



Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem



Macro-Financial Review

2017: I

MACRO-FINANCIAL REVIEW

Notes

1. Unless otherwise stated, this document refers to data available on 31 May 2017.
2. Unless otherwise stated, the aggregate banking data refer to all credit institutions operating in the Republic of Ireland.
 - *Irish retail banks* refer to the five banks offering retail banking services within the Irish State: Allied Irish Banks plc, The Governor and Company of the Bank of Ireland, Permanent TSB, KBC Bank Ireland plc and Ulster Bank Ireland Designated Activity Company.
 - *Foreign-owned resident banks* are foreign banking groups that have a subsidiary in the Republic of Ireland and are internationally focussed.
3. The following symbols are used:

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

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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 2016.

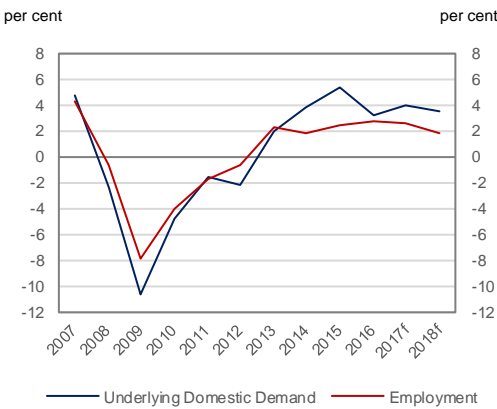
Réamhrá

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 2016.

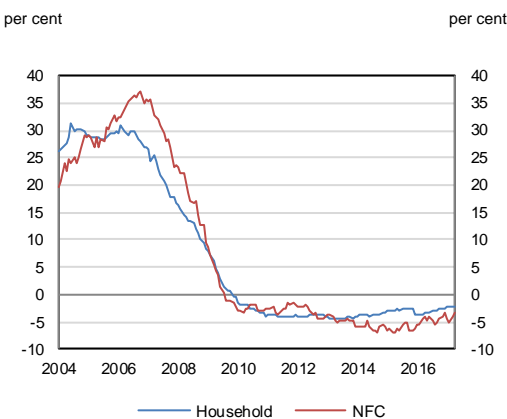
1. Overview

Chart A1: Domestic demand and employment growth



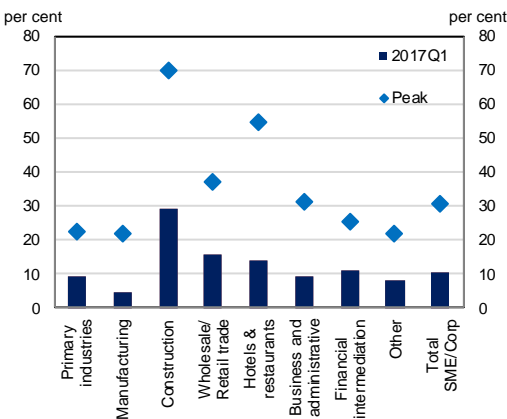
Source: CSO and Central Bank of Ireland.
 Notes: Underlying domestic demand includes consumption, government spending and investment (minus transport and intangibles related investment expenditures). Forecasts for 2017 and 2018 are from the Central Bank's Quarterly Bulletin No. 2 2017.

Chart A2: Credit growth to the household and NFC sectors



Source: Central Bank of Ireland.
 Notes: Year-on-year growth rate in bank credit. Last observation: April 2017. There is a break in the household series in December 2015, after this date data includes securitised loans.

Chart A3: SME/Corporate NPL rate by category



Source: Central Bank of Ireland.
 Notes: The NPL rate is calculated as the proportion of loans in CRD default as a proportion of total loans. The date of the peak NPL rate differs by category. The rate of overall SME/Corporate NPLs peaked in 2013Q3.

Overview

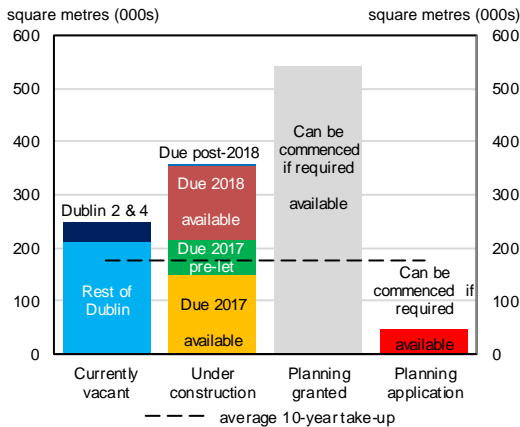
The global economy is expected to grow modestly in 2017 and 2018, with risks to the outlook remaining elevated. The UK leaving the EU (Brexit) and the possibility of changes in international tax and trade policy are among the factors generating uncertainty at this time. While measures of implied volatility in financial markets remain at low levels, risk and term premia are compressed with the potential for an abrupt change in investor sentiment arising. Market sentiment towards European financials has improved but cyclical and structural challenges in the European banking sector remain, including a high level of non-performing loans on bank balance sheets and the need to diversify profit sources and reduce overcapacity. While remaining low by historical comparison, bond yields in euro area sovereign bond markets have increased since last summer.

The Irish economy is projected to grow by 3.5 per cent and 3.2 per cent in real GDP terms in 2017 and 2018, respectively. The impact of Brexit on the Irish economy both in the short and long term is likely to be negative and material. To date, Brexit's effects have been predominantly through the depreciation of sterling against the euro. Exchange rate effects, changes in UK demand, and any new barriers to trade arising from Brexit, as well as any changes to broader international taxation and trade arrangements, could have an adverse effect on the Irish economy. [Box 1 discusses the implications of Brexit for financial stability.]

All sectors of the economy saw an increase in employee numbers in 2016 (Chart A1). While the unemployment rate declined to 6.4 per cent in May, structural issues remain in the labour market, including a persistently high unemployment rate among those out of work for four years or more. Compensation per employee is expected to increase by close to an average of 3 per cent over 2017 and 2018. Personal consumption is projected to increase by 2 per cent in 2017 and in 2018. Underlying investment (i.e., investment net of intangibles and aircraft-related investment) is forecast to grow strongly in both years.

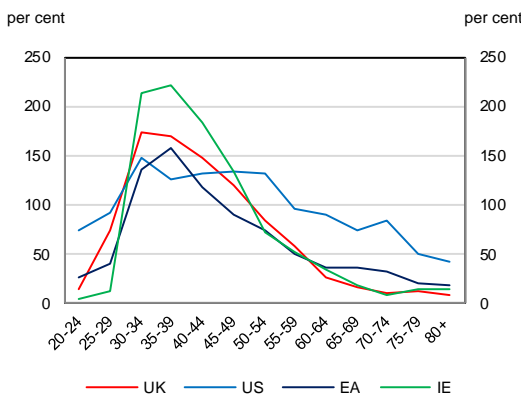
Although new lending is increasing, year-on-year growth in credit to both the household and NFC sectors remains negative (Chart A2). Reflecting the subdued credit conditions, the countercyclical capital buffer (CCyB) rate on banks' Irish exposures remains at zero per cent. Credit growth to SMEs remains negative across most sectors as firms continue to deleverage. New lending to SMEs, however, has been rising since early 2014 and amounted to €4.5 billion in 2016. A large decline in NPL rates across all categories of SME/Corporate loans has been evident in recent years, although more than 10 per cent of loans are non-

Chart A4: Dublin office supply pipeline: 2017Q1



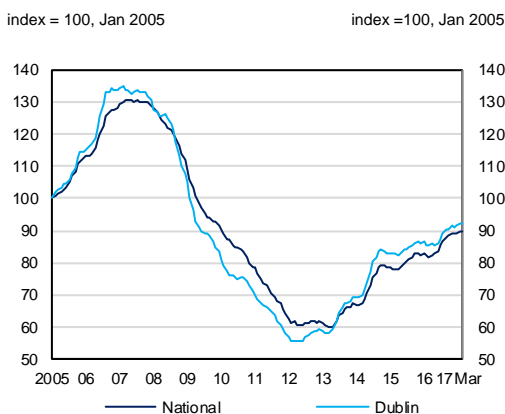
Source: CBRE Research.
 Notes: Data are projections based on the assumption that every scheme in the planning process materialises. A number of these schemes may not materialise or may not proceed at the pace envisaged at present. As well as the 950,000 square metres in the construction or planning phase, the chart also shows details of the 250,000 square metres of Dublin office space which is vacant at present.

Chart A5: Median debt-to-income ratio by age – international comparison



Source: HFCS, Wealth and Asset Survey (UK) and Survey of Consumer Finances (US).
 Notes: Debt-to-income ratios are conditional on households holding debt. Euro area excludes Ireland. Data relate to 2013 and 2014.

Chart A6: CSO residential property price indices: National & Dublin



Source: CSO.

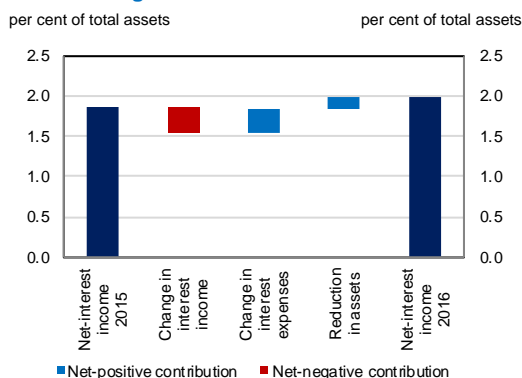
performing and substantial sectoral variation in NPL rates arises (Chart A3).

Total returns of 12.4 per cent in the Irish commercial real estate market in 2016 were high by international comparison. The commercial property vacancy rate was 13.5 per cent in 2016Q4. It is much lower for the Dublin office sector, at 7 per cent in 2017Q1, the lowest on record (i.e. since 2003). A substantial amount of new office supply is under construction, being planned, or at pre-planning stage (Chart A4). The CRE market has seen a broadening of its investor base in recent years. The possibility of firms seeking to relocate to Ireland as a result of Brexit could add to demand in the CRE market, although Brexit could also have a negative effect, in particular on retail CRE if consumer sentiment is adversely affected. Existing CRE exposures leave Irish retail banks exposed to any downturn in property prices or change in market conditions.

Some categories of household credit are showing positive growth, including non-mortgage credit and mortgage lending at fixed rates. Fixed rate mortgages accounted for over 40 per cent of new mortgage lending in 2016. The overall rate of growth in mortgage loans remains negative as floating rate mortgage lending continues to fall. While household debt has been declining, the sector remains highly indebted, leaving it vulnerable to a rise in interest rates. Those in the 30-44 age category have high debt-to-income ratios relative to other age cohorts and by international comparison (Chart A5). The overall number of mortgage arrears cases has declined by 44 per cent since 2013Q2, with over 100,000 mortgage accounts in arrears at end-2016. The largest cohort of arrears cases relates to mortgages that are in very long-term arrears (that is, more than 720 days past due).

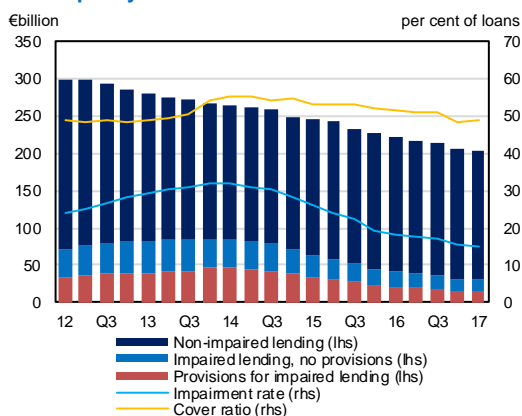
House price growth has been rising steadily since late-2016 (Chart A6), while survey data show further price increases being expected over the medium term. High rental growth is also being observed. A scarcity of housing in certain locations is contributing to price and rental developments. A “Help-to-Buy” scheme was introduced in the 2017 Budget, aimed at assisting first-time buyers. There has been a substantial decline in vacancy rates in recent years, particularly in high population growth areas. The number of residential properties listed for sale or for rent is low. There is some uncertainty surrounding official housing completion data at present but the number of new units being built and likely to be constructed over the medium term is below demand. The Central Bank introduced macroprudential mortgage-lending requirements in February 2015. The outcome of a review of these requirements was announced in November 2016 and found that the regulatory framework is appropriate and effective in meeting the objectives of the measures, which are to strengthen households’ and banks’ resilience to shocks and curb price-credit spirals in the housing market.

Chart A7: Breakdown of Irish retail banks' net-interest margins



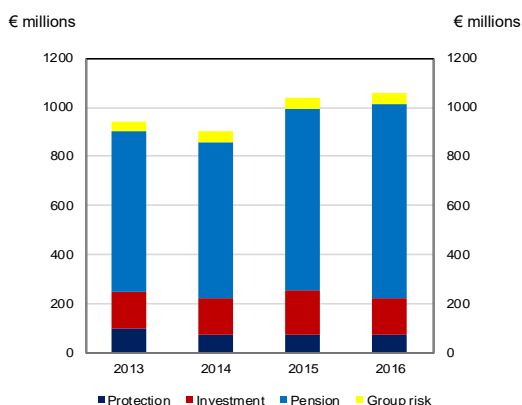
Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements.

Chart A8: Irish retail banks' credit exposures and asset quality



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Total lending is represented by drawn exposures. Impaired lending is represented by defaulted loans as defined in the Capital Requirements Directive (CRD).

Chart A9: Premium income of domestic life insurers



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

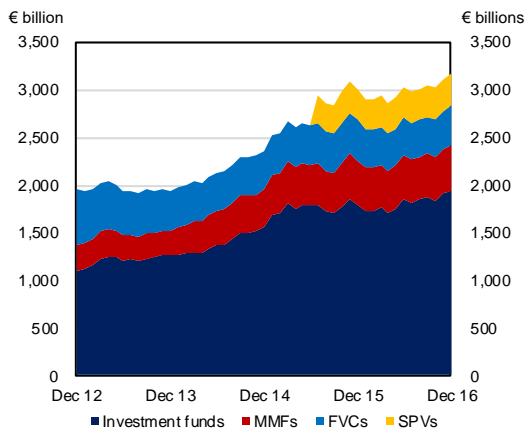
In the sovereign sector, the General Government deficit ratio has been falling in recent years and the medium-term deficit target is expected to be achieved in 2018. The debt burden, however, remains high, leaving the sovereign vulnerable to real economy and financial market shocks. Government debt ratios are high in a number of Member States, while a substantial rise in yield values or a change in monetary policy could have an impact on sovereign bond market performance.

Irish retail banks' profits, while remaining positive, fell in 2016 as a substantial reduction in the write-back of impairment provisions occurred. Operating income increased by 3.5 per cent last year, with the domestic market accounting for almost 80 per cent of revenue. Brexit could adversely affect Irish retail banks with a significant presence in the UK. New lending to the UK fell by over 18 per cent in the year ending 2017Q1, with a drop in UK mortgage lending and exchange rate movements contributing. Interest income has been negatively affected by low levels of new lending and a contraction in bank balance sheets. Net interest margins increased in 2016, as a fall in interest income was more than offset by a reduction in interest expenses and assets (Chart A7). Any rises in market funding costs could have a negative impact on net-interest income. Irish retail banks' aggregate loan book has become more concentrated, with residential mortgage lending accounting for the largest sectoral exposure (at about two-thirds of the loan book) and Irish counterparties comprising three-quarters of outstanding loans. Developing a sustainable model to address declines in their main income sources and the eventual normalisation of interest rates represents a challenge for Irish retail banks.

The aggregate value of total assets held by Irish retail banks fell by 5 per cent year-on-year in 2017Q1, while outstanding loans fell by almost 8 per cent. Deleveraging, write-offs, loan redemptions exceeding new loans, and currency movements contributed to the decline in loans. While credit exposures continue to fall, credit quality is improving. The value of outstanding NPLs fell by over one-quarter in the year to 2017Q1 to €30.5 billion (Chart A8). Improving economic conditions, deleveraging strategies, and an active NPL restructuring programme are each playing a role in tackling banks' asset quality issues. Credit quality remains vulnerable to the effects of higher interest rates. The resolution of NPLs remains vital to the future health of the banking sector.

Economic developments, particularly employment and wage growth, and the national demographic profile provide a favourable operating environment for the domestic life insurance sector, although competition from other providers of similar products arises. Premium income in the sector increased by 1.7 per cent in 2016 (Chart A9). Pension sales, which account for the largest proportion of the sector's business, grew by 7.4 per cent, while other segments saw declines in business. Domestic life firms have little direct exposure to the UK in terms of business written and

Chart A10: Total assets in Irish authorised funds and special purpose vehicles sector



Source: Central Bank of Ireland.
 Notes: Quarterly data between 2012Q4 and 2016Q4. SPV reporting started in 2015Q3.

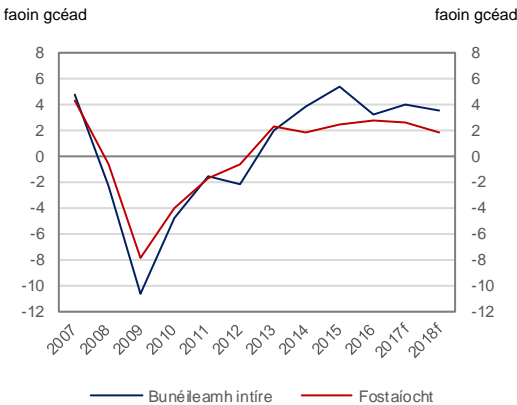
investment holdings, although any adverse effects of Brexit on the Irish economy could affect them.

The impact of Brexit on the structure of the domestic non-life insurance sector is unclear. Some firms who write business in the UK may have to adjust their business models. While the outlook for this sector is improving, with increases in policy premiums offsetting rises in claim costs, challenges remain. The claims environment is uncertain, while the prolonged low interest rate environment has contributed to a persistent decline in investment income. The overall solvency position of the non-life sector is strong, as firms continue to embed Solvency II.

Total assets in the Irish authorised funds and special purpose vehicles sector and the type of entities reporting have been rising in recent years (Chart A10). Most of the assets and liabilities of the sector are international in nature, with the Irish economy having limited direct exposure to the sector. The global interlinkages of Irish funds and vehicles highlight the importance of cross-jurisdiction collaboration concerning potential financial stability issues.

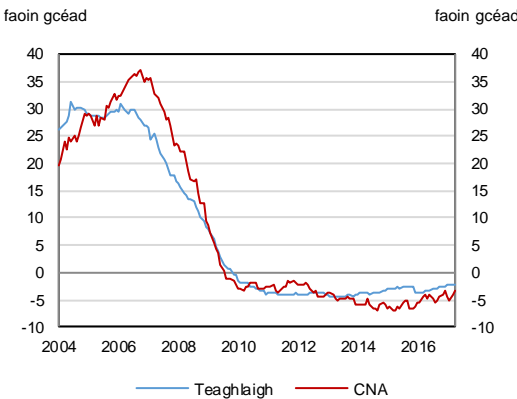
1.1 Forbhreathnú

Cairt A1: Éileamh intíre agus fás fostaíochta



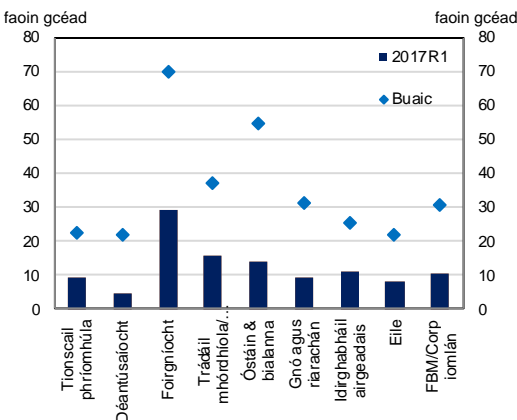
Foinse: CSO agus Banc Ceannais na hÉireann.
 Nótaí: Folaíonn bunéileamh intíre, tomhaltas, caiteachas rialtais agus infheistíocht (lúide iompar agus sócmhainní doláimhsithe a bhaineann le caiteachais infheistíochta). Tógar na réamhaisnéisí do 2017 agus 2018 ó Fhaisnéis Ráithiúil Uimh. 2 2017 de chuid an Bhaic Ceannais.

Cairt A2: Fás ar chreidmheas d'earnáil na dteaghlach agus d'earnáil na CNAanna



Foinse: Banc Ceannais na hÉireann.
 Nótaí: Ráta fáis bliain ar bhliain ar chreidmheas bainc. Grinníú deireanach: Aibreán 2017. Tá briseadh sa tsraith teaghlach i mí na Nollag 2015; cuimsítear iasachtaí urraithe i ndiaidh an dáta sin.

Cairt A3: Ráta NPL FBM/Corparáideacha de réir aicme



Foinse: Banc Ceannais na hÉireann.
 Nótaí: Riomhtar ráta NPL mar chion na n-iasachtaí mainneachtana CRD mar chion de na hiasachtaí iomlána. Tá dáta bhuaicráta NPL éagsúil ann ag brath ar an aicme. Baineadh buaicphointe ráta NPLanna FBM/Corparáideacha amach i R3 2013.

Forbhreathnú

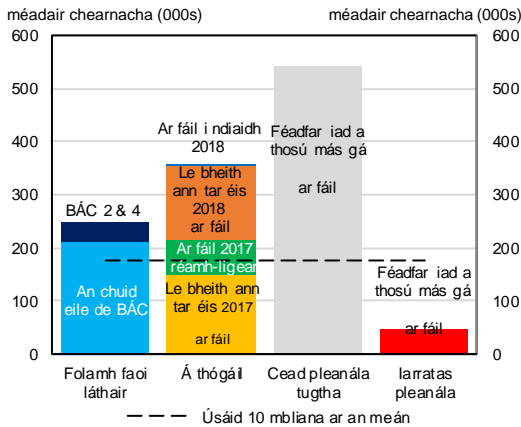
Meastar go dtiocfaidh fás measartha ar an ngeilleagar domhanda in 2017 agus 2018, fad atá na rioscaí don ionchas sin ard i gcónaí. Ar na tosca is cúis le héiginnteacht faoi láthair, áirítear an Ríocht Aontaithe do bheith ag imeacht as an AE (Brexit) agus an fhéidearthacht go mbeidh athruithe beartais i gceist maidir le cáin agus trádáil idirnáisiúnta. Cé go bhfuil na tomhais maidir le luaineacht intuigthe sna margáí airgeadais ag leibhéal ísle i gcónaí, tá biseach riosca agus biseach téarma comhchruinnithe leis an bhféidearthacht go mbeidh athrú tobann ar sheintimint infheisteoirí. Tá feabhas tagtha ar sheintimint an mhargaidh i dtaobh an staid airgeadais san Eoraip ach tá dúshlán thimthriallacha agus dúshlán struchtúracha ann i gcónaí san earnáil bainéireachta Eorpach, lena n-áirítear ardleibhéal iasachtaí neamhthuillmheacha ar chlár chomhardaithe na mbanc agus an gá le foinsí brabúis a éagsúlú agus ró-acmhainneacht a laghdú. Cé go bhfuil torthaí bannaí i margáí bannaí ceannasacha an limistéir euro íseal i gcomparáid le torthaí stairiúla, tá méadú tagtha orthu ón samhradh seo caite.

Táthar ag tuar go dtiocfaidh fás 3.5 faoin gcéad agus 3.2 faoin gcéad ar gheilleagar na hÉireann i dtéarmaí fíor-OTI in 2017 agus 2018 faoi seach. Is dócha go mbeidh iarmhairt dhiúltach, ábhartha ag Brexit ar gheilleagar na hÉireann sa ghearthéarma agus san fhadtéarma araon. Go dtí seo, bhí éifeachtaí Brexit le brath go príomha le dímhéas steirling in aghaidh an euro. D'fhéadfadh go mbeadh éifeacht dhíobhálach ar gheilleagar na hÉireann ag éifeachtaí rátaí malairte, ag athruithe ar éileamh ón Ríocht Aontaithe, agus ag aon constaicí nua ar thrádáil a eascróidh as Brexit, mar aon le hathruithe ar shocruithe maidir le cáin agus trádáil idirnáisiúnta. [I mBosca 1, pléitear na himpleachtaí a bheidh ag Brexit don chobhsaíocht airgeadais.]

Chonacthas méadú ar an líon fostaithe i ngach earnáil den gheilleagar in 2016 (Chart A1). Cé gur tháinig laghdú ar an ráta dífhostaíochta go dtí 6.4 faoin gcéad i mí Bealtaine, tá saincheisteanna struchtúracha ann i gcónaí i margadh an tsaothair, lena n-áirítear ardráta seasmhach dífhostaíochta i measc na ndaoine sin atá dífhostaithe le ceithre bliana nó níos mó. Táthar ag ceapadh go dtiocfaidh méadú 3 faoin gcéad ar an meán ar an gcúiteamh in aghaidh an fhostaí in 2017 agus 2018. Táthar ag tuar go dtiocfaidh méadú 2 faoin gcéad ar thomhaltas pearsanta in 2017 agus 2018. Meastar go dtiocfaidh fás láidir ar bhuninfheistíocht (i.e., infheistíocht glan ar aerárthaí agus ar shócmhainní doláimhsithe) sa dá bhliain.

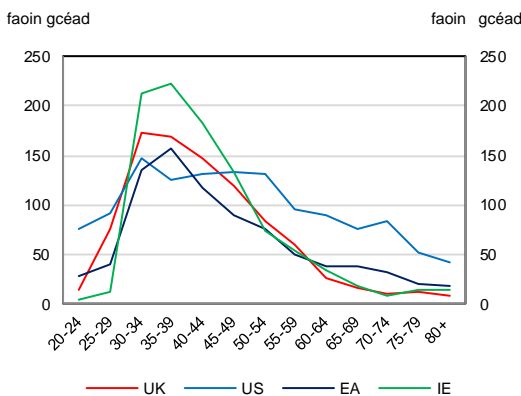
Cé go bhfuil méadú ag teacht ar iasachtú nua, tá an fás bliain ar bhliain ar chreidmheas chuig earnáil na dteaghlach agus earnáil na gCorparáidí Neamhairgeadais diúltach i gcónaí (Chart A2). Is

Cairt A4: Píblíne soláthair d'oifigi i mBÁC: R1 2017



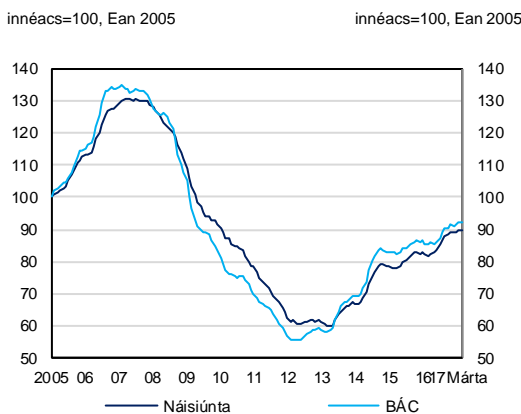
Foinse: Taighde CBRF
 Nótaí: Is réamh-mheastacháin iad na sonraí atá bunaithe ar an toimhde go gcuirfeadh gach scéim atá sa phróiseas pleanála i gcrích. Tá seans ann nach gcuirfeadh roinnt de na scéimeanna sin i gcrích nó nach ndéanfar dul chun cinn leo ar an luas atá beartaithe faoi láthair. Mar aon le 950,000 méadar cearnach atá i gcéim na tógála nó i gcéim na pleanála, léirítear sa chairt freisin sonraí maidir le 250,000 méadar cearnach de spás oifige atá folamh faoi láthair i mBaile Átha Cliath.

Cairt A5: Cóimheas airmheánach idir fiachas agus ioncam de réir aoise - comparáid idirnáisiúnta



Foinse: HFCS, *Wealth and Asset Survey (UK)* agus *Survey of Consumer Finances (US)*.
 Nótaí: Tá cóimheas idir fiachas agus ioncam ag brath ar theaghlach do shealbhú fiachais. Ní áirítear Éire sa limistéar euro. Baineann na sonraí le 2013 agus 2014.

Cairt A6: Innéacsanna praghsanna réadmhaoine cónaithe ón CSO: Náisiúnta & BÁC



Foinse: CSO.

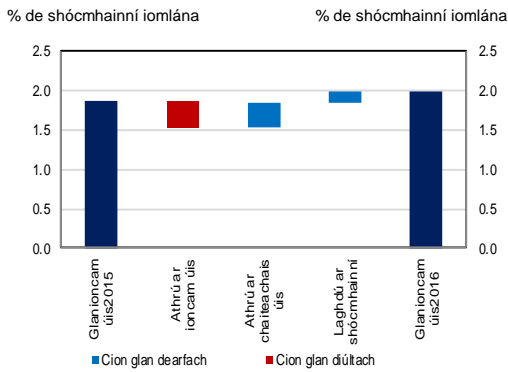
ionann agus nialas ráta an chúlchiste fhritimthriallaigh (CCyB) ar neamhchosaintí Éireannacha na mbanc, rud atá ag freagairt do na dálaí maolaithe creidmheasa. Tá an fás ar chreidmheas chuig FBManna diúltach i gcónaí ar fud fhorhmór na n-earnálacha de réir mar a leanann gnólachtaí de bheith ag díghiaráil. Ar a shon sin, tá méadú tagtha ó thús 2014 i leith ar iasachtú nua le FBManna agus b'ionann an t-iasachtú sin agus €4.5 billiún in 2016. Tá laghdú mór le feiceáil le blianta beaga anuas ar rátaí na n-iasachtaí neamhthuillmheacha ar fud aicmí uile iasachtaí FBM/Corparáideacha, ach is iasachtaí neamhthuillmheacha iad os cionn 10 faoin gcéad de na hiasachtaí agus tá éagsúlacht shuntasach eárnála i gceist i rátaí na n-iasachtaí neamhthuillmheacha (Chart A3).

B'ionann agus 12.4 faoin gcéad na torthaí iomlána i margadh eastát réadach tráchtála (CRE) na hÉireann, torthaí a bhí ard i gcomparáid le torthaí idirnáisiúnta. B'ionann agus 13.5 faoin gcéad ráta folúntas na réadmhaoine tráchtála i R4 2014. Tá sé i bhfad níos ísle i gcás eárnáil oifige Bhaile Átha Cliath, eadhon 7 faoin gcéad i R1 2017, an ráta b'ísle atá ar taifead (i.e. ó 2003 i leith). Tá méid suntasach de sholáthar oifige nua á thógáil, á phleanáil nó ag céim na réamh-phleanála (Chart A4). Tá leathnú tagtha ar bhonn infheisteoirí i margadh CRE le blianta beaga anuas. Toisc go bhfuil an fhéidearthacht ann go n-athlonnóidh gnólachtaí go hÉirinn mar gheall ar Brexit, féadfaidh go gcuirfidh sé sin leis an éileamh i margadh CRE, ach d'fhéadfadh go mbeadh éifeacht dhiúltach ag Brexit freisin, go háirithe ar CRE miondíola i gcás ina ndéanfaí dochar do sheintimint chustaiméirí. De thoradh neamhchosaintí reatha CRE, tá bainc mhiondíola na hÉireann neamhchosanta ar aon mheathlú ar phraghsanna réadmhaoine nó ar aon athrú ar dhálaí margaidh.

