Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

Macro-Financial Review 2018: I

MACRO-FINANCIAL REVIEW
2018:I

Notes

1. Unless otherwise stated, this document refers to data available on 31 May 2018.

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 focused.

3. The following symbols are used:

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

Enquiries relating to this document should be addressed to:
Macro-financial Division, Central Bank of Ireland, PO Box 559, Dublin 1.
Email: mfdadmin@centralbank.ie

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 2017.

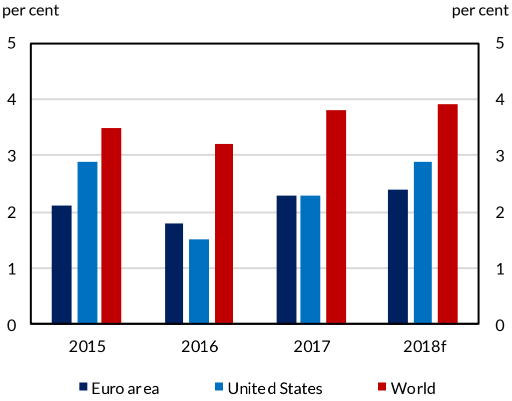
Réamhrá

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 bhíothas ag súil leis. Déanann an tAthbhreithniú measúnú ar fhorbairtí ón Athbhreithniú deireanach a foilsíodh i mí na Nollaig 2017.

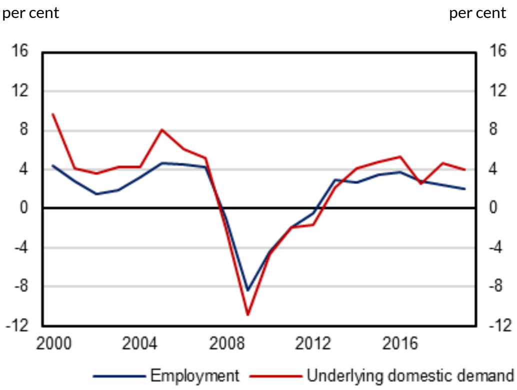
1. Overview

Chart A1: GDP growth rates



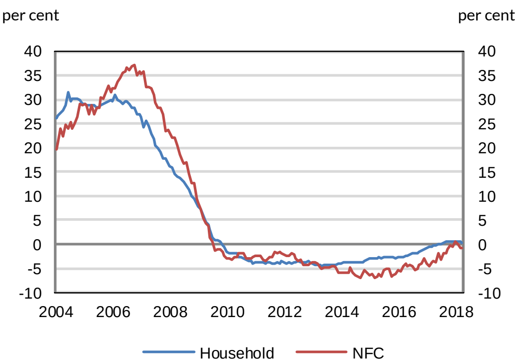
Source: IMF World Economic Outlook, April 2018.

Chart A2: Employment and domestic demand growth



Source: 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 of Ireland Quarterly Bulletin, QB2 April 2018.

Chart A3: Credit growth to household and NFC sectors



Source: Central Bank of Ireland.
Notes: Year-on-year growth in (nominal) credit. Last observation: April 2018.

Overview

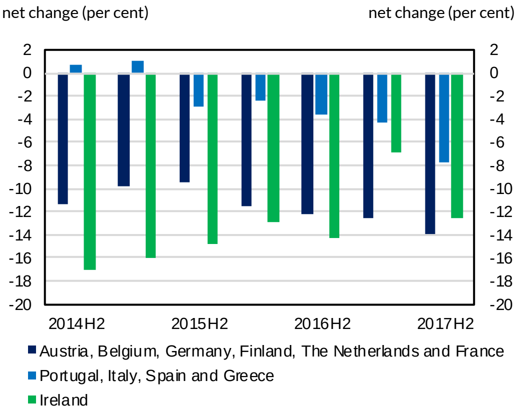
The macro-financial environment in Ireland has been improving in general in recent years. The domestic economy has been growing at a substantial pace and is projected to continue to do so in 2018 and 2019. Both overall private and public sector debt burdens have declined and the value of non-performing loans (NPLs) in the banking sector has fallen. While these developments have reduced the vulnerability of the domestic economy and its financial system to adverse shocks compared to the earlier years of this decade, further decreases in debt burdens and NPLs, which remain relatively high by historical and international comparison, are warranted.

Three main systemic risks to the macro-financial environment arise in Ireland at present. Of those, an abrupt negative change to financial market conditions is adjudged to have intensified during the opening months of 2018. The other two risks - public and private sector debt sustainability challenges, and structural challenges to the intermediation capacity of the domestic banking sector – are considered to be unchanged. The main potential events which could trigger these risks are external to the Irish economy, with a disruptive 'hard' Brexit to the fore. Geopolitical developments, changes to international corporate tax and trade arrangements, and disruptions to global financial markets could also have an impact on domestic vulnerabilities (see Box 1 for an overview of systemic risks in Ireland).

The international economic outlook remains favourable, with many advanced economies experiencing a cyclical upswing (Chart A1). This should help improve public and private sector balance sheets and support monetary policy normalisation, as it arises. A strong risk appetite, many asset values being high by historical comparison, and elevated leverage are features of international financial markets. In such an environment, any shift in investor sentiment could lead to a decline in asset prices and cause market disruption. Changes to international trade and tax policies could pose risks to global economic and financial market performance. Banking system profitability varies across the euro area, reflecting, among other factors, the effects of weak balance sheets and high costs. Some euro area banks remain vulnerable to political events within the EU, particularly through their sovereign exposures.

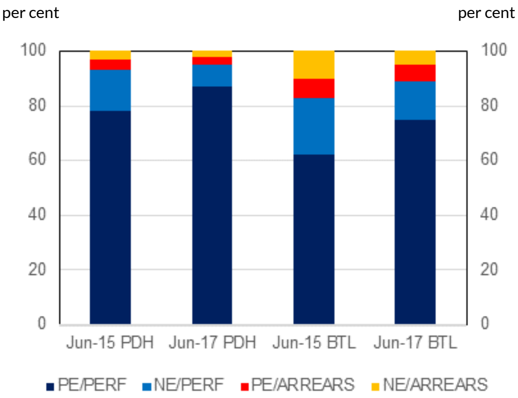
The Irish economy is projected to grow, in GDP terms, by 4.8 per cent in 2018 and 4.2 per cent in 2019. Underlying domestic demand is forecast to rise by 4.7 per cent and 4 per cent, respectively, in those two years (Chart A2). Business sentiment has been improving over recent quarters and increased building and construction is contributing to investment growth. While

Chart A4: SME net change in debt to assets



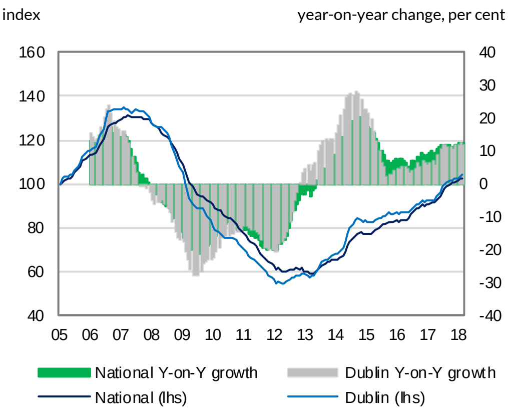
Source: Survey on Access to Finance in Europe.
Notes: Net percentage change is defined as the share of firms reporting increasing debt-to-assets ratio less the share of firms reporting decreasing debt-to-assets ratio. Last observation: 2017H2.

Chart A5: Equity and arrears



Source: Central Bank of Ireland.
Notes: PE is positive equity. NE is negative equity. PERF is performing. NE loans are defined as those having a current LTV, as reported by the banks, greater than 100. A loan is classified as in arrears if it is greater than 90 days past due on its payments.

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



Source: CSO.
Notes: Residential property price index = 100 in January 2005. Last observation: March 2018.

Brexit is a key risk to the Irish economy, there is also a concern that as the economy approaches full employment, upward pressure on wages and skills shortages, as well as infrastructure deficiencies, could threaten competitiveness. Changes in the international corporate taxation and trading environment could affect foreign direct investment and economic performance more generally.

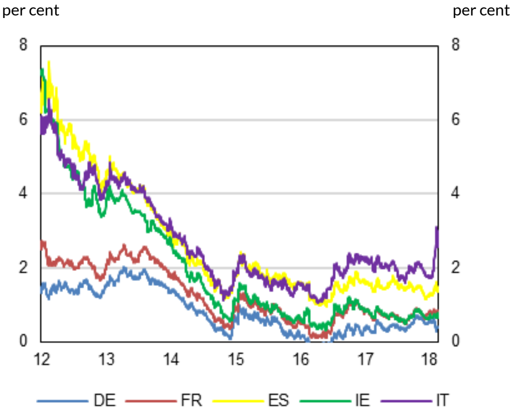
Negative year-on-year rates of non-financial private sector credit growth, which had been observed since 2009, ended in recent months (Chart A3). Developments in aggregate credit growth mask variations in the growth rates of PDH mortgage lending, consumer credit, and SME lending. The countercyclical capital buffer (CCyB) rate on banks' exposures, set by the Central Bank, remains at 0 per cent. Any changes in that rate from zero would take account of how resilient the banking sector should be to cyclical systemic risk. The CCyB rate on banks' Irish exposures is reviewed on a quarterly basis, with any increases in the buffer rate coming into effect twelve months later.

NFCs' financial position is improving with the Irish relevant debt ratio declining. Non-CRE corporate NPLs are now below 10 per cent of total outstanding corporate loans but a wide dispersion in NPL rates across sub-sectors remains. The real estate NPL ratio is close to 20 per cent. SMEs are showing improved financial health with declines in debt-to-assets (Chart A4) and debt-to-turnover ratios being observed, although loan default rates are higher for SMEs, at 19 per cent, than for the NFC sector as a whole. A broadly-based rise in new lending to SMEs is occurring.

In the household sector, growth in net lending for PDH mortgages has been positive since 2016Q3, while loans for car purchase constitute a growing share of bank-related consumer credit. Although the household debt to disposable income ratio is falling, it remains high, including by international comparison. The distribution of debt is uneven across the sector with mortgaged households aged between 30 and 45 having the highest debt-to-income ratios. About 80 per cent of the outstanding mortgage stock is on a variable rate and is consequently vulnerable to the effects of higher interest rates. The number of mortgage accounts in arrears continues to decline and was at about one-half of 2013 levels at end-2017. The share of loans in both arrears and negative equity is falling (Chart A5). Some 42,000 mortgage accounts, however, are more than 720 days past due, of which 28,946 are PDH accounts. The latter account for 60 per cent of PDH accounts in arrears of over 90 days past due.

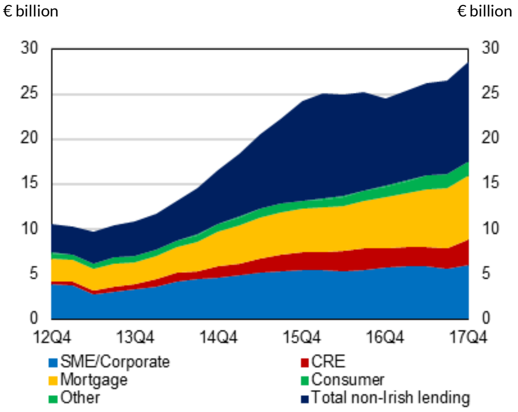
There has been a moderation in Irish commercial property returns from high levels in recent years. Industrial properties are outperforming those in the retail and office sectors. Investment in CRE remains strong, with the Dublin office sector attracting a large share of expenditure. That particular market has a low vacancy rate, reflecting business growth and domestic economic expansion and with the potential for Brexit-related relocations to

Chart A7: Sovereign bond yields for selected EA Member States



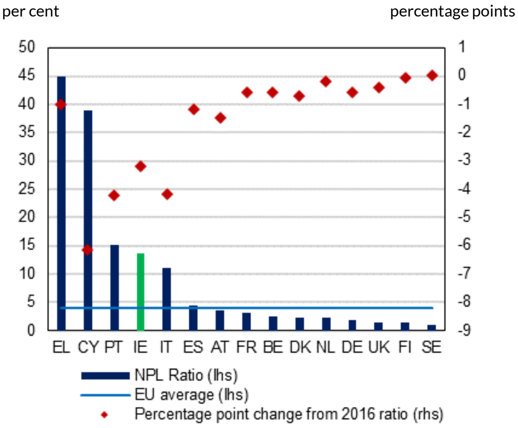
Source: Thomson Reuters Datastream.
Notes: Chart shows yields on sovereign bonds, 10-year maturity. Last observation: 7 June 2018.

Chart A8: Irish retail banks' new lending: quarterly by sector (rolling 4Q total)



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Last observation: 2017Q4.

Chart A9: Cross-country NPL ratios



Source: EBA and Central Bank of Ireland.
Notes: Irish data are consolidated data for the five retail banks and collected in accordance with the EBA's FINREP reporting requirements. The NPL ratio is the ratio of NPLs to total gross loans by value. Last observation: 2017Q4

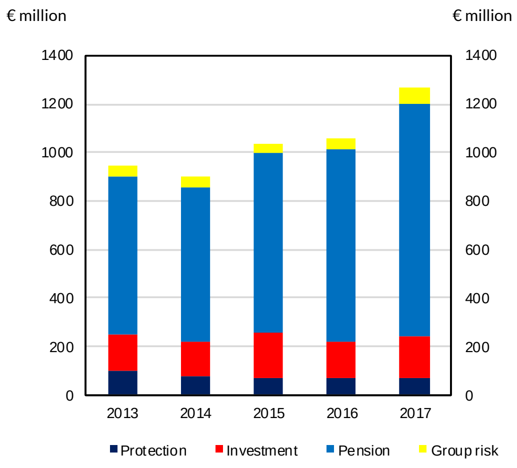
add to demand. Large international funds and REITs are active in the Irish CRE market. The outstanding stock of commercial property lending by the Irish retail banks has been falling since 2012, while new CRE lending has been increasing. With over one-fifth of the total value of CRE loans non-performing, Irish retail banks' loan books are vulnerable to any deterioration in the commercial property market.

Residential property prices increased by 12.7 per cent in the twelve months to end-March 2018 (Chart A6), while private rents are 23 per cent higher than 2008 levels. A shortage of residential units in major urban areas is contributing to these developments. The stock of residential property listed for sale or rent is low. Although construction activity is increasing, the supply of new residential units seems likely to remain below housing demand. The number of residential property transactions increased by almost 8 per cent in 2017 with mortgage-based transactions accounting for a rising share of purchases. The Central Bank introduced macroprudential mortgage-lending requirements in February 2015, which are subject to annual review. The outcome of the second annual review of these requirements, announced in November 2017, left the core parameters of the measures – the LTV and LTI limits – unchanged.

While sovereign bond yields and indicators of sovereign stress remain relatively low in most euro area Member States, there has been a sharp rise in Italian sovereign yields recently, against a background of domestic political tensions (Chart A7). Spanish and Portuguese bond yields have also increased but to a lesser extent. With debt ratios remaining high in many Member States, any changes to credit ratings or a reversal of the search for yield in financial markets could influence market conditions adversely. Some €40 billion of Irish marketable debt is due to mature before end-2020. Although the Exchequer cash position remains strong and the NTMA has raised over €11 billion in benchmark bonds in the year to date, a deterioration in market conditions or a substantial economic shock could have an unfavourable effect on debt financing. Against this background, fiscal policy needs to remain prudent to ensure that the public finances remain on a sustainable path.

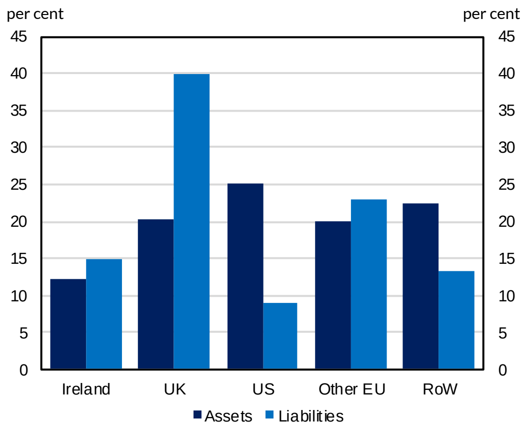
While Irish retail banks' pre-tax profits declined by over 16 per cent in 2017, their underlying profitability (when the effects of one-off factors are removed) decreased by 6.7 per cent. The impact of any rise in interest rates on banks' profitability is unclear as both their income and expenses will be affected. Irish retail banks' income relies heavily on the Irish credit market and mortgage lending in particular. Uncertainty surrounding the outcome of Brexit negotiations poses risks to Irish banks with operations in the UK or those with counterparties exposed to the UK. Depending on the outcome of Brexit discussions and the future relationship between the EU and the UK, the economic

Chart A10: 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 A11: Balance sheet by location



Source: Central Bank of Ireland.
Notes: Data as of 2017Q4. Figures based on aggregate total assets and liabilities for IFs, MMFs, FVCs, and non-securitisation SPVs.

effects of Brexit could lead to increased loan defaults and lower new lending volumes.

Although new lending continues to rise (Chart A8), Irish retail banks' total assets fell by 3 per cent in 2017. The value of outstanding NPLs continued to decline last year, with reductions arising across all major loan categories. NPLs remain high, however, including by international comparison (Chart A9). Implementing appropriate strategies to address the stock of NPLs on their balance sheets remains a challenge for Irish retail banks. Their aggregate capital position is largely unchanged since the last Review and the banks remain on target to meet their CET 1 targets under CRD IV by 2019.

The premium income of domestic life insurers increased by 20.2 per cent in 2017 as firms benefitted from improved economic conditions (Chart A10). The impact of Brexit on the life insurance sector is uncertain: any adverse economic developments could affect demand for its products, while the structure of the market could also be affected. Domestic life insurers are well capitalised on a Solvency II basis. Underwriting performance contributed positively to the profitability of the domestically focused non-life insurance sector in 2017. Domestic firms' combined market share declined, however, and competitive pressures could prompt firms to under-price risk. There is some evidence that non-life insurance firms are investing in lower-rated assets so as to increase investment income. Brexit may lead some firms to adjust their business models to continue operating in the UK market.

The total assets of the funds and vehicles sector in Ireland were close to €3.5 trillion at end-2017. The global interlinkages of the sector are highlighted by the largest share of the sector's assets being domiciled in the US, with the UK accounting for the largest share of liabilities (Chart A11). The Irish funds and vehicles sector could be a transmitter of risk from global financial markets to the Irish economy. With asset valuations currently high, the possibility of downward revaluation arises. The possibility of a hard Brexit is a source of uncertainty and could act as a trigger to downside risks, while the consequences of recent changes to US corporate tax policy to the sector are unclear.

Box 1: Overview of systemic risks in Ireland

This edition of the Macro-Financial Review (MFR) complements its regular overview of the macro-financial environment with reference to what the Central Bank views as the most prominent systemic risks in Ireland. These systemic risks, on materialisation domestically, would significantly impair all or part of the financial system, disrupting the sustainable provision of financial services to the detriment of the real economy. Over the short-to-medium term, these systemic risks are:

- Abrupt negative adjustment in financial conditions with related re-pricing of domestic risk premia and correction in asset prices
- Public and private sector debt sustainability challenges
- Structural challenges limiting the intermediation capacity of the domestic banking sector.

It is important to note this is not an exhaustive list and other potential systemic risks could also materialise over the short-to-medium term. In addition, these risks are not mutually exclusive: they may arise jointly, or the materialisation of one may lead to the materialisation of the others.

The main systemic risks capture the combined effects of potential trigger events and identified vulnerabilities in the Irish macro-financial environment. Potential trigger events are negative shocks which could reasonably be identified as proximate causes of the materialisation of systemic risk. As they are discrete occurrences or episodes, they have some probability of happening over the short-to-medium term. Vulnerabilities are the transmission channel through which these shocks are propagated or amplified. They can often be considered as being related to cyclical factors, such as the dynamics of credit or real estate prices, or structural factors, such as the relative importance of particular financial institutions or the interconnectedness of the financial system.[1] The greater the extent of vulnerabilities in the system, the greater the impact negative shocks could have on systemic risk and financial instability. The overall intensity of a given systemic risk is dependent on the probability of relevant trigger events and related vulnerabilities.

The table below then summarises the main systemic risks for Ireland, the related potential trigger events and vulnerabilities, and the change in perceived risk intensity since the last MFR. The sectoral analysis in the MFR reflects Ireland's exposure to these risks, as well as particular vulnerabilities in each sector. Factors that could help mitigate the impact of these risks, including any policy developments, are also discussed.

Main Domestic Systemic Risks	*Change in risk intensity*
· Abrupt negative change in financial conditions with re-pricing of domestic risk premia and a correction in asset prices	↑
· Public and private sector debt sustainability challenges	→
· Structural challenges limiting the intermediation capacity of the domestic banking sector	→
Vulnerabilities	*Change in vulnerability*
· Level of non-performing loans and related impact on bank costs	↓
· Residential real estate price growth bringing valuations close to or above fundamental factors	↑
· Concentration of bank exposures in property-related lending	↑
· High level of sovereign debt and relative reliance on potentially volatile revenues	→
· High levels of household debt on variable interest rates	→
· Direct and indirect exposures to UK including reliance on provision of financial services from UK	→
Potential Triggers	*Change in probability*
· A disruptive 'hard' Brexit	→
· Geopolitical developments in Europe leading to greater market volatility	↑
· Changes in international corporate tax arrangements	↑
· A more general move towards protectionism in international trade	↑
· Adverse global debt and equity market adjustment to the normalisation of interest rates	→
· Disruption in global market-based finance, particularly debt-based finance, with spillover to the wider financial system	→

Note: The risks listed above are those domestic systemic risks deemed most significant over the short-to-medium term by the Central Bank of Ireland. It is not an exhaustive list of all risks in the macro-financial environment. The risks identified are not mutually exclusive, and their materialisation may well overlap and interact with each other. Changes in the intensity of domestic systemic risks are judgement based and informed by the assessment of changes in the degree of vulnerabilities and the probability of potential trigger events. These changes are reflected as increases (↑), decreases (↓), or no change (→) since the publication of the last MFR, based on both qualitative judgement and quantitative indicators. Their aggregation to the change in the risk intensity is judgement-based and not derived from a fixed weighting scheme.

At this juncture, the main potential trigger events are considered to be external developments. The most prominent of these is the potential for a disruptive 'hard' Brexit, the probability and impact of which remains significant. With the UK government having explicitly set out its intention to leave both the Single Market and the Customs Union, negotiations have made progress on a number of fronts, including the identification of a transition period to end-2020. However, key aspects of the negotiations remain to be concluded and uncertainty as to their outcome persists. Beyond Brexit, there are other potential trigger events, arising from the international trading environment, whose likelihood has risen since the last MFR. Meanwhile, any imperfect pricing of risk by markets could result in unanticipated developments even as policy rates continue their gradual normalisation, which could be compounded by the relative complexity and interconnectedness of market-based finance globally. Geopolitical developments in Europe, such as have arisen lately in Italy, also contribute to increased market turbulence.

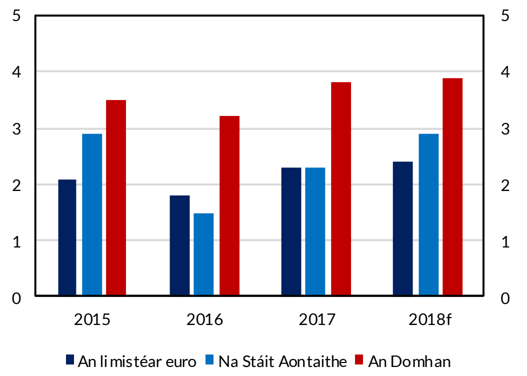
Existing vulnerabilities in the Irish macro-financial environment would provide the transmission channel through which these external events could have an adverse impact on the domestic financial system or real economy. The reliance on UK-based entities in providing financial services, as well as the general importance of the UK for Irish firms, makes Ireland especially susceptible to the impact of a disruptive Brexit process. Within the banking system, the still high, but declining, level of non-performing loans presents a structural vulnerability which could limit the capacity of the banking sector to react to negative shocks without restricting credit to the real economy. At the same time, bank lending is highly concentrated in property-related exposures. This presents a structural vulnerability that overlaps with the potential cyclical sensitivity arising from the persistent growth in residential real estate prices. This growth brings valuations close to or above those justified by economic fundamentals and leaves the market vulnerable to a subsequent correction. Private and public sector debt servicing capacity could be impaired due to the sensitivity of existing debt levels to interest rate increases (private) and the relative reliance on potentially volatile corporate revenues (public).

The combination of increased financial market turbulence, developments in the real estate market, and the sensitivity of Irish debt-servicing capacity to interest rate shocks contributes to the identification of a higher risk intensity for the first main systemic risk– an abrupt negative change in financial conditions with re-pricing of domestic risk premia and a related correction in asset prices - compared to December 2017.

[1] These vulnerabilities are discussed in more detail throughout this edition of the MFR, and many of them are also highlighted in the bi-annual Central Bank Systemic Risk Pack.

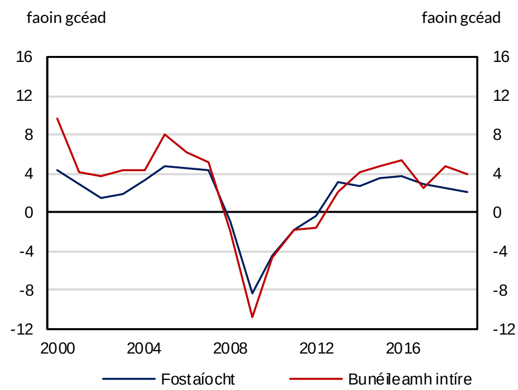
1. Forbhreathnú

Cairt A1: Rátaí fáis OTI



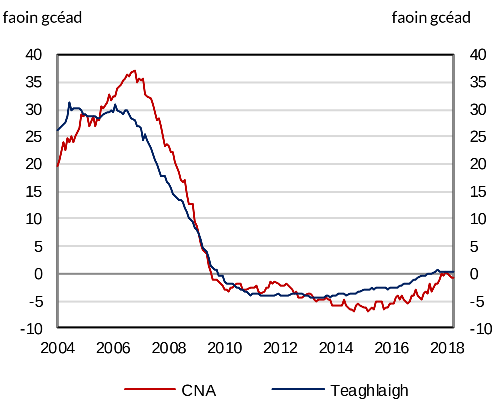
Foinse: *IMF World Economic Outlook*, Aibreán 2018.

Cairt A2: Fás ar fhostaíocht agus ar an éileamh intíre



Foinse: Banc Ceannais na hÉireann.
Nóta: Folaíonn bunéileamh intíre, tomhaltas, caiteachas rialtais agus infheistíocht (lúide iompar agus sócmhainní doláimhsithe a bhaineann le caiteachais infheistíochta). Tógtar na réamhaisnéisí do 2017 agus 2018 ó Fhaisnéis Ráithiúil Bhanc Ceannais na hÉireann, Uimh. 2 Aibreán 2018.

Cairt A3: Fás ar chreidmheas chuig earnáil na dteaghlach agus earnáil CNA



Foinse: Banc Ceannais na hÉireann.
Nóta: Fás bliain ar bhliain ar chreidmheas (ainmniúil). Grinniú deireanach: Aibreán 2018.

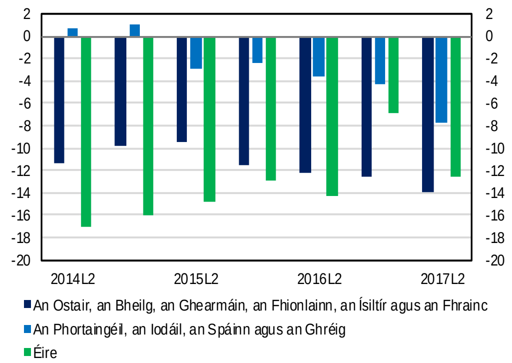
Forbhreathnú

Tá an timpeallacht mhacra-airgeadais ag dul i bhfeabhas i gcoitinne in Éirinn le blianta beaga anuas. Tá an geilleagar intíre ag fás ar luas measartha maith agus meastar go leanfaidh an fás sin in 2018 agus in 2019. Tá laghdú tagtha ar ualach an fhiachais san earnáil phríobháideach agus san earnáil phoiblí araon agus tá laghdú tagtha ar luach na n-iasachtaí neamhthuillmheacha (NPLanna) san earnáil baincéireachta freisin. Cé go bhfuil leochaileacht an gheilleagair intíre agus leochaileacht a chórais airgeadais do thurraingí díobhálacha imithe i laghad de thoradh na bhforbairtí sin i gcomparáid le blianta tosaigh na deichbhliana seo, is gá ualaigh fiachais agus NPLanna a laghdú tuilleadh toisc go bhfuil siad measartha ard i gcónaí ó thaobh na comparáide staire agus idirnáisiúnta.

Tá trí phríomhriosca shistéamacha ann faoi láthair don timpeallacht mhacra-airgeadais in Éirinn. Astu sin, breithnítear go bhfuil athrú grod diúltach ar dhálaí margaidh airgeadais tar éis dul i dtreis le linn mhíonna tosaigh 2018. Meastar nach bhfuil aon athrú tagtha ar an dá riosca eile - na dúshláin a bhaineann le hinbhuanaitheacht an fhiachais san earnáil phoiblí agus san earnáil phríobháideach araon agus na dúshláin struchtúracha a bhaineann le cumas idirghabhála na hearnála baincéireachta intíre. Na príomhtheagmhais ionchasacha a spreagfadh na rioscaí sin, is teagmhais iad atá seachtrach do gheilleagar na hÉireann, agus tá Brexit 'crua' chun tosaigh. D'fhéadfadh go mbeadh tionchar freisin ag forbairtí geopholaitiúla, ag athruithe ar shocruithe cánach corparáide agus trádála idirnáisiúnta agus ag míshocracht i margaí airgeadais domhanda ar leochaileachtaí intíre.

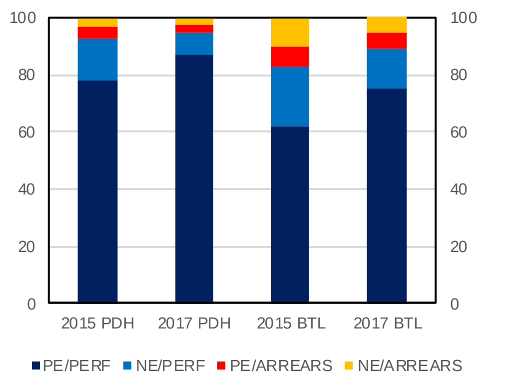
Tá an t-ionchas eacnamaíoch idirnáisiúnta fabhrach i gcónaí, agus tá feabhas timthriallach tagtha ar go leor geilleagar (Chart A1). Ba cheart go gcuideodh sé seo le cláir chomhardaithe na hearnála poiblí agus na hearnála príobháidí araon agus go dtacódh sé le normalú beartais airgeadaíochta. Is gnéithe de mhargaí airgeadais idirnáisiúnta iad fonn láidir riosca, luachanna sócmhainní atá ard ó thaobh comparáid staire de, agus giaráil ardaithe. I dtimpeallacht den sórt sin, d'fhéadfadh go mbeadh aon athrú ar sheintimint infheisteoirí ina thrúig le laghdú ar phraghsanna sócmhainní agus le míshocracht sa mhargadh. D'fhéadfadh riosca d'fheidhmíocht eacnamaíoch dhomanda agus d'fheidhmíocht an mhargaidh airgeadais a bheith ag gabháil le hathruithe ar bheartais trádála agus cánach idirnáisiúnta. Bíonn éagsúlachtaí i gceist i mbrabúsacht córas airgeadais ar fud an limistéir euro, rud a léiríonn, i measc tosca eile, éifeachtaí clár comhardaithe lag agus costas ard. Tá roinnt banc sa limistéar euro leochaileach i gcónaí do theagmhais pholaitiúla laistigh den AE go háirithe trí bhíthin a gcuid risíochtaí ceannasacha.

