Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

Macro-Financial Review 2018: II

MACRO-FINANCIAL REVIEW
2018:II

Notes

1. Unless otherwise stated, this document refers to data available on 28 November 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 focussed.

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 June 2018.

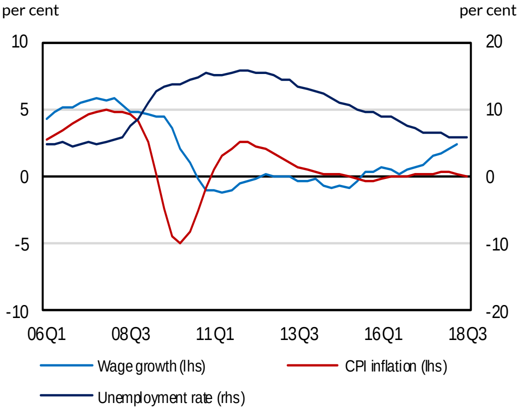
Réamhrá

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 an Mheithimh 2018.

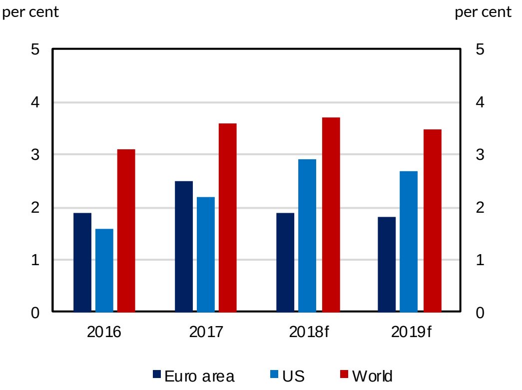
1. Overview

Chart A1: Unemployment, wages and CPI inflation



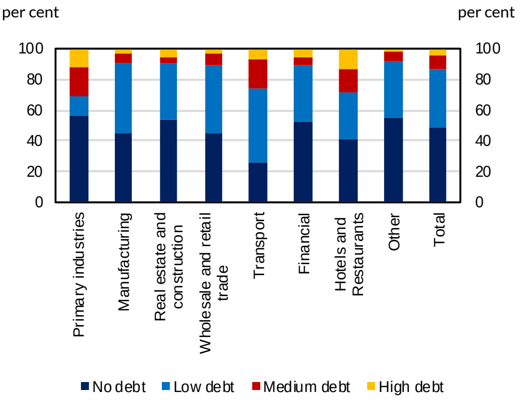
Source: CSO, Central Bank of Ireland.
Note: Data are 4-quarter trailing moving average. Last observations: 2018Q3.

Chart A2: Real GDP growth



Source: OECD Economic Outlook No 104 - November 2018.
Notes: 'f' denotes forecast.

Chart A3: SME indebtedness – debt-to-turnover ratio by sector



Source: Department of Finance Credit Demand Survey and Central Bank calculations.
Notes: Data relate to the period September 2017-March2018.

Overview

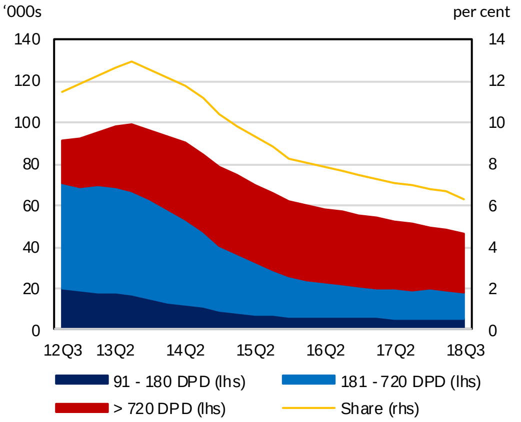
The Irish economy continues to grow at a strong pace, driven by domestic demand developments and broadly-based employment growth. Underlying investment (i.e. investment net of intangibles and aircraft-related investment) and exports also continue to grow strongly. CPI inflation remains subdued, in part due to a weakness in sterling reducing consumer import prices. The labour market is tightening and wage growth has been rising (Chart A1). Infrastructure shortages, particularly in the housing sector, are apparent and present a threat to the economy in the coming years. In this environment, policy actions should not amplify pro-cyclical dynamics.