Tá fás dearfach le feiceáil i roinnt aicmí de chreidmheas teaghlach, lena n-áirítear creidmheas neamh-mhorgáiste agus iasachtú morgáiste de réir rátaí seasta. B'ionann morgáistí ráta sheasta agus os cionn 40 faoin gcéad den iasachtú morgáiste nua in 2016. Tá an ráta fáis foriomlán ar iasachtaí morgáiste diúltach i gcónaí de réir mar a leanann iasachtú morgáiste ráta athraithe de bheith ag laghdú. Cé go bhfuil fiachas teaghlach ag dul i laghad, tá fiachas ard san eárnáil i gcónaí, rud a fhágann go bhfuil sí leochaileach d'arduithe ar rátaí úis. Tá cóimheas arda idir fiachas agus ioncam ag daoine san aicme aoise 30-44 i gcomparáid le haoischohóirt eile agus ar bhonn comparáide idirnáisiúnta (Chart A5). Tá laghdú 44 faoin gcéad tagtha ar líon foriomlán na gcásanna de riaráistí morgáiste ó R2 2013 i leith, sa mhéid go raibh os cionn 100,000 cuntas morgáiste i riaráiste ag deireadh 2016. An cohórt is mó de chásanna riaráistí, baineann sé le morgáistí atá i riaráiste fadtéarmach (is é sin le rá, tréimhse is faide ná 720 lá thar téarma).

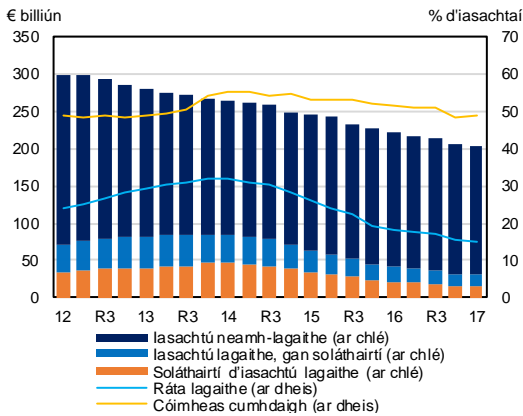
Tá ardú seasta tagtha ar an bhfás ar phraghsanna tithe ó dheireadh 2016 i leith (Chart A6), fad a léiríonn sonraí ó shuirbhéanna go bhfuiltear ag súil le harduithe breise ar phraghsanna thar an meántéarma. Tá fás ard ar chíosanna le

Cairt A7: Miondealú ghlanchorraigh úis na mbanc miondíola Éireannach



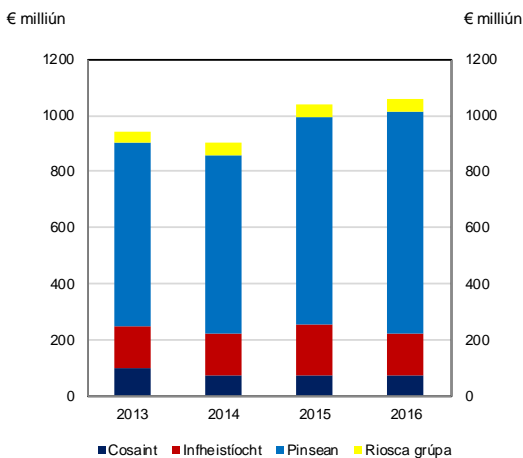
Foinse: Banc Ceannais na hÉireann.
 Nótaí: Déantar na sonraí a chomhdhlúthú agus a bhailiú i gcomhréir le ceanglais tuairiscithe FINREP UBE.

Cairt A8: Neamhchosaintí creidmheasa agus cáilíocht sócmhainní na mbanc miondíola Éireannach



Foinse: Banc Ceannais na hÉireann.
 Nótaí: Déantar na sonraí a chomhdhlúthú agus a bhailiú i gcomhréir le ceanglais tuairiscithe QSFR Bhanc Ceannais na hÉireann Léirithe an t-iasachtú iomlán le neamhchosaintí tarraingthe. Léirithear iasachtú lagaithe mar iasachtaí ar mainníodh orthu mar a shainmhínítear sa Treoir maidir le Ceanglais Chaipitil (CRD) iad.

Cairt A9: Ioncam préimheanna árachóirí intíre saoil



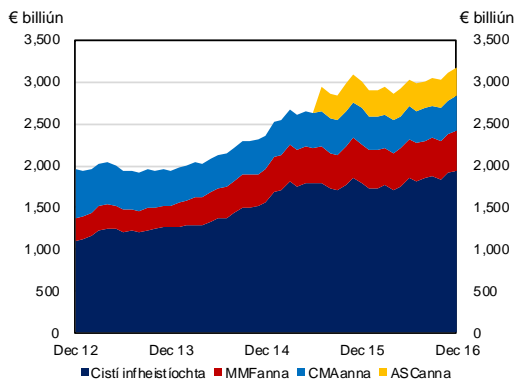
Foinse: Banc Ceannais na hÉireann.
 Nótaí: Déantar ioncam préimhe a thomhas le gnó nua APE. Baineann na sonraí leis na ceithre árachóirí intíre saoil is mó.

feiceáil freisin. Tá ganntanas tithíochta in áiteanna áirithe ag cur le forbairtí praghas agus cíosa. I mBuiséad 2017, tugadh isteach scéim chúnamh chun teach a cheannach a bhí dírithe ar cheannaitheoirí céaduaire. Tá laghdú suntasach ar rátaí folúntas le blianta beaga anuas, go háirithe i gceantair ina bhfuil fás ard ar an daonra. Is beag ionad réadmhaoine cónaithe atá ar díol nó le ligean ar cíos. Tá éiginnteacht áirithe ann faoi láthair maidir le sonraí oifigiúla comhlánaithe tithíochta ach tá líon na n-aonad nua atá á dtógáil agus líon na n-aonad is dócha a thógfar thar an meántearma faoi bhun an éilimh. Thug an Banc Ceannais ceanglais macrastuamachta um iasachtú morgáiste isteach i mí Feabhra 2015. I mí na Samhna 2016, fógraíodh torthaí athbhreithnithe ar na ceanglais sin, agus ba é an tátal go raibh an creat rialála iomchuí agus éifeachtach chun freastal ar chuspóirí na mbeart, is iad sin stóinseacht na dteaghlach agus na mbanc i leith turraingí a neartú agus biseanna phraghsanna creidmheasa sa mhargadh tithíochta a shrianadh.

San earnáil cheannasach, tá cóimheas easnaimh an Rialtais Ghinearálta ag laghdú le blianta beaga anuas agus táthar ag súil go mbainfeadh an sprioc don easnamh meántearmach amach in 2018. Tá an t-ualach fiachais ard i gcónaí, áfach, rud a fhágann go bhfuil an Stát leochaileach do thurraingí san fhíorgheilleagar agus sa mhargadh airgeadais. Tá cóimheasa fiachais rialtas ard i mBallstáit éagsúla agus d'fhéadfadh go mbeadh tionchar ar fheidhmíocht margáí bannaí ceannasacha ag ardú suntasach ar luachanna torthaí nó ag athrú beartais airgeadaíochta.

Cé go bhfuil brabúis na mbanc miondíola Éireannach dearfach i gcónaí, tháinig laghdú orthu in 2016 de réir mar a tháinig laghdú suntasach ar athscríobh soláthairtí do lagú. Tháinig méadú 3.5 faoin gcéad ar ioncam oibriúcháin anuraidh, agus tháinig beagnach 80 faoin gcéad den ioncam sin ón margadh intíre. D'fhéadfadh go mbeadh éifeacht dhióbhálach ag Brexit ar na bainc mhiondíola Éireannacha a bhfuil láithreach shuntasach acu sa Ríocht Aontaithe. Tháinig laghdú de bhreis ar 18 faoin gcéad ar iasachtú nua leis an Ríocht Aontaithe sa bhliain dar chríoch R1 2017; chuir laghdú ar iasachtú morgáiste RA agus gluaiseachtaí i rátaí malairte leis an laghdú sin. Bhí éifeacht dhiúltach ag leibhéil ísle iasachtaí nua agus ag cúngú chláir chomhardaithe na mbanc ar ioncam úis. Tháinig méadú ar chorroiligh úis in 2016 toisc go ndearnadh laghdú ar ioncam úis a fhritháireamh in aghaidh laghdú ar chaiteachais úis agus ar shócmhainní (Chart A7). Aon mhéaduithe ar chostais cistiúcháin margaidh, d'fhéadfadh go mbeadh iarmhairt dhiúltach acu ar ghlanioncam úis. Tá leabhar iasachta comhiomlán na mbanc miondíola Éireannach níos comhchruinnithe, sa mhéid gurb é iasachtú morgáiste chónaithe an neamhchosaint earnála is mó (thart ar dhá thrian den leabhar iasachta) agus gurb ionann contrapháirtithe Éireannacha agus trí cheathrú de na hiasachtaí gan íoc. Is dúshlán do na bainc mhiondíola Éireannacha é samhail inbhuanaithe a fhorbairt chun dul i ngleic le laghduithe ar a bpríomhfhoinsí ioncaim agus le normalú rátaí úis.

Cairt A10: Sócmhainní iomlána in earnáil na gcistí údaraithe Éireannacha agus na n-aonán sainchuspóireach Éireannach



Foinse: Banc Ceannais na hÉireann.
 Nótaí: Sonraí ráithiúla idir R4 2012 agus R4 2016. Cuireadh tús le tuairisciú ASCanna i R3 2015.

I R1 2017, tháinig laghdú 5 faoin gcéad bliain ar bhliain ar luach comhiomlán na sócmhainní iomlána arna sealbhú ag bainc mhiondíola Éireannacha, fad a tháinig laghdú 8 faoin gcéad ar iasachtaí gan íoc. Ar na tosca a chuir leis an laghdú ar iasachtaí, áirítear díghiaráil, díscríobh, fuascailtí iasachta a sháraigh iasachtaí nua agus gluaiseachtaí airgeadra. Leanann neamhchosaintí creidmheasa de bheith ag laghdú, fad atá cáilíocht chreidmheasa ag feabhsú. Sa bhliain go dtí R1 2017, tháinig laghdú aon cheathrú ar luach na n-iasachtaí neamhthuillmheacha gan íoc go dtí €30.5 billiún (Chart A8). Bíonn ról ag gach ceann díobh seo a leanas ó thaobh dul i ngleic le saincheisteanna a bhaineann le cáilíocht shócmhainní na mbanc: dálaí eacnamaíocha feabhsaithe, straitéisí díghiarála agus clár gníomhach um athstruchtúru iasachtaí neamhthuillmheacha. Tá cáilíocht chreidmheasa leochaileach i gcónaí d'éifeachtaí rátaí níos airde úis. Tá réiteach iasachtaí neamhthuillmheacha riachtanach do rath na hearnála baincéireachta amach anseo.

Leis na forbairtí eacnamaíocha, go háirithe an fás ar fhostaíocht agus ar phá, cuirtear timpeallacht oibríochtúil fhabhrach ar fáil don earnáil intíre árachais saoil, cé go bhfuil iomaíochas ann ó sholáthraithe táirgí comhchosúla. Tháinig méadú 1.7 faoin gcéad ar ioncam préimheanna san earnáil in 2016 (Chart A9). Tháinig méadú 7.4 faoin gcéad ar dhíolacháin pinsin, arb iad an cion is mó de ghnó na hearnála iad, fad a chonacthas laghduithe ar ghnó i ndeighleoga eile. Is beag neamhchosaint dhíreach atá ag gnólachtaí intíre saoil ar an Ríocht Aontaithe i dtéarmaí gnó a scríobh agus sealúchais infheistíochta, ach má bhíonn éifeachtaí díobhálacha ag Brexit ar gheilleagar na hÉireann, d'fhéadfadh sé sin difear a dhéanamh dóibh.

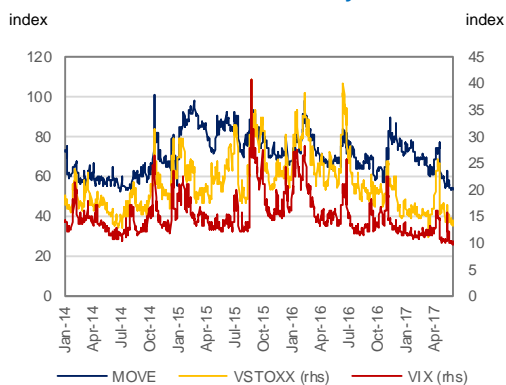
Ní léir cén iarmhairt a bheidh ag Brexit ar struchtúr na hearnála intíre árachais neamhshaoil. Seans go mbeidh ar ghnólachtaí a mbíonn gnó á scríobh acu sa Ríocht Aontaithe a samhlacha gnó a choigeartú. Cé go bhfuil feabhas ag teacht ar an ionchas don earnáil seo, tá dúshlán ann i gcónaí sa mhéid go bhfuil arduithe ar chostais éileamh á bhfritháireamh le méaduithe ar phréimheanna polasaí. Tá éiginnteacht ag baint leis an timpeallacht éileamh, fad atá an timpeallacht fhaidréiseach rátaí ísle úis ag cur le meathlú seasmhach ar ioncam infheistíochta. Tá staid fhoriomlán sócmhainneachta na hearnála neamhshaoil láidir, de réir mar a bhíonn Sócmhainneacht II á leabú ag gnólachtaí.

Tá méadú tagtha le blianta beaga anuas ar shócmhainní iomlána in earnáil chistí údaraithe agus aonáin shainchuspóireacha na hÉireann agus ar chineál na n-eintiteas a bhíonn ag tuairisciú (Chart A10). Is sócmhainní agus dlíteanais idirnáisiúnta iad formhór shócmhainní agus dhlíteanais na hearnála agus is beag neamhchosaint dhíreach atá ag geilleagar na hÉireann ar an earnáil. Léiríonn idirnáisc dhomhanda na gcistí Éireannacha agus na n-aonán Éireannach an tábhacht a bhaineann le comhar trasdlínse i ndáil le saincheisteanna ionchasacha cobhsaíochta airgeadais.

2. International economic and financial system developments

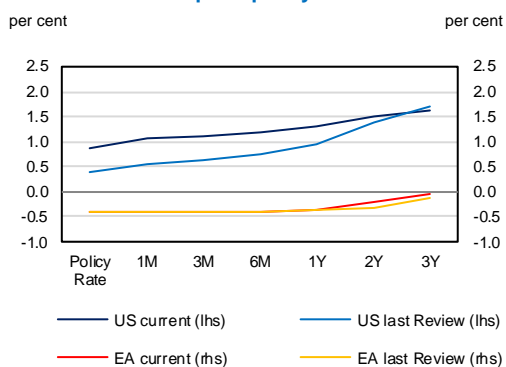
Risks to international financial stability remain elevated. Policy uncertainties, including the form that Brexit will take, geopolitical tensions and the possibility of greater protectionism, could act as triggers for a disorderly re-pricing of risk and term premia in global financial markets. European banks, insurers and pension funds remain vulnerable to structural and cyclical challenges and to shifts in market sentiment. In particular, high stocks of NPLs arise in some Member States' banking systems, while banks need to diversify profit sources and address overcapacity. Euro area sovereign debt re-pricing and the re-emergence of household and corporate debt difficulties in some Member States could also arise.

Chart 1: Financial market volatility indices



Source: Bloomberg.
Notes: MOVE index is the Merrill Lynch Option Volatility Estimate. It is a yield curve weighted average of implied volatilities on 1-month US Treasury options. VIX and VSTOXX are market implied volatility indices for the S&P500 and Eurostoxx 50, respectively. Observations are daily. VIX, VSTOXX and MOVE peaked at c. 81, 88 and 265 respectively in 2008Q4. Last observation: 06 June 2017.

Chart 2: Market implied policy rates



Source: Bloomberg.
Notes: Market implied policy rate curves. Current curve is as at 07 June 2017. Last Review date as at 06 December 2016. Policy rate is the relevant policy rate (mid-point of US federal funds rate target range or ECB main refinancing rate) at the selected date, while market implied forward rates are those between 1-month and 3-years after the selected date.

The latest IMF WEO projections foresee global growth of 3.5 per cent in 2017 and 3.6 per cent in 2018, a marginal upward revision for 2017 compared to its previous forecast. It maintains that the balance of risks to growth are to the downside.¹ The international policy environment is marked by heightened uncertainty. There is rising protectionist sentiment in the US and the potential for changes in trade, currency and regulatory agreements. The implications of the UK leaving the EU (Brexit) are unclear with respect to trade, financial services provision, and other arrangements.² Elections in EU Member States and geopolitical tensions also arise. Despite this economic background, measures of implied volatility in financial markets continue to trade at low levels (Chart 1), albeit rising slightly prior to the French presidential elections.³

Global bond yields remain close to historical lows, notwithstanding the overall rise in long-term yields since mid-2016 (see Section 3.4) and widening of spreads among euro area sovereigns. The potential for large capital losses for holders (including the European financial sector) of low-yielding and long-term bond portfolios persists. Compressed financial market risk and term premia remain susceptible to abrupt changes in investor sentiment.⁴ Market-implied policy rates point to a steeper rate trajectory for US interest rates than at the time of the last Review, with one additional rate increase projected this year and the potential for further increases (Chart 2).⁵ In the euro area, market expectations of monetary policy are marginally higher compared to the last Review.⁶ The risk of an adverse market reaction to any reductions in balance sheet stimulus by the Federal Reserve and the ECB arises.

¹ The IMF forecasts US growth of 2.3 per cent in 2017 and 2.5 per cent in 2018, unchanged from its January 2017 forecast, and EA growth of 1.7 and 1.6 per cent respectively, a 0.1 per cent increase for 2017 compared to the previous forecast. See [IMF World Economic Outlook](#), April 2017 for details.

² See [ECB FSR May 2017](#) Box 1 "Preparing for Brexit to secure the smooth provision of financial services to the euro area economy".

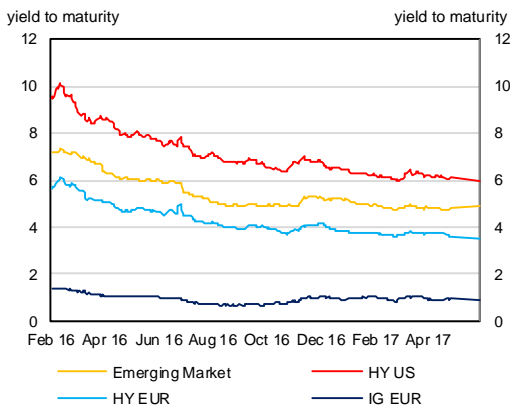
³ See [ECB FSR May 2017](#) Special Article A "Assessing the decoupling of financial market uncertainty and financial conditions".

⁴ According to the [ECB FSR May 2017](#), bond holdings account for around 15 per cent of euro area banks' and over a third of insurers', pensions funds' and investment funds' total assets.

⁵ The FOMC raised its target rate band by 25 basis points to between 0.75 to 1 per cent in March – see [FOMC minutes](#). Since then, the market has at times priced two additional rate increases by end year, the first of which is anticipated in June. Median FOMC members' projections suggest the potential for two additional rate increases this year.

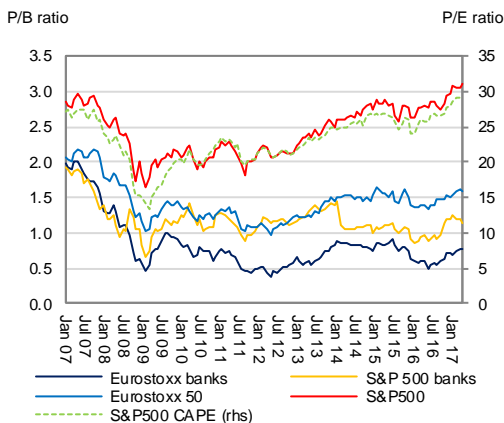
⁶ Markets briefly moved to price in a strong probability of a 25 basis point ECB rate hike by end-2017 following the March Governing Council meeting. Such expectations have since been pushed back well into 2018.

Chart 3: Financial and corporate indices



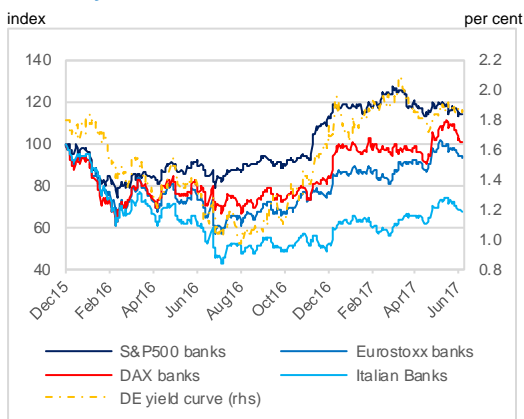
Source: Bloomberg, Bank of America Merrill Lynch and Central Bank of Ireland calculations.
Notes: IG is investment-grade corporate. HY is high-yield. Emerging Market is non-financial corporate. Last observation: 31 May 2017.

Chart 4: Price-to-book and price-to-earnings ratios: US and European stocks



Source: Bloomberg and Robert Shiller online data.
Notes: Monthly data – last observation end May 2017. All series are price-to-book (P/B) ratios other than S&P500 CAPE P/E (rhs axis) which is the Shiller “Cyclically Adjusted Price to Earnings” (CAPE) Ratio and is based on average inflation-adjusted earnings from the previous 10 years.

Chart 5: Bank equity indices and slope of the German yield curve



Source: Bloomberg.
Notes: Last observation: 06 June 2017. German yield curve is difference between 2 and 30-year generic yields.

Equity market valuations and those of other riskier assets, such as corporate bonds, generally rallied in the months following the US presidential election (Chart 3) amid market expectations of a US fiscal policy stimulus and higher output growth and inflation. Market expectations of the timing and extent of US tax reforms, however, have been revised downward of late. US equity valuations have risen to pre-global financial crisis levels (Chart 4). Any correction in US markets could spill over to international financial markets and could lead to tighter financial conditions globally. Emerging markets have generally recovered from initial losses following the US presidential election and capital inflows have returned. Nevertheless, vulnerabilities persist, including those of economic overheating in China and of emerging market corporates with substantial dollar-denominated liabilities being susceptible to dollar appreciation and to a tightening of US monetary policy.

Market sentiment has improved toward European financials, in part as yield curves have steepened and as investor concerns regarding tighter capital standards ease, but performance remains uneven (Chart 5). Cyclical and structural challenges in the European banking sector persist. These include the need to diversify profit sources in the low interest rate environment, to reduce overcapacity, and to address the high legacy stocks of NPLs in some Member States. Euro area bank valuations continue to lag US peers (Chart 4). Earnings forecasts remain relatively subdued given low euro area growth prospects and limited progress in resolving legacy issues.⁷ A deterioration in market sentiment could arise from disappointing earnings results, unsuccessful capital issuance, or regulatory or conduct-related developments.

Against the background of elections in some Member States, a small increase in the euro area sovereign stress indicator has been observed of late (see Section 3.4). There is a risk that sovereign debt sustainability concerns could re-emerge. This, in turn, could place renewed pressure on vulnerable households and NFCs in certain Member States via higher interest rates.

The shadow banking sector could amplify shock transmission throughout the financial system, given the sector’s growing role in credit intermediation and liquidity transformation. Higher holdings of low-rated and long maturity bonds among fixed income investment funds in recent years could be vulnerable to an abrupt increase in global bond yields.

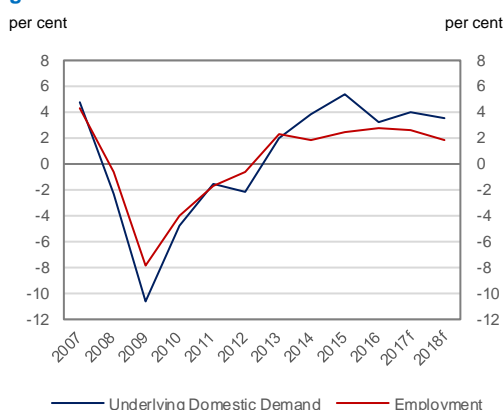
⁷ A price to book (P/B) ratio well below one may reflect investor uncertainty as to whether a bank can earn its cost of capital, as discussed in ECB FSR May 2017. Average return on earnings (ROE) was also much lower for euro area significant banks (c. 3 per cent) compared to US and Nordic banks (c. to 9-10 per cent) in 2016.

3. Macroeconomic environment

3.1 Macroeconomic overview

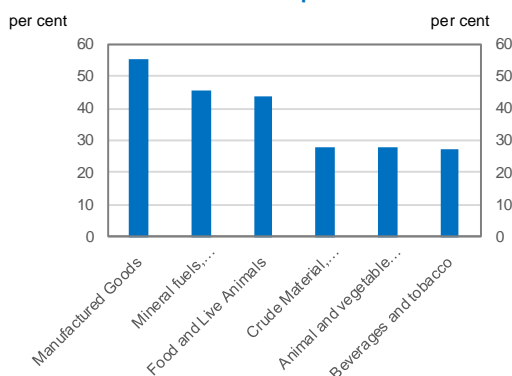
While the Irish economy continues to expand at a healthy pace, the degree of uncertainty surrounding the outlook has increased since the last Review. Downside risks predominate, largely related to Brexit and to possible shifts in US trade policy which may have an adverse impact on Irish exporters. The short-term impact of Brexit will be largely felt through the exchange rate channel. In the medium to long term, any new trade barriers faced by Irish exporters to the UK will likely have a significant impact on their activity, particularly in sectors such as agri-food and manufacturing. Domestically, infrastructural deficits, particularly in the housing sector, may constrain growth over time. Indicators of domestic economic activity remain positive, although income tax and corporation tax receipts have been lower than forecast for the first five months of the year.

Chart 6: Domestic demand and employment growth



Source: CSO and Central Bank of Ireland.
 Notes: Underlying domestic demand includes consumption, government spending and investment (minus transport and intangibles related investment expenditures). Forecasts for 2017 and 2018 are from the Central Bank's Quarterly Bulletin No. 2 2017.

Chart 7: Selected sectors' exposure to UK trade



Source: Eurostat.
 Notes: Figures are presented as average of the proportion of each sector's total exports in 2014-2016. The classification "manufactured goods" in the chart reflects SITC code 6, manufactured goods classified chiefly by material.

Domestic environment

Since the last Review, estimates based on the QNA suggest that GDP grew by 5.2 per cent in 2016. Timely indicators of economic activity, including the labour market (Chart 6), retail sales and purchasing managers' indices, suggest that the economy continues to expand at a healthy pace in the first half of 2017. Exchequer tax receipts, however, have been below Department of Finance expectations in the opening months of the year.

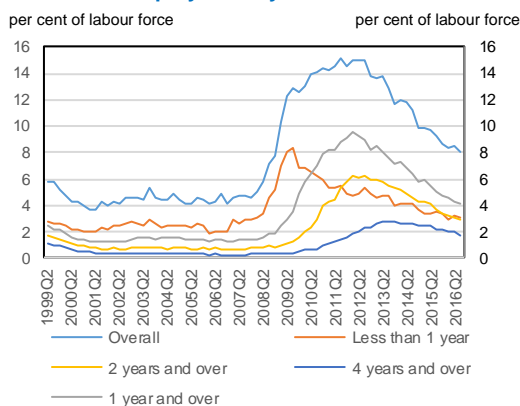
The Bank expects the economy to grow by 3.5 per cent and 3.2 per cent in real GDP terms in 2017 and 2018, respectively. Underlying domestic demand is forecast to increase by 4 per cent this year and 3.5 per cent next year (Chart 6). The year on year change in the GDP deflator is projected to be 3.1 and 2.7 per cent over the same period. These projections are subject to considerable uncertainty relating to Brexit, and the possibility of shifts in tax and trade policy in the US.

The issue of the interpretation of aggregate measures of growth in the economy arose again in 2016Q4. On-shoring of intangible assets, mainly intellectual property assets, resulted in a 162 per cent growth in investment when compared with the corresponding quarter in 2015, with an offsetting 31.5 per cent increase in imports also arising. Since the last Review, the Economic Statistics Review Group (ESRG) has published a report outlining a range of complementary measures which, when implemented in mid-2017, will provide new supplementary statistics to give a greater insight into economic activity occurring in Ireland.^{8 9}

The impact of Brexit on the Irish economy both in the short and longer term is likely to be negative and material. In particular, as negotiations between the UK and EU take place, there exists the

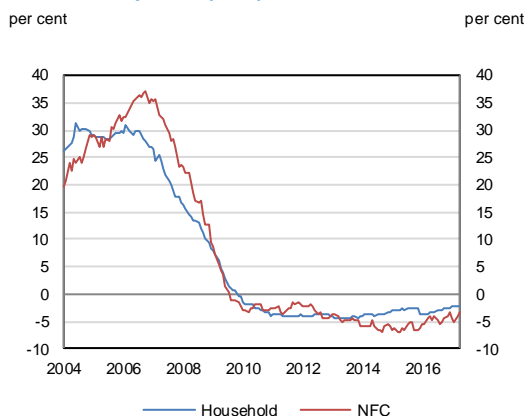
⁸ For a detailed description, see Lane, P.R. *The Treatment of Global Firms in National Accounts*. Central Bank of Ireland Economic Letter Series Vol 2017. No. 1.
⁹ See also: *Box B: GNI* = A Better Measure of Domestic Economic Activity*. Central Bank of Ireland Quarterly Bulletin No.2, 2017.

Chart 8: Unemployment by duration



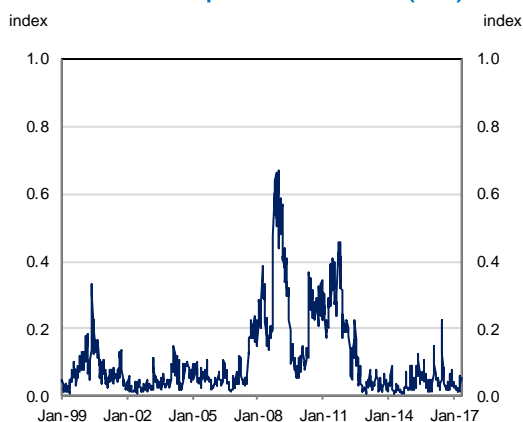
Source: Eurostat and Quarterly National Household Survey.

Chart 9: Credit growth to the household and non-financial corporate (NFC) sectors



Source: Central Bank of Ireland.
Notes: Year-on-year growth rate in bank credit. Last observation: April 2017. There is a break in the household series in December 2015. After that date, data include securitised loans.