Cairt A4: Glanathrú ar fhiachas le sócmhainní de chuid FBM



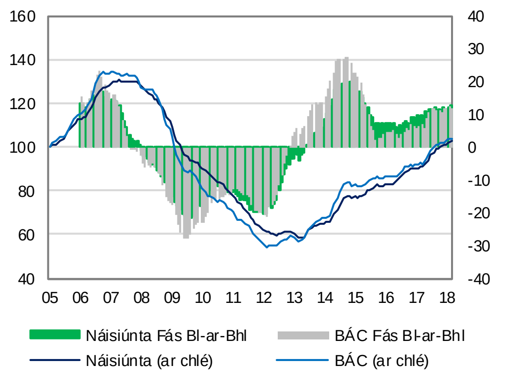
Foinse: Suirbhé ar Rochtain ar Airgeadas san Eoraip.
Nóta: Sainmhínítear an glanathrú céatadáin mar an scair de ghnólachtaí a thuairscíonn cóimheas méadaitheach fiachais le sócmhainní lúide an scair de ghnólachtaí a thuairiscíonn cóimheas laghdaitheach fiachais le sócmhainní. Grinniú deireanach: 2017L2.

Cairt A5: Cothromas agus riaráistí



Foinse: Banc Ceannais na hÉireann.
Nótaí: PE is ea cothromas dearfach. NE is ea cothromas diúltach. PERF is ea tuillmheach. Sainmhínítear iasachtaí NE mar iasachtaí ar mó ná 100 a CIL, mar a bheidh arna thuairisciú ag na bainc. Aicmítear iasacht mar iasacht atá i riaráiste i gcás ina mbeidh sé níos mó ná 90 lá thar téarma ar a cuid íocaíochtaí. Sonrai amhail Meitheamh 2015 agus Meitheamh 2017.

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



Foinse: CSO
Nótaí: Innéacs praghsanna maoine cónaithe = 100 in Aibreán 2005. Grinniú deireanach: Márta 2018.

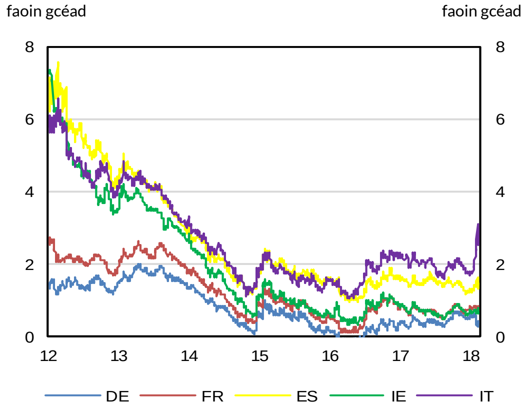
Meastar go dtiocfaidh fás 4.8 faoin gcéad agus 4.2 faoin gcéad ar gheilleagar na hÉireann i dtéarmaí OTI in 2018 agus in 2019 faoi seach. Meastar go dtiocfaidh méadú 4.7 faoin gcéad agus 4 faoin gcéad ar an mbunéileamh intíre in 2018 agus 2019 faoi seach (Cairt A2). Tá feabhas tagtha ar sheintimint gnó le ráithe beaga anuas agus tá an méadú ar thógáil agus ar fhoirgníocht ag cur le fás ar infheistíocht. Cé gurb é Brexit an bhagairt is mó atá ann do gheilleagar na hÉireann, tá imní ann freisin go mbeidh brúnna aníos ar thuarastail, easpa scileanna, agus easnaimh bonneagair, ina mbagairt don iomaíochas de réir mar a bheidh an geilleagar ag druidim i dtreo na lánfhostaíochta. D'fhéadfadh athruithe ar thimpeallacht cánach corparáide agus trádála idirnáisiúnta difear a dhéanamh d'infheistíocht dhíreach choigríche agus don fheidhmíocht eacnamaíoch i gcoitinne.

Le míonna beaga anuas, tá deireadh tagtha leis na rátaí diúltacha bliain ar bhliain atá feicthe ó 2009 i leith ar fhás creidmheasa san earnáil phríobháideach neamhairgeadais (Chart A3). Féadfaidh forbairtí i bhfás comhiomlán creidmheasa éagsúlachtaí i rátaí fáis iasachtú morgáiste PDH, i gcreidmheas do thomhaltóirí, agus in iasachtú FBM a cheilt. Is ionann agus 0 faoin gcéad ráta an chúlchiste fhritimthriallaigh (CCyB), arna shocrú ag an mBanc Ceannais, ar risíochtaí na mbanc. Cuirfear san áireamh in aon athrú ar an ráta sin, stóinseacht na hearnála baincéireachta i leith riosca sistéamach timthriallach. Déantar athbhreithniú ar ráta CCyB ar neamhchosaintí Éireannacha na mbanc ar bhonn ráithiúil, agus thiocfadh aon mhéaduithe ar an ráta maolánach in éifeacht dhá mhí dhéag ina dhiaidh sin.

Tá staid airgeadais CNAanna ag dul i bhfeabhas de réir mar a théann cóimheas ábhartha fiachais i laghad. Tá NPLanna corparáideacha neamh-CRE faoi bhun 10 faoin gcéad de na hiasachtaí iomlána atá fós amuigh ach tá inathraitheacht leathan ann i gcónaí i rátaí NPL ar fud na bhfo-earnálacha. Tá cóimheas NPL an eastáit réadaigh gar do 20 faoin gcéad. Tá fóntacht airgeadais FBManna ag dul i bhfeabhas sa mhéid go bhfuil laghduithe le feiceáil ar chóimheasa fiachais le sócmhainní (Cairt 4) agus ar chóimheasa fiachais le láimhdeachas, ach tá rátaí mainneachtana iasachtaí níos airde i gceist maidir le FBManna, eadhon 19 faoin gcéad, ná mar atá maidir le hearnáil CNA ina hiomláine. Tá méadú leathan ag teacht ar iasachtú nua le FBManna.

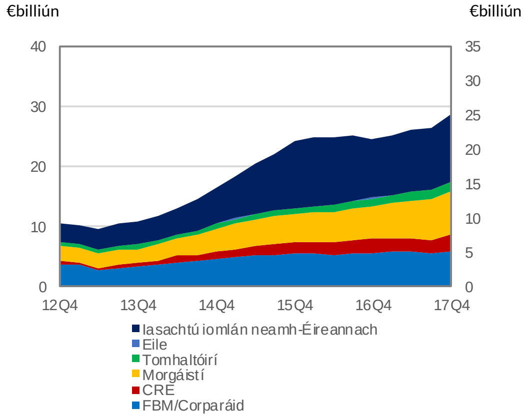
In earnáil na dteaghlach, tá an fás ar an nglaniasachtú i leith mhorgáistí PDH dearfach ó R3 2016 i leith, agus is ionann iasachtaí chun carranna a cheannach agus cion méadaitheach de chreidmheas do thomhaltóirí ó bhainc. Cé go bhfuil laghdú ag teacht ar an gcóimheas idir fiachas teaghlaigh agus ioncam indiúscartha, tá sé ard i gcónaí, agus tá sé ard ar bhonn na comparáide idirnáisiúnta freisin. Tá dáileadh an fhiachais ar fud na hearnála míchothrom agus is iad teaghlaigh a bhfuil morgáistí acu agus atá idir 30 agus 45 bliain d'aois an dream a bhfuil na cóimheasa is airde fiachais acu. Tá tuairim is 80 faoin gcéad den

Cairt A7: Torthaí ar bhannaí ceannasacha do Bhallstáit ar leith sa Limistéar euro



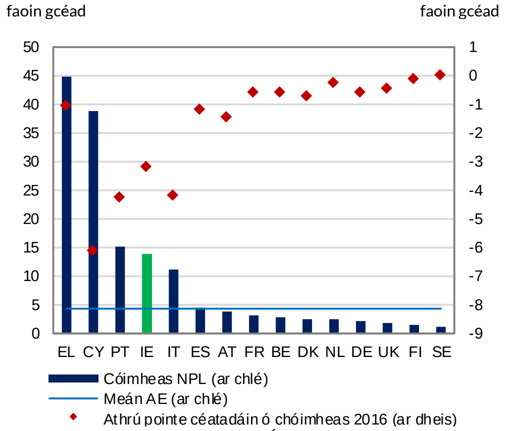
Foinse: Sruth Sonraí Thompson Reuters.
Nótaí: Léiríonn an chairt torthaí ar bhannaí ceannasacha, aibíocht 10 mbliana. Grinniú deireanach: 7 Meiteamh 2018.

Cairt A8: Iasachtú nua ag na bainc mhiondíola Éireannacha: ar bhonn ráithiúil de réir earnála (iomlán R4 leanúnach)



Foinse: Banc Ceannais na hÉireann.
Nótaí: Déantar na sonraí a chomhdhlúthú agus a bhailiú i gcomhréir le Ceanglais tuairiscithe QSFR Bhanc Ceannais na hÉireann. Grinniú deireanach: 2017R4.

Cairt A9: Cóimheasa NPL trastíortha



Foinse: CSO agus Banc Ceannais na hÉireann.
Nótaí: Déantar na sonraí do na cúig bhanc mhiondíola in Éirinn a chomhdhlúthú agus a bhailiú i gcomhréir le ceanglais tuairiscithe FINREP ÚBE. Is ionann cóimheas NPL agus cóimheas NPL le holliasachtaí iomlana de réir luacha. Grinniú deireanach: 2017R4.

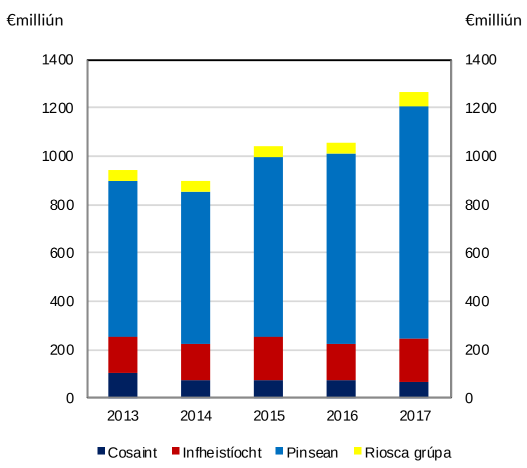
stoc morgáiste fós amuigh ar ráta athraitheach agus tá sé leochaileach dá bhrí sin d'éifeachtaí rátaí úis níos airde. Tá líon na gcuntas morgáiste i riaráiste ag dul i laghad i gcónaí sa mhéid gurb ionann é ag deireadh na bliana 2017 agus tuairim is leath de leibhéil 2013. Tá laghdú ag teacht ar chion na n-iasachtaí atá i riaráiste agus i gcothromas diúltach araon (Cairt A5). Ar a shon sin, tá breis agus 42,000 cuntas morgáiste 720 lá thar téarma, agus is cuntais PDH iad 28,946 díobh sin. Is ionann an méid deireanach sin agus 60 faoin gcéad de chuntais PDH atá i riaráiste agus atá os cionn 90 lá thar téarma.

Tá maolú tagtha ar na torthaí ar mhaoin tráchtála in Éirinn ó na leibhéil arda a chonacthas le blianta beaga anuas. Ó thaobh feidhmíochta de, tá réadmhaoin sna hearnálacha miondíola agus oifige á sárú ag réadmhaoin tionscail. Tá an infheistíocht i CRE láidir i gcónaí, agus tá cion mór den chaiteachas sin in earnáil oifige Bhaile Átha Cliath. Tá ráta íseal folúntas ann sa mhargadh áirithe sin, rud a léiríonn fás ar ghnó agus leathnú ar an ngeilleagar intíre agus tá féidearthacht ann go gcuirfear leis an éileamh sin mar thoradh ar athlonnú cuideachtaí de bhun Brexit. Tá cistí idirnáisiúnta móra agus REITanna gníomhach i margadh CRE na hÉireann. Ó 2012 i leith, tá laghdú tagtha ar an stoc gan íoc d'iasachtú ag na bainc mhiondíola Éireannacha le haghaidh maoin tráchtála, fad atá meadú tagtha ar iasachtú nua CRE. Ó tharla go bhfuil os cionn aon chúigiú de luach iomlán iasachtaí CRE neamhthuillmheach, tá leabhair iasachta na mbanc miondíola Éireannach leochaileach d'aon mheathlú ar an margadh maoine tráchtála.

Tháinig méadú 12.7 faoin gcéad ar phraghsanna maoine cónaithe sa dá mhí dhéag dar chríoch deireadh mhí an Mhárta 2018 (Cairt A6), fad atá cíosanna príobháideacha 23 faoin gcéad níos airde ná leibhéil 2008. Tá ganntanas aonad cónaithe i mórlimistéir uirbeacha ag cur leis na forbairtí sin. Tá stoc na maoine cónaithe atá ar díol nó ar fáil ar cíos íseal. Cé go bhfuil méadú ag teacht ar an ngníomhaíocht foirgníochta, is dócha go bhfanfaidh an stoc d'aonaid chónaithe nua faoi bhun an éilimh do thithíocht. Tháinig méadú 8 faoin gcéad nach mór ar líon na n-idirbheart maoine cónaithe in 2017 agus bhí an cion méadaitheach de cheannacháin inchurtha d'idirbhearta morgáiste-bhunaithe. Thug an Banc Ceannais ceanglais macrastuamachta um iasachtú morgáiste isteach i mí Feabhra 2015. Bíonn siad seo faoi réir athbhreithniú bliantúil. Fógraíodh an toradh ar an dara athbhreithniú bliantúil ar na ceanglais sin i mí na Samhna 2017 - fágadh paraiméadair lárnacha na mbeart - teorainneacha CIL agus CII - gan athrú.

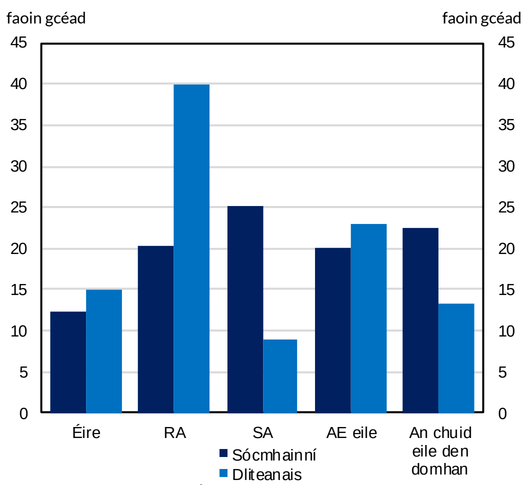
Cé go bhfuil torthaí ar bhannaí ceannasacha agus táscairí maidir le strus ceannasach sách íseal i bhformhór na mBallstát sa limistéar euro, tá ardú géar feicthe le déanaí ar thorthaí bhannaí ceannasacha na hIodáile, i bhfianaise teannas polaitiúil intíre (Cairt A7). Mhéadaigh torthaí bhannaí ceannasacha na Spáinne agus na Portaingéile chomh maith ach go feadh méid níos lú. I bhfianaise go bhfuil na cóimheasa fiachais i roinnt Ballstát ard i gcónaí, d'fhéadfadh go mbeadh tionchar díobhálach ar dhálaí

Cairt A10: 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 árachóir intíre saoil is mó.

Cairt A11: Clár comhardaithe de réir suímh



Foinse: Banc Ceannais na hÉireann.
Nótaí: Sonraí amhail R4 2017. Tá na figiúirí bunaithe ar shócmhainní comhiomlána agus ar dhliteanais chomhiomlána do IFanna, MMFanna, CMAanna, agus SPEanna neamh-urrúsaithe.

margaidh ag aon athruithe ar rátálacha creidmheasa nó ag aisiompú an chuardaigh ar thorthaí i margaí airgeadais. Tá fiachas indíolta Éireannach, arb ionann é agus €40 billiún, ceaptha teacht in aibíocht roimh dheireadh na bliana 2020. Cé go bhfuil staid airgid an Státchiste láidir i gcónaí agus go bhfuil os cionn €11 billiún bailithe ag an GBCN i mbannaí tagarmharcála go dtí seo i mbliana, d'fhéadfadh go mbeadh éifeacht neamhfhabhrach ag meathlú ar dhálaí an mhargaidh nó ag turraing shubstaintiúil eacnamaíoch ar mhaoiniú fiachais. Sa chomhthéacs seo, ní mór beartas fioscach stuama a bheith ann chun a áirithiú go leanfaidh an t-airgeadas poiblí ar chonair inbhuanaithe.

Cé gur tháinig laghdú de bhreis ar 16 faoin gcéad in 2017 ar bhrabúis na mbanc miondíola Éireannach roimh cháin, laghdaigh a mbunbhrabúsacht faoi 6.7 faoin gcéad (nuair a chuirtear éifeachtaí tosca aonuaire as an áireamh). Ní léir cén tionchar a bheidh ag méadú rátaí úis ar bhrabúsacht na mbanc ó tharla go ndéanfadh sé difear dá n-ioncam agus dá gcaiteachais araon. Bíonn ioncam na mbanc miondíola Éireannach ag brath go mór ar mhargadh creidmheasa na hÉireann agus ar iasachtú morgáiste, go háirithe. Eascraíonn rioscaí do bhainc Éireannacha a bhfuil oibríochtaí acu sa RA, nó a bhfuil contrapháirtithe acu atá neamhchosanta ar an RA, as an éiginnteacht a bhaineann leis an toradh a bheidh ar chaibidlíocht Brexit. Ag brath ar an toradh ar phléití Brexit agus ar an gcaidreamh a bheidh ann amach anseo idir an AE agus RA, d'fhéadfadh éifeachtaí eacnamaíocha Brexit cur le méadú ar mhainneachtain iasachtaí agus le laghdú ar líon iasachtaí nua.

Cé go leanann iasachtú nua de bheith ag méadú (Cairt A8), tháinig laghdú 3 faoin gcéad ar shócmhainní iomlána na mbanc miondíola Éireannach sa bhliain 2017. Lean luach na n-iasachtaí neamhthuillmheacha amuigh de bheith ag laghdú anuraidh agus chonacthas laghduithe sna móraicmí iasachtaí go léir. Tá iasachtaí neamhthuillmheacha ard i gcónaí, áfach, lena n-áirítear ar bhonn na comparáide idirnáisiúnta (Cairt A9). Is dúshlán i gcónaí é do na bainc mhiondíola Éireannacha straitéisí iomchuí a chur chun feidhme chun dul i ngleic le stoc na n-iasachtaí neamhthuillmheacha atá ar a gcláir chomhardaithe. Níl mórán athrú ar a staid chomhiomlán chaipitil ó thráth an Athbhreithnithe dheireanaigh agus is cosúil go mbainfidh siad a gcuid spriocanna CET 1 faoin CRD IV amach faoi 2019.

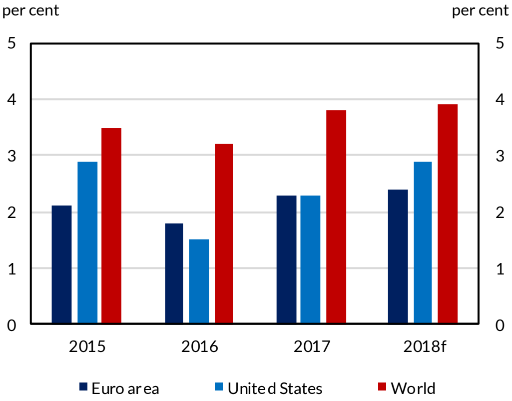
Tháinig méadú 20.2 faoin gcéad in 2017 ar ioncam préimhe na n-árachóirí saoil intíre de réir mar a bhí gnólachtaí ag tairbhiú de dhálaí feabhsaithe eacnamaíocha (Cairt A10). Ní fios cén tionchar a bheidh ag Brexit ar an earnáil árachais saoil: d'fhéadfadh go mbeadh tionchar ag forbairtí eacnamaíocha ar an éileamh ar a cuid táirgí, fad a d'fhéadfaí difear a dhéanamh do struchtúr an mhargaidh freisin. Tá árachóirí intíre saoil dea-chaipitlithe ar bhonn Shócmhainneacht II. Sa bhliain 2017, chuir feidhmíocht frithgheallta go dearfach le brabúsacht na hearnála intíre árachais neamhshaoil. Ar a shon sin, tháinig laghdú ar chomhscair na ngnólachtaí intíre den mhargadh agus d'fheadfaí go spreagfaí gnólachtaí chun riosca a phraghsáil go ró-íseal mar gheall ar bhrúnna iomaíochta. Tá fianaise éigin ann go bhfuil infheistiú á dhéanamh ag gnólachtaí árachais neamhshaoil i sócmhainní a bhfuil rátáil níos ísle ag gabháil leo d'fhonn ioncam infheistíochta a mhéadú. Féadfaidh go n-athróidh roinnt gnólachtaí a gcuid samhlacha gnó de thoradh Brexit chun go bhféadfaidh siad leanúint de bheith ag feidhmiú i margadh na RA.

B'ionann agus €3.5 trilliún nach mór sócmhainní iomlána earnáil na gcistí agus na n-aonán in Éirinn ag deireadh na bliana 2017. Léirítear idirnaisc dhomhanda na hearnála sa mhéid go bhfuil an cion is mó de shócmhainní na hearnála lonnaithe sna SA fad atá an cion is mó de na dliteanais sa RA (Cairt A11). D'fhéadfadh earnáil na gcistí agus na n-aonán in Éirinn riosca a tharchur chuig geilleagar na hÉireann ó mhargaí airgeadais domhanda. Ó tharla go bhfuil luachálacha sócmhainní ard faoi láthair, tá an fhéidearthacht ann go ndéanfar athluacháil anuas. Is foinse éiginnteachta í an fhéidearthacht go mbeidh Brexit crua ann agus d'fhéadfadh go spreagfadh sé sin rioscaí ar an taobh thíos, fad nach léir go fóill cén tionchar a bheidh ar an earnáil ag na hathruithe a rinneadh le déanaí ar bheartas cánach corparáide na SA.

2. International economic and financial developments

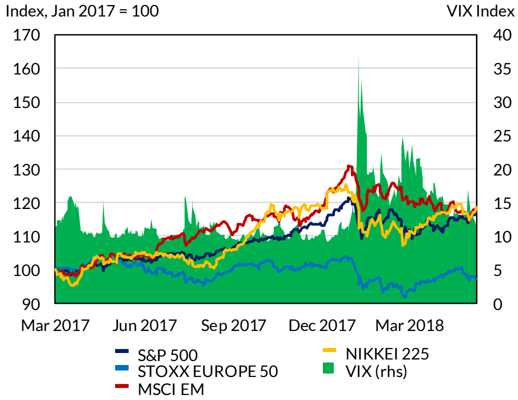
While the international economic outlook remains positive, political developments or disruptions to trade, currency, and regulatory policies, including from Brexit, could present risks to regional and global growth. Many asset valuations appear high and could be vulnerable to changes in market sentiment or in monetary policy. Leverage in the global financial system is elevated relative to historical norms. Strong property price growth is occurring in many advanced economies with high levels of non-financial sector debt. Recent changes to US tax policy and changes in US corporate saving could lead to a reduction in US firms' holdings of cash and other safe assets. Although pockets of vulnerability remain, international banks are currently perceived to be a declining source of financial stability risks.

Chart 1: GDP growth rates



Source: IMF World Economic Outlook, April 2018.

Chart 2: Selected stock market indices and VIX



Source: Datastream.
Note: Last observation: 07 June 2018.

The international economic outlook remains positive, with many advanced economies experiencing a cyclical upswing. The latest IMF WEO estimates global GDP growth of 3.8 per cent in 2017, the highest rate since 2011 (Chart 1). This central projection of an improved economic outlook, if realised, should act to strengthen public and private sector balance sheets. At the same time, it will also support monetary policy normalisation, which has been well signalled and communicated by central banks and which should already be reflected in market valuations. However, significant market corrections might occur if large growth and inflation surprises necessitate changes in the pace of the tightening cycle of monetary policy.

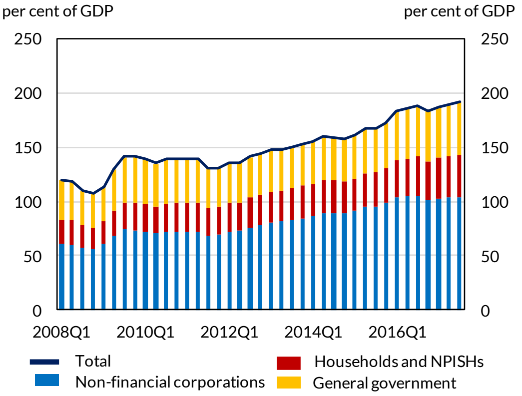
Many asset valuations are high compared to historical norms while risk appetite has remained generally strong. Although yields on government bonds and safe assets have risen in recent months, they are still close to the historically low levels observed during much of the post-crisis period.[1] For much of the past ten years, the major sources of demand for safe assets were advanced economy central bank asset purchases, EME reserves accumulation, and US MNE corporate saving. The strong global demand arising from each of these has resulted in low yields on safe assets, allowing governments in advanced economies to borrow at favourable rates. In addition to the potential unwinding of central bank asset purchase programmes, the latter two sources of demand may also diminish in the coming years for reasons explained below. The decline in yields on safe assets has led to low funding costs for other sectors, including households and firms, in many economies, such that an upward repricing of safe assets could cause adverse spillovers to other asset classes.[2]

Prevailing market sentiment means that equities and other asset classes, including fixed-income assets, are vulnerable to changes in risk appetite. Advanced economy equity markets experienced

[1] Among the numerous definitions of safe assets is the following concise explanation: "In practice, safe assets are those with a very high likelihood of repayment, and are easy to value and trade." Source: Eisenbach, T. and Infante, S. (2018), "What Makes a Safe Asset Safe?" Federal Reserve Bank of New York Liberty Street Economics (blog), November 27, 2017.

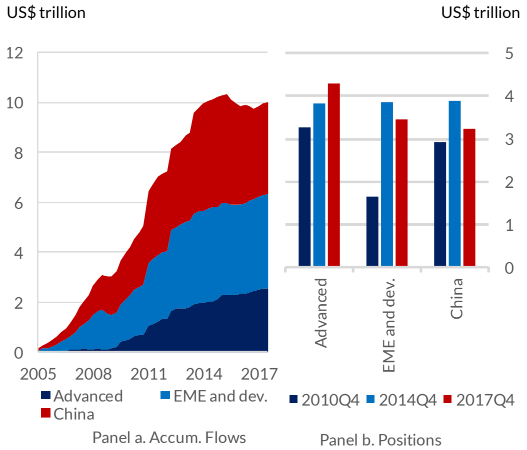
[2] There are a number of channels through which changes in the yields on safe assets could affect yields on riskier assets, some of which have motivated advanced economy central bank asset purchase programmes. "Our asset purchases will also affect the prices of riskier securities. In particular, the compression of interest rates creates incentives for investors to re-balance their portfolios away from riskless securities" (Coeure, B. (2015) "Embarking on public sector asset purchases." Speech at the Second International Conference on Sovereign Bond Markets, Frankfurt, 10 March 2015).

Chart 3: EME credit to the non-financial sector



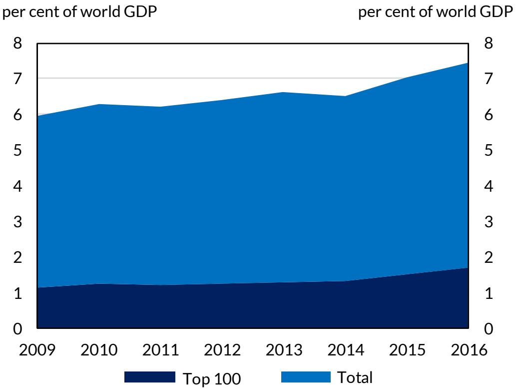
Source: BIS.
Note: NPISHs denotes non-profit institutions serving households.

Chart 4: Accumulated reserve assets flows and positions



Source: IMF, Central Bank of Ireland calculations.
Note: Country classification according to IMF. Last observation 2017Q4.

Chart 5: NFC cash holdings



Source: Avdjiev, S., Everett, M., Lane, P.R., and Shin, H.S. (2018) Tracking the international footprints of global firms, BIS quarterly Review, March 2018.
Note: Cash and cash equivalents, defined as readily convertible deposits, securities and other instruments having maturities of less than three months at the time of purchase. Top 100 refers to firms by size.

rising prices during much of 2017, benefitting from accelerating global output growth, below-trend inflation, and low levels of volatility. In early February 2018, however, better-than-expected US employment news led financial markets to adjust expectations around inflation risk and the potential for a tightening in US monetary policy. This served as a catalyst for a pronounced sell-off in global equities and a sharp rise in market volatility (represented by the VIX Index in Chart 2) as investors priced in the effect of higher interest rates on profitability.[3] While the sharp spike in volatility was largely confined to equities and did not spread to other asset classes such as US Treasuries or currencies, the February 2018 episode may be illustrative of the type of corrections that could occur if adverse shocks materialise while asset valuations remain high.

Leverage in the global financial system is elevated relative to historical norms. Many advanced economies with existing high levels of non-financial sector debt are now witnessing a rapid growth in property prices. The extent of US corporate leverage is another source of concern. NFCs in China and other EMEs have also accumulated substantial liabilities in recent years (Chart 3).[4] Such liabilities have been shown to be sensitive to US interest rates in the past and may be vulnerable to an abrupt general repricing of risk premia, with potentially adverse repercussions for the financial system.[5] According to some market observers, corporate leverage in MSCI-listed firms in EMEs has been falling quite sharply since 2014, but has continued to increase at the level of the aggregate economy.[6] This suggests that recent increases in EME NFC debt have been concentrated in smaller non-listed firms, or state-owned enterprises. Moreover, some recent measures tightening macroprudential policies in EMEs have resulted in banks shifting lending from NFCs to households and could potentially result in banks shifting activities off-balance sheet or to non-bank financial institutions.[7]

Any disruptions to trade, currency, and regulatory policies, including from Brexit, would present risks to regional and global growth. Such events could adversely affect economic output through their effect on confidence, disruptions to global value chains, and firm profitability and valuations. For instance, severe tariffs or a persistent shift in the dollar exchange rate could be disruptive and would likely also be an influential factor in determining the location decisions of US multinational firms. In addition, escalating trade and currency disputes could prompt an unwinding of the EME reserve holdings of safe assets accumulated over the past decade (Chart 4).

