing a more challenging environment for those firms reliant on the UK for exports.

Current forecasts are for export growth of 6.8 per cent and 5.5 per cent in 2016 and 2017, respectively.⁹ The outcome of the UK referendum on EU membership is a significant downside risk to current forecasts. The potential for weaker-than-expected activity in EMEs and geo-political factors also pose risks to external demand. Survey evidence indicates that, following a strong end to 2015 in terms of business sentiment and activity, concerns regarding economic uncertainty have increased amongst firms (Chart 6).¹⁰

Indebtedness

The non-consolidated NFC debt-to-GDP ratio in 2015Q4 was about 188 per cent (Chart 7). While there has been some relative improvement in the debt-to-GDP ratio in recent years, the NFC sector in Ireland is still highly indebted relative to other European countries – the average NFC debt-to-GDP ratio of EA Member States is about 120 per cent.¹¹ While GDP growth has supported a reduction in the debt ratio, NFC debt itself has been broadly unchanged in recent years, and actually increased in 2015Q4.

⁷ Headline investment registered growth of over 28 per cent in 2015. However, as outlined in the [Central Bank of Ireland Quarterly Bulletin No. 2 2016](#), company and sector specific developments related to investment in intangibles and purchases of aircraft, affected the level of investment and distorted standard measures of the composition of growth. Hence, greater focus is being accorded to other components of investment, referred to as underlying investment.

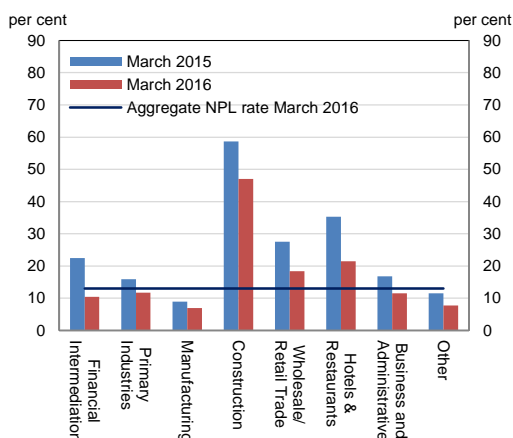
⁸ Indigenous exporters refer to those firms supported by Enterprise Ireland. For further details on the performance and activities of indigenous exporters, see: [2016 Action plan for Jobs and Enterprise Ireland End of Year Statement 2015](#).

⁹ [Central Bank of Ireland Quarterly Bulletin No. 2 2016](#).

¹⁰ For example, [KBC Bank Ireland Business Sentiment Index](#) and [ISME SME Business Trends Survey](#).

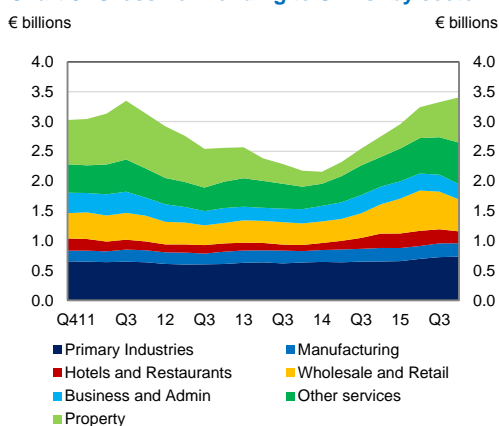
¹¹ Central Bank of Ireland calculations using data, relating to 2015Q4, sourced from the ECB [Statistical Data Warehouse](#).

Chart 8: SME/Corporate non-performing loans by sector



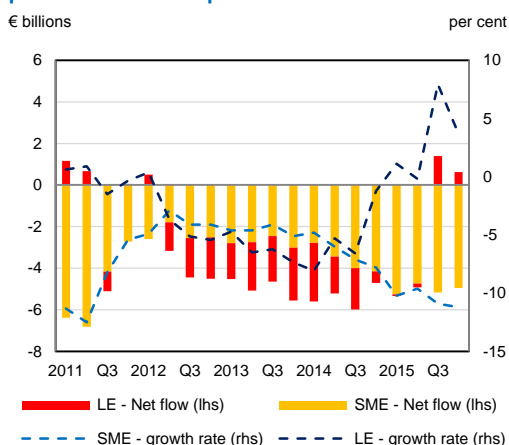
Source: Central Bank of Ireland.
Notes: Loans classified as non-performing as a share of total loans outstanding. Last observation 2016Q1.

Chart 9: Gross new lending to SMEs: by sector



Source: Central Bank of Ireland.
Notes: Chart shows the 4-quarter moving total of gross new lending by banks to Irish resident SMEs. Last observation 2015Q4.

Chart 10: Credit growth and net lending to Irish private sector enterprises



Source: Central Bank of Ireland.
Notes: Credit growth is measured as the year-on-year percentage change in lending adjusted for reclassifications, other revaluations, exchange rate variations and any changes that do not arise from credit transactions. Net lending is the 4-quarter flow of lending arising from transactional activity. LE stands for large enterprises. Last observation 2015Q4.

Previous Reviews have noted the substantial impact multinational corporations have on Irish NFC debt and that aggregate debt data can hide underlying developments. The value of NFC loans held by domestic financial institutions has been declining over time and now accounts for only about one-third of the total value of NFC loans. (Box 1 provides a detailed discussion of the components of NFC debt.)

The decline in non-performing corporate loans as a proportion of total corporate loans seen in recent years has continued since the last Review.¹² The overall NPL rate has fallen to 13 per cent, the lowest rate since end-2010. Substantial variation in NPL rates across sectors arises, however (Chart 8). The construction sector has by far the highest rate of NPLs with almost one half of all loans classified as non-performing. The hotel and restaurant sector also has a relatively high rate of NPLs at about 20 per cent. Loans to the manufacturing sector have a relatively lower NPL rate at 7 per cent.

High levels of, or repayment difficulties associated with, existing debt can act as a drag on economic activity if it restricts firms' borrowing and investment opportunities. The CSO Access to Finance Survey found that of those firms carrying outstanding property-related debt, 75 per cent considered it to be an obstacle to business performance.¹³

Financing conditions

Given the role bank credit plays in SME financing, its availability can affect firm activity. The CSO Access to Finance Survey found that existing loans/debt were the reason given for 16 per cent of rejected bank finance applications. The availability of collateral was also an important factor in firms' ability to access finance. Collateral, most often in the form of personal guarantees, was required in about three-quarters of bank finance applications. In addition, insufficient collateral was given as the reason for unsuccessful applications in just over 10 per cent of cases. Box 2 considers how SME firms react to a credit application being rejected by a bank.

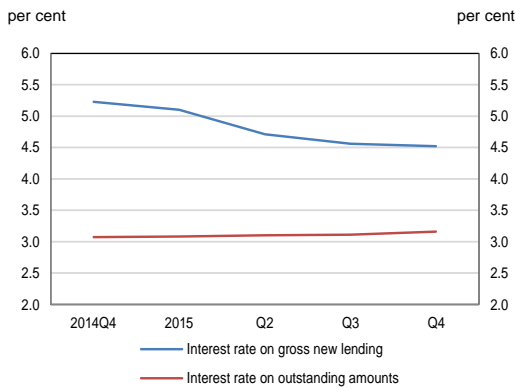
Overall, gross new lending by banks to SMEs continues to increase and reached almost €3.5 billion in 2015 (Chart 9). The highest volume of new drawdowns by SMEs in a twelve-month period since these data were first collected in 2010 was registered in 2015. A pick-up in property-related lending has been one of the main drivers of the recent increase in new lending. While new lending for property has been picking up, this has been more than offset by repayments, with property-related SME loans declining by 12.6 per cent in 2015.

Overall lending to SMEs continues to see new drawdowns being outweighed by repayments. Year-on-year growth rates remain negative, at -11 per cent at end-2015. In contrast to the situation

¹² A combination of factors, such as assets sales, write-offs and the improving domestic economy are likely to have contributed to the fall in the level of non-performing loans.

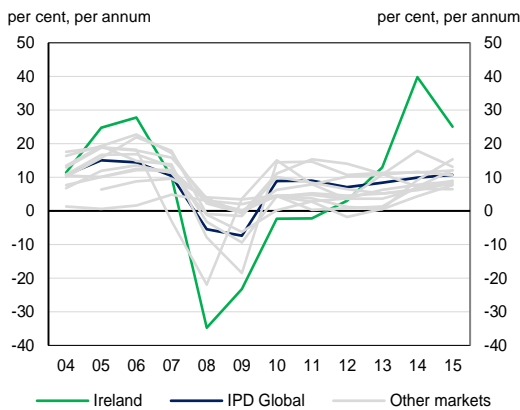
¹³ CSO, Access to Finance Survey 2014.

Chart 11: Interest rates on credit advanced to Irish resident SMEs



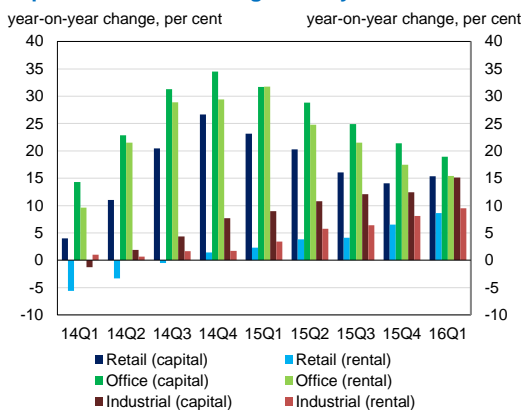
Source: Central Bank of Ireland.
Notes: Last observation 2015Q4.

Chart 12: Annualised total returns in CRE markets



Source: MSCI/IPD.
Notes: Data are annual returns in local currency. "Other markets" includes data from Belgium, Canada, France, Germany, Japan, Netherlands, New Zealand, Portugal, Spain, UK and USA. The latest data available for Ireland show total returns were 23.5 per cent at the end of 2016Q1.

Chart 13: Breakdown of commercial property capital and rental value growth by sector



Source: MSCI/IPD.

with SMEs, the latter half of 2015 saw positive net lending to large enterprises (Chart 10).

Over 4,600 SBCI loans, amounting to €172 million, were drawn-down in 2015, the majority of which were for investment purposes. The SBCI has expanded both its range of products and lending agents (known as on-lenders) since it began lending in March 2015. At end-April 2016, the SBCI had committed €790 million of its €800 million first-phase funding.

In respect of the cost of credit, interest rates for firms in Ireland remain high relative to other European countries. In looking at the differences in interest rates faced by NFCs across countries, Doherty & Flaherty (2016)¹⁴ note that the loan-to-deposit spread in Ireland is high relative to Europe.

Carroll & McCann (2016)¹⁵ seek to explain the variation in SME interest rates across Europe more formally. They conclude that differences are not being driven by firm-level characteristics, rather they suggest that there has been a positive correlation between higher interest rates and countries with higher rates of SME defaults, banking stress, unemployment, and lower banking competition. In Ireland, interest rates on new lending to SMEs remain significantly higher than rates on existing credit, although new business rates have generally declined slightly in recent quarters (Chart 11).

Commercial property¹⁶

According to MSCI, annual total returns, at 25 per cent, on Irish commercial real estate (CRE) surpassed many international peers in 2015 (Chart 12).¹⁷ Proceeds from both the capital element and rental component have remained strong. Year-on-year growth rates of 17.7 and 13.6 per cent, respectively, were recorded in 2016Q1, down from 27.7 and 21.3 per cent at the end of 2015Q1. The relative strength of capital appreciation has led to a further contraction in the initial yield to 4.5 per cent at end-March 2016, from 5.5 per cent a year earlier.

The office sector was the first part of the Irish commercial property market to experience a turnaround after the collapse of the late-2000s. Increased economic activity and a steady flow of foreign direct investment into the country has ensured that demand for office accommodation, particularly in Dublin, has been strong. MSCI figures show a moderation in the annual growth rate in office rents to 15.4 per cent in 2016Q1 (Chart 13), taking the cumulative increase since its 2012 trough to 67 per cent. CBRE research shows that prime Dublin office rents reached about €619 per square metre (€57.50 per square foot)

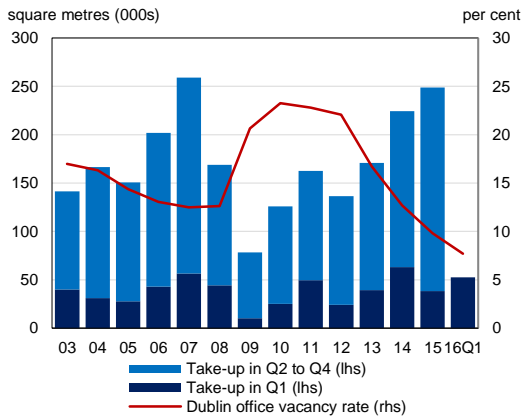
¹⁴ Doherty, G. and R. Flaherty (2106) "An overview of the enhanced interest rate statistics for Ireland" Central Bank of Ireland Quarterly Bulletin No. 2 2016

¹⁵ Carroll, J. and F. McCann (2106) "Understanding SME interest rate variation across Europe" Central Bank of Ireland Quarterly Bulletin No. 02 2016

¹⁶ The recent crisis in the Irish property market has highlighted the need for comprehensive and independent information on the commercial real estate (CRE) sector. Recently, the Central Bank has reached agreement with NAMA and the CSO on a proposal to create a commercial property statistical system (CPSS) for Ireland, which would see the collection and publication of CRE data in key areas such as stock, sales, leases and planning. The Central Bank and NAMA will provide funding for the project, while the CSO will be responsible for the development, maintenance and updating of the system. It is hoped that initial results will be published in 2018.

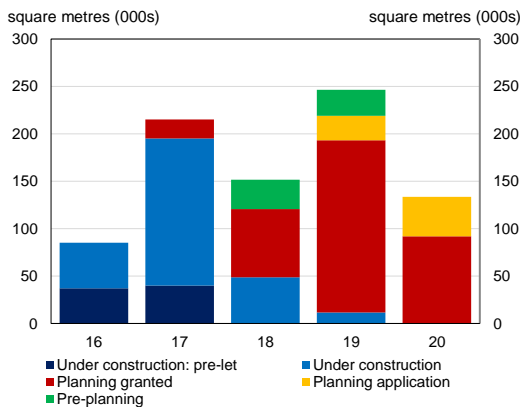
¹⁷ Total return is an indicator of investment performance. It takes account of both capital and rental elements of a property's value, and is calculated by MSCI/IPD as the percentage change in capital values plus net income accrual, relative to capital employed.

Chart 14: Dublin office market activity



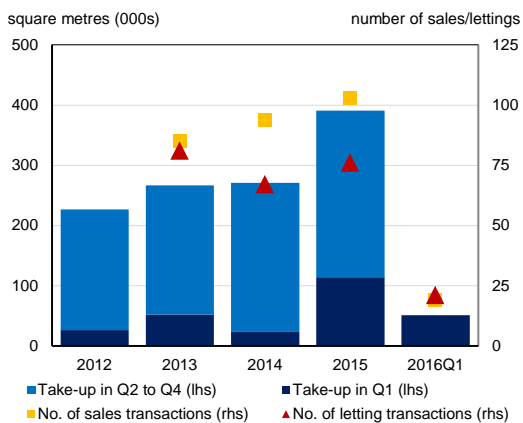
Source: CBRE Research and Central Bank of Ireland calculations.
Notes: Dublin office vacancy rate refers to the average of the available end-quarter data from the year to which they relate.

Chart 15: Dublin CBD office supply pipeline



Source: CBRE Research.
Notes: CBD is Central Business District. Data as at June 1st 2016 are a projection based on the assumption that every scheme in the planning process materialises. A number of these schemes may not materialise or may not proceed at the pace envisaged at present.

Chart 16: Dublin industrial market



Source: JLL Research.
Notes: Data on the number of sales and letting transactions from before 2013 is not available. Take-up data has been changed from square feet to square metres for ease of comparison.

in 2016Q1 and could reach €700 per square metre (€65 per square foot) by the end of the year, levels not seen since 2007.¹⁸

Following some 250,000m² of office leasing transactions in 2015, a further 52,400 m² of office space was taken-up in Dublin during the first quarter of 2016, according to CBRE data (Chart 14).¹⁹ Vacancy rates in the city have declined sharply in the post-crisis period. For the first time in 15 years, the Dublin office market vacancy rate fell to single figures during 2015, ending 2016Q1 at 7.7 per cent (Chart 14).²⁰ Vacancy rates in the city-centre, Dublin 2 and Dublin 4 are lower again. Given the current strength of demand and the initial, rather muted, development response, a lack of available office space and rising rents could deter firms wishing to locate or expand their operations here.

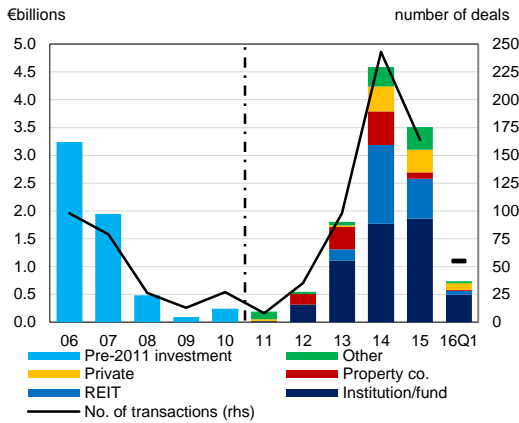
While a lack of office supply is an issue in some parts of Dublin, data from commercial property firms point to a sufficient pipeline of stock becoming available over the coming years. Building activity is currently underway on a number of office developments across the city, with further schemes in either the pre-construction phase with planning in place, or in the pre-planning phase, ensuring additional supply over the next few years (Chart 15). According to CBRE, the equivalent of one year's average take-up of office space was under construction in late 2015, 42 per cent of which was already committed. Another 85,000 square metres (900,000 square feet) was being refurbished at the end of 2015, based on JLL estimates.²¹

The commercial property market recovery is no longer confined to the Dublin office sector. Year-on-year capital and rental values in the industrial sector have increased to 15.1 and 9.5 per cent, respectively, in 2016Q1 (Chart 13). Industrial market take-up in Dublin in 2015 was the highest annual volume since JLL began publishing these data in the early part of the decade (Chart 16).²² Data for the first quarter of 2016 show a 55 per cent lower take-up level than the same quarter last year, although this could be more to do with the limited availability of prime space than a reflection of demand. Multinational firms, particularly those involved in on-line distribution, pharmaceuticals, and data centres are the chief source of industrial demand at present, according to JLL.

Improvements in retail indicators such as consumer sentiment, domestic demand, and retail sales volumes have been beneficial to the retail CRE market. Demand for space from both domestic and foreign retailers has increased and while the focus of the latter is primarily on Dublin, Irish-based operators are expanding in locations beyond the capital. According to MSCI, annual capital values grew 15.4 per cent in 2016Q1, while retail rents recorded an 8.6 per cent increase (Chart 14). These

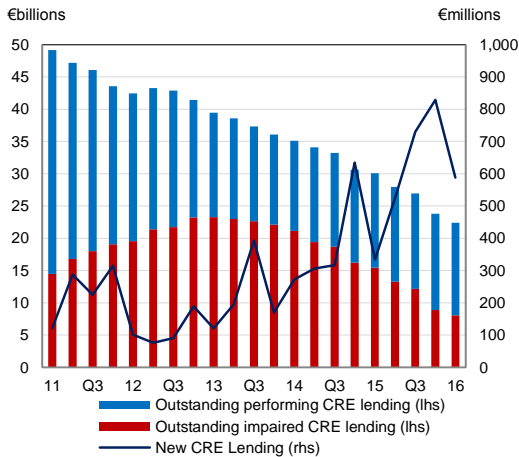
¹⁸ See [CBRE Bi-Monthly Research Report, "Good start to 2016 for Irish commercial property"](#), March 2016.
¹⁹ JLL and Lisney reported a take-up figure of 270,000 square metres (2.9 million square feet) in the Dublin office market last year.
²⁰ According to Duffy and Dwyer (2015), the availability of office space in Dublin had fallen from 8.3 million square feet (770,000 square metres) in 2010, to 3.3 million square feet (305,000 square metres) in early 2015, see ["FDI and availability of Dublin office space"](#), ESRI Research Note.
²¹ See CBRE Research Note ["Delayed development response to prolong Irish office market cycle"](#) and JLL ["2016 Dublin Office Market Outlook"](#).
²² See JLL ["Dublin Industrial Market Report Q4 2015"](#).

Chart 17: CRE investment expenditure



Source: CBRE Research.
Notes: Investment spending relates to individual transactions worth at least €1 million. Breakdown by the original source of funding is only available from 2011.

Chart 18: Outstanding and new CRE lending



Source: Central Bank of Ireland.
Notes: Data are consolidated.

developments are not occurring across all of Ireland. For instance, the SCSi reported a drop of 36 per cent in prime retail rents in Connaught/Ulster last year.²³

In terms of outlook, similar issues are facing the main sectors of the CRE market, namely low supply and rising rents. New development becomes more feasible in such circumstances. Prudent management of the construction cycle will be important in the years ahead. Developers, financiers and planning authorities will need to anticipate and manage the delivery of new supply. The potential for even greater levels of demand, in the event of a British vote to exit the EU, will add to the complexity of this task.

Commercial property investment and financing activity

The Irish commercial property market saw another year of substantial investment activity in 2015, following a record year in 2014. Over 160 transactions, worth €3.5 billion, occurred in 2015 (Chart 17), the second highest level both by way of volume and value since 2006 and more than double the average of both over the last 10 years. The extent of recent gains in capital values and potential for supplementary rental growth across sectors, as well as the opportunity to diversify risk, may be contributing to the demand for Irish CRE. The value of investment activity may be lower in 2016 than it has been in recent years, as domestic institutions come near the end of their deleveraging schedules. Indeed, data for 2016Q1 indicate that while the investment market had a steady start to the year, activity was mainly driven by a high volume of relatively lower-value deals.

Large international funds and REITs have been particularly active in the Irish property market in recent years. At present, there are three principal Irish-listed REITs operating here.²⁴ Though resident in Ireland, published financial statements for the sector indicate that non-resident institutional investors hold significant stakes in each entity, with US, UK and Canadian investors featuring prominently. Debt facilities up to approximately €520 million have also been put in place with both resident and non-resident banks, though much of this finance is yet to be drawn down.²⁵ A greater level of international investment and a higher degree of foreign non-bank funding can assist the dispersal of risk throughout the wider financial system but it could also leave the sector vulnerable to changes in investor perceptions of the Irish market and/or to a change in external financing conditions.

Domestic banks continue to hold a large, but declining, portfolio of commercial property on their balance sheets, (circa €22.5 billion at the end of 2016Q1), a high percentage (36 per cent) of which is impaired (Chart 18). Since the financial crisis, domestic banks have maintained a limited role in the funding of

²³ See [SCSi Residential and Commercial Property Review and Outlook 2016](#)

²⁴ A fourth REIT, listed in the US, has also acquired a number of commercial and residential property assets throughout 2015.

²⁵ For more on the REIT sector in Ireland see [Box A: Real Estate Investment Trusts and the Property sector in Ireland](#), page 33, Central Bank of Ireland Quarterly Bulletin No. 2 2016.

commercial property-related activity. While new lending activity from the domestic banks to the sector increased over the course of 2015 (Chart 18), it is still relatively muted and tends to be for investment in existing buildings and for pre-lets rather than speculative new builds. There was approximately €590 million in new CRE lending in 2016Q1, which equates to less than 3 per cent of the total stock of outstanding CRE lending and approximately 12 per cent of the domestic banks' total new lending for the quarter. Even though domestic banks are not heavily engaged in providing significant amounts of new CRE lending at present, the condition of their existing commercial property loan book leaves them vulnerable to a downward adjustment in prices, and any subsequent increase in provisions.