International economic developments are broadly supportive to the Irish economy (Chart A2). Risks to the international economic and financial environment are tilted to the downside. There are threats to international trade flows, from the imposition of trade barriers and the possibility of a hard Brexit, and vulnerabilities in EMEs owing to high debt and US dollar appreciation. A reversal of investor sentiment in financial markets could have an adverse effect on global growth and financial markets, in particular in the global leveraged loans market.

A materialisation of any of these risks could have knock-on consequences for the Irish macro-financial environment. Any decline in global trade and changes in the international tax environment could have an impact on export-oriented sectors of the economy. Improving income levels support debt servicing but concerns around debt sustainability remain. Although non-performing loans continue to decline, structural challenges limit the intermediation capacity of the domestic banking sector. (See Box 1 for an overview of systemic risks in Ireland.)

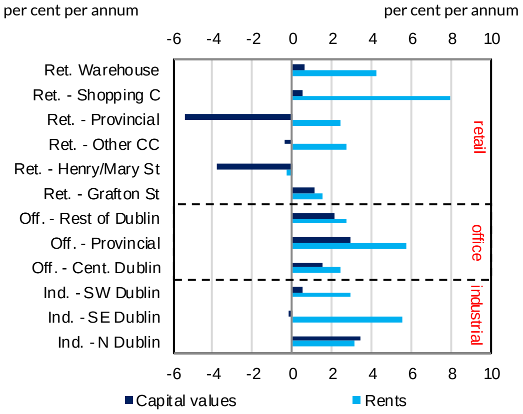
The main issue facing the Irish economy is Brexit and, in particular, the possibility of a disorderly Brexit occurring. A Brexit that preserves current trading arrangements would still see uncertainty arising owing to the EU-UK negotiations that would remain to be completed after March 2019. A 'hard' Brexit would cause a substantial reduction in output and employment. Recent years have seen sharp movements in the euro-sterling exchange rate. Any further weakening of sterling would make Irish exports to the UK more expensive. In the event of a hard Brexit, a weaker pound could coincide with an increase on tariffs on those exports. Sectors such as agri-food and wholesale-and-retail are more exposed to the effects of Brexit than others, while regions with a focus on the UK market, such as the border counties, are more vulnerable. Brexit could also disrupt the activities of firms reliant on imports from the UK. Survey data indicate that Brexit-related uncertainty is leading

Chart A4: PDH mortgage arrears



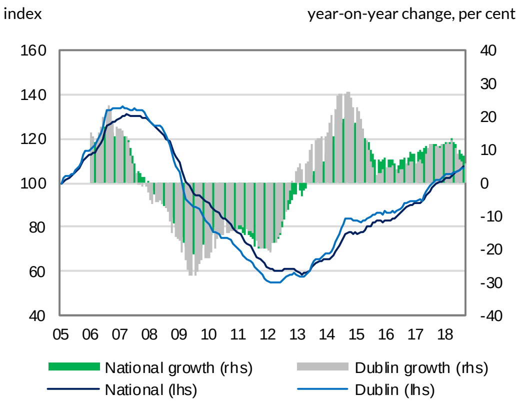
Source: Central Bank of Ireland.
Notes: Share is that of total loans that are in arrears of more than 90 DPD. Last observation: June 2018.

Chart A5: Breakdown of commercial property capital value and rental growth: by sector and region



Source: MSCI/IPD
Notes: Ret = retail, Ind = industrial, Off = office, N = north, SE = south east, SW = south west, Cent = central, St = street, CC = city centre and C = centre. Data as at 2018Q3.

Chart A6: CSO residential property price index and growth rates



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

firms to take a more cautious approach to investment and expansion. The majority of firms with a direct trading relationship to the UK are SMEs. Large and persistent currency movements could also cause substitution effects to arise even for sectors previously sheltered from competition from UK firms.

Aggregate credit growth remains muted, although stronger rates of growth arise in some sub-sectors, such as fixed rate PDH mortgage loans and loans to larger enterprises. The Central Bank announced a 1 per cent CCyB rate on Irish exposures in July, which will come into effect in July 2019. Its principal purpose is to promote banking sector resilience against cyclical systemic risk.