Recent changes to US tax policy and changes in US corporate saving could lead to a reduction in US firms' holdings of cash and other safe assets. NFCs' cash holdings (including short-term debt

[3] The resultant downturn was exacerbated by technical factors, specifically by the effects of leveraged exchange traded products (ETPs) covering short VIX positions. BIS (2018) Quarterly Review, March 2018.
[4] IMF (2017) Global Financial Stability Report, April 2017, Chapter 1.
[5] Alter, A. and Elekdag, S. (2016) Emerging Market Corporate Leverage and Global Financial Conditions, IMF Working Paper, December 2016.
[6] UBS (2018) 2018 Markets Outlook: Is there room to grow and normalize?, 09 November 2017.
[7] IMF (2018) Global Financial Stability Report, April (2018). *Mimeo*. See also Alfaro, L, G Asis, A Chari, and U Panizza (2017), Lessons Unlearned? Corporate Debt in Emerging Markets, CEPR Discussion Paper No. DP12038.

securities) have increased to over 7 per cent of world GDP in recent years (Chart 5).This represents only a fraction of total corporate savings as MNEs have also invested in safe assets with longer-maturities. Much of this saving may have resulted from MNEs' desire to hold profits offshore in response to US tax policies. Market research indicates that U.S. corporations had over $2 trillion in offshore earnings in 2017Q1.[8] US tax reforms may reduce the incentive for MNEs to retain profits offshore, and they may now choose to distribute profits to shareholders. Such changes in the treasury operations could contribute to a deterioration in global liquidity conditions.[9]

Pockets of vulnerability remain in the banking system, particularly in the euro area where banks remain critically important financial intermediaries. International banks have been perceived to be a declining source of financial stability risks. Among other factors, this is due to enhanced supervision and regulation, and the improving macroeconomic environment. Yet legacy issues such as weak balance sheets, still-high levels of NPLs, and high costs continue to undermine the profitability of some euro area banks. This leaves those banks vulnerable to changes in market sentiment and adverse economic policy developments. While institutional efforts continue toward the completion of banking union and capital markets union, some euro area banks remain vulnerable to political events within the EU, particularly through their sovereign exposures. More generally, technological advances will necessitate major investment by banks in IT systems, in order to remain competitive. Although increased regulatory stringency may have contributed to reducing risks in the banking sector in advanced economies, there are concerns that this could result in regulatory arbitrage. As a consequence, risks may migrate to other sectors, such as the non-bank financial sector.[10]

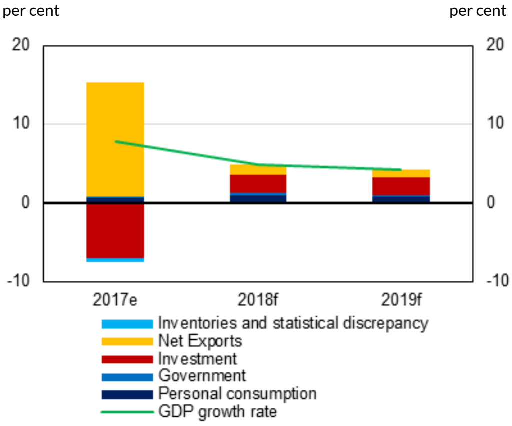
[8] Pozsar, Z. (2018) Repatriation, the Echo-Taper and the €/$ Basis, Credit Suisse Global Money Notes No. 11.
[9] Avdjiev, S., Everett, M., Lane, P.R., and Shin, H.S. (2018), Tracking the international footprints of global firms, BIS Quarterly Review, Special Feature, March 2018.
[10] The share of non-bank financing is increasing, For more on the declining share of bank financing in the euro area, see the comments of Vitor Constancio at the ECB Press Conference, 26 April 2018.

3. Macroeconomic environment

3.1 Macroeconomic overview

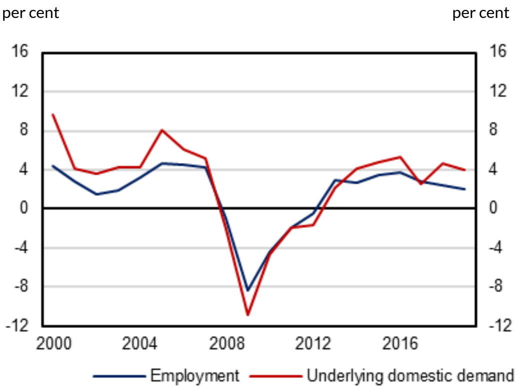
The domestic economy continues to grow at a substantial pace, driven by domestic demand and strong growth in employment. The risks to the outlook primarily relate to external developments, with Ireland particularly exposed to Brexit, the potential for protectionism, and a general decline in global trade flows. On the domestic side, stronger than expected domestic demand could absorb spare capacity in the economy more quickly than envisaged in the Central Bank's forecasts. Credit growth to the non-financial private sector has turned positive in recent months.

Chart 6: Contributions to GDP growth



Source: CSO and Central Bank calculations.

Chart 7: Employment and domestic demand growth



Source: Central Bank of Ireland.
Notes: Underlying domestic demand includes consumption, government spending and investment (minus transport and intangibles-related investment expenditures). Forecasts for 2018 and 2019 are from the Central Bank of Ireland Quarterly Bulletin, QB2 April 2018.

Domestic Environment

GDP is projected to grow by 4.8 per cent in 2018 and by 4.2 per cent in 2019 (Chart 6). The activities of MNEs, however, create difficulties in interpreting aggregate measures of growth. Underlying domestic demand, which is not affected by such issues, is projected to grow by 4.7 per cent and 4 per cent in 2018 and 2019, respectively (Chart 7). The primary driver of growth over the forecast horizon is likely to be the domestic economy, as employment and income growth support consumption and investment. The unemployment rate is projected to fall below 5 per cent in 2019, with close to 99,000 additional jobs expected to be created this year and next.

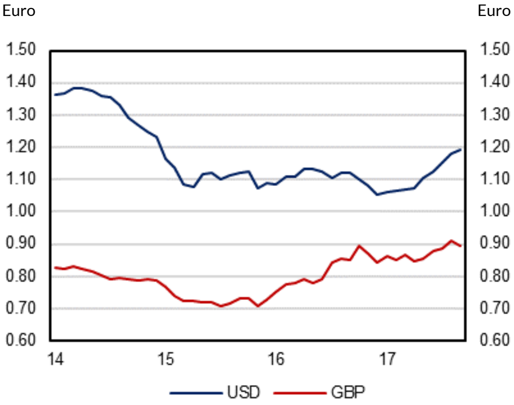
Annual employment growth is expected to average 2.2 per cent in 2018 and 2019, moderating from growth rates of close to 3 per cent in recent years. On the basis of trading partner demand for Irish goods and services, net exports are expected to make a positive contribution to growth this year and next.[11]

Against this background, there is a risk that stronger than expected domestic demand could absorb spare capacity in the economy more quickly than expected. As the economy approaches full employment, wage pressures have begun to emerge in certain sectors where skill shortages arise. Higher labour costs could have negative consequences for Ireland's competitive position. In the context of infrastructure shortages, particularly in the housing sector, there is the potential for any expansionary fiscal policy response to pose a risk to growth over the medium term through adding to any overheating pressures in the economy.

The key risk facing the domestic economy relates to the consequences of the decision of the UK to leave the EU. The Central Bank's forecasts for 2018 and 2019 reflect the assumption that the transition agreement that is expected to be

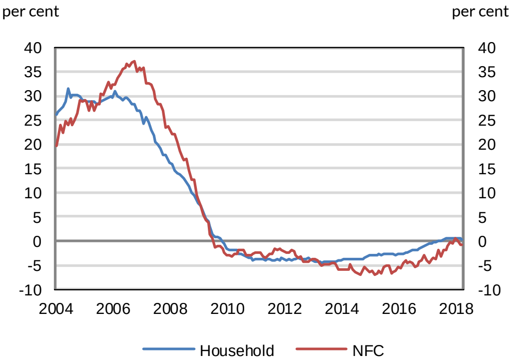
[11] A more detailed assessment of the Irish economy is provided in Central Bank of Ireland Quarterly Bulletin QB2 April 2018.

Chart 8: Exchange rates



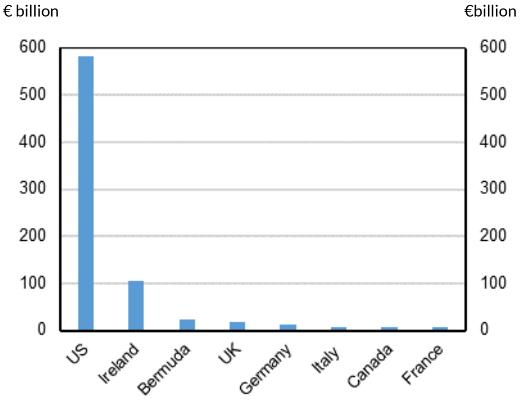
Source: Central Bank of Ireland.
Note: Last observation: April 2018

Chart 9: Credit growth to household and NFC sectors



Source: Central Bank of Ireland
Notes: Year-on-year growth in (nominal) credit. Last observation: April 2018.

Chart 10: FDI positions in Ireland by location of ultimate investor



Source: CSO.
Note: Data are as at end December 2015.

put in place from March 2019 maintains Ireland's current trading arrangements with the UK. While it is difficult at this time to assess the probability that the post-March 2019 arrangement would deviate from current arrangements towards a hard Brexit, the impact of such an outcome would be negative and significant. Even in the case of a soft Brexit, it may be the case that there are significant non-tariff barriers to trade between the two countries. A recent Central Bank research paper showed that an increase in border waiting times and documentary compliance would result in a 9.6 per cent decline in Irish trade with the UK.[12]

A related risk is that uncertainty in the period leading up to March 2019 and during the two-year transition period may have larger effects on output than expected. Domestically, businesses and households may postpone investment decisions until the future trading relationship with the UK becomes clear. Likewise, the effects of Brexit on the UK economy may be more adverse than is currently envisaged, which would likely result in a reduction in Irish exports. The impact of Brexit over time is also dependent on the extent to which Irish exporting firms begin to diversify away from the UK in the expectation of less favourable trading conditions in the future.

Brexit may also be felt through the exchange rate channel prior to the UK's departure from the EU (Chart 8). All else being equal, a stronger (weaker) euro against sterling would result in weaker (stronger) demand by UK consumers for Irish exports. Such exchange rate movements would also have knock-on implications for the outlook on consumer price developments in Ireland, in particular for goods prices.

Credit developments

Recent months have seen almost a decade of consistently negative credit growth come to an end (Chart 9). Nonetheless, positive rates of credit growth have yet to materialise in a meaningful way with rates of change close to zero per cent. Similar rates of change are now being seen in both the household and NFC sectors. (See Sections 3.2 and 3.3 for a more detailed discussion of sectoral credit developments.)

While the countercyclical capital buffer (CCyB) rate on Irish exposures, set by the Central Bank, remains at 0 per cent, consideration of the timing of any increase is becoming increasingly relevant. The CCyB provides macroprudential authorities with a means of promoting resilience in the banking sector. This is especially relevant in Ireland at the current juncture, where promoting resilience at an early stage of the financial cycle would seem prudent given existing vulnerabilities. The Central Bank reviews the CCyB rate on banks' Irish exposures on a quarterly basis and any announced increases in the buffer rate come into effect 12 months thereafter.[13]

[12] Byrne, S. and Rice, J. "Non-Tariff Barriers and Goods Trade: a Brexit Impact Analysis." Central Bank of Ireland Research Technical Paper 07/2018.
[13] If justified by exceptional circumstances, a lead-in period of less than 12-months can be applied. In situations where a reduction in the CCyB rate is announced, the lower rate comes into effect immediately.

External Environment

Euro area GDP grew by 2.7 per cent year-on-year in the fourth quarter of 2017. The ECB has forecast GDP growth of 2.4 per cent for the euro area in 2018, declining to 1.9 per cent in 2019. However, risks to the external environment are tilted to the downside.

In recent decades, Ireland has been in receipt of large flows of foreign direct investment, with much of it coming from US investors (Chart 10). A significant portion of Ireland's GDP is now accounted for by a small number of large firms, many of whom are US MNEs. Recent changes to US trade policy, including new tariffs on steel imports, have introduced uncertainty as to whether a favourable trading environment will continue over the forecast horizon. As a small open economy with a high degree of integration in global value chains, any decrease in global trade flows as a consequence of increases in barriers to trade would have a negative effect on Irish GDP, with knock-on implications for the labour market and for prices.

A further risk to the outlook relates to the effects of changes to the international corporate taxation environment. The location decisions of MNEs are driven by a multitude of factors, including Ireland's skilled and English-speaking workforce. However, given that foreign-owned MNEs account for a substantial share of Irish output and employment, any adverse development that affects Ireland's position in terms of taxation relative to other European countries poses a negative and significant risk to the outlook.

In recent months, the US cut its corporate tax rate from its current 35 per cent rate to 21 per cent. While this is a significant change, it is not currently envisaged to result in a substantial outflow of FDI from Irish branches of US MNEs back to the US. Much of this investment is export platform FDI, where Ireland is used as a base for those firms' EU operations. Ireland is then competing with other European economies, rather than with the US, for this expenditure. The most pertinent risk in this regard would be the introduction of a digital tax at EU level which could affect the volume of corporation tax receipts from Ireland's large IT sector. However, the parameters of such a tax have not yet been agreed. (Box 2 considers Ireland's external portfolio investment liabilities.)

Box 2: External portfolio investment liabilities of Ireland

By Vahagn Galstyan (International Relations)

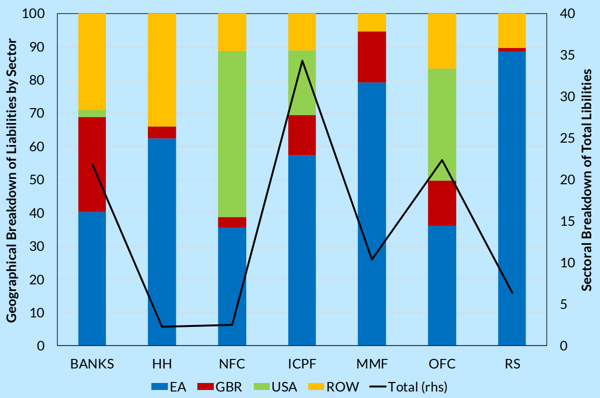
For a small open economy, the extent of international financial integration and the geographical distribution of cross-border positions bear non-negligible implications for international risk sharing and spillovers. Furthermore, the transmission of international financial shocks may be determined by the identities of holders and issuers of international securities. In this regard, the Coordinated Portfolio Investment Survey (CPIS) data has published the aggregate bilateral bond and equity holdings for reporting countries.[1] Starting in 2013, an expanded version of the CPIS reports the sectoral identities of the holders of portfolio securities. Drawing on these data, this Box describes the cross-border distribution of Irish international portfolio liabilities vis-à-vis its major partners at end-2016.

At the aggregate level, equity portfolio liabilities at €1,206bn were nearly three times as large as debt liabilities. Of €435bn of Irish portfolio debt liabilities, Chart A shows that the largest share (34 per cent) is held by insurance corporations and pension funds (ICPF), followed by other financial corporations (OFC) and banks at 22 per cent each, money market funds (MMF) at 10 per cent, and households (HH) and nonfinancial corporations (NFC) at about 3 per cent each.[2] The geographical breakdown of sectoral holdings (also shown in Chart A) is also unevenly spread among counterparties. ICPF holdings are heavily concentrated in the euro area (57 per cent) followed by the US (about 20 per cent). While the geographical breakdown of OFCs' holdings is more evenly split between the euro area and the US (approximately 35 per cent each), UK banks are more exposed to Irish bonds (40 per cent) than US banks (2 per cent). Finally, for MMFs, it is mostly those located in the euro area that hold Irish debt (80 per cent).

Chart B provides a similar breakdown to Chart A for Irish external portfolio equity liabilities. The main holders of portfolio equity are OFCs (38 per cent) and ICPFs (30 per cent). At 11 per cent, MMFs lag ICPF, followed by NFCs and HHs at approximately 8 per cent each. By way of geographical breakdown, most OFC holdings are dominated by US resident (54 per cent) and euro area resident (28 per cent) entities. In contrast, ICPF holdings are concentrated in entities resident in the euro area (38 per cent), UK (24 per cent) and the rest of world (25 per cent), while euro area and UK MMFs hold 47 per cent and 37 per cent shares, respectively. In relation to NFCs, US residents hold 71 per cent of Irish portfolio equity securities, with the remaining split between the euro area (20 per cent) and the rest of world (10 per cent). Finally, the holdings of the HH sector are dominated by euro area households.

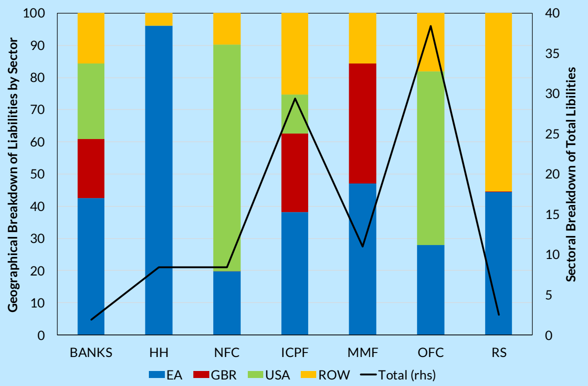
In addition to their relative and absolute sizes, the sectoral composition of external liabilities bears important implications for financial stability, since the transmission of international financial shocks may depend on the identities of holders of international securities. For instance, international portfolio positions of institutional investors could be less sticky than those of foreign households since the strategies governing portfolio allocation of the latter group may be influenced by factors other than the trade-off between expected returns and risk.[3] Similarly, portfolios of euro area investors might be stickier than those of other investors, in turn suggesting a lower probability of flight in a stressed environment.[4] Looking ahead, while informative, these data do not distinguish between external bond and equity financing of the Irish economy and the role of Ireland as an international financial hub.[5] Accordingly, a shift away from residency-based statistics is required for a better understanding of the distribution of financial risk.

Chart A: Breakdown of portfolio debt liabilities



Source: Author's estimations based on CPIS data.
Notes: The values refer to end-2016.

Chart B: Breakdown of portfolio equity liabilities



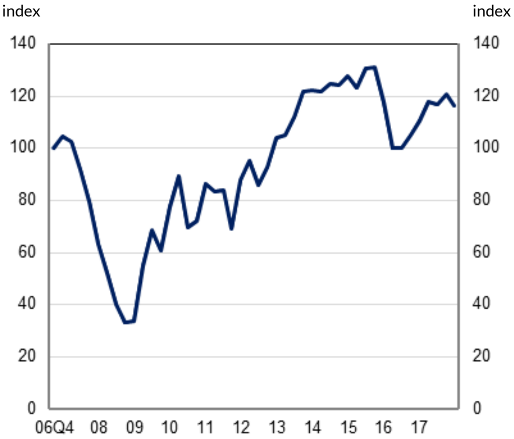
Source: Author's estimations based on CPIS data.
Notes: The values refer to end-2016.

[1] For a discussion of the limitations of these data, see Lane and Milesi-Ferretti (2008), "International Investment Patterns," Review of Economics and Statistics 90, 538-549.
[2] Here OFCs refer to the Other Financial Corporations mainly composed of mutual funds. The remaining sectors (RS) are composed of central banks, governments and non-profit institutions serving households.
[3] Galstyan, Lane, Mehigan and Mercado (2017) "The Holders and Issuers of International Portfolio Securities," Journal of the Japanese and International Economies 42, 100-108 and Galstyan and Velic (2018) "International Investment Patterns: The Case of German Sectors," Open Economies Review, forthcoming discuss various reasons for differential patterns in cross-border portfolio allocations across holding sectors.
[4] See Galstyan and Lane (2013) "Bilateral Portfolio Dynamics During the Global Financial Crisis," European Economic Review 57, 63-74.
[5] Note, for instance, that foreign holdings of Irish long-term sovereign debt at the end of 2016 were equal to €67bn compared to €435bn of Irish external portfolio debt liabilities.

3.2 Non-financial corporate sector

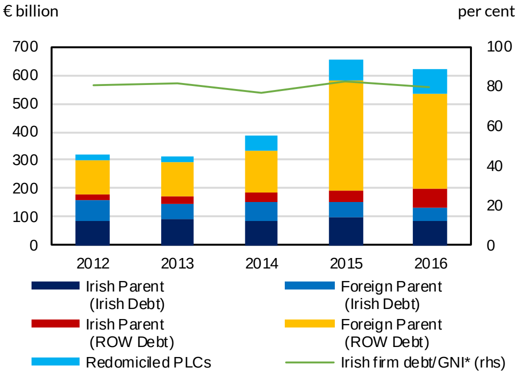
In the NFC sector, companies' financial position is improving and the credit environment is strengthening. Risks remain, in particular in relation to the international trading environment, which if realised, could have a negative impact on the sector. There has been a moderation in Irish commercial property returns from the high levels of recent years. With over one-fifth of the total value of CRE loans non-performing, Irish retail banks' loan books are vulnerable to any deterioration in the commercial property market.

Chart 11: Business Sentiment Index



Source: KBC Bank Ireland/Chartered Accountants.
Notes: Index base 2006Q4=100. Last observation 2018Q1.

Chart 12: NFC indebtedness



Source: CSO and Central Bank calculations.
Notes: Last observation 2016.

Operating environment

Despite some challenges, the operating environment facing firms has remained broadly favourable since the last Review. While business sentiment remains higher than in the immediate aftermath of the Brexit referendum in 2016, it is below the series peak of 2015Q1. This potentially reflects a normal easing in the economic recovery, as well as a more uncertain international trading environment. Business sentiment fell by 4.4 index points in 2018Q1, reversing the gains of the previous quarter (Chart 11). This may be the result of seasonal volatility or it may indicate a moderation of GDP growth, rather than a significant weakening of the business environment.

Underlying investment (i.e., investment net of intangibles and aircraft-related investment) increased by 5.7 per cent in 2017, reflecting a strong increase in building and construction investment.[14] Further strong growth in both residential and non-residential construction is expected to contribute to projected increases in underlying investment of 12.1 per cent and 10 per cent in 2018 and 2019, respectively. Export volumes are estimated to have risen by 6.9 per cent in 2017 with growth of 4.9 per cent forecast for 2018, driven mostly by services exports.

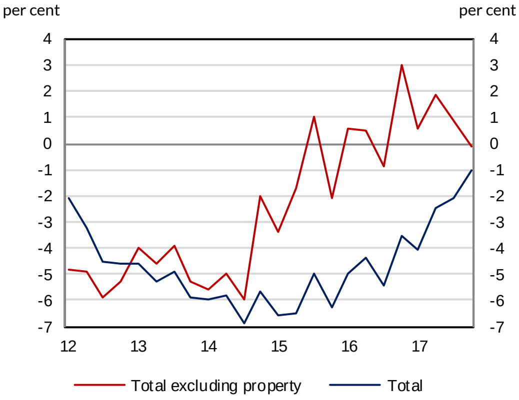
Notwithstanding positive investment and export figures, downside risks arise. Changes to international corporate tax arrangements, rising protectionism in international trade, and Brexit have the potential to affect firms' operating environment negatively. A further weakening of the US dollar and UK pound relative to the euro would likely have a damping effect on export growth. As the Irish economy grows and moves towards full employment, rising costs and the availability of skilled labour appear to be of increasing concern to businesses.[15] (Box 3 considers the financial performance of firms at a disaggregated level.)

Financial position of the NFC sector

Firms whose ultimate parent is Irish held debt equivalent to 80 per cent of GNI* in 2016 – a level similar to previous years (Chart 12). The structure of the NFC sector in Ireland complicates its

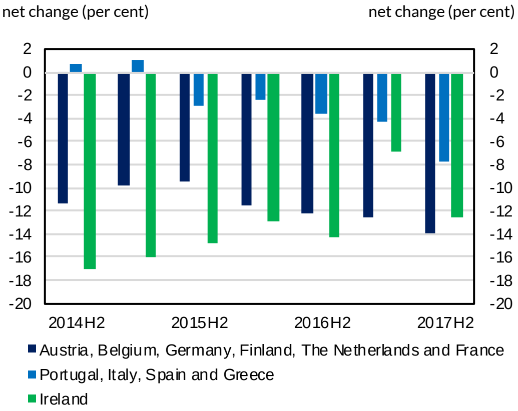
[14] Central Bank of Ireland, Quarterly Bulletin, QB2 April 2018.
[15] KBC Business Sentiment Survey (2017Q4) reported 58 per cent of firms reporting higher costs, the highest share in 10 years. Hays Salary & Recruiting Trends 2018 guide (2017Q4) points to almost 4 out of 5 businesses experiencing skill shortages.

Chart 13: Annual credit growth to Irish private sector enterprises



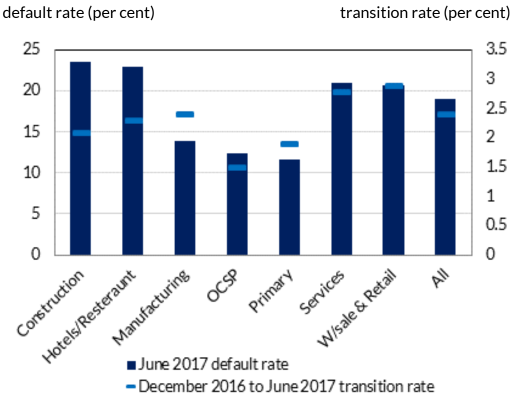
Source: Central Bank of Ireland.
Notes: The financial intermediation sector is excluded from the analysis. Total refers to credit to Irish private sector enterprises excluding financial intermediation. Last observation: 2017Q4.

Chart 14: SME net change in debt-to-assets



Source: Survey on Access to Finance in Europe.
Notes: Net percentage change is defined as the share of firms reporting increasing debt-to-assets ratio less the share of firms reporting decreasing debt-to-assets ratio. Last observations: 2017H2.

Chart 15: SME default and transition rates



Source: Central Bank of Ireland.
Notes: Data are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Defaulted loans are as defined in the Capital Requirements Regulation (CRD). The transition rate is defined as a loan changing from a performing state to a non-performing state (default).

analysis. While the NFC sector is highly indebted at an aggregate level, the majority of this debt relates to either MNCs based in Ireland and/or debt held by counterparties outside of Ireland suggesting more limited links to the macro-financial environment in Ireland than would otherwise be the case.

Data published by the Central Bank show that over 70 per cent of total NFC debt is sourced from non-Irish counterparties.[16] Data published by the CSO, show a similar picture, with over one-half of NFC debt held by foreign-controlled firms where the counterparty is non-Irish.[17] Nonetheless, these firms do have some links to the Irish financial system, as they held Irish debt equating to 24 per cent of GNI* in 2016.

While remaining subdued, the credit environment for firms has generally been strengthening since 2015. Property-related lending during this time has been relatively weak and has tended to hide a somewhat stronger recovery in lending to other sectors (Chart 13). This divergence became less marked in the latter half of 2017 as new lending to and repayments on property-related lending were more balanced.

Non-CRE corporate NPLs have fallen below 10 per cent of total outstanding corporate loans.[18] While a decline in NPLs is seen across all sub-sectors, a wide dispersion in NPL rates remains. NPLs on loans to real estate remain elevated at close to 20 per cent.

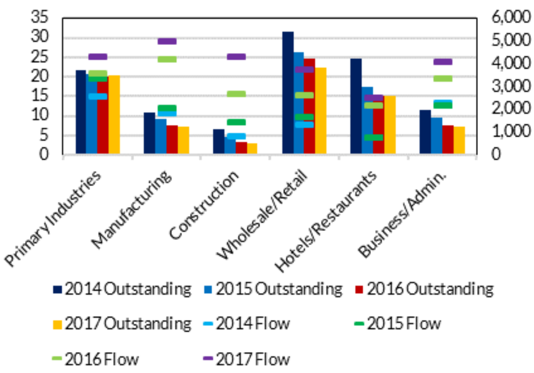
Developments in the SME sector

The SME sector plays an important role in the Irish economy with SMEs accounting for the majority of firms and almost 70 per cent of employment and almost 40 per cent of GVA.[19] SMEs are showing improved financial health in recent years with a reduction in indebtedness levels occurring. Survey evidence points to firms in general reducing their debt-to-asset ratio.[20] In the six months to September 2017, 12 per cent more firms reduced their debt-to-asset ratio than increased it, in line with the pattern of recent years and comparing favourably with other Member States heavily affected by the financial crisis (Chart 14). Further evidence of improvements in the financial health and resilience of SMEs is demonstrated by a decline in the SMEs' debt-to-turnover ratio over time. This was substantial over the period September 2013 to March 2017 and was broadly-based across sectors, regions and between domestically-oriented firms and firms who export.[21]

The proportion of highly-indebted firms – defined as a debt-to-turnover ratio of above one – has declined. Highly-indebted firms are more vulnerable to a decline in revenue or an increase in interest rates. In addition, they may be more limited in their ability

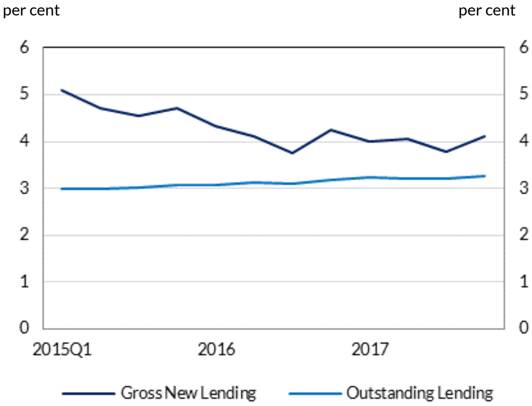
[16] Central Bank of Ireland, Quarterly Financial Accounts
[17] CSO, Macroeconomic Scoreboard 2016
[18] This relates to Irish resident retail banks and will include the impact of loan disposals and asset sales.
[19] Central Statistics Office Business in Ireland 2015: http://www.cso.ie/en/releasesandpublications/ep/p-bii/bii2015/sme/.
[20] According to data obtained from the Survey on Access to Finance in Europe: https://www.ecb.europa.eu/stats/ecb_surveys/safe/html/index.en.html.
[21] McQuinn, J. and McCann, F. (2017) "The financial vulnerability of Irish Small and Medium Enterprises, 2013 to 2017", Central Bank of Ireland Economic Letter Series, Vol. 2017 No. 14.

Chart 16: SME outstanding lending and new lending flow rate



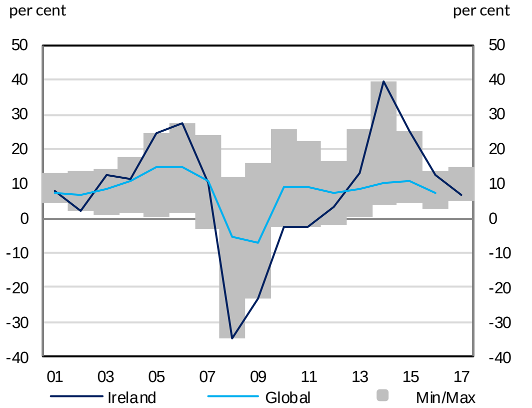
Source: Central Bank of Ireland.
Notes: New lending flow rate is defined as annual new lending flow as a share of annual outstanding lending in the previous year.

Chart 17: Interest rates on outstanding lending and new lending for SMEs



Source: Central Bank of Ireland.
Notes: Last observation: 2017Q4.

Chart 18: Total annual returns across selected international markets



Source: MSCI/IPD.
Notes: Total return on commercial property is an indicator of investment performance. It takes account of both capital and rental elements of a property's value, and is calculated by MSCI/IPD as the percentage change in capital values plus net income accrual, relative to capital employed. Grey bars signify the relevant maximum and minimum annual total return observations (in local currency) across 31 international CRE markets.

to undertake new investment. A small cohort (2.9 per cent) of firms still has debt in excess of annual turnover. A sectoral disaggregation of SMEs reveals that firms in the Hotels and Restaurants sector are most vulnerable with the highest share of highly-indebted firms. The share of Irish SMEs holding no debt has increased to close to one-half of such firms in September 2016, up from around one in four SMEs in September 2013.

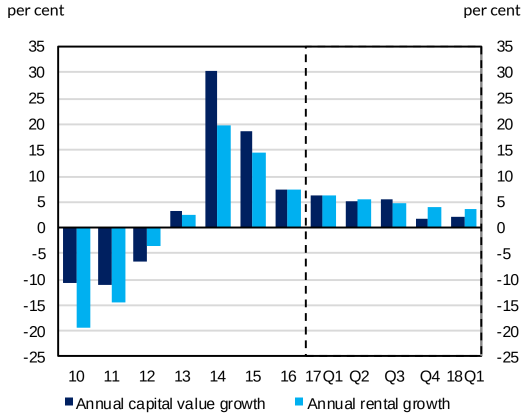
The NPL rate for SMEs in June 2017 was 19 per cent, somewhat higher than the NFC sector taken as a whole (Chart 15).[22] NPL rates among SMEs in June 2017 are highest in the Construction (23.6 per cent) and Hotels and Restaurants (23 per cent) sectors and lowest in the Primary (11.7 per cent) and Occupational, Community, Social and Personal services (12.4 per cent) sectors. A general decline in NPLs has been observed in recent years, consistent with firms' delevering and increasing financial resilience. There has also been an improvement in the rate at which SME loans change from performing to non-performing, with 2.4 per cent of SME loans doing so in 2017H1.