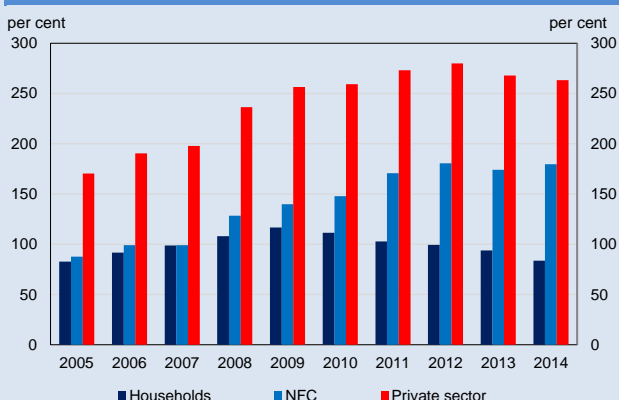
Box 1: The components of NFC debt

In aggregate, the Irish private sector and its NFC sub-component are highly indebted. The Macroeconomic Scoreboard 2014 shows the private sector debt indicator for Ireland consistently breaching the recommended EU threshold over the last decade.¹ In recent years, the greater part of private sector debt has related to the NFC sector. Previous discussions of NFC debt (for example, Cussen & O'Leary (2013)², Cussen (2014)³, and Cussen (2015)⁴) have referred to large non-financial multinational corporations located in Ireland as important contributors to the high overall debt levels of the NFC sector. This box, using data recently released by the CSO, provides a more in-depth analysis of the components of NFC debt than was previously possible.

Chart A shows private sector debt and its individual components, household debt and NFC debt, as a percentage of GDP. NFC debt has increased relative to household debt since 2008, such that it now accounts for more than two-thirds of private sector debt. The (consolidated) NFC debt-to-GDP ratio in 2014 was 180 per cent. A high level of corporate indebtedness leaves the sector vulnerable to adverse economic developments as well as possibly depressing the investment and growth potential of firms.

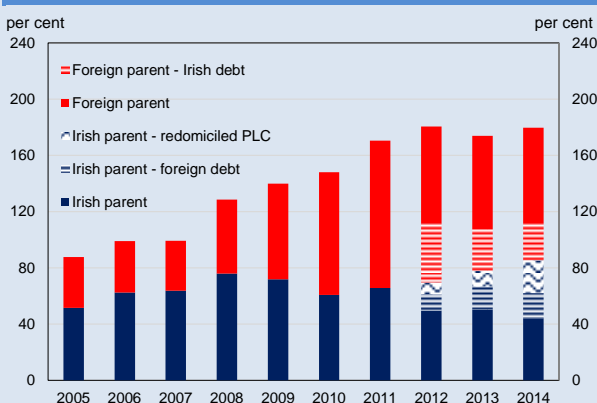
Chart B illustrates the disaggregation of NFC debt between Irish-controlled and foreign-controlled NFCs, based on the residency of the ultimate controlling parent, over time. For the years 2012-14, a breakdown of debt by location of counterparty is shown. It is evident that the increase in overall NFC indebtedness since 2008 predominantly relates to debt issued by foreign-controlled firms. The new data indicate that the majority of the debt held by these foreign-controlled firms, at least between 2012 and 2014, is from foreign sources. Since 2012, there has been an increase in the level of debt held by Irish firms owing to its re-domiciled PLCs component. These PLCs are companies which have relocated their head offices to Ireland from abroad, thus becoming an Irish parent and Irish-controlled firm in this analysis. They hold substantial investments outside of Ireland, but tend not to contribute to real economic activity here. The location of the counterparties to the debt held by these firms is not identified in the data. The level of debt held by Irish controlled companies, excluding re-domiciled PLCs, has been broadly unchanged in recent years.

Chart A: Private sector debt, consolidated, % of GDP



Source: CSO

Chart B: Consolidated NFC debt by location of counterparty, % of GDP



Source: CSO

Notes: For the years prior to 2012 debt is broken down only by the residency of the ultimate controlling parent. For the years 2012-2014 a further disaggregation is available based on the source of the debt itself.

The disaggregated NFC debt data shown here provide some information pertinent to financial stability analysis. First, the overall level of NFC indebtedness in Ireland has been strongly influenced, especially in recent years, by debt held by foreign-controlled firms. These firms tend to rely more on non-resident counterparties than Irish-resident counterparties for funding. Secondly, debt held by re-domiciled PLCs, who have little or no impact on real economic activity in Ireland, does not necessarily contribute to macro-financial risks in Ireland. The data, however, do not identify the residence of the counterparty to that debt. Thirdly, NFC debt (excluding re-domiciled PLCs) held by Irish counterparties amounted to 70 per cent of GDP in 2014.

¹ CSO, *Macroeconomic Scoreboard 2014*

² Cussen, M. & O'Leary, B. (2013), *Why are Irish Non-Financial Corporations so Indebted?*, Central Bank of Ireland, *Quarterly Bulletin No. 1 2013*

³ Cussen, Mary (2014), *Deciphering Ireland's Macroeconomic Imbalance Indicators*, Central Bank of Ireland conference "Macro to Micro – A new era in financial statistics"

⁴ Cussen, Mary (2015), *New Insights from the Enhancements to Quarterly Financial Accounts*, Central Bank of Ireland *Quarterly Bulletin No. 2 2015*.

Box 2: How do SME firms react to credit constraints?

Recent research shows that when financial conditions in Ireland were at their most stressed in 2011, SME firms in Ireland faced the most severe credit constraints in the EA.¹ Survey evidence highlighted in the most recent Central Bank of Ireland *SME Market Report* suggests that, concurrent with recent improvements in aggregate economic activity, banks' lending appetite and SMEs' perceptions of banks' willingness to lend have been improving of late.²

Despite large improvements in the breadth of information on SME credit access available to researchers and policy makers, until recently there has been no information in the public domain on the actions undertaken by SMEs in the aftermath of a rejection of an application for bank credit. Recent survey data released by the CSO in its *Access to Finance 2014* data release rectifies this gap. For the first time in Ireland, firms were directly asked what the firm did subsequently, in the event that a credit application was rejected by the bank. Answers to this question provide insights on the degree to which credit constraints, as measured by rejected applications for bank credit, actually lead to the forgoing of funds which would otherwise have been used to finance enterprise activity. Some 21 per cent of SMEs applied for bank financing in 2014. The group of SMEs discussed in this analysis is the 27 per cent of those firms that experienced an unsuccessful credit application. As well as presenting results for the total sample, results are also presented for Micro Firms (those with less than ten employees) and firms in the services sector. Results for Small and Medium firms, and for firms in other sectors (Industry, Construction, Information and Communication, and the Professional, Scientific and Technical sector) cannot be presented due to lack of statistical reliability arising from small sample sizes.

The results indicate that 41 per cent of SMEs who have been rejected for bank credit do not seek finance elsewhere and simply forgo the search for finance after rejection. This propensity to forgo funding is slightly more prevalent among Micro Firms than among larger SMEs. Forgoing funds is less prevalent among Services firms than those in the rest of the private sector.

Some 58 per cent of companies state that they avail of alternative funding options, with these split between non-bank financing (16 per cent), informal funding from friends or family (10 per cent), an application at a new bank (9.4 per cent), an application at a state entity such as Microfinance Ireland (9 per cent), a re-application at the same bank (8.6 per cent), and a trade credit request to suppliers. It is not evident from the survey whether firms are successful or not with these subsequent financing requests. However, the evidence does point to a rejected bank finance application not necessarily implying that the requested funds will not be accessed by the SME. Among Micro firms, applications for alternative forms of financing are 1.3 per cent less likely, while applications at a state entity are 1 per cent more likely. Services SMEs are significantly less likely to forgo funds or to apply to informal sources than firms across the rest of the private sector. Concurrently, they are more likely to avail of formal alternatives both outside and within the banking sector,

The survey also provides information on the use of channels of appeal, which have formed an important part of the policy response to the Irish financial crisis. Two forms of appeals procedures are available to Irish SMEs having experienced a bank credit rejection: internally at the lending bank, as enshrined in the Central Bank's Code of Conduct (first published in 2009), and externally via the Credit Review Office, established under National Asset Management Agency Act of 2009. The latter are not binding from the lender's perspective. The evidence from *Access to Finance 2014* is that very few Irish SMEs avail of either appeals channel.

Most research in this area has generally taken it as a given that a forgoing of funds, and subsequent "missing" economic activity, follow directly from a rejected credit application. The data considered here suggest that the situation is likely to be less stark for many firms due to the availability of, and Irish firms' willingness to approach, additional sources of financing. Further research on the outcomes of this range of second-round financing applications will be required to ascertain the share of firms who remain financially constrained after first experiencing a rejected bank application.

Table: SME actions taken after credit rejection

Action	All SMEs	Micro Firms	Services SMEs
Forego funds applied for	41.7%	42.9%	33.4%
Applied for alternative financing	16.1%	14.8%	21.2%
Informal friends and family	10.3%	10.6%	2.5%
Applied at new bank	9.4%	8.8%	14.1%
Applied at state entity	8.9%	9.9%	12.1%
Re-applied same bank	8.6%	8.0%	10.1%
Trade credit from suppliers	4.5%	5.0%	6.3%
Appeal at bank	0.2%	0.0%	0.4%
Appeal at CRO	0.2%	0.0%	0.0%

Source: CSO *Access to Finance 2014*

¹ Holton, S., Lawless, M. and McCann, F. (2013). "SME Financing Conditions in Europe: Credit Crunch or Fundamentals?," *National Institute Economic Review*, vol. 225(1), pages R52-R67.

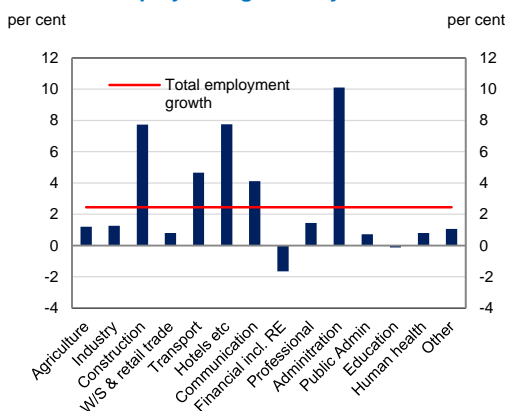
² Holton, S., Lawless, M. and McCann, F. (2014) "Firm credit in the euro area: a tale of three crises," *Applied Economics*, vol. 46(2), pages 190-211.

³ Central Bank of Ireland, *SME Market Report*, 2015 H2.

2.3 Household sector

While there have been some positive developments recently, financial vulnerabilities remain in the household sector. High levels of debt and mortgage arrears are still a feature of the sector and will take some time to alleviate. Households with a high level of indebtedness are exposed to adverse movements in income or interest rates. As new lending for house purchase continues to pick up, it is important that households do not over-extend themselves in terms of borrowing. The pace of house price inflation declined through 2015, while rental growth remained strong. A scarcity of housing units for sale or rent is a feature of the market. While an increase in housing supply can be expected, it is unlikely to be sufficient to address the current shortfall in the market.

Chart 19: Employment growth by sector

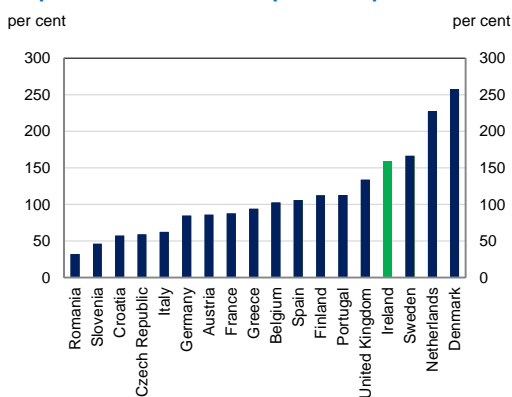


Source: CSO and Central Bank of Ireland calculations.
Notes: Employment growth is calculated as the year-on-year percentage change in the number of persons employed (on a seasonally adjusted basis). Latest data relate to 2016Q1.

Labour market

A feature of the recovery in the domestic economy has been the increase in the number of persons in employment. Annual growth in employment has averaged over 2 per cent since 2012. Increases in employment numbers of 2.3 and 1.8 per cent are projected for this year and 2017, respectively. Employment gains have been broadly-based across the economy with almost all sectors recording increases in the year to end-2016Q1 (Chart 19). The growth in employment has contributed to the continuing decline in the unemployment rate. The (seasonally-adjusted) monthly unemployment rate in May 2016 was 7.8 per cent, compared to 9.6 per cent a year previously. The unemployment rate is forecast to average 8.2 per cent in 2016 before falling to 7.5 per cent in 2017. Labour market improvements are feeding into upward pressure on wages, with pay expected to rise by about 2.5 per cent in 2016 and 2017.

Chart 20: Household debt to gross household disposable income – European comparison



Source: ECB, CSO and Central Bank of Ireland.
Notes: Debt is defined as loans. Data as at 2015Q4 except for disposable income for Denmark for which 2014Q4 is the latest available.

Consumer sentiment, as measured by the KBC Bank Ireland/ESRI Index, has weakened in recent months. An increase in uncertainty, arising from both the domestic political environment as well as some external factors, has contributed to a more cautious outlook by consumers. Consumer sentiment had reached a 15-year high early in 2016.

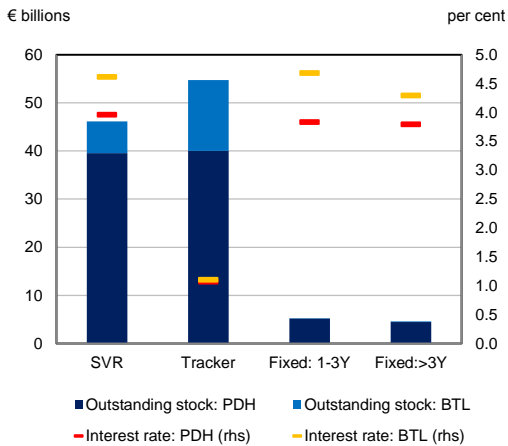
Indebtedness and credit

Household sector debt levels continue to decline. As of 2015Q4, household debt amounted to €150 billion, equivalent to less than 160 per cent of disposable income. While the level of indebtedness is the lowest in Ireland in about 10 years, it remains high compared to other European countries (Chart 20).

Debt is not distributed evenly across households. As noted in Lawless *et al* (2015), a substantial portion of households hold no debt, while mortgage indebtedness tends to be a particularly heavy burden for younger cohorts.²⁶

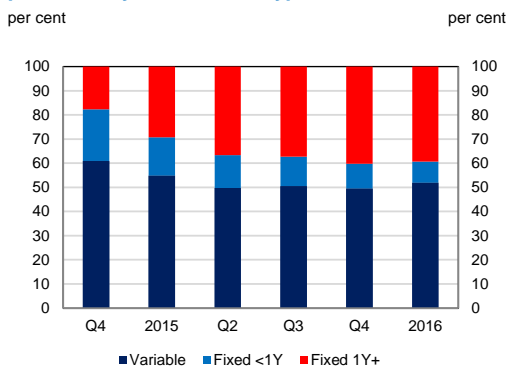
²⁶ Lawless, M., Lydon, R. and T. McIndoe-Calder (2015) "The financial position of Irish households" Central Bank of Ireland Quarterly Bulletin No. 1 2015

Chart 21: Lending for house purchase: Outstanding amount and interest rates



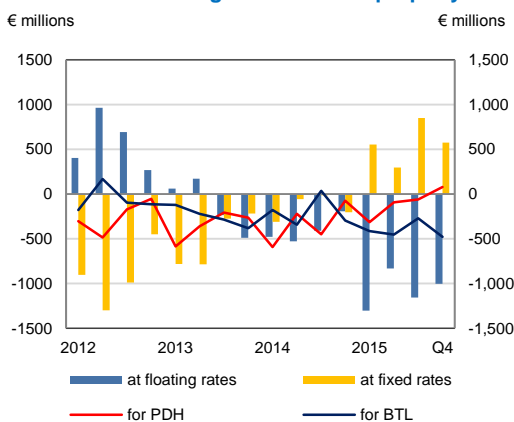
Source: Central Bank of Ireland.
Notes: Lending volumes incorporate loans held on balance sheet by Irish resident credit institutions and securitised loans serviced by these institutions. Interest rate data relate only to on balance sheet loans. SVR stands for standard variable rate and includes fixed loans with a maturity of less than 1 year. Data relate to 2015Q4.

Chart 22: Share of gross new lending for house purchase by interest rate type



Source: Central Bank of Ireland.
Notes: Based on new lending drawdowns to Irish resident households for house purchase. Last observation 2016Q1.

Chart 23: Net lending for residential property



Source: Central Bank of Ireland.
Notes: Net lending shows the flow of credit arising from transactional activity in a given quarter. Last observation 2015Q4.

A high level of indebtedness makes households vulnerable to adverse movements in income or interest rates. (Box 3 addresses the issue of financial vulnerabilities across the household sector). Approximately €46 billion of outstanding lending for house purchase is on standard variable or short-term fixed interest rates (Chart 21). A further €55 billion of outstanding lending for house purchase is on tracker rates (Chart 21), where interest rates follow movements in official policy rates. Tracker rates, reflecting ECB policy rates, are currently considerably lower than variable rates. Standard variable, short-term fixed and tracker rate mortgages are susceptible to rate changes arising from either changes in policy rates or changes initiated by institutions themselves. Fixed rate loans account for an additional €10 billion of lending for house purchase.

Mortgage interest rates in Ireland, although tending to be high in comparison to other European countries, have, in general, been declining in recent months.²⁷ It has also been the case that the share of new business being done at fixed rates has been higher in recent quarters than previously tended to be the case (Chart 22).

New lending for house purchase has continued to increase. Data on the volume of mortgage drawdowns from the BPIF show that, on a yearly basis, drawdowns are now at levels last seen in 2010. Drawdowns do, however, remain significantly below levels seen prior to then.

While new lending has picked up, year-on-year growth in lending for house purchase remains negative, reflecting repayments. Differing trends are emerging across sub-categories. Fixed rate mortgages have seen positive net flows of credit in recent quarters while floating rate mortgages continue to decline (Chart 23). The pick-up in fixed rate lending resulted in an overall positive net flow for PDH mortgages in 2015Q4, the first such increase since the relevant data have been collected (2011Q1). Chart 24 shows the distribution of new PDH lending, for the second half of 2014 and first half of 2015, by LTV bucket. In general, lending in the first six months of 2015 was clustered around the 90-95 per cent LTV range.

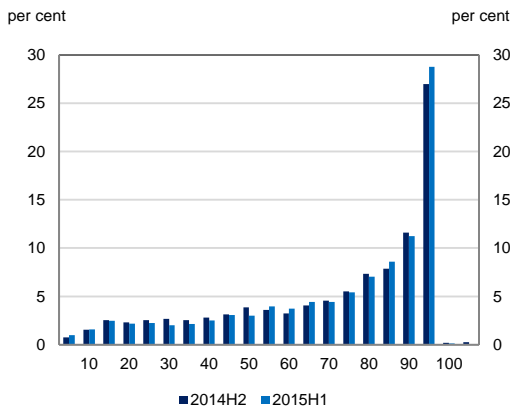
Mortgage arrears

While the overall number of mortgages in arrears has been declining since mid-2013, the number of very long-term (>720 days) arrears cases are now, for the first time, also decreasing. A large stock of arrears cases, nevertheless, remains. Almost 10 per cent of mortgage accounts remain in arrears of more than 90 days, of which 60 per cent are in very long-term arrears.

The number of properties repossessed declined slightly in 2015Q4. This interrupted a pattern of steadily increasing

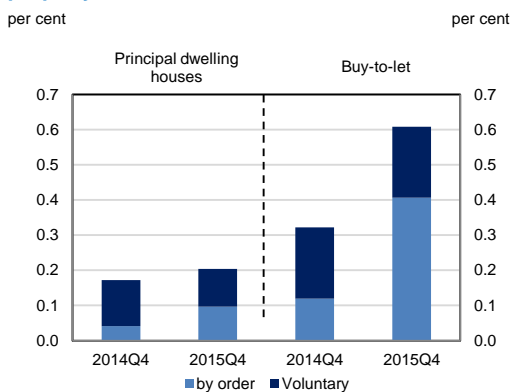
²⁷ See Central Bank report on [Influences on Standard Variable Mortgage Pricing in Ireland](#) May 2015 which discusses the range of factors that contribute to higher rates in Ireland.

Chart 24: Share of new PDH mortgage loans by originated LTV ratio



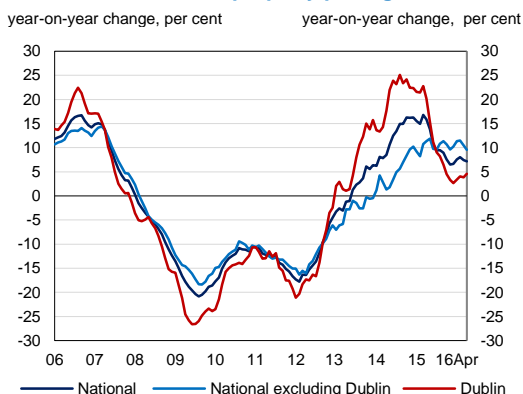
Source: Central Bank of Ireland.
Notes: Bars show the share of new PDH mortgage loans by LTV bucket. LTV range is divided into 5 percentage point buckets.

Chart 25: Annual repossession rate on residential property



Source: Central Bank of Ireland.
Notes: Repossession rate is calculated as the number of repossessions of residential properties in the previous 12 months as a percentage of the current number of outstanding mortgages on such properties.

Chart 26: Residential property price growth



Source: CSO.

numbers of repossessions seen in recent years. Overall, the repossession rate was about 0.27 per cent in 2015.²⁸ It is much higher for BTL than PDH loans (Chart 25).

It appears that only a small portion of legal cases taken ends in repossession. Since 2013, legal proceedings have been issued to enforce the security on a PDH mortgage in just over 23,000 cases. In the same period, a little over 7,000 legal proceedings were concluded. In less than half (43 per cent) of concluded cases was an order for repossession granted. In the three-year period from 2013, 1,290 PDH properties were repossessed on foot of a court order. A further 2,322 were repossessed arising from voluntary surrender.²⁹

In the broader debt resolution context, the number of applications for a PIA in 2015 reached 1,291, almost twice the number of applications in 2014. Possibly supported by modifications to the process which came into effect in late-2015, the upward trend in applications appears to have continued into 2016 with 407 applications in the first quarter. The reduction in the normal bankruptcy term to one year, which came into effect in early-2016, is expected to translate into a greater number of people looking to use this debt-resolution channel also. The number of bankruptcies in 2015 (479) was slightly higher than in 2014.