Chart 10: Irish Composite Stress Index (ICSI)



Source: Datastream and Central Bank of Ireland calculations.
Notes: The ICSI presents a coincident measure of systemic risk conditions in financial markets for Ireland. See Box 5: Indicators of systemic stress and financial conditions from Macro-Financial Review 2016:1 for further details. Last observation: 26 May 2017.

potential for heightened bouts of uncertainty and risk aversion among both households and firms. Up until now, without evidence of a weakening in the UK economy, the main impact of Brexit on Irish exporters has been through the depreciation of sterling against the euro. However, as the details of future arrangements between the UK and the EU become clearer, sectors with a high dependency on exports to the UK, such as manufactured goods and raw materials, amongst others (Chart 7), are highly exposed to any change in UK demand, exchange rate effects, and any new barriers to trade that result from the negotiations. [See Box 1 for a discussion of the implications of Brexit for financial stability.]

While exporting firms are affected by exchange rate developments, domestically-focussed sectors are also influenced by any depreciation of sterling relative to the euro via import competition from the UK. Firms that do not export are often suppliers to exporting firms or are reliant on the employees of exporting firms to consume their goods and services.

The labour market grew at its fastest rate in nine years in 2016, and job growth is evident across all sectors of the economy. The unemployment rate declined to 6.4 per cent in May. Structural issues, however, remain in the labour market. In particular, recent analysis suggests that there is a persistently high unemployment rate among those out of work for more than four years (Chart 8).¹⁰ Moreover, if the potential additional labour force¹¹ is considered as well as those who are unemployed, the resulting unemployment rate would be well above pre-crisis levels. The performance of the labour market underpins the Bank's forecast for personal consumption to grow by 2 per cent per year in 2017 and 2018, respectively.

A strengthening of underlying investment (excluding the effects of the volatile intangibles and aircraft components) has also been observed of late. As the economy continues to expand, however, infrastructural deficits, particularly in housing supply, but also relating to other areas such as transport, healthcare and communications may constrain growth if not addressed.

The Central Bank has maintained the CCyB rate on banks' Irish exposures at 0 per cent since the last Review was published. This stance primarily reflects the relatively muted aggregate credit environment. Year-on-year growth in bank credit to both the NFC and household sectors remains negative (Chart 9) despite some strengthening in new lending activity. (See Sections 3.2 and 3.3 for detailed discussion of credit developments in the NFC and household sectors, respectively.) The benchmark buffer rate implied by credit gap indicators for Ireland, which is a mandatory element to the CCyB rate setting process, is 0 per cent.¹² The Central Bank reviews the CCyB rate on banks' Irish exposures on a quarterly basis.¹³

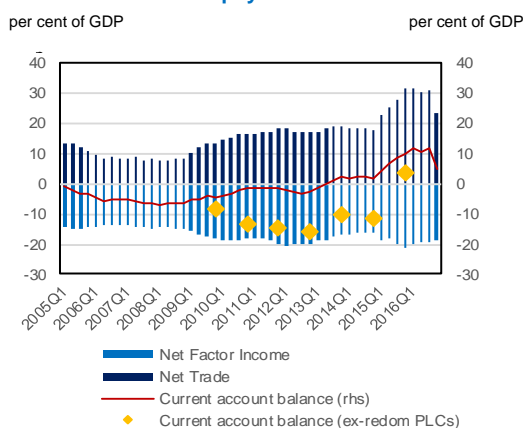
¹⁰ [Box E: Recent Trends in Long-Term Unemployment and Inactivity in the Irish Labour Market, Central Bank of Ireland Quarterly Bulletin No.2 2017.](#)

¹¹ The potential additional labour force refers to individuals who are available to work, but not seeking and persons who are seeking but not immediately available.

¹² The benchmark buffer rate is a CCyB rate, calculated based on a mechanical rule, for a given level of the credit gap. It is to serve as a guide to designated authorities in rate setting decisions.

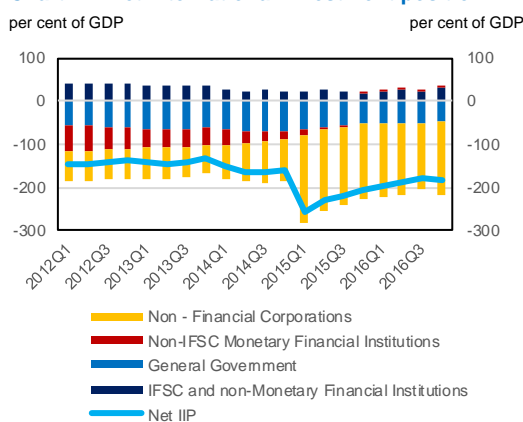
¹³ Further information on the CCyB is available [here](#).

Chart 11: Balance of payments: current account



Source: CSO.
Notes: Data are expressed as four-quarter moving averages. Last observation: 2016Q4.

Chart 12: Net international investment position



Source: CSO.
Notes: Data are expressed as a percentage of 4-quarter nominal GDP. Last observation: 2016Q4. Non-IFSC Monetary Financial Institutions includes the domestically relevant banking sector and the Central Bank of Ireland.

The Irish Composite Stress Index (ICSI) provides a coincident measure of systemic risk conditions in financial markets for Ireland. The index points to relatively low risk conditions prevailing in recent months, following a jump in the immediate aftermath of the UK Brexit referendum result last year (Chart 10).

External environment

The global economy is expected to grow modestly in 2017 and 2018. Risks to this outlook remain elevated. A faster rebound in energy prices, increased barriers to international trade, or a tightening of financial conditions in emerging market economies could prove to be significant headwinds over the forecast horizon. Alongside Brexit, there is also uncertainty at this time arising from elections in the UK and policy deliberations in the US surrounding tariffs and other trade barriers. Irish exports to the US are predominantly from the MNE sector, and any policy shift may influence future location decisions. However, evidence suggests that many US MNEs in Ireland are engaged in export platform FDI to the rest of the EU, and these benefits may outweigh changes in policy.¹⁴

Recent data in the QNA suggest that export growth in 2016 was weaker than in 2015, owing in particular to a slowdown in contract manufacturing. The Bank's assumptions for weighted external demand suggest slightly stronger export growth in 2017 than was forecast at the time of the last Review. Exports are expected to grow marginally faster than external demand, owing to the changing composition of the Irish export basket, including increased services exports reflecting Ireland's participation in Global Value Chains.¹⁵ Reflecting these developments, exports are forecast to increase by 4.4 per cent in average annual terms in 2017. An increase of around 4 per cent is envisaged for 2018.

Preliminary QNA estimates suggest that imports grew by 10.3 per cent in 2016, although, as already mentioned, this figure is heavily distorted by imports growing by 31.5 per cent in 2016Q4 compared with the final quarter of 2015. This surge is consistent with unpredictable shifts in the volume and timing of intellectual property-related imports in recent years. The rise in these imports in 2016Q4 was offset by a related jump in investment in intangible assets, so that it thereby had no effect on the GDP growth rate.

The trade balance is estimated to have narrowed in 2016, driven by an increased services deficit. Net factor income outflows fell last year, owing to a sizeable increase in factor income inflows dominated by the profits of non-financial multinational enterprises (MNEs) (Chart 11). This is also reflected in the (non-IFSC) negative net international investment position (NIIP) of €382 billion. This was driven by the -€454 billion net position of the non-financial corporate sector, much of which relates to the importing of intangible assets (Chart 12).

¹⁴ Walsh, K., 2010. *The economic and fiscal contribution of US investment in Ireland*.

¹⁵ Byrne, S. and O'Brien, M., 2015. *The Changing Nature of Irish Exports: Context, Causes and Consequences*. Central Bank of Ireland Quarterly Bulletin 02, April 15, p.58.

Box 1: Implications of Brexit for financial stability in Ireland and Europe

The Central Bank has identified Brexit as the primary external risk to the Irish economy and the Irish financial system. However, there remains substantial uncertainty regarding the conditions of the UK's exit from the EU. This includes uncertainty around both the timing of the exit and the degree of disruption to trade, financial and regulatory linkages between the UK and the EU. As such, it is difficult to infer what exact effects Brexit will have on financial stability in Ireland and the stability of the broader European financial system.

Nevertheless, a number of high-level effects are already clear. First, the ability of financial firms to operate between the EU and the UK will be reduced. The UK financial sector plays a substantial role in many parts of the European financial system. For example, 75 per cent of euro-denominated interest rate derivative trading takes place in the UK and UK firms are involved in over half of debt and equity issuance by EU-27 borrowers.¹ As a result, any curtailment of the ability of financial firms to operate across jurisdictions is likely to result in changes to the network structure of the European financial system and its broader stability. This could result in fragmentation of markets and sectors currently concentrated in the UK, including wholesale banking, insurance, investment firms and firms providing ancillary financial services. It is also likely to result in the migration of firms, as those currently based in the UK seek to maintain access to the Single Market and firms in the EU seek to maintain access to the UK market.

Secondly, the net macroeconomic impact for Ireland, as the EU Member State with the largest UK exposure, is expected to be negative. In particular, disruption to trade linkages and the imposition of tariffs on trade between the UK and the EU will have a negative impact on export-focused sectors, particularly sectors such as agri-food, materials manufacturing, and tourism. These sectors are labour intensive, comprise a large share of Ireland's Small and Medium Enterprises (SMEs), and are largely subject to high tariff rates under WTO rules.² Any sterling depreciation represents a negative shock to these firms, as it makes Irish exports to the UK more expensive. Sterling has been trading ten to fifteen per cent weaker against the euro since the referendum and is likely to be sensitive to future Brexit-related developments. Should substantial migration of firms from the UK to Ireland occur, this will result in increased demand for Irish real estate. Analysis undertaken by CBRE suggests that the pipeline supply of Irish CRE is both sufficient to accommodate increased demand and sufficiently flexible to accommodate the uncertainty surrounding its magnitude. However, should the migration of firms also result in migration of workers, existing supply shortages in the Irish residential property market will be exacerbated.³

Central Bank estimates suggest that in the event of no post-Brexit trade agreement being reached, GDP in Ireland might be around three per cent lower after ten years than under a no-Brexit scenario. This figure is expected to translate into roughly 40,000 fewer jobs, which may occur largely in particular regions and sectors. Brexit is also likely to result in a number of negative shocks to the UK economy. Again, it is too early to infer the exact nature and magnitude of these shocks. At an aggregate level, the most recent Bank of England forecasts for 2018 and 2019 growth are below pre-referendum levels, despite an unexpected improvement in the external environment and an assumed smooth Brexit process.⁴ Any macroeconomic shocks will feed through to the financial sector. For example, the combined UK loan portfolio of Ireland's five large retail banks comes to €47bn, approximately 22 per cent of their total loans. Irish retail banks are also likely to be affected through their substantial exposure to the Irish SME sector, which makes up approximately 20 per cent of total loans.

Thirdly, the process is likely to result in a period of extended financial and regulatory uncertainty. Uncertainty regarding the outcome of Brexit negotiations will result in increased regulatory costs for financial institutions seeking to maintain access to both the EU and UK markets. The possibility of divergence between UK and EU regulatory regimes following the UK's exit is likely to result in continued regulatory uncertainty, duplication of activities, and increased complexity of financial structures. Finally, this uncertainty will be amplified in the event of a "cliff-edge" Brexit, whereby the UK leaves the EU without agreeing a transitional arrangement. Such an event would likely result in sudden regulatory and financial adjustments and heightened financial market volatility.

In 2016, the Central Bank established a Brexit Task Force and it continues to monitor and assess economic, regulatory and financial market risks arising from Brexit on an on-going basis. The group comprises senior experts from across the Bank and facilitates information sharing across the Bank's divisions and with external stakeholders. The Central Bank is also engaging on an on-going basis with regulated firms regarding their preparation for changes to the regulatory and economic environment.

¹ For further detail, see [Batsaikhan, U., Kalcik, R. and Schoenmaker, D., "Brexit and the European financial system: mapping markets, players and jobs", Bruegel Policy Contribution Issue No 4, 2017](#); and Bank of England ["The high road to a responsible, open financial system"](#), Speech given by Mark Carney Governor of the Bank of England, April 2017.

² This is particularly the case for the agri-food sector. For further detail, see [Lawless, M. and Morgenroth, E., "The Product and Sector Level Impact of a Hard Brexit across the EU", ESRI Working Paper No 550, November 2016](#).

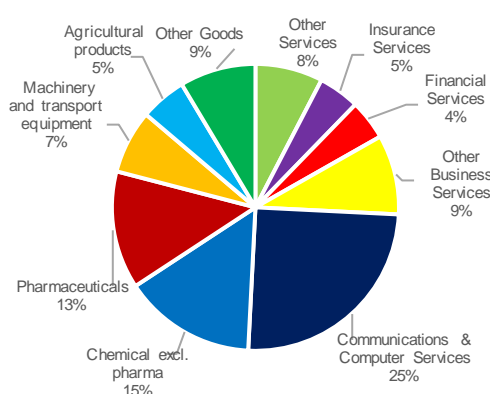
³ This is discussed in further detail in sections 3.3 and 3.4 of this Review.

⁴ For further information, see ["Inflation Report", Bank of England](#) May 2017 and May 2016.

3.2 Non-financial corporate sector

Brexit is expected to have a material impact on the NFC sector in Ireland with its effect likely to operate through exchange rate developments, changes in UK demand, and a potentially more restrictive trading environment. Sectors that rely on the UK as an export market are particularly exposed to such effects. Broader uncertainty regarding the future trading environment is likely to act as a drag on investment. A cohort of firms remain highly indebted, while NPL rates remain elevated. The CRE market continues to see high total returns. A substantial rise in office supply is occurring. Existing CRE exposures leave Irish retail banks exposed to any change in market conditions.

Chart 13: Share of Irish exports, 2015



Source: WTO and Central Bank of Ireland calculations.
Notes: Data relate to 2015.

Chart 14: Business sentiment index



Source: KBC Bank Ireland/Chartered Accountants.
Notes: Index base 2006Q4=100. Last observation 2017Q1.

Operating environment

Strong growth in underlying investment (i.e., investment net of intangibles and aircraft related investment) in 2016 is expected to continue through 2017 and 2018. Against the backdrop of a healthy domestic economic performance, the numbers of days lost to industrial disputes more than doubled in 2016. A number of high-profile disputes occurred in the transport sector during this time, and other disputes have arisen in the opening months of 2017.

In relation to external demand, exports are projected to grow more strongly than demand in Ireland's main trading partners. While the composition of Irish exports has contributed to the strong growth of recent years, it also brings with it certain vulnerabilities. Over half of Irish exports in 2015 related to pharmaceutical, chemicals and computer services (Chart 13), which leaves Irish export performance susceptible to shocks in those markets.¹⁶

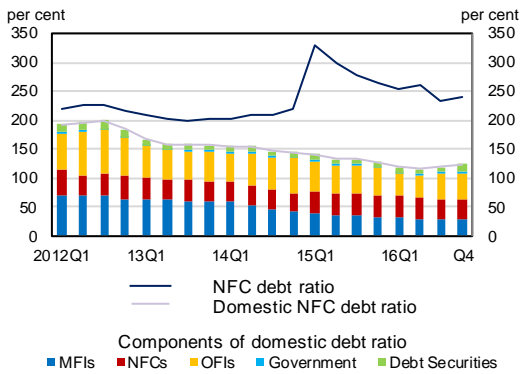
Following a large decline in mid-2016, primarily reflecting concerns about Brexit, business sentiment has recovered to some extent since (Chart 14). The recovery is partly attributable to some of the anticipated negative consequences of Brexit having not yet materialised. As outlined in Section 3.1, the main impact of Brexit to date has been through exchange rate movements. Those sectors heavily reliant on exports to the UK remain particularly exposed to changes in UK demand, exchange rate effects, and any new barriers to trade.

In addition to Brexit, any protectionist trade policies or changes in corporation tax policies are especially relevant to the NFC sector in Ireland. FDI figures point to Ireland being one of the most globalised economies in the world.¹⁷ As of 2015, it is estimated that FDI had contributed over 300,000 jobs to the Irish economy, half of which were in the manufacturing and wholesale-and-retail trade sectors. The US is the most important source of FDI in Ireland in terms of both the value of FDI and associated level of employment. While the implementation of policy changes around trade and corporate tax policies would likely have a negative

¹⁶See [Sectoral Specialisation of Irish Exports, Box D, Central Bank of Ireland, Quarterly Bulletin 02/April 17](#) for a more in-depth discussion.

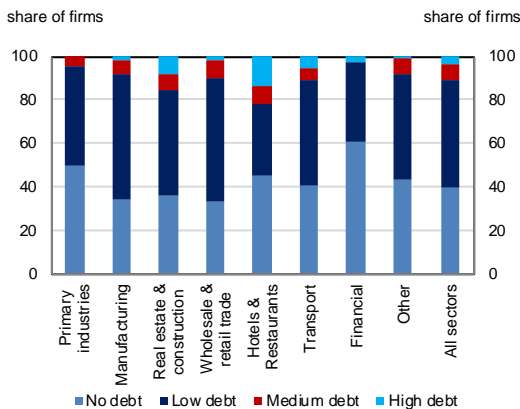
¹⁷[CSO Foreign Direct Investment in Ireland 2015](#)

Chart 15: NFC indebtedness



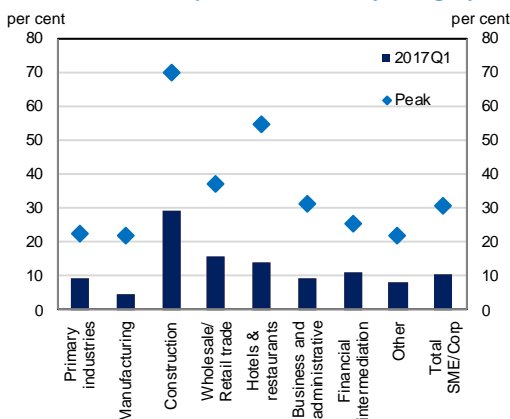
Source: Central Bank of Ireland and CSO.
 Notes: Debt is loans plus debt securities. NFC debt ratio is calculated as NFC debt as a percentage of GDP. Domestic NFC debt ratio is NFC debt issued by a domestic counterparty as a percentage of underlying domestic demand. Last observation: 2016Q4.

Chart 16: SME indebtedness by sector



Source: Department of Finance SME Credit Survey and Central Bank calculations.
 Note: firms indebtedness based on debt-to-turnover ratio. low debt <0.33, medium debt 0.33-1, high debt >1
 Small samples in some cases. Data relate to period April 2016-September 2016.

Chart 17: SME/Corporate NPL rate by category



Source: Central Bank of Ireland.
 Notes: The NPL rate is calculated as the proportion of loans in CRD default as a proportion of total loans. The date of the peak NPL rate differs by category. The rate of overall SME/Corporate NPLs peaked in 2013Q3.

impact on the NFC sector in Ireland, uncertainty as to the shape of the international trading environment in the coming years may act as a drag on investment in the meantime.

Financial position

The aggregate debt position of the Irish NFC sector is highly influenced by its MNC component – see Box 2 for a more in-depth discussion. Chart 15 presents the NFC debt-to-GDP ratio alongside a more domestically-relevant measure of NFC debt that looks to take account of the idiosyncracies of the Irish economy at this time. While the domestic NFC debt ratio declined in recent years, it now appears to have stabilised and is in excess of 100 per cent. A feature of NFC debt in recent years, has been the declining share issued by MFIs (i.e. banks).

Of the debt issued by resident banks to Irish resident private-sector enterprises, about two-thirds is held by SMEs. At both the overall level and the SME level, the largest share (approximately one-third) of debt relates to real estate activities. The next highest shares relate to wholesale and retail trade and primary industries, which are in the region of 10-15 per cent each.

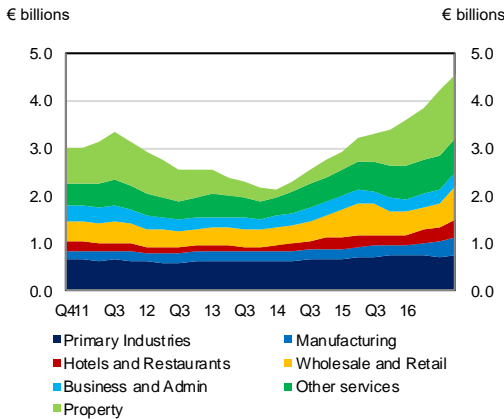
At the firm level, there is considerable variation in debt burdens. Survey evidence, relating to the period April-September 2016, suggests a substantial proportion of firms (approximately 40 per cent) did not hold debt while about 4 per cent of firms reported holding debt in excess of their 12-month turnover (Chart 16). The distribution of indebtedness also varies within sectors. High indebtedness leaves firms vulnerable to a decline in revenues and/or an increase in interest rates. High indebtedness can also act as a drag on a firm’s activity by limiting its ability to access new finance and/or undertake new investment opportunities.

A substantial decline in the NPL rate, relative to its peak, is evident across all categories of SME/Corporate lending (Chart 17). Variation in the NPL rates remains, however. Thirty per cent of construction-related lending, for instance, is still classified as non-performing whereas the corresponding figure for manufacturing loans is below 5 per cent. Overall, 10 per cent of SME/corporate loans are still classified as non-performing, approximately one-third of the peak NPL rate which occurred in 2013Q3 (Chart 17). The workout of these NPLs will require sustained effort for some time to come.

Financing conditions

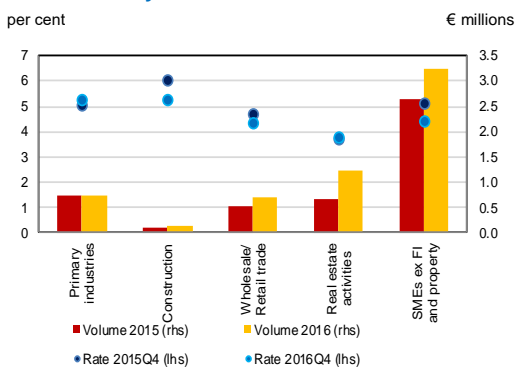
The overall credit environment for NFCs remains subdued. Credit growth to SMEs in particular remains negative, while credit to large enterprises has been rising for some time now. SMEs across almost all sectors of the economy continue to deleverage as seen by negative growth rates in bank-provided credit. Nevertheless, new lending has picked up. New lending to non-financial SMEs amounted to €4.5 billion in 2016 (up from €3.4 billion in 2015) (Chart 18). The main driver of the increase in new lending has been loans for real estate activities which increased from €650

Chart 18: Gross new lending to SMEs by sector



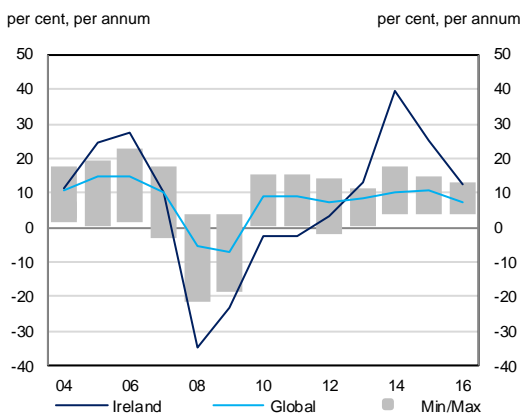
Source: Central Bank of Ireland.
Notes: Chart shows the rolling 4-quarter total of gross new lending by banks to Irish resident SMEs excluding financial intermediation. Property incorporates both lending for construction and real estate activities. Last observation: 2016Q4.

Chart 19: Gross new lending to SMEs: Interest rate and volume by sector



Source: Central Bank of Ireland.
Notes: Volume of lending relates to the sum of lending over a 4-quarter period. Interest rates are the average rate on new lending in the reference quarter.

Chart 20: Total annual returns across international markets



Source: MSCI/IPD.
Notes: Grey bars signify the relevant maximum and minimum annual total returns observation (in local currency) across a number of international markets; Belgium, Canada, France, Germany, Italy, Japan, Netherlands, New Zealand, Portugal, Spain, UK and USA.

million in 2015 to €1.2 billion in 2016 (Chart 19), accounting for 30 per cent of total (non-financial) SME new lending in the year. New lending to non-financial, non-property SMEs amounted to €3.2 billion in 2016, an increase of 22 per cent on the previous year (Chart 19).

Interest rates on new lending to SMEs had been on a downward trend in recent years, but there was a small increase in the average rate on new lending in 2016Q4. While interest rates vary across sectors, they are generally either at similar or lower levels to a year earlier (Chart 19).

In terms of the broader lending environment, the SBCI continues to expand. In 2017Q1, €113 million was drawn down by 2,700 SMEs, bringing total loans drawn down since the SBCI began lending in 2015 to €657 million.

Commercial property market

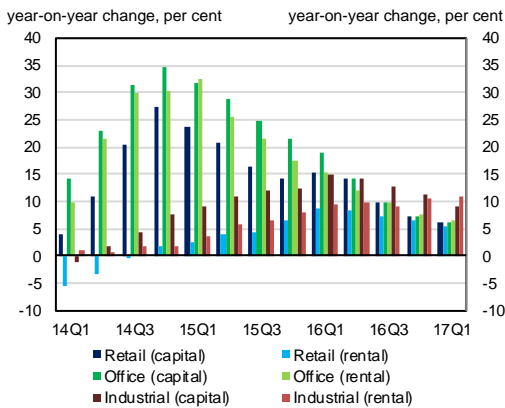
Total annual returns of 12.4 per cent in the Irish commercial real estate market in 2016 were high by international comparison, but were about half those of 2015 (Chart 20).¹⁸ Similarly, gains in capital and rental values eased in 2016. Nevertheless, they remain relatively strong, at 6.2 and 6.5 per cent, respectively, in 2017Q1. Irish commercial property capital values have risen 75 per cent since the bottom of the market in mid-2013, but are still 43 per cent below their 2007 peak.¹⁹ While all three commercial property sub-markets recorded year-on-year capital and rental value growth in the first three months of 2017, supply shortages in the industrial sector helped make it the leading performer, with increases of 9.2 and 10.9 per cent, respectively (Chart 21).

Nationally, the commercial property vacancy rate was 13.5 per cent in 2016Q4, a rise of 0.9 percentage points on the end-2015 rate, according to the GeoDirectory database.²⁰ The vacancy rate in Dublin, home to 23.4 per cent of the country's commercial property address points, was slightly above the national average at 13.7 per cent.²¹ In general, vacancy rates tend to be higher in North West counties such as Sligo (18 per cent), Leitrim (16.4 per cent), Donegal and Mayo (both 15.6 per cent) than elsewhere. The lowest CRE vacancy rate in the country (10.2 per cent) is in Kerry.

Economic recovery and foreign direct investment has contributed to strong demand for Dublin office space.²² According to CBRE, 246,000m² of office space was leased in Dublin in 2016, over 40 per cent higher than the 2003 to 2015 annual average (Chart 22). Take-up during 2017Q1 saw 40 individual lettings, accounting for approximately 50,000m² of space.^{23,24} Half of these transactions

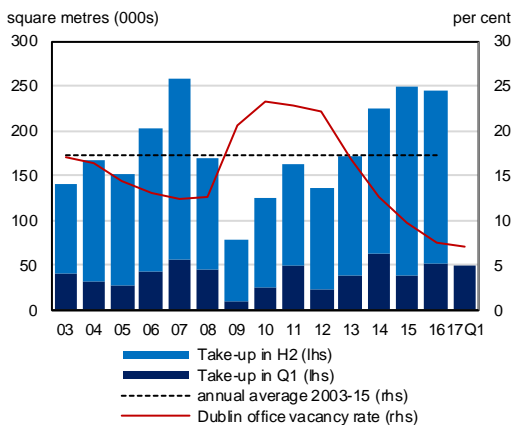
¹⁸ According to the latest data, total annual returns on Irish CRE moderated slightly to 11.2 per cent in 2017Q1.
¹⁹ Total returns, capital growth and rental growth data are sourced from MSCI/IPD. Commercial property rental values are currently 21 per cent below their peak values (2007), having risen 54 per cent since the CRE rental market troughed in 2013Q3.
²⁰ See [GeoView Commercial Vacancy Rates Report 2016 Q4](#).
²¹ An analysis of Dublin districts by GeoView found a variation of vacancy rates across the capital. The lowest vacancy rates of 7 to 8 per cent were found in Dublin 16, 15 and 6. In contrast, vacancy rates of 19.2 per cent and 18.7 per cent were recorded in Dublin 17 and Dublin 2, respectively.
²² Analysis of the CRE sector in the Macro-Financial Review focuses mainly on the Dublin market, as coverage of regional CRE markets tends to be poor. There is a need for detailed, independent information on both a national and regional basis. The Central Bank of Ireland, in conjunction with NAMA, is currently supporting and co-funding a project with the CSO, which aims to ascertain whether it is possible to develop a Commercial Property Statistical System (CPSS) for Ireland and statistics covering the overall stock, the stock under construction (referred to as pipeline) and the transactions (sales and leases) of commercial property.
²³ See [CBRE Ireland Bi-Monthly Research Report, March 2017](#).
²⁴ See [CBRE Dublin Office Market View, 2017Q1](#).

Chart 21: Breakdown of commercial property capital and rental value growth by sector



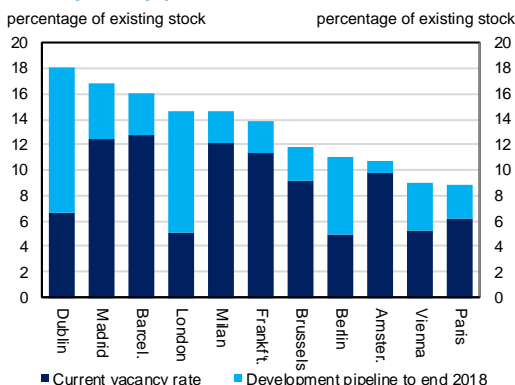
Source: MSCI/IPD.

Chart 22: Dublin office market activity



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

Chart 23: Dublin office vacancy rate and 2 year development pipeline



Source: CBRE research.

involved Irish firms, 13 were negotiated with American companies, and UK businesses were involved in 5 deals. The 2017Q1 Dublin office vacancy rate was 7 per cent. This is the lowest vacancy rate on record (i.e. since 2003), and is well below that seen in a number of major European cities (Chart 23).²⁵ The shortage of Dublin office space is reflected in rising rental costs, with prime rents up from €619 per square metre in 2016Q1 to €673 per square metre in 2017Q1.

Despite the strength of letting activity in Dublin, new office development and refurbishment projects had been lacking until recently, raising concerns about the city's ability to cope with additional demand, including as might arise as a result of Brexit. The resumption of commercial property development in 2015, however, ensured the delivery of new office space (76,000 m²) in 2016, the first to come on-stream since 2010. CBRE provides details of a further c. 950,000 m² that is either under construction, has had planning permission granted, or is currently in the pre-planning/planning application process (Chart 24). The addition of this stock will ensure that Dublin will compare favourably with other European cities over the medium term when it comes to the availability of new office space (Chart 23). Given the likely scale of new development in the years ahead, and reports of an increase in enquiries from major UK-based firms pondering a post-Brexit relocation to Dublin, it is important that the construction cycle is prudently managed.