A broadly-based rise in new lending to SMEs is evident in an increase in the annual new lending flow as a share of outstanding debt in the previous year (Chart 16).[23] Average interest rates on new SME lending have declined from 4.26 per cent in 2016Q4 to 4.1 per cent in 2017Q4 (Chart 17), remaining above the overall rate on outstanding lending. As a consequence, new debt added to firm balance sheets may increase debt servicing costs on the stock of debt and increase financial vulnerability to a shock to profitability or interest rates. Interest rates on debt also vary by sector. For instance, interest rates on new lending are lower than average in the Hotels and Restaurants sector (3.7 per cent per annum in 2017Q4) and higher than average in the Construction sector (5.1 per cent per annum in 2017Q4).

The Strategic Banking Corporation of Ireland (SBCI), which acts as a state development bank, aims to reduce the cost of finance to SMEs and increase access to flexible funding products. The SBCI reports that SMEs availing of SBCI-supported loans, on average, saved 1.15 percentage points on the market interest rate for loans of less than €250,000 as of June 2017. By December 2017, total SBCI-supported lending amounted to €920m, including €145m related to its first risk-sharing initiative (Agriculture Cashflow Support Loan Scheme). Following on from its use of this targeted agriculture product, the SBCI launched a Brexit Loan Scheme at end-March 2018 with the support of an Innovfin Counter Guarantee Facility from the European Investment Fund. This Scheme provides a €300 million loan fund to support SMEs and small midcaps in responding to the challenges of the UK's decision to leave the EU.

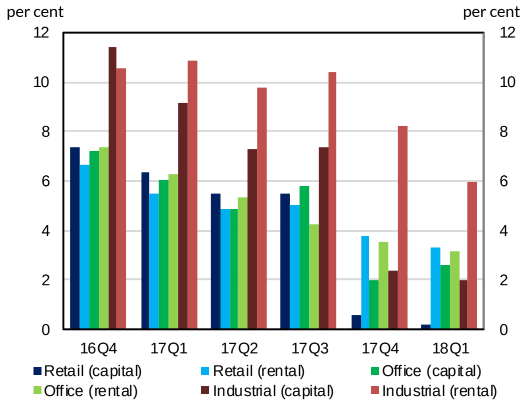
[22] Defaulted loans are as defined in the Capital Requirements Regulation (CRR).
[23] This includes Primary Industries with €3.5bn outstanding debt and 25 per cent annual new lending flow; Wholesale/Retail Trade with €3.8bn debt and 22 per cent lending flow; Manufacturing with €1.2bn outstanding debt and 29 per cent new lending flow; and Business and Administrative Services with €1.2bn debt and 24 per cent new lending flow.

Chart 19: Annual capital value and rental growth in the Irish commercial property market



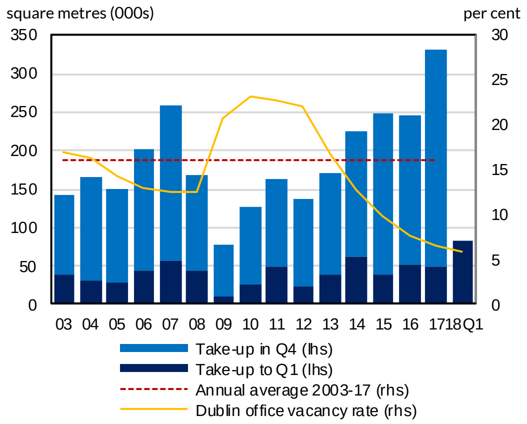
Source: MSCI/IPD.
Notes: Observations to the left of the dotted line are year-end (Q4) observations.

Chart 20: Breakdown of commercial property annual capital values and rental growth by sector



Source: MSCI/IPD.

Chart 21: Dublin office market activity



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

Survey evidence suggests SME demand for non-bank finance remains muted.[24] The share of SMEs enquiring about non-bank finance has fallen from a high of 13 per cent in September 2012 to 7 per cent in September 2017. In general, SMEs seem to utilise internal financing/retained earnings to fund working capital and investment projects.

Commercial property market values

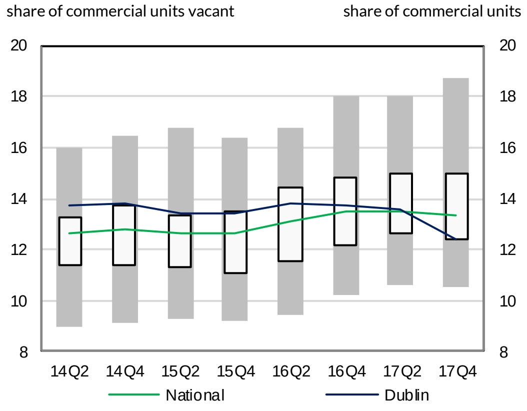
Recent years have seen Irish commercial property returns come back into line with other international markets (Chart 18).[25] The moderation in returns reflects a slowdown in capital value growth, and, to a lesser extent, commercial rents (Chart 19).[26] Overall, annual capital values were 2.1 per cent higher at the end of 2018Q1, bringing the cumulative increase since they bottomed-out in the first half of 2013 to 78 per cent. The CRE capital value index, nevertheless, is some 42 per cent lower than its peak-2007 value. The annual increase in rental values was 3.5 per cent in 2017, leaving commercial rents 19 per cent below their 2008 peak.[27]

Industrial properties have outperformed the other two main CRE sectors (that is, retail, and office) over the past couple of years, owing to a lack of supply and a stronger demand for large modern logistical facilities with easy access to main transport routes. A 2 per cent annual increase in industrial property capital values accompanied a 6 per cent year-on-year increase in rents in that sector in 2018Q1 (Chart 20). Over 65,000 square metres of industrial property was taken-up (i.e. sold or leased) in the Dublin industrial property market during the opening quarter of 2018, a 20 per cent fall on the figure for the final three months of 2017, but a 40 per cent increase on take-up in 2017Q1.[28] Smaller sized deals (for spaces under 1,000 square metres) accounted for the majority of Q1 transactions (61 per cent) as did lettings (67 per cent) and non-prime/secondary units (77 per cent). The low number of new schemes set to come on stream over the next year or so is likely to support continued rental growth in the period ahead, which could attract further development activity.

Capital growth in the retail sector, for all but prime locations, was relatively weak. Annual growth of 0.2 per cent was recorded in 2018Q1, down from 6.3 per cent at the end of 2017Q1 (Chart 20). Retail rents increased 3.3 per cent in the first three months of 2018, owing to the growth of shopping centre rents in particular. As well as positive market dynamics such as improving consumer confidence and a growing volume of retail sales (notwithstanding some interruption caused by the adverse weather conditions associated with Storm Emma), the retail segment of the

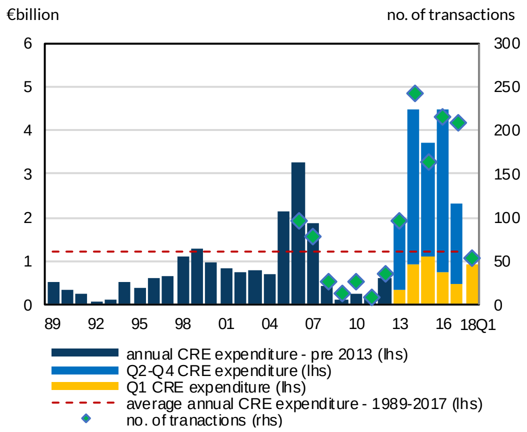
[24] According to the Department of Finance SME Credit Demand Survey: http://www.finance.gov.ie/updates/sme-credit-demand-survey-april-september-2017/
[25] Annual CRE returns of 6.4 per cent for 2017 place Ireland at the 25th percentile in cross-country sample, above markets such as Italy, Poland and Denmark, but much lower than Spain, Hungary and the Netherlands where annual returns exceed 12 per cent. According to 2018Q1 data for a much smaller selection of countries, including Ireland, annual CRE returns were 13.8 per cent (Netherlands), 10 per cent (UK), 7.1 per cent (USA) and 6.8 per cent (Ireland).
[26] Capital values, in particular, were adversely affected by the announcement in Budget 2018 of an increase in the rate of stamp duty from 2 per cent to 6 per cent for non-residential buildings and land. For instance, Goodbody estimate that the stamp duty change placed a 3.8 percentage point drag on annual capital values at the end of 2017, see Lauder. C., "Irish REITs: Key IPD Index data release sets strong growth expectations for 2018", Goodbody Morning Update, 25 January 2018
[27] For comparison, annual capital values increased by 7.3 per cent and annual rents by 7.4 per cent in 2016. At the end of 2017, commercial rents were 58 higher than their 2013 trough.
[28] See: "Dublin Industrial Market Report – Q1 2008", JLL, 25 April 2018.

Chart 22: Irish commercial property regional vacancy rate – interquartile range



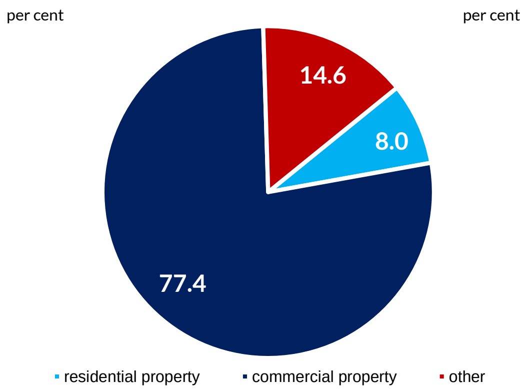
Source: GeoDirectory/DKM – GeoView Commercial Premises Vacancy Report Q4 2017.
Notes: The box plot represents the 25th to 75th percentile range of the share of vacant commercial properties across the 26 counties and the range of the grey bars the maximum and minimum values.

Chart 23: Real Irish commercial property expenditure



Source: Cushman and Wakefield and CBRE research.
Notes: Data have been adjusted for inflation, using the CPI.

Chart 24: Breakdown of 5 largest AIFM investments by property type



Source: Central Bank of Ireland.
Notes: Based on a breakdown of the stated investment strategies for sample of 89 funds managed by the 5 largest alternative investment fund managers (AIFMs), which account for €12 billion of the €16 billion Irish property assets managed.

commercial property market is also facing significant structural challenges at present, such as the rise in e-commerce and an increase in on-line shopping.

The office sector, which has driven much of the recovery in overall commercial property capital values and rents since 2013, has also experienced a decline in the pace of capital value and rental growth of late. The annual growth of office capital values fell from 6 per cent in 2017Q1 to 2.6 per cent in 2018Q1, while the rental growth rate fell 3 percentage points to 3.2 per cent (Chart 20).

Commercial property market leasing activity and vacancy rates

Dublin remains the focus of activity in the office market. Some 83,500 square metres of office space was transacted throughout the city during 2018Q1, a 70 per cent increase on the equivalent period in 2017, and one of the strongest opening quarters on record (Chart 21).[29] Business growth and domestic economic expansion are the main drivers of take-up at present. Brexit-related firm relocations have the potential to increase the demand for Dublin office space further.

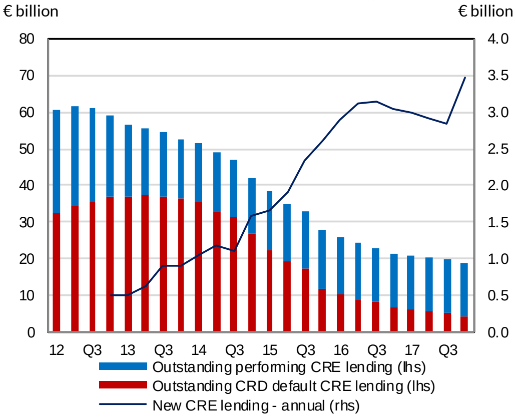
The high volume of leasing which has occurred in recent years has seen the overall vacancy rate in the Dublin office market drop to 6 per cent (CBRE),[30] lower than the average across many other major European cities. Analysis carried out by Goodbody shows that the average new lease length for Dublin offices is now 12.8 years, 8.1 years of which is term-certain.[31] These values are high relative to international peers, providing reassurance to investors around the stability of income from this component of the Irish commercial property market.

The resumption of commercial property development, following years of inactivity, has seen the provision of new office space in the Dublin market. The equivalent of a further 2½ years of average annual office take-up in the city is currently under construction and due to come on-stream by 2020, according to CBRE data. A similar amount of planned new office space has been granted (or is awaiting) planning permission and may be called upon if required. The addition of some or all of this space in a prudent fashion should ease pressure of prime office rents and help stabilise the office vacancy rate.

The availability of data for the commercial property market outside Dublin is gradually improving, but significant data gaps remain. The data that do exist suggest that the commercial property market recovery has been less than broadly-based across the country. The cumulative annual take-up of office space in the Cork, Galway and Limerick city office markets during 2017 was approximately 10 per cent lower than the 2007-to-2017 annual average, despite a year-on-year increase of 26 per cent in 2017.[32] Elsewhere, Sligo (18.7 per cent) and Galway (16.2 per

[29] See "Dublin Office Market View" Q1 2018, CBRE.
[30] JLL estimate a slightly higher Dublin office vacancy rate of 7.1 per cent – see "Dublin Office Market Report", Q1 2018, JLL.
[31] See Lauder. C., "Irish REITs: Key IPD Index data release sets strong growth expectations for 2018", Goodbody Morning Update, 25 January 2018.
[32] Cumulatively, 48,400 square metres of office space was taken-up across the three markets in 2017, compared to 38,400 square metres in 2016 and an annual average of 53,800 square metres over the 2007-to-2017 period.

Chart 25: 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 QSFR reporting requirements. CRD default loans refer to exposures that are impaired and/or classified as >90 days in arrears. Last observation: 2017Q4

cent) are home to the highest proportion of vacant commercial units, well above the national average of 13.3 per cent (Chart 22).

Commercial property market investment and financing

The Irish commercial property market continues to attract substantial sums of investment expenditure. Approximately €1 billion was invested in the Irish CRE market in 2017Q4, up from €530 million in the previous quarter, bringing total investment for the year to €2.3 billion, well above the long-run (inflation-adjusted) average since the late 1980s (Chart 23).[33] Part of last year's decline in CRE expenditure is due to a fall in the number of "big ticket items" for sale in comparison to previous years, although the number of CRE transactions remained relatively stable. The demand for Irish commercial property assets remained strong in the opening quarter of 2018; with the level of CRE investment (€930 million), almost double that of 2017Q1, mainly owing to three transactions of greater than €150 million each. The Dublin office sector attracted the largest share of commercial property expenditure in 2017 and in 2018Q1, accounting for 37 per cent and 53 per cent of total investment volumes, respectively.[34]

Large international funds and REITs have been amongst the most active investors in the Irish property market, attracted by capital value gains, the prospect of rental growth, and the opportunity to diversify risk. Data on the location of purchasers are available for approximately 90 per cent of the CRE traded in 2017. Domestic sources accounted for approximately 47 per cent of this total, with the remainder coming from abroad.[35] This continues a trend since the property market collapse of the majority of CRE investment originating from overseas investors.

Non-resident institutional investors are heavily involved in Irish-listed REITs, with US, UK and Canadian investors featuring prominently. Investment funds are another group with a significant CRE presence. According to Central Bank statistics, Irish domiciled investment funds held approximately €16 billion of Irish real estate at the end of 2017.[36] An initial analysis of these entities, based on investment strategies, estimates that the vast majority of their assets relate to commercial property (Chart 24). Information pertaining to sources of finance is not specified in many cases. Where it is provided, it appears that equity finance is the primary source of funding. Cases of bank funding have also been identified, which should be observed closely, as these relationships constitute an alternative channel through which potential vulnerabilities in the commercial property market could spill over to the domestic financial system.

A higher level of international investment and a greater degree of foreign non-bank funding can assist the dispersal of risk

[33] Alternative data from CBRE and JLL put the total investment expenditure figure for 2017at €2.6 billion and €2.3 billion, respectively.
[34] See "Ireland Investment Market Report" Q4 2017 and Q1 2018, JLL.
[35] According to the latest Irish CRE investment commentary from both JLL and CBRE data, overseas investors accounted for approximately 60 per cent of total investment volumes arising in 2018Q1.
[36] Based on an analysis of alternative investment fund manager (AIFM) and money market investment fund (MMIF) returns. The Central Bank does not collect MMIF data on the Irish property holdings of foreign domiciled investment funds and as such cannot provide figures related to the additional Irish property assets held by non-Irish domiciled funds.

throughout the wider financial system. Foreign capital flows into the commercial property market are, however, vulnerable to changes in global financing conditions and investment opportunities arising elsewhere. Given this feature of the market, it is important that domestic funders of commercial property have the resilience to withstand any declines in collateral values that may arise if there is a significant reversal in foreign investment flows or a general deterioration in market conditions.

Substantial delevering, loan write-offs and ongoing amortisations have seen the stock of outstanding commercial property lending at Irish retail banks fall steadily since 2012. Nevertheless, those institutions have a CRE loan portfolio of €18.8 billion, of which over one-fifth is non-performing (Chart 25). Since the financial crisis, Irish retail banks have played a relatively limited role in the direct funding of commercial property-related activity, with the majority of the new finance they have provided in recent years going towards investment in existing buildings and in pre-lets rather than on expenditure on speculative new builds. There was a pick-up in new CRE lending activity amongst the Irish retail banks in the final quarter of 2017. New lending activity for 2017 as a whole reached €3.5 billion, up from €2.8 billion for the four quarters ending 2017Q3 and €3.1 billion in 2016 (Chart 25). A large portion of this increase relates to refinancing activity and the provision of additional funding for residential property development. Notwithstanding this latest increase, new CRE lending activity constituted a relatively small portion of overall new lending by the Irish retail banks (12.1 per cent) during 2017.

Even though domestic banks are not heavily engaged in providing substantial amounts of new CRE lending at present, the condition of their existing commercial property loan book would mean that any decline in CRE prices could lead to an increase in provisions. While some recovery in commercial property lending may be desirable in order to help address the current supply deficit in some sectors, mispriced or excessively risky loans could ultimately prove destabilising and must be monitored diligently.

Box 3: A disaggregated look at firm financial performance using the Institutional Sector Accounts

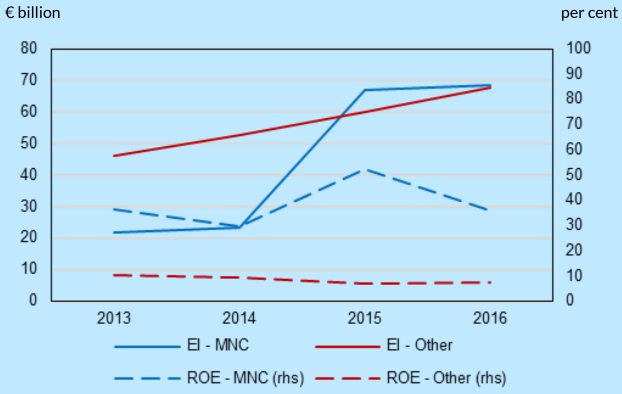
By Eoin O'Brien and John McQuinn (Macro-Financial Division)

The significance of foreign-owned multinational corporations in Ireland makes analysis of the NFC sector, as well as of the broader economy, challenging. Following on from the Report of the Economic Statistics Review Group, the CSO has been introducing greater detail into its National Accounts releases to allow for a better understanding of indigenous economic activity.[1] One such initiative is the recent release of institutional sector accounts data for the NFC sector divided into two groups: large foreign-owned MNEs and other firms.[2] This box highlights differences in the financial performance of the two groups not evident in the aggregate data.

Looking first at profitability, large foreign-owned MNEs tend to have a significantly higher return on equity (ROE) than other firms (Chart A). This higher ROE is generated off a lower level of equity liabilities with MNEs showing a similar level of profit (net entrepreneurial income) to that of the other firms group. The ROE for other firms continues to be affected by the presence of Irish-based re-domiciled PLCs. Those companies increase the equity liabilities for the other firms group. They, however, do not tend to generate profits in Ireland so there is no corresponding increase in the profits figure. Overall, this has the impact of lowering the ROE for the other firms group. Looking solely at the monetary measure of profit for other firms indicates a steady increase in the level of profits being made by these firms in recent years (Chart A).

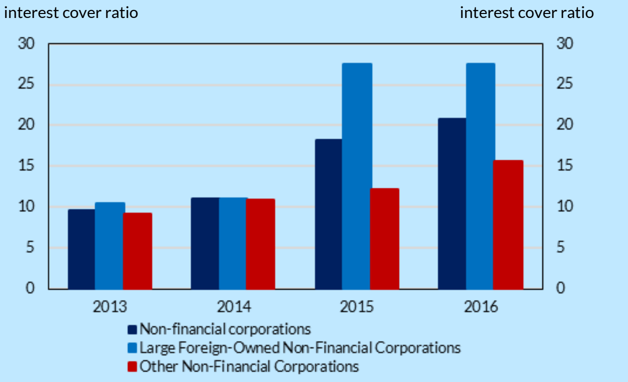
Some understanding of the financial sustainability of corporations in Ireland can be obtained by providing a measure of the ability of NFCs to meet interest payments out of gross profits. Such a measure is provided in Chart B in the form of an interest cover ratio, calculated as the ratio of the gross profits of non-financial corporations relative to interest costs.[3, 4] The rise in the NFC interest cover ratio over the period 2013-2016 points to an improvement in the ability of the NFC sector to meet its interest payments. However, this large increase in the interest cover ratio is mostly attributable to large foreign-owned MNEs. A more modest increase is seen in the interest cover ratio for other firms.

Chart A: Profitability



Source: CSO and Central Bank of Ireland calculations
Notes: EI stands for entrepreneurial income. ROE stands for return on equity.

Chart B: Interest cover ratio



Source: CSO and Central Bank of Ireland calculations.
Notes: The interest cover ratio is calculated from national accounts and expresses gross profit (gross operating surplus, B.2g/ B.3g) in the numerator and interest costs (D.41) in the denominator.

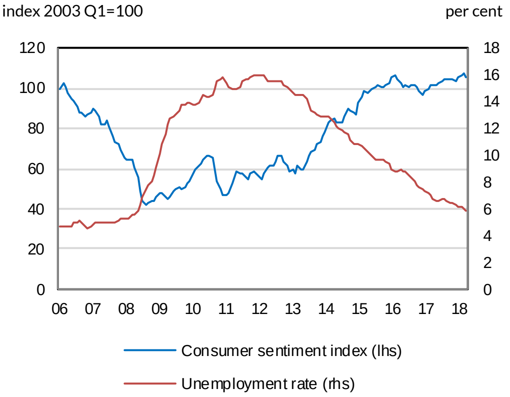
The financial performance of the NFC sector is important from a financial stability point of view. Profitability and the ability to service debt are important aspects of this and provide an indication of the vulnerability of the sector to a shock. This box shows the different performance of large foreign-owned MNEs and other firms in recent years by these metrics. Developments in the other firms group are more closely linked to domestic economic activity. The data point to some improvement in the financial position of this group of firms of late, suggesting an increase in its ability to deal with a potential negative shock. Nonetheless, their profitability and interest cover ratios tend to be lower than those of the MNE sector. In addition, financial resilience varies across individual firms and a cohort of firms are likely to remain susceptible to a slowdown in activity or increase in interest rates.

[1] Review of the Economic Statistics Review Group (ESRG) December 2016
[2] Institutional Sector Accounts Non-Financial and Financial 2016. The 50 largest foreign MNEs (out of approximately 114,000 enterprises in S.11) are presented as a proxy for all the MNEs. A more comprehensive account of foreign-owned enterprises is under development.
[3] Note that the gross profit (gross operating surplus, B.2g/ B.3g) measure is an underestimate of profits (earnings before interest, tax, depreciation and amortisation) as it subtracts taxes and subsidies.
[4] Note that national accounts interest (D.41) paid by borrowers to financial institutions is an underestimate of bank interest paid by the estimated values of the charges payable.

3.3 Household Sector

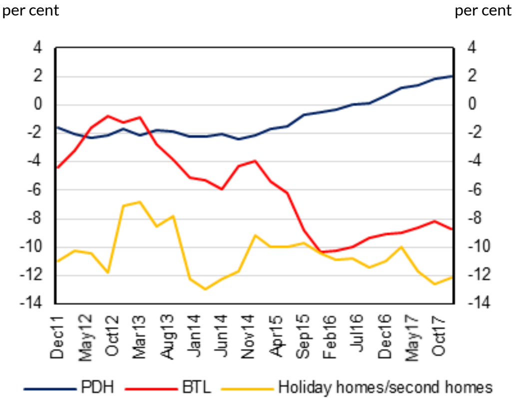
The household sector continues to benefit from improving labour market conditions and the low interest rate environment. Irish households, however, remain highly indebted and vulnerable to adverse employment, income or interest rate shocks. Total mortgage lending has stabilised after a long period of contraction, while consumer credit is expanding. A large number of households remain in late-stage arrears. Both residential property prices and rents are growing strongly, with a shortage of residential units contributing. While there are signs of increasing construction activity, the supply of new units remains below housing demand.

Chart 26: Unemployment rate and consumer sentiment



Source: CSO, KBC Bank / Economic & Social Research Institute.
Notes: The unemployment rate is the CSO seasonally adjusted monthly unemployment rate. The consumer sentiment index is a 3-month moving average series. Last observation: April 2018.

Chart 27: Growth rate in credit to Irish resident households for house purchase



Source: Central Bank of Ireland.
Notes: Growth rates are annual rates of change. Last observation: December 2017.

Economic and credit developments

The household sector continues to benefit from broadly-based employment (and lower unemployment) and income growth and relatively buoyant consumer sentiment (Chart 26). Employment growth and compensation per employee are projected to rise by 2.4 per cent and 3.2 per cent this year, respectively, while the unemployment rate is expected to fall to close to 5 per cent.[37] Downside risks to these forecasts arise from Brexit and the uncertain corporate taxation, exchange rate and trade environment.

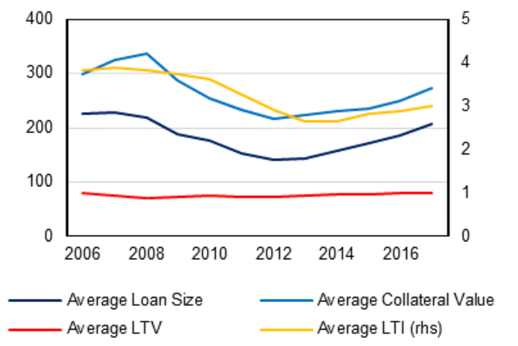
Overall mortgage lending has stabilised in 2018, with new loan drawdowns exceeding repayment values for the first time since 2010. Net lending has been positive in the PDH market since 2016Q3 but, as of December 2017, remains negative in the BTL segment (Chart 27).

In 2017, the average LTV ratio on lending in the scope of the Mortgage Measures was 79.8 per cent for FTBs and 67.6 per cent for SSBs, while the average LTI multiple was 3.0 for FTBs and 2.6 for SSBs.[38] These represent slight increases on 2016 values (Chart 28), amid higher average house prices and loan sizes. LTV limits of 90 per cent and 80 per cent, respectively, applied to FTBs and SSBs in 2017, while the LTI limit is 3.5 times income. For switchers, the average LTV ratio was 57.6 per cent and the average LTI multiple was 2.4. (Box 4 examines switching activity in the mortgage market.)

Net consumer credit has expanded since 2016Q2 although the growth rate has been falling this year. Household borrowing for car finance purposes increased from about 7 per cent of the outstanding stock of bank-related consumer credit in 2012 to close to one-third by end-2017 (Chart 29).[39]

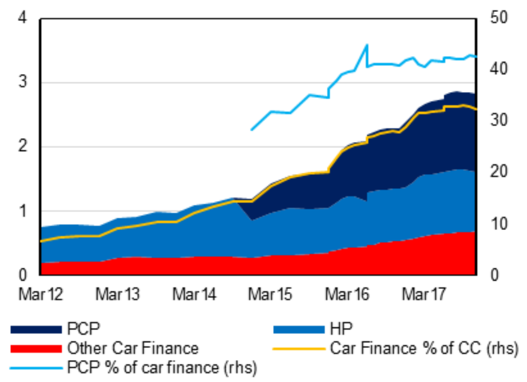
[37] Central Bank of Ireland Quarterly Bulletin QB2, April 2018.
[38] See Kinghan et al. (2018) "Macroprudential Measures and Irish Mortgage Lending: An Overview of 2017", FS Note No. 1, 2018 for details, including changes in the LTV limit for FTBs from 2017 onward and details of exemptions and allowances. The authors also analyse lending outside the scope of the Regulations.
[39] Sherman et al. (2018) find that personal contract plans (PCPs) have driven this growth and outline the advantages and disadvantages of these products for consumers, motor dealers and lenders. The CCPC report (2018) outlines risks for consumers in relation to PCPs and a range of recommendations to provide greater protections therein.

Chart 28: FTB house prices, loan size, LTV and LTI



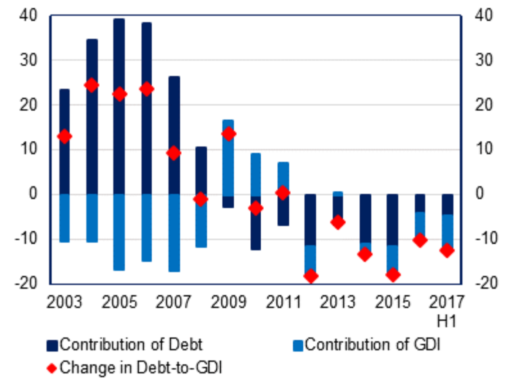
Source: Central Bank of Ireland.
Notes: Sample comprises up to 6 banks. Average loan size and collateral value are in €'000. Average LTV is a per cent. Outliers removed from 1st and 99th percentile. In-Scope loans only for 2015-2017.

Chart 29: Stock of car finance



Source: Central Bank of Ireland.
Notes: Bank related credit only. Excludes credit unions and non-bank finance providers. PCP is personal contract plan, HP is hire purchase, and CC is consumer credit. Last observation: December 2017.

Chart 30: The contributions of changes in household debt and GDI to annual changes in the debt-to-GDI ratio for Ireland



Source: Cussen and Murphy (2018), Central Bank of Ireland, ECB Statistical Data Warehouse.