Residential property prices and rents

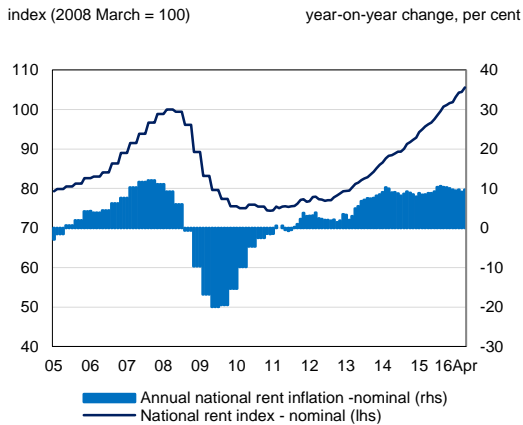
The pace of house price inflation slowed markedly throughout 2015. The CSO's residential property price index recorded a year-on-year increase of 6.6 per cent in national house prices at the end of 2015, down from 16.3 per cent a year earlier (Chart 26). A slightly higher annual growth rate of 7.1 per cent was recorded at end-April 2016.

Residential property prices are not growing uniformly across the country, with growth rates in the rest of Ireland higher than in Dublin. Year-on-year house prices were 9.5 per cent higher outside of Dublin at end-April 2016, compared to a 4.6 per cent increase in the capital. Greater levels of affordability and the strengthening economic recovery in the rest of the country, and the introduction of the Central Bank's macroprudential measures may all be playing a role in these developments. (Box 4 considers market participants' future house price expectations.)

The moderation in house price increases is not mirrored in the residential rental market. Monthly CSO data show national rents have grown by an average of 9 per cent per annum since late 2013 (Chart 27), taking end-April 2016 rents to approximately 6 per cent above their previous peak (2008) levels. Strong rental growth has continued in Dublin, although it is in the cities of

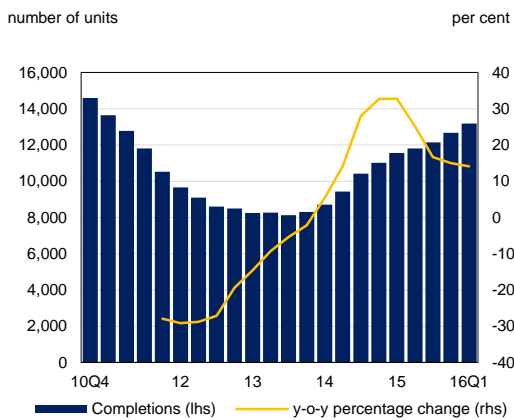
²⁸ This is significantly higher than the corresponding rate in the UK, which is less than 0.1 per cent. The repossession rate at present in the UK is, however, close to levels last seen in the early-1980s. In 2009 the repossession rate in the UK peaked at 0.43 per cent. See Council of Mortgage Lenders, [May 2016](#) and [Feb 2014](#).
²⁹ [Central Bank of Ireland, Mortgage Arrears Statistics](#)

Chart 27: Residential rent inflation



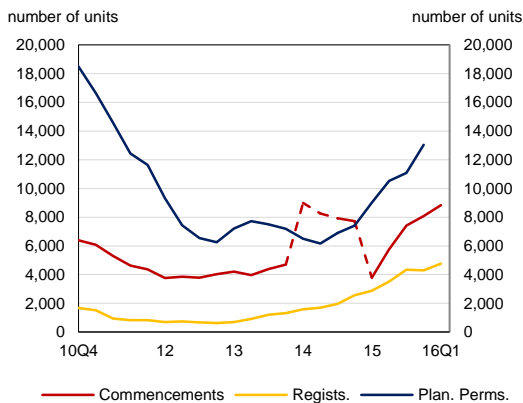
Source: CSO

Chart 28: Residential property completions (rolling 4Q total)



Source: Department of the Environment, Community and Local Government.

Chart 29: Indicators of future housing market activity: (rolling 4Q total)



Source: Department of the Environment, Community and Local Government and CSO.

Notes: The adoption of new building codes from March 2014 resulted in a significant front-loading of commencements in the first quarter of 2014, the impact of which remained in the statistics until 2015Q1. This period is represented by the jagged red line. Planning permissions data are only available to end 2015.

Cork, Galway and Limerick and areas outside the capital such as Meath and Louth where rental inflation is highest at present.³⁰

Residential housing supply

The scarcity of housing units for sale or rent is perhaps the main feature of the residential property market at present. Notwithstanding some pick-up in recent quarters, the rate at which new-builds are coming on-stream is weak and is well short of the level required to satisfy projected demand of circa 25,000 units per annum.³¹ Overall, 13,200 new units were completed in the 4 quarters to 2016Q1, a 14 per cent increase on a year earlier (Chart 28).³² Completions in Dublin, however, fell almost 5 per cent over the same period to approximately 3,250. This is about 40 per cent of the level required in 2016, according to Housing Agency estimates.³³

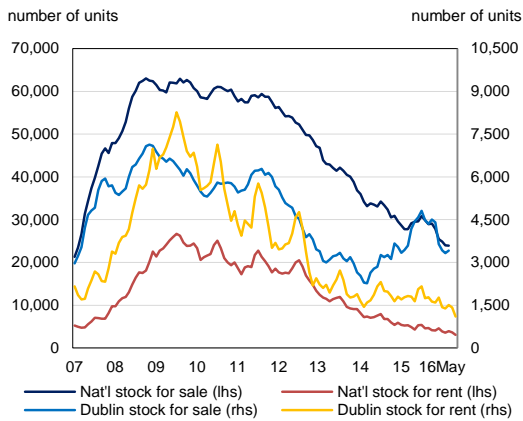
Leading indicators of construction activity, such as planning permissions, registrations and commencements, have been rising of late, but not to the extent required to address the current housing shortfall. Over 13,000 residential planning permissions were granted in 2015, a 5,600 increase on 2014 (Chart 29). New house registrations in 2016Q1 were up 1,900 on the 2015Q1 total, to almost 4,800. The 8,100 housing starts undertaken in 2015 was the highest number of annual total commencements since 2008. This rolling 4-quarter figure increased further, to almost 8,850, in 2016Q1.

To facilitate an increase in the housing supply, it has been argued that factors with the potential to impinge on the provision of new units, such as planning requirements and building codes, development levies and charges, construction costs, access to finance and land availability/usage, need to be reviewed and addressed where necessary.³⁴ A number of policy announcements concerning the reform of building regulations and measures aimed at enhancing the viability of residential construction activity were made in late 2015.³⁵ NAMA also released details of a home funding programme aimed at providing 20,000 new residential units to Dublin and other areas where demand for housing is strong.³⁶

Supply constraints are not confined to the new homes market. A shortage of second hand homes has emerged in many parts of the country. According to Daft.ie, the number of residential properties actively for sale across the country has been falling since 2011, and was at its lowest since early 2007 in March 2016. Just under 24,000 units were listed for sale nationally at the end of 2016Q1 (Chart 30), about 38 per cent of 2008 levels.

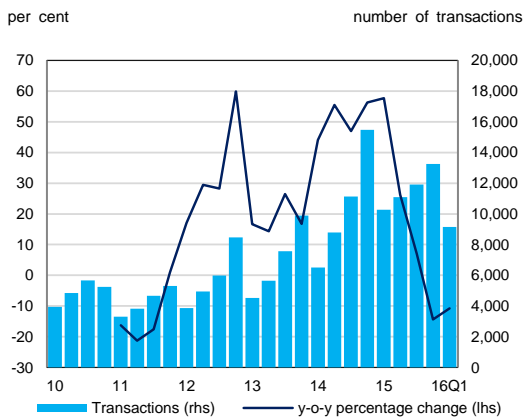
³⁰ For instance according to the [2016Q1 Daft.ie Rental Report](#), rents in Cork City recorded a 16 per cent increase in the year to March.
³¹ See Duffy, D., D. Byrne and J. FitzGerald, "Alternative scenarios for household formation in Ireland", ESRI QEC, Spring (2014). In this article, the authors project a "base case" scenario under which household formation will average approximately 25,000 units per annum out to 2030.
³² As defined by connections to the electricity grid.
³³ See "Housing Supply Requirements in Ireland's Urban Settlements 2014 – 2018", Housing Agency April 2014. In this report, the authors estimate a supply requirement of approximately 7,800 additional units for 2016 in the Dublin region.
³⁴ See "House price report, Q4 2015", Daft.ie, January 2016 and Morley, C., D. Duffy and K. McQuinn, "A review of housing supply policies", ESRI QEC, Winter (2015)
³⁵ See "Information note on 2015 apartment guidelines", (Department of the Environment, Community and Local Government, December 2015) and "Stabilising rents, boosting supply" (Department of the Environment, Community and Local Government, November 2015)
³⁶ Stringent commercial viability thresholds will have to be passed before funding is approved and developments can proceed, see "NAMA residential funding programme 2016-2020".

Chart 30: Stock listed for sale or rent on Daft.ie



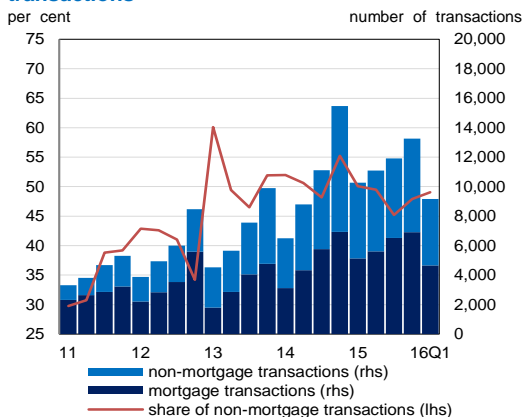
Source: Daft.ie.

Chart 31: Quarterly residential property transactions



Source: Property Services Regulatory Authority.
Notes: Transactions included are on properties sold for between €20,000 and €5 million and at full market price only.

Chart 32: Financing for residential property transactions



Source: Property Services Regulatory Authority.

These figures include 3,400 Dublin properties, up from a low of 2,300 units in early 2014, but still about half the number offered for sale in 2008.

There is also a lack of rental units available across the country. In May 2016, the stock of properties for rent listed on the Daft.ie website (3,100) was approximately 30 per cent lower than the number of vacancies a year earlier and 90 per cent below the 26,700 units recorded in mid-2009 (Chart 30). The extent of the shortage of Dublin properties for rent is also notable, with 1,100 units on offer to tenants.

Residential housing transactions and the mortgage market

The value and volume of residential property transactions increased last year. According to the Property Services Regulatory Authority, more than 46,500 sales (worth over €10.2 billion) occurred in 2015, up from about 42,000 deals (with a value of €8.8 billion) in 2014. Indications are, however, that the rate of growth in sales has been slowing throughout 2015 and into 2016. In 2015Q1, for example, the number of sales was 56 per cent higher than for the same quarter a year earlier. Meanwhile, in the first three months of 2016, the year-on-year growth rate in the number of sales registered was down 11 per cent (Chart 31). It should be noted, however, that some transactions completed in the final months of 2015 or early 2016 may not yet have been recorded in the Property Price Register due to time lags in the database.

The share of non-mortgage - predominantly cash - buyers as a share of total residential property transactions has been rising gradually in recent quarters, to just under 50 per cent in 2016Q1 (Chart 32). The non-mortgage element of the market accounts for a much larger share of the Irish market than it does for international counterparts, such as the UK, where it is reported by the Council of Mortgage Lenders that about one-third of homes are paid for by cash.³⁷ The impact of sustained rental growth on Irish residential property investment yields is helping to attract investors, the vast majority of whom, according to Savills, operate a predominantly cash-based funding model.³⁸

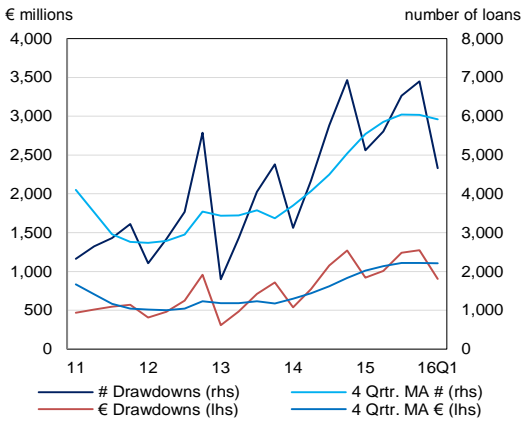
Mortgage drawdowns fell in the opening quarter of 2016, following three straight quarters of growth. According to BPF data, the volume of mortgage lending fell 9 per cent year-on-year in 2016Q1 to 4,700 loans, with a value of €900 million (Chart 33). As a result, the number of mortgages drawn down over the previous 4 quarters reached 23,700 (€4.4 billion), about 7 and 10 per cent higher in volume and value terms, respectively, than the 2015Q1 figures. Of those using a bank loan to finance a house purchase, approximately half are first-time buyers.

Overall, there were 26,000 mortgage approvals for house

³⁷ See "Cash transactions: the myths and the reality", UK Council of Mortgage Lenders, November 2015

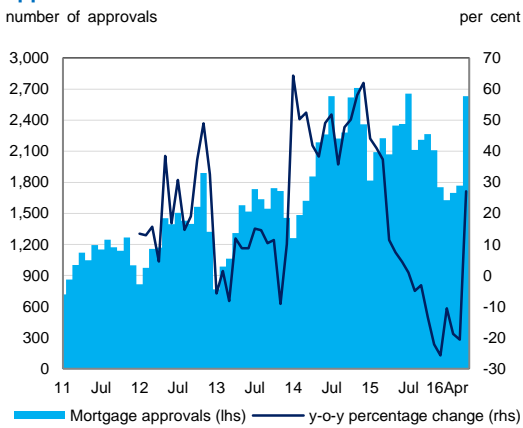
³⁸ See "Residential market report Q1 2016", Savills, March 2016. According to the authors about 90 per cent of residential investors have operated exclusively with cash since 2013.

Chart 33: Volume and value of quarterly mortgage drawdowns



Source: BPFi.
Notes: "MA" stands for moving average.

Chart 34: Breakdown of monthly mortgage approvals



Source: BPFi.

purchases in 2015, representing a 2 per cent increase over 2014. Across the second half of 2015 and early 2016, however, the annual growth rate weakened significantly. In August 2015, monthly mortgage approvals for house purchases fell 5 per cent year-on-year, the first such decline since November 2013, while in December they were more than a quarter lower than in the same month a year earlier (Chart 34). Further declines occurred in the opening quarter of 2016. The most recent monthly approval volumes (April 2016), however, were 27 per cent higher than April 2015.

Uncertainty in the lead up to the introduction of the Central Bank's macroprudential measures may have led to a surge in mortgage market activity in late-2014/early-2015, thus inflating the general drop in mortgage approvals seen in recent months. The extent to which this was a factor is unclear for now; however, it is an area that will be explored further in the Central Bank's upcoming review of the measures.

Box 3: Identifying financial vulnerabilities across the household sector

Despite recent improvements in the domestic economy, significant financial vulnerabilities remain across the household sector. These take the form of *backward-looking vulnerabilities*, which relate to the stock of borrowers currently in default and whose financial vulnerability is readily observable to policy-makers, and *forward-looking vulnerabilities*, which emanate from a number of sources, including the risk of a shift away from the current global low interest rate environment and the still-elevated share of mortgages in negative equity. The former vulnerability can be readily observed by policy-makers with access to granular data sources such as Loan Level Data (LLD) collected by the Central Bank of Ireland. This is a database of loans outstanding at Allied Irish Banks, Bank of Ireland and Permanent TSB, representing close to two-thirds of all loans in the case of Irish mortgages. The latter vulnerability, however, requires a model-based assessment of the likelihood of a borrower entering default as a result of an adverse economic event.

This box highlights a key analytical tool developed by the Central Bank for assessing forward-looking vulnerabilities across household groups. The Loan Loss Forecasting (LLF) model is a loan-level tool combining probability of default (PD), exposure at default (EAD) and loss given default (LGD) modules to estimate the expected loss of each mortgage in the LLD database.¹ It is used as part of the Bank's framework for stress-testing the solvency of banks but is also used for a range of other analytical purposes.

Backward-looking vulnerabilities are measured in the LLD as the stock of defaulted loans within a household subgroup (Table A). These data indicate that default rates at December 2014 were lower for PDH loans, loans with current LTV ratios below 90 per cent, and loans with fixed mortgage rates. Loans outside Dublin have marginally higher default rates than those in the capital, while loans to First Time Buyers (FTBs) have lower default rates than those to non-FTBs.

For the purposes of *forward-looking vulnerability* analysis, the LLF model is used to calculate a predicted three-year probability of default (PD), by count, under a hypothetical economic shock for each loan that remained performing (i.e. not in default) at December 2014, thus distinguishing the analysis from the aforementioned backward-looking assessment which focuses on those loans that have already entered default. To measure the proposed shock, an adverse scenario (with large but plausible shifts in unemployment, house prices and interest rates modelled) over the years 2015-2017 is utilized. Under this hypothetical scenario, the analysis suggests that FTBs, younger borrowers and those on SVR mortgages are particularly vulnerable to the shock. The categories with the highest probability of default within three years are those with a current LTV above 100 per cent. The analysis highlights the granularity of detail that can be provided on vulnerabilities across the economy using tools such as the LLF model.

Table A: Backward-looking vulnerabilities, Irish mortgage market, December 2014

	default rate (per cent)	
	All Loans	PDH Only
Non-Dublin	15.2	13.0
Dublin	13.1	11.0
PDH	12.4	n/a
BTL	26.4	n/a
Previous Owner	14.5	13.4
FTB	11.3	11.2
Age Under 35	10.0	9.9
Age 35-45	12.1	11.5
Age 45-55	14.0	12.9
Age 55-65	14.5	13.6
Current LTV Under 60%	7.5	7.0
Current LTV 60-70%	10.3	9.3
Current LTV 70-80%	11.5	10.1
Current LTV 80-90%	12.9	10.8
Current LTV 90-100%	16.9	14.6
Current LTV 100-120%	22.8	19.6
Current LTV 120-150%	31.2	26.7
Current LTV 150%+	68.1	70.0
Fixed	5.1	4.6
SVR	15.8	14.0
Tracker	14.7	11.9

Source: Central Bank of Ireland Loan Level Data, December 2014.
Notes: All reported numbers refer to percentage of loans.

Table B: Forward-looking vulnerabilities, Irish mortgage market, three-year horizon from December 2014

	Three-year probability of default (by count) (per cent)	
	Adverse PD	
Non-Dublin	8.4	
Dublin	7.8	
PDH	8.2	
BTL	8.4	
Previous Owner	7.2	
FTB	9.3	
Age Under 35	10.2	
Age 35-45	9.2	
Age 45-55	7.3	
Age 55-65	6.6	
Current LTV Under 60%	6	
Current LTV 60-70%	7.8	
Current LTV 70-80%	8.6	
Current LTV 80-90%	9.2	
Current LTV 90-100%	10	
Current LTV 100-120%	11.2	
Current LTV 120-150%	13.7	
Current LTV 150%+	21.9	
Fixed	9	
SVR	9.5	
Tracker	6.4	

Source: Central Bank of Ireland Loan Level Data, December 2014, Central Bank of Ireland calculations.
Notes: Forward-looking vulnerabilities refer to the average cumulative 3-year probability of default over the horizon 2015-2017 among loans that were not in default at December 2014 taking into account model generated cure probabilities. Actual/estimated values for 2015 with scenario forecasts for 2016 and 2017.

¹ Gaffney, Edward, Kelly, Robert & McCann, Fergal, 2014. "A transitions-based framework for estimating expected credit losses". Research Technical Papers 16/RT/14..

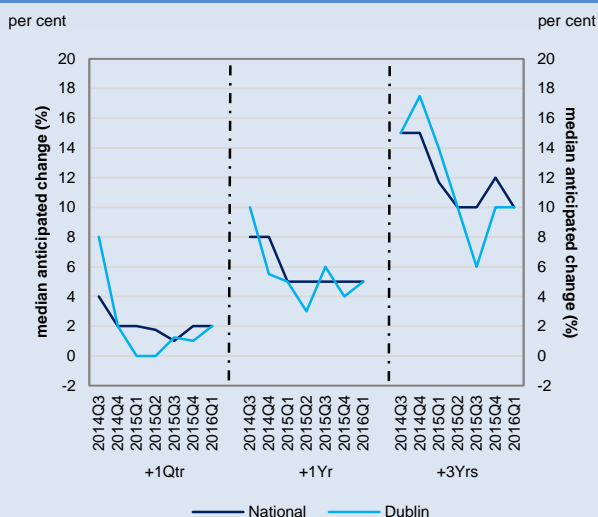
Box 4: Residential property price expectations survey

The Central Bank of Ireland and Society of Chartered Surveyors of Ireland have carried out a residential property survey in each quarter since 2012Q3.¹ This box presents some findings from the most recent Survey, conducted in April 2016, and earlier surveys. It looks specifically at respondents' house price expectations and the main factors put forward as influencing them. The results indicate that median expectations of house price appreciation, across a number of horizons, have remained relatively stable in recent quarters at a national level but have increased in the case of Dublin.

Chart A summarises median price expectations for both the national and Dublin markets over the seven quarters beginning in 2014Q3, just prior to the introduction of regulatory limits on the proportion of mortgage lending at high loan-to-value and loan-to-income ratios in the Irish residential property market. In general, while survey participants continue to expect house prices to rise over the short/medium term, the expected degree of residential property price inflation has declined in the quarterly surveys since 2014Q3. In 2016Q1, the national median expectations for one quarter, one year and three years ahead were 2, 5 and 10 per cent, respectively. The comparable figures from the 2014Q3 survey were 8, 10 and 15 per cent, respectively. The anticipated change in prices in Dublin over time has moved in a greater range than at the national level, including an 11 percentage point fall in the +3 year expectation between 2014Q4 and 2015Q3. There has been a slight rise in median expected house price increases for Dublin in the latest Survey compared to that in 2015Q4. Another finding from recent surveys is that the median expected price increases are now higher for regions such as the Border and the Mid-East than for Dublin or the national market as a whole. It should be noted that the number of Survey respondents varies by region.

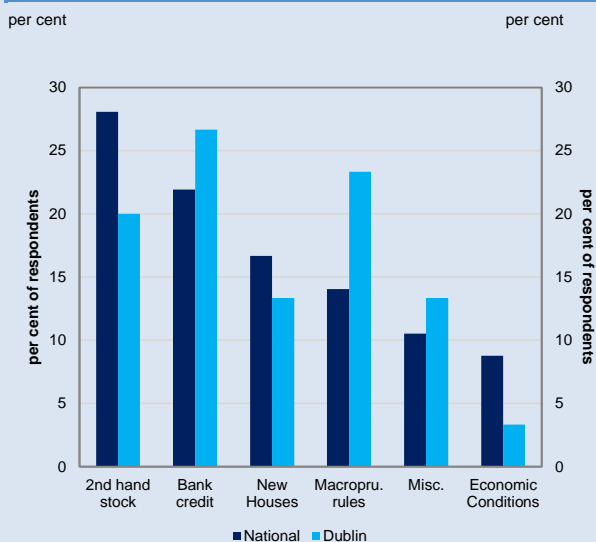
Respondents are asked to rank which three factors they consider to have the most influential effect on house price developments from a list of twelve pre-selected factors, with a further option for other issues not on that list. Chart B presents the primary, or first, factor identified by respondents in the 2016Q1 survey as the most influential on their assessment of future house prices for both the national and Dublin markets. The most important factor identified nationally was the availability of second-hand stock, constituting 28 per cent of respondents' first-ranked factor, with access to bank credit (22 per cent) selected as the second most significant issue. In Dublin, bank credit was cited as the most important issue (27 per cent), ahead of the macroprudential rules on mortgage lending (23 per cent). The supply of housing, either newly constructed units or second-hand stock, constituted a combined 33 per cent of all respondent's primary factors in the capital. Beyond Dublin, the availability of second-hand units was highlighted by respondents in the South-East and South-West, in particular. Irish economic conditions are a relatively minor influence on expectations formation, particularly for Dublin.