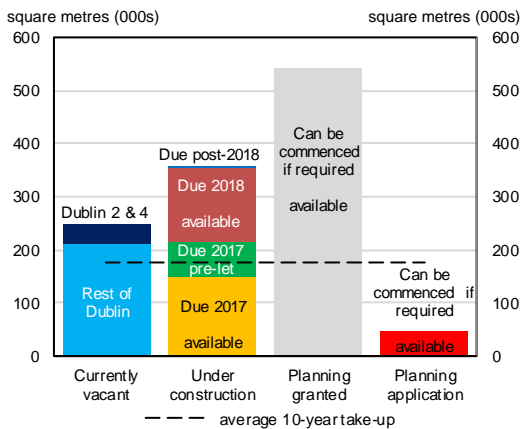
A shortage of suitable units in well-situated locations (i.e., close to main transport networks) is limiting activity in the prime Dublin industrial commercial property sector. According to JLL, the take-up of industrial space in 2017Q1 was c.47,300m², broadly in line with average Q1 take-up since 2011, following a 38 per cent annual decrease over 2016 as a whole. Demand for space in the sector remains strong, from international logistics providers in particular.²⁶ Rents in the retail sector are being supported by consumer expenditure. Demand from new entrants, especially in the food and beverage sector, is quite strong at present and there has been an increase in planning and development activity. Any deterioration in consumer sentiment arising from Brexit and the substitution of sales to on-line retailers are threats to this part of the CRE market.

CRE investment and financing activity

The Irish commercial property market attracted €4.5 billion of investment in 2016 (Chart 25).²⁷ This was the second highest total on record (i.e., since 2006) and included a number of large shopping centre/retail transactions. The top five investment deals made up almost 50 per cent of total spending. Overseas investors were responsible for approximately 70 per cent of the purchases that occurred in 2016. Data for the opening quarter of 2017 show

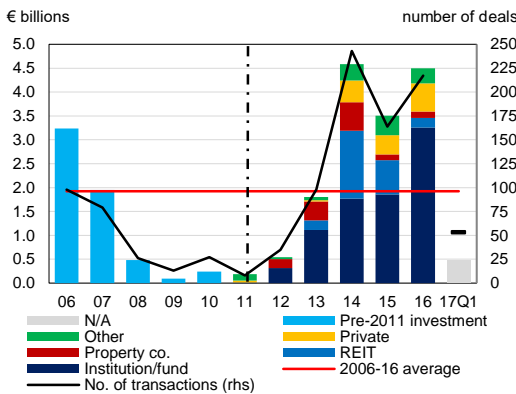
²⁵ See [CBRE 2017 Dublin Office Supply Update](#)
²⁶ See [JLL Dublin Industrial Market Report, 2016Q4](#), and [Dublin Industrial Market Report, 2017Q1](#).
²⁷ See [CBRE Real Estate Market Outlook 2017](#).

Chart 24: Dublin office supply pipeline: 2017Q1



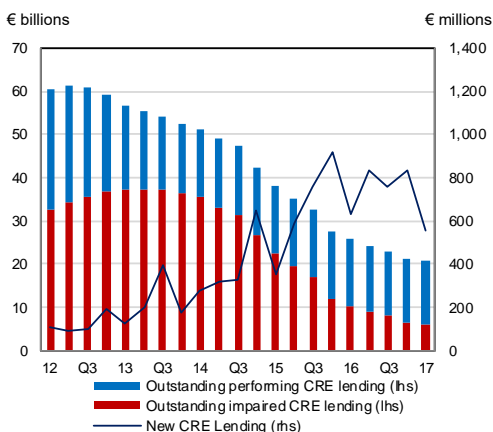
Source: CBRE Research.
Notes: Data are projections based on the assumption that every scheme in the planning process materialises. A number of these schemes may not materialise or may not proceed at the pace envisaged at present. As well as the 950,000 square metres in the construction or planning phase, the chart also shows details of the 250,000 square metres of Dublin office space which is vacant at present.

Chart 25: Sources of Irish commercial property 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 26: Irish retail banks' CRE lending



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSF reporting requirements.

that just under €500 million of Irish properties were traded in the opening quarter of 2017.²⁸ The office sector regained its position as the dominant asset class, accounting for 41 per cent of transactions, with Dublin the foremost location for investor activity in the sector.

The opportunity to earn attractive yields and diversify risk have helped to attract large institutional funds to the Irish CRE market in recent years. REITs and other international investors, such as income funds, insurers, and pension funds, are now active in the Irish CRE market. They have broadened the investor base and provide greater levels of liquidity.²⁹ Increased foreign activity also brings risks. It could leave the sector vulnerable to changes in investor perceptions of the Irish market and/or to a change in external financing conditions.

Looking ahead, investment volumes may be lower in 2017, as NAMA and the Irish retail banks near the end of their deleveraging schedules and the availability of investment opportunities from these sources is falling. Brexit, protectionism, and recent changes to the tax treatment of Section 110 companies could also impinge on CRE investment in the years ahead.³⁰ While the commercial property market is well positioned to benefit from any potential increase in occupier/investor demand post-Brexit, it is also vulnerable to Ireland's close economic links to the UK and the geopolitical and capital market uncertainty which Brexit has created.

Irish retail banks held a significant portfolio of commercial property of approximately €20 billion in 2017Q1, of which almost 30 per cent was non-performing (Chart 26). Despite a fall in 2017Q1, the value of new lending activity by the Irish retail banks for commercial property purposes has been rising steadily since 2013. It is still relatively subdued however, and tends to be for investment in existing buildings and for pre-lets rather than for speculative purposes (Chart 27).³¹ Of the speculative new lending taking place, most relates to residential development schemes. Retail development projects are the next biggest category of speculative commercial property lending. Approximately €560 million of new CRE lending was extended by Irish retail banks in 2017Q1, equivalent to less than 3 per cent of the total stock of outstanding CRE lending and approximately 9 per cent of the Irish retail banks' total new lending for the quarter.

Despite the relatively muted nature of new lending to the sector at present, existing commercial property exposures leave Irish banks vulnerable to a decline in prices and the potential increase in provisions which would follow. Conversely, growth in the CRE

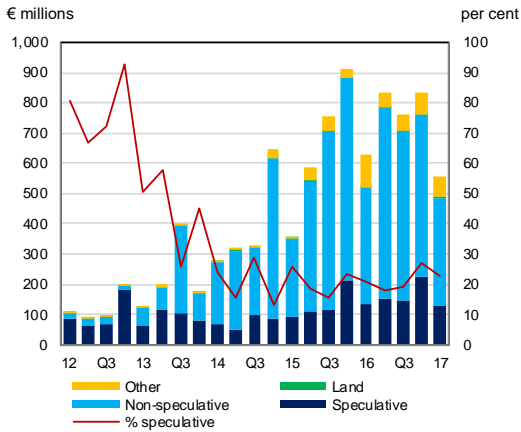
²⁸ See [Cushman and Wakefield, Irish Investment Market, 2017Q1](#) and [CBRE Ireland Bi-Monthly Research Report, May 2017](#).

²⁹ Ireland was also listed amongst the "highly transparent" CRE markets in 2016, placing 8th overall, (out of 109 countries), in the [JLL Real Estate Transparency Index](#). "Highly transparent" markets are those in which granularity, quality, frequency, and geographical spread of performance measurement, valuations and market fundamentals data are considered best.

³⁰ In an effort to protect the tax bases and close a tax loophole used by so-called vulture funds to avoid paying tax on profits from the buying and selling of Irish commercial property, amendments were made to Section 110 legislation in the 2016 Finance Act. Concerns have been raised within the industry (see [CBRE Real Estate Market Outlook 2017](#)) that these changes, which were not anticipated, could have a harmful impact on Ireland's reputation amongst investors and that buyer profile and pricing may also be negatively affected. Existing, significant tax exemptions associated with particular non-bank holdings of property such as REITs make it unclear the extent to which these concerns are justified.

³¹ Lending for speculative property investment is defined as the buying and/or developing of land zoned for residential, commercial (office, retail, industrial, mixed) or mixed commercial and residential real estate property which is not pre-sold or pre-let.

Chart 27: Irish retail banks' new CRE lending by purpose



Source: Central Bank of Ireland.

Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements.

sector may tempt credit institutions to alter their business models and increase their risk appetite in an effort to boost profits.

Box 2: A decomposition of NFC debt and loans

In aggregate, the NFC sector in Ireland is among the most highly indebted in Europe, suggesting the sector's indebtedness could be a source of vulnerability to the Irish economy and its financial sector. The make-up of the NFC sector in Ireland, however, means a more nuanced look at the composition of its debt is useful in assessing the risk it poses to financial stability. The overall level of NFC indebtedness in Ireland has been strongly influenced, especially in recent years, by debt held by foreign-controlled firms. This box uses two data sources, the CSO Macroeconomic Scoreboard 2015 and the Quarterly Financial Accounts (QFA), compiled by the Central Bank, to provide a more in-depth consideration of NFC debt.¹

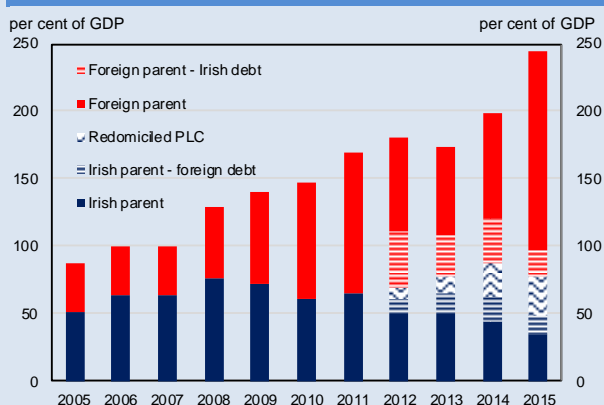
CSO Macroeconomic Scoreboard

The data from this source show that the consolidated NFC debt-to-GDP ratio in Ireland more than doubled between 2005 and 2015 (Chart A). As of 2015, the ratio stood at 245 per cent. A sizeable portion of NFC debt is held by NFCs with a foreign parent. This portion of debt has increased significantly in recent years, with a particularly large jump evident in 2015, to the extent that debt held by foreign-owned companies now accounts for approximately two-thirds of Irish NFC debt (debt held by foreign owned firms amounted to almost 170 per cent of GDP in 2015).² A detailed breakdown of the location of debt has been available since 2012. It shows that foreign-owned firms are heavily reliant on non-resident sources of funding. Re-domiciled PLCs, who have little or no impact on real economic activity in Ireland, held debt equivalent to almost 30 per cent of GDP. Debt held by Irish-controlled NFCs accounted for only one-fifth of total NFC debt in 2015 (less than 50 per cent of GDP), down from approximately one-third of NFC debt in 2012.

Quarterly Financial Accounts

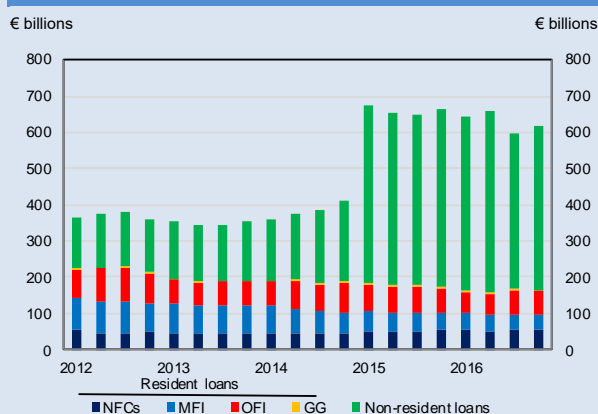
Another data set, the Quarterly Financial Accounts (QFA), complements the CSO data. Whereas Chart A provides debt data, the QFA provides a breakdown of NFC loans by issuing counterparty. Loans are a component of debt – albeit the major one accounting for more than 95 per cent of total debt. In addition, the QFA is presented on an unconsolidated basis. The QFA has the benefit of being available on a quarterly and more timely basis than the Macroeconomic Scoreboard. Chart B shows similar features to Chart A with a large increase in rest-of-world loans evident in 2015 (which now account for more than 70 per cent of NFC loans). This broadly corresponds with the increase in debt held by foreign-owned firms in the CSO data. Also evident in the QFA data is the relatively low volume (€42 billion) of NFC loans which are now held by Irish-resident MFIs, about half the early 2012 level.

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



Source: CSO
Notes: Debt is calculated on a consolidated basis.

Chart B: Financing of NFC loans, € billions



Source: Central Bank of Ireland, Quarterly Financial Accounts
Notes: Loans are presented on an un-consolidated basis. Last observation: 2016Q4

At an aggregate level, the NFC sector in Ireland is regularly flagged as being highly indebted and, therefore, a source of risk to financial stability. An analysis of the components of NFC debt shows that a large portion of this debt is held by foreign-controlled companies and is sourced from non-resident counterparties. The exposure of the Irish financial system to the NFC sector is substantially smaller than aggregate debt figures would suggest. Furthermore, redomiciled PLCs, which tend to have little direct impact on real economic activity in Ireland, hold a not-insignificant portion of debt also.

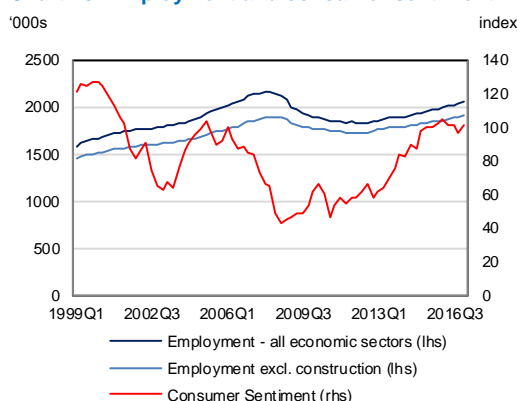
¹ This box updates and builds on the analysis in contained in [MFR 2016:1, "Box 1: The components of NFC debt"](#) which utilised the data provided by the CSO Macroeconomic Scoreboard 2014 to explore the issue of NFC debt.

² The increase in debt held by foreign-owned firms in 2015 relates to the broader impact that corporate restructuring of large multinationals has had on Irish macroeconomic statistics.

3.3 Household sector

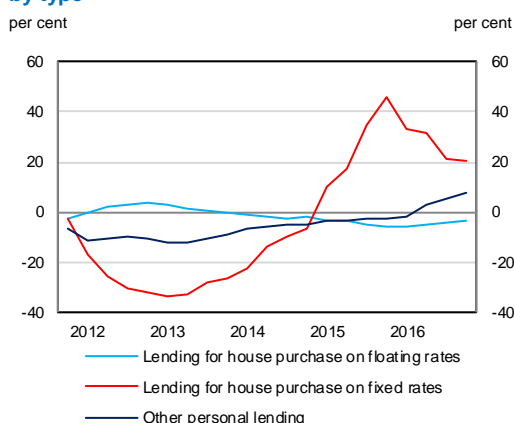
Overall positive labour market conditions continue to support a reduction in household sector debt and mortgage arrears. Nevertheless, the sector remains relatively highly indebted and vulnerable to potential interest rate increases given the large stock of debt on variable interest rates. Almost half of mortgage arrears cases are in very long-term arrears. A worse-than-expected economic performance could have an adverse impact on the sector. A scarcity of housing in certain locations and a decline in vacancy rates is contributing to price and rent developments in the residential property price market. The number of new housing units being built and likely to be constructed over the medium term is below demand.

Chart 28: Employment and consumer sentiment



Source: CSO & ESRI
Notes: Employment is the number of persons 15 years and over on a seasonally adjusted basis. Last observation: 2017Q1.

Chart 29: Year-on-year growth in household credit by type



Source: Central Bank of Ireland.
Notes: Lending for house purchase at variable rates includes fixed rate lending where the period of fixation is up to 1-year. Last observation: 2016Q4.

Economic and credit developments

All sectors of the economy saw an increase in employment numbers during 2016 and overall employment has continued to increase in 2017. The number of people employed excluding the construction sector is now at a record high of over 1.9 million (Chart 28). The headline and long-term unemployment rates continue to decline and were 6.8 and 3.6 per cent, respectively, as of 2017Q1.³² As of May 2017, the monthly unemployment rate was 6.4 per cent, pointing to continuing labour market improvements. Certain legacy effects of the crisis remain in the labour market, however. Accounting for the potential additional labour force, which is excluded from the aforementioned published unemployment rates, the resulting broader measures of unemployment are higher than the current standard estimates and are above pre-crisis levels.³³ Compensation per employee is expected to see average annual increases of almost 3 per cent over 2017 and 2018, which with relatively muted inflation should result in rises in real wages. Having reached a 15-year high in early 2016, there has been considerable volatility in consumer sentiment in recent months as consumers have tried to balance the generally positive domestic environment with fluctuating international risks (Chart 28).

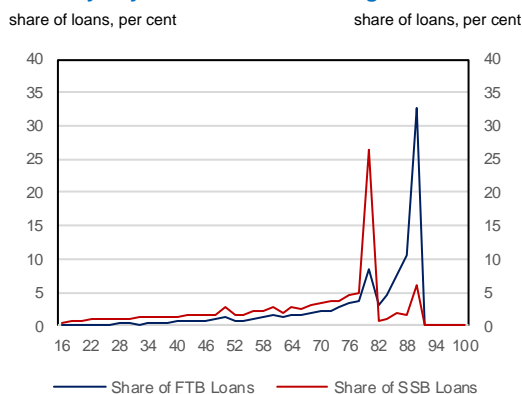
While overall credit growth to households remains muted, there are some pockets of growth (Chart 29). Non-mortgage (also referred to as other personal) credit, which accounts for about 15 per cent of total bank lending to Irish households, has seen positive and increasing year-on-year rates of growth since early-2016. In relation to mortgage credit, new mortgage lending has been picking up somewhat, amounting to €4.5 billion in 2016 – the corresponding figure in 2015 was €3.8 billion.³⁴ Nevertheless, repayments continue to outweigh new lending as the overall growth in mortgage credit remains negative. Growth rates in credit vary across both interest rate type and mortgage type. Overall, growth in floating rate mortgage lending remains negative, although lending growth on standard variable rate products has

³² Long-term unemployment is defined as being unemployed for over one year.

³³ Data on the potential additional labour force (PALF) are contained in the Quarterly National Household Survey of the CSO. The PALF is made up of those persons seeking work but not immediately available and those persons available but not seeking work.

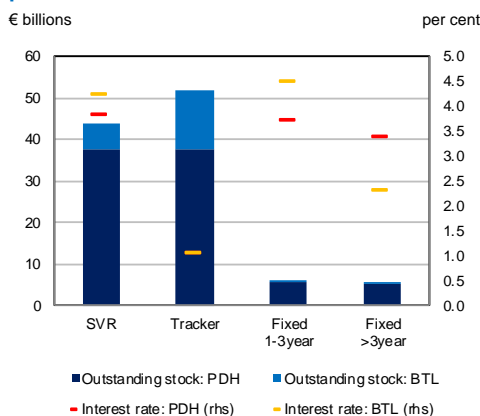
³⁴ Central Bank of Ireland Monthly Statistics, Table B3.1.

Chart 30: Distribution of originated loan-to-value ratios by buyer status – new lending in 2016



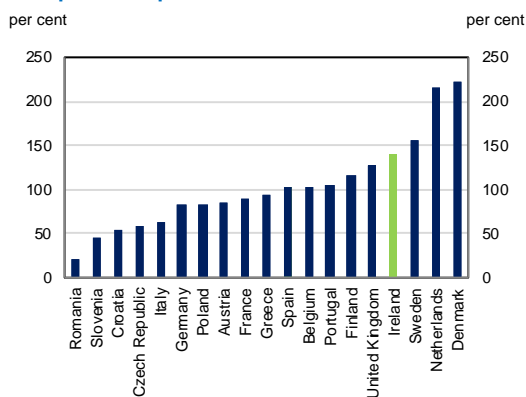
Source: Central Bank of Ireland.
Notes: Data show the distribution of originated LTV ratios by buyer status based on new lending, within the scope of the Central Bank's macroprudential mortgage rules, in 2016. FTB – first-time buyer, SSB – second and subsequent buyer.

Chart 31: Outstanding stock of lending for house purchase



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 2016Q4.

Chart 32: Household sector indebtedness – European comparison



Source: ECB and Central Bank of Ireland calculations.
Notes: Household sector indebtedness is measured by the household debt to gross disposable income ratio. Data relate to 2016Q4.

turned positive since the last Review. Lending at fixed rates has seen strong rates of growth since early-2015 (Chart 29). The year-on-year rate of growth in PDH mortgage credit turned positive in the latter half of 2016. Credit growth relating to BTL mortgages remains negative.

Monitoring template data, relating to the Bank's macroprudential mortgage limits, provide further information on the distribution of new lending. These data show that approximately two-thirds of new lending to FTBs in 2016 was clustered between the regulatory maximum limit of 90 per cent and the 80 per cent limit to which the sliding house price scale applied (Chart 30). Similarly, the largest share of lending to SSBs (26 per cent) is at its regulatory LTV limit of 80 per cent. Very little lending, either to FTBs or SSBs, occurred where the LTV was above 90 per cent.

Households held €106 billion of mortgage debt as of December 2016.³⁵ Almost half of this stock of mortgage debt is on tracker interest rates linked to the ECB policy rate (Chart 31). Mortgages on standard variable interest rates account for a further 41 per cent of outstanding mortgage debt. The cost of both tracker and SVR mortgages are susceptible to any increases in ECB policy rates. The latter can also be affected by interest rate changes initiated by credit institutions. The vast majority of mortgage credit is, therefore, vulnerable to interest rate increases which could have a significant impact on households' mortgage repayments. Fasianos *et. al.* (2017) note for instance that a 2 percentage point increase in (mortgage) interest rates would lead to a significant increase in the share of households faced with high debt-service to-income ratios.^{36 37}

In terms of new lending, fixed rate loans have been more prevalent of late, accounting for 43 per cent of new mortgage lending in 2016. Fixed rate products provide repayment certainty to borrowers for the period of fixation. In general, however, the fixation periods tend to be relatively short with the majority fixed for less than three years. Such loans will be vulnerable to potential rate increases at the end of the fixation period.

Financial Position

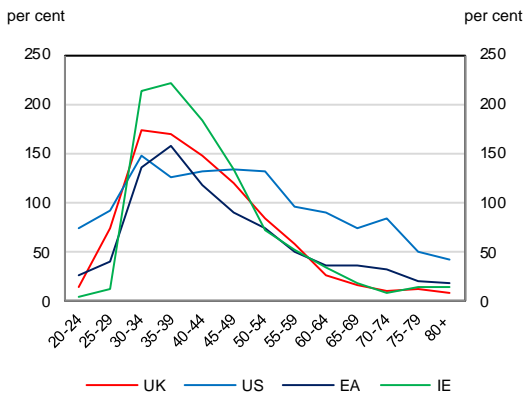
At an aggregate level, households continue to deleverage. In nominal terms, household debt has declined by approximately 30 per cent since mid-2008. High indebtedness leaves the sector vulnerable to adverse income and interest rate adjustments which could have potential negative consequences for both economic activity and the credit quality of debt providers. The deleveraging of household debt from high levels will take some time and, despite the decline in debt to date, the sector remains relatively highly indebted. The debt-to-disposable income ratio as of 2016Q4 was approximately 142 per cent, placing it among the highest in Europe where the average of a selected group of countries was 101 per cent (Chart 32).

³⁵ Relates to debt serviced by Irish resident banks.

³⁶ Apostolos Fasianos, Reamonn Lydon and Tara McIndoe-Calder, "The Balancing Act: Household Indebtedness Over the Lifecycle", Central Bank of Ireland, Quarterly Bulletin 02/April17

³⁷ A debt-service to income ratio is considered high where mortgage repayments are greater than 30 per cent of income.

Chart 33: Median debt-to-income ratio by age – international comparison



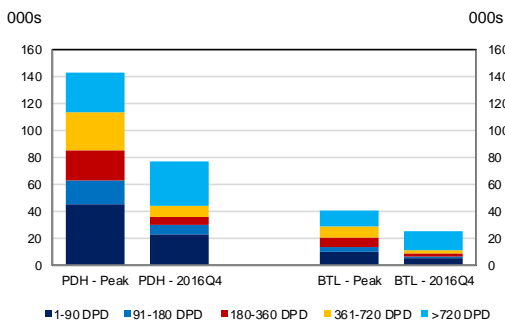
Source: HFCS, Wealth and Asset Survey (UK) and Survey of Consumer Finances (US).
 Notes: Debt-to-income ratios are conditional on households holding debt. Euro area excludes Ireland. Data relate to 2013 and 2014.

As has been mentioned in previous Reviews, debt is not distributed evenly across households. Those in the 30-44 age category in particular have high debt-to-income ratios relative to other age categories (Chart 33). Fasianos *et. al.* (2017) show that this 30-44 age cohort of Irish households is also relatively highly indebted in comparison to other countries.³⁸

Mortgage arrears and debt resolution

In line with the increase in house prices of recent months, the scale of negative equity in the housing market has declined further. Overall, as of 2017Q1 about 13 per cent of mortgages were in negative equity, down from a peak of about 40 per cent in early-2013. This equates to approximately 100,000 mortgages remaining in negative equity. Notwithstanding positive developments, about 9 per cent of mortgages have a mortgage outstanding that is greater than 110 per cent of estimated value of the property.³⁹

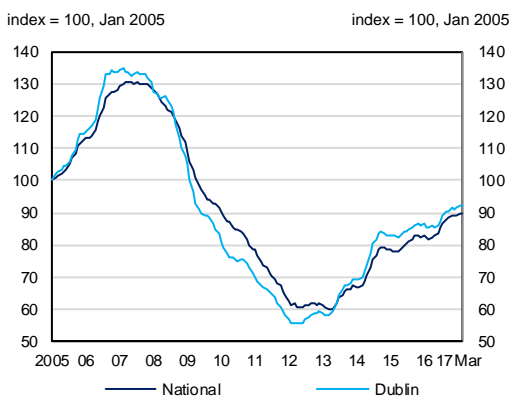
Chart 34: Number of mortgage arrears cases



Source: Central Bank of Ireland.
 Notes: PDH – primary dwelling house. BTL – buy-to-let. DPD – days past due. Peak in PDH and BTL arrears cases refers to 2013Q2 and 2013Q3 respectively. Last observation: 2016Q4.

The overall number of mortgage arrears cases has fallen each quarter since its peak in 2013Q2 and has declined by almost 44 per cent since then. Over 100,000 mortgage accounts remained in some form of arrears at end-2016 (Chart 34). While lower in number, a greater proportion of BTL mortgage accounts (15 per cent) are in arrears of more than 90 days than is the case for PDH accounts (7 per cent). A common feature across both BTL and PDH mortgages is that the largest cohort of arrears cases relates to mortgages in very long-term arrears (i.e. greater than 720 days past due), which remains a cause for concern.

Chart 35: CSO residential property price indices: National & Dublin



Source: CSO.

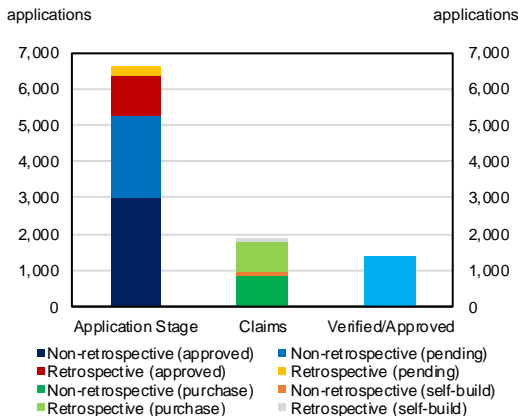
Looking at the resolution of arrears cases, 145,000 restructuring arrangements were in place by end-2016 (of which 121,000 relate to PDH accounts and 25,000 to BTL accounts). Of these, 78 per cent are no longer in arrears and 86 per cent are meeting the terms of their new arrangements. There will be cases, however, where repossession of the underlying property will be necessary. There were approximately 2,850 repossessions in 2016. The majority of repossessions involved the voluntary surrender of the property by the borrower. Court-ordered repossessions amounted to just over 1,000 in 2016. The number of legal proceedings being issued has declined, averaging almost 1,500 per quarter on PDH mortgage accounts during 2016 as opposed to almost 3,000 cases per quarter in 2014.

The number of applications for a Personal Insolvency Arrangement, which was one of three debt resolution mechanisms introduced by the Personal Insolvency Act 2012, continues to increase. To date, 5,839 applications have occurred. Of these, 1,144 occurred in 2017Q1 alone, the highest number of applications in a single quarter seen to date. A steady stream of bankruptcy adjudications are also being seen, averaging about 130 per quarter.

³⁸ Apostolos Fasianos, Reamonn Lydon and Tara McIndoe-Calder, *op. cit.*

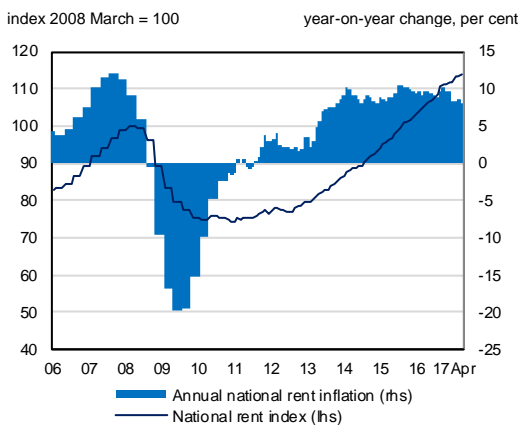
³⁹ Negative equity figures are based on regulatory data collected in accordance with the Central Bank of Ireland's QSFRR reporting requirements.

Chart 36: Help to Buy Incentive Statistics



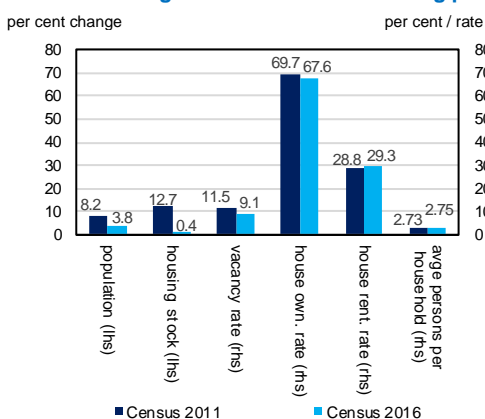
Source: Revenue.
 Notes: The incentive is available for purchases/self-builds bought/completed after 19 July 2016. Retrospective cases refer to those occurring between that date and the end of 2016. Non-retrospective cases refer to those which took place after 1 January 2017. Data refer to all applications received up to 25 May 2017.

Chart 37: Residential rent inflation



Source: CSO.

Chart 38: Changes in Census 2016 housing profile



Source: CSO.
 Notes: Figures relating to population and housing stock show percentage change from Census 2006 to Census 2011 (dark blue) and from Census 2011 to Census 2016 (light blue). Vacancy rate, house ownership rate and house rental rate figures are the values of these ratios in percentage points at Census 2011 (dark blue) and Census 2016 (light blue). Finally, average persons per household is the average number of inhabitants per housing unit at Census 2011 (dark blue) and Census 2016 (light blue).