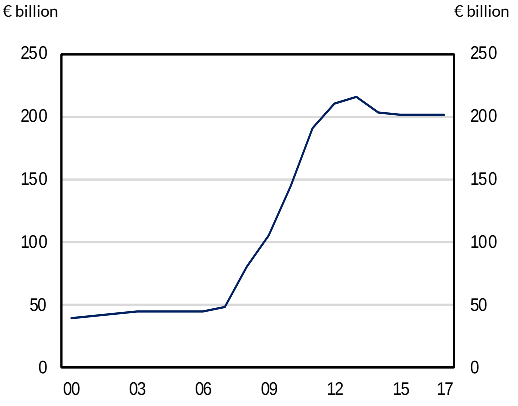
The level of debt from domestic counterparties held by Irish NFCs has been declining since 2012Q3 and stood at close to 100 per cent of GNI* in 2018Q2. There has been positive year-on-year growth in NFC credit in recent months for the first time in almost a decade although credit growth to private sector enterprises remains marginally negative. New lending to SMEs of €3.4 billion occurred in the twelve months to end-2018Q2. A greater share of loan applications from SMEs for growth and expansion now arise, while those relating to short-term funding have fallen. The share of SMEs classified as high debt (i.e. whose outstanding debt exceeds turnover) is relatively low, although larger shares arise in the hotels-and-restaurants and primary industry sectors (Chart A3).

While its total debt as a proportion of disposable income is falling, the household sector remains highly indebted. Mortgage drawdowns have increased substantially of late, albeit from a low base, partly reflecting a growth in first-time buyer drawdowns. Although fixed rate mortgages are accounting for an increasing share of new loans, most outstanding mortgages are on variable or tracker rates leaving them, and short-dated fixed rate mortgages, susceptible to the effects of anticipated or unanticipated interest rate rises. Mortgage arrear cases continue to fall but some 28,000 PDH accounts are more than 720 days past due (Chart A4).

Returns on Irish CRE have moderated from the high levels of 2014-15. There is some variation in capital and rental performance across sub-sectors and locations (Chart A5). Industrial and office properties are recording the strongest growth in capital values, while there is a mixed performance in the retail sector where the commercial outlook has become more uncertain. The Dublin office sector has been at the centre of the recovery in the overall CRE market since 2013 and continues to see high levels of take-up activity occurring alongside the delivery of new office space. Much of this development is not pre-let and so remains vulnerable to future demand conditions.

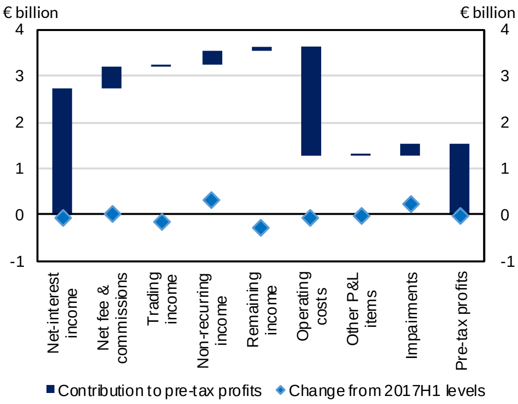
CRE investment remains strong, with overseas investors contributing more than half of 2018 expenditure to date. A sharp reduction in foreign buyer demand due to, for example, more favourable investment opportunities elsewhere would likely have adverse consequences for the market. Brexit could have an impact

Chart A7: General Government debt, 2000-2017



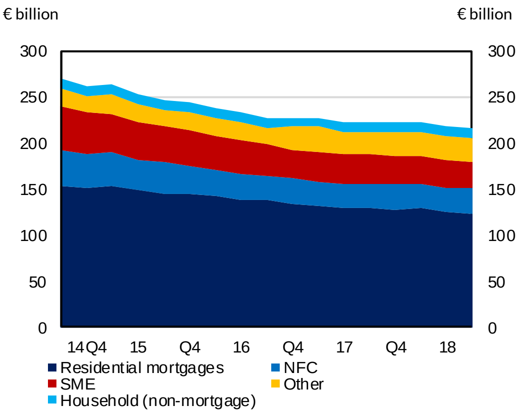
Source: EU AMECO database.