Chart A: Q-on-Q median anticipated change in National and Dublin residential property prices over +1Qtr, +1Yr, and +3Yrs time horizons



Source: Central Bank of Ireland & SCSi Survey of Property Professionals
Notes: Chart provides details of the results from the past 7 surveys (2014Q3 to 2016Q1). Number of observations varies from survey to survey

Chart B: Primary factor influencing expectations of National and Dublin house price developments, 2016Q1



Source: Central Bank of Ireland & SCSi Survey of Property Professionals
Notes: Chart based on observations from 121 individuals²

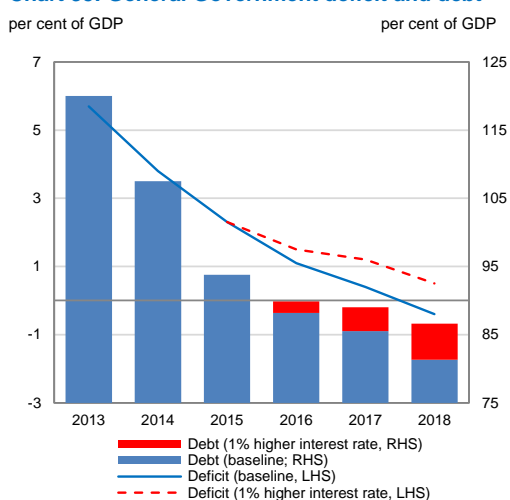
¹ The Central Bank/SCSi Quarterly Property Survey began in 2012. Its respondents include estate agents, auctioneers and surveyors, as well as those with a more indirect interest in the industry such as economists, market analysts and academics. While the main focus of the survey is on participants' price expectations, questions are also included on activity levels and other market issues. The survey is a snapshot of respondents' expectations at a particular point in time and so can provide only limited information about possible future property price developments. It also provides a measure of uncertainty regarding those expectations, which is a useful complement to the available information on the domestic property market.

² 'Misc.' (Miscellaneous) represents responses under all other categories including rental market developments, perception of value, changes in demographics/population, and the level of interest rates

2.4 Sovereign sector

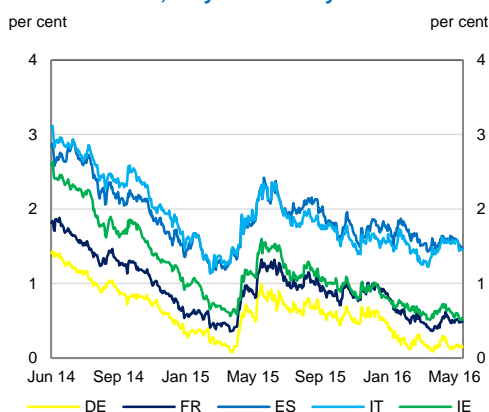
While the Irish public finances continue to improve, a vulnerability to economic or financial shocks remains, particularly with the General Government gross debt ratio remaining high. Maintaining fiscal discipline would assist in keeping the public finances on a sustainable path. Irish sovereign bond yields remain close to historical lows and the State is pre-funded in relation to its 2016 needs. Irish sovereign bond yields remain sensitive to fiscal performance, including that of other sovereigns, changes in investor sentiment, and monetary policy. There is some evidence that market liquidity may have deteriorated in fixed-income markets in recent years, a possible consequence of which could be that financial shocks could prove disruptive to sovereign bond markets.

Chart 35: General Government deficit and debt



Source: EU AMECO and Department of Finance.
Notes: Data for 2016-2018 show baseline deficit and gross debt ratio projections, and alternative values based on interest rates being 1 per cent higher than baseline values. The projections are taken from the Stability Programme Update, April 2016.

Chart 36: Sovereign bond yields for selected EA Member States, 10-year maturity



Source: Thomson Reuters Datastream.
Note: Chart shows yields on sovereign bonds, 10-year maturity. Last observation: 31 May 2016.

Domestic fiscal performance and sovereign financing

The Irish public finances continued to improve in 2015 with both the General Government deficit and debt ratios declining (Chart 35). The underlying deficit-to-GDP outturn was 1.3 per cent, while the headline deficit was 2.3 per cent when a once-off banking transaction is included as a capital transfer.³⁹ The gross debt-to-GDP ratio was 93.8 per cent at end-year. The net debt ratio was lower, at 79.8 per cent, reflecting sizeable financial assets held by the State. Further improvements in both ratios in 2016 and beyond are forecast by the Department of Finance (Chart 35).⁴⁰

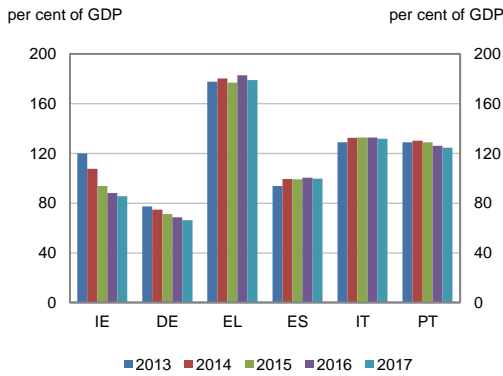
In sovereign bond markets, yields on Ireland's debt have been close to historical low values in recent months, a feature common to a number of EA Member States (Chart 36). This follows a short-lived rise in yields between March and June 2015. The NTMA raised €13 billion in 2015, leaving the State pre-funded in relation to its 2016 needs. Some €32 billion of debt will fall due for repayment between 2017 and 2019. The maturity profile of government debt has been extended in recent years, through long-term debt issuance, loan extensions and pre-payment of IMF loans. The NTMA has set a funding target of €6 billion to €10 billion for 2016. In the opening five months of the year, it has raised €5.5 billion. Rating agency Moody's upgraded Ireland's long-term sovereign credit rating from Baa1 to A3 in May 2016.

While there has been an improvement in fiscal performance in recent years, the General Government gross debt ratio remains high. It could be higher in the years ahead were a shock, or a combination of shocks, to arise from the real economy or financial markets. For example, a situation where interest rates were one percentage point higher than expected over the period 2016-2018 would cause the deficit ratio to be almost one per

³⁹ Stability Programme Update April 2016, Department of Finance

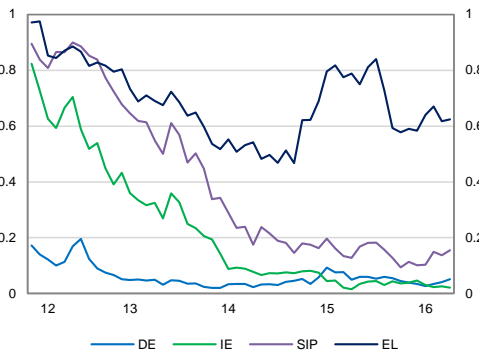
⁴⁰ The Irish Fiscal Advisory Council uses a hybrid measure of output as an intermediary measure of fiscal capacity between GDP and GNP. It does so because the excess of GDP over GNP, which is relatively large in the case of Ireland, is not likely to have the same capacity for generating tax revenue as GNP. Accordingly, the Council places a higher weighting on GNP and a lower weighting on the excess of GDP over GNP. Using that measure as the denominator, both deficit and debt ratios would be higher than when GDP is used. See [Irish Fiscal Advisory Council, Fiscal Assessment Report, September 2012, pp. 52-3.](#)

Chart 37: General Government gross debt ratios in selected EA Member States



Source: EU AMECO database and Department of Finance.
Notes: Ireland data for 2015-2017 are from the April 2016 Stability Programme Update.

Chart 38: Composite indicator of sovereign stress in selected EA Member States



Source: ECB SDW.
Notes: The composite indicator of systemic stress aims to measure the level of stress in EA sovereign bond markets. SIP refers to the average value of the indicators for Spain, Italy and Portugal for each month. Last observation: April 2016.

cent and the debt ratio to be over 5 per cent of GDP higher than the baseline Budget forecasts in 2018 (Chart 35).⁴¹ More substantial shocks could cause larger increases and could raise concerns about fiscal sustainability. In a recent assessment, the EU Commission sees no significant short-term risks of fiscal stress for Ireland but notes that some macro-financial variables (such as the share of NPLs on bank balance sheets) could pose challenges over that horizon.⁴² It indicates that high public debt levels represent a major source of vulnerability for the Irish economy. Maintaining fiscal discipline, including in line with the preventive arm of the Stability and Growth Pact, would assist in keeping the public finances on a sustainable path.

External environment and sovereign bond markets

Fiscal performance remains mixed within the EA. The General Government gross debt ratio has been declining in recent years in some EA Member States, including Ireland. Other Member States, including Greece, Italy, Portugal and Spain, however, have had rising debt ratios, which are projected to increase further or remain high in the years ahead (Chart 37). Among the factors affecting those Member States' economies are non-performing and troubled bank loans, low productivity growth and political uncertainty. High government debt ratios are a feature of most advanced economies.⁴³

Bond yields in EA sovereign bond markets remain close to historical lows (Chart 36). A number of factors are influencing market prices. A search for yield has been a feature of international financial markets, including sovereign debt markets, in recent years, reflecting the low interest rate environment and the monetary policies of the major central banks. Yield values may also reflect the subdued nominal growth environment within the EA and low inflation expectations. An ESCB EAPP has been underway since March 2015. The programme initially involved a monthly purchase target of €60 billion of assets, mainly of sovereign debt. From April 2016, the purchase target increased to €80 billion per month. The programme will continue until the end of March 2017, or beyond if necessary.⁴⁴

It is likely that bond yields will rise in due course in response to any number of factors (for example, increases in interest rates, the eventual ending of the EAPP, a rise in inflation rates). An increase in sovereign funding costs would act to increase government deficits and, if particularly large, could threaten fiscal sustainability in some Member States. A fall in output growth rates would have similar effects.

Greater stress in Greece's sovereign bond market in 2015 did not have a noticeable impact on the Irish sovereign bond

⁴¹ See pp. 27-28 of [Stability Programme Update April 2016, Department of Finance](#) for further details.
⁴² EU Commission, *Fiscal Sustainability Report 2015*, January 2016.
⁴³ International Monetary Fund, *Fiscal Monitor*, April 2016.
⁴⁴ For further information on the ESCB EAPP, see <https://www.ecb.europa.eu/mopo/implementation/omt/html/index.en.html>.

market.⁴⁵ Ireland's composite indicator of sovereign stress is close to that of Germany and below that of Spain, Italy and Portugal (Chart 38). Any future shocks to other EA sovereign bond markets (or in those outside the EA) could affect Ireland's market in an adverse manner. There has been much published research on whether contagion, that is excessive co-movement between bond spreads following a shock in one market, has arisen in EA sovereign bond markets. Results differ across studies with some finding evidence of contagion and others reporting a change in the dynamics of relationships between markets but not contagion.⁴⁶

An issue discussed in MFR 2015: II (pp.23-24) relates to market liquidity in fixed-income markets. Episodes of high intra-day volatility in the US sovereign bond market in October 2014 and in the market for German bunds in May 2015 raise the question of whether markets have sufficient depth to absorb sudden or erratic shifts in investor sentiment with a limited effect on prices. Secondary market indicators indicate low levels of market liquidity in EA sovereign bond markets during the market turbulence that occurred between December 2015 and February 2016.⁴⁷ A consequence for sovereign bond markets of a situation where market liquidity has deteriorated would be that financial shocks could prove disruptive to market activity, resulting in sharp movements in bond yields and/or lower trading.

⁴⁵ [Conefrey, T. and Cronin, D. \(2015\), "Spillover in euro area sovereign bond markets," *The Economic and Social Review*, 46, 2, 197-231](#) finds the Greece bond market decoupled from other euro area sovereign bond markets following its EU-IMF bailout in March 2012.

⁴⁶ A recent study indicates that evidence of contagion in EA sovereign bond markets during periods of crisis is scant. See: [Cronin, D., Flavin, T.J. and Sheenan, L. "Contagion in eurozone sovereign bond markets? The good, the bad, and the ugly," *Economics Letters*, 143, June 2016, 5-8.](#)

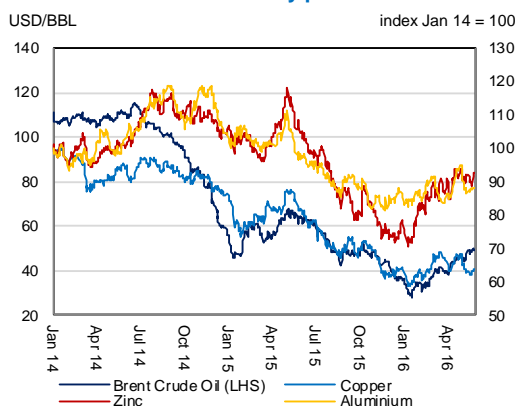
⁴⁷ See ECB, [Financial Stability Review](#), May 2016, pp. 51-2.

3. Financial system

3.1 Financial system overview

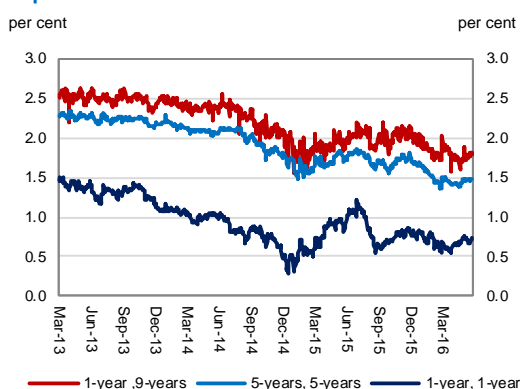
The international economic and financial environment deteriorated in early 2016, reflecting uncertainty about global economic prospects, geopolitical tensions and political uncertainty, and concern about bank and corporate profitability prospects. While some improvements occurred during the second quarter, financial markets have remained relatively volatile. The possibility of a disorderly adjustment of compressed global risk premia represents a risk to financial stability. EU banks' and insurers' business models in some Member States are being challenged by large stocks of NPLs and the possibility of a protracted period of low nominal growth and low interest rates. Debt sustainability challenges in the public, household and non-financial corporate sectors remain elevated in a number of EU Member States.

Chart 39: Oil and commodity prices



Source: Bloomberg and Datastream.
Notes: Last observation: 31 May 2016.

Chart 40: Market-based measures of EA inflation expectations



Source: Bloomberg and Central Bank of Ireland calculations.
Notes: Last observation: 31 May 2016.

International macroeconomic and financial developments

Since the last Review, global economic prospects have weakened further amid greater financial market turbulence. Economic growth is slower than predicted in many advanced economies and risks in large EMEs arise. IMF global growth projections for 2016 and 2017 envisage a modest pickup in growth rates.⁴⁸

The EU economy is entering its fourth year of recovery.⁴⁹ Domestic demand is expected to contribute to a moderate rate of growth in 2016 amid improving labour market conditions, structural reforms and a slightly more expansionary fiscal policy. The EA also continues to benefit from low oil prices, favourable financing conditions, and an accommodative monetary policy, which includes the ESCB's EAPP.

The external environment is less supportive of growth in the EA, with greater downside risks to foreign demand and global nominal growth now arising. These risks include the threat of weaker demand from China, the potential impact on EMEs of lower commodity prices (Chart 39), concerns regarding the US recovery, and weak global trade. Geopolitical tensions and the UK referendum on Brexit are adding to uncertainty.

While core inflation has been relatively stable, EA headline inflation has continued to be less than expected and is projected to remain at very low, even negative, levels during 2016H1.⁵⁰ Market-based measures of medium-term inflation rates have stabilised at low levels (Chart 40).⁵¹ Persistently low inflation and muted growth are not supportive of debt sustainability in EA

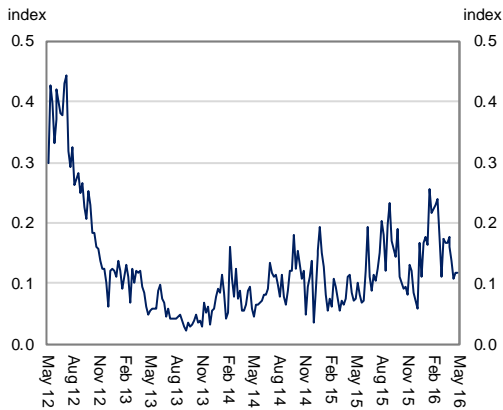
⁴⁸ For more information see [IMF World Economic Outlook April 2016](#).

⁴⁹ For more information see [European Commission, European Economic Forecast, Winter 2016](#) (published 4 February 2016).

⁵⁰ Unlike headline inflation, the rate of core inflation is not affected by oil price developments. According to Eurostat, the flash estimate for EA annual HICP or headline inflation in May 2016 was -0.1 per cent, compared with -0.2 per cent in April, mainly due to energy price developments. Looking ahead, on the basis of current futures prices for energy, HICP inflation rates are expected to remain negative in the coming months.

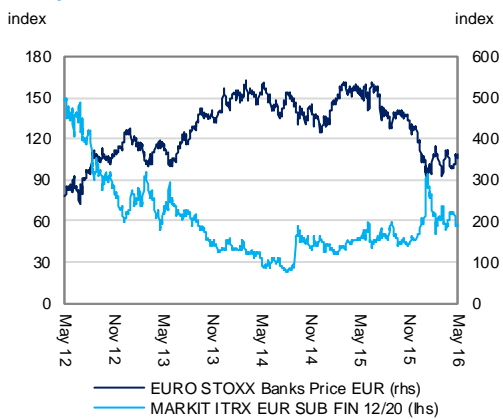
⁵¹ The chart displays 5 day moving averages. "1 year, 1 year" refers to swap rates with a maturity of 1 year beginning in 1 year. "1 years, 9 years" refers to swap rates with a maturity of 1 year beginning in 9 years. "5 years, 5 years" refers to swap rates with a maturity of 5 years beginning in 5 years.

Chart 41: EA composite indicator of stress



Source: ECB SDW.
Notes: The CISS is a composite indicator of stress across multiple asset classes in the EA. It is unit free and constrained to lie within the interval (0,1). For more information see Box 5. Last observation: 27 May 2016.

Chart 42: Eurostoxx banks equity and iTraxx Europe subordinated financial CDS index



Source: Bloomberg and Markit iTraxx.
Notes: Markit iTraxx is a generic European sub-ordinated financial CDS index. Last observation: 31 May 2016.

sovereign and NFC sectors. Financial markets expect a more gradual interest rate-tightening cycle by the Federal Reserve compared to expectations at the time of the last Review.

Financial stability risk to the international financial system

Volatility and measures of financial stress increased in global and EA financial markets in early 2016 (Chart 41) (see also Box 5). The worst-affected sectors included emerging market stocks, commodities, high-yield bonds and European and Japanese bank shares. Markets have stabilised since then and risk premia remain below historical norms for many asset classes.

A disorderly upward adjustment of risk premia from compressed levels represents a key vulnerability of EA and global financial stability. Possible triggers for such an adjustment would include disappointing global growth, widespread default in the high-yield bond sector and financial stress in EMEs. Other catalysts could include a faster-than-expected withdrawal of accommodative monetary policy or concerns about central banks’ ability to underpin economic recovery and to meet inflation targets. Financial disturbances and tighter global liquidity conditions could pose risks for financial stability and threaten global economic recovery.

Financial market sentiment towards EA banks and insurers deteriorated at the start of the year. Bank equity prices fell sharply around mid-February (Chart 42), with EA bank shares underperforming US peers. The cost of insuring against default on bank debt (credit default swaps) rose sharply at that time (Chart 42) and a temporary negative spiral developed between bank credit and equity markets (see Box 6). The announcement of the revised EAPP in March provided some support for EA bank bonds. Challenges to banking stability include the possibility of a protracted period of low nominal growth and low interest rates, uncertainty around the application of the new regulatory framework, large stocks of NPLs, overcapacity in some EA banking systems and exposures to EMEs. The sector remains vulnerable to disappointing growth or earnings results, an increase in NPLs (including to commodity producers) and any failure to repay discretionary bond coupons. Debt levels remain elevated in the public, household and NFC sectors of some EU Member States.

The potential for the IF sector to amplify market-wide shocks has increased in recent years, reflecting its increased size and connectedness to the wider financial system. EA funds’ non-EA exposures have also been growing.⁵² While no sector-wide stress materialised during early 2016, the risk remains that large simultaneous divestments from funds could amplify asset market movements, particularly if secondary market liquidity is subdued.⁵³

⁵² For more information, see [ECB Financial Stability Review May 2016](#).
⁵³ Stress has been confined to certain specialised funds. For more information see [BIS Quarterly Review March 2016 Box 1 “Tensions in high-yield bond markets”](#).

Box 5: Indicators of systemic stress and financial conditions

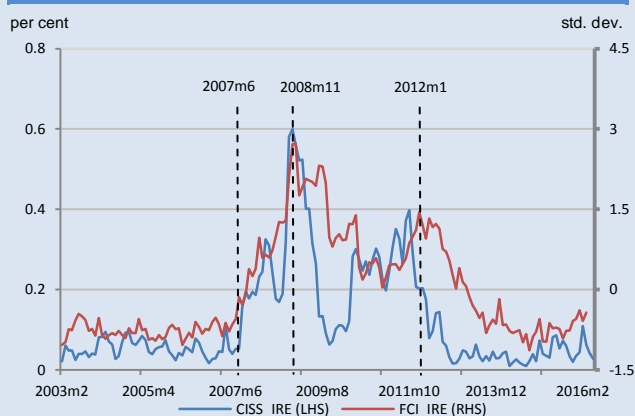
As there is still no widely accepted definition of what constitutes systemic risk in financial markets, it is perhaps unsurprising that there is quite a large set of instruments, construction methodologies and component variables employed to monitor it. Of these, indicators of financial stress are used by a number of central banks and international organisations to assess financial vulnerability and to evaluate the likelihood of crisis events occurring, based on financial market data. Two complementary indices have been developed within the ECB to monitor financial stress: the Composite Indicator of Systemic Stress (CISS), and the Financial Conditions Index (FCI).^{1,2} Both indices are coincident indicators, providing information for the current and immediately-proceeding periods only. As such, neither measure is a suitable long-term forecasting tool. Different methodologies are used to construct each indicator. Were there a common methodology across both indices, it could be the case that close co-movement between them represents a statistical property of their construction. However, given that each index uses different aggregation methods, different financial data and different weighting structures, it can be argued that the only characteristic captured by both indices is systemic risk.

The CISS uses a portfolio theoretic aggregation framework to combine measures of stress within individual sectors of the financial system into an overall index of financial stress. The prevailing level of stress in each of the five sub-segments (sovereign bond and money markets, the domestic banking sector, equities and foreign exchange markets) is measured using between three and four variables that capture certain symptoms of financial stress within the sector, producing a sub-index for each sector. Sub-indices are then aggregated by taking account of the variances and cross-correlations between individual indices' returns, allowing for time variation in the cross-correlation structure across sub-indices. As financial stress is the main property that should be responsible for the co-movement of these sub-indices, and as each sub-index should be capturing separate components of stress in each sector, cross-correlations should be higher in periods when systemic risk is high. The FCI is constructed through principal component analysis, relying on 24 variables that represent a broad overview of both domestic and European financial conditions. This process essentially allows one to identify patterns in the data and condense them without much loss of information. Retaining the four largest principal components, the FCI is then constructed by using the contribution of each variable to the four relevant components, weighted by the share of total variance explained by each component. As financial stress should again be the factor most responsible for the observed correlation between the indicators, four principal components should be sufficient to capture systemic risk.