Residential property prices and rents

House prices rose steadily in the closing months of 2016 and into 2017. Nationally, the CSO’s residential property price index recorded a year-on-year increase of 9.6 per cent in March 2017, up from 5.5 per cent a year earlier. The price of residential dwellings in Dublin were 8.2 per cent higher year-on-year, compared to a value of 3.5 per cent in March 2016. The strongest growth in house prices occurred in areas where the housing market recovery had previously been slower than elsewhere. The West (19.8 per cent) and the South East (19.4 per cent), for example, saw the highest annual gains according to the latest data.⁴⁰ Overall, national house prices have risen 50 per cent since their trough in 2013 and are currently 31 per cent below their 2007 peak (Chart 35).

The Central Bank of Ireland/SCSI 2017Q1 Quarterly Property Survey shows that while the median expectation of national house price inflation over the coming 12 months fell back slightly from the previous survey, it remains quite strong. In contrast, the median anticipated level of property price growth in Dublin in one year’s time increased once more.⁴¹ [See Box 3].

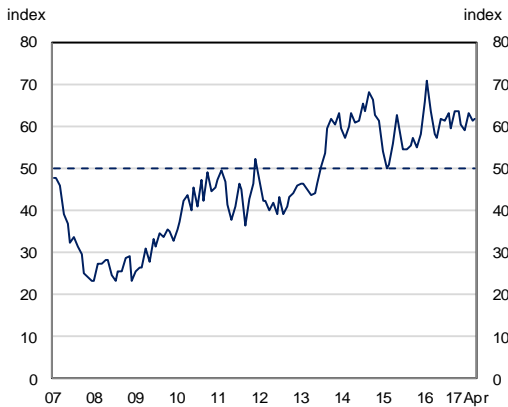
Details of a “Help to Buy” scheme, aimed at assisting FTBs obtain the deposit required to purchase or self-build a new house or apartment, were announced in Budget 2017.⁴² According to Revenue statistics, 1,917 cases had progressed to the claims stage by the end of May 2017, 1,376 of which had been approved (Chart 36). CSO data on mean house prices show a higher increase in average prices in the “FTB purchaser of new units” portion of the market in recent months than for either the overall “household purchaser” or “FTB” categories.⁴³ CSO data, based on stamp duty returns, however, indicate that FTBs who purchased new units made up a relatively small share of the market, having bought just over 2 per cent of recorded transactions since the announcement of the scheme in October 2016.

The Central Bank introduced macroprudential mortgage-lending requirements in February 2015. The outcome of a review of these requirements was announced in November 2016 and found that the regulatory framework is appropriate and effective in meeting the objectives of the measures, which are to strengthen households’ and banks’ resilience to the property market and to curb house price-credit spirals from developing in the future.

Strong rental inflation has been a feature of the residential property market for some time now. CSO data show that private residential rents have grown by an average of 9 per cent per annum since June 2013, leaving them approximately 14 per cent above their previous-peak (2008) levels in April 2017 (Chart 37).

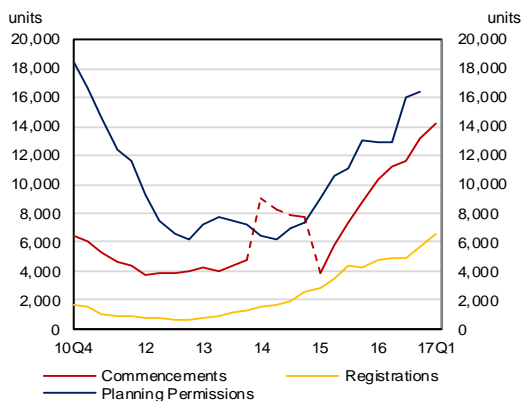
⁴⁰ Outside of Dublin, residential property prices were 11.8 per cent higher in March 2017, according to the CSO’s national excluding Dublin residential property price index.
⁴¹ Nationally, the median expected house price increase over the coming year was 7 per cent (in 2017Q1), down from 8 per cent (in the 2016Q4 survey). The corresponding Dublin figures were 8 per cent (2017Q1), and 6.5 per cent (2016Q4).
⁴² The incentive allows for a refund of income tax or DIRT paid over the previous 4 years, limited to a maximum of 5 per cent of the purchase price up to a value of €400,000 (i.e. €5,000). For a property to qualify under the scheme it must be purchased (from a qualifying contractor), or built as the FTBs home. The incentive is available between 19 July 2016 and 31 December 2019. Further details of the scheme are available on Revenue.ie.
⁴³ It should be noted that these mean values are not hedonic, i.e. do not take account of the mix or characteristics of the properties examined over time, but rather are simple averages.

Chart 39: Ulster Bank PMI: housing activity



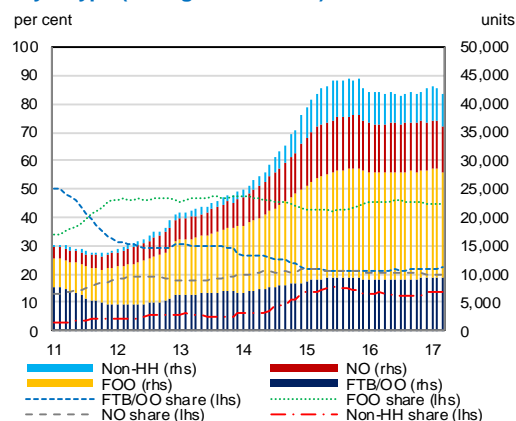
Source: Ulster Bank.
Notes: Values of 50 signify no change in construction activity on the previous month. Values above 50 signify an expansion of activity, while those below 50 signify a contraction.

Chart 40: Residential construction activity: (rolling annual total)



Source: CSO & Department of the Housing, Planning, Community and Local Government.
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. Latest observations: for commencements and registrations are 2017Q1 and for planning permissions is 2016Q4.

Chart 41: Residential property transactions by buyer type (rolling annual total)



Source: CSO.
Notes: FTB/OO = first-time buyer/owner occupier, FOO = former owner-occupier, NO = non occupier / buy-to-let, Non-HH = non household buyers such as REITs and property funds. Lines represent percentage of total transactions accounted for by each buyer type. Latest observations: end-March 2017.

The latest figures from Daft.ie show an annual increase in Dublin asking rents of 12.5 per cent in the opening quarter of 2017, taking the cumulative increase since end-2010 to almost 65 per cent.⁴⁴

Supply of residential housing and construction activity

A scarcity of housing in certain locations is a key driver of residential property prices and rents. Recently-released Census data show that a considerable slowdown in the growth of housing stock, a decline in the home ownership rate, an increase in the share of households, renting and an increase in the average number of people per household occurred during the 2011-16 intercensal period (Chart 38).⁴⁵ There has also been a significant fall in the residential vacancy rate since 2011, with the lowest proportion of empty dwellings located in areas with some of the highest population growth during the previous five years (such as parts of Dublin, and counties Kildare, Meath, Wicklow, Kilkenny and Louth). According to Daft.ie, an average of 3,850 units per month were available to rent nationally in 2016, one-fifth lower than the equivalent number available for 2015 and 84 per cent below the monthly average of 24,400 units in 2009.⁴⁶ A fall in rental listings is also evident in Dublin.

Supply constraints are not confined to the rental market. The number of residential properties listed for sale on Daft.ie is at its lowest since early 2007, highlighting a shortage of new and second-hand homes for sale in many locations across the country. In March 2017, 20,500 units were listed for sale nationally, less than one-third of the 2008 peak-level. The number of properties for sale in Dublin is about 20 per cent lower than March 2016, and about 62 per cent lower than the number offered in 2008. Property turn-over time is another indicator of the current low supply in the market, with 80 per cent of properties listed on Daft.ie selling within 4 months, up from about two-thirds a year ago.

Estimates of housing demand put the current requirement well above the levels being supplied. Based on a study of trends in household formation, ESRI research finds that there is likely to be an increase in demand for housing from the current level of 23,000 units per annum to just over 30,000 per annum in the mid 2020s.⁴⁷ According to Lyons (2017), once obsolescence, smaller household sizes, a natural increase in the population and a return of net migration are considered the annual housing requirement is closer to 40,000 units per year.⁴⁸

Housing completions data, indicate that approximately 15,000 new units were added to the housing stock in 2016, an increase of approximately 20 per cent on the 2015 figure. These statistics have recently been cast into doubt, however, over concerns of double counting, with suggestions that actual completions may be

⁴⁴ The pace of rental inflation in the other cities outside of Dublin has eased for the third quarter in a row from an average of 16.2 per cent in 2016 Q2 to 11.1 per cent in 2017 Q1. Other areas experiencing the most significant annual increases in rental costs, of over 17 per cent, are counties Louth and Meath. For more information, see Daft.ie rental report 2016Q4.

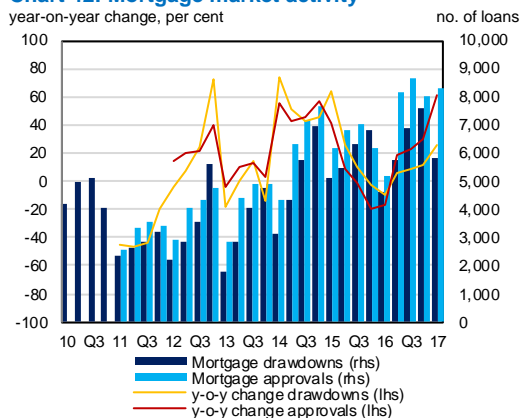
⁴⁵ See CSO Census 2016 Housing Portal for further details.

⁴⁶ At the end of May 2017, 3,084 units were listed for rent nationally on Daft.ie.

⁴⁷ See Duffy, D., D. Foley, N. McInerney and K. McQuinn, "Demographic Change, Long-Run Housing Demand and the Related Challenges for the Irish Banking Sector", ESRI (2016).

⁴⁸ See Lyons, R., "How to build enough homes" (February 2017).

Chart 42: Mortgage market activity



Source: Banking and Payments Federation Ireland.
 Note: Drawdown and approvals data are quarterly. Data refer to mortgages for house purchases, i.e. those to first-time-buyers, movers or for residential investment letting. Remortgages and top-ups are excluded from these data.

only half this figure based on building certificates, transactions of new homes and data on one-off housing.⁴⁹

Leading indicators of construction activity suggest a further expansion in the sector since the last Review. The housing activity element of Ulster Bank's PMI was above the "no-change" index value of 50 in April 2017 (Chart 39), on the back of rising demand for construction services. Planning permissions, registrations and commencements continue to rise (Chart 40), pointing to increases in housing output, albeit short of the quantities needed to address long-term housing needs adequately.

Housing transactions and the mortgage market

The turnover of residential properties has been relatively steady over the past year. The number of sales which occurred in the 12 months to end-March 2017(41,812) was less than 0.5 per cent lower than the equivalent March 2016 total (41,988) (Chart 41).⁵⁰ Former owner occupiers (i.e. second and subsequent buyers) are the largest cohort of buyers accounting for 45 per cent of property sales, with first-time-buyers and buy-to-let investors making up about one-fifth each. The remainder are accounted for by non-household purchasers, including foreign private equity firms and REITs, which tend to operate mainly in urban markets.

Despite a gradual decline since 2014, the non-mortgage, predominantly cash, proportion of the residential property sales market remains substantial. Just under 40 per cent of Irish residential property transactions were financed via the non-mortgage channel, a larger share than seen in international counterparts.⁵¹ Residential investors, who tend to operate a predominantly cash-based funding model, remain quite active in the Irish property market, enticed by significant rental growth and attractive yields.⁵²

Banking and Payments Federation Ireland (BPFI) data show that almost 5,900 mortgages for house purchases were drawn down in 2017Q1, up 26 per cent on the 2016Q1 figure (Chart 42).⁵³ In value terms, the 2017Q1 figure (€1.2 billion) was 37 per cent higher than the equivalent figure last year. Of those using a bank loan to finance a house purchase, 56 per cent were first-time buyers. Excluding top-ups and remortgages, just over 26,000 mortgages were drawn down in Ireland over in the year to 2017Q1, which equates to 1.3 per cent of the housing stock, roughly half the current UK level. Mortgage approvals feed through to drawdown trends and provide a sense of what to expect in terms of mortgage drawdowns over the coming quarters. Overall, there were almost 8,300 mortgage approvals for house purchases in 2017Q1, a 61 per cent increase on the equivalent figure last year (Chart 42).

⁴⁹ Residential property completions data are based on connections to the electricity grid. Inflated completions figures may be an issue due to the inclusion of reconnected homes which have been disconnected from the grid for more than 2 years; completed ghost estates where the majority of construction activity may have occurred earlier; and may include outhouses and sheds.
⁵⁰ Estimates of stock turnover in a "well-functioning" housing market put the figure at 3 to 4 per cent annually, substantially higher than the current Irish level of approximately 2.1 per cent (assuming a total housing stock of 2,003,645 as per Census 2016). See TeGoVA (2012). [Country-specific legislation and practice](#) - Ireland, IPAV, Dublin.
⁵¹ According to the UK's Council of Mortgage Lenders, approximately one-in-three homes there are purchased with cash. See CML [Market Commentary: 2017 and 2018 forecasts](#).
⁵² See McCartney, J., "A rent forecasting model for the private rented sector in Ireland", Savills (2016).
⁵³ These figures exclude remortgages and top-ups.

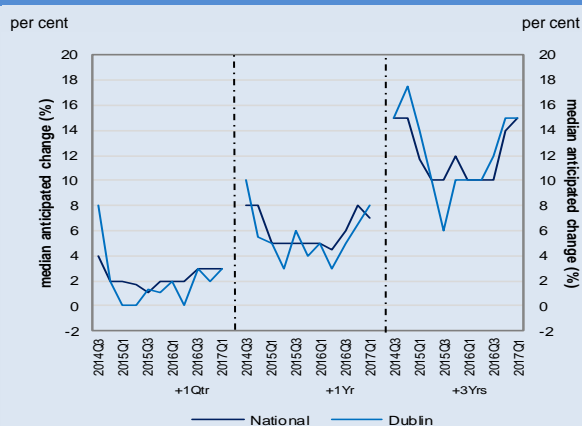
Box 3: Residential property price expectations survey

The Central Bank of Ireland/Society of Chartered Surveyors of Ireland Quarterly Property Survey monitors expectations and developments in the Irish residential housing market, complementing official sources of property market information.¹ This box presents findings from the most recent Survey, conducted in April 2017, and earlier editions. It looks at respondents' house price expectations and the main factors put forward as influencing them. In summary, in the latest Survey the median rise in prices expected nationally over a one-year horizon have declined slightly with a modest increase over a three-year horizon, while issues affecting housing supply are perceived to be the main factors contributing to house price expectations.

Chart A summarises median price expectations for both the national and Dublin markets over eleven quarters beginning in 2014Q3, just prior to the introduction of the macroprudential rules on mortgage lending in the Irish residential property market. In 2017Q1, the national median expectations for one quarter, one year and three years ahead were 3, 7 and 15 per cent, respectively. The comparable figures in the previous Review, using the 2016Q3 survey, were 3, 6 and 10 per cent, respectively. The anticipated change in prices in Dublin over time has moved in a greater range than the national level, including a 5 percentage point rise in the +3-year expectation between 2016Q1 and 2017Q1. The median expected house price increase for Dublin in the latest Survey has increased from 12 to 15 per cent relative to the previous Review. The West, Border, and Mid-West regions also foresee house price increases of 15 per cent over a three-year horizon.

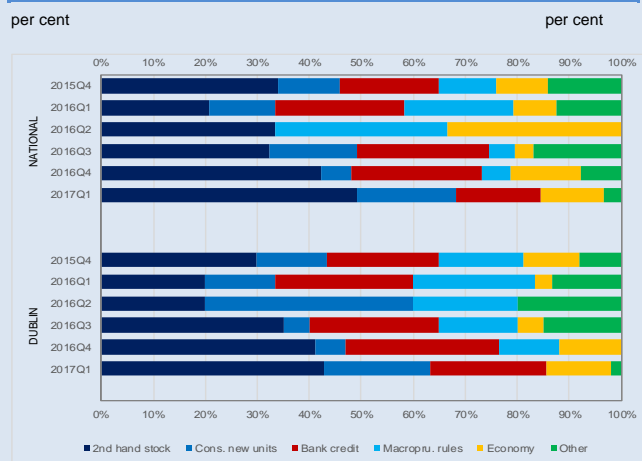
Survey respondents are asked to rank which three factors they consider to have the most influential effect on house price developments from a list of twelve pre-selected factors, with a further option to list other issues. Chart B presents the primary factor identified by respondents from the previous six surveys as the most influential on their assessment of future house prices for both the national and Dublin markets. In 2017Q1, the most important factor identified nationally was the availability of second-hand stock, constituting 49 per cent of respondents' first-ranked factor, with the construction of new residential units (19 per cent) selected as the second most significant issue. In Dublin, the availability of second-hand stock was also cited as the most important issue (43 per cent), ahead of access to bank credit (22 per cent). The supply of housing, both newly constructed units and second-hand stock, accounted for 63 per cent of all respondents' primary factors in the capital. Regionally, these combined factors constituted an average of 70 per cent of respondent's primary factors. The macroprudential mortgage measures have had a diminishing share among the various factors cited in both markets in recent surveys. A number of respondents have highlighted Brexit (among "other issues") as an expected influence on future house price developments. No respondents referred to the Help-to-Buy scheme as a contributory factor.

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 11 surveys (2014Q3 to 2017Q1). Number of observations varies from survey to survey

Chart B: Primary factor influencing expectations of National and Dublin house price developments (2015Q4 – 2017Q1)



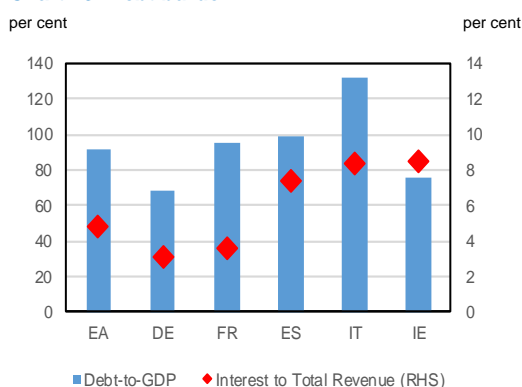
Source: Central Bank of Ireland & SCSi Survey of Property Professionals
Notes: Chart provides details of the results from the past 6 surveys (2015Q4 to 2017Q1). Number of observations varies from survey to survey. 'Other' represents responses under all other categories including rental market developments, perception of value, changes in demographics/population, and the level of interest rates.

¹ The Central Bank/SCSi Quarterly Property Survey began in 2012. Its respondents include estate agents, auctioneers and surveyors, as well 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.

3.4 Sovereign sector

The General Government deficit ratio continues to improve and the medium-term deficit target is projected to be achieved in 2018. The debt burden, however, remains high by historical and cross-country comparison. While remaining relatively low, long-term yields in international sovereign bond markets have increased since last summer. Improved economic performance, market expectations about future monetary policy, and asset substitution may be contributing to the rise in yields. Sovereign bond market stress remains subdued by historical comparison but political uncertainty and concerns about bank performance and debt sustainability arise in the euro area.

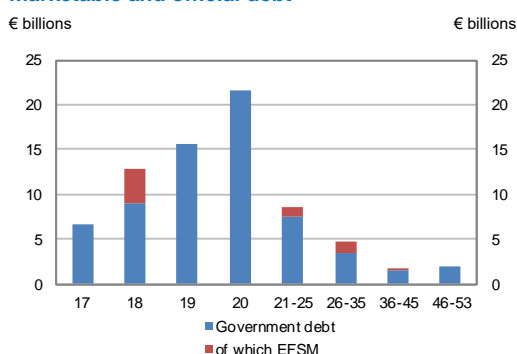
Chart 43: Debt burden



Source: EU AMECO.

Notes: Components of both ratios are based on the General Government statistical standard. Observations are for 2016.

Chart 44: Maturity profile of Ireland's long-term marketable and official debt



Source: NTMA.

Notes: Entries for 2021-25, 2026-35, 2036-2045 and 2046-53 are yearly averages and reflect the maturity profile at end-April 2017. In light of maturity extensions granted in mid-2013, it is not expected that Ireland will have to refinance any of its EFSM loans before 2027. The revised maturity dates of individual EFSM loans will only be determined as they approach their original maturity dates.

Domestic developments

End-2016 Exchequer data indicate tax revenue was 1.4 per cent higher than the 2016 Budget projection and was up 5 per cent on the 2015 outturn, while expenditure was in line with expectations. Revenue performance differed across the four major tax categories, with, for example, corporation tax revenue 11.1 per cent above the 2016 Budget expectation, while VAT revenue was 3.4 per cent below. The concentration of corporation tax receipts among a relatively small number of payers is a vulnerability of the public finances.⁵⁴ The Stability Programme Update (April 2017), prepared by the Department of Finance, indicates that a General Government deficit of 0.6 per cent of GDP occurred in 2016, continuing the reduction in the deficit ratio of recent years. A deficit ratio of 0.4 per cent is projected for 2017. A structural budget deficit of 0.5 per cent of GDP is forecast for 2018, consistent with Ireland meeting its medium-term objective under the preventive arm of the Stability and Growth Pact.

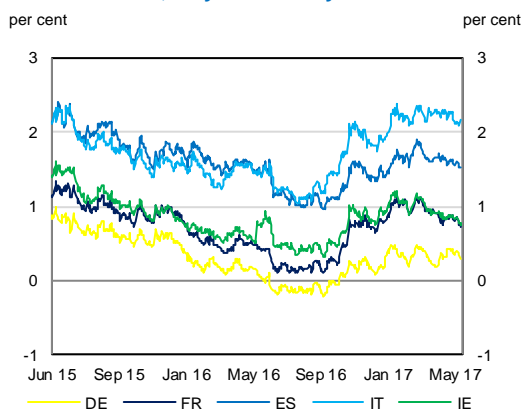
Reflecting higher-than-expected GDP in 2015, the General Government debt ratio fell from 105.3 per cent in 2014 to 78.7 per cent in 2015. It declined to 75.4 per cent in 2016. Given the issues surrounding national income measurement (see Section 3.1), alternative measures of the debt burden can be considered. The debt-to-total government revenue ratio is one such measure.⁵⁵ It has declined more slowly than the debt-to-GDP ratio in recent years. Another indicator is the interest paid on the debt as a proportion of total government revenue. This ratio has also declined at a slower pace than the debt ratio in recent years and it was higher than that of other euro area Member States in 2016 (Chart 43). General Government debt is forecast to increase from €200.6 billion in 2016 to €204.6 billion in 2017, and to €209.8 billion in 2018.

Exchequer cash and liquid assets amounted to €8.5 billion at end-2016. The NTMA has indicated that its target bond funding range for 2017 is €9 billion to €13 billion. Ireland has an 'A' grade credit rating from all major credit rating agencies. A syndicated sale in

⁵⁴ Stability Programme Update - April 2017

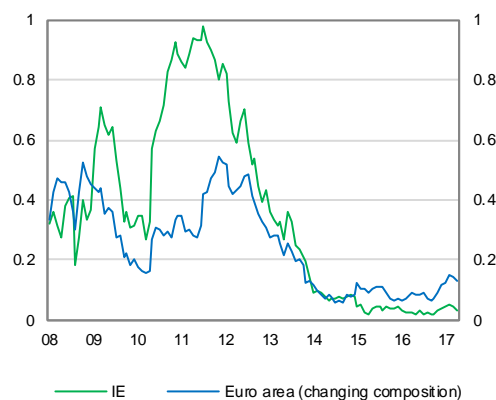
⁵⁵ It is one of a number of measures of the debt burden included in [Stability Programme Update - April 2017](#). The Irish Fiscal Advisory Council uses a revenue-based debt ratio in its analysis (see [IFAC, Fiscal Assessment Report November 2016](#)).

Chart 45: Sovereign bond yields for selected EA Member States, 10-year maturity



Source: Thomson Reuters Datastream.
Notes: Chart shows yields on sovereign bonds, 10-year maturity. Last observation: 31 May 2017.

Chart 46: Composite Indicator of Sovereign Stress



Source: ECB Statistical Data Warehouse.
Notes: The Composite Indicator of Sovereign Stress aims to measure the level of stress in EA sovereign bond markets. Last observation: April 2017. Further information on it can be found in: [Hollo, D., Kremer, M., Lo Duca, M., "Ciss - a composite indicator of systemic stress in the financial system," ECB Working Paper 1426.](#)

January and auctions in February, March and April had raised €7.75 billion in long-term bond funding by mid-April. An inflation-linked bond, which matures in 2040, was issued in late-April and raised €610 million. While the maturity profile of Irish debt has lengthened since 2013, there is a substantial amount of medium/long-term debt due to mature by end-2020 (Chart 44). The interest rate environment will be important in determining the interest outlay on that and other financing. The contingent liabilities of the State amounted to 2 per cent of GDP at end-2016. Reductions in guarantees provided to the financial sector by the State have accounted for most of the decline in these liabilities in recent years.

External developments

Long-term bond yields for euro area sovereigns, including Ireland, have increased since the end of last summer (Chart 45), although yields in fixed income markets in the euro area and elsewhere remain close to historical low values. The rise in yields may reflect, in part, headline inflation rates and expectations increasing and improving growth prospects. The Federal Reserve raised its official interest rate in December and March with at least one further increase expected by the markets in 2017 (see Section 2).

Within the euro area, concerns about banking sector performance, and its implications for public finances, and fiscal sustainability issues remain. Against this background and a small rise in stress values in recent months, sovereign bond markets in the euro area are experiencing, on average, low levels of stress compared to what arose during the financial crisis (Chart 46). Those markets may be benefitting from the ECB's monetary stance and a general weakening of the sovereign-bank nexus, as well as governments' lower gross financing needs. Ireland's stress indicator has declined over time to low levels (Chart 46).

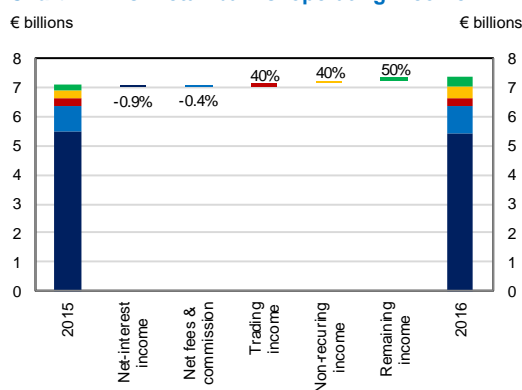
Looking ahead, fiscal developments could play a role in sovereign bond market performance within the euro area. Government debt ratios are projected to remain high in a number of Member States in the coming years. A rise in interest rates and/or a fall in growth rates could have an adverse effect on deficit-debt dynamics. A change to accommodative monetary policy, including an ending of central bank asset purchases, could have an impact on market conditions, including market liquidity.

4. FINANCIAL SYSTEM

4.1 Banking sector

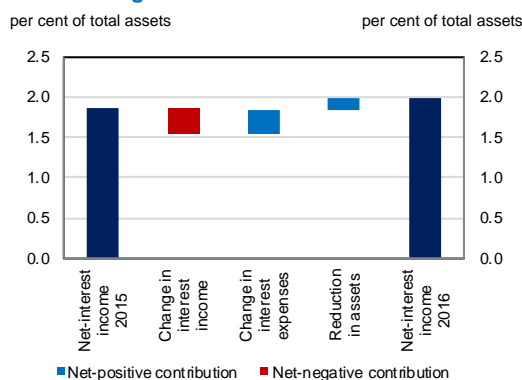
The work-out of NPLs and the development of robust business models remain the immediate challenges for Irish retail banks. While NPLs continue to fall, the reduction has not been uniform across loan portfolios. In particular, the resolution of distressed mortgages has proved difficult. Irish retail banks remain profitable in aggregate. The write-back of impairment provisions, which has supported profits in recent years, declined in 2016. Underlying profitability increased in 2016, due in part to the disposal of assets. The balance sheet of the sector continues to contract as new lending is more than offset by loan redemptions and asset disposals. Deposits' share of funding is increasing. Fully-loaded capital ratios increased, in aggregate, in 2016 as risk-weighted assets continued to decline.

Chart 47: Irish retail banks' operating income



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements. Percentages in the chart represent the annual growth rate in each category of income.

Chart 48: Breakdown of Irish retail banks' net-interest margins



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements.

Income and profitability

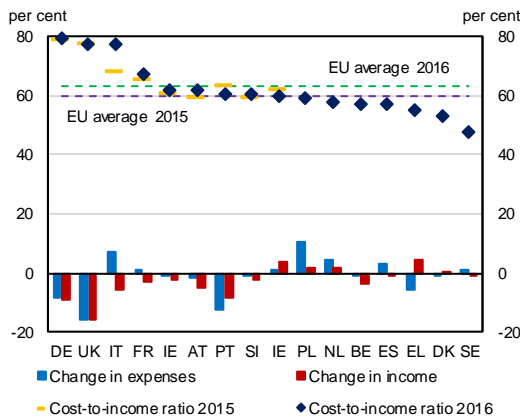
Irish retail banks' profitability, while remaining positive, declined in 2016 notwithstanding increases in operating income and a stable cost base. A significant reduction in the write-back of impairment provisions resulted in the fall in profits in 2016 relative to 2015.

Operating income increased in 2016, albeit at a slower rate of growth than the previous year. Overall operating income rose by 3.5 per cent in 2016 (compared with 4.8 per cent in 2015), with mixed performances across the various categories of income (Chart 47). Geographically, the domestic market remains the main source of income, accounting for almost 80 per cent of revenue. The UK accounts for most of the remainder. The immediate impact of Brexit on Irish retail banks' income was through a depreciation in sterling-denominated assets. Brexit could have wider implications over time. Any adverse effect on economic conditions in the UK could affect those Irish retail banks with a significant presence there.

Net-interest income – that is the difference between interest income and interest expenses – is the main source of income for Irish retail banks, accounting for over 73 per cent of income generated last year. The level of net-interest income declined marginally in comparison with 2015. Reductions in interest expenses only partially offset a decline in interest income of 11 per cent. The low interest-rate environment and the reliance on the deposit base for funding facilitated the reduction in interest expenses. Low levels of new lending and the continued reduction in the Irish retail banks' balance sheet negatively affected interest income. In contrast, net-interest margins increased, as the decline in net-interest income was more than offset by a reduction in assets (Chart 48).