Financial Position

Although debt as a proportion of disposable income is falling, the household sector in Ireland remains the fourth most highly indebted in the EU. In 2016 and 2017H1, rising gross disposable income (GDI) contributed more to the overall decline in the debt-to-GDI ratio than debt reduction in a reversal of the situation between 2012 and 2015 (Chart 30).[40, 41] The distribution of debt-to-income ratios is uneven across the household sector. Mortgaged households aged between 30 and 45 have the highest debt-to-income ratios, leaving them more exposed to adverse shocks.[42] Property-related debt comprises the bulk of overall debt.[43]

While fixed rate mortgages accounted for over half of new PDH lending during 2017, about 80 per cent of outstanding PDH mortgages are on variable interest rates, which are sensitive to monetary policy and market developments. Within the 20 per cent of the mortgage stock that is on fixed rates, over half have a fixation period of less than 3 years and could be vulnerable to potential rate increases at the end of the fixation period. Tsiropoulos (2018) finds that the impact of an adverse shock is likely to be greater for households on SVR and Tracker mortgages than those on fixed rates, due both to loan composition effects and the direct effect of a hypothetical interest rate increase on the probability of loan default.[44]

Mortgage arrears and debt resolution

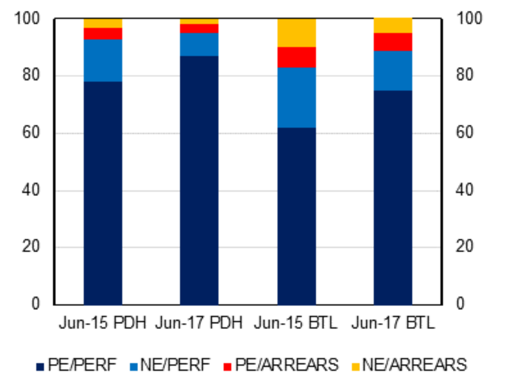
The number of mortgage accounts in arrears continues to fall. In December 2017, there were 70,488 PDH accounts and 22,461 BTL accounts in arrears, down from 2013 peaks of 142,892 and 40,396, respectively. The percentage of loan accounts in arrears for over 90 days remains higher among BTLs (14.9 per cent) than PDH accounts (6.6 per cent). Arrears rates also vary by region, with PDH rates ranging from just under 5 per cent to close to 10 per cent, with the lowest rate arising in Dublin.[45]

The share of loans in both arrears and negative equity has also continued to decline (Chart 31).[46] About 2 per cent of PDH loans are in both arrears and negative equity, with the corresponding figure for BTLs being 6 per cent. Tsiropoulos (2018) finds that the vulnerability to an adverse shock is substantially higher for loans in negative equity, particularly in cases where LTVs are above 150 per cent.[47]

Alongside these improvements, a significant cohort of borrowers remains in late-stage arrears. Some 42,000 mortgage accounts are

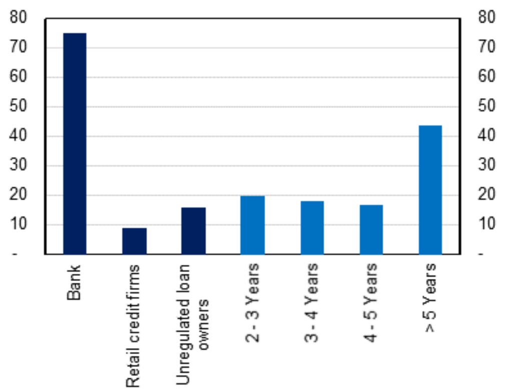
[40] Gross disposable income (GDI) is the sum of household disposable income and the adjustment for the change in net equity of households in pension funds reserves.
[41] When debt reduction contributed more. See Cussen and Murphy (2018), "Household Debt to Gross Disposable Income Ratio across highly indebted EU countries", Central Bank of Ireland Quarterly Bulletin, QB01 Box January 2018. A negative (positive) contribution puts downward (upward) pressure on the Debt-to-GDI ratio.
[42] Fasianos, Lydon and McIndoe-Calder (2017), "The balancing act: household indebtedness over the lifecycle", Central Bank of Ireland Quarterly Bulletin, No. 2 2017.
[43] See Fasianos et al (2017), op cit.
[44] Tsiropoulos (2018), "A Vulnerability Analysis for Mortgaged Irish Households", FS Note No. 2, 2018. Box 1 in the Household Credit Market Report (2017H2) found that after applying an interest rate shock of 242 basis points, 32.8 per cent of mortgages issued in 2017H1 would have a debt service ratio (DSR) of above 35 per cent (measured as the ratio of monthly mortgage repayments to after tax income). This was a slight increase on 2016 H1 but compares to around 60 per cent for loans originated in 2006.
[45] See arrears rate by county as at December 2016 in Household Credit Market Report H2 2017.
[46] See Box 2 MFR 2017:II for further background on negative equity in the Irish housing market.
[47] See Tsiropoulos (2018), op. cit.

Chart 31: Equity and arrears



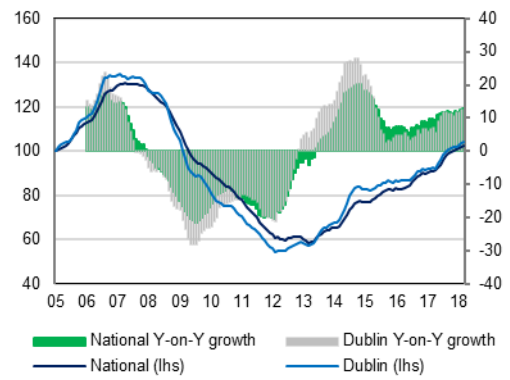
Source: Central Bank of Ireland.
Notes: PE is positive equity. NE is negative equity. PERF is performing. NE loans are defined as those having a current LTV, as reported by the banks, greater than 100. A loan is classified as in arrears if it is greater than 90 days past due on its payments.

Chart 32: PDH Mortgage accounts 720+ DPD by entity and duration type



Source: Central Bank of Ireland.
Notes: Split by entity type is as at December 2017. The split by duration is for banks only and is as at June 2017. Based on loan count.

Chart 33: CSO residential property price indices: National and Dublin



Source: CSO.
Notes: Residential property price index = 100 in January 2005. Last observations: March 2018.

more than 720 days past due, of which 28,946 are PDH accounts. These mortgages account for 60 per cent of PDH accounts in arrears of over 90 days past due. Banks hold 76 per cent of these PDH accounts, with non-bank entities or former banks holding the remainder (Chart 32). Donnery et al. (2018) note that within the bank-held subset, 44 per cent have been in arrears for over 5 years.[48] At end-2016, almost 40 per cent of PDH loans that are more than 720 days past due had never engaged with their bank, while for the 61 per cent who did engage a much higher relative share received a temporary modification than a permanent modification.[49]

In December 2017, 118,477 mortgage accounts, or roughly 16 per cent of the outstanding stock of PDH accounts, were classified as restructured. Some 87 per cent of these were deemed to be meeting the terms of their current restructure arrangement. There continues to be cases where a restructuring arrangement is either not an appropriate or a sufficient resolution strategy. From 2009Q3 up to end-2017, loss of ownership has occurred for 8,506 PDH properties, with 66 per cent of these resulting from voluntary surrender and the remainder from foreclosures. While household indebtedness and arrears continue to fall, the composition of borrowers in late-stage arrears is such that the speed of resolution progress is likely to slow. The durability of restructures could also be vulnerable to future payment increases, including interest rate shocks, as well as economic shocks.

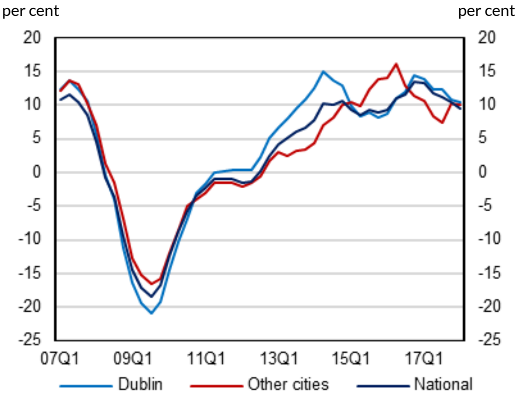
Residential property prices and rents

The double-digit year-on-year residential property price inflation that has been occurring nationally since May 2017 has continued into 2018. Prices increased by 12.7 per cent in the twelve months to March 2018, compared to 9.8 per cent for the corresponding month in 2017 (Chart 33). Dublin property prices have increased by 12.1 per cent over the same period. Overall, national house prices have risen 75 per cent from a low point in 2013, with the RPPI in March at its highest level since April 2009. While residential property prices in Ireland are currently 22 per cent below their 2007 peak, Eurostat data show Ireland to have had the highest rate of growth in prices in euro area Member States between 2015Q1 and 2017Q4.[50] An increase of 28.9 per cent in Ireland compares to an average rise of 10.4 per cent in the euro area over the period.

Statistical indicators of house price valuation, such as house price-to-rent and house price-to-income ratios, remain above historical averages. Reduced-form valuation models, which allow a comparison to be made between current house price levels and those which could be expected given supply and demand factors, indicate that the degree of house price misalignment has been diminishing of late. As of 2017Q4, the average level of

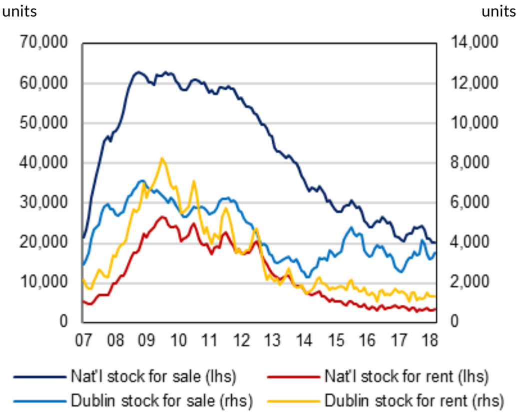
[48] Donnery, S., Fitzpatrick, T., Greaney, D., McCann, F., and O'Keeffe, M., "Resolving Non-Performing Loans in Ireland: 2010-2018." Central Bank of Ireland Quarterly Bulletin 02 2018, pp. 54-70..
[49] McCann (2017). "Borrower-lender engagement during the Irish mortgage arrears crisis," Economic Letters 17/EL/17, Central Bank of Ireland and "Mortgage modification in Ireland: A Recent History", Economic Letters 17/EL/16.
[50] Eurostat news release April 2018

Chart 34: Annual growth rate in rental prices



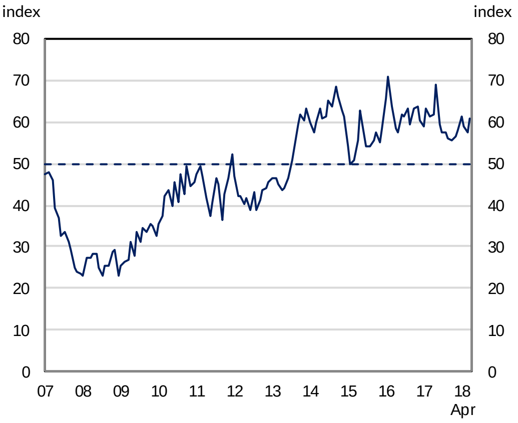
Source: Daft.ie.
Notes: 'Other cities' consists of Cork, Limerick, Galway, and Waterford cities. Last observation 2018Q1.

Chart 35: Stock listed for sale or rent on Daft.ie



Source: Daft,ie.
Notes: Last observation: Sales stock February 2018, Rental stock March 2018.

Chart 36: 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.

misalignment across the models used in the Central Bank is estimated at minus 1 per cent.[51]

The Central Bank of Ireland/SCSI 2017Q4 Quarterly Property Survey, conducted in January 2018, highlighted that the median anticipated one-year ahead change in national house prices remained unchanged from the previous survey at 8 per cent, while the three-year ahead expectation declined marginally, from 15 per cent to 14 per cent. The supply of units (second-hand and new) constituted the primary factors behind anticipated price increases in both national and Dublin areas. Improved economic performance, related to rising disposable incomes and a buoyant labour market, was found to have an impact on house price expectations at the national level by 20 per cent of respondents.

Private rent data from the CPI sub-indices show residential rent inflation rates having eased slightly in recent months, with a 6.2 per cent year-on-year increase occurring in February 2018 compared to 8.4 per cent a year previously. Daft.ie data for new rentals indicate that average nationwide rents are 23 per cent higher than their pre-crisis peak in 2008. There has been a moderation in Dublin rental price growth since 2016Q4 (Chart 34). Despite this reduction in rate increases, average rents for Dublin are rising faster than elsewhere with year-on-year growth of 10.4 per cent in 2018Q1 compared to 10.1 per cent in other urban areas and 9.5 per cent nationally.

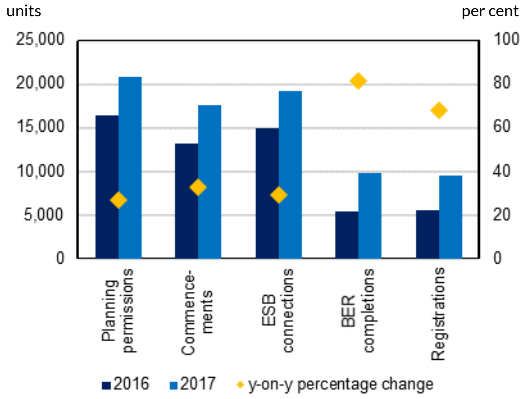
Residential housing supply

The lack of residential units in major urban locations is a driver of residential property price and rent developments. In March 2018, the total national stock available to rent had decreased by 17 per cent year-on-year to approximately 3,300 units (Chart 35). Units available to rent in Dublin fell by 11 per cent, to just over 1,300 units, in the same period. 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 areas of the country.

According to the Ulster Bank PMI, construction activity in the residential property market has been strong of late, with January 2018 exhibiting a six-month high due to increases in new orders and employment (Chart 36). The index, which is designed to track changes in total construction activity, has been above 50 since June 2013, pointing to expansion amongst various construction subsectors. Participating companies noted that due to increased demand, input prices rose sharply in January 2018. Increasing construction costs (including material costs) and other inputs could feed through to higher house prices. A skills shortage in construction trades is expected over the short-to-medium term, which may also affect delivery capacity and wage inflation.[52]

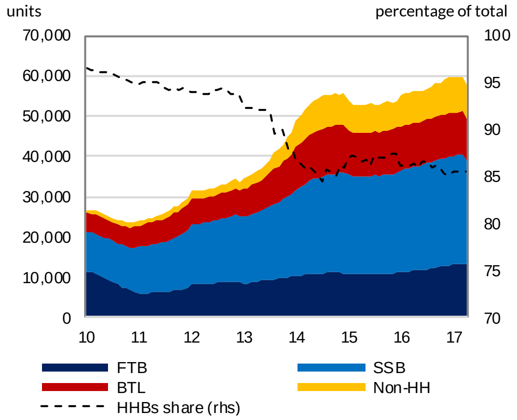
[51] See Box A1 of 2017 Review of Mortgage Market Measures for further details of the methodology used.
[52] See Conefrey and McIndoe-Calder (2018), "Where are Ireland's Construction Workers?" Central Bank of Ireland Quarterly Bulletin, QB02 April 2018.

Chart 37: Residential construction activity



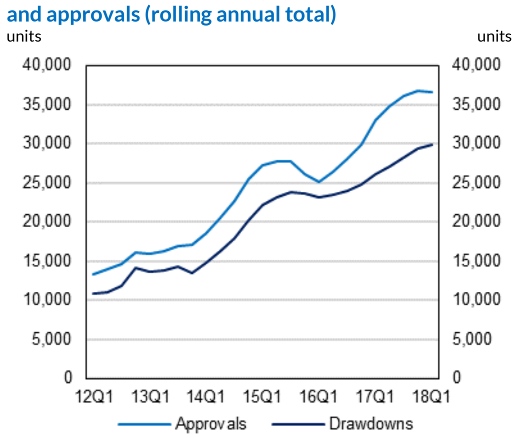
Source: Department of Housing, Planning and Local Government, CSO, and Goodbody Stockbrokers.
Notes: Last observation: 2017Q4.

Chart 38: Residential property transactions by buyer type (rolling annual total)



Source: CSO.
Notes: Data refer to all residential property transactions. Last observation: March 2018. HHBs refers to household buyers.

Chart 39: Residential mortgage credit: drawdowns and approvals (rolling annual total)



Source: BPFI.
Notes: Data refer to household transactions only, i.e. transactions completed by and mortgages to FTBs, mover purchasers and BTLs. Data are rolling annual totals.

There are signs of increased supply in the market, albeit a slow rise, according to a suite of indicators. Each indicator relates to a different stage of the construction process with, for example, planning permissions occurring at the primary stage and BER certifications taking place at the completion stage. Discrepancies arise between these data series due to the time lags within the overall construction process and units not commencing or completing for various reasons following granting of planning permission. At end-2017, the preliminary indicators of planning permissions and commencements were up 27 per cent and 33 per cent year-on-year, respectively, to 21,000 and 17,500 units (Chart 37). Latter-stage data for BER certifications and registrations display cumulative four-quarter increases to 9,700, and 9,400 units, respectively.[53] Central Bank research points to house completions of approximately 23,500 units in 2018 and 28,500 in 2019.[54]

There has been an increase in the number of apartment units granted planning permission with the figure of 5,300 in 2017 being the highest since 2010 levels. According to BER data, semi-detached units continue to be the most popular type of new home completed in Ireland, accounting for 40 per cent of output since 2014Q1. Recent changes to apartment building regulations (relating to the minimum size of apartments, the number of units that can be built per development, and resident car parking) may encourage apartment building as the capacity for more units within apartment complexes may see projects become more financially viable.[55] The Sixth Annual Housing Progress Report, published in March 2018 indicates that the number of ghost estates has fallen by 91 per cent since 2010 to stand at 256 developments, the majority of which are located in Cork County, Roscommon, and Donegal.[56]

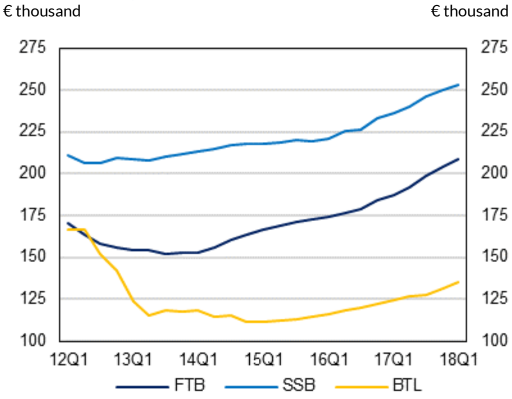
Although these developments indicate improvements in housing output, supply remains short of the quantities needed to address long-term housing needs. An annual average output of 30,000 to 35,000 new homes per annum is estimated to be required to meet increased population growth and household formation over the longer term.[57] Decreases in household size towards the European average of 2.3 persons could see demographic changes such as increasing household formation rates favour demand for apartments.

Residential property transactions and mortgage market activity

Housing transactions rose to approximately 59,000 units in 2017, an increase of 7.7 per cent on 2016 (Chart 38). This constituted the highest annual number of transactions on record since data collection began in 2010. SSBs remain the largest cohort of

[53] Until recently, estimates of residential property completions were solely based on the number of connections to the electricity grid carried out by the ESB. While concerns about the reliability of these figures have existed for some time, doubts have increased since the property crash, due to issues such as the inclusion of ghost estate units where the majority of construction activity may have occurred earlier, the reconnection of existing homes to the grid after two years, or the addition of non-residential units such as outhouses and sheds to the total. The matter is currently under review by the Department of the Housing, Planning and Local Government, the ESRI and ESB. In the meantime, Building Energy Ratings, which are compulsory for properties being sold or rented, have been put forward as an alternative measure of residential completions.
[54] See Box C "Leading Indicators of New Housing Output" in Central Bank of Ireland Quarterly Bulletin, QB2 April 2018
[55] Design Standards for New Apartments - Guidelines for Planning Authorities (March 2018)
[56] Resolving Unfinished Housing Developments: 2017 Annual Progress Report on Actions to Address Unfinished Housing Developments
[57] Project Ireland 2040: National Planning Framework

Chart 40: Average mortgage drawdown value by cohort (rolling annual total)



Source: BPFI.
Notes: Data refer to household transactions only, i.e. transactions completed by and mortgages to FTBs, mover purchasers and BTLs. Observations are rolling annual totals.

purchasers, accounting for 45 per cent of transactions. Non-household buyers, including foreign private equity firms and REITs that tend to operate mainly in urban markets, increased their share of transactions to 14.5 per cent in 2017, which compares to 4 per cent in 2011.

Non-mortgage transactions declined from 59 per cent of total transactions in 2016 to 55 per cent in 2017.[58] The non-mortgage element of the market is more prevalent in Ireland than in the UK, where about one-third of housing transactions were cash purchases in 2017.[59] National average residential yields, according to Daft.ie data, have remained steady at 6.1 per cent since mid-2013.[60] Irish residential property may continue to prove attractive to investors operating within cash-based funding models in the current low interest-rate environment.

Almost 30,000 mortgages for house purchases were drawn down in the year to 2018Q1, up 15 per cent on 2017Q1 (Chart 39). In value terms, a 25 per cent increase was recorded. FTBs remain the largest cohort for house-purchase loans with 60 per cent of new mortgages, which is the highest share since 2013. Annual mortgage approvals (including for top-ups and re-mortgages) amounted to 43,000 for house purchases in 2018Q1, a 12 per cent increase on 2017Q1.

The BPFI Housing Market Monitor 2017Q4 states that the median deposit for FTBs rose by 1.4 per cent to €36,500 in 2017Q4, with €50,000 necessary for Dublin-based property.[61] SSBs now require average deposits for house purchase of €90,000 nationally and €140,000 in Dublin. These estimates are broadly in line with Central Bank calculations from Monitoring Template analysis.[62] Overall, average loan drawdown values by each borrower group has increased in recent years (Chart 40).

The Central Bank introduced macroprudential mortgage-lending requirements in February 2015, which are subject to annual review. The outcome of the second annual review of these requirements was announced in November 2017. The core parameters of the measures – the LTV and LTI limits – remained unchanged. Separate allowances permit 20 per cent of FTB lending and 10 per cent of SSB lending in a given year to be above the 3.5 LTI limit.[63]

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[58] Volume of cash transactions is calculated from the rolling annual total of BPFI mortgage drawdowns (excluding one-offs/self-builds) and the total number of CSO residential dwelling property transactions.
[59] Council of Mortgage Lenders Market Commentary September 2017
[60] Data are attained privately from Daft.ie on a quarterly basis.
[61] BPFI Housing Market Monitor 2017Q4
[62] See Kinghan,Lyons and Mazza (2018), "Macroprudential measures and Irish mortgage lending – An overview of 2017", Central Bank of Ireland, Financial Stability Notes, No. 1, 2018.
[63] For further information, see https://www.centralbank.ie/financial-system/financial-stability/macro-prudential-policy/mortgage-measures

Box 4: Switching activity in the Irish mortgage market

By Christina Kinghan, Paul Lyons, Elena Mazza (Macro-Financial Division) and Elaine Deegan (Consumer Protection Directorate)

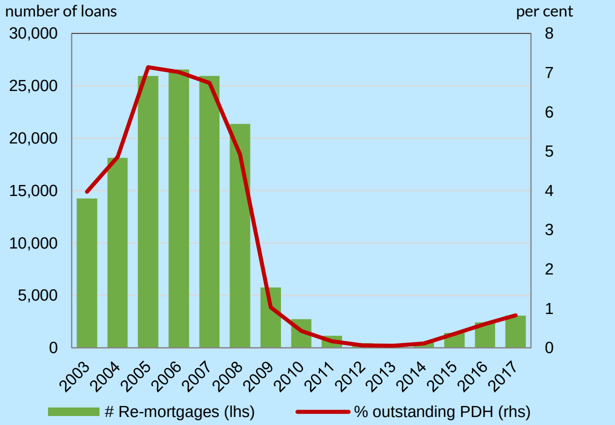
This Box examines mortgage switching (defined as loans issued by one lender to refinance an existing mortgage with another lender) in the Irish mortgage market since 2003 and profiles the loan and borrower characteristics of those who switched mortgage provider in 2017. Switching across mortgage products in the mortgage market can lead to beneficial outcomes for both the individual borrower and the market as a whole. From a borrower perspective, the cost savings obtained through switching improve debt sustainability and have positive spillovers on repayments, arrears avoidance and consumption and savings decisions.[1] From a market perspective, an active switching market can stimulate competition among mortgage providers in a framework of robust regulatory and supervisory policies that prevent banks from taking undue risks in their product offerings.[2]

Chart A displays the number and value of switcher loans from 2003 to 2017.[3] Switching activity peaked in 2006, when approximately 27,000 mortgages (7 per cent of the value) of outstanding PDH mortgage loans switched provider. Between 2009 and 2014, switching decreased significantly, reflecting subdued lending activity in the overall Irish mortgage market at that time. From 2015 onwards, the number and value of switcher loans has increased. In 2017, 3,000 mortgages switched provider, representing approximately one per cent of the stock of outstanding credit for PDH purposes. Although an upward trend is being observed in recent years, the level of switching evident in the mortgage market is substantially lower than that observed prior to the financial crisis.

Table 1 provides some of the loan and borrower characteristics of those who switched mortgage provider in 2017.[4] These borrowers had an average loan-to-value (LTV) of 57.6 per cent. This compares to an LTV of 67.6 per cent for second and subsequent borrowers (SSBs) and 79.8 per cent for first time buyers (FTBs). The average loan-to-income (LTI) ratio for switchers was 2.4. The corresponding figures for FTBs and SSBs were 3.0 and 2.4, respectively. The average remaining loan term was 22 years; lower than that of both SSBs and FTBs as a whole (24 and 29 years, respectively). Over half of switchers had a fixed interest rate loan. The average age of switchers was 41 years old, compared to 34 for FTBs. Switchers were also primarily located in the Dublin and Leinster (excluding Dublin) regions. Taken together these characteristics suggest that those switching mortgage provider do so relatively early in the loan life cycle, have relatively low leverage (LTV and LTI), and are primarily located in the Dublin region.

A recent public consultation undertaken by the Central Bank outlined a series of enhanced mortgage transparency and switching measures.[5] The measures aim to enhance protections for consumers; help consumers make savings on their mortgage repayments; and facilitate mortgage switching through enhanced transparency. Furthermore, a simpler and more streamlined switching process would provide borrowers with another way to respond when faced with potential adverse economic shocks, i.e. by switching to lower their repayment burden.

Chart A: Mortgage switching over time, 2003 - 2017



Source: BPFI and Central Bank of Ireland
Notes: Number of re-mortgagers are from BPFI mortgage drawdowns data, PDH credit outstanding are from Central Bank Credit Advanced to Irish Private Households for House Purchases (A18.1 & A18.2)

Table 1: Characteristics of Switchers in 2017

Amounts in €; proportions as percentage

Loan Characteristics	
Loan Size (€)	221,488
Property Value (€)	413,884
Loan-to-Value (%)	57.6
Income (€)	101,116
Loan-to-Income ratio	2.4
Loan Term (Years)	22.0
Total Instalment (€)	1,182
Interest Rate (%)	3.2
Fixed Interest Rate Type (%)	53.4
Borrower Characteristics	
Borrower Age (Years)	41.0
Couples (%)	74.1
Employed (%)	90.5
Dublin (%)	48.1
Leinster ex Dublin (%)	23.5
Munster (%)	19.5
Connaught (%)	6.8
Ulster (%)	2.1

Source: Central Bank of Ireland,
Notes: Includes both switchers who switched mortgage provider without increasing their loan balance outstanding as well as those who switched and increased their loan size.

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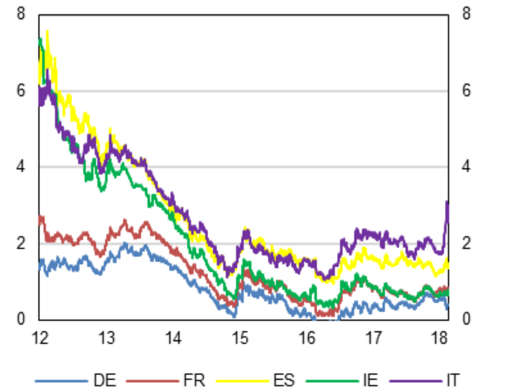
1. Devine et al. (2015) estimate that estimate that 21 per cent of Irish borrowers could save by switching. See also Fuster and Willen (2017) and Di Maggio et al., (2014).
2. See Beck (2008) for further information.
3. The value of switcher loans is as a proportion of the total estimated value of outstanding credit for PDH.
4. See Kinghan,Lyons and Mazza (2018) "Macroprudential measures and Irish mortgage lending – An overview of 2017", Central Bank of Ireland, Financial Stability Notes, No. 1, 2018.for figures for FTBs and SSBs.
5. Enhanced Mortgage Measures: Transparency and Switching (CP112) - August 2017.

3.4 Sovereign

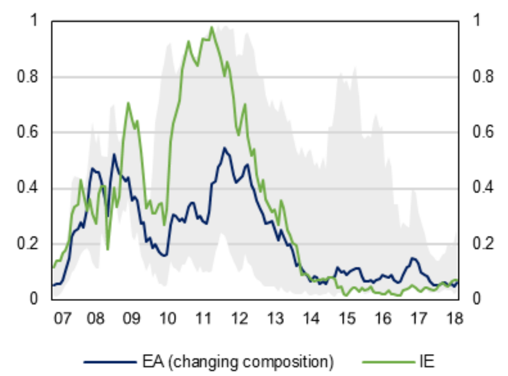
While bond yields and sovereign stress levels remain low in most euro area Member States, there has been a sharp rise in Italian sovereign bond yields recently on the back of domestic political developments. Debt levels remain high in developed countries, including in the euro area. Political events or economic and interest rate shocks could have an adverse effect on deficit-debt dynamics. Some €40 billion of marketable Irish sovereign debt is due to mature by end-2020. A relatively small number of payers account for a large share of corporation tax, leaving the Exchequer exposed to idiosyncratic shocks and political developments.

Chart 41: Sovereign bond yields for selected euro area Member States



Source: Thomson Reuters Datastream.
Notes: Chart shows yields on sovereign bonds, 10-year maturity. Last observation: 7 June 2018.

Chart 42: Composite Indicator of Sovereign Stress



Source: ECB Statistical Data Warehouse.
Notes: The Composite Indicator of Sovereign Stress aim to measure the level of stress in EA sovereign bond markets. Last observation: May 2018. The shaded area reflects the range of indicator values in each month among the following Member States: AT, BE, DE, EL, ES, FI, FR, IE, IT, NE, PT. Further information on the Indicator 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.

External developments

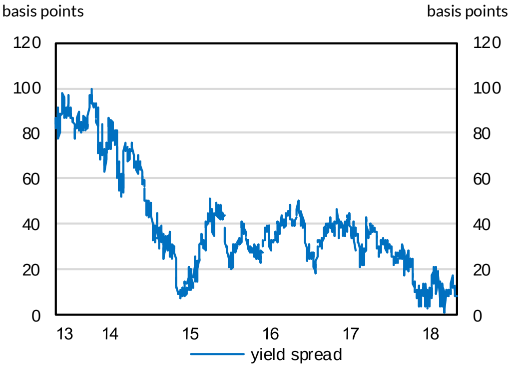
Long-term bond yields among most euro area sovereigns, including Ireland, remain at relatively low values by historical comparison (Chart 41). Italian bond yields, however, have risen sharply since mid-May, reflecting domestic political developments. The ECB Composite Indicator of Sovereign Stress indicates that the narrowing of stress levels among the euro area 11 Member States in 2017 has been partially offset this year (Chart 42). Sovereign bond issues among some Member States that were stressed during the financial crisis had strong market support (as measured by order books) in the opening months of 2018. Alongside the recent increase in Italian bond yields, sovereign bond yield values for Spain and Portugal have also risen but to a lesser extent.

Beyond the euro area, US 10-year sovereign yields have increased from 2.1 per cent in early-September 2017 to close to 3 per cent in early-June. This has occurred against a US background of rising inflation and output growth rates, a loosening of fiscal policy, and market reaction to the possibility of an accelerated tightening of monetary policy. There has been a flattening of the US yield curve, including a decline in the inflation-indexed spread between US long- and short-dated sovereign yields (Chart 43). This may reflect any of a number of factors, including rising short-term interest rates, low inflation rates, and a demand for long-term debt.

These financial market developments arise as debt levels remain high in advanced economies. The sovereign debt ratio in the OECD area has risen from 50 per cent of GDP in 2007 to 74 per cent in 2017; some 40 per cent of that debt will need to be refinanced in the next three years.[64] In the euro area, sovereign debt ratios at end-2017 were close to recent highs in many Member States (Chart 44). This leaves those countries vulnerable to adverse changes in market conditions, the effects of monetary policy normalisation, or a downturn in economic performance. Following regulatory reforms, euro area financial institutions' holdings of EU government debt have been declining over time while demand for such debt among insurance companies and pension funds has increased. European banking union and related developments support fiscal sustainability by acting to reduce the

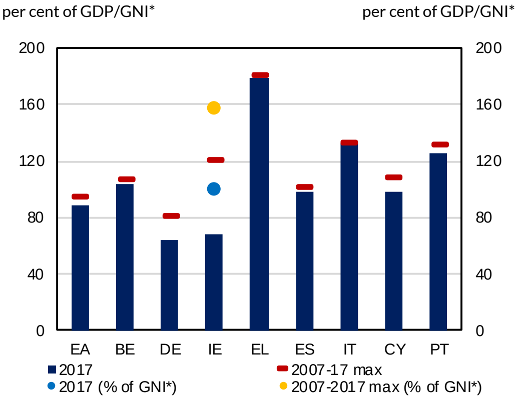
[64] OECD Sovereign Borrowing Outlook 2018

Chart 43: US inflation-indexed yield spread



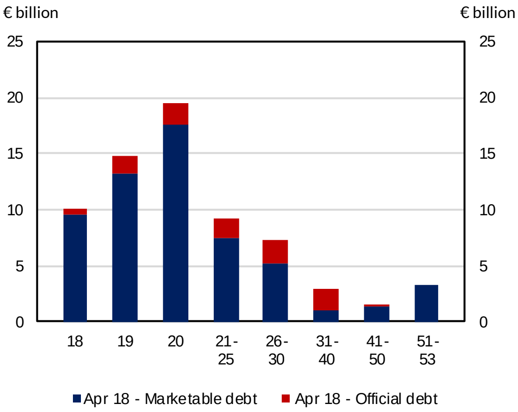
Source: FRED St. Louis database.
Notes: The spread is between 10-year US Treasury inflation-indexed, constant maturity, yield and 5-year US Treasury inflation-indexed, constant maturity, yield. Last observation: 6 June 2018

Chart 44: General Government debt ratios for selected EA Member States



Source: EU AMECO database; 2017 entries for Ireland from Department of Finance, Stability Programme Update April 2018.
Notes: Chart shows debt ratio at end-2017 (blue bar) and highest end-year debt ratio between 2007 and 2017 (orange tick). The grey and yellow dots represent debt ratios for Ireland expressed as a proportion of GNI*.