While both indices are constructed using contrasting methodologies, there is a common theoretical justification behind each measure's ability to identify systemic risk. When markets are functioning smoothly, the individual sectors are relatively disconnected, with systematic risk in each sector accounting for most of the observed volatility. In contrast, during periods of high financial stress, sectors become more connected, causing correlations to increase and asset prices across sectors to move together as systemic risk accounts for a greater share of volatility.

Charts A and B present both indices for Ireland and the EA, respectively. With regard to Ireland, both the CISS and the FSI (Chart A) point to the financial sector currently being in a period of relatively low systemic risk. Both indices suggest that peak stress levels occurred in November 2008, and that financial stress levels were greater at that time than during 2011-12, when EA sovereign bond markets were under severe distress. The CISS and FCI series for the EA (Chart B) have some different features to those for Ireland. Like its Irish counterpart, recent values for the EA CISS are low by historical comparison. The FCI, however, indicates that financial stress is at a level above that observed up until 2008 and on a par with values experienced from early-2010 to mid-2011. The index values in Chart B also differ with respect to the magnitude of the effects of both crises. The CISS suggests that peak financial stress occurred in the year subsequent to the collapse of Lehman Brothers and was above that during the sovereign debt crisis, while the peak values of the FCI were similar in both episodes.

Chart A: Financial stress indices: Ireland



Source: Central Bank of Ireland calculations, DataStream and ECB Statistical Data Warehouse data.

Chart B: Financial stress indices: Euro Area



Source: Central Bank of Ireland calculations, DataStream and ECB Statistical Data Warehouse data.

To conclude, the two indices presented here provide coincident measures of systemic risk conditions in financial markets, for both Ireland and the EA. The indices point to the financial environment in Ireland being relatively stable, with both measures suggesting that current systemic risk levels are comparable to those observed in the mid-2000s. In contrast, the indicator values for the EA give conflicting signals on the level of financial stress therein at this time, with the CISS indicating a low level of stress, while the FCI suggests that EA financial stress levels are somewhat elevated.

¹ Holló, Dániel, Manfred Kremer and Marco Lo Duca, "CISS – A Composite Indicator of Systemic Stress in the Financial System", ECB Working Paper No. 1426, March 2012.

² Angelopoulou, Eleni, Hiona Balfoussia and Heather Gibson, "Building a Financial Conditions Index for the Euro Area and Selected Euro Area Countries: What does it tell us about the Crisis?", ECB Working Paper No. 1541, April 2013.

Box 6: CoCo bonds: market performance and implications for bank capital and financial stability

The European Contingent Convertible Debt Instrument (CoCo) market was disrupted during the financial market turbulence experienced in early 2016. Its index value dropped by about 15 per cent between 1 January and 11 February, before partly recovering (Chart A). CoCo bonds are relatively new debt instruments, with equity-like characteristics (i.e., bail-inable or loss sharing), designed to help banks absorb losses at a time of stress and to transfer risk from taxpayers to investors. Despite some recovery in the CoCo market since, events in early 2016 may hamper future issuance of such bonds.

CoCo bonds are designed to help a bank absorb losses when capital falls below a pre-specified threshold or 'trigger'. A market in these bonds has been developing in Europe since about 2009. Loss absorption occurs via conversion of the bonds from debt to equity (conversion-to-equity (CE)) or via a principal write-down (PWD), which can be temporary or permanent, and full or partial. The capital trigger level varies by bank and by issue and can be mechanical and/or discretionary.¹ A higher capital trigger threshold is, in general, preferred by regulators so that the bonds absorb losses at an earlier stage.² CoCo bonds with certain features can qualify as Additional Tier 1 (AT1) or Tier 2 capital under CRD IV. For example, qualifying bonds must have coupon payments that are fully discretionary and non-cumulative. Other requirements include a minimum capital trigger of 5.125 per cent, the bonds must be perpetual with no incentive to redeem, and must include a point-of-non-viability clause (essentially, allowing the resolution authorities to bail-in the debt based on their judgement about the issuing bank's solvency prospects).

CoCo bond issuance has grown since 2010 (Chart B), although the market remains small relative to long-established markets such as that for sub-ordinated bonds, and issuance was lower in 2015 than in 2014. The share of PWD relative to CE bond issuance varies over time and by country of issuer.³ It had been reported that European banks planned to raise CoCo funding of circa €40 billion this year but while some issuance has occurred, EUR issuance, in particular, is significantly lower than at this time last year.⁴ If this continues, banks who planned to use CoCo bonds to help meet higher capital requirements will have to make alternative plans.⁵

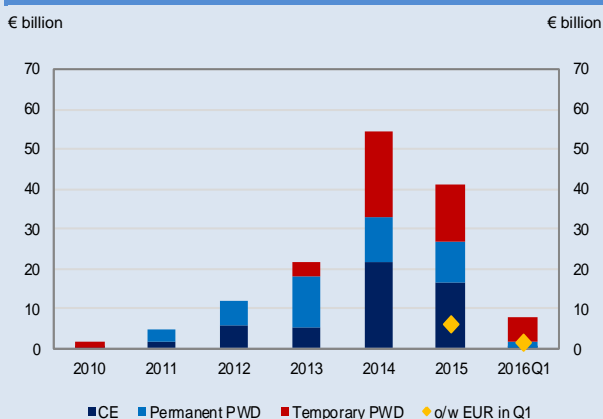
The sell-off of CoCos during February has been attributed to poor prospects for European banks in a low (and even negative) nominal interest rate and growth environment, and regulatory uncertainty. Low liquidity and hedging activity, as CoCo bond holders reportedly sought to offset potential losses by shorting bank equities and buying default protection (CDSs), are reported to have contributed as well. An example of regulatory uncertainty includes new rules which might mean some banks may be unable to pay the discretionary coupons on CoCo bonds. Under these rules, banks must retain cash within the company by cutting bonuses, dividends, and discretionary coupons once capital reaches a certain threshold. However, the capital thresholds upon which these decisions are based include elements such as supervisory add-ons that are not fully transparent to bond-holders. Non-payment of coupons, should it occur, would be a first-time event in this market.

Chart A: CoCo AT1 iBoxx EUR index



Source: Bloomberg and Markit iBoxx
Notes: Markit iBoxx Developed Market Euro CoCo AT1 index. Last observation 31 May 2016.

Chart B: European banks' CoCo bond issuance



Source: Bloomberg and Central Bank of Ireland calculations
Notes: Sum of EUR, CHF, DKK, GBP, NOK, SEK and USD issuance in EUR equivalent by European banks. Q1 issuance is EUR only. Includes all CoCo bonds not just AT1.

¹ There can be one or multiple triggers, with any breach resulting in bail-in. Mechanical triggers can include the ratio of accounting-value to RWAs or market capitalisation to RWAs reaching a certain floor, while discretionary triggers tend to be based on supervisory judgement. For more information see BIS [CoCos: a primer](#).

² Criticisms of CoCo bonds include the negative externality imposed on other banks in the event of conversion if asset returns are correlated and the destruction of equity holders incentives to monitor ex-ante bank risk taking and to provide additional equity in times of stress due to the wealth transfer from debt holders to equity holders. See, for example, [Chan, S and van Wijnbergen, S, 2015, 'Cocos, Contagion and Systemic Risk', Centre for Economic Policy Research, 2015](#).

³ For example, UK and Spanish banks tend to issue more CE bonds, Italian, French, Danish and Swedish banks temporary PWD and Swiss banks predominantly permanent PWD.

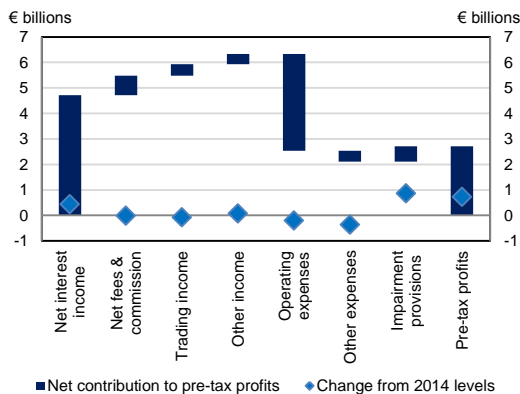
⁴ For more information see [Europe's Banks Fear the CoCo Market Is Dead](#) and [Coco-coupons-may-receive-payout-priority-to-disarm-debt-grenade](#).

⁵ Possible alternatives include share issuance (even if possible this would dilute existing shareholders - weighing on equity prices), curtailing balance sheet growth (risk weighted assets - doesn't support lending to real economy), increasing retained earnings or issuing Tier 2 bonds.

3.2 Banking sector

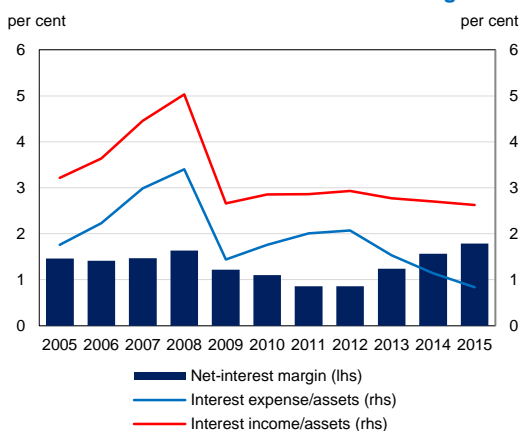
Against the backdrop of economic recovery, domestic banks are continuing the process of balance sheet repair. Impaired assets remain high but progress continues in the workout of impaired loans and the disposal of non-performing assets. Bank capital has improved, both in terms of quality and quantity. Domestic banks were able to refinance preference shares and increase their fully-loaded common equity capital base in 2015. However, domestic banks face a number of medium-term challenges. In aggregate, write-backs of impairment provisions accounted for most of the growth in domestic banks' profits in 2015. Domestic banks' loan books continue to shrink. Income growth is supported by lower funding costs offsetting the decline in interest income. Market-based funding, while a small share of overall funding, remains vulnerable to a reappraisal of risk by market participants. In the short-term, domestic banks will have to contend with the outcome of the UK referendum on continued EU membership.

Chart 43: Breakdown of domestic banks' income and profitability



Source: SNL Financial and Central Bank of Ireland calculations.
Note: For year end 31 December 2015.

Chart 44: Domestic banks' net-interest margins



Source: SNL Financial and Central Bank of Ireland calculations.

Income and profitability

Domestic banks returned to profitability in 2014 following a five-year period in which aggregate losses amounted to €34 billion. In the twelve months to end-2015, aggregate profitability increased by €730 million.⁵⁴ Nevertheless, domestic banks' profitability remains relatively weak and differs at individual bank level.

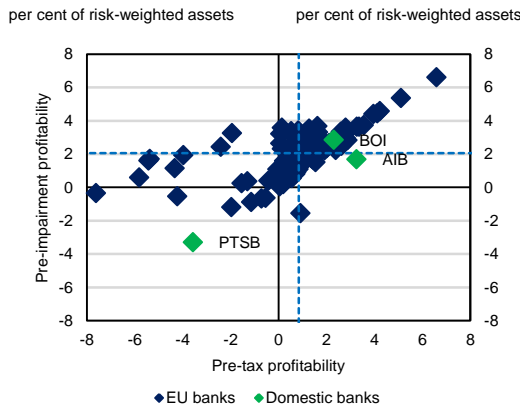
Operating income increased by 7 per cent, or just under €430 million, in 2015, largely reflecting improvements in domestic banks' net-interest income (Chart 43). Other sources of income have remained broadly unchanged from 2014 levels. Net-interest income is domestic banks' main source of income, accounting for 74 per cent of total revenue. Overall net-interest income increased by 10 per cent in 2015. The continuing low interest-rate environment has further eroded domestic banks' interest income. However, this decline has occurred at a slower rate than the fall in interest-related expenses (Chart 44). The large share of tracker mortgages on domestic banks' balance sheet and variable-rate funding represent sources of interest-rate risk.⁵⁵ Declines in ELG fees, coupled with reductions in funding costs, have helped to support margins.⁵⁶ However, given the low levels of deposit rates and the low cost of market-based financing, it is likely that there will be limited scope for significant cost savings in the future. The low interest-rate environment has led many European banks to attempt to support profitability through other revenue sources. While small in absolute terms, non-interest income has contributed to domestic banks' income growth in recent years but it did not increase in 2015. In particular, fee and commission revenue was unchanged while trading income declined by 15 per cent. The latter was offset by

⁵⁴ The term domestic banks refer to Allied Irish Banks plc (including EBS), Bank of Ireland and Permanent TSB.

⁵⁵ Approximately 40 per cent of domestic banks' outstanding mortgages are tracker mortgages which track the ECB base rate at a fixed margin.

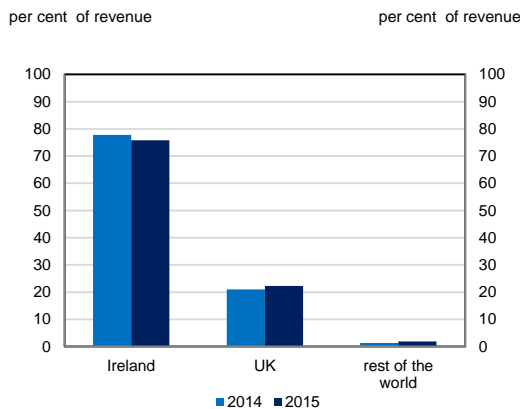
⁵⁶ The Eligible Liabilities Guarantee scheme was introduced by the Irish State to support domestic banks. In return for a State guarantee, banks are required to pay a fee. Since March 2013 new liabilities have not been covered by the guarantee. Pre-existing liabilities are covered for a maximum period of five years. ELG fees declined by two-thirds to €54 million in 2015.

Chart 45: International comparison of profitability



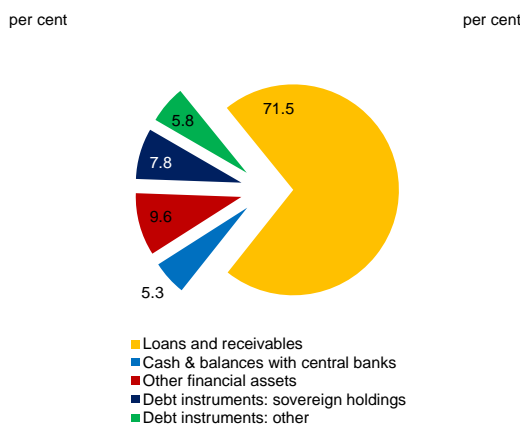
Source: SNL Financial and Central Bank of Ireland calculations.
 Note: Dotted lines represent the average of 109 EU bank values. The sample of banks was drawn from the list of banks that participated in the 2014 EBA stress-testing exercise. Data relate to 2015.

Chart 46: Geographical breakdown of revenue



Source: Annual accounts and Central Bank of Ireland calculations.
 Note: Data are based on geographical location of offices or units where revenue is generated. For year end 31 December 2015.

Chart 47: Domestic banks' breakdown of assets



Source: Central bank of Ireland.
 Notes: Data are consolidated and relate to 2015Q4.

increases in other income, most notably a doubling of insurance revenues.

While domestic banks' aggregate pre-tax profits increased by 37 per cent in 2015, the profitability of individual banks varied. Some banks continued to face restructuring costs and to incur losses (Chart 45). The write-back of impairment provisions continue to contribute to aggregate profits (Chart 43). Core profitability remains weak due to low income growth. Domestic banks are not alone in this regard. The outlook across European banking sectors is a challenging one (Chart 45). Sustainable and robust internal profit and capital generation remains key to domestic banks' long-term recovery and viability.

A UK exit from the EU could negatively affect domestic banks' profitability and business models either directly due to restricted market access or indirectly if there was to be a consequential slowdown in the UK economy with spillover effects into Ireland. The UK accounts for around 20 per cent of domestic banks' aggregate revenues (Chart 46). The two largest Irish banks have sizeable, largely property-related exposures to the UK while an increasing share of new lending is now going to the UK market mainly due to increased levels of mortgage lending there.

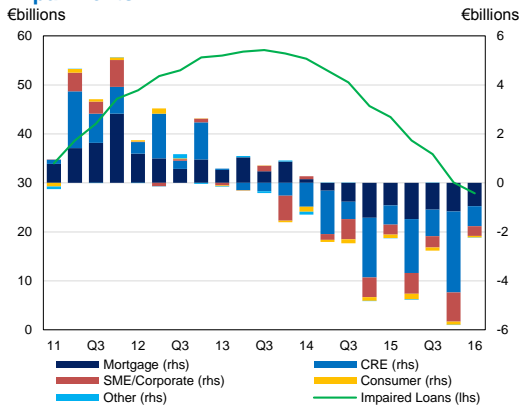
Assets and credit quality

Loans and receivables remain the largest category of assets, accounting for over 70 per cent of the total (Chart 47). This share has increased marginally since the last Review. The debt instrument share of total assets declined over the six months to December 2015, down from 18 per cent to about 14 per cent, mainly due to a decline in sovereign holdings. Continued deleveraging and maturing NAMA bonds also contributed. Other assets now account for 10 per cent of total assets and primarily reflect non-financial elements of the balance sheet. The prevalence of lending on the balance sheet underscores the link between credit quality and banks' overall performance.

Domestic banks have reduced their stock of impaired loans and related provisions further since the last Review. The improvement in credit quality has seen the value of non-performing loans falling by more than a half since the 2013Q3 peak, to €27.8 billion at 2016Q1 (Chart 48), or just over 15 per cent of the outstanding loan book (Chart 49). Approximately 40 per cent of the decline since 2015Q1 occurred in the final quarter of 2015 (Chart 48). The reduction of NPLs through suitable solutions remains a key priority from a supervisory perspective. Significant loan restructuring, as opposed to write-offs, could expose a cohort of borrowers vulnerable to any deterioration in economic circumstances.

Progress in non-performing mortgage resolution remains slow, owing to the extent of long-term arrears (more than 720 DPD) and the granting of probation periods. At the end-March 2016, distressed mortgages made up approximately half of all non-performing loans held by the domestic banks (Chart 50). This

Chart 48: Domestic banks' stock and flow of impairments

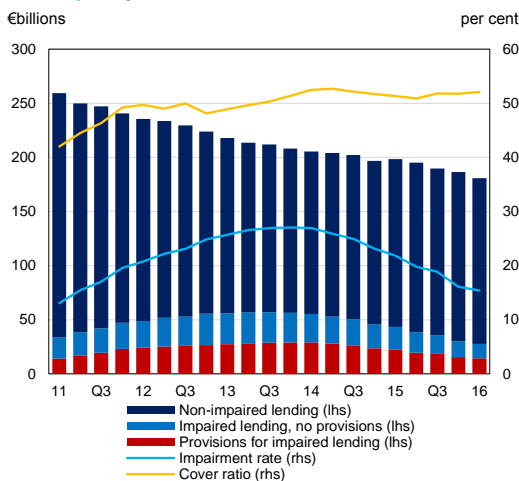


Source: Central Bank of Ireland.
Notes: Data are consolidated.

share has been growing in recent years, as the pace of decline in the value of mortgage arrears has been slower than that for overall impaired loans (Chart 51).

Approximately 63 per cent of outstanding Irish mortgages are held by the domestic banks. In general, the performance of these loans tends to mirror developments in the aggregate mortgage arrears data. For instance, the value of the latter fell by over one-fifth between 2014Q4 and 2015Q4. The corresponding fall in impaired Irish mortgages at the domestic banks was 24.6 per cent for the same period. As a consequence, 12.7 per cent of the domestic banks' outstanding mortgage book was impaired at the end of 2015, down from over 16 per cent a year earlier (Chart 51). According to the most recent data, mortgage impairments at the domestic banks are down to 12.3 per cent in 2016Q1.

Chart 49: Domestic banks' credit exposures and asset quality

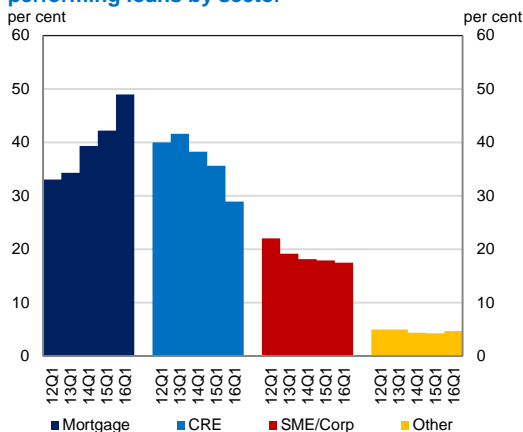


Source: Central Bank of Ireland.
Notes: Data are consolidated. Total lending is represented by the drawn exposure. Impairments are represented by defaulted loans as defined in the CRD. The cover ratio is calculated by dividing the value of provisions for impaired loans by value of impaired loans.

Commercial real-estate (CRE) and SME/corporate borrowers accounted for the bulk of the remaining, non-performing loans in 2016Q1, at just under 30 and 20 per cent of the total, respectively (Chart 50). Despite a notable improvement in the past couple of years, CRE continues to be the most distressed asset class, with the highest share of impaired loans of any sector (Chart 51). At end-2016, 36 per cent of CRE loans, with an outstanding balance of €8.1 billion, were non-performing. This represents an improvement from €15.5 billion a year before and over €21 billion at the end of 2014Q1. The recovery in commercial property values, which has facilitated the disposal of substantial CRE portfolios, has been a key factor in this regard.

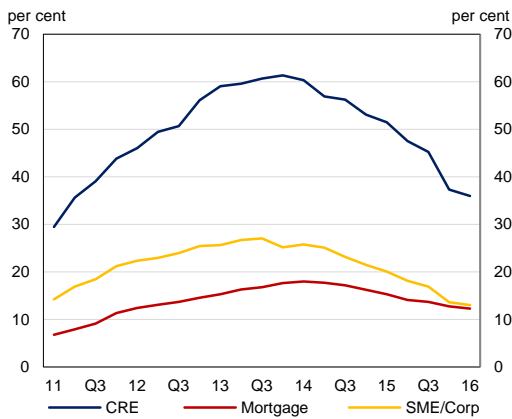
Although the bulk of the process is now complete, Irish institutions may find it more challenging to sell any remaining loan portfolios that they wish to dispose of, given the on-going compression of commercial property yields and increasing sales activity amongst rival European banks engaged in the implementation of deleveraging plans of their own. Improving economic conditions have had a positive impact on SME and corporate arrears, which have fallen by 37 per cent since 2015Q1, to €4.9 billion or 13 per cent of outstanding balances to the sector (Chart 51). In terms of location, impairment rates are generally lower on the UK portion of the loan book than the Irish component across the main lending categories (Chart 52). Impairment provisions have moved in step with developments in asset quality. The overall cover ratio for the domestic banks is above 50 per cent (Chart 49), and at a similar level to a number of European peers. Aggregate figures can mask the variance in provisioning levels across institutions, however, and do not recognise different sectoral and geographical exposures. Commercial property loans originated in the UK have the highest cover ratio (Chart 52). The lowest is for UK mortgage lending. Overall, the stock of impairment provisions is 50 per cent lower than the 2014 peak, having fallen a further €7.8 billion over the course of the past year, to €14.5 billion.