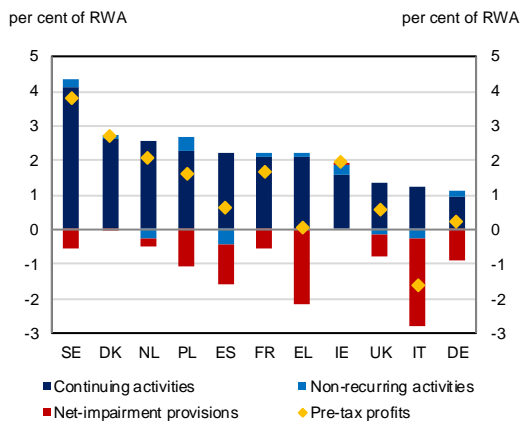
The ability of banks to offset the impact of any rise in funding costs on pre-tax profits by increasing interest income will depend, in

Chart 49: International comparison of cost-to-income ratios



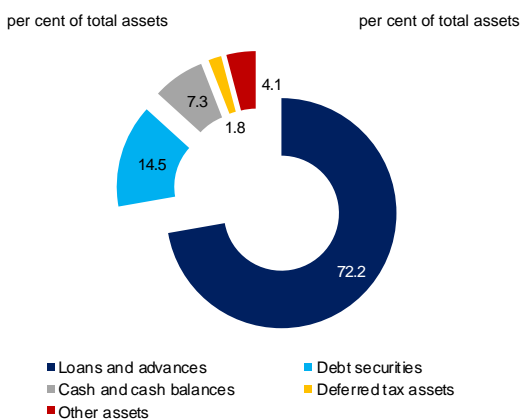
Source: SNL Financial and Central Bank of Ireland calculations.
 Notes: Data are consolidated. Country values are based on a minimum sample of three banks per country. The sample of banks is drawn from the list of banks that participated in the 2014 EBA stress-testing exercise. The 'IE' values are for the five Irish retail banks and are collected in accordance with the EBA's FINREP reporting requirements.

Chart 50: International comparison of pre-tax profits



Source: SNL Financial and Central Bank of Ireland calculations.
 Notes: Country values are based on a minimum sample of three banks from each country. The sample of banks was drawn from the list of banks that participated in the 2014 EBA stress testing exercise. Data relate to 2016. A positive impairment provision implies there has been a net write-back of provisions which have contributed to overall profitability. The 'IE' values are for the five Irish retail banks and are collected in accordance with the EBA's FINREP reporting requirements.

Chart 51: Irish retail banks' assets



Source: Central Bank of Ireland.
 Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements and relate to 2017Q1.

part, on the sensitivity of borrowers' repayment capacity to higher interest rates. The current level of NPLs highlights the continued fragility in banks' loan books. A reversal of the current low interest rate environment, or higher market funding costs, could then have a negative effect on banks' profitability. Banks need to ensure their business models are sufficiently robust to deal with the eventual normalisation in market rates.

Fee and commission income, while accounting for a small share of total income, declined marginally (Chart 47). The remaining categories of income reported strong growth in 2016. Trading income increased despite market volatility in the aftermath of the UK vote on EU membership. As noted in the previous Review, operating income benefited from a one-off gain associated with the disposal of a number of banks' interests in Visa Europe. Controlling for the effect of non-recurring income, operating income increased by just over 2 per cent.

Given the challenging conditions facing them, it is important that banks continue to operate efficiently. The cost base of the Irish retail banks increased by 1.1 per cent in 2016. Regulatory costs including the introduction of the Single Resolution Fund (SRF) and amendments to the Irish Deposit Guarantee Scheme (DGS) have contributed to increases in operating costs.⁵⁶ The cost-to-income ratio of Irish retail banks declined in 2016 and is just below the average European cost-to-income ratio (Chart 49).

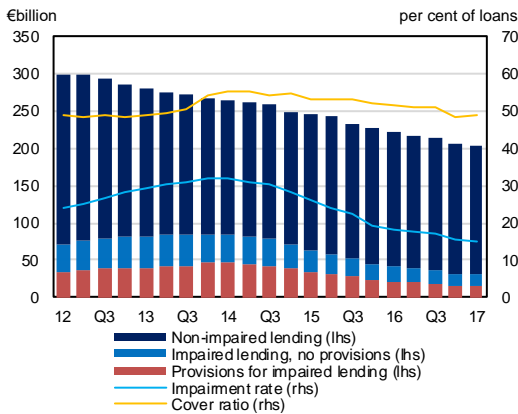
Profitability before impairments increased by 5 per cent in 2016, mainly as a result of the increase in non-recurring income. A characteristic of Irish retail banks' performance in recent years has been the positive contribution of impairment provisions to overall profitability. However, the release of these reserves has slowed significantly such that the write-back of provisions fell by over 92 per cent last year. The decline of 28.5 per cent in overall pre-tax profits can mainly be attributed to the reduction in write-backs. The introduction of IFRS 9 in early-2018 and the adjustment to a forward-looking approach to impairment provisioning could require higher provisions and affect banks' already relatively low levels of profitability (Chart 50). [See Box 4 for more detail on the potential impact of IFRS 9.] The reduction in impairment write-backs coupled with declines in the main income sources highlight the continuing challenge faced by Irish retail banks in developing a sustainable business model.

Asset and credit quality

The aggregate value of total assets held by Irish retail banks fell by 5 per cent year-on-year, to €270 billion at the end of 2017Q1. Debt securities recorded the largest decline (9.8 per cent), while loans and advances, deferred tax assets and other assets were also lower than a year earlier. In contrast, the value of cash and cash balances increased by 17.2 per cent. Loans and advances

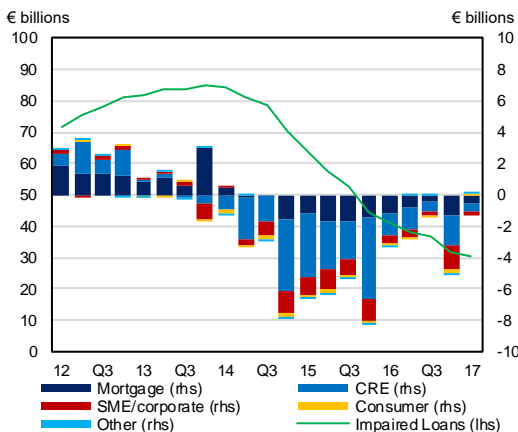
⁵⁶ Under EU legislation new funding requirements for the DGS resulted in the establishment of the DGS Contributory Fund. The DGS Contributory Fund must reach a target level of 0.8 per cent of covered deposits by 2024. The first annual contributions by credit institutions to the DGS Contributory Fund were collected at the end of 2016.

Chart 52: Irish retail banks' credit exposures and asset quality



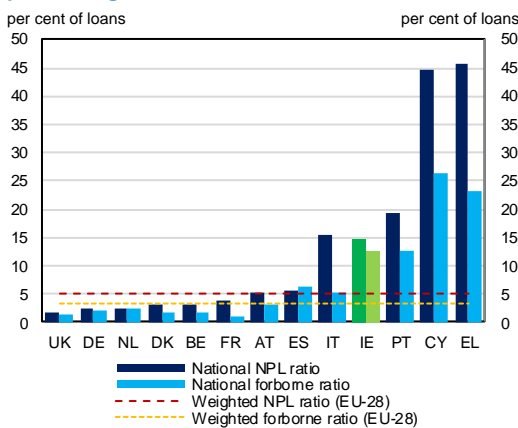
Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Total lending is represented by drawn exposures. Impaired lending is represented by defaulted loans as defined in the Capital Requirements Directive (CRD).

Chart 53: Irish retail banks' stock and flow of impairments



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. The green line indicates the stock of impaired loans; all other series are changes in its components.

Chart 54: Cross-country comparison of non-performing and forborne loans



Source: European Banking Authority, European Central Bank and Central Bank of Ireland.
Notes: NPL ratio is the ratio of impaired lending to drawn exposures. Forborne loans are those where concessions, such as modifications to the original terms of the contract, have been granted to a debtor facing or about to face financial difficulties. Data relate to 2016Q2 for all except IE NPL ratio, which relates to 2017Q1. The 'IE' values are for the five Irish retail banks. Data for all EU Member States are not presented.

are the largest asset class accounting for over 70 per cent of total assets (Chart 51).

Since the last Review, there has been a further contraction in Irish retail banks' credit exposures. The value of outstanding loans fell by 7.8 per cent, from €221.9 billion in 2016Q1 to €204.6 billion in 2017Q1 (Chart 52).⁵⁷ A combination of deleveraging, write-offs, a larger level of redemptions than new lending, and currency movements all contributed to the decline. Irish retail banks' aggregate loan book became more concentrated over the past year. By the first quarter of 2017, over three-quarters of outstanding loans were issued to Irish counterparties – an increase from 73 per cent a year previously. Residential mortgage lending remains the largest sectoral exposure, accounting for approximately two-thirds of outstanding loans in 2017Q1. This is an increase of about 10 percentage points in the past 5 years. Lending to SMEs and corporates (20 per cent), and to commercial property (10 per cent) account for the bulk of the remaining credit exposures.

Credit quality continues to improve. The value of outstanding NPLs has declined by €10.4 billion over the year to €30.5 billion at 2017Q1 (Chart 52).⁵⁸ Impaired loan balances across all major lending categories continue to decrease. The largest reduction in the value of NPLs over the 12 month to 2017Q1 occurred in the commercial-property portfolio (€4.4 billion), followed by residential mortgages (€3.2 billion) (Chart 53). Deleveraging strategies and an active NPL restructuring programme have been important elements in banks' efforts to address the asset quality problem. Improving economic conditions may have also facilitated the disposal of non-performing assets.

Despite having fallen over time, the ratio of impaired lending to loans remains elevated and is well above the European average (Chart 54). The share of forborne loans is also amongst the highest in Europe, with only Portugal, Cyprus and Greece above Ireland (Chart 54). High levels of NPLs weigh on bank profitability and tie up capital, which can diminish the ability of banks to provide new lending to the economy. The resolution of NPLs is critical to the future health of the banking sector. [See Box 5 for a discussion of NPL ratios across Europe.]

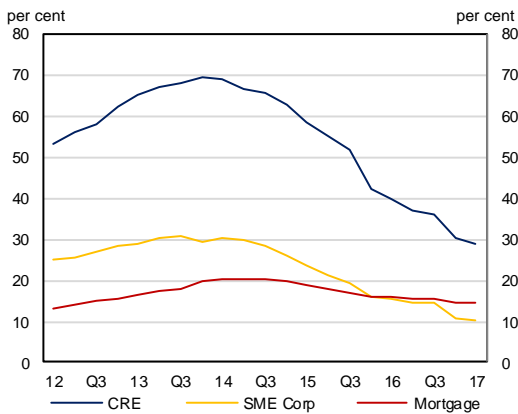
The sectoral distribution of non-performing loans varies across the EU.⁵⁹ The majority of distressed loans held by Irish retail banks relates to residential mortgages. These distressed loans accounted for over 60 per cent of NPLs at end-2017Q1. CRE lending and NFC (SME/corporate) credit accounted for 19 per cent and 14 per cent of NPLs, respectively. In contrast, about 40 per cent of NPLs in the euro area relate to the NFC sector, with loans to the CRE sector and for residential mortgages each accounting for 20 per cent.

⁵⁷ The value of the Irish loan book in 2017Q1 was €153.2 billion, a 5 per cent decrease since 2016Q1.

⁵⁸ The terms 'impaired' and 'non-performing' are used interchangeably in this section and refer to defaulted loans, as defined in the Capital Requirements Directive (CRD).

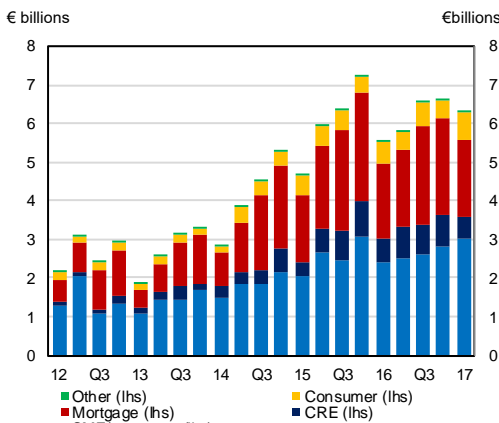
⁵⁹ See Mesnard, B., and C. Katopodi, (2017), [Non-performing loans in the Banking Union: state of play](#).

Chart 55: Domestic banks' non-performing loans as a share of loans to sector



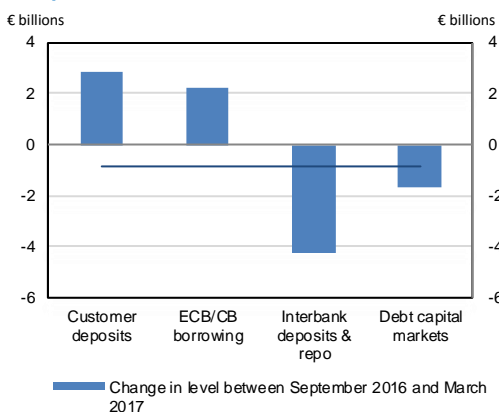
Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements

Chart 56: Irish retail banks' new lending: quarterly by sector



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements

Chart 57: Change in Irish retail banks' funding composition



Source: Central Bank of Ireland.
Notes: Change in funding components between September 2016 and March 2017.

Despite a sizeable reduction in the value of non-performing CRE balances, CRE loans remain the most distressed asset class on a proportionate basis. At end-2017Q1, 28.8 per cent of CRE loans, with an outstanding balance of €5.9 billion, were in arrears, down from 40 per cent a year previously (Chart 55). The economic recovery and the revival in the commercial-property market have made it easier for Irish institutions to dispose of impaired CRE portfolios. The resolution of distressed residential mortgages has proved to be a slower and more complicated process. Impaired residential mortgages represented 14.5 per cent of Irish retail banks' mortgage book in March 2017 (Chart 55). The SME/corporate impairment rate is the lowest amongst the main loan categories at 10.3 per cent (Chart 55).

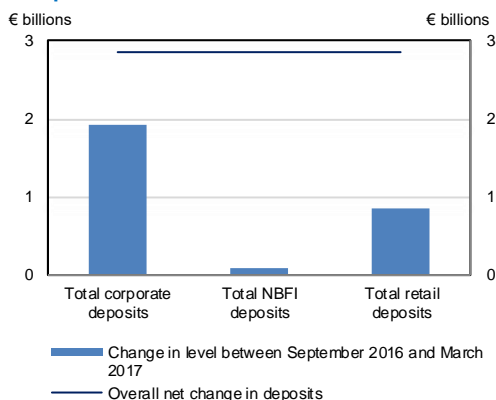
The stock of impairment provisions has also declined (Chart 52). At the end of 2017Q1, the value of loan-loss provisions (€14.9 billion), was down 30 per cent year-on-year. Irish retail banks' cover ratio has fallen over the past year and currently stands at 48.8 per cent. The disposal of non-performing CRE exposures, which attract relatively higher impairment provisions, is one explanatory factor. Provisioning levels vary across Irish retail banks, reflecting differences in sectoral and geographical exposures. In general, impairment rates and cover ratios have tended to be lower on the UK portion of the loan book.

Although Irish retail banks' cover ratio is above the European average of 45 per cent, direct comparison is difficult. Factors such as loan type, collateralisation and recovery costs can lead to differences across countries. Nevertheless, it is important to ensure that the loan-loss forecasting models, on which the holdings of impairment provisions are based, are calibrated satisfactorily and based on realistic assumptions. The impending introduction of a forward-looking approach to loan impairment provisioning under IFRS 9 in 2018 could materially affect Irish retail banks' impairment levels given the relatively high share of impaired exposures. [Box 4 describes some of the likely effects of IFRS 9.]

New lending remains relatively subdued and below the level required to offset redemptions. New loans of €25.4 billion were written in the year to 2017Q1, a marginal increase over the equivalent value at 2016Q1. The largest portion of new loans written in the opening quarter of 2017 were to the SME/corporate sector (Chart 56). The manufacturing, tourism, wholesale/retail trade and repairs sectors have been the main recipients of these new lending flows. Residential mortgage lending has the second largest share of new lending with much of the remainder going to the non-mortgage consumer lending and CRE sectors (Chart 56).

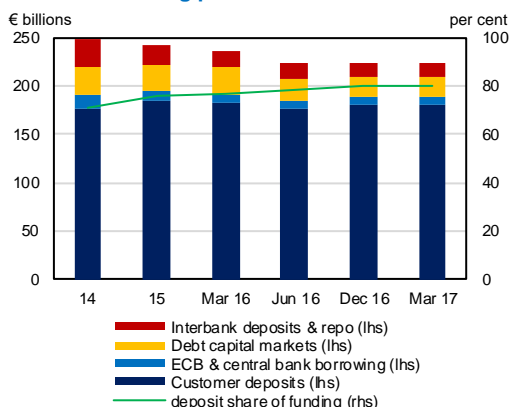
The UK's decision to leave the EU will have implications for Irish retail banks that are active in the UK market. New lending to the UK declined by 18 per cent to €7.5 billion, in the year ending 2017Q1, due mainly to the impact of foreign exchange

Chart 58: Change in Irish retail banks' deposit composition



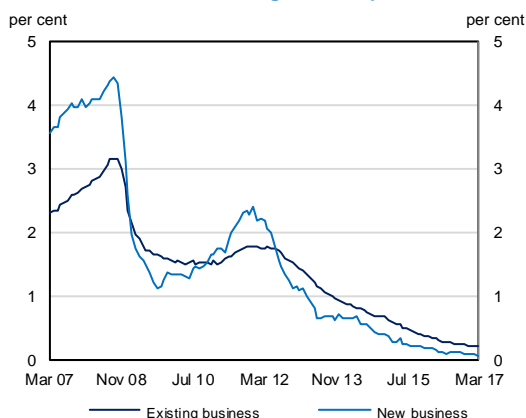
Source: Central Bank of Ireland.
Notes: Change in deposit components between September 2016 and March 2017.

Chart 59: Funding profile of Irish retail banks



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

Chart 60: 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.

movements and a reduction in UK mortgage lending.⁶⁰ In contrast, the value of new Irish lending increased by 15 per cent, to €15.4 billion in the 4 quarters to 2017Q1. Just under 30 per cent of the value of new loans originated in the past year went to UK borrowers, down from 37 per cent a year earlier.

Funding

The outstanding level of funding held by Irish retail banks remained broadly unchanged between September 2016 and March 2017, although there were some compositional changes. Bank funding costs continue to benefit from the prevailing low interest-rate environment, and yields on bank debt remain low. Nevertheless, bank funding remains susceptible to increases in interest rates and/or any negative changes in investor sentiment.

The aggregate funding level of Irish retail banks currently stands at €224 billion, representing a decline of €800 million since the last Review (Chart 57). Interbank and repo funding decreased by €4.2 billion between September 2016 and March 2017. Loan redemptions and asset disposals facilitated this reduction.

Customer deposits increased by €2.8 billion since the last Review (Chart 57). This growth was driven by an increase in all categories of deposits, with corporate deposits contributing €1.9 billion (Chart 58). Overall, the share of funding accounted for by customer deposits continued to increase, standing at 80 per cent at end-March 2017 (Chart 59).

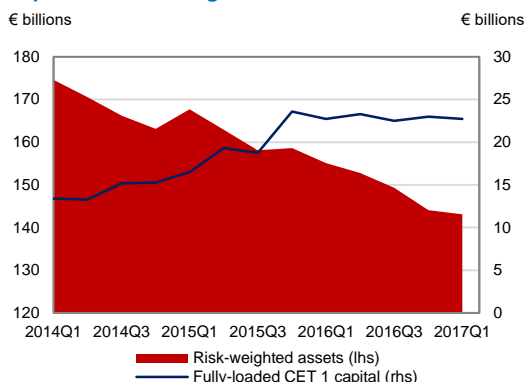
Interest rates offered on new and existing business have fallen modestly since the last Review by 4 and 5 basis points, respectively (Chart 60). In recent years, banks have been able to reduce their funding costs by cutting deposit rates. However, the recent stabilisation of rates could indicate that deposit rates have reached their lower bound. Bank debt yields continue to fall, reflecting favourable market conditions.

The maturity profile of the Irish retail banks' funding remained unchanged between September 2016 and March 2017, with 66 per cent of total funding maturing in one month or less. This reflects the high share of retail deposits that, while short-term in nature, tend to exhibit a longer behavioural maturity.

The BRRD, introduced in January 2016, established a framework for the recovery and resolution of banks and investment firms across Europe. As part of this framework, institutions are required to build adequate loss absorbency buffers that can be bailed in, referred to as the minimum requirement of own funds and eligible liabilities (MREL). European institutions may need to issue new debt in an effort to reach their MREL which could affect the market for bank debt and lead to higher costs of funding for banks. The wide-scale issuance of debt by European banks could lead to the crowding out of some market participants. It could also have a greater affect on banks which are seen to be riskier or have a higher probability of such debt being 'bailed in'.

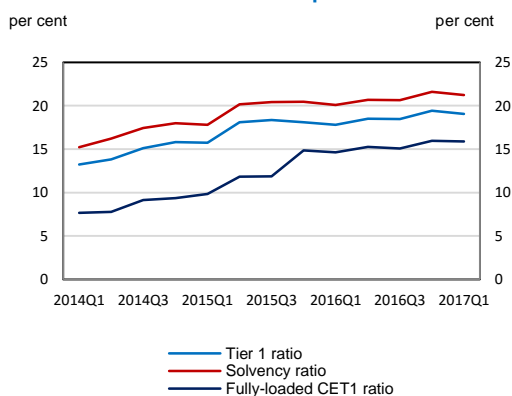
⁶⁰ The sterling value of UK lending fell by just over 6 per cent between the year ending 2016Q1 and the year ending 2017Q1.

Chart 61: Irish retail banks' fully-loaded Tier 1 capital and risk-weighted assets



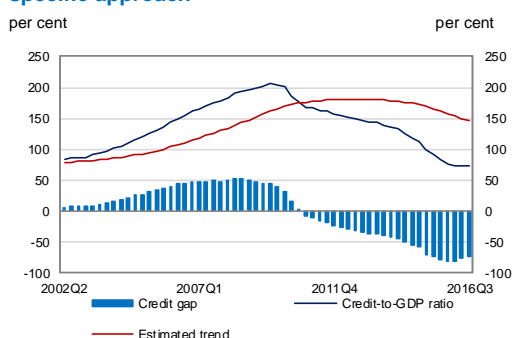
Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the EBA's COREP reporting requirements. Last observation: 2016Q4.

Chart 62: Irish retail banks' capital ratios



Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the EBA's COREP reporting requirements. Last observation: 2016Q4.

Chart 63: Credit-to-GDP ratio and gap – National specific approach



Source: CSO, BIS and Central Bank of Ireland calculations.
Notes: The estimated trend line is calculated using a Hodrick-Prescott. The credit gap is defined as the deviation of the credit-to-GDP ratio from the long-run trend. Last observation: 2016Q3.

Solvency

The Irish retail banks' aggregate capital position has remained broadly unchanged since the last Review, despite continued balance-sheet deleveraging as well as heightened market volatility following the UK Brexit referendum result. Despite the sector's operating challenges, Irish retail banks are better placed to absorb financial shocks than they previously were, having strengthened their capital position considerably since 2011.

CRDIV saw the introduction of new capital requirements, which were designed to strengthen the resilience of European banks. Banks were given five years to meet the new requirements. The Irish retail banks remain on track to meet their CET1 targets by 2019. However, risks remain in the form of ongoing Brexit-related uncertainty, persistently high levels of NPLs, and profit-generation challenges stemming from the ongoing low interest-rate environment. Concerns about pension deficits, noted in the previous Review, eased somewhat during the second half of 2016 following favourable movements in bond yields. Pension deficits, however, remain susceptible to volatility in financial markets. Also, a number of institutions have announced intentions to resume dividend payments in the near future. The extent to which shareholder dividends are reintroduced should reflect these challenges accordingly.

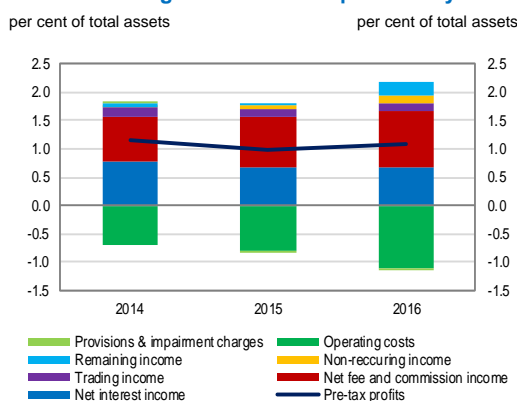
The Irish retail banks reported aggregate tier 1 capital of €26 billion in December 2016, down slightly from the €26.2 billion reported in the last Review (Chart 61). The balance sheet of Irish retail banks continued to decline as loan redemptions and asset disposals more than offset increases in new business. As a result, RWAs fell from €153.2 billion to €143.1 billion since the last Review. Irish retail banks' aggregate capital ratios remained stable in the second half of 2016 with either flat or marginally-improved capital positions reported, depending on the measure used (Chart 62).

In addition to a minimum CET 1 ratio, CRDIV also outlines a range of additional capital-based macro-prudential instruments designed to strengthen the resilience of the financial system. The Central Bank, as the designated authority, has introduced a CCyB rate and an O-SII buffer. The latter is designed to reduce the probability of, and in turn the impact on the domestic economy, of a failure of a systemically-important institution. The former is designed to mitigate and prevent excessive credit growth and leverage. Due to the relatively-subdued overall credit environment (Chart 63), the Central Bank has left the CCyB rate unchanged at 0 per cent.⁶¹ The O-SII buffer comes into effect in 2019 and will be institution-specific. As currently designated, the O-SII buffer will range from 0 to 0.5 per cent upon its introduction, rising to 1.5 per cent by 2021 for certain banks.⁶² [Box 6 discusses the evaluation of the cross-border effects of macroprudential policy.]

⁶¹ For more on the CCyB, see www.centralbank.ie.

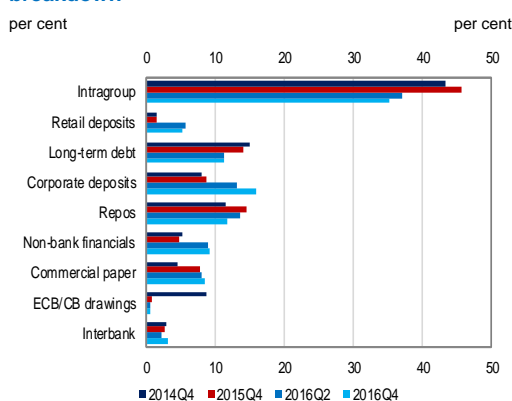
⁶² The O-SII buffer is a capital charge ranging from 0- 2 per cent of total risk exposures of an institution. For more on the O-SII buffer, see www.centralbank.ie

Chart 64: Foreign-owned banks' profitability



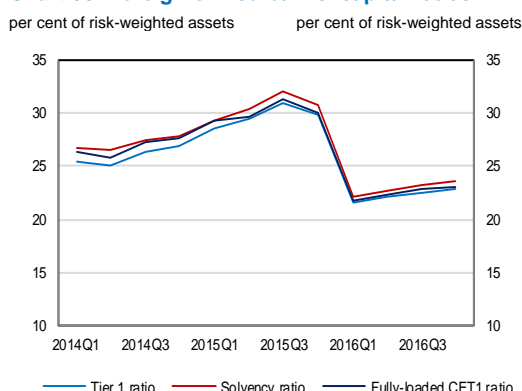
Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the EBA's FINREP reporting requirements. Impairments include provisions.

Chart 65: Foreign-owned banks' funding breakdown



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

Chart 66: Foreign-owned banks' capital ratios



Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the EBA's COREP reporting requirements. Data are consolidated.

Foreign-owned resident banks

Foreign-owned banks' total assets increased by almost 19 per cent in the year to December 2016.⁶³ The growth in the aggregate balance sheet can be mainly attributed to the restructuring of one institution's global operations and the relocation of activities to its Irish subsidiary in early-2016.

Operating income as a percentage of total assets increased in 2016. Net fees and commissions, and net-interest income continue to be the largest sources of income (Chart 64). However, remaining income and one-off factors (non-recurring income) contributed a greater share to the increase in total income than was previously the case. Operating costs increased by 69 per cent in 2016 (Chart 64). The transfer of assets by the aforementioned institution to the Irish subsidiary is likely to have resulted in additional expenses. The aggregate cost-to-income ratio for the foreign-owned banks increased from 44 per cent to 51 per cent in the twelve months to end-2016. Overall, there was a modest increase in profitability as the rise in operating expenses partially offset the increases recorded in revenue in 2016 (Chart 64).

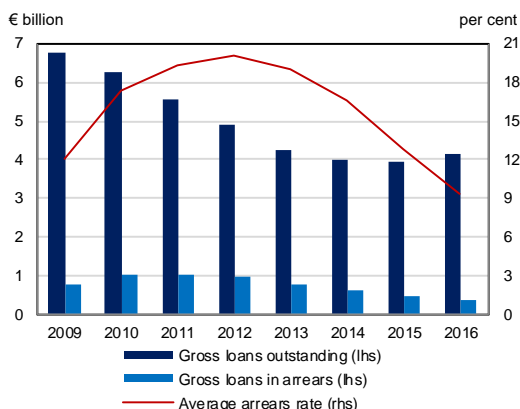
The structural changes outlined above have resulted in changes to the composition of funding of foreign banks. Intragroup support remains the largest single source of funding for foreign-owned banks, although there was a 10.5 percentage point decline in its share of total funding. This has been offset by increases in deposits from corporates and non-bank financial institutions (Chart 65). While intragroup funding is generally a stable source of funding, it can act as a channel for contagion should the parent entity experience any negative shocks. Foreign-owned resident banks' funding maturity profile remains weighted to the short-term. At end-2016, over 54 per cent of total funding matured in one month or less, increasing from 32 per cent twelve months previously. This increase in short-term funding is observed in the majority of sub categories.

Foreign-owned banks' fully-loaded CET1 capital levels remained stable between December 2015 and December 2016. Reflecting the transfer of assets by one institution to an Irish subsidiary, RWA increased by 30.9 per cent in the year to December 2016. As a result, there was a marked decline in capital ratios in the first quarter of 2016 (Chart 66). Subsequently, the CET1 capital ratio increased to 23.1 per cent by the end of 2016. Capital ratios remain above minimum regulatory requirements.

As part of the Single Market, a number of UK banks currently operate in Ireland. Brexit may affect their ability to operate in the domestic economy. The structure of the sector may also change as firms seeking to establish an EU headquarters post-Brexit may choose to locate in Ireland.

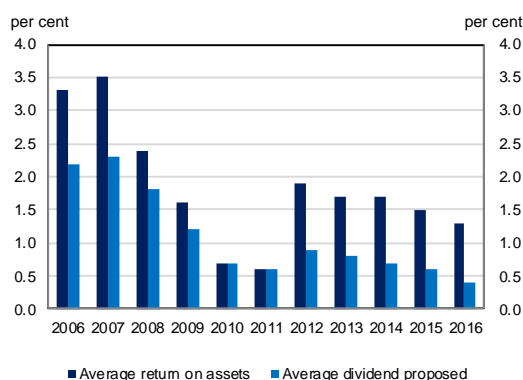
⁶³ The sample of institutions used in this section is drawn from banks that are rated as medium-high or above on the Central Banks of Ireland's PRISM system. Under PRISM the ratings of individual firms are regularly reviewed. As a result, the sample of banks used in this Review has been updated and comparisons with the previous Review are not possible.