Chart A8: Breakdown of Irish retail banks' pre-tax profits



Source: Central Bank of Ireland.
Notes: For the 6-month period to end 2018H1. Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements.

Chart A9: Sectoral breakdown of outstanding Irish retail banks' 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: 2018Q3.

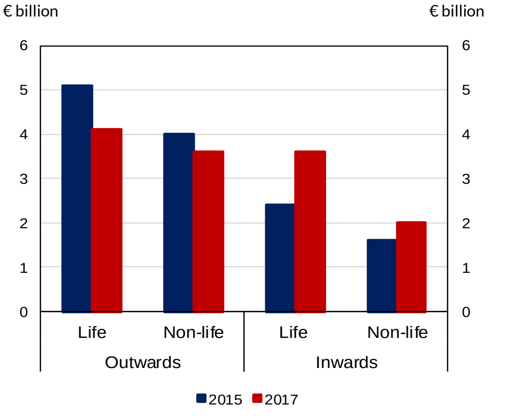
on the CRE market through firm relocations, the potential for changes to supply chains, and the more general uncertainty it creates for investment plans. The value of commercial property loans held by Irish retail banks has been declining steadily over time due to amortisations, portfolio sales and delevering but remains significant. Investment funds hold a substantial portion of the ownership of the invested Irish property market. A diversification of CRE financing sources broadens risk sharing in the sector but also opens up new channels for the transmission of external shocks.

There has been a moderation in residential property price inflation in recent months (Chart A6). Survey evidence indicates that expectations of the extent of future price rises over the short-to-medium term have also declined. Affordability, new supply and the perception of value are among the factors cited in forming those expectations. Rents are high by historical comparison, particularly in urban areas and for apartments. Construction activity continues to improve, reflected in both early-stage indicators of housing supply (such as planning permissions and commencements) and the number of completions, but remains less than what is required to meet short-term and long-term housing demand. At end-November, the Central Bank published its annual review of the mortgage market measures. The analysis indicates that the mortgage measures as currently calibrated are achieving their objectives of increasing bank and borrower resilience and reducing the risk of bank credit-house price spirals from emerging and are contributing to overall financial stability. As a result, the LTV and LTI limits for the various borrower categories and the related lending allowances above those limits will remain unchanged in 2019.

Italian sovereign bond yields have risen sharply since April, reflecting domestic political developments and highlighting the relatively large holdings of domestic public debt by Italian banks. These developments have not had an adverse effect on the market for Irish sovereign bonds. High public debt levels arise in many Member States, including Ireland (Chart A7), leaving them vulnerable to financial market shocks and other shocks. While Ireland carries a large cash holding, a relatively large amount of sovereign debt is due to mature in 2019 and 2020. The re-financing of maturing debt and the issuing of new debt will be subject to market conditions, including prevailing interest rates. Looking ahead, it is important that fiscal buffers are built up in good times to address any adverse shocks to the sovereign and to the economy more generally that may arise.

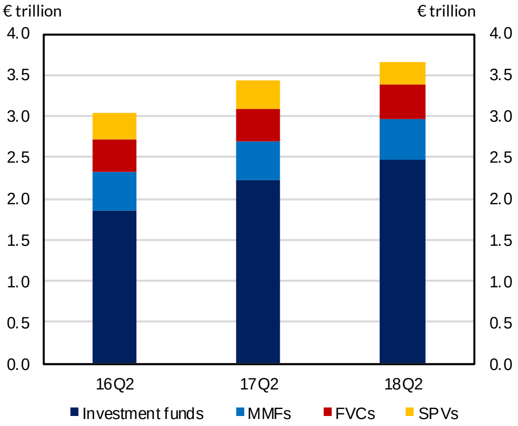
Although the operating environment has generally improved, income growth across the EU banking sector remains subdued and credit quality issues remain a concern in many countries. While non-performing loan balances across all major lending categories are falling, high levels of NPLs remain on Irish retail banks' balance sheets. The banks' operating profits were broadly unchanged in 2018H1 (Chart A8). Adjusting for the impact of write-backs, pre-

Chart A10: Cross-border insurance market between Ireland and the UK



Source: Central Bank of