Chart 50: Domestic banks' share of total non-performing loans by sector



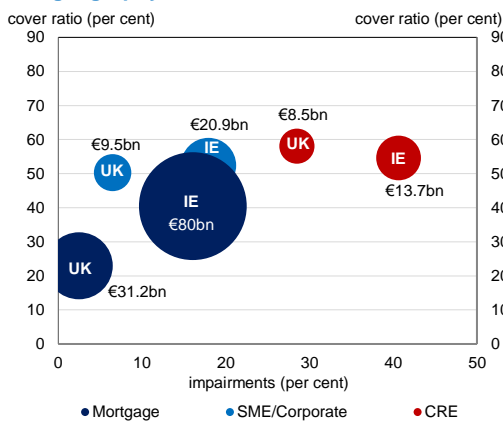
Source: Central Bank of Ireland.
Notes: Data are consolidated. Data show the contribution of each sector to the overall level of non-performing loans.

Chart 51: Domestic banks' non-performing loans as a share of loans to sector



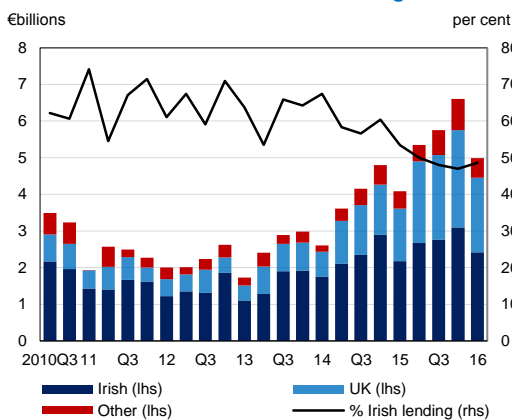
Source: Central Bank of Ireland.
Notes: Data are consolidated and represent impairment rates for each sector.

Chart 52: Domestic banks' asset quality by sector and geography



Source: Central Bank of Ireland.
Notes: Data are consolidated. Impaired loans are expressed as a percentage of lending to that particular sector. The size of the circle represents the value of overall lending to that particular sector. Data as at 2016Q1.

Chart 53: Domestic banks' new lending



Source: Central Bank of Ireland.
Notes: Data are consolidated.

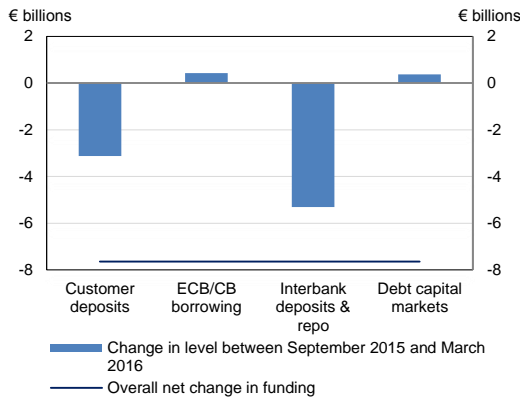
Outstanding lending at the domestic banks continued to decline in 2015Q4. Loan balances fell by 3 per cent in the first quarter of the year and by 9 per cent on an annual basis, to €180.8 billion at the end of 2016Q1 (Chart 49). The reduction is attributable to a steady stream of redemptions, portfolio sales and loan-restructures (including write-offs), which have exceeded the flow of new lending. Domestic banks' loan books are somewhat concentrated. Almost three-quarters of outstanding loans are property-related, (62 per cent mortgage related and 12 per cent to the commercial property sector), while SME and corporates account for about one fifth. Consumer loans account for most of the balance. Borrowers based in the UK are responsible for approximately 30 per cent of the aggregate loan book, demonstrating the importance of that market to the domestic banks.

Total new lending volumes of almost €5 billion were written in the opening quarter of 2016 (Chart 53), bringing cumulative lending over the past year to €22.7 billion. Although this constituted a 37 per cent increase over the equivalent 2015Q1 figure, new loan origination remains relatively subdued. New lending volumes remain below levels needed to offset loan redemptions. The largest share of new lending in recent quarters has been to SME/corporates, which on average has accounted for 43 per cent of the total since early 2014. Firms involved in manufacturing and business and administration services were to the fore in this regard. Residential mortgage lending represented the second largest share, making up 37 per cent of new loans over the same period. At approximately 11 per cent of the total, lending to commercial property is still quite muted. The provision of debt and refinancing facilities to investors hoping to buy into the Irish commercial property recovery in the period ahead, however, has the potential to boost CRE lending significantly. With this in mind, there may be a temptation for banks to adopt less prudent credit standards in order to increase yield, especially given the current low interest-rate environment.

The share of new lending to the Irish market has been falling of late. Less than 50 per cent of new lending originated by the domestic banks in 2015 was to borrowers based in Ireland (Chart 53). The share of new credit to the UK has been increasing, from about 30 per cent in 2014 to over 40 per cent in 2016Q1, mainly reflecting the activities of one bank. The growth in UK business is mainly due to increased levels of mortgage lending there.⁵⁷ Continuing increases in lending represent further steps towards the attainment of a sustainable business model. However, the rising share of new lending stemming from the UK raises a number of issues for domestic banks. Substantial mortgage exposures to it mean that the UK housing market may be a source of credit risk. A vote to leave the EU in the forthcoming referendum in the UK may affect both the level

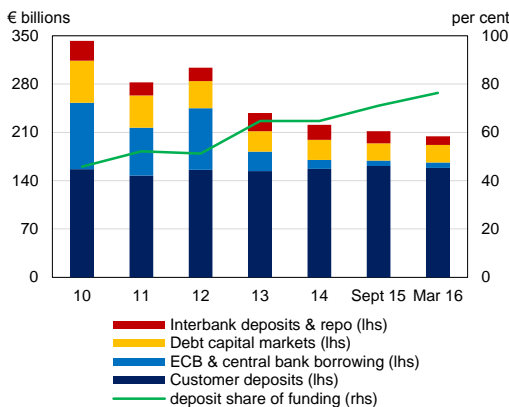
⁵⁷ Bank of Ireland has been particularly active in the UK mortgage market of late. According to BOI's Annual Accounts for 2015, new mortgage lending levels in Ireland funded by the bank last year were up 12 per cent to €1.4 billion compared to an increase of over 80 per cent in new UK mortgage lending to €3.3 billion.

Chart 54: Change in domestic banks' funding composition



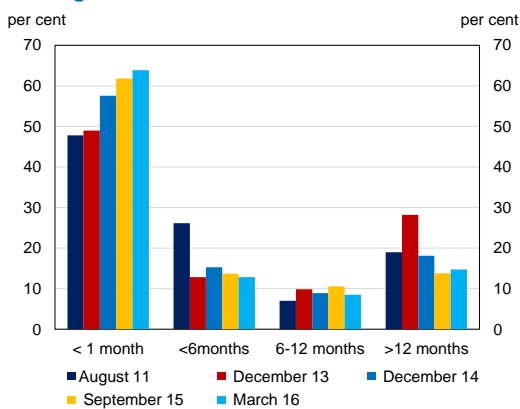
Source: Central Bank of Ireland.
Notes: Change in funding components between September 2015 and March 2016.

Chart 55: Funding profile of domestic banks



Source: Central Bank of Ireland.
Notes: Data are consolidated.

Chart 56: Maturity profile of domestic banks' funding



Source: Central Bank of Ireland.
Notes: Data are consolidated.

of new lending and the existing large UK loan book.

Funding

Since the last Review, domestic banks' funding levels have declined and there have been changes to the composition of funding. Between September 2015 and March 2016, overall funding fell by almost 4 per cent. This reflects a continuation of declining balance sheets which began during the crisis. The low interest-rate environment and associated search for yield in financial markets continues to facilitate domestic banks in achieving lower funding costs. Domestic bank debt generally continues to trade at low rates. However, these institutions are vulnerable to any reversal in this sentiment. Banks continue to meet liquidity requirements under the CRR. The BRRD, launched in January, may lead to additional funding requirements while uncertainty regarding the UK referendum on EU membership may have consequences for funding.

Between September 2015 and March 2016, total funding declined by almost €8 billion (Chart 54) to €204 billion. Interbank deposits and repos fell by just over €5 billion during this time. At end-March 2016, deposits comprised over 77 per cent of total funding at €158 billion (Chart 55). Overall deposits declined by just over €300 million between September 2015 and March 2016. The large proportion of customer deposits means that 64 per cent of total funding has a maturity of one month or less (Chart 56). However, over three-quarters of those funds are retail deposits which tend to be a relatively stable source of funding.

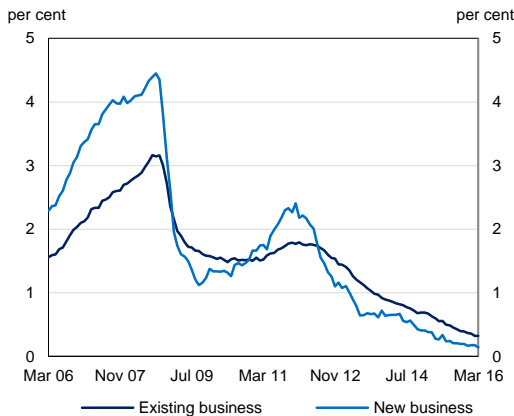
Irish retail deposit rates have been declining in recent years. Between September 2015 and March 2016, rates paid on existing deposits fell by 11 basis points while those on new business declined by 6 basis points (Chart 57). Although this cost of funding continues to fall in line with policy rates and market rates, the rate of decline has slowed recently.

Liabilities covered by the ELG Scheme continue to fall. At March 2016, 1.2 per cent of banks' liabilities were covered by the Scheme, down from 30.8 per cent at the peak in December 2011. The reduction in coverage and, in turn, the ELG fees have contributed to lower funding costs for the domestic banks.

The low interest-rate environment contributes to a search for yield in financial markets and investor sentiment towards both the domestic banks and Irish sovereign remains positive. This is easing access to market-based funding for the domestic banks. Several banks have issued debt since the last Review. Market yields on both secured and unsecured debt issued by these banks generally remain low (Chart 58). Any negative changes in investor sentiment could drive up the price of market funding or possibly hinder banks' ability to access funding from this source.

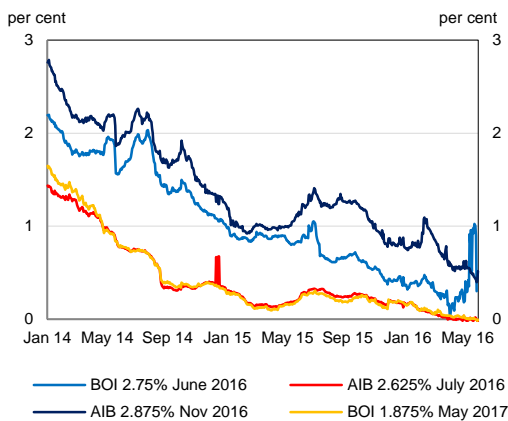
Domestic banks currently meet the liquidity requirements outlined in the CRR, namely the LCR. The CRR measures aim

Chart 57: New and existing retail deposit rates



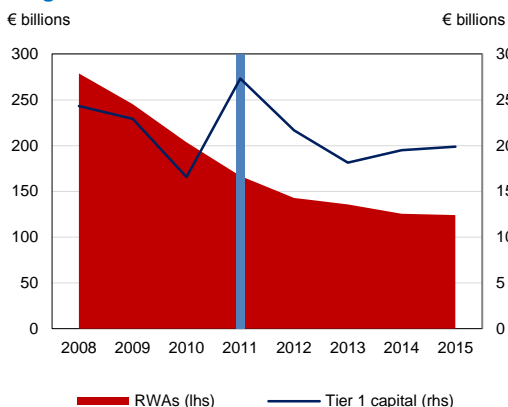
Source: Central Bank of Ireland.
Notes: Data relate to new and existing business rates offered to households and NFCs conducted through resident offices of banks operating within the State.

Chart 58: Domestic banks' secured and unsecured bond yields



Source: Bloomberg.
Notes: Last observation: 30 May 2016. AIB 2.875% Nov 2016 and BOI 2.75% June 2016 are senior unsecured bonds. AIB 2.625% July 2016 and BOI 1.875% May 2017 are secured bonds.

Chart 59: Domestic banks' tier 1 capital and risk weighted assets



Source: SNL Financial and Central Bank of Ireland.
Notes: Data are consolidated. Last observations: December 2015. Light blue line denotes the July 2011 government capital injection.

to strengthen the banking sector's ability to absorb funding and liquidity shocks over short- and medium-term timeframes. The LCR requires financial institutions to have sufficient liquid assets on their balance sheets to absorb outflows in adverse scenarios over a 30-day period while the NSFR requires a minimum amount of stable funding based on the liquidity characteristics of an institution's assets over twelve months. Since January 2015 a minimum LCR of 60 per cent has been implemented, which will increase incrementally to 100 per cent by January 2019. The three domestic banks currently have LCRs in excess of 100 per cent. The NSFR is due to be introduced in January 2018, at which time it will be required that the ratio of the available amount of stable funding to the amount required be greater than 100 per cent. Domestic banks are currently at or close to this requirement. The BRRD could potentially lead to a greater emphasis on banks' funding plans and possibly lead to additional funding requirements.

Solvency

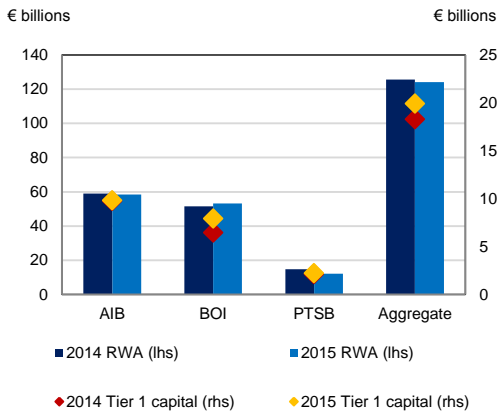
The domestic banks' capital position continues to improve. This has been driven by a combination of capital issuance and improved overall profitability in the sector. Notwithstanding these developments, bank capital remains susceptible to any risks to profitability such as, for example, those stemming from the low interest-rate environment, impaired assets and weak underlying profitability. With the introduction of the capital buffer framework, such as the CCyB and the O-SII, they may be required to hold higher amounts of capital in the future. As a result, it is imperative that banks work towards the development of business models that generate sustainable long-term profits.

In aggregate, transitional tier 1 capital increased by over €1.6 billion between 2014 and 2015 (Chart 59), driven in the main by BOI (Chart 60). The factors driving these increases during 2015 vary across banks including, equity issuances, improved profitability and pension deficit reductions. The slowing rate of deleveraging of domestic banks' balance sheet is evident in aggregate risk-weighted assets (RWA). Between 2011 and 2015, RWAs fell by 26 per cent. However, in the 12 months to end-2015, the decline was only 1 per cent. The combination of increases in the capital base and the reduction in RWA has seen transitional tier 1 capital ratios increase to 16 per cent.

A particular difficulty highlighted in previous Reviews has been domestic banks' ability to meet the capital requirements on a fully-loaded basis. All three banks are above the regulatory minimum on both a transitional and fully loaded basis and fully loaded positions have improved between 2014 and 2015 (Chart 61).⁵⁸ Both AIB and Bank of Ireland underwent capital restructuring in the past twelve months, redeeming and/or derecognising government preference shares in the process.

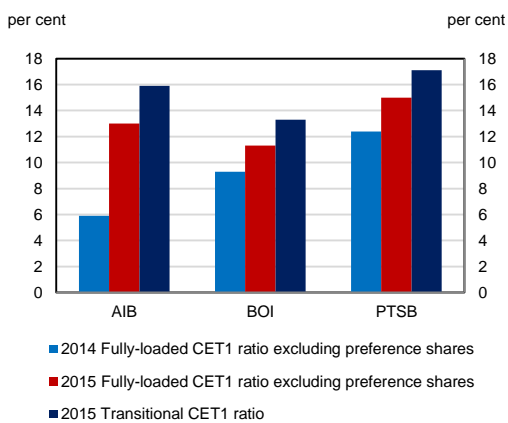
⁵⁸ Transitional CET1 ratios reflect an institutions current capital position while fully-loaded ratios incorporate the majority of deductions arising from new regulations. Although the requirements are being phased in over time, international banks are already publishing these fully-loaded ratios in advance of the deadlines, due to market pressure.

Chart 60: Change in the level of tier 1 capital and risk weighted assets



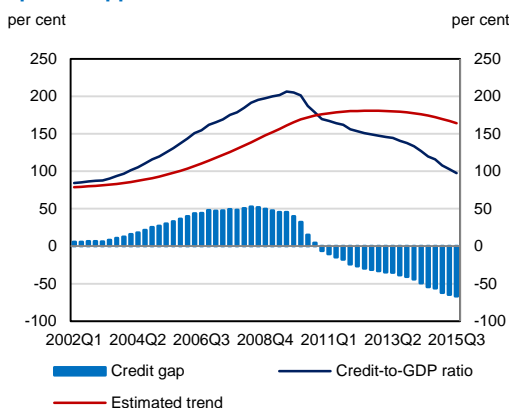
Source: Banks' annual reports.

Chart 61: Irish banks' core tier one ratios



Source: Banks' annual reports.

Chart 62: Credit-to-GDP ratio and gap – National specific approach



Source: CSO, BIS and Central Bank of Ireland calculations.
 Notes: The estimated trend is calculated using a Hodrick-Prescott filter. The credit gap is defined as the deviation of the credit-to-GDP ratio from its long-run trend.

This has contributed to improvements in the fully loaded ratios.

In response to the financial crisis, European authorities introduced a range of new regulatory measures designed to strengthen the shock absorption capacity of the EU banking sector. (See Box 7 for a discussion of the reciprocation of macroprudential policies across the EA.) European banking regulations introduced capital buffers for institutions that are deemed important at both a global level (G-SIIs) and a domestic level (O-SIIs). The Central Bank has identified AIB and Bank of Ireland as O-SIIs. A buffer rate of 1.5 per cent has been set for these banks, to be phased-in between 2019 and 2021.⁵⁹

The CCyB is a time-varying capital requirement designed to increase resilience and lessen pro-cyclicality in the banking system. To this end, the CCyB will increase the capital requirement of banks when credit growth is deemed 'excessive'. The CCyB may then be released, partially or fully, either during a period of systemic stress or when credit growth and associated systemic risks recede. The Central Bank sets CCyB rates on a quarterly basis by analysing a range of indicators to select the appropriate rate. On April 1, it was announced that it was maintaining the CCyB rate at 0 per cent.⁶⁰ One of the reasons for this decision is that credit growth remains weak as the private non-financial sector continues to deleverage. Credit growth is weak across both the household and NFC sectors and has been lagging behind GDP growth. The credit gap, which is measured as the deviation in the credit-to-GDP ratio from its trend level, and is a recommended indicator in the international CCyB framework, for Ireland is currently negative and therefore not suggestive of 'excess' credit growth (Chart 62).

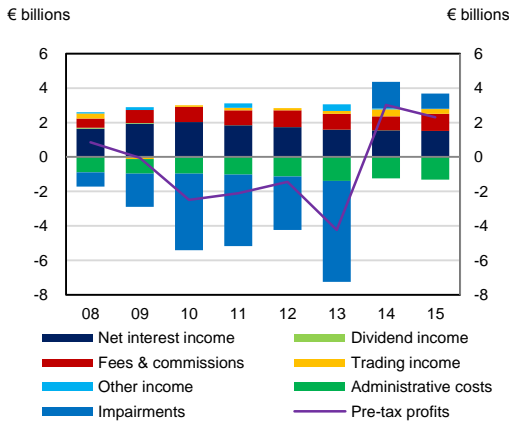
Foreign-owned resident banks⁶¹

The total assets of foreign-owned banks domiciled in Ireland account for almost 50 per cent of total Irish banking system assets. These institutions, therefore, play a significant role in the Irish financial landscape, and serve as a source of both employment and credit for the economy. The way in which these banks are influenced by domestic macro-financial events and conditions varies according to the specific business model that each institution adopts. Internationally focussed banks, such as UniCredit Bank Ireland plc and Citibank Europe plc, are not as exposed to domestic macro-financial risks as those institutions with a retail focus, for instance, Ulster Bank Ireland and KBC Ireland.

Total assets of foreign-owned banks have fallen by 3.6 per cent since the last Review, as banks continued the process of deleveraging that began in response to the crisis. Total assets were €133 billion at end-December 2015. In aggregate, foreign-owned banks continue to be profitable, having returned to

⁵⁹ For further information see http://www.centralbank.ie/publications/Documents/Macro-Financial%20Review%202015_2.pdf.
⁶⁰ For further information see <https://www.centralbank.ie/stability/MacroprudentialPol/Pages/CountercyclicalCapitalBuffer.aspx>.
⁶¹ The term 'foreign-owned resident bank' refers here to a selection of the larger banks whose ultimate parent is domiciled outside the State.

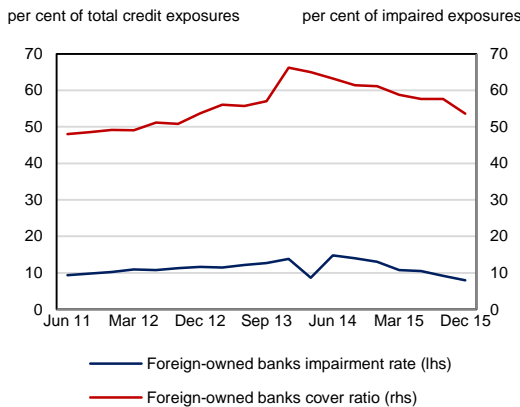
Chart 63: Foreign-owned banks' profitability



Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the EBA's FINREP reporting requirements. Impairments include provisions. Last observations: December 2015.

profitability in 2014 following a four-year period of recorded losses. A contributing factor in the return to profitability in 2014 was the write-back of impairment provisions. In the year to December 2015, total profits declined by 23 per cent to just over €2 billion (Chart 63). This fall was primarily due to a decline in impairment write-backs. While continuing to bolster profitability write-backs decreased by 43 per cent over the year. When write-backs are controlled for, pre-impairment profitability remained relatively stable in the twelve months to December 2015 at €1.4 billion.

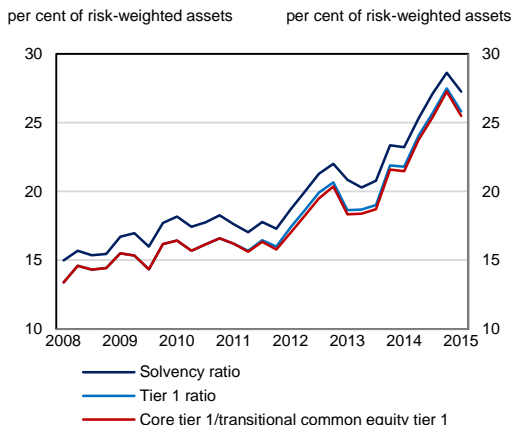
Chart 64: Foreign-owned banks' impairment rates



Source: Central Bank of Ireland.
Notes: Data are consolidated. Last observations: December 2015.

Reflecting the broad range of international exposures and the diversity of business activities, impairment rates are much lower among foreign-owned resident banks compared with domestic banks. The reduction in impairment provision mentioned above is reflected in the continued decline in foreign-owned banks' impairment rates, which have fallen by 4 per cent since the last Review (Chart 64). This drop has been led by retail-focused banks and is driven by the continued domestic macro-economic recovery. Institutions that do not engage in Irish retail activities continue to exhibit insignificant levels of impairments. The cover ratio for foreign-owned banks fell slightly since the last Review, to 54 per cent at December 2015 (Chart 64).