Chart 67: Credit unions' members' loans and arrears



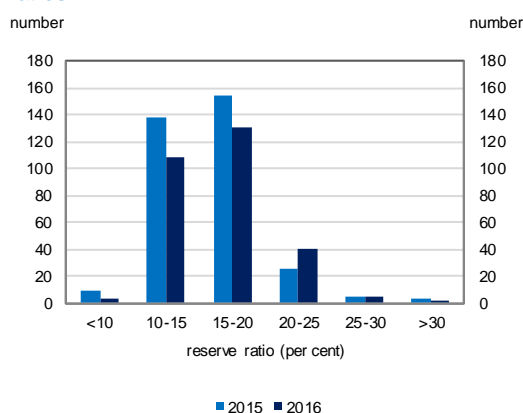
Source: Central Bank of Ireland.
Notes: Arrears refer to members' loans that are more than nine weeks in arrears.

Chart 68: Return on assets and proposed dividends



Source: Central Bank of Ireland.
Notes: Data are annual and refer to the 12 month period to end-September for each observation.

Chart 69: Distribution of credit union reserve ratios



Source: Central Bank of Ireland.

Credit unions

Consolidation within the credit union sector has been ongoing, in particular from 2014 to 2016. The onset of the financial crisis highlighted poor lending practices and unsustainable business models among many credit unions. In an attempt to support the long-term stability of the sector in a time-bound, voluntary and incentivised basis, ReBo was established in 2013.⁶⁴ Over the period 2013-2016, the number of credit unions operating in the State declined from 393 to 287. Although there have been a small number of liquidations, the majority of the consolidation in the sector has been as a result of voluntary transfers of credit unions to other credit unions. In 2016, the number of credit unions declined by 49.

Total assets of the sector increased by 6.1 per cent in the year to December 2016. Investment assets, which account for 71 per cent of total assets, grew by 4.2 per cent. The majority of investment assets relate to exposures to banks operating in Ireland. Such interlinkages can amplify the impact of adverse developments arising in the banking sector on the credit union sector.

The stock of outstanding loans to members increased as strong growth in new lending exceeded loan redemptions. Outstanding member loans increased by 5.5 per cent in 2016 (Chart 67). Asset quality of the loan book continued to improve during 2016. Non-performing member loans continued to decrease with the average arrears rate declining to 9.3 per cent in 2016, the lowest level since 2008. Addressing the arrears balance is an important step in the recovery of the sector. However, concerns surrounding the robustness of lending practices remain, with almost a quarter of all credit unions subject to some form of regulatory lending restriction.

The low interest-rate environment continues to affect credit unions' profitability adversely due to falling investment income. The average return on assets for the sector declined to 1.3 per cent in 2016 (Chart 68). Average proposed dividends also fell last year.

Despite the decline in proposed dividends, members' savings increased by 5.1 per cent in the 12 months to December 2016. The average liquidity ratio was 37 per cent – above the 20 per cent regulatory minimum. A large proportion of credit unions' liquid assets are in the form of bank deposits.

Total reserves increased by over 11 per cent during 2016. As the growth in reserves outpaced the growth in total assets, the aggregate reserve ratio of credit unions increased to 16.2 per cent. While there remains a wide disparity across the sector, the number of credit unions reporting reserve requirements below the regulatory minimum of 10 per cent continues to fall. By the end of 2016, the number stood at three, a decline from nine a year previously (Chart 69).

⁶⁴ The aim of ReBo was to restructure the sector and support the development of the long-term stability of the sector through mergers and transfer of assets. The final date for acceptance by ReBo of restructuring proposals was 31 March 2016.

Despite the measures undertaken to strengthen the resilience of the sector, there remain challenges. Credit unions must improve operational efficiency and continue to develop sustainable business models which will allow the sector to compete with other financial service providers.

Box 4: IFRS 9 – impairment requirements

This box examines some of the likely effects of International Financial Reporting Standard 9 (2014), known as IFRS 9, on banks after it becomes mandatory on 1 January 2018. IFRS 9 changes the accounting treatment of financial instruments and may lead to increases in bank provisioning and capital requirements. Under the current International Accounting Standard (IAS 39), recognition of losses on bad loans can be delayed until objective evidence exists that the losses have materialised. One criticism of this approach is that it allowed a postponement of loss recognition after the 2008 global financial crisis. To address this, among other elements, the International Accounting Standards Board (IASB) has introduced IFRS 9 to replace IAS 39.

IFRS 9 *Financial Instruments* (2014) brings together three main changes in accounting for financial instruments to address weaknesses identified with IAS 39. These are: (1) **Classification and measurement:** IFRS 9 simplifies how assets are accounted for in financial statements and how they are measured on an ongoing basis; (2) **Impairment:** IFRS 9 introduces a forward-looking impairment model; and (3) **Hedge accounting:** IFRS 9 incorporates new accounting requirements for recording profits and losses on derivatives and associated hedge instruments. The focus of this box is on the second item, namely, the new impairment model.

IFRS 9 impairment requirements replace the “incurred credit loss” model of IAS 39 with a forward-looking “expected credit loss” (ECL) model. Under this approach, lenders will recognise loss allowances on debt instruments earlier than was the case under IAS 39, and will reassess loss provisions at each subsequent reporting date to reflect changes in credit risk. Consequently, more timely information about credit losses will be available. The magnitude of ECL recognition is based on a three-stage impairment approach, as follows:

- **Stage 1** covers instruments that have not deteriorated significantly in credit quality since initial recognition or that have low credit risk. For these, impairment recognition is based on 12-month ECL.
- **Stage 2** covers instruments that have deteriorated significantly in credit quality since initial recognition, but which do not show objective evidence of a credit loss event. Impairment recognition is based on lifetime ECL.
- **Stage 3** covers instruments where one or more events have had a detrimental impact on the estimated future cash flows at the reporting date, e.g. if a borrower is in significant financial difficulty. Impairment recognition is based on lifetime ECL.

Accordingly, under IFRS 9’s impairment model, the way in which provisions for ECLs are calculated changes as the credit risk of a financial instrument deteriorates significantly. Under the impairment approach in IFRS 9, many loans will bear small provisions from the day of origination, while loans which have had significant reductions in credit quality will incur larger provisions. For example, a performing mortgage loan will have a day-one provision based on ECLs that would result from a default within 12 months. In most cases, the probability of this event would be expected to be very low. However, if the credit quality of the mortgage deteriorates, provisioning must increase to account for two factors: a higher probability of default and the possibility of a credit loss event at any time in the remaining lifetime of the loan. This suggests that provisioning requirements can increase considerably as loan credit quality deteriorates. If the loan’s credit risk falls back to initial levels at a later date, the bank may return to using 12-month ECL to calculate its provision.

While the full impact of the introduction of IFRS 9 will not be known for some time, banks that participated in an EBA survey¹ expected their provisions to rise by an average of 18 per cent due to the treatment of non-defaulted loans with significant increases in credit risk, and also expect greater provisioning volatility as the ECL forecasting horizon switches between 12 months and lifetime. A Deloitte survey of 54 global banks² reported that most participants expect banking sector provisions to rise by up to 50 per cent, while 70 per cent expect their own provisions to be higher than current regulatory expected loss. In summary, it is evident that IFRS 9 fundamentally changes the accounting treatment for banks and other holders of debt instruments, and prior to its introduction date of 1 January 2018, preparation and planning are important to ensure a smooth transition to this new standard.

¹ EBA, “Report on results from the EBA impact assessment of IFRS 9”, November 2016.

² Deloitte, “Fourth Global IFRS Banking Survey: Ready to land”, June 2014.

Box 5: Comparative analysis of non-performing loans (NPLs) in Europe

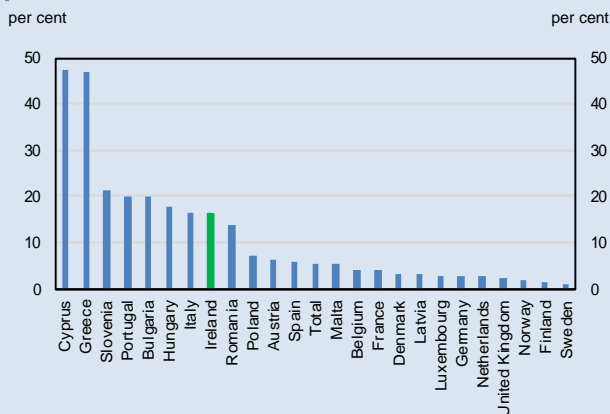
High levels of NPLs on bank balance sheets require institutions to maintain higher provisions, and can constrain new lending to the economy. Furthermore, NPLs create uncertainty regarding balance-sheet strength, increase operational costs and divert management time, while issues surrounding loan recoverability may inhibit banks entering the market. High NPLs are a feature of many national banking systems at present and, consequently, are a focal point of financial stability analysis. This box describes NPL ratios by sector and in aggregate across Europe on a consistent methodological basis. Heretofore it has been difficult to extract meaningful cross-country comparisons of NPLs due to national variation in reporting methodologies and frequencies. This box uses data collected by the EBA on a consistent basis across the European Union and beyond for the purposes of its annual Transparency Exercise.^{1,2}

Chart A provides a snapshot of aggregate NPL ratios (that is, the ratio of non-performing exposures to total exposures) in European banking systems.³ At 16.3 per cent in June 2016, Irish banks have the eighth highest NPL ratio in the EBA sample, despite having reduced this ratio from 23.9 per cent in December 2014, the earliest date for which comparable Transparency Exercise data are available. This fall occurred alongside a decline across European banks, with the average NPL ratio declining from 6.1 per cent to 5.4 per cent over the same time horizon.⁴ The reduction in NPL ratios in Irish banks reflects the economic upturn and ongoing efforts to tackle the challenge posed by NPLs. This includes recognising and committing resources to the asset quality problem and also developing resolution strategies, governance structures and operational capabilities commensurate with the scale and complexity of the challenge.

Chart B illustrates the sample distributions of European NPL ratios by sector. The distributions of household and OFC exposures have noticeably lower and tighter interquartile ranges than NFC exposures and its SME sub-component, which both display larger and more dispersed interquartile ranges. Notwithstanding the progress that has been made in reducing NPL ratios in the Irish banking system, the chart shows Irish banks occupying a relatively weak position with respect to European peers across every sectoral dimension. Irish banks have among the highest NPL ratios in each category, exceeding the 75th percentile in some cases. It is noteworthy also that the illustrated European cohort within which Irish banks' aggregate position is compared is itself a poor performer internationally. The average NPL ratio among European banks has been shown to be up to three times larger than peer jurisdictions.⁵

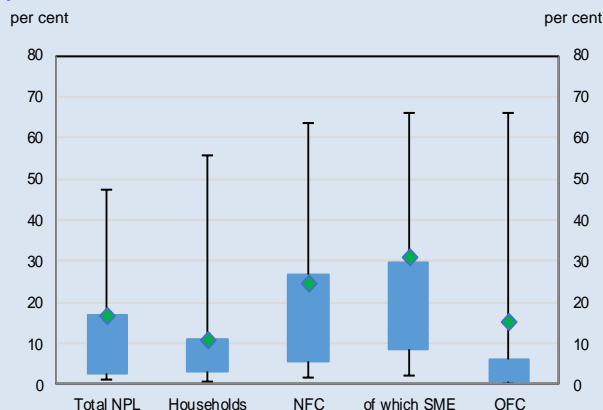
As well as affecting banks' current operations, persistently elevated NPL ratios also generate financial stability risks over the medium to longer term. High NPL ratios leave banks vulnerable to unanticipated negative shocks that could generate fresh credit distress. With much of the space that is needed to cushion any such deterioration already exhausted by existing NPLs on their balance sheets, banks should continue to be pay attention to the considerable importance that attaches to NPL remediation. Recent supervisory guidance to banks on NPLs from the SSM will be important in directing this process.⁶ NPL strategy implementation options highlighted in this guidance include forbearance, active portfolio reductions through sales or write-offs, changes of exposure type by way of foreclosure, debt-to-equity swapping, debt-to-asset swapping and legal options such as insolvency proceedings and out-of-court solutions.

Chart A: European distribution of total NPL ratios at June 2016



Source: EBA, Central Bank of Ireland
Notes: The total figure refers to the total of the EBA 2016 Transparency Exercise sample.

Chart B: European box plot distribution of NPL ratios by sector at June 2016



Source: EBA, Central Bank of Ireland
Notes: The blue boxes represent the interquartile range of country observations, while the whisker plot indicates the minimum and maximum observations. The Irish observations are marked by the green diamond symbols. OFC: Other financial corporates.

¹ Further details regarding the Transparency Exercise are available from the [EBA website](#).

² The employed definition of a non-performing exposure is that laid out in [Commission Implementing Regulation \(EU\) 2015/227 of 9 January 2015, ANNEX V, Part 2-Template related instructions, subtitle 29](#).

³ Latest available data come from the 2016 EBA Transparency Exercise, and refer to June 2016. The sample comprises 131 banking groups from 24 countries of the EEA.

⁴ The 2016 average figure is constructed from a sample constituted by 131 banking groups from 24 countries of the EEA, while the 2014 figure is constructed from a sample constituted by 105 banks from 21 countries of the EU and the EEA.

⁵ <https://www.eba.europa.eu/documents/10180/1360107/EBA+Report+on+NPLs.pdf>

⁶ For more see the SSM (2017) 'Guidance to banks on non-performing loans'.

Box 6: An analytical framework for evaluating cross-border spillovers of macroprudential policy

The EU financial system is highly integrated through the direct provision of cross-border financial services and also via subsidiaries or branches of financial institutions being located in other Member States. These linkages could lead to sizeable cross-border effects from national macroprudential policy as measures implemented in one country could have an impact in other countries. In general, these effects should be positive but negative effects could also occur. For example, a competitive advantage could arise for a foreign financial service provider if it is not subject to the same macroprudential policy as a domestic provider. The foreign entity may then be able to offer services to the public which the domestic entities are unable to do as a result of the measure. This would increase its exposure to the relevant macroprudential risk, thereby putting its home Member State at greater risk than would otherwise be the case.

At a conceptual level, cross-border effects of macroprudential measures can be divided into inward and outward spillovers, with both capable of having positive and negative effects. Inward spillovers can occur when foreign financial institutions exploit opportunities posed by domestic regulation. For example, branches of foreign banks could choose to raise lending as a result of increased capital requirements being imposed on domestic banks. This could lead to an increase in systemic risk into the country in which it is lending if the new lending was not prudent. Outward spillovers arise when countries are affected by a macroprudential measure carried out by another Member State. Spillovers from macroprudential policies can have positive effects for financial stability in other Member States. They mitigate risks to financial instability in the country implementing them, which can then reduce the risk of a spillover of financial disturbances to other Member States. Spillovers may also have negative implications for financial stability depending on the relative position of financial cycles across countries. For instance, a tighter macroprudential policy in one country could pose additional financial stability risks to another country if it causes credit to be diverted there, boosting credit growth that may already be excessive.

A number of transmission channels have been identified by the ESRB through which macroprudential measures can affect other countries. These are cross-border risk adjustments^{*}, regulatory arbitrage^{**}, network formation and potential for contagion (e.g., adjustment of cross-border funding lines), , altering the effects on credit conditions (e.g., changing term structure), and trade effects (on the relative prices of tradeable and non-tradeable goods). The transmission channels have a number of indicators which are aligned to them and these are monitored so as to identify any impacts of potential spillovers from macroprudential measures.

To address the spillover effects of macroprudential policies, the ESRB issued a recommendation on the assessment of cross-border effects and voluntary reciprocity of macroprudential policy measures (the Recommendation).¹ It aims to ensure the effectiveness and consistency of national macroprudential policy across Member States. In accordance with the Recommendation, the Central Bank established a framework to monitor and assess the cross-border effects of Irish macroprudential policy. The framework is aligned to each macroprudential instrument, the main potential cross-border transmission channels are identified, and the most appropriate indicators to determine if spillovers arise are specified.²

In its Recommendation, the ESRB considers the risk adjustment and regulatory arbitrage channels as the most pertinent channels when assessing cross-border effects of macroprudential policy. Within the Central Bank framework, a number of indicators are identified for these channels, in addition to other channels (see Table A). The analysis conducted using this framework will form an integral part of the process for identifying and implementing potential future macroprudential instruments by the Central Bank and in evaluating current measures. Furthermore, in cases of (material) cross-border spillovers, the Central Bank policy response will be aligned according to: (i) the direction of spillovers (inward or outward), and (ii) the sign of spillovers (positive or negative).

Table A: Cross-border indicators for risk adjustment and regulatory arbitrage transmission channels		
	Indicator	
Cross border risk adjustments [*]	Adjustment of cross-border credit exposures	UK mortgage lending activity
		Share of portfolio outside Ireland
	Adjustment of cross-border securitisation activity	Securitisation activity by Irish banks
	Access to cross-border capital markets	Total RWA
		Total CET1
	Geographic breakdown of exposures	
Regulatory arbitrage ^{**}	Regulatory arbitrage	Variation in parent-subsidiary capital ratios
		Securitisation activity by Irish banks
	Shadow banking activity	HH lending by non-bank sector
		Non-bank funding for CRE investment

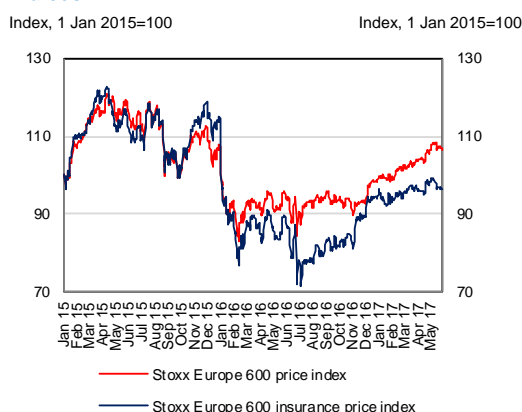
¹ See [ESRB Recommendation 2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macro-prudential policy measures](#)

² 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](#)

4.2 Insurance sector

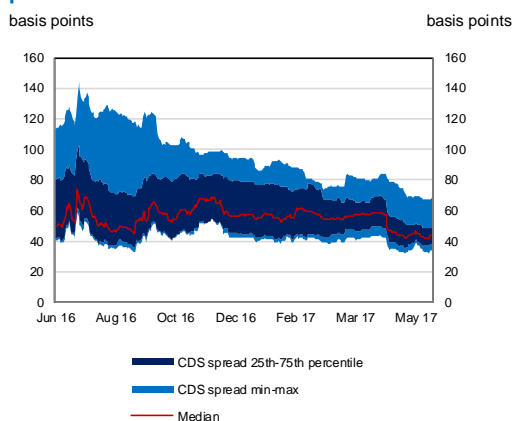
A number of the domestic non-life insurance firms reported underwriting profits in 2016 due to increases in policy premiums. While the operating environment is improving, firms continue to contend with challenges arising from claims uncertainty and the low interest rate environment. Domestic economic conditions are supportive of growth in the domestic life insurance sector, although a competitive operating environment presents a challenge to firms in generating profitable new business. Any adverse effects on economic conditions or market volatility arising from Brexit may affect insurance firms' operating conditions.

Chart 70: Eurostoxx 600 and insurance equity indices



Source: Thompson Datastream.
Notes: Last observation: 31 May 2017.

Chart 71: CDS spreads of insurance groups with a presence in Ireland



Source: Bloomberg.
Notes: Sample comprises Axa, Allianz, Zurich, MetLife, Hannover Re, and Berkshire Hathaway. Last observation: 31 May 2017.

The Irish insurance sector is diverse, comprising life, non-life and reinsurance firms operating across a range of product and geographical markets.⁶⁵ As a component of the overall financial system, the insurance sector plays a small role in financial intermediation in Ireland.⁶⁶ Recent analysis examining the interconnectedness of sectors in the Irish economy, suggests that Irish insurance firms' asset holdings are mainly foreign-based. While this could be a means of transmitting negative foreign shocks to Irish households through their holdings of insurance and pension products, it also provides households with the benefits of a diversified asset portfolio.⁶⁷

In December 2016, EIOPA published the results of a Europe-wide stress testing exercise assessing the effects on the life insurance industry of severe market developments. The exercise confirmed the vulnerability of the sector in Europe to the low interest rate environment, and to a pronounced reassessment of risk premia, although the results varied across countries.⁶⁸ Financial market sentiment towards European insurers remained stable after the release of the exercises results, with little change in share prices or CDS spreads ((Chart 70) and (Chart 71)). [Box 7 provides an overview of the results for Irish undertakings.]

Brexit is likely to have an impact on the insurance sector in Ireland. Any adverse effects on economic conditions or market volatility relating to Brexit may affect insurance firms' operating conditions. It is probable that the business model of a number of firms will also be affected. The extent of Brexit's impact on firms will vary depending on the proportion of their sales to the UK and whether business is via a branch or through a passporting of services.⁶⁹ There are also some firms in both the life and non-life markets who write Irish-risk business on a branch basis who may need to seek establishment in Ireland. A number of global insurance groups are also considering seeking a new authorisation in Ireland, with a view to locating their headquarters for European business in Ireland rather than the UK.

⁶⁵ In 2015, insurance firms in Ireland generated €76 billion of premium income, of which €61.9 billion related to foreign-risk business.

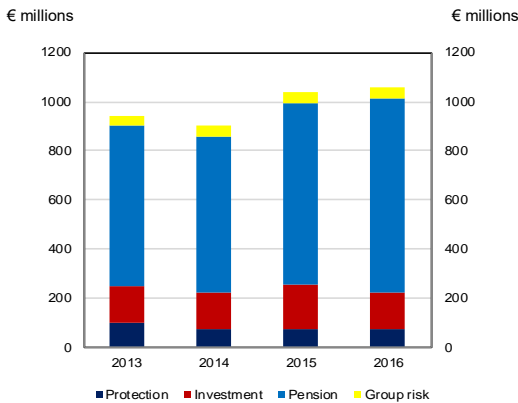
⁶⁶ See IMF (2016), 'Ireland: Financial Sector Assessment Program: Technical Note – Non-bank Sector Stability Analysis', Country Report No. 16/317. The outstanding balance of total financial assets of insurance companies and pension funds was 174 per cent of GDP at end-2015. These sectors account for approximately 6 per cent of total financial assets and liabilities.

⁶⁷ See Cussen (2017), 'Identifying Inter-Sectoral Exposures in Ireland using Network Analysis', Economic Letter Series, Vol. 2017, No. 3.

⁶⁸ See 2016 EIOPA Insurance Stress Test Report.

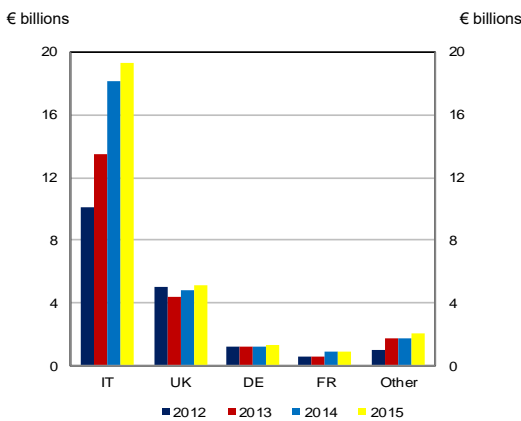
⁶⁹ The cross-border operations of life and non-life insurance firms is facilitated by European legislation whereby undertakings authorised to perform insurance activities in the Member State where their head office is located can also operate, under FOS or FOE (through a branch), in other Member States. 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.

Chart 72: Premium income of domestic life insurers



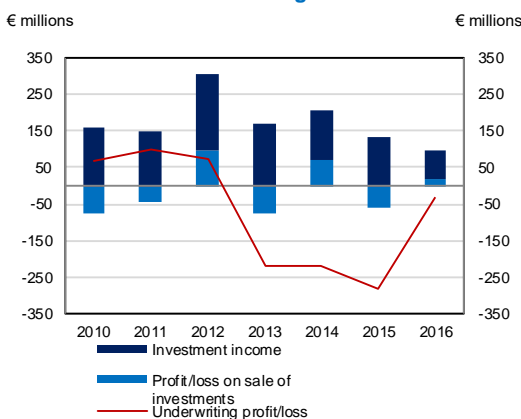
Source: Central Bank of Ireland.
Notes: Premium income is measured by new business APE. Data are for the four largest domestically-focused life insurers.

Chart 73: Life insurers cross-border premium income



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

Chart 74: 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.

Life insurance

The current operating environment for the domestic life insurance sector is supported by favourable economic conditions, in particular employment and wage growth. The longer-term outlook for the sector is also broadly positive as Ireland's demographic structure provides firms with the opportunity to increase sales of life assurance and long-term savings products. Nevertheless, competition from other providers of similar products presents a challenge to firms in generating profitable new business. The impact that Brexit may have on the structure of the sector is as yet uncertain.⁷⁰ While the domestic life firms may be affected by any adverse effects on the Irish economy arising from Brexit, these firms have little direct exposure to the UK in terms of business written and investment holdings.⁷¹

The premium income of domestic life insurers increased by 1.7 per cent in 2016 compared to 2015 with a mixed performance occurring across business lines (Chart 72). Pension sales account for the largest proportion of the sector's business. With a growth rate of 7.4 per cent this was the only line of the sector's business to grow, although some of this was due to the movement of two large corporate schemes from non-insurance pension providers to the life insurance sector. Demand for annuities continues to be weak due to the low interest rate environment.

The retail protection segment of the market is highly competitive and policyholders are price sensitive. Firms' volume of sales increased in 2016 but premium income declined for the fifth consecutive year. Price matching and discounting have become increasingly common in the market as policyholders are willing to switch between firms. These factors have reduced the profitability of what is already a low-margin business line. The retail investment business of the sector faces similar challenges and premium income decreased by 18 per cent in 2016. Some of this decline has been attributed to a drop in consumer confidence on the back of Brexit and international political uncertainty. Competition from other savings-and-investment product providers is also a contributory factor.⁷² These operating conditions also restrict firms' ability to increase management fees on this line of business, an important component of profitability. This source of income would also be adversely affected by a fall in financial asset prices. Nevertheless, lapses continue to decline and are below the firms' long-term average assumptions as firms focus on business retention to secure medium-term profitability.

Domestic life insurers are well capitalised on a Solvency II basis. Unit-linked products, which comprise approximately 90 per cent of domestic insurers' assets under management, are less capital-intensive than guaranteed return investment products, as they carry no interest-rate risk for the firm.⁷³ The dominance of unit-

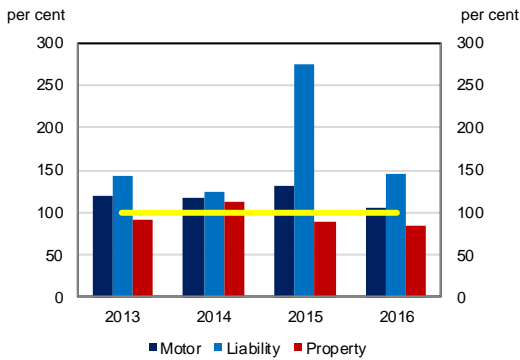
⁷⁰ The domestic life insurance market is dominated by six firms, four of which are regulated by the Central Bank and two of which operate in Ireland on a FOE basis (through a branch) from the UK.

⁷¹ On average, 98 per cent of domestic life insurers' holdings of non-linked assets are euro-denominated.

⁷² Those other product providers include asset management companies, non-insured pension providers, investment funds and exchange-traded funds, as well as insurance intermediaries and retail banks offering insurance products.

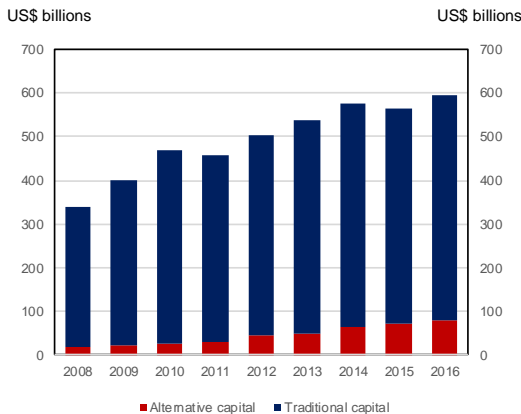
⁷³ Unit-linked products are investment products whose returns are directly linked to market performance and investment risk is borne entirely by the policyholder.

Chart 75: Non-life insurers' combined ratio



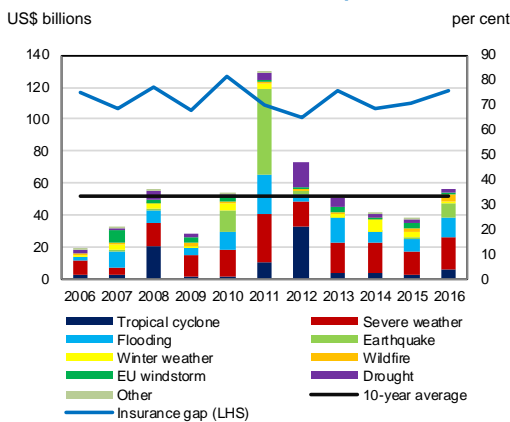
Source: Central Bank of Ireland.
 Notes: Sample comprise domestically-focused high-impact firms. Combined ratios are calculated as the cost of incurred claims and expenses as a percentage of earned premium income. A combined ratio below 100 per cent means that a company is making an underwriting profit,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

Chart 76: Capital levels of global reinsurance sector



Source: AON Benfield.
 Notes: Traditional capital is the capital of traditional insurance firms. Alternative capital is a measure of the reinsurance supply capacity facilitated by capital markets.

Chart 77: Global insured catastrophe losses



Source: AON Benfield.
 Notes: The insurance gap is the percentage of economic losses incurred in a catastrophe that are uninsured.

linked business was a contributory factor in Irish firms' not being as severely affected as other firms in the 2016 EIOPA stress testing exercise [see Box 7].

The cross-border life insurance sector is approximately three times the size of the domestic market. Total premium income of the sector was €28.6 billion in 2015 with Italy and the UK being the main markets (Chart 73).⁷⁴ The predominant product offering is unit-linked investments. Firms with significant cross-border life business do not operate in the domestic market. The sector faces some uncertainty due to political developments in these jurisdictions and the potential impact this may have on the tax benefits associated with the products offered. VA firms also operate on a cross-border basis.⁷⁵ The low interest rate environment has negatively affected the profitability of firms' legacy books of guaranteed products to the extent that the sustainability of the traditional VA business model is unclear at this time. Many firms in the sector are no longer writing new VA business and some are reliant on capital injections from parent companies to support the run-off of the legacy books of business.