Chart 45: Maturity profile of Ireland's long-term marketable and official debt



Source: NTMA. Notes: Entries for 2021-25, 2026-30, 2031-40, 2041-50, and 2051-53 are yearly averages. It is not expected that Ireland will need to re-finance any of its EFSM loans before 2027.

need for state support in the event of difficulties arising in the banking sector.

Looking ahead, yield values could increase if higher growth or inflation expectations arise among investors. A change in expectations concerning monetary policy could also put upward pressure on yields. The Federal Reserve is decreasing the size of its balance sheet, with sovereign bonds reaching maturity date without replacement. The ECB has scaled back its asset purchase programme (APP).[65, 66] Political or financial events, within the euro area or beyond, or developments relating to Brexit could cause an upward repricing of sovereign yields and market disruption. A deterioration in economic performance could have an adverse impact on public finances with possible knock-on effects to sovereign bond markets.

Domestic environment

As has been the case over recent years, Ireland's long-term bond yields remain close to that of Germany and other Member States that were not as adversely affected by the euro area sovereign bond crisis as others (Chart 41). The Exchequer cash balance was €10.5 billion at end-2017. The NTMA plans to issue €14 billion to €18 billion of bonds in 2018, and had raised €11.25 billion in benchmark bonds by 10 May amidst strong demand for its debt issuance. Some €40 billion of marketable debt is due to mature before end-2020 – about 16 per cent of projected 2018 GNP or just over one-fifth of total outstanding long-term marketable and official government debt (Chart 45). A deterioration in sovereign bond financing conditions or any domestic economy shock could adversely affect debt financing. Most outstanding government debt securities are on fixed rates.

A headline General Government deficit for 2018 of 0.2 per cent of GDP is projected, while a structural budget deficit of 0.9 per cent of GDP is forecast this year.[67] Corporation tax has grown strongly in recent years, with revenue from this source rising some 78 per cent since 2014 (while total tax revenue increased by 23 per cent) and accounting for 16 per cent of total tax revenue in 2017. A relatively small number of payers account for a large share of corporation tax receipts leaving the Exchequer exposed to idiosyncratic shocks and political developments, which could also affect other tax headings. Against this background, fiscal policy needs to remain prudent in ensuring that the public finances remain on a sustainable path in the face of any future adverse economic or financial market shocks.

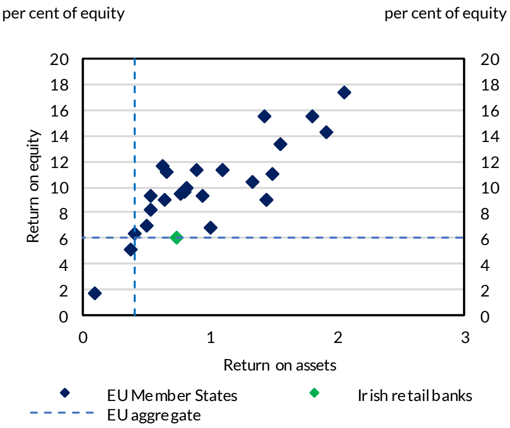
[65] An APP of public sector and private sector securities has been in operation since March 2015. A reduction in monthly asset purchases under the Programme, from €80 billion to $60 billion, occurred in April 2017. From January 2018, net asset purchases of public and private securities have been at a monthly rate of €30 billion, until end-September 2018.
[66] Estimates of the impact of asset purchasing programmes on sovereign bond markets differ in their assessment, including on where the programme is being conducted, some of which were cited in the Sovereign section (p. 32) of the last Macro-Financial Review (2017: II). While some studies of US Federal Reserve asset programmes indicate they may have reduced the US 10-year bond term premium by up to 100 basis points, a recent study contends that these estimates overstate the programmes' effects. It argues that the effect of the announcement and commencement of Federal Reserve balance sheet reduction has not had much effect on yields. (See Greenlaw, D., Hamilton, J.D., Harris, E.S., West, K.D. "A Skeptical View of the Impact of the Fed's Balance Sheet." University of Chicago Booth School of Business, mimeo., February 2018.)
[67] Department of Finance, Stability Programme Update April 2018.

4. FINANCIAL SYSTEM

4.1 Banking sector

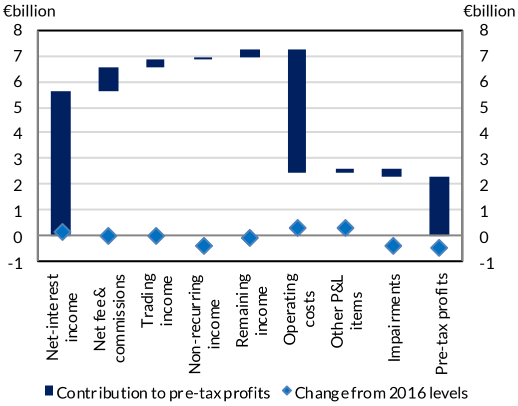
Irish retail banks' aggregate profit decreased in 2017. Although NPLs are falling, the aggregate loan book of Irish retail banks remains one of the most distressed in the EU. Delevering continues as debt securities mature and loan redemptions exceed new lending. Funding costs are low and Irish retail banks remain predominantly deposit-funded. Solvency ratios increased in 2017 due to a reduction in risk-weighted assets and a modest increase in the capital base. While Irish retail banks' operating environment is improving, significant challenges remain, including reducing the existing stock of NPLs, and dealing with the potential effects of Brexit and monetary policy normalisation on profitability and asset quality.

Chart 46: Profitability of EU banking systems



Source: EBA and Central Bank of Ireland calculations.
Notes: Data are consolidated and are consistent with the EBA's FINREP reporting templates. Data are annualised. Data relate to 2017.

Chart 47: Breakdown of Irish retail banks' pre-tax profits



Source: Central Bank of Ireland calculations.
Notes: For the 12-month period to end 2017. Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements.

Against a backdrop of improving economic activity and the low interest-rate environment, the EU banking sector recorded a modest increase in profitability in 2017. Given the uneven nature of the economic recovery, however, banking system profitability varies significantly across the EU (Chart 46). With almost all Member States' banking sectors reporting some improvement in asset quality, the aggregate NPL rate fell to 4.0 per cent in 2017.[68] In general, aggregate EU capital ratios also increased in 2017.

The banking sector in Ireland is likely to be affected by any adverse effects on financial markets and economic conditions arising from Brexit. The most substantial risk relates to the potential impact on loan portfolios (increased defaults and lower new lending volumes) and the subsequent effects on profitability as a result of any slowdown in UK and Irish economic growth. In the event of a hard Brexit, the loss of passporting rights is not expected to affect the largest Irish retail banks who conduct most of their business in the UK market via subsidiaries already established in the UK.[69] New banking firms entering Ireland in response to Brexit could cause a significant transformation of the Irish banking landscape in terms of its size and complexity.

Income and profitability

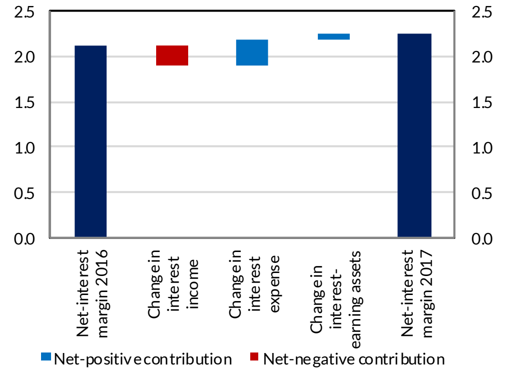
Irish retail banks' pre-tax profits declined by over 16 per cent in 2017 when compared with 2016 (Chart 47). However, when the effects of one-off factors are removed, underlying profitability decreased by 6.7 per cent. Irish retail banks' profitability remains broadly in line with the performance of the aggregate EU banking sector (Chart 46).

Although the main categories of income increased, total operating income declined in 2017. This was primarily due to a fall in one-off

[68] Having stood at 5.1 per cent in 2016Q4.
[69] Being granted a banking licence authorisation in one Member State opens the possibility that a credit institution can passport throughout the rest of the European Union without the need to establish a subsidiary in another Member State. Passporting can be affected through either the establishment of a branch in another Member State or by the provision of services in another Member State (i.e. services are provided in another Member State but no physical presence is established in that State).

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

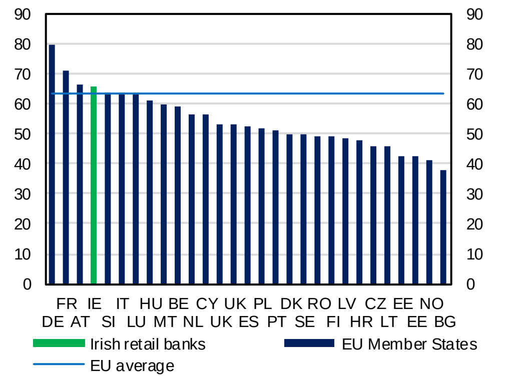
per cent of interest-earning assets | per cent of interest-earning assets



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

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

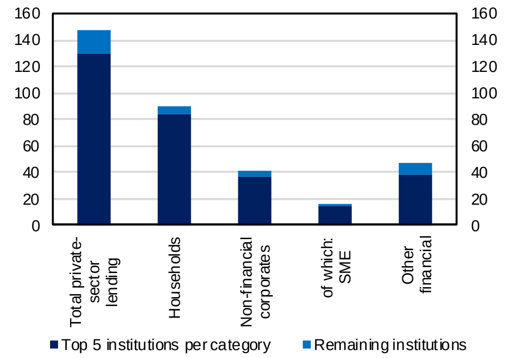
per cent of operating income | per cent of operating income



Source: EBA and Central Bank of Ireland calculations
Notes: Data are consolidated and are consistent with the EBA's FINREP reporting templates. Cost-to-income ratio calculated as per EBA Risk Dashboard. Data are annualised. Data relate to 2017Q4

Chart 50: Irish credit market: Top 5 institutions per category

€ billion | € billion



Source: Central Bank of Ireland, Resident statistics
Note: Aggregate share of five largest credit providers adjusted for group structure and relate to credit advanced to Irish counterparts only. 'Other financial' includes lending to insurance corporations and pension funds and other financial intermediaries. Data relate to 2017Q4.

income, which provided a substantial boost to profitability in 2016.[70]

Net-interest income, which accounted for over 77 per cent of operating income, increased marginally in 2017 compared with 2016 (Chart 48). Reductions in interest expenses more than offset the fall in interest-related income at Irish retail banks. Lower funding costs, in addition to reductions in assets, led to an increase in net-interest margins (Chart 48). These underlying developments, however, are not sustainable in the long run, with market expectations of an increase in interest rates towards the end of next year. The potential overall impact of increasing interest rates on bank profitability is unclear as both interest income and interest expenses will be affected. The resilience of borrowers to interest rate rises will be important. High rates of indebtedness among some Irish households and SMEs may point to some vulnerability. Fee and commission income represents the second largest source of income for Irish retail banks and was broadly unchanged in 2017 (Chart 47). Trading income increased by 10 per cent in 2017, albeit from a low base.

Operating costs increased by 7.3 per cent in 2017 with a rise in staff expenses, regulatory charges, Irish mortgage tracker redress, and infrastructural investment each contributing. The continued monitoring of NPLs and the implementation of resolution strategies have also added to operating expenses. Rising operating expenses and declining operating income resulted in an increase of almost 6 percentage points in the cost-to-income ratio in 2017. Irish retail banks' cost-to-income ratios remain marginally above the EU average (Chart 49). Labour market developments and the favourable outlook for the domestic economy could exercise upward pressure on banks' payroll expenses in the coming years. The introduction of GDPR may present banks with additional operating expenses.[71]

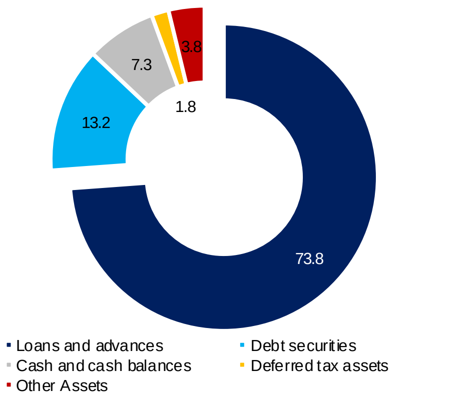
The write-back of impairment provisions have contributed positively to Irish retail banks' pre-tax profits in recent years. These reflected the release of reserves put aside during the financial crisis. For the first time in four years, however, Irish retail banks have set aside net provisions of €262 million in 2017 (compared with a cumulative write-back of over €2.5 billion in the previous three years). The introduction of IFRS 9 at the beginning of 2018 could lead to higher impairment charges which could put further pressure on Irish retail banks' profitability.[72]

About 80 per cent of Irish retail banks' income derives from domestic-related activities. While domestic economic conditions support the recovery of the Irish retail banks, structural challenges remain which may affect their ability to expand their business in the future. The Irish credit market remains heavily concentrated (Chart 50) and the low, albeit increasing, levels of new lending present challenges for Irish retail banks in terms of

[70] A number of Irish retail banks along with banks across Europe reported gains from the disposal of their holdings in Visa Europe in 2016.
[71] The introduction of EU regulation on 25 May 2018 — known as the General Data Protection Regulation, or GDPR — will place addition obligations on firms regarding the collection, processing and storage of customers' data. As a result, banks may face costs developing new IT systems to ensure that they are compliant with the regulations.
[72] For more on IFRS 9 see Box 4 in MFR 2017:I.

Chart 51: Irish retail banks' assets

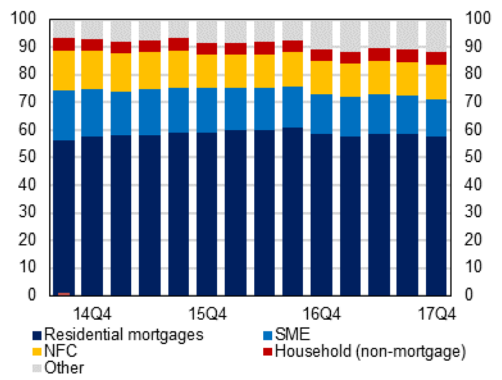
per cent of total assets / per cent of total assets



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements and relate to 2017Q4.

Chart 52: Sectoral breakdown of outstanding Irish retail banks' loans and advances

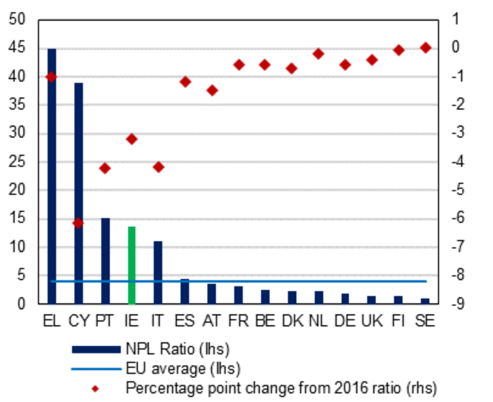
per cent of loans and advances / per cent of loans and advances



Source: Central Bank of Ireland.
Notes: Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements. Last observation: 2017Q4.

Chart 53: Cross-country NPL ratios

per cent / per cent



Source: EBA and Central Bank of Ireland.
Notes: Irish data are consolidated data for the five retail banks and collected in accordance with the EBA's FINREP reporting requirements. The NPL ratio is the ratio of NPLs to total gross loans by value. Last observation: 2017Q4.

their ability to increase their aggregate loan books. The UK accounts for the majority of non-domestic credit exposures. Uncertainty surrounding the outcome of the Brexit negotiations poses risks to Irish banks with operations in the UK or those with counterparties exposed to the UK.

Credit and asset quality

The value of Irish retail banks' total assets fell by 3 per cent to €262.7 billion in the year to end-2017. Debt securities experienced the largest decline of €5.3 billion, to €34.7 billion. Net performing loans and advances remain the largest component of total assets, at 74 per cent (Chart 51), while the total value decreased by 1.1 per cent to €194 billion. The value of outstanding loans decreased by 2.2 per cent to €222.6 billion in 2017. Residential mortgage lending was the largest sectoral exposure at end-2017, accounting for 57.8 per cent of outstanding loans and with SMEs and NFCs together accounting for 25 per cent (Chart 52).

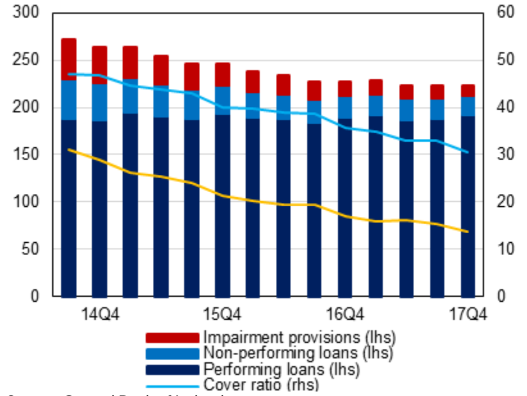
Although asset quality continues to improve with the NPL ratio at its lowest level since 2014, impaired loans remain a source of vulnerability for Irish retail banks, as well as for the EU banking sector. At end-2017, Ireland's NPL ratio of 13.8 per cent was above the aggregate EU rate of 4 per cent (Chart 53). Since 2016Q4, Ireland's NPL ratio has experienced the fourth largest reduction among the EU-28 countries. The remaining stocks of distressed loans may adversely affect the medium-term supply of bank credit and potentially increase banks' vulnerability to any future downturn in the economy. In March 2018, the European Commission presented a package of measures accelerating the reduction of NPLs in the EU and preventing any renewed build-up of them. The measures include a common minimum coverage level for newly originated loans that become non-performing after April 2018.[73, 74] In addition, the SSM has outlined its supervisory expectations for prudent levels of provisions for new NPLs.

In the Irish banking system, outstanding NPLs declined by €7.9 billion to €30.6 billion in the year to end-2017 (Chart 54), with reductions occurring across all major lending categories. SME loans remain the most distressed asset class. In 2017Q4, 21 per cent of SME loans, with an outstanding balance of €6.2 billion, were non-performing (Chart 55). The resolution of distressed mortgages has been a slow process with 16 per cent of mortgages non-performing at end-2017. The lowest NPL rate was among larger NFC loans at 9.7 per cent in 2017, down from 15.1 per cent a year previously.

Improving macroeconomic conditions and the low interest rate environment have supported NPL resolution. Recent research

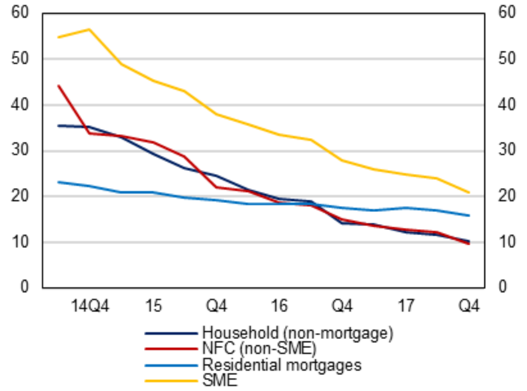
[73] The package includes a proposal for a directive on credit servicers, credit purchasers and the recovery of collateral, a proposal for a regulation amending the capital requirements regulation and a blueprint on the set-up of national asset management companies (AMCs). The addendum is non-binding and will serve as the basis for the supervisory dialogue between the significant banks and ECB Banking Supervision. Further information available here.
[74] A common minimum coverage level means that in case a bank does not meet the applicable minimum level, deductions from banks' own funds would apply. The measure addresses the risk of not having enough funds to cover losses on future NPLs and prevents their accumulation.

Chart 54: Irish retail banks' asset quality: loans and advances



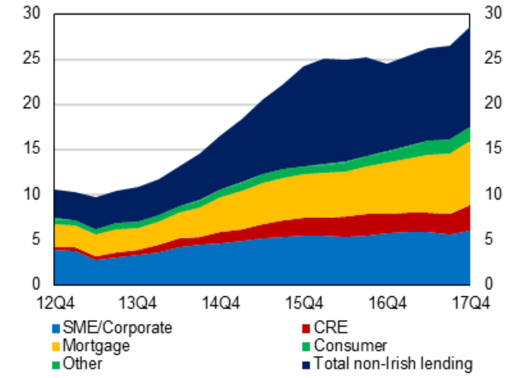
Source: Central Bank of Ireland.
Notes: Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements. Last observation: 2017Q4.

Chart 55: Irish retail banks' sectoral NPL rate



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements. Last observation: 2017Q4.

Chart 56: Irish retail banks' new lending: quarterly by sector (rolling 4Q total)



Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Last observation: 2017Q4.

highlights the entry rate into mortgage arrears in 2016Q4 being at its lowest level since data collection began in 2010.[75] While the flow rate of new NPLs has slowed significantly, the existing stock of NPLs, particularly the large share of residential mortgages that are in long-term arrears, remain a drag on banks' profitability. Approximately 44 per cent of mortgage loans in long-term arrears are more than 5 years past due as of June 2017, compared to 34 per cent a year previously.[76] Formulating and implementing appropriate strategies to deal with the stock of NPLs remains a medium-term challenge for Irish retail banks. Further delevering through the sale of loan books, in addition to workouts and restructures, should bring about a reduction in the outstanding NPL stock.

The stock of provisions for NPLs fell by 28 per cent to €10.8 billion in the year to 2017Q4. The cover ratio of 30.7 per cent for Irish retail banks remains below the EU average of 44.5 per cent. The low ratio value is in part due to a lower level of provisions required as part of ongoing NPL resolution activities, underlying collateral values, and improving economic conditions. While the current rate may be justified, lower cover ratios in general can increase banks' vulnerability in a stressed scenario. The implementation of IFRS 9 in January 2018, which introduced the Expected Credit Loss Model (ECL) approach, could negatively affect profitability through increasing provision levels.[77]

Total new lending in 2017 amounted to €28.6 billion, which was a 16.7 per cent increase on 2016 (Chart 56). Across all jurisdictions, the largest portion of new loans were to the SME/corporate sector, amounting to €11.6 billion. The manufacturing industries were the primary recipients of these new lending flows (20 per cent), followed by business and administrative services (12.4 per cent). Residential mortgage lending accounted for €11 billion of new lending.

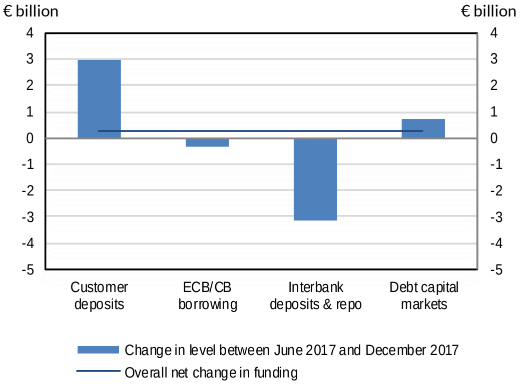
Irish counterparties continue to account for the majority of new lending activity, at 61.3 per cent of the total (Chart 56). The UK represents the second largest geographical exposure, accounting for three-quarters of new lending outside of Ireland in 2017. Across both jurisdictions, there have been increases in SME loans and mortgage lending, while CRE lending in the UK declined for the fourth consecutive quarter in 2017Q4. Given the relative exposure of Irish banks to the UK market, income or employment shocks as a result of Brexit could see entities with significant sectoral exposures face a rise in NPLs.

Funding

The overall funding level of Irish retail banks is broadly unchanged since the last Review (Chart 57). Total funding stood at €218.9 billion in December 2017. Historically low interest rates, in conjunction with banks continuing to increase the customer deposit share of their total funds, has helped banks to lower their

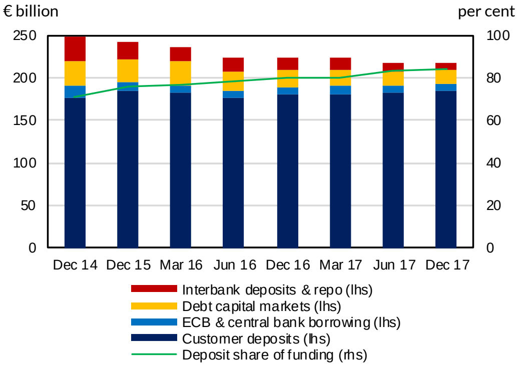
[75] See McCann (2017) "Resolving a Non-Performing Loan crisis: The ongoing case of the Irish mortgage market"
[76] See Donnery et al., op. cit.
[77] When a loan is originated or purchased, ECLs resulting from default events that are possible within the next 12 months are recognised and a loss allowance is established. When credit quality is deemed to deteriorate significantly and the financial asset is no longer considered to be low credit risk, the full lifetime ECL would then be reported with a resulting increase in provisions.

Chart 57: Change in Irish retail banks' funding composition



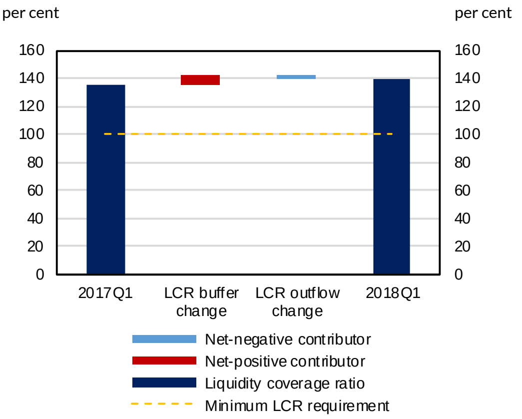
Source: Central Bank of Ireland.
Notes: Change in funding components between June 2017 and December 2017.

Chart 58: Funding profile of Irish retail banks



Source: Central Bank of Ireland.
Notes: Data are consolidated. Last observation: December 2017.

Chart 59: Liquidity coverage ratio – Irish retail banks



Source: Central Bank of Ireland.

funding costs. However, as customer deposits have shorter contractual maturities than the asset side of the balance sheet, banks' maturity-mismatch profiles are adversely affected. ECB borrowings and interbank deposits & repos continue to decline.

During the second half of 2017, there was, for the first time since 2015, a small net increase in the level of market debt issued by Irish retail banks. Irish retail banks have raised €2 billion in the first four months of 2018. The introduction of MREL and regulatory requirements for loss absorbency buffers is one reason for the increase in market activity. A number of Irish retail banks rely on UK-based investment banks for debt issuance purposes. While the final counterparties are not necessarily UK based, there may be operational challenges to future issuance of debt through the UK after Brexit. (See Box 5 for an assessment of Ireland's cross-border banking exposure to the UK.)

The funding profile of the Irish retail banks has varied only marginally since December 2016 (Chart 58). The share of customer deposits continues to rise, comprising 85 per cent of total funds as of December 2017. Although such deposits represent relatively stable funding sources, their cost remains susceptible to increases in interest rates and/or any negative changes in investor sentiment.[78] Interbank deposits' share of total funding stands at 4 per cent, down from 5.4 per cent as of June 2017. Approximately 20 per cent of the Irish retail banks' deposit-based funds are sourced via the UK. Banks should ensure that their funding plans remain robust to plausible Brexit-related scenarios.

Deposit rates are broadly unchanged from August 2017 with interest rates offered on existing deposits falling by 7 basis points to 0.10 per cent. New business deposits earn slightly less at 0.05 per cent. The ECB's main refinancing rate is expected to remain at current levels for the duration of the net asset purchases programme and potentially beyond.[79] This will likely help contain funding costs for Irish retail banks in the short term. The impact of future interest rate increases on banks' funding costs will likely depend not only on the extent of such increases but also on the level of competition in the domestic deposit market.

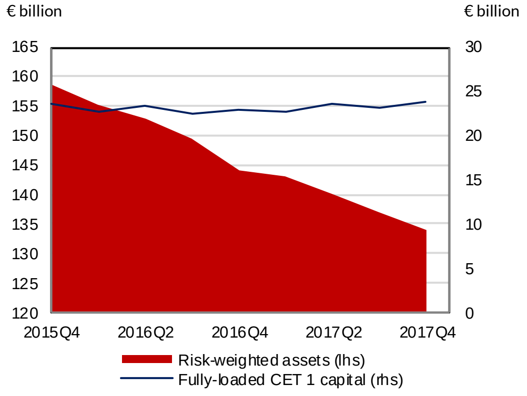
Despite an increasing reliance on short-term customer deposits, the Irish banks remain fully compliant with LCR requirements.[80] These ratios improved in the twelve months to end-2018Q1 (Chart 59), thereby countervailing short-term funding concerns raised by an increase in short-term customer deposits.

Capital and leverage

The Irish retail banks' aggregate capital position is largely unchanged since the last Review, whilst at the same time the level of RWAs continues to decline. Thus, following successive

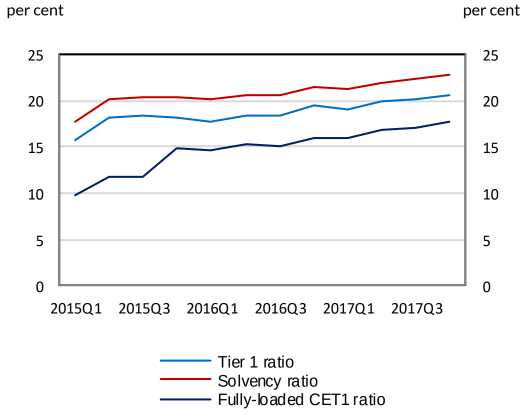
[78] The US Federal Reserve increased rates in December 2017 and further rate increases are anticipated in 2018. However low US inflation expectations and weaker than expected growth figures for China have damped expectations as to the scale of the interest rate increases in 2018. This reduces the upward pressure on comparable EU interest rates.
[79] See ECB Monetary Policy statement of 8th March 2018.
[80] Under the LCR requirements, banks are required to hold enough liquid assets to meet their expected obligations over a 30 day horizon. The regulations are being gradually phased in. Banks are required to be fully compliant by the start of 2019.

Chart 60: Irish retail banks' fully-loaded Tier 1 capital and risk-weighted assets



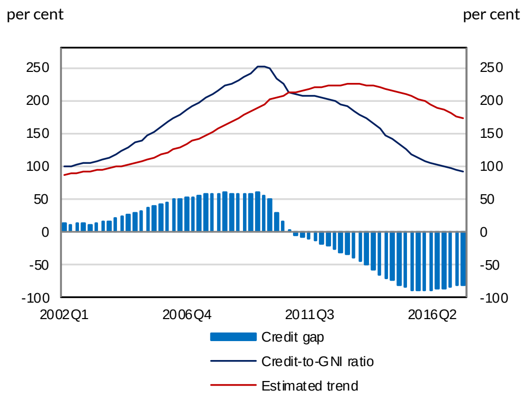
Source: Central Bank of Ireland.
Notes Data are collected in accordance with the EBA's COREP reporting requirements. Last observation 2017Q4.