Chart 65: Foreign-owned banks' capital ratios



Source: Central Bank of Ireland.
Notes: Data are consolidated.

Intragroup support continues to comprise the largest single source of funding for foreign-owned banks with over a third of total funds sourced from related entities. This may be a relatively stable source of funding but banks are susceptible to any negative shocks that group entities may experience. In terms of maturity, the majority of funding continues to be predominantly short term in nature, with almost 40 per cent of total funding maturing in less than one month.

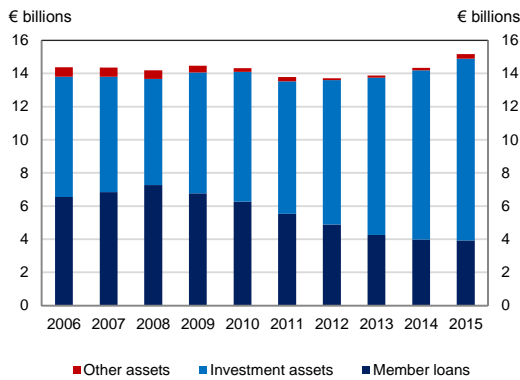
Foreign-owned resident banks' tier one capital has remained relatively unchanged since the last Review, at €22.5 billion in December 2015. RWAs have also remained relatively stable over the period. Therefore, capital ratios for these banks have not changed materially, with the core tier 1 capital ratio at 25.5 per cent in December 2015 (Chart 65).

As with the domestic banks, foreign-owned banks resident in Ireland face challenges in terms of the capital requirements outlined in the CRR, particularly in terms of capital add-ons and buffers.

Credit unions

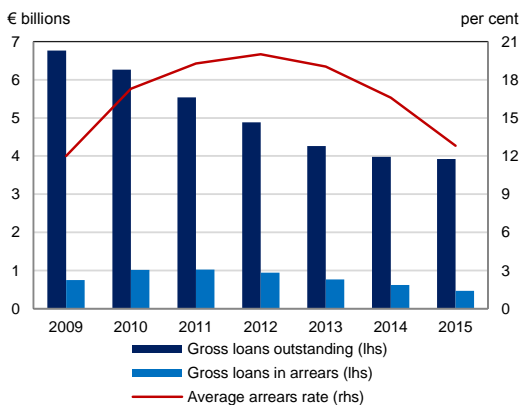
The credit union sector experienced a mixed year in 2015. On the positive side, non-performing loans, while high, continued to decline and the number of credit unions reporting reserve ratios below the minimum regulatory requirements fell. However, long-term issues facing the sector remain. While the aggregate balance sheet has increased, total loans have continued to decline. Profitability across the sector remains particularly weak. Low profitability implies low returns or dividends to members,

Chart 66: Breakdown of credit unions' total assets



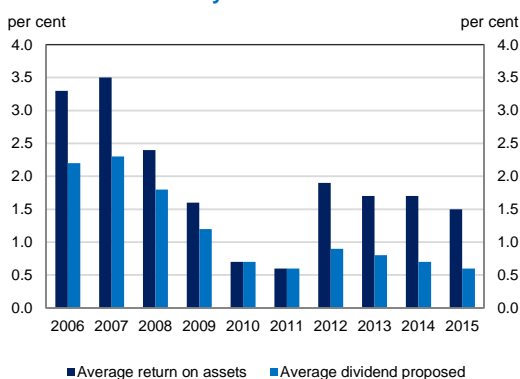
Source: Central Bank of Ireland.

Chart 67: Credit unions' member loans and arrears



Source: Central Bank of Ireland.
Notes: Arrears refer to members' loans that are more than nine weeks in arrears.

Chart 68: Profitability of credit unions



Source: Central Bank of Ireland.

which can affect deposits. The challenge for credit unions remains the development of a robust business model which will allow for a stable, efficient and viable sector in the future.

The pace of consolidation increased significantly in 2015. The number of credit unions declined from 376 to 336. Mergers and transfers accounted for the majority of the reduction. Fewer, but more financially stable, credit unions have been put forward as one part of the process in stabilising the sector.

Although the number of credit unions operating within the State declined, total assets of the sector increased by 6 per cent during 2015 (Chart 66). While there have been some increases in aggregate new lending volumes, gross loans to members continued to decline.

The number of credit unions subject to lending restrictions fell to 102 by the end of 2015 – down from the peak of 199 at the beginning of last year. The restrictions were introduced to limit risky lending and excessive risk taking. The removal of these limits reflects improvements in credit risk management across individual credit unions. The extent of the restrictions that remain in place, however, points to the ongoing fragility within the sector.

Credit quality in the loan book continued to improve with progress in both the level and rate of arrears (Chart 67). The latter stood at 12.8 per cent for the sector at end-2015, albeit with considerable differences across individual credit unions.

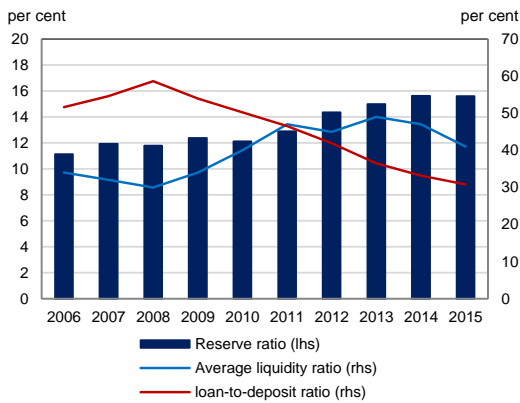
Credit unions have offset the decline in members' loans by increasing their portfolio of investment assets, which accounted for over 72 per cent of assets at end-2015 (Chart 66). The increasing reliance on investment assets is not without risk, however, particularly in the current low-interest rate environment and with the possibility of increased financial market volatility.

The income level of the sector remains low having declined by 40 per cent over the period 2008-2015, which affects the viability of the sector. Average return on assets declined for the third year in a row to 1.5 per cent (Chart 68). Reflecting the weak profitability of the sector, average dividends proposed continued to fall and are at their lowest level since the financial crisis.

Although dividends have declined, they have not affected credit unions' ability to attract funding. Members' savings, which account for almost all of credit union funds, increased by 6 per cent in 2015. Declines in deposit rates offered by banks and, more generally, the low interest-rate environment may make credit unions an attractive location for savings. Average liquidity ratios declined marginally to 41 per cent in 2015 but remained well above the regulatory requirement of 20 per cent (Chart 69).⁶² As a result of a decrease in the loan-to-deposit ratio, the level of unattached deposits has increased (Chart 69).

⁶² The liquidity ratio measures liquid assets as a percentage of unattached savings. Liquid assets includes cash short-term investments

Chart 69: Credit unions' reserves and liquidity ratios



Source: Central Bank of Ireland.

Unattached savings are not attached to loans or otherwise pledged as security and can be withdrawn by members – in many instances, on demand – thereby constituting liquidity risk.

The ability of credit unions to withstand financial stress, as measured by total reserves, remained broadly unchanged with average reserve ratios of 15.6 per cent (Chart 69). The number of credit unions reporting reserve ratios below the regulatory requirement of 10 per cent declined from 11 at the end-2014 to 9 at end-2015, in part explained by consolidation within the sector.

While credit unions continue to make progress in a number of areas, the continued viability of the sector depends on the establishment of business models that are both operationally efficient as well as prudent. Increased income through traditional lending activity has been highlighted as an area which is important in achieving this goal.

Box 7: Reciprocation of macroprudential policies

Macroprudential policy aims to increase the resilience of the financial sector using a wide range of instruments, such as increased capital requirements on certain loan exposures and policies focusing on lending standards.¹ Given the highly globalised nature of the financial industry, however, policies implemented by a single country can be undermined by the activities of foreign institutions within the country. This is an example of regulatory leakage. In addition, policies introduced to address domestic risks can have knock-on effects on the financial stability of other countries; these are referred to as spillover effects. For example, if a country takes policy action to address an identified systemic risk by introducing increased capital requirements on domestic exposures of domestic institutions, leakages may arise if foreign institutions lending directly into the country are not covered by the regulation. This creates both a distortion in the competitive landscape and incentives for domestic institutions covered by the regulation to re-route their activities to avoid the increased capital requirements, thus reducing the effectiveness of the policy. In terms of spillover effects, the competitive advantage accruing to foreign institutions over domestic institutions would incentivise increased lending into the activating country. This rising exposure without increased capital requirements could also represent a risk to the financial stability of the institutions' home countries.

Reciprocation of national macroprudential measures by other countries aims to avoid such leakages and spillover effects by requiring other countries to introduce equivalent regulations for their own institutions. In the above example, this would involve policymakers in other countries also increasing capital requirements on institutions regulated in their jurisdiction with exposures to the activating country.

Reciprocation is particularly important in a European context given the highly integrated nature of the EU financial sector and is coordinated at a European level by the ESRB. The reciprocation of all relevant policies introduced by Member States is recommended.² However, not all macroprudential policies require reciprocation; this will depend on the nature of the instrument used in terms of both potential spillover effects and vulnerability to leakages. In general, exposure-based measures, such as sectoral capital requirements, should be reciprocated as these policies are designed to address specific risks arising from particular exposures and policy measures must apply to all participants in a market to be effective. Institution-specific policies, such as capital buffer requirements for systemically important institutions, will generally not need to be reciprocated. As a number of instruments, such as the systemic risk buffer, can be used as either exposure-based or institution-specific measures, their reciprocity will be considered on a case by case basis (see Table A). In the case of CCyB rates set by other EU Member States, reciprocation is generally mandatory and automatic, while for CCyB rates set by non-Member States, reciprocation is discretionary but encouraged.³

The Irish reciprocation framework has been laid out in line with ESRB recommendations. Following an appropriate assessment, the Central Bank will reciprocate macroprudential measures taken by other EU Member States and relevant non-Member States, as a matter of course and to the extent possible. As a member of the Single Supervisory Mechanism (SSM), the Central Bank's decisions regarding macroprudential policies will also be made in conjunction with the ECB. An example of a policy where reciprocation has been requested at a European level is the National Bank of Belgium's risk weight add-on for Belgian mortgage exposures.⁴ The ESRB has recommended that all European countries with financial institutions which have significant exposures to the Belgian mortgage market should reciprocate Belgium's measure.⁵ As Irish institutions have limited exposure to Belgian mortgages, the Central Bank is not required to reciprocate in this particular instance, but will review the situation as and when recommended by the ESRB.

Communication with Irish financial institutions is an important aspect of the Central Bank's reciprocation framework. Policies to be reciprocated will be announced via the [Macroprudential Policy section of the Central Bank's website](#) and the Central Bank will engage with institutions to ensure that both the process and the importance of reciprocation are fully understood. The responsibility to keep abreast of updates and to implement them will lie with financial institutions.

Table A: ESRB guiding principles for non-mandatory reciprocity

Rationale for measure	Examples of instruments	Reciprocity
To address specific domestic risks	LTV, LTI, sectoral capital requirement on domestic exposures	Strong reciprocity assumption
To address risks faced or posed by a sub-set of institutions considered jointly	Systemic risk buffer, Pillar 2 used for macroprudential purposes	Case by case assessment
To address risks to the economy posed by a specific institution or by a sub-set of institutions considered individually	O-SII and G-SII buffers	No reciprocity expectation

Source: ESRB handbook on cross-border effects of macroprudential policy and reciprocity.

¹ For more information on the instruments of macroprudential policy see [Grace, T., Hallissey, N. and Woods, M. \(2015\) "Instruments of Macroprudential Policy" Central Bank of Ireland, Quarterly Bulletin No. 1.](#)

² See [ESRB Recommendation 2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macro-prudential policy measures.](#)

³ For example, the CCyB rate set by the Monetary Authority of Hong Kong is currently reciprocated by the Bank of England. For more detail on the setting of CCyB rates for non-EU countries see [ESRB Recommendation 2015/1](#) on recognising and setting countercyclical buffer rates for exposures to third countries. CRD IV stipulates that in cases where an EU Member State sets a CCyB rate in excess of 2.5 per cent, reciprocation becomes discretionary.

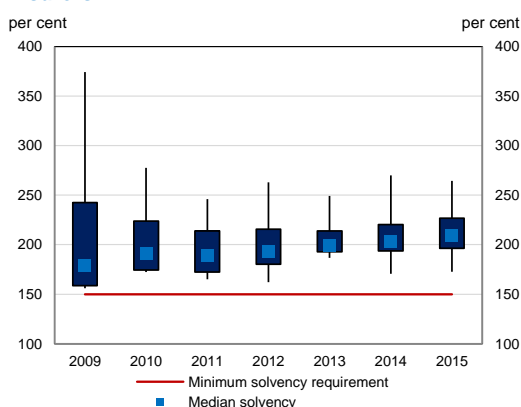
⁴ For further information on this policy [see here](#).

⁵ For further information see [ESRB 2016/3](#). This amendment should be considered in the context of the original recommendation, [ESRB 2015/2](#).

3.3 Insurance sector

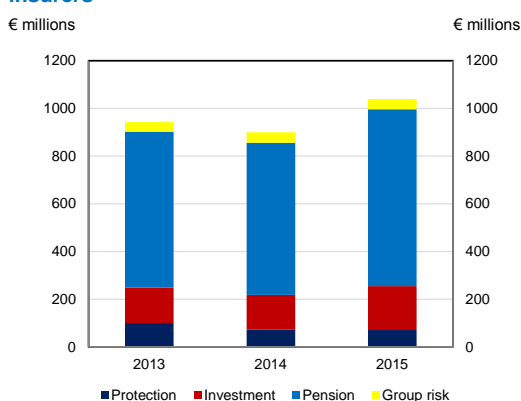
The domestic non-life sector continues to experience a difficult operating environment. All of the high-impact firms reported underwriting losses in 2015, primarily due to current challenges in the Irish motor insurance market. Firms have initiated substantial premium increases to address these challenges. The outlook for the domestic life sector appears positive as the sector experiences increasing growth, notwithstanding the challenges firms face in attracting new business in a competitive market. As a risk-sensitive regulatory framework, Solvency II, which came into effect on 1 January 2016, should strengthen insurers' resilience. There are, nevertheless, likely to be implementation challenges for firms in making the transition to this more complex regime. A Brexit from the EU could have implications for insurance firms located in Ireland conducting business in the UK market.

Chart 70: Solvency position of domestic life insurers



Source: Central Bank of Ireland.
Notes: The box at each point shows the interquartile range of solvency positions and the vertical lines show the maximum and minimum solvency positions.

Chart 71: Premium income of domestic life insurers



Source: Central Bank of Ireland.
Notes: Premium income is measured by new business annual premium equivalent (APE). Data are for the four largest domestically-focused life insurers.

The Irish insurance sector is diverse, comprising life, non-life and reinsurance firms operating across a range of product and geographical markets. A Brexit from the EU could have implications for insurance firms located in Ireland conducting business in the UK market, while the possible removal of UK competitors may benefit other firms operating in Ireland.⁶³ Premium volumes written by life and non-life firms on an “outward” and “inward” basis between Ireland and the UK in 2014 were €3.8 billion and €8.6 billion, respectively. Any financial market disruption arising from a vote by the UK to leave the EU could also have implications for firms across the sector.

Solvency II came into effect on 1 January 2016. Analysis presented here is based on data submitted under the Solvency I regime, as Solvency II data are not yet available. Although Solvency II has been in development for some time, there are likely to be challenges for firms in making the transition to the more complex new regime.

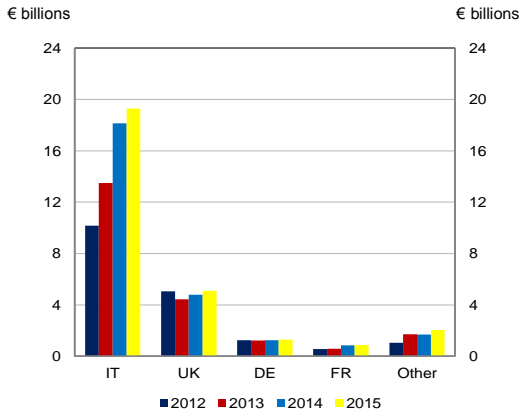
Life sector

The improvement in the Irish economy is supporting growth in the domestic life sector.⁶⁴ The longer-term outlook for the sector appears positive as demand is likely to be supported by Ireland's demographic structure and the increasing need to enhance private pension provision. The median solvency position of domestic life insurers strengthened marginally in 2015 (Chart 70). Firms have been taking measures to boost profitability, including cost-cutting initiatives and an increased focus on business retention which is a determinant of medium-term profitability. Lapse rates have declined across the sector and are below the long-run average. The challenge for the sector is to generate new business to support future profitability and develop products that are attractive to consumers in a competitive

⁶³ Depending on the nature of the Brexit, if it were to occur, Irish insurers may face restrictions upon their ability to conduct cross-border business into the UK and, similarly, UK insurers operating in Ireland may face restrictions.

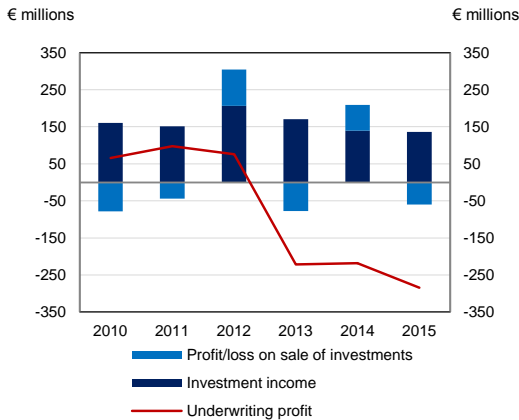
⁶⁴ Analysis of the domestic life insurance market is based on the four largest domestically-focused firms which comprise approximately 80 per cent of the market. However, the data are only indicative of the markets these firms operate in, given that other non-insurance firms offer similar products, particularly in the non-protection business.

Chart 72: Premium income of cross-border life insurers



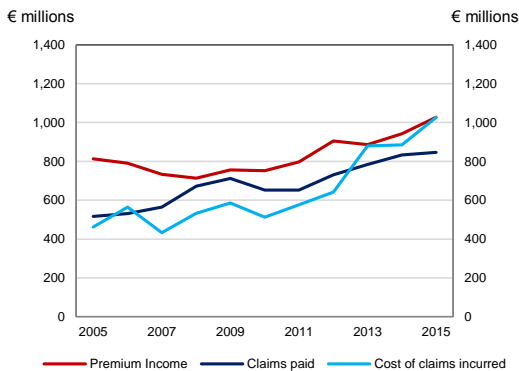
Source: Central Bank of Ireland.
Notes: The data relate to business conducted in EEA countries on an FOS and FOE basis. The data include variable annuity business.

Chart 73: Non-life insurers' underwriting profits and investment income and gains



Source: Central Bank of Ireland.
Notes: Data are an aggregation of domestically focused high-impact firms who collectively write approximately 80 per cent of Irish-risk business. Profit/loss on sale of investments includes realised and unrealised gains and losses.

Chart 74: Non-life insurers' premium income and claims on Irish-risk motor business



Source: Central Bank of Ireland.
Notes: Cost of claims incurred is claims paid adjusted by the change in the claims provision which is an estimate of settling present and future claims. The sample comprises high-impact firms.

savings-and-investment market.

Premium income increased by 15 per cent in 2015 over 2014 (Chart 71). The pension market, which accounts for the largest proportion of the sector's business, grew strongly in 2015 as employment conditions continued to improve. Demand for annuities continues to be weak due to the low interest rate environment.

Price competition, particularly from UK domiciled insurers selling through Irish branches, and low margins remain characteristic of the retail market. The retail protection business declined by 3.3 per cent in 2015 as domestic firms chose not to engage in price matching. This strategy has led to some improvements in profitability. The retail investment business of the sector performed strongly in 2015, increasing by 26.8 per cent, in a competitive market. This may, in part, be explained by the improving macroeconomic environment as well as firms' efforts to enhance their product offerings.

Unit-linked products accounted for less than 20 per cent of life insurance policies in the EA in 2014, with the pace of growth being moderate.^{65, 66} This contrasts with the life market in Ireland where unit-linked products comprise approximately 90 per cent of firms' assets under management. The low interest rate environment does not, therefore, pose a substantial risk to these firms. Where firms are exposed to other risks, such as the longevity risk inherent in annuities, the risk is reinsured.

The cross-border life insurance sector is substantially larger than the domestic market. Firms with significant cross-border business do not operate in the domestic market. Given the size of the business, any difficulties in this sector could be a source of reputational risk. This activity is conducted by firms located in Ireland but selling insurance in other EU countries on a freedom of services (FOS) or freedom of establishment (FOE) basis.⁶⁷ The main markets for Irish-based firms are those of Italy and the UK and the predominant product offering is unit-linked investments. Total premium income was €28.6 billion in 2015 (Chart 72), of which over €2 billion was generated by variable annuity firms which also operate in this sphere.⁶⁸ The low interest rate environment has been negatively affecting the profitability of the variable annuity sector in recent years due to its book of guaranteed products to the extent that the long-run viability of the sector is uncertain.

Non-life sector

The domestic non-life insurance sector continues to experience severe operating challenges. All of the high-impact firms reported underwriting losses in 2015 such that aggregate losses

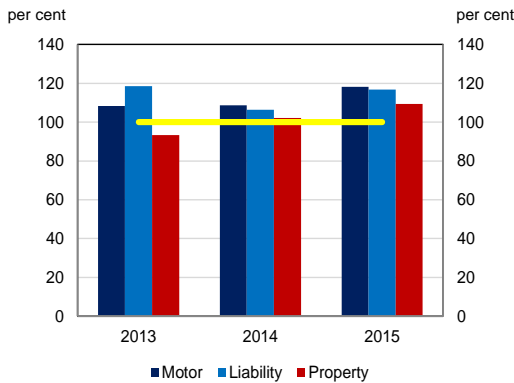
⁶⁵ Unit-linked products are investment products whose returns are directly linked to market performance and the investment risk is borne entirely by the policyholder.

⁶⁶ See [ECB \(2015\) Financial Stability Report](#) page 90.

⁶⁷ The cross-border operations of life and non-life insurance firms is facilitated by European legislation whereby undertakings authorised to perform insurance activities in the Member State where their head office is located can also operate, under FOS or FOE (through a branch office), in other Member States. This allows firms regulated in Ireland to sell insurance in other EU countries and, in addition, insurers authorised in the EU can write business in Ireland.

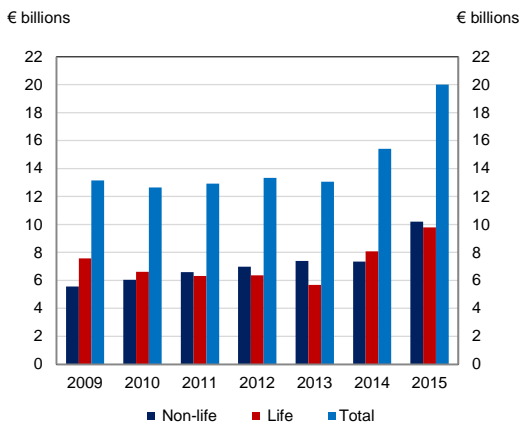
⁶⁸ Variable annuities are life insurance products with investment guarantees.