Non-life insurance

The domestic non-life insurance market is concentrated across eight firms, six of which are regulated by the Central Bank and two of which operate on a FOE basis. It is uncertain to what extent Brexit will have an impact on the structure of the domestic market. Some of the high-impact firms write business in the UK, in particular, Northern Ireland, and may have to adjust their business models in time.

The outlook for the domestic non-life insurance sector is improving. In aggregate, the domestically-focussed high-impact firms had lower underwriting losses in 2016 compared to 2015 on their global business with some individual firms reporting underwriting profits (Chart 74). Increases in policy premiums are offsetting the rise in claims costs such that the combined ratio for both the motor and property book of business is improving (Chart 75).

Nevertheless, challenges remain for the sector. Firms continue to contend with an uncertain claims environment, particularly with respect to the motor and liability books. Claims uncertainty has resulted in an increase in technical provisions rather than actual claims paid which will take some time to materialise as claims typically settle over a number of years.^{76, 77} A reported slowdown in settlement rates may also lead to higher outlays as costs are affected by inflation. The recommendations of the Cost of Insurance Working Group may go some way to improving firms' claims experience.⁷⁸ Although the property book of business

⁷⁴ This activity is conducted by firms located in Ireland but selling insurance in other EU countries on a FOS or FOE basis.
⁷⁵ Variable annuities are life insurance products with investment guarantees.
⁷⁶ Factors contributing to increased uncertainty of claims costs include increases in court award limits, economic activity, miles travelled, the introduction of PPOs, and court rulings such as the [Russell case](#) and the [MIBI/Setanta case](#).
⁷⁷ Technical provisions are provisions made by insurers for claims that will be paid in the future. Although the average duration of technical provisions is short, approximately 3 years, certain claims, such as bodily injury claims may take up to 10 years to settle.
⁷⁸ Cost of Insurance Working Group (2017), [Report on the Cost of Motor Insurance](#), Department of Finance.

performed well in 2016, this was due to a particularly benign claims experience and elevated underwriting risks may remain.

The prolonged low interest rate environment has led to a persistent decline in firms' investment income since 2012, with a marked decline of 41 per cent in 2016 (Chart 74). Investment income is falling as maturing investments are re-invested at lower yields. Investment income is a key component of non-life insurers' profitability and a continuation of the low interest rate environment would exacerbate challenges in strengthening profitability. Although a return to a higher yield environment would benefit the sector by increasing investment income and negating any incentive to invest in riskier assets in a search for yield, increasing interest rates would result in a reduction in the value of existing investment portfolios where asset values are marked to market with implications for the capital base. The transition to higher interest rates would also create volatility in firms' capital position.

The overall solvency position of the non-life sector is strong as firms continue to embed Solvency II. Firms have previously undertaken capital actions to strengthen their balance sheets and may now be de-risking through reinsurance.⁷⁹ Nevertheless, implementation challenges remain as firms contend with the volatility of the Solvency II calculations due to valuation movements in pension liabilities and asset values. Increasing pension deficits arising in insurance firms' own defined benefit pension schemes have had an impact on some firms' capital base.

The health insurance sector is a significant component of the domestic non-life insurance market. The main issues facing the sector include premium affordability in an environment of increasing claims costs and uncertainty surrounding healthcare reform. A high proportion of health insurance firms' investment portfolios is cash and highly-liquid cash equivalents given that claims are generally made and settled quickly. This reduces the sector's exposure to the low interest rate environment but presents credit risk vis-à-vis the banking sector.

Reinsurance

The reinsurance sector in Ireland is an internationally-focussed business-to-business sector, with firms having few direct links with the domestic macro-financial system. Irish-domiciled reinsurance firms are subsidiaries of global reinsurance groups and through extensive intra-group reinsurance agreements are reliant on the financial strength of their parent companies. Developments in the international macro-financial environment therefore, are of most relevance to the sector.

The operating environment for the global reinsurance sector remains difficult. Profitability declined in the sector in 2016 as firms continued to contend with falling investment income and premium prices as well as diminishing reserve releases. These factors are unlikely to be reversed in the short term. Potential tax

⁷⁹ Reinsurance is one of the main risk and capital management tools available to insurance companies, providing insurance to insurers.

and regulatory reforms have added to uncertainty and could have an impact on the profitability and structure of the sector.⁸⁰ Although demand for reinsurance is showing some signs of improving, as capital regimes across jurisdictions become increasingly risk-based, this is unlikely to have a significant impact given the excess capacity in the market.⁸¹ Capital levels reached record-highs in 2016 as the demand for alternative capital products continued to grow, albeit at a declining rate (Chart 76). These assets are likely to remain attractive to investors in the event of increasing interest rates as they provide returns that are uncorrelated with other financial assets given the nature of the underlying risk.

The global non-life insurance market reinsures approximately 10 per cent of its business. This amounted to approximately €185 billion of premium income, of which Irish non-life reinsurers generated €10 billion, in 2015.⁸² Catastrophe risk accounts for a significant portion of the global non-life reinsurance business although Irish reinsurance firms carry little catastrophe risk on their books. Low catastrophe losses have been supporting the profitability of the global sector in a challenging operating environment over the past number of years. In 2016, insured catastrophe losses were just above the 10-year average (Chart 77). However, the insurance gap, that is the percentage of economic loss arising from a natural catastrophe event not covered by insurance, was almost 80 per cent. These losses must often be met by governments, causing a strain on public finances and increasing public debt.⁸³

The global life insurance market reinsures approximately 2 per cent of its business. This amounts to approximately €59 billion of premium income of which Irish life reinsurers generated €10 billion, in 2015.⁸⁴ Irish entities are experiencing demand from insurers in Europe looking to optimise their Solvency II capital requirements. A number of Irish reinsurers are also providing longevity risk reinsurance for which there is growing demand in the global market from the annuity and pension sectors.⁸⁵

⁸⁰ See [AON's Reinsurance Market Outlook](#), April 2017 and [Best's Review](#), April 2017 and [Best's Briefing "Shifting Tides in Global Regulation Present Challenges and Opportunities"](#), February 2017.

⁸¹ Examples of risk based regulatory regimes include Solvency II in the EU, the China Risk Oriented Solvency System (C-ROSS) in China and the Own Risk Solvency Assessment (ORSA) in the US.

⁸² See [Swiss Re \(2016\), The Benefit of Global Diversification: How Reinsurers Create Value and Manage Risk](#), October 2016.

⁸³ See [Guy Carpenter](#).

⁸⁴ See [Swiss Re \(2016\), The Benefit of Global Diversification: How Reinsurers Create Value and Manage Risk](#), October 2016.

⁸⁵ See [Swiss Re \(2016\), Global Insurance Review 2016 and Outlook 2017/18](#), November 2016.

Box 7: EIOPA Insurance Stress Test Exercise 2016

EIOPA is responsible for monitoring and identifying trends, potential risks and vulnerabilities in the insurance industry at the micro-prudential level, across borders and across sub-sectors. The tasks it undertakes to meet this mandate include the production of financial stability reports for the insurance industry and biennial stress testing. To quantify and assess the risk associated with the current low interest rate environment, EIOPA conducted a stress test on European life insurers in 2016. The overall exercise included over 230 companies from across 30 countries. For Ireland, this included 14 undertakings (accounting for a 75 per cent market share of the most relevant life business from a low-yield perspective). This sample included all the undertakings whom the Central Bank expected, a priori, would be most severely impacted by the stress tests.

In general, life insurance companies face a number of challenges in a prolonged period of low interest rates. These challenges are more pronounced for life insurance firms offering products with guaranteed rates of return. Falling returns on insurers' fixed-income investments mean that investment income is not sufficient to meet their obligations to policyholders. This occurs as assets with maturities as long as the commitments made to policyholders are not always available. As a result, insurers may have to reinvest maturing assets at lower yields, while continuing to meet the higher guaranteed payouts to their policyholders.

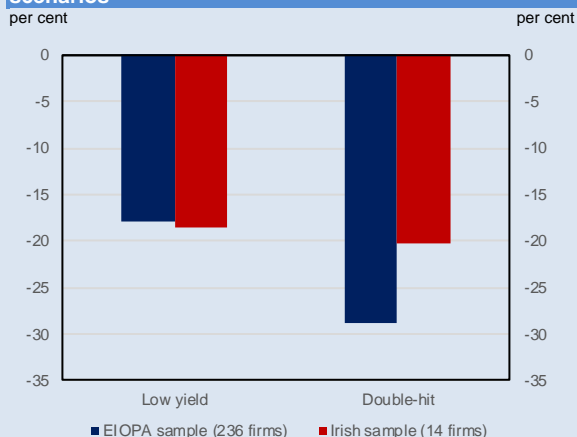
The EIOPA stress test considered two scenarios. First, the low yield scenario, looked at the potential impacts of a prolonged period of low interest rates which simulates a situation of entrenched secular stagnation where a lack of long-term investment opportunities and permanently low productivity growth is combined with an extended scarcity of long-maturity assets which drives down yields at all maturities. Secondly, the double-hit scenario considered a combination of low interest rates and a decrease in asset valuations. In such a situation, both sides of the balance sheet of an insurance company are adversely and simultaneously affected with a decline in short-to-medium term swap rates (increasing the value of liabilities) occurring alongside falls in market values across material classes of investments (reducing the value of assets).

The exercise considered the impact of both scenarios on firms' excess of assets over liabilities (a measure of a firm's ability to meet future policyholder obligations). From an Irish perspective, the effect of both scenarios on the sector was of a similar magnitude in terms of the reduction in the excess assets over liabilities. Under the low yield scenario, the decline in Irish firms' excess of assets over liabilities of 18.5 per cent was similar to the average decline for the EIOPA sample of 18.0 per cent. Although the impact of the double-hit scenario at -20.2 per cent was marginally higher than the low yield scenario for the Irish sample, the results are noticeably better relative to the EIOPA average of -28.9 per cent (Chart A).

The impact of each of the scenarios on individual firms varied in both the Irish and EIOPA samples, depending on the firms' business models and/or market in which they operate (e.g. type of products, guarantees offered). A larger proportion of Irish firms lost more than one third of their excess assets over liabilities in the double hit scenario (35.7 per cent) compared to the low yield scenario outturn of 14.2 per cent (Chart B). In the case of both scenarios, no Irish firm lost all of its excess of assets over liabilities. This chart also highlights that the percentage of firms which lose significant portions of their excess of assets over liabilities is relatively smaller in the Irish sample when compared to the EU sample.

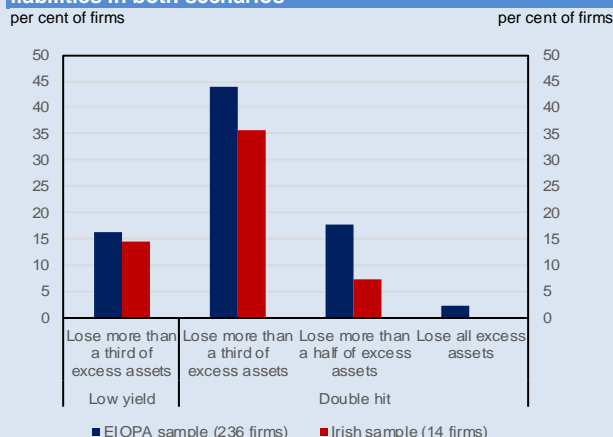
The stress test outcomes for Irish firms were in line with the *ex-ante* expectation that Irish firms would be relatively less affected by the scenarios than their European peers. This expectation was based on Irish life insurance undertakings pre-dominantly selling unit-linked products as well as the results of the 2014 EIOPA stress test which showed Ireland to be one of the least affected jurisdictions in a low yield scenario. However, some care should be taken in making such comparisons at the market level, as the samples do have some structural differences. For example, Irish undertakings are typically less reliant on Solvency II's transitional and long-term guarantee measures¹ than their European peers, without which would have experienced a larger decline in excess assets in both scenarios.

Chart A: Impact on excess of assets over liabilities in both scenarios



Source: EIOPA stress test report and internal Bank calculations

Chart B: Distribution of effect on excess assets over liabilities in both scenarios



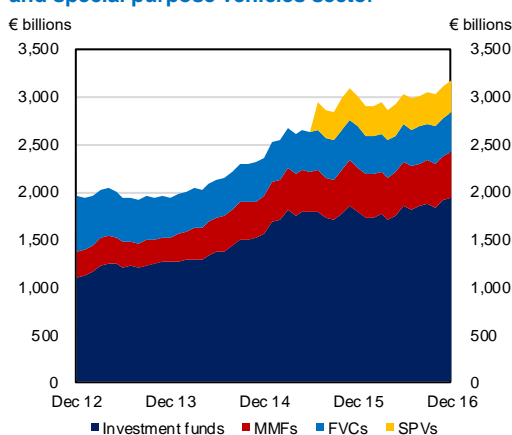
Source: EIOPA stress test report and internal Bank calculations

¹ The long-term guarantee measures are a suite of tools available to undertakings under the European legislative framework to ensure an appropriate treatment of insurance products that include guaranteed long-term obligations to policyholders. These measures typically act to reduce technical provisions and hence increase the excess of assets over liabilities.

4.3 Funds and vehicles sector

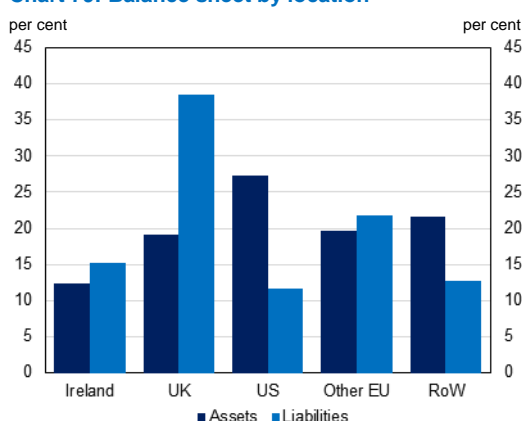
The total assets of the sector were almost €3.2 trillion at 2016Q4. Most of the assets and liabilities are international and thus the Irish economy has limited direct exposure to the sector. Ireland is an important domicile for this sector, with 17 per cent of euro area IFs' assets, 41 per cent of euro area MMFs' assets and 22 per cent of euro area FVCs' assets as at end-2016.⁸⁶ Thus, developments and trends in the sector in Ireland can be relevant in a wider global financial stability context. There is evidence of investment funds moving out the yield curve in a search for yield in the low interest rate environment while hedge funds are reducing financial leverage possibly in anticipation of future market turbulence.

Chart 78: Total assets in Irish authorised funds and special purpose vehicles sector



Source: Central Bank of Ireland.
Notes: Quarterly data between 2012Q4 and 2016Q4. SPV reporting started in 2015Q3.

Chart 79: Balance sheet by location



Source: Central Bank of Ireland.
Notes: Data as of 2016Q4. Figures based on aggregate total assets and liabilities for IFs, MMFs, FVCs, and non-securitisation SPVs.

Overview

The Irish authorised funds and special purpose vehicles sector is made up of four categories: investment funds (IFs), money market funds (MMFs), financial vehicle corporations (FVCs) and non-FVC special purpose vehicles (SPVs).⁸⁷ The nature of the financial stability risks emanating from funds and vehicles depends upon their investment strategy and business model. This sector has expanded considerably in the current environment of low interest rates and evolving bank regulation, as it provides a valuable alternative source of financing. Activity in the sector can give rise to bank-like risks, such as liquidity and maturity transformation, and excessive financial leverage.⁸⁸ For example, where significant levels of liquidity or maturity transformation exist, investor runs (caused by first mover advantage incentives) can lead to damaging feedback loops and thus exacerbate negative market movements. Also, investor runs in MMFs can have a systemic impact as they can affect the availability of financing for the banking sector.

The sector has grown significantly over time and the type of entities reporting has also increased due to new reporting requirements (Chart 78). Currently, the funds industry – IFs and MMFs – accounts for 76.6 per cent of the sector's total assets. The vehicles sector (FVCs and SPVs) accounts for the remainder.

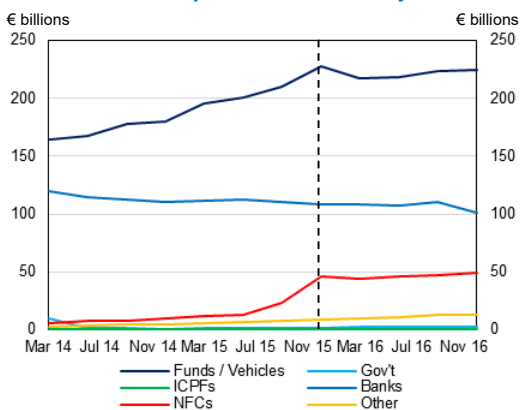
The largest share of the sector's assets is domiciled in the US (Chart 79). The two largest categories of US investments are NFCs (equity and debt) and other funds and vehicles with assets of €340.3 billion and €297.5 billion, respectively. There are also substantial investments in the UK, other EU Member States, and the rest of the world. The largest proportion of the sector's liabilities is domiciled in the UK (€734.4 billion) and in other EU Member States (€424.4 billion) (Chart 79). The global interlinkages of Irish funds and vehicles highlights the importance of cross-jurisdiction collaboration concerning potential financial

⁸⁶ Similar data is not available for euro area non-FVC SPVs. See ECB Statistical Data Warehouse for the balance sheet statistics of IFs [here](#); and MMFs [here](#); and FVCs [here](#).

⁸⁷ Henceforth referred to as the sector.

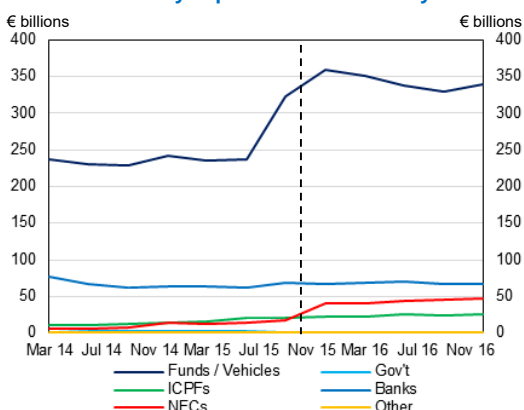
⁸⁸ See ESRB (2016), [EU Shadow Banking Monitor, No. 1, 2016](#).

Chart 80: Asset exposures to Ireland by sector



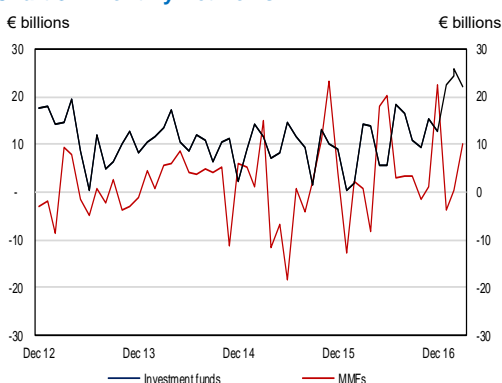
Source: Central Bank of Ireland.
Notes: Quarterly data between 2014Q1 and 2016Q4. ICPFs are insurance companies and pension funds. The vertical dashed-line indicates the advent of granular SPV reporting in 2015Q3.

Chart 81: Liability exposures to Ireland by sector



Source: Central Bank of Ireland.
Notes: Quarterly data between 2014Q1 and 2016Q4. ICPFs are insurance companies and pension funds.

Chart 82: Monthly Net flows



Source: Central Bank of Ireland.
Notes: Data between 2012Q4 and 2017Q1. Net flows are subscriptions minus redemptions calculated at the fund level and aggregated up to the fund type. Net subscriptions are above the x-axis whereas net redemptions are below the x-axis.

stability issues. The Central Bank is currently engaging with the ESRB, ESMA, IOSCO, the FSB, the IMF and individual jurisdictions with respect to the analysis of the sector and policy development.

Chart 80 and Chart 81 illustrate the exposure of the Irish economy and overall financial system to the funds and vehicles sector. The advent of granular SPV reporting in 2015Q3 explains, for example, the rise in NFC assets (mainly lending to MNEs). The largest domestic exposure on both sides of the balance sheet is to the funds and vehicles sector. These accounted for 7.1 per cent of total assets and 10.7 per cent of total liabilities at 2016Q4. The recent IMF FSAP for Ireland highlights that these cross-holdings pose limited concern for domestic financial stability as they are not directly linked to the Irish economy (e.g., they reflect investments in funds by funds and deposits and loans between FVCs).⁸⁹ The remaining Irish categories (i.e. ICPFs, NFCs, banks etc.) represented around 5 per cent of both sides of the balance sheet at 2016Q4. Retained securitisations by Irish banks, investments in Irish property (either directly or through mortgage-backed securities) and financing operations by NFCs are some of the main activities which link the sector to the domestic economy.

Recent Developments

Assets under management (AUM) in the Irish funds industry grew to an all-time high of €2.4 trillion at 2016Q4 (Chart 78). Funds' AUM increased 4.3 per cent from 2016Q3 and 7.7 per cent year-on-year. The vehicles sector's total assets rose 3.2 per cent from the previous quarter to €737.2 billion and fell 1.9 per cent year-on-year.

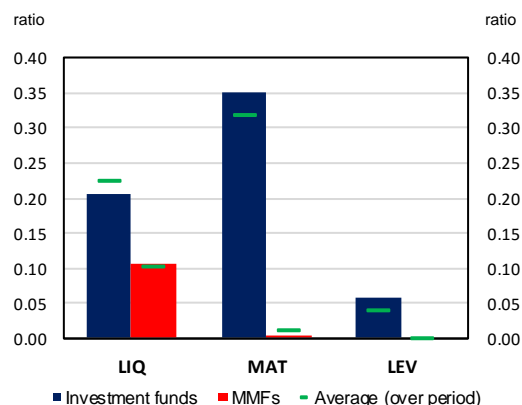
Chart 82 presents monthly net investment into Irish funds. Summing over three months the total inflow was €77.9 billion in the quarter to 2017Q1, up 28 per cent from the previous quarter. Over 90 per cent of these flows went into IFs. December 2016 saw the second largest monthly net inflow (€35.8 billion) into Irish funds since the data collection began in 2000 (Chart 82).⁹⁰ This was largely due to large inflows into MMFs. There is more volatility in the monthly MMF flows than the IF flows, with both negative and positive monthly flows occurring for MMFs, whereas IFs flows have remained positive over the period. The MMF fluctuations may be due to cycles of investor risk-aversion (see discussion of rise in policy uncertainty in Section 2) or due to differences in investor profiles. Investments in MMFs are often used as part of treasury operations and as such flows may be large one-off investments or redemptions which are unrelated to macroeconomic events.

Liquidity transformation

Liquidity transformation risk occurs if liabilities are more liquid than assets (i.e. a value greater than zero in Chart 83 and Chart 84).

⁸⁹ See: IMF (2016) 'Ireland: Financial Sector Assessment Program: Technical Note-Asset Management and Financial Stability'. Country Report No. 16/312.
⁹⁰ September 2010 witnessed the largest net inflows of €48.3 billion into Irish funds.

Chart 83: IF and MMF Risk Metrics



Source: Central Bank of Ireland.

Notes: Liquidity Transformation (LIQ) is defined as (Short Term Liabilities + Redeemable Equity – Liquid Assets)/Total Assets. Maturity transformation (MAT) is defined as (Long Term Assets – Long Term Liabilities – Non-Redeemable Equity)/Total Assets. Financial Leverage (LEV) is defined as Loan Liabilities/Total Assets. Period for calculation of average is 2014Q1 to 2016Q3. Risk metric bars are calculated for 2016Q4.

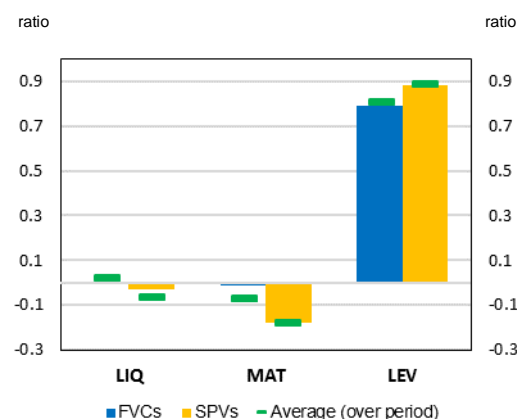
IFs are generally financed through equity (the majority of which is redeemable daily), and thus have relatively high levels of liquidity transformation particularly where IFs invest in illiquid markets or securities. Within IFs, liquidity transformation is predominantly driven by fixed income funds and particularly those with an emerging market and high yield investment focus.

While SPVs and FVCs tend to hold higher levels of illiquid assets (as a percent of total assets) than IFs and MMFs, they are generally financed through debt (which tends not to be as liquid as equity). Thus liquidity transformation is not so high for these vehicles (Chart 84).

Maturity transformation

Maturity transformation can pose risks to financial stability as a maturity mismatch between assets and liabilities can lead to a fire-sale of assets into potentially illiquid markets. Maturity transformation of greater than zero indicates that long-term assets are being financed by short-term liabilities.

Chart 84: FVC and SPV Risk Metrics



Source: Central Bank of Ireland.

Notes: Liquidity Transformation (LIQ) is defined as (Short term Liabilities – Liquid Assets /Total Assets). Maturity transformation (MAT) is defined as (Long Term Assets – Long Term Liabilities – Non-Redeemable Equity)/Total Assets. Financial Leverage (LEV) is defined as (Loan Liabilities + Debt Securities Issued)/Assets Under Management. Period for calculation of average is 2014Q1 to 2016Q3 for FVCs and 2015Q3 to 2016Q3 for SPVs. Risk metric bars are calculated for 2016Q4.

IFs have relatively high levels of maturity transformation with over 30 per cent of the sub-sector’s long-term assets funded by short-term liabilities. The weighted average life of the debt portfolios of bond, mixed and other categories of funds has been increasing in recent quarters, leading to an increase in maturity transformation (Chart 83). This indicates that fund managers are moving further out the yield curve in a search for yield (in the low interest rate environment). Due to the nature of their business models and regulatory restrictions, significant levels of maturity transformation is not a feature of the MMF sector.

The majority of assets and liabilities of FVCs and SPVs are of a longer maturity than IFs, with liabilities being longer than assets, leading to negative levels of maturity transformation (Chart 84).⁹¹

Financial leverage

Leverage can amplify gains and losses during periods of market stress. This can lead to fire sales which can in turn increase risk premia and uncertainty. Funds and vehicles employ financial leverage⁹² by borrowing or engaging in securities financing transactions (such as repurchase agreements⁹³). IFs and MMFs are restricted through regulation in their use of financial leverage.⁹⁴ IFs increased their leverage from 0.03 times AUM in 2014Q1 to 0.06 times AUM in 2016Q4 (Chart 83). Within the IF sector, hedge funds have reduced their financial leverage substantially from 0.14 to 0.02 times AUM over the period. This decrease could indicate anticipation of future market turbulence.⁹⁵ SPVs and FVCs are highly leveraged by design (i.e., they are thinly capitalised), with SPVs using 9.3 per cent more leverage than FVCs at 2016Q4.

⁹¹ These vehicles are often wound up prior to the maturity date of the liabilities.

⁹² Funds and vehicles can also engage in leverage synthetically through derivatives. The Bank is currently working with the ESRB and other national competent authorities to ascertain the level of synthetic leverage in European-domiciled IFs and vehicles.

⁹³ A repurchase agreement is a form of short-term borrowing in securities. The securities are sold and bought back usually on an overnight basis.

⁹⁴ The metric used here is not a regulatory measure of leverage and is not used for the purposes of regulation by the Central Bank of Ireland.

⁹⁵ Recent literature suggests hedge fund leverage is counter-cyclical. See [Ang, A., Gorovyy, S., and van Inwegen, G. \(2011\) 'Hedge Fund Leverage' Journal of Financial Economics, 102 \(1\)](#)

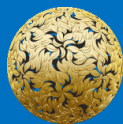
Abbreviations

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

AIB	Allied Irish Bank	FTB	First-Time Buyer
AMECO	Annual Macro-Economic Database	FVC	Financial vehicle corporations
APE	Annual premium equivalent	GDP	Gross Domestic Product
AUM	Assets under management	HFCS	Household Finance and Consumption Survey
BIS	Bank of International Settlements	IF	Investment fund
BOI	Bank of Ireland	IFSC	International Financial Services Centre
BPFI	Banking and Payments Federation Ireland	IFRS	International financial reporting standards
BRRD	Banking Recovery and Resolution Directive	IMF	International Monetary Fund
BTL	But-to-let	IOSCO	International Organisation of Securities Commissions
CBRE	Coldwell Banker Richard Ellis Group	IPD	Investment Property Databank
CCyB	Countercyclical capital buffer	JLL	Jones Lang LaSalle
CDS	Credit default swaps	KBC	Kredietbank ABB Insurance CERA Bank
CET1	Common equity tier 1	LTV	Loan to value ratio
COREP	Common Reporting Framework	MIBI	Motor Insurers' Bureau of Ireland
CRD	Capital Requirements Directive	MFR	Macro-Financial Review
CRE	Commercial real estate	MFI	Monetary financial institution
CSO	Central Statistics Office	MMF	Money market fund
DGS	Deposit Guarantee Scheme	MNC	Multinational corporation
DIRT	Deposit interest retention tax	MNE	Multinational enterprise
DPD	Days-past-due	MSCI	Morgan Stanley Capital International
EA	Euro Area	NAMA	National Asset Management Agency
EEA	European Economic Area	NFC	Non-financial corporation
EAPP	Expanded Asset Purchase Programme	NPL	Non-performing loan
EBA	European Banking Authority	NTMA	National Treasury Management Agency
EBS	Educational Building Society	O-SII	Other Systemically Important Institutions
EC	European Commission	PDH	Primary dwelling house
ECB	European Central Bank	PMI	Purchasing managers' index
EEA	European Economic Area	PPOs	Periodic payment orders
EFSM	European Financial Stabilisation Mechanism	PTSB	Permanent PTSB
EIOPA	European Insurance and Occupational Pensions Authority	QFA	Quarterly Financial Accounts
ESMA	European Securities and Markets Authority	QNA	Quarterly National Accounts
ESCB	European System of Central Banks	QSFR	Quarterly summary financial return
ESRB	European Systemic Risk Board	ReBo	The Credit Union Restructuring Board
ESRI	Economic and Social Research Institute	REIT	Real Estate Investment Fund
EU	European Union	RWA	Risk weighted asset
FDI	Foreign Direct Investment	SBCI	Strategic Banking Corporation of Ireland
FINREP	Financial reporting	SCSI	Society of chartered surveyors of Ireland
FOE	Freedom of establishment	SME	Small and Medium Enterprise
FOMC	Federal Open Market Committee	SNL	Savings and Loan Financial
FOS	Freedom of service	SPV	Special Purpose Vehicle
FSAP	Financial sector assessment programme	SSB	Second and Subsequent Buyer
FSB	Financial Stability Board		

SSM	Single supervisory mechanism
SVR	Standard variable rate
USD	United States Dollar
VA	Variable annuity
VAT	Value added tax
VIX	Chicago Board Options Exchange Volatility Index
WEO	World Economic Outlook
WTO	World Trade Organisation

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