Chart 61: 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: 2017Q4.

Chart 62: National specific approach: Credit-to-GNI* ratio and gap



Source: Central Bank of Ireland.
Notes: The estimated trend line is calculated using a Hodrick-Prescott filter. The credit gap is defined as the deviation of the credit-to-GNI* ratio from the long-run trend. Last observation: 2017Q3.

improvements over recent years, the Irish retail banking sector is now more robust to financial shocks than it was at the time of the global financial crisis. There has been an improvement in each of the main capital ratios, with the CET 1 ratio of Irish retail banks remaining above the EU average.

Nevertheless, risks to capital remain. Profitability levels have fallen as provision write-backs dissipate and other one-off boosts to pre-tax profits that occurred in 2016 were not repeated last year. Lower profit levels, coupled with the normalisation of dividend payments, will restrict banks' ability to generate additional capital internally. Aside from the impact on income, movements in interest rates also directly affect capital levels, most notably through their effect on defined-benefit pension schemes.

The Irish retail banks remain on target to meet their CET 1 targets under CRD IV by 2019. Aggregate fully-loaded CET 1 capital was €23.7 billion in December 2017, representing a moderate increase from the €23.5 billion reported in June 2017. Risk-weighted assets are declining as banks' balance sheets continue to contract. Aggregate RWAs were €134 billion in December 2017, down €6 billion since June 2017 (Chart 60). The combined effect of the movements in capital and RWAs is to increase the aggregate CET 1 ratio of Irish retail banks. The current CET 1 ratio is 17.7 per cent, an increase of 0.9 percentage points from that reported in June 2017 (Chart 61).

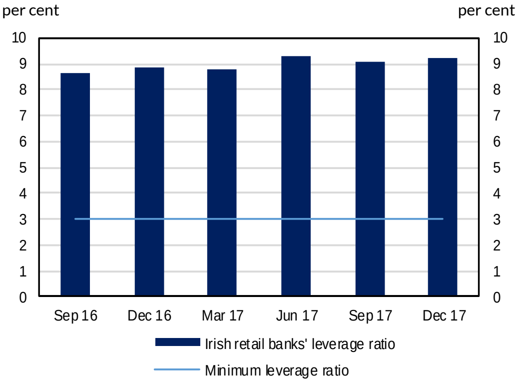
The Tier 1 capital ratio includes hybrid and/or contingent convertible securities (which are not factored into the CET 1 ratio). These securities may be converted into equity upon certain triggering conditions being met. The aggregate Tier 1 capital of Irish retail banks stood at 20.7 per cent at end-2017. The solvency ratio (total own funds divided by RWAs) stands at 22.7 per cent, representing an increase of 0.7 percentage points since the last Review.

As described in previous Reviews, the Central Bank of Ireland has introduced a counter-cyclical capital buffer (CCyB) to bolster the resilience of the Irish banking sector and to render it less pro-cyclical. The CCyB rate remains at 0 per cent. The national specific measure of the credit gap remains negative but declining in absolute terms (Chart 62).[81] The reduction reflects developments in domestic credit with increases in credit growth to both households and NFCs. As referred to in Section 3.1, the CCyB offers a macro-prudential instrument that promotes resilience in the banking sector against broadly-based cyclical systemic risks.

Provisions for the introduction of an O-SII capital buffer, to take effect in 2019, have also been made. The O-SII buffer applies to banks designated as systemically important to the Irish retail banking sector, with buffer rates being institution-specific.[82] As currently designated, the O-SII buffer will range from 0 per cent to

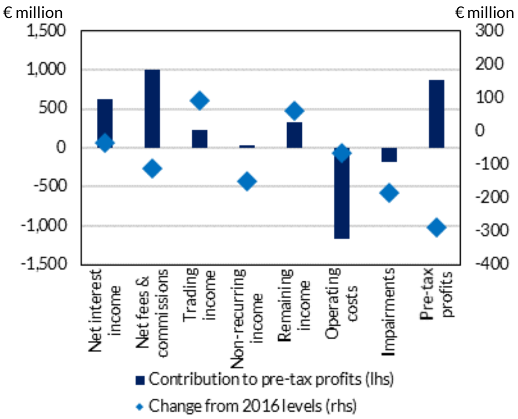
[81] See the Central Bank of Ireland March 2018 CCyB statement at https://www.centralbank.ie/ for further details.
[82] The O-SII buffer is a capital charge ranging from 0- 2 per cent of total risk exposures. For more on the O-SII buffer see www.centralbank.ie

Chart 63: Irish retail banks' leverage ratio



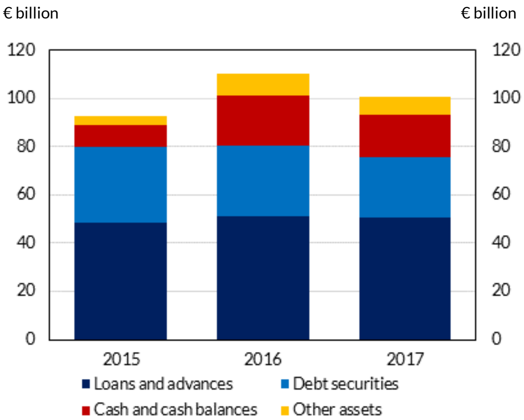
Source Central Bank of Ireland.
Notes: Minimum Leverage Ratio under Basel III is 3 per cent. Last observation December 2017.

Chart 64: Change in foreign-owned banks' profitability



Source: Central Bank of Ireland.
Notes: For the 12-month period to end 2017. Data are collected in accordance with the EBA's FINREP reporting requirements.

Chart 65: Foreign-owned banks' asset composition



Source: Central Bank of Ireland.
Notes: Data are consolidated. Data relate to 2017Q4.

0.5 per cent upon its introduction, rising to 1.5 per cent by 2021 for certain banks.

Excessive leverage was identified as a contributing factor to the global financial crisis. In addition to reforming the risk-based capital requirements, CRD IV also specified minimum capital requirements in order to reduce excessive leverage. Under the new requirements, banks must hold a minimum capital balance of 3 per cent of their total balance sheet exposures. The combination of shrinking balance sheet size and increases in the capital base saw Irish retail banks' leverage ratio increase in 2017 (Chart 63).

Foreign-owned resident banks[83]

Last year proved a challenging one for foreign-owned resident banks. Total operating income decreased by 6.1 per cent, to €2.2 billion, over 2016. Net-interest income, net-fees and commission income, and non-recurring income all contributed to the decline (Chart 64). Provisions and impairment charges also increased significantly to €177 million. Operating costs fell by 5.4 per cent. Overall, the pre-tax profits of foreign-owned resident banks declined by 24.8 per cent to €871 million in 2017. A consequence of these developments is that the aggregate cost-to-income ratio for foreign-owned banks increased marginally from 52.6 per cent in 2016 to 53 per cent last year. Overall, the return on assets fell from 1.1 per cent in 2016 to 0.9 per cent in 2017.

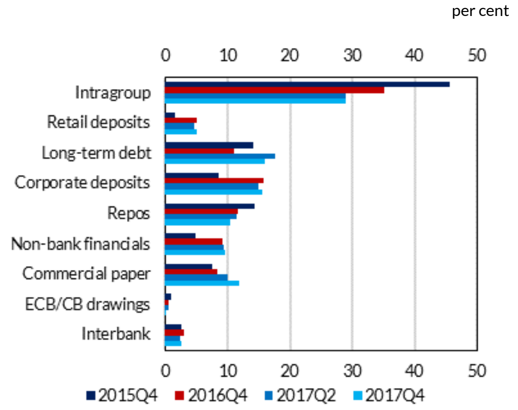
The aggregate balance sheet of foreign-owned resident banks declined by 8.8 per cent. Half of this change can be explained by a reduction in debt securities, cash balances and other assets in one institution. As a result, loans and advances' share of total assets increased from 46.5 per cent at the end of December 2016 to 50.4 per cent twelve months later (Chart 65). The decline in all headline asset categories in 2017 reversed the general improvement seen in 2016. The non-performing exposures ratio of foreign-owned banks increased by 0.6 percentage points to 1.1 per cent in 2017, while the coverage ratio dropped by 2.5 percentage points to 11.4 per cent in the same period. The value of foreign-owned banks' assets are susceptible to developments in foreign markets and exchange rate fluctuations.

Foreign-owned resident banks' total funding decreased by 6.5 per cent in 2017. Although declining as a share of total funding, intragroup support remains the primary source of funding, at 28.9 per cent in 2017Q4 (Chart 66). The decline in intragroup support has been offset by increases in long-term debt issuance and commercial paper. At end-December 2017, 45.5 per cent of total funding had a maturity of one month or less, down from 54.3 per cent 12 months earlier.

In aggregate, foreign-owned banks' fully-loaded common equity Tier 1 capital declined by 7.2 per cent between 2016Q4 and 2017Q4, driven predominantly by two banks (Chart 67). RWAs

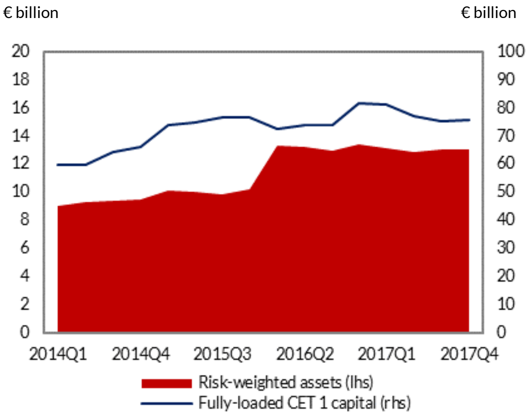
[83] Foreign-owned banks resident in Ireland form an important component of the overall banking system in terms of offering additional sources of credit and employment to the economy. Although these entities operate within the Irish economy, their business models differ from the retail banks in that they are not as active in extending credit to the domestic economy.

Chart 66: Foreign-owned banks' funding breakdown



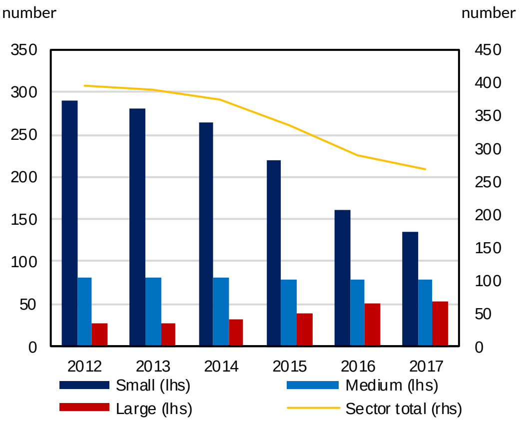
Source: Central Bank of Ireland.
Notes: Data are consolidated.

Chart 67: Foreign-owned banks' fully-loaded CET 1 capital and RWA



Source: Central Bank of Ireland.
Notes: Last observation: December 2017. Data are collected in accordance with the EBA's COREP reporting requirements. Data are consolidated.

Chart 68: Number of credit unions operating in Ireland



Source: Central Bank of Ireland.
Notes: Large relate to credit unions with total assets in excess of €100 million. Medium-sized credit unions relate to firms with a balance sheet size of between €40 million and €100 million. Small refer to institutions with a balance sheet of less than €40 million.

declined by 3 per cent over the same period, owing mostly to a reduction at one institution. As a result, the aggregate fully-loaded common equity Tier 1 capital ratio declined by 1.1 percentage points to 23.1 per cent in 2017. The reduction in capital has contributed to a fall in the leverage ratio from 12.1 in 2016Q4 to 11.7 in 2017Q4. This compares favourably with the European weighted average leverage ratio of 5.3 in 2017Q4. In addition to the minimum regulatory capital requirements, some foreign-owned resident banks will be subject to O-SII buffers from July 2019 onwards.[84]

With the UK expected to leave the EU in March 2019, a number of financial institutions based in the UK are exploring the possibility of moving their operations to Ireland in order to maintain a presence in the EU. This could see an expansion in the number, and type, of banks operating in Ireland. However, firms seeking to relocate to Ireland may face logistical and regulatory challenges as they seek to relocate activities.

Credit unions

The credit union sector showed some signs of financial improvement throughout 2017. These improvements are reflected in aggregate balance-sheet expansion and an overall reduction in loan arrears observed during the year. Notwithstanding these, income generation and overall surpluses remain challenging in the current operating environment. The main medium-term challenges facing the sector remain the low loan-to-asset ratio and the development of a robust business model that will allow the sector to continue to provide financial services required to existing and new members.

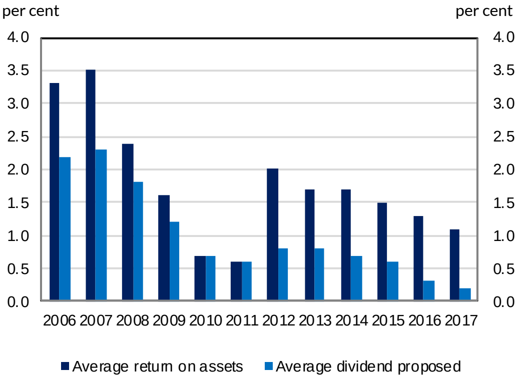
The number of active credit unions declined in 2017. As a result of transfers and one liquidation, there were 268 credit unions operating at the end of 2017 – 21 fewer than in 2016. This consolidation activity within the sector has led to an increase in the number of large credit unions over time (Chart 68). In contrast, the number and size of remaining credit unions have declined. As a result, the 54 largest credit unions now account for over 56 per cent of total assets within the sector.

Credit union income remains under pressure. Approximately 24 per cent of the sector's income comes from investment-related income. Reflecting the current interest-rate environment, low returns on credit union deposits held with banks and low yields on financial assets have led to a fall in total revenues in recent years. As a result, the return on assets of the sector declined marginally to 1 per cent in 2017 (Chart 69).

Despite a reduction in the number of credit unions operating within Ireland, total assets of the sector increased by 4.9 per cent in the twelve months to December 2017. Investment assets – the largest component of total assets – increased by 3.2 per cent. Deposits held with authorised credit institutions and bank bonds account for over 90 per cent of investments. The large exposure

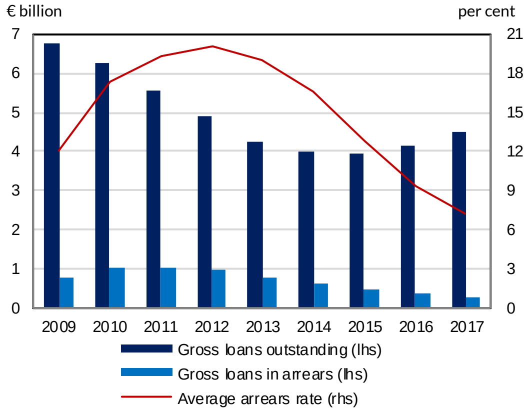
[84] The O-SII buffer is a capital charge ranging from 0- 2 per cent of total risk exposures. For more on the O-SII buffer see www.centralbank.ie

Chart 69: Return on assets and proposed dividends



Source: Central Bank of Ireland.
Notes: Data are annual. 2017 proposed dividends are provisional.

Chart 70: 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.

to the banking sector represents a significant concentration risk to the credit union sector. Following a review of the investment framework for credit unions in 2017, three additional investment classes have been introduced for credit unions while the individual counterparty limit for investments has been reduced from 25 per cent to 20 per cent. These changes became effective on 1 March 2018.

New lending continues to outpace loan redemptions. In 2017, the overall stock of loans increased by 7.4 per cent, with community-oriented credit unions making a strong contribution. Lending to households accounts for the bulk of total lending by credit unions. Improving consumer confidence and strengthening employment conditions have helped underpin the growth in lending to households. While some credit unions offer mortgages, the bulk of credit union lending remains personal lending. This is reflected in an average loan amount of approximately €6,700 and in 85 per cent of outstanding loans having a maturity of less than 5 years.

Loan arrears in the credit union sector continue to decrease. The balance of loan arrears amounted to €271 million at end-2017 (Chart 70). This represented a 21 per cent decline from 2016 in the value of loans that were classified in arrears. Overall, the average arrears rate stood at 7.2 per cent in December 2017 – down from 9.4 per cent twelve months previously and from a peak of 20 per cent in 2012.

In line with the overall expansion of the sector, total member savings increased by just over 5 per cent in 2017. Although proposed dividend payments remain at historically low levels, they compare relatively favourably to retail deposit rates offered by other credit institutions in 2017. In order to ensure that they have sufficient funds to meet their short-term liabilities, credit unions are required to hold liquid assets equivalent to at least 20 per cent of unattached savings.[85] At end-2017, the average liquidity ratio remained well above this threshold at 36 per cent – broadly unchanged from the value reported in 2016. In order to protect against unforeseen losses, credit unions are also required to hold financial buffers in the form of a minimum realised reserve ratio equal to or above 10 per cent of total assets. The aggregate ratio of the sector was 16.3 per cent in 2017. The number of credit unions reporting reserve ratios below the regulatory minimum declined from three in 2016 to two at end-2017.

[85] Unattached savings are those total savings which are not attached to loans or otherwise pledged as security and are withdrawable by members at short notice.

Box 5: UK cross-border lending to Ireland

By Lorenz Emter (International Relations)

UK-based banks are the most important source of cross-border funding for banks located in Ireland. They also provide substantial cross-border financing to other sectors in the Irish economy. The UK's decision to leave the EU has created uncertainty about the future regulatory framework and the extent to which EU-based customers will be able to continue to access cross-border financial products and services from UK-based banks. Disruptions in cross-border lending could, for instance, adversely affect credit supply in Ireland and other EU countries. By using complementary data sources from the BIS and the Central Bank up to 2017Q4, this box explores Irish cross-border liabilities to the UK. While overall cross-border borrowing has decreased since the global financial crisis, both IFSC and non-IFSC banks still have substantial liabilities to the UK. At the same time, UK banks' lending to the Irish non-bank financial sector has increased.[1]

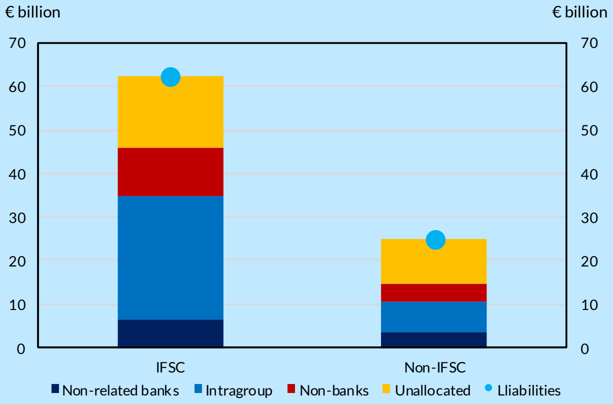
Cross-border bank lending within the EU, especially between banks, has declined sharply since the global financial crisis, partly reflecting pre-crisis excesses.[2] Ireland was one of the countries most severely affected by this retrenchment, reflecting both its role as a financial hub and its heavy reliance on external funding prior to the crisis. While far below their pre-crisis peak, Ireland's cross-border liabilities remain substantial. For instance, international banks shrank their total exposure to Ireland from 580 percent of GNI* to around 240 per cent of GNI* between 2008Q2 and 2017Q4. These figures partly reflect Ireland's status as a financial hub for some large foreign affiliates of major banking systems, including the UK.

Despite the global nature of many of their activities in the IFSC, UK resident banks are the most important source of foreign funding for both IFSC banks and the domestic Irish economy. Counterparties located in the UK account for 40 per cent of cross-border liabilities in the balance sheets of banks located in Ireland and for 30 per cent of total Irish cross-border borrowing from international banks. The bulk of bank borrowing from the UK is related to IFSC banks, which have limited ties to the Irish economy, with those banks accounting for 70 per cent of total cross-border borrowing from the UK. However, the UK is also the dominant source of wholesale funding for the more domestically focussed non-IFSC banks, accounting for 65 per cent of their total cross-border borrowing and 8 per cent of their overall liabilities. Chart A reveals that the majority of these liabilities are attributable to interbank lending, the bulk of which is related to intragroup loans which might be less affected by Brexit if they are to subsidiaries in Ireland or from a UK based subsidiary of an Irish owned bank.

Banks located in the UK also provide substantial cross-border lending to non-bank sectors in Ireland (Chart B). Overall, claims of banks located in the UK (LBS claims) increased moderately from €132 billion in 2014Q1 to €136 billion at 2017Q4. More detailed data, provided by the BIS to central banks since 2014Q1, reveals that the higher lending to non-banks was driven by banks located in the UK increasing their exposure to the Irish non-bank financial sector. Since the UK is a global financial hub, these claims include, for example, lending by EU owned banks resident in the UK. These institutions could potentially redirect their lending more easily than UK banks in the event of a hard Brexit. UK-headquartered banks reduced their lending to Ireland from €92.3 billion to €72.2 billion between 2014Q1 and 2017Q4 (CBS claims). In particular, they have reduced the local claims of their affiliates in Ireland, which are mainly on the non-financial private sector and could include funding of UK-owned NFCs resident in Ireland, by 37 per cent since 2014Q1. Cross-border lending has remained stable providing €45 billion at end-2017, mainly to the non-bank financial sector, including insurance firms, funds, and vehicles.

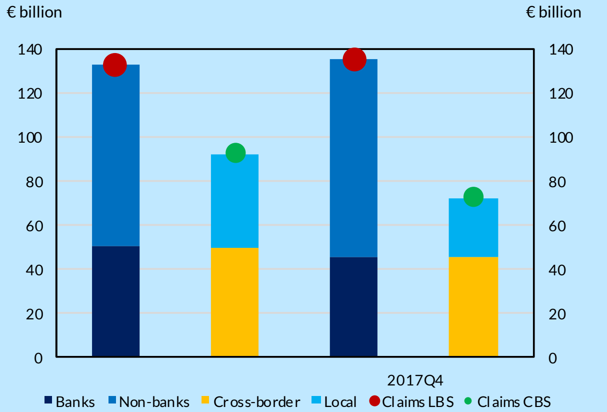
Overall, the important ties of UK cross-border lending to Ireland, not only to IFSC banks but also to non-IFSC banks and the non-bank sector, should continue to be closely monitored as they could be subject to particular disruption in the event of a hard Brexit.

Chart A: Cross-border liabilities to the UK of banks in Ireland



Source: Central Bank of Ireland.
Note: IFSC banks are banking offices resident in Ireland without a significant retail presence in the Irish marketplace. Data are for 2017Q4.

Chart B: UK-based banks' cross-border claims on Ireland



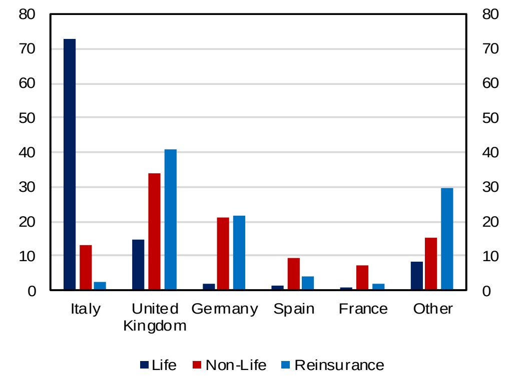
Source: BIS.
Note: LBS claims of reporting banks on a residency basis include intragroup positions. CBS claims on nationality and immediate counterparty basis net out intragroup positions but include local claims of reporting banks' affiliates abroad.

[1] Latest Central Bank LBS data can be found here. McCauley, R. N., Bénétrix, A. S., McGuire, P. M., and von Peter, G. (2016). Financial deglobalisation in banking? *BIS Working Papers*, No 650 provide details on BIS International Banking Statistics.
[2] See Emter, L., Schmitz, M., Tirpák, M. (2018). Cross-border banking in the EU since the crisis: what is driving the Great Retrenchment?. *ECB Working Paper No. 2130*.

4.2 Insurance sector

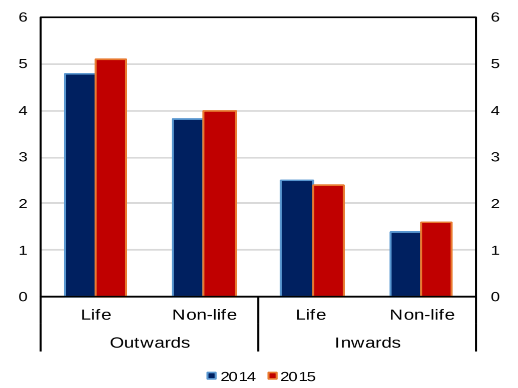
The domestic life insurance sector performed strongly in 2017. Premium income increased across most lines of business and firms' market share rose in a competitive operating environment. Domestically-focused high-impact non-life insurance firms made an aggregate underwriting profit in 2017, following four years of losses, mainly due to higher earned premiums. The reinsurance sector in Ireland was not adversely affected by the large global industry losses incurred as a result of the extreme weather events in 2017. The structure of the reinsurance sector in Ireland may be affected by changes to the US tax regime. In the absence of mitigating actions by firms, the inability of firms to passport or to service existing contracts post-Brexit has the potential to cause significant disruption to the insurance sector.

Chart 71: Cross-country comparison of premiums written by insurance firms in Ireland



Source: Central Bank of Ireland.
Notes: See Kelly and Osborne-Kinch (2018), Insurance Corporation Statistics in Ireland: Introducing the New Quarterly Statistics, Central Bank Quarterly Bulletin, Q1 2018 for further details.

Chart 72: Cross-border insurance market between Ireland and the UK



Source: Central Bank of Ireland.

The Irish insurance sector comprises life, non-life and reinsurance firms operating across a range of product and geographical markets. The sector has grown steadily over the past five years, with total assets amounting to €312 billion at end-2017, equivalent to 105 per cent of GDP and approximately 6 per cent of total financial system assets.[86] Life insurance firms account for 80 per cent of the sector's total assets with reinsurance firms and non-life insurance firms accounting for 13 per cent and 7 per cent, respectively. Foreign-risk business, predominantly to other EEA countries (Chart 71), accounts for 85 per cent of Irish firms' written premiums, with the remaining 15 per cent of premiums attributed to Irish-risk business. In general, those firms with significant foreign-risk business do not operate in the domestic market, with the exception of Zurich Group.[87]

Most insurance firms established in Ireland are likely to be affected by volatility in financial markets and any adverse effects on economic conditions arising from Brexit. It is probable that some firms' business models will be affected by Brexit. Premium volumes written by life and non-life firms on an "outwards" and "inwards" basis between Ireland and the UK were €9.1 billion and €4 billion, respectively, in 2015 (Chart 72). In the case of a hard Brexit, where no specific arrangements between the EU and UK are made to ensure access to each other's market, UK insurance firms would lose their right to conduct business in Ireland and across the EEA by way of FOE (branch) or FOS.[88, 89] This could affect competition and product availability in the insurance sector in Ireland. Irish and EEA firms would also lose their right to write business in the UK from Ireland or the EEA.

Where firms do not take mitigating actions against the possibility of a hard Brexit, such as the establishment of a third-party branch and/or portfolio transfer to a EU27 undertaking, this would have the potential of causing significant disruption to the sector. Insurance firms may be unable to ensure the continuity of services

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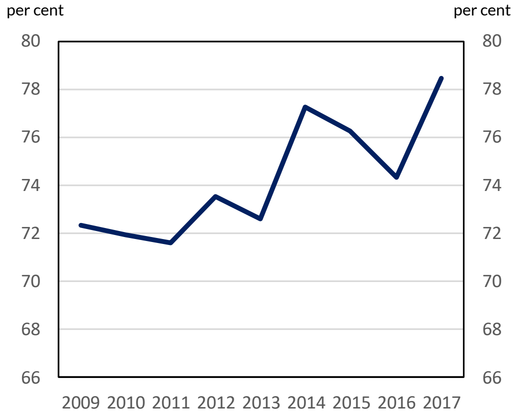
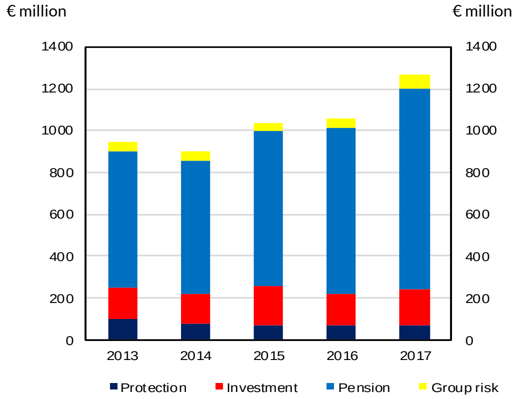
[86] See Kelly and Osborne-Kinch (2018), Insurance Corporation Statistics in Ireland: Introducing the New Quarterly Statistics, Central Bank Quarterly Bulletin, Q1 2018 and Insurance Corporation Statistics Statistical Release, Central Bank of Ireland Q4 2017.
[87] Zurich Group is one of the top four firms in both the domestic life and non-life markets.
[88] 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.
[89] See EIOPA Opinion of service continuity in insurance in light of the withdrawal of the United Kingdom from the European Union.

Chart 73: New business market share of domestic life insurers



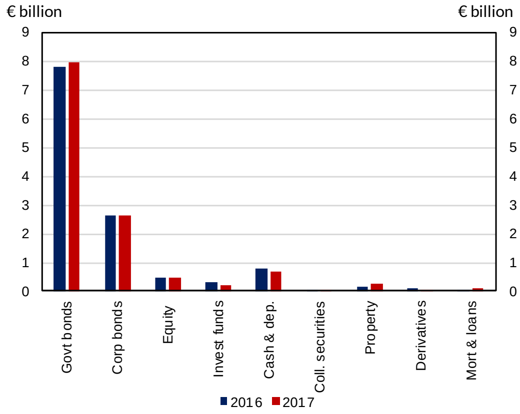
Source: Central Bank of Ireland.
Note: Data indicate the share of new business attributed to the four largest domestic life insurance firms vis-à-vis other firms in the life insurance market, i.e., non-insurance firms are not included.

Chart 74: 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 75: Non-linked assets of domestic life insurers



Source: Central Bank of Ireland.
Notes: Total non-linked assets valued at €12 billion at end-2017.

relating to cross-border insurance contracts. Such an outcome could, for example, prevent the payment of claims associated with contracts written prior to 29 March 2019. In such an event, a total of six million UK policyholders and 30 million policyholders across the EEA would be affected.[90] While many firms are in the process of implementing mitigating actions, it is uncertain if these actions will be completed prior to the withdrawal date.[91]

Life insurance[92]

The life insurance market in Ireland is dominated by six firms, four of which are regulated by the Central Bank and two of which operate in Ireland on an FOE basis from the UK. There is strong competition among firms within the sector as well as with non-insurance firms that offer similar products in the pension and investment markets. The new business market share of domestically-regulated firms increased to 78.5 per cent in 2017, regaining the share lost in the previous two years (Chart 73). The impact that Brexit may have on the structure of the market is uncertain, with any adverse effects on the Irish economy arising from Brexit also presenting a risk to the sector.

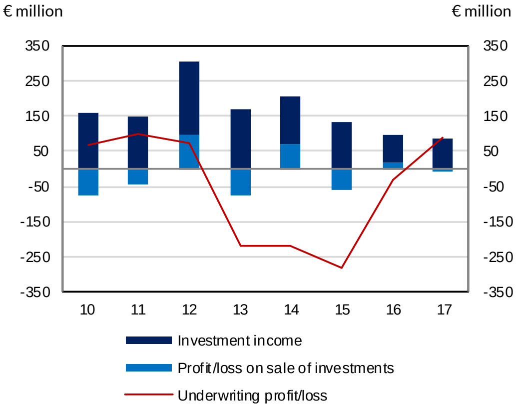
The premium income of domestic life insurers increased by 20.2 per cent in 2017 compared to 2016 (Chart 74) with firms' corporate business segments performing particularly strongly. Pensions and group risk premium income increased by 21 per cent and 59 per cent, respectively, as employment conditions in the economy continued to improve. There was increased demand for bulk annuities with corporations de-risking their defined-benefit pension schemes by insuring the schemes' pension liabilities. Financial market volatility and increasing longevity are likely to present challenges to such schemes into the future.[93]

Despite a modest increase in premium income in the first half of 2017, the overall retail protection segment of the market declined in 2017 for the sixth year in succession and was 40 per cent below 2012 levels.[94] The retail investment segment of the sector performed strongly in 2017, as declines in consumer confidence in 2016 following the Brexit referendum appeared to recede.