Chart 75: Non-life insurers' combined ratio



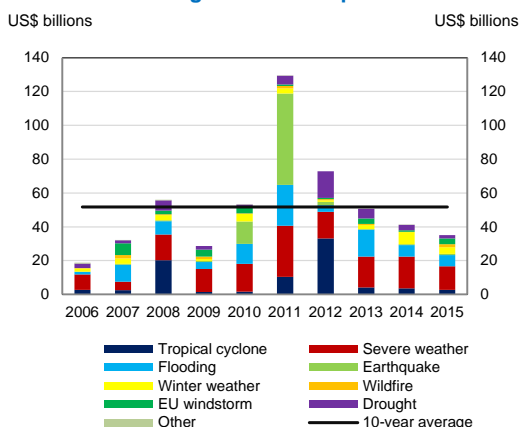
Source: Central Bank of Ireland.
Notes: Combined ratios are calculated as the cost of incurred claims and expenses as a percentage of earned premium income. A combined ratio below 100 per cent indicates that a company is making an underwriting profit, while a ratio above 100 per cent means that the cost of claims is greater than the premium earned, resulting in an underwriting loss. The sample comprises high-impact firms.

Chart 76: Premium income of reinsurance firms



Source: Central Bank of Ireland.

Chart 77: Insured global catastrophe losses



Source: AON Benfield.

amounted to €284 million on their global business (Chart 73). Contributing to this are increasing claim costs stemming from legislative and judicial changes and increased economic activity.⁶⁹ These factors predominantly affect bodily injury claims in the motor (Chart 74) and liability lines of business, which comprise 50 per cent and 17 per cent of firms' Irish-risk business, respectively. This is reflected in the combined ratio for both the motor and liability books of business which has been exceeding 100 per cent (i.e. recording underwriting losses) for the past number of years (Chart 75). The combined ratio of property book of business has also deteriorated, increasing to 109 per cent in 2015. Claims uncertainty has also increased for firms with the impending introduction of PPOs which are likely to affect all aspects of insurers' business.⁷⁰

Competition for market share has also had an impact on firms' underwriting profitability. As tends to occur in the insurance underwriting cycle, the sector has responded by raising premium rates.⁷¹ Although there have been substantial increases in motor premium rates, motor premium income of the high-impact non-life firms did not increase to the same extent.⁷² In aggregate, high-impact firms' motor premium income increased by 9 per cent in 2015 (Chart 74), while some of these firms experienced declines in motor premium income of up to 5 per cent. The increased premium rates have resulted in reduced cover being taken up by policyholders and loss of business for these firms. However, firms operating in the domestic market on a branch (or FOE) basis saw increases in aggregate motor premium income of 34 per cent in the same period. There is likely to be further upward pressure on premiums as firms strive to strengthen their financial position.

Investment income of domestic non-life insurance firms has in the past offset underwriting losses. However, aggregate investment income has been declining over time and fell marginally from €139 million in 2014 to €136 million in 2015. (Chart 73). The low interest rate environment is likely to result in a continuation of declining investment income as proceeds from maturing assets (predominantly fixed-income assets such as sovereign and corporate bonds) are reinvested in lower-yielding assets. Realised and unrealised gains and losses on investments totalled to an overall loss of almost €60 million in 2015. Increased financial market volatility poses the risk of greater losses on future investment disposals. While there have not been significant changes in firms' investment asset allocations to date, it is likely that the prolonged low interest rate environment and Solvency II capital requirements will prompt firms to consider strategic asset allocation changes to enhance

⁶⁹ See Central Bank of Ireland (2015), *Bodily Injury Thematic Review*.

⁷⁰ PPOs pay a proportion of the settlement as a continuing indexed-linked periodic payment over the claimant's lifetime rather than paying a lump-sum on settlement.

⁷¹ The underwriting cycle is the tendency of insurance premiums and profits to rise and fall over time. A cycle begins when insurers tighten their underwriting standards and raise premiums after a period of severe underwriting losses or negative shocks to capital (e.g., investment losses). Stricter standards and higher premium rates lead to an increase in profits and accumulation of capital. The increase in underwriting capacity increases competition, which in turn drives premium rates down and relaxes underwriting standards, thereby causing underwriting losses and setting the stage for the cycle to begin again.

⁷² Annual premium inflation in the motor sector averaged 21 per cent in 2015 private motor insurance component of the Consumer Price Index.

returns, possibly through increased credit and liquidity risk.⁷³

The underwriting performance of firms and net realised and unrealised losses on investment are affecting the sector's solvency position. The median solvency position of the high-impact firms declined from 274 per cent at end-2014 to 228 per cent at end-2015. The industry has also had to consider the Court of Appeal's recent ruling which upheld a High Court decision that the MIBI is liable to meet an estimated 1,700 claims still outstanding after the collapse of Setanta Insurance in 2014.⁷⁴

Reinsurance sector

The reinsurance sector in Ireland is an internationally focused sector, with firms present here being subsidiaries of global reinsurance groups. The sector, therefore, faces the same operating challenges as the sector globally. Any adverse developments in this sector could cause reputational damage to Ireland. Irish firms generated €20 billion in premium income in 2015 (Chart 76), an increase of 30 per cent on 2014, accounting for approximately 5 per cent of the global industry.

Profitability in the global industry was strong in 2015. This was underpinned by the below average level of catastrophe losses (Chart 77) and a high level of reserve releases. However, these supporting factors cannot be expected to be sustained over time and the prolonged nature of the challenges facing the sector is likely to put downward pressure on profit margins.⁷⁵

The challenges facing the reinsurance sector are unchanged since the last Review. The low-interest rate environment continues to affect firms' investment income and profitability. The associated search for yield by investors in financial markets continues to see alternative capital flow into the sector, albeit at a declining rate as the return on such capital declines. Alternative capital is estimated to have increased by 8 per cent in the year to end-2015, such that it now accounts for approximately 20 per cent of overall reinsurer capital.⁷⁶

This influx of capital into the sector, in tandem with low catastrophe losses and reduced demand from primary insurers, has contributed to a strongly capitalised sector and an excess supply of reinsurance capacity. The sector has experienced declining premium rates for four consecutive years as a result. Previously there were concerns that underwriting discipline may have been sacrificed in an effort to protect market share at the expense of profitability. However, during the April renewals period, there was evidence that some firms are refusing business rather than accepting lower prices or expanded terms of business.^{77, 78} There were also signs that primary insurers

⁷³ See [Standard Life Investments \(2016\), European Insurance Investment Survey](#). According to this survey of European insurers, the respondents of which included Irish firms, 50 per cent of insurers are expecting to decrease sovereign fixed income exposure, 43 per cent expect to increase their investment risk appetite and over 60 per cent of insurers expect to increase allocations to real estate and / or alternatives.

⁷⁴ All motor insurance firms operating in Ireland must be members of the MIBI which is funded by levies imposed on motor insurers.

⁷⁵ See S&P "Smoke and Mirrors: Reinsurers' Strong 2015 Results Mask Weak Business Conditions in Global Market", 24 March 2016 and Moody's *Reinsurance Monitor*, March 2016.

⁷⁶ See AM Best "Reinsurance outlook maintained at negative – redundant reserves, benign catastrophes mask reality" *Best's Briefing* December 2015.

⁷⁷

may be reversing their strategy of retaining more risk on their balance sheets and increasing their demand for reinsurance as a means of reducing capital requirements in response to Solvency II.⁷⁹

These challenges over the past number of years have prompted the industry to respond in a number of ways. The surge in merger-and-acquisition activity is continuing especially among smaller players, in an attempt to achieve scale and diversify business lines. Some firms are moving into less competitive speciality lines to counter price declines. Growth opportunities are being explored in US residential mortgage default risk, cyber risk and flood reinsurance. Such moves have diversification benefits for firms, notwithstanding the risks inherent in moving into new business lines.

The reinsurance cycle is based on a number of renewal seasons. The key reinsurance renewal periods are January 1st, April 1st, June/July 1st. January renewals and the mid-year reinsurance renewals take a particular focus on U.S. property catastrophe reinsurance renewals. Europe features most heavily in January, while Asian reinsurance renewals are a focus in April.

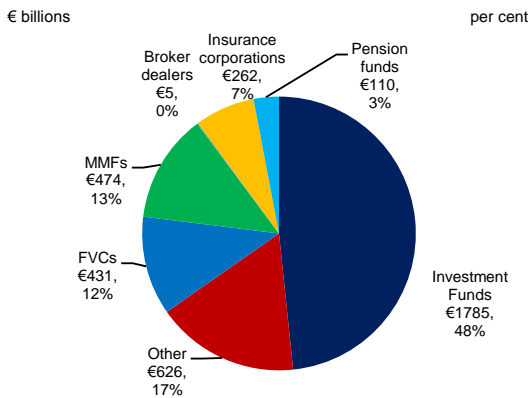
⁷⁸ See FT article "[Reinsurers fight back against falling prices](#)", 31 March 2016.

⁷⁹ See Willis Re "Will demand growth ease the pain?", *Willis Re 1st View*, April 2016.

3.4 Non-bank financial intermediaries

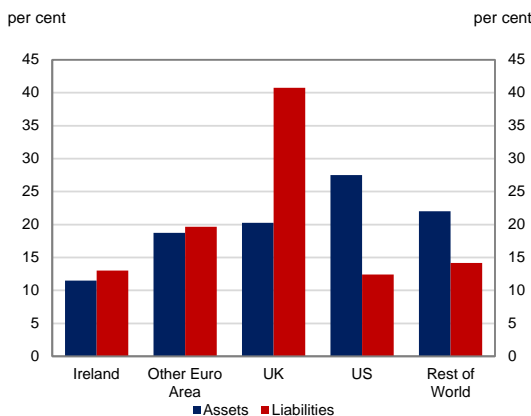
Total assets in investment funds, money market funds and special purpose vehicles in Ireland amounted to around €3 trillion at the end of 2015, having continued to expand in the second half of the year. Nevertheless, growth was at a somewhat slower pace than previously, reflecting uncertainty in financial markets. Although total assets are a large multiple of Irish GDP, these entities have weak links to the Irish economy. Risks in this sector centre on the potential for these entities, in Ireland and abroad, to play a destabilising role in international financial markets at times of market stress.

Chart 78: Non-bank financial sector



Source: Central Bank of Ireland.
 Notes: Data as at 2015Q4 for consistency as 2016Q1 data are not available across all sectors. Total value of assets amounted to €3,693 billion at end-2015Q4. Insurance companies are considered in section 3.3 while pension funds are regulated by The Pensions Authority.

Chart 79: Balance sheet location for funds and FVCs



Source: Central Bank of Ireland.
 Note: Data as at 2016Q1.

Overview

The non-bank financial sector in Ireland is multi-faceted (Chart 78). The MMF and IF industries accounted for 61 per cent of total assets in 2015Q4, ranging from passive index-tracking funds to hedge funds. The purpose of such funds is largely to channel investor funds into debt security and equity instruments. Securitisation activity amounted to 12 per cent of the sector, as indicated by the FVC entry in Chart 78, where the cash flows from various contractual debt assets are passed on to investors through the issuance of debt securities. The “Other” residual sector, derived from the national financial accounts total, is diverse. The Central Bank has improved data coverage of this area by extending reporting requirements.

Non-bank financial entities have been playing an increasingly important role in global finance in recent years. For example, these entities invest in debt securities and lend through securities financing and securitisation.⁸⁰ This enhanced role in global finance may cause spillover effects to other financial sectors in stressed market conditions if, for example, funds are forced to sell assets or where securitisation markets become illiquid. Furthermore, the breadth and complexity of links between various financial entities can add to uncertainty.

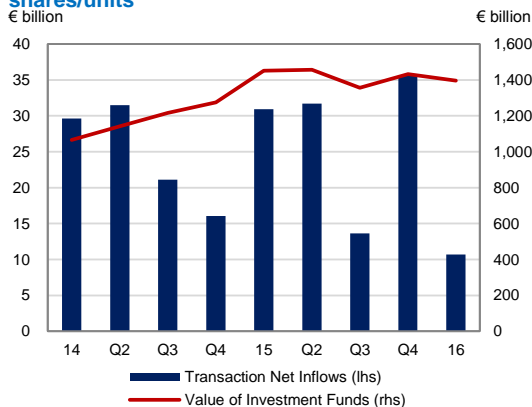
For the domestic financial system, direct risks are limited. Both the assets and liabilities of funds and FVCs are located predominantly outside of Ireland (Chart 79). Furthermore, many of the links between entities within Ireland reflect fund cross-shareholdings or deposits held in funds or IFSC banks. The main financial stability risks arise from the exacerbation of market stress within the international financial system by shocks emanating from non-bank entities in Ireland and elsewhere.

Investment funds

Recent developments in Irish-resident IFs reflect heightened uncertainty in financial markets. The net asset value of shares/units in IFs declined by €70 billion to €1,355 billion at end-

⁸⁰ Securities financing activity corresponds to lending where cash is loaned out in return for collateral and regular rollover of the agreement between the two entities involved may occur.

Chart 80: Net asset value of investment funds shares/units

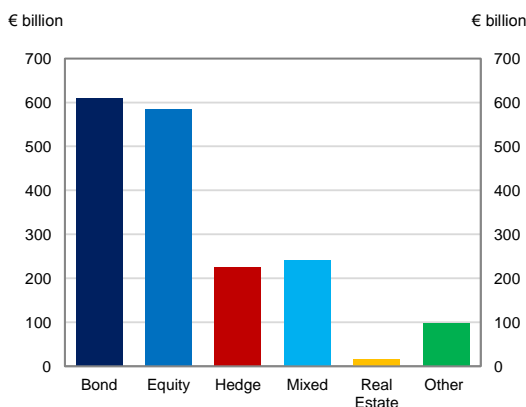


Source: Central Bank of Ireland.

2015Q3, recovered to €1,432 billion at end-Q4 before dipping to €1,397 billion by end 2016Q1 (Chart 80).⁸¹ This pattern was strongest in equity funds, with volatility partly reflecting concerns surrounding the impact of economic pressures in some emerging economies and the future path of US monetary policy. Investor flows remained positive throughout this period, indicating some resilience in investor confidence, with a particularly strong recovery in March.

At a global level, some concerns have arisen regarding the impact of IFs on markets at times of market stress. Specifically, relatively illiquid markets in corporate and emerging economy debt may have an increased dependence on the liquidity provided by the international funds industry. More generally, leveraged positions, namely derivatives or securities financing, may be rapidly unwound during a period of market stress. Furthermore, leverage, particularly through the use of derivatives, can multiply returns, whether positive or negative.

Chart 81: Investment fund assets by fund type

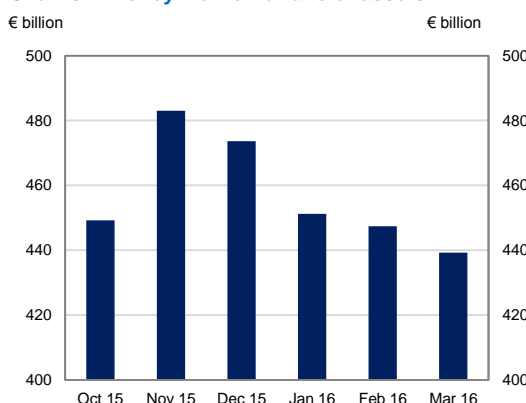


Source: Central Bank of Ireland.
Note: Data as at 2016Q1.

Most of the Irish-resident IF industry consists of bond and equity funds (Chart 81). Irish-resident IF exposures to emerging economy debt are quite limited and while corporate debt holdings are substantial, most of these are rated at medium investment grade or above. A small sub-set of Irish-resident IFs comprise hedge, mixed and other funds, which are relatively unconstrained in terms of their activities. In some cases, this gives rise to substantial rates of leverage, mostly in the form of derivatives. These leveraged funds tend to have less regular redemption periods for investors to sell shares/units so as to manage the liquidity characteristics of assets and liabilities.

Money market funds

Chart 82: Money market fund total assets



Source: Central Bank of Ireland.

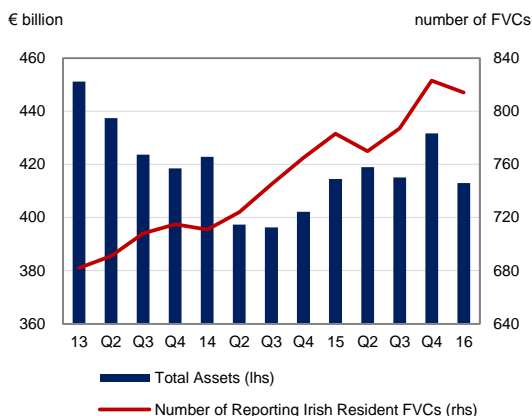
MMFs expanded by €39 billion to total assets of €474 billion in the second half of 2015, but declined to €439 billion by end 2016Q1 (Chart 82). Investor flows in 2015Q3 were quite resilient despite market turbulence, but January there were significant investor outflows, of €13 billion. Only €3 billion flowed back into MMFs in February and March. The outflows coincided with negative yields on government debt becoming more widespread, putting further pressure on MMF returns, which are generally close to zero at this time.

Risks from MMFs centre on spillover effects from large investor outflows. MMFs invest in short-term debt, with an emphasis on providing liquidity and protection of the original investment. When the principal investment is perceived to be under threat, this can trigger large investor outflows. Such outflows can affect the availability of short-term finance in money markets and thus have spillover effects on other markets and financial intermediaries using those markets (such as banks).

MMFs have weathered the low yield environment remarkably well in recent years, suggesting that investors see MMFs as a useful

⁸¹ This excludes the reclassification of a number of bond funds to MMFs in Q3 2015, with a net asset value of €30 billion.

Chart 83: Total assets and number of reporting Irish resident FVCs



Source: Central Bank of Ireland.

cash-holding vehicle even if returns are negligible. Furthermore, Irish MMFs have substantial liquidity buffers and are used to dealing with large investor inflows and outflows. Looking ahead, managing the impact of monetary tightening, when it occurs, will require the continuation of cautious portfolio management practices.

Financial vehicle corporations

The recovery in the securitisation activity of financial vehicle corporations (FVCs), evident since late 2014, continued in the second half of 2015 but was tempered somewhat in early 2016 (Chart 83). Total assets rose to €431 billion at the end of 2015, from €415 billion at end-2015Q2, before declining to €413 billion by end-2016Q1. The transactions outflows were concentrated in a small number of FVCs. The longer-term recovery is based on a significant increase in the number of reporting entities not linked to banks. These vehicles tend to be smaller than bank securitisation vehicles and, as a result, total securitisation assets have only returned to late 2013 levels despite a record number of firms reporting.

Securitisation supports the provision of credit in the financial system while risks surround overdependence by issuing banks/non-banks and poor assessment of credit quality. For non-banks, securitisation is an alternative credit channel to banks and can be a useful structure for ring-fencing assets. For banks, securitisation can free up the balance sheet by transferring assets off the balance sheet into special purpose vehicles. It can also allow the conversion of assets into collateral for ECB financing. Nevertheless, the business models of banks or other entities can become dependent on securitisation. The ability to securitise can evaporate rapidly, as in 2007Q3. This risk is accentuated where assessment of credit quality is weak. These risks have declined somewhat since the financial crisis. In general, securitised loans are now less complex and risk modelling has improved, while, for bank-related securitisation, regulation is tighter.

Other non-bank financial intermediaries

The residual “other” category in the Irish financial sector, based on financial accounts data, amounted to €584 billion in 2015Q3. It comprises largely unregulated entities and encompasses a diverse range of activities. The sector is large in an international context, although its share of the financial sector is typical of countries with substantial and complex financial systems. Typical entities within this category include non-FVC special purpose vehicles, financial leasing firms, treasury operations of non-financial corporations and holding companies. Regulatory coverage varies depending on the activities of the entities.

The Central Bank extended granular data reporting to non-FVC special purpose vehicles (SPVs) in 2015Q3. Reporting was confined to vehicles availing of favourable tax treatment targeting SPVs under Section 110 of the Tax Consolidation Act 1997. In the event, over 820 entities covering €322 billion in total assets

reported data for 2015Q4.

These new data cover a wide range of activities, including financial investments on behalf of parent entities, intra-group financing, external financing for the parent entity, loan origination and financial leasing. These data are currently being analysed in detail with a particular focus on financial links to other entities, understanding the motives for these activities and associated vulnerabilities, and improving the measurement of the financial sector. The Central Bank also asks for details on sponsors of vehicles and on consolidation, if applicable, into the accounts of other entities. These data also suggest a wide range of links across countries and economic sectors. More details will be published by the Central Bank in the coming months.

To conclude, the activities and risks within non-bank financial intermediaries in Ireland are concentrated on the international financial system. While links to the domestic economy are limited, the Central Bank is actively improving data coverage in line with its responsibilities for statistical quality, international financial stability and the need for regulatory oversight.

Abbreviations

Country abbreviations follow the [European Union standards](#).

AIB	Allied Irish Bank	MCR	Minimum capital requirement
AMECO	Annual Macro-Economic Database	MFR	Macro-Financial Review
APE	Annual premium equivalent	MIBI	Motor Insurance Bureau of Ireland
BOI	Bank of Ireland	MMF	Money market fund
BPFI	Banking and Payments Federation Ireland	MSCI	Morgan Stanley Capital International
BRRD	Banking Recovery and Resolution Directive	NACE	Nomenclature statistique des Activités économiques dans la Communauté européenne
BTL	But-to-let	NAMA	National Asset Management Agency
CBRE	Coldwell Banker Richard Ellis Group	NFC	Non-financial corporation
CCyB	Countercyclical capital buffer	NPL	Non-performing loan
CDS	Credit default swaps	NSFR	Net stable funding ratio
CRD	Capital Requirements Directive	NTMA	National Treasury Management Agency
CRE	Commercial real estate	OECD	Organisation for Economic Co- operation and Development
CRR	Capital Requirements Regulation	O-SII	Other Systemically Important Institutions
CSO	Central Statistics Office	PDH	Primary dwelling house
DPD	Days-past-due	PIA	Personal insolvency arrangement
EA	Euro Area	PPO	Periodic payment order
EAPP	Expanded Asset Purchase Programme	PSRA	Property Services Regulatory Authority
EBA	European Banking Authority	PTSB	Permanent TSB
EBS	Educational Building Society	PWC	Price Waterhouse and Coopers
ECB	European Central Bank	QEC	Quarterly Economic Commentary
ELG	Eligible Liabilities Guarantee	REIT	Real Estate Investment Fund
EMEs	Emerging Market Economies	RWA	Risk weighted asset
ESCB	European System of Central Banks	SBCI	Strategic Banking Corporation of Ireland
ESRB	European Systemic Risk Board	SME	Small and Medium Enterprise
ESRI	Economic and Social Research Institute	SNL	Savings and Loan Financial
EU	European Union	SPV	Special Purpose Vehicle
FINREP	Financial reporting	UCITS	Undertakings for Collective Investment in Transferable Securities
FOE	Freedom of establishment	USD	United States Dollar
FOS	Freedom of service	VIX	Chicago Board Options Exchange Volatility Index
FVC	Financial vehicle corporations	VNAV	Variable net asset value
GDP	Gross Domestic Product	WEO	World Economic Outlook
GNP	Gross National Product		
G-SII	Global Systemically Important Institutions		
IBRC	Irish Banking Resolution Corporation		
IF	Investment fund		
IFSC	International Financial Services Centre		
IIP	International investment position		
IMF	International Monetary Fund		
IPD	Investment Property Databank		
JLL	Jones Lang LaSalle		
KBC	Kredietbank ABB Insurance CERA Bank		
LCR	Liquidity coverage ratio		
LTI	Loan to income ratio		
LTV	Loan to value ratio		

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