Unit-linked products comprise approximately 90 per cent of domestic life insurers' assets under management. The majority of unit-linked assets are held in investment fund shares.[95] As policyholders, rather than the firms, bear the investment risk associated with such products, a sustained fall in asset prices or financial market volatility could affect demand for these products. An increase in the average lapse rate, which stood at 7.2 per cent in 2017, could have an adverse effect on firms' medium-term profitability. Firms are also exposed to market risk as the fees

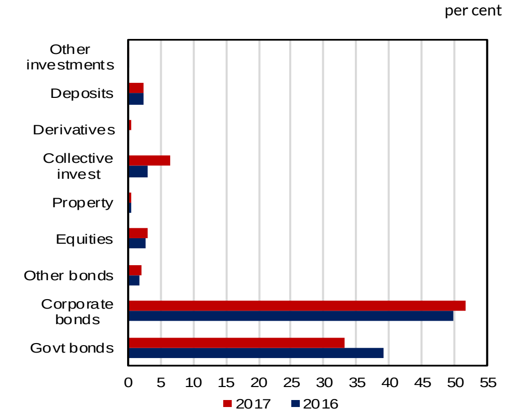
[90] See Financial Stability Report, Bank of England November 2017 Issue No. 42.
[91] At the March 2018 meeting of the European Council it was agreed that there would be an implementation period until the end of 2020 as part of the UK's Withdrawal Agreement with the EU. The UK "Government has committed to bring forward legislation, if necessary, to create a temporary permissions regime to allow relevant firms to continue their activities in the UK for a limited period after withdrawal. In the unlikely event that the Withdrawal Agreement is not ratified, this provides confidence that a back-stop will be available". See Bank of England update on the regulatory approach to preparations for EU withdrawal. However, the transition phase only comes into effect if there is a withdrawal agreement, and the EU27 does not have the same legislative backstop as the UK.
[92] Analysis of the domestic life insurance market is based on the four largest domestically focused firms which comprise 78.5 per cent of the market. However, the data are only indicative of the markets these firms operate in given that other non-insurance firms offer similar products in the savings and pensions markets.
[93] The Pensions Authority of Ireland reported that of the 58 per cent of defined-benefit schemes met the funding standard in 2014. This improved to 74 per cent in 2016 and may in part be due to actions taken by corporations to de-risk their pension schemes.
[94] Protection insurance to the retail market includes income, mortgage and payment protection insurance.
[95] See Kelly and Osborne-Kinch (2018), Insurance Corporation Statistics in Ireland: Introducing the New Quarterly Statistics, Central Bank Quarterly Bulletin, Q1 2018.

Chart 76: Non-life insurers' underwriting profits and investment income and gains



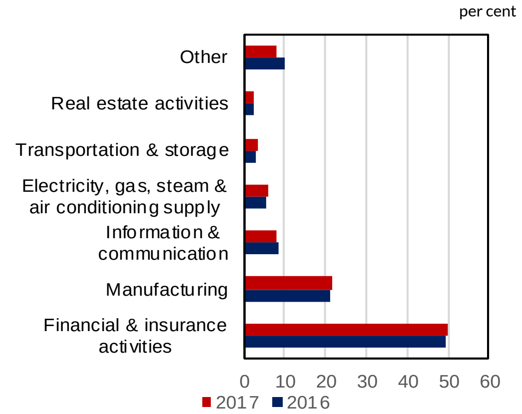
Source: Central Bank of Ireland.
Notes: Data are an aggregation of domestically focused high-impact firms who collectively write approximately 55 per cent of Irish-risk business. Profit/loss on sale of investments includes realised and unrealised gains and losses.

Chart 77: Non-life insurers' investment allocation



Source: Central Bank of Ireland.

Chart 78: Sectoral distribution of non-life insurers' corporate bond holdings



Source: Central Bank of Ireland.
Notes: Data include assets classified as corporate bonds, structured notes and collateralised securities.

earned on these products are dependent on the value of the assets under management.

Domestic life insurers are well capitalised on a Solvency II basis. Proposed changes to the interest rate risk element of Solvency II could materially increase firms' solvency capital requirements (SCR) in the coming years.[96] In contrast to domestic life insurers' unit-linked asset portfolio, the non-linked asset portfolio predominantly comprises fixed-income securities (Chart 75). There is no evidence that firms are reallocating their investments into lower-rated securities in a search for yield. Some firms have invested a small portion of their portfolio in property from which the rental income provides a regular cash-flow (Chart 75). Given the scale of firms' property investments, a sustained fall in asset prices would not result in a material deterioration in firms' solvency positions.

Non-life insurance[97]

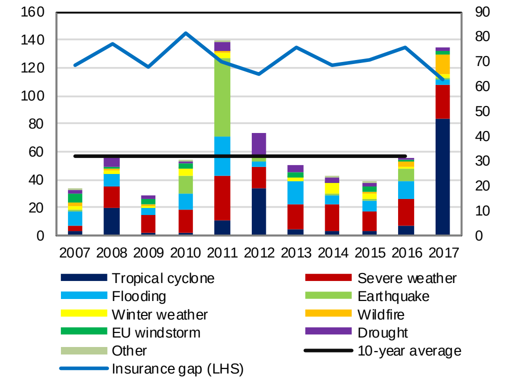
The domestic non-life insurance market is concentrated across eight firms, six of which are regulated by the Central Bank and two of which operate on a FOE basis from the UK. The impact that Brexit will have on the structure of the sector remains uncertain. Most of the domestically-focused high-impact non-life insurance firms write business in the UK (predominantly in Northern Ireland). Some firms may have to adjust their business models to continue operating in that market.

In aggregate, the domestically focused non-life insurance sector generated operating profits of €120 million in 2017 on its domestic and foreign business. Underwriting activities contributed positively to profitability for the first time in four years mainly due to higher earned premiums (Chart 76). The gross claims of approximately €30 million associated with Storm Ophelia did not have a substantial impact on profitability.[98]

Total premium income increased by 5 per cent in 2017, in both the motor and liability lines of business. This, in conjunction with a stabilisation of the claims environment, resulted in a return to profitability in the aggregate motor business with an increasing number of domestically-focused high-impact non-life firms' combined ratios falling below 100 per cent in 2017.[99] Domestic firms' combined market share declined, however, and, looking ahead, competitive pressures could prompt firms to under-price risk.[100] The liability book of business, nevertheless, continues to perform poorly.[101] Although most firms' combined ratio improved in 2017, they remained significantly above 100 per cent.[102] Some firms, therefore, no longer have an appetite to underwrite these

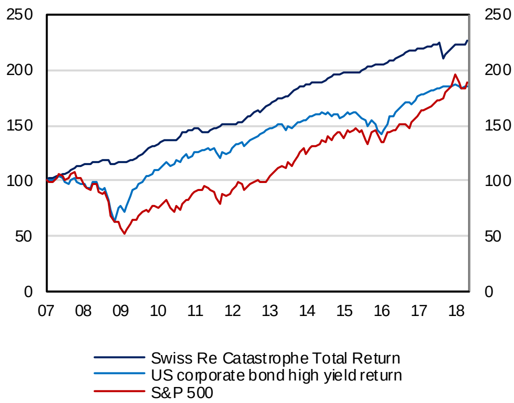
[96] In a review of the Solvency II standard formula, EIOPA are proposing that the interest module be reformed to allow for the possibility of negative interest rates.
[97] The analysis focusses on the domestically focused high-impact firms which comprises five firms who collectively write approximately 55 per cent of Irish-risk business. Analysis is based on firms' global risk business. Data is sourced from returns submitted to the Central Bank of Ireland, unless otherwise stated.
[98] The overall insurance sector in Ireland experienced gross claims of €37.4 million. Taking account of firms' reinsurance coverage this reduced to €24 million on a net basis.
[99] Combined ratios are calculated as the cost of incurred claims and expenses as a percentage of earned premium income. A combined ratio below 100 per cent indicates that a company is making an underwriting profit, while a ratio above 100 per cent means that the cost of claims is greater than the premium earned, resulting in an underwriting loss.
[100] Market share is measured as share of licensed vehicles. [Get update for 2017.]
[101] Liability business accounts for approximately 11 per cent of the domestic sector's premium income although its significance to individual firms varies.
[102] Combined ratios are calculated as the cost of incurred claims and expense as a percentage of earned premium income. A combined ratio below 100 per cent indicates that a company is making an underwriting profit, while a ratio above 100 per cent means that the cost of claims is greater than the premium earned, resulting in an underwriting loss.

Chart 79: Global insured catastrophe losses



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

Chart 80: Returns on catastrophe bonds and other asset classes



Source: Bloomberg.
Note: Data are monthly. Last observation: end-May 2018.

risks. Competition from FOS and FOE providers is also a challenge in some segments of this line of business.[103] Despite premium income falling by 4 per cent and the severe weather events of 2017, the property business was profitable for most firms.

Firms' investment portfolios predominantly comprise fixed income securities and are thereby sensitive to interest rate risk. There is some evidence that firms are investing in lower-rated assets in an attempt to increase investment income. Firms have increased their investments in collective investment funds (Chart 77) to gain exposure to high yielding equity and debt investments. There is a continuing shift from sovereign bonds to corporate bonds where exposures are typically concentrated in the financial sector (Chart 78).

Domestic non-life insurers' solvency coverage rose in 2017 as retained earnings and the de-risking of firms' defined-benefit pension schemes led to increases in own funds. Reinsurance programmes are increasingly being put in place for the purpose of capital management, thereby reducing required capital requirements.

Reinsurance

The reinsurance sector in Ireland is an internationally-focused business-to-business sector, with firms having few direct links to the domestic macro-financial environment. Irish reinsurance firms generated €17.7 billion in premium income in 2017, almost all of which was earned abroad. Some firms in the sector in Ireland will be affected by tax changes recently introduced in the US.[104] In particular, the Base Erosion Anti-Abuse Tax (BEAT) is likely to impose significant costs on some reinsurance firms and may prompt changes to the business structure of these firms.

Global insured catastrophe losses amounted to USD136 billion in 2017, making it the second costliest year on record for natural disasters behind 2011 (Chart 79).[105] The financial position of Irish reinsurers was not directly affected by these events. These losses, while adversely affecting the profitability of the sector globally, are expected to have little effect on the challenging global reinsurance market operating conditions with firms continuing to contend with soft pricing and excess capacity.[106] Concerns that alternative capital might be a transient source of capital in the event of large industry losses appear to have been unfounded.[107] Alternative capital instruments experienced strong growth in the first quarter in 2018 as investors continue to seek higher investment returns and the diversification benefits of investing in an asset class whose underlying risk is uncorrelated with other risks such as equity risk, interest rate risk and credit risk (Chart 80).

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[103] See Cost of Insurance Working Group (2018), *Report on the Cost of Employer and Public Liability Insurance*, January 2018.
[104] The Tax Cuts and Jobs Act (TCJA) took effect on 1 January 2018 resulting in substantial reforms to the U.S. tax code.
[105] See AON's Reinsurance Market Outlook, April 2018.
[106] See AON's Reinsurance Market Outlook, April 2018 and Hopes for meaningful rate increases dashed: Will Re by Artemis, April 2018.
[107] Alternative capital instruments include collateralized reinsurance contracts, catastrophe bonds, reinsurance sidecars and industry loss warranties (ILWs).

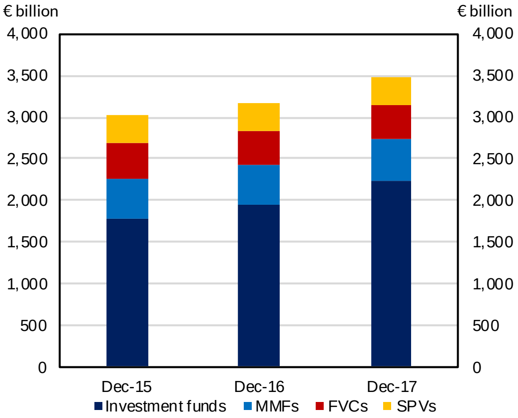
Consolidation is continuing within the sector as firms strive for capital efficiency gains. This, however, could increase concentration risk in a sector already dominated by a small number of global reinsurers.[108]

[108] Reinsurance is dominated by five global groups that account for over half of global market share.

4.3 Funds and vehicles sector

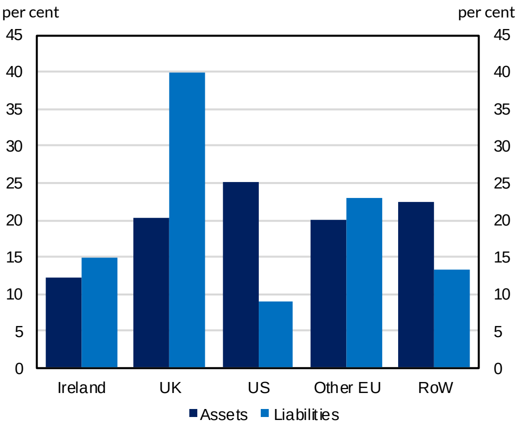
The total assets of the funds and vehicles sector in Ireland amounted to almost €3.5 trillion at 2017Q4, up from about €3.2 trillion a year earlier. Most of the assets and liabilities are internationally based, but up to 12 per cent of assets are linked to entities domiciled in Ireland. With certain asset valuations at or above pre-2007 levels, the possibility of downward revaluations arises. Uncertainty around Brexit, global trade, and the consequences of changes to the international tax environment pose additional risks to the sector. The sector could act, both directly and indirectly, as a transmitter of spillovers from global financial markets to the domestic economy if risks materialise. While leverage in investment funds has been falling, the extent to which synthetic leverage is used by the sector through the use of derivatives is unclear.

Chart 81: Total assets in Irish authorised funds and special purpose vehicles sector



Source: Central Bank of Ireland.
Notes: Yearly data between 2015Q4 and 2017Q4.

Chart 82: Balance sheet by location



Source: Central Bank of Ireland.
Notes: Data as of 2017Q4. Figures based on aggregate total assets and liabilities for IFs, MMFs, FVCs, and non-securitisation SPVs.

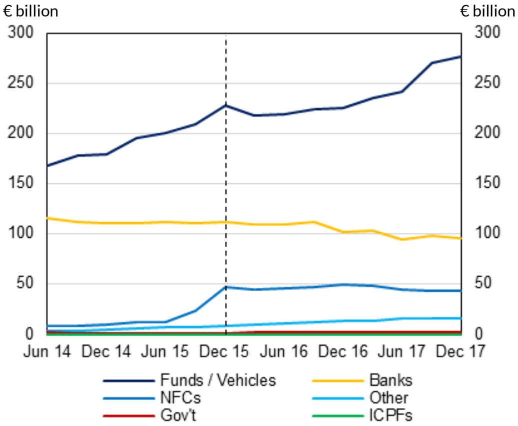
Overview

The Irish funds and vehicles sector consists of four entity types: money market funds (MMFs), non-MMF investment funds (IFs), financial vehicle corporations (FVCs) and non-FVC special purpose vehicles (SPVs). The sector is an alternative source of financing to the economy and it has expanded considerably in the current environment of low interest rates and evolving bank regulation. It has been argued that market-based finance, particularly its equity-based component, creates less instability for the macroeconomy than bank-based debt finance.[109] The nature of the financial stability risks emanating from the sector depends on entities' investment strategy and business model. There are possible financial stability risks associated with liquidity and maturity transformation and excessive leverage. Investor runs in MMFs, for example, could have a systemic impact as they could adversely affect the availability of financing to the banking sector.

The aggregate portfolio of the sector in Ireland contains a broad range of global assets, many of which are trading at historically elevated levels. It is possible that these valuations are underestimating the underlying risk to which these investments are exposed. Given the interconnectedness of the sector, the Irish funds and vehicles sector could be a transmitter of risk from global financial markets both directly and indirectly to the domestic economy.[110, 111] For example, in times of market stress, triggers such as large unexpected margin calls or redemption requests can cause fire sales and runs. These can amplify the size of risk premia and make markets dysfunctional, reducing the availability of credit to the real economy. This could be exacerbated further by linkages with the banking sector (both with regard to funding and the facilitation of derivative contracts) and the growing exposure of the insurance sector in Europe to IFs.

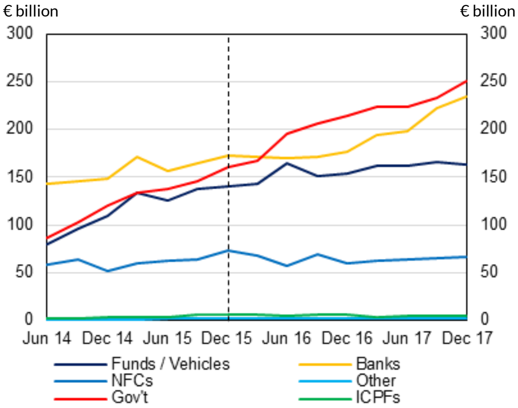
[109] Lane, P. "Financial Globalisation and Central Banking in Ireland." Speech to Financial Globalisation Forum, 2 February 2018.
[110] Interconnectedness is a feature of the sector in the EU also; see charts 3.25 & 3.26 in the Financial Stability Review, European Central Bank, May 2018.
[111] Funding from Ireland amounts to almost twice Irish GDP.

Chart 83: Irish funds and vehicles' asset exposures to Ireland by sector



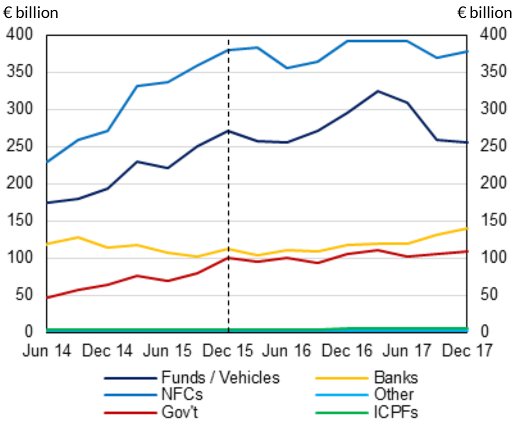
Source: Central Bank of Ireland.
Notes: Quarterly data between 2014Q1 and 2017Q4. ICPFs are insurance companies and pension funds. The vertical dashed-line indicates the advent of granular SPV reporting in 2015Q3.

Chart 84: Irish funds and vehicles' asset exposures to United Kingdom by sector



Source: Central Bank of Ireland.
Notes: Quarterly data between 2014Q1 and 2017Q4. ICPFs are insurance companies and pension funds. The vertical dashed-line indicates the advent of granular SPV reporting in 2015Q3.

Chart 85: Irish funds and vehicles' asset exposures to United States by sector



Source: Central Bank of Ireland.
Notes: Quarterly data between 2014Q1 and 2017Q4. ICPFs are insurance companies and pension funds. The vertical dashed-line indicates the advent of granular SPV reporting in 2015Q3.

The possibility of a hard Brexit is a source of uncertainty and is a potential trigger of downside risks, which may include the re-pricing of risk premia in global markets and operational issues with regard to accessing central clearing of interest rate derivatives.[112] Brexit's significance is underlined by the fact that nearly €1 trillion of the assets of the funds and vehicles in Ireland are financed by UK funds and vehicles.[113] The consequences of recent changes in US corporate tax arrangements for the funds and vehicles sector are not yet clear. Given the sector's interconnectedness across jurisdictions, the structure of the sector may be affected.

Recent developments

The total assets of the sector were almost €3.5 trillion at 2017Q4 (Chart 81). Over €2.2 trillion are associated with IFs, while the rest is divided among MMFs (€0.5 trillion), FVCs (€0.4 trillion), and SPVs (€0.3 trillion). The sector is concentrated, with a few large entities representing a significant share of the total.[114] The largest share of the sector's assets are domiciled in the US (€893 billion) with substantial investments also in the UK (€722 billion) (Chart 82). The largest proportion of the sector's liabilities are domiciled in the UK (€1,404 billion). The global interlinkages of the Irish funds and vehicles sector highlight the importance of cross-jurisdiction collaboration on financial stability issues. Adverse developments in the Irish funds and vehicles sector are more likely to directly affect European and global financial stability than the Irish macro-financial environment. Nonetheless, global financial instability would likely have a knock-on effect on the Irish economy. To this end, the Central Bank actively contributes to the monitoring frameworks of the FSB and the ESRB.[115]

Assets linked to Irish entities account for 11 per cent of IFs' assets, and 29 per cent of FVCs' assets. An increasing share of assets are held by other Irish domiciled funds and vehicles, while assets vis-à-vis the Irish banking system have declined to €96 billion (Chart 83). Many of these assets are linked to "pass-through" vehicles that are not connected to the Irish economy directly.[116] Ireland also accounts for €523 billion (or 15 per cent) of the sector's liabilities. In particular, €95 billion of the sector's assets and €53.41 billion of the sector's liabilities are exposures towards Irish-domiciled banks, which in turn have a direct link to the Irish economy. In the event of market stress those links, coupled with the information channel of contagion, could transmit shocks to the domestic economy.[117]

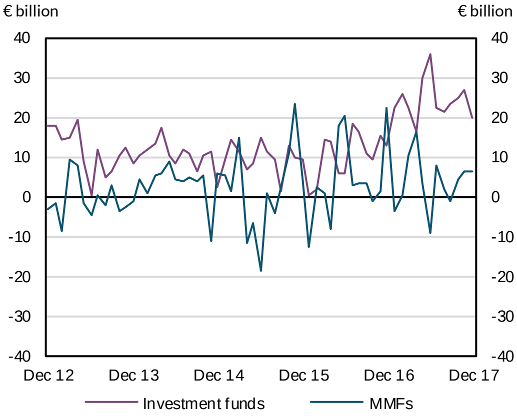
The UK is also a significant jurisdiction, with 27 per cent of MMFs' assets and 22 per cent of IFs' assets. The two largest categories of UK investments are government (€250 billion) and banks (€235 billion), both of which have grown in recent years (Chart 84). The

[112] Currently interest rate derivative contracts in the EU are almost exclusively centrally cleared through LCH Ltd. domiciled in the United Kingdom.
[113] For comparison, total assets under management of the UK fund industry is estimated to be €8.1 trillion, according to TheCityUK.
[114] The top 10 Irish MMFs hold almost 60 per cent of all assets held by Irish MMFs at the end of 2017.
[115] See FSB Global shadow Banking Monitoring Report and ESRB EU Shadow Banking Monitor
[116] Entities domiciled in Ireland but linked with ultimate investors residing outside of Ireland.
[117] Mervyn A. King and Sushil Wadhwani, Transmission of Volatility between Stock Markets, The Review of Financial Studies, Vol. 3, No. 1, 1990.

US accounts for 19 per cent and 30 per cent of MMFs' and IFs' assets, respectively. The two largest categories of US investments are NFCs (equity and debt, €378 billion) and other funds and vehicles (€256 billion) (Chart 85).[118]

Net flows of Irish IFs continue to be positive, while the net flows of MMFs have taken both positive and negative values over time (Chart 86). The MMF fluctuations may be due to cycles of investor risk-aversion or due to differences in investor profiles. Investments in MMFs can be used as part of treasury operations so that flows may be related to large one-off investments or redemptions and unrelated to macroeconomic events. Changing interest rate, foreign exchange expectations, and changes to US tax codes on banks' dollar funding profiles may also affect flows to MMFs. Total inflows for IFs over the last three months of 2017 were €72 billion, up 7 per cent from the previous quarter, and €17 billion for MMFs, an increase of 85 per cent in the same period.

Chart 86: Monthly net flows

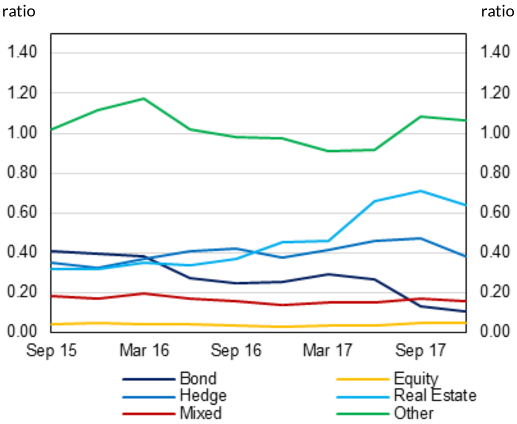


Source: Central Bank of Ireland.
Notes: Data between 2012Q4 and 2017Q4. Net flows are subscriptions minus redemptions calculated at the fund level and aggregated up to the fund type. Net subscriptions are above the x-axis whereas net redemptions are below the x-axis.

Liquidity transformation

Liquidity transformation risk arises if liabilities are more liquid than assets. IFs are generally financed through equity (the majority of which is redeemable on a daily basis), and thus have relatively high levels of liquidity transformation risk. This is particularly the case where IFs invest in illiquid markets or securities or for funds with an emerging market and high yield investment focus. While SPVs and FVCs tend to hold higher levels of illiquid assets (as a percentage of total assets) than IFs and MMFs, they are generally financed through illiquid debt. Hence, liquidity transformation risk may not be as high for these vehicles.

Chart 87: Financial leverage of investment funds

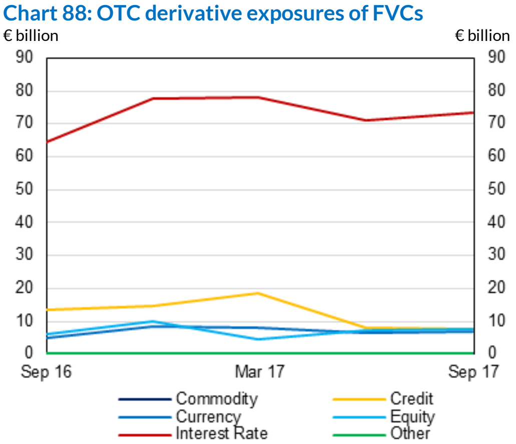


Source: Central Bank of Ireland.
Notes: Data between 2015Q3 and 2017Q4. Financial Leverage is defined as (total assets under management/total net asset value)-1. Some hedge funds were reclassified as other funds during 2016.

Maturity transformation

Maturity transformation can pose risks to financial stability as a maturity mismatch between assets and liabilities can lead to a fire sale into potentially illiquid markets. IFs have relatively high levels of maturity transformation. Over the past two years, about 30 per cent of IFs' long-term assets were funded by short-term liabilities. Due to the nature of their business models and regulatory restrictions, significant levels of maturity transformation is not a feature of the MMF sector. FVCs and SPVs do not engage in maturity transformation, as their liabilities are typically of a longer maturity than their assets.

Chart 88: OTC derivative exposures of FVCs



Source: Central Bank of Ireland.
Notes: EMIR TR data between 2016Q3 and 2017Q3. The values represent gross notional exposure per asset class of all Irish domiciled FVCs.

Financial leverage

Funds and vehicles employ financial leverage by borrowing or engaging in securities financing transactions. Leverage can amplify gains and losses, particularly during times of financial market stress. The extent to which leverage is employed by IFs depends on the type of fund (Chart 87).[119] Equity funds, the largest category of IFs by assets (€771 billion), have limited financial leverage. Bond funds (€707 billion) delevered significantly between 2015 and 2017. In contrast, leverage of real estate funds (€24 billion) is twice what it was at the end of 2015.

[118] This is due to the size of the equity markets in the United States.
[119] The UCITS Directive includes specific limits on leverage. UCITS may borrow up to a limit of 10 per cent of their net assets.

Overall, most funds delevered towards the end of 2017. SPVs and FVCs are highly leveraged (thinly capitalised) by design, with SPVs using 8.6 per cent more leverage than FVCs at 2017Q4.

Besides financial leverage, the sector can increase off-balance sheet leverage through the use of derivatives. Synthetic leverage differs from financial leverage as it does not involve outright borrowings, e.g., it is generated through unfunded off-balance sheet exposures with derivative instruments. This facilitates larger exposures with smaller amounts of invested capital. Even though the extent to which synthetic leverage is used by the sector is not fully known, there are signs that the issue may potentially be non-negligible. For instance, gross notional exposure to OTC derivatives of Irish FVCs was about €97 billion, or 24 per cent of their assets in 2017Q3, most of which was towards interest rate derivatives (Chart 88). Such potentially high use of derivatives increases the complexity of otherwise relatively simple IFs. It can also increase interlinkages with the banking sector. Risks associated with high synthetic leverage include a higher likelihood of default and rapid unwinding of leveraged positions, potentially leading to fire-sales and market illiquidity.

Abbreviations

Country abbreviations follow the European Union standards.

AIB	Allied Irish Bank
APE	Annual premium equivalent
APP	Asset purchase programme
BER	Building energy rating
BIS	Bank of International Settlements
BOI	Bank of Ireland
BPFI	Banking and Payments Federation Ireland
BTL	But-to-let
CBRE	Coldwell Banker Richard Ellis Group
CCyB	Countercyclical capital buffer
CET 1	Common equity tier 1
COREP	Common Reporting Framework
CPI	Consumer price index
CRD	Capital Requirements Directive
CRE	Commercial real estate
CSO	Central Statistics Office
DPD	Days-past-due
EA	Euro Area
EBA	European Banking Authority
EBS	Educational Building Society
EC	European Commission
ECB	European Central Bank
EEA	European Economic Area
EFSM	European Financial Stabilisation Mechanism
EIOPA	European Insurance and Occupational Pensions Authority
EME	Emerging market economies
ESRB	European Systemic Risk Board
ESRI	Economic and Social Research Institute
EU	European Union
FDI	Foreign direct investment
FINREP	Financial reporting
FOE	Freedom of establishment
FOMC	Federal Open Market Committee
FOS	Freedom of service
FSB	Financial Stability Board
FTB	First-Time Buyer
FVC	Financial vehicle corporations
GDP	Gross domestic product
GDPR	General Data Protection Regulation
GNI	Gross national income
GVA	Gross value added
IF	Investment fund
IFSC	International Financial Services Centre
IFRS	International financial reporting standards
IMF	International Monetary Fund
IPD	Investment Property Databank
KBC	Kredietbank ABB Insurance CERA Bank
LCR	Liquidity coverage ratio
LTI	Loan to income ratio
LTV	Loan to value ratio
MFR	Macro-Financial Review
MFI	Monetary financial institution
MMF	Money market fund
MNC	Multinational corporation
MNE	Multinational enterprise
MREL	Minimum requirement for own funds and eligible liabilities
MSCI	Morgan Stanley Capital International
NAMA	National Asset Management Agency
NFC	Non-financial corporation
NPL	Non-performing loan
NTMA	National Treasury Management Agency
O-SII	Other Systemically Important Institutions
OTC	Over the counter
PDH	Primary dwelling house
PMI	Purchasing managers' index
PTSB	Permanent PTSB
QSFR	Quarterly summary financial return
REIT	Real Estate Investment Fund
ROE	Return on equity
RORWA	Return on risk-weighted assets
RPPI	Residential property price index
RWA	Risk-weighted asset
SBCI	Strategic Banking Corporation of Ireland
SCSI	Society of chartered surveyors of Ireland
SME	Small and medium enterprise
SNL	Savings and Loan Financial
SPV	Special Purpose Vehicle
SRP	Systemic risk pack
SSB	Second and subsequent buyer
SSM	Single Supervisory Mechanism
SVR	Standard variable rate
UCITS	Undertakings for Collective Investment in Transferable Securities
USD	United States Dollar
VIX	Chicago Board Options Exchange Volatility Index
WEO	World Economic Outlook

T: +353 (0)1 224 6299
F +353 (0)1 671 5550
E: mfdadmin@centralbank.ie
www.centralbank.ie

Bosca OP 559, Baile Átha Cliath 1, Éire
P.O. Box No. 559, Dublin 1, Ireland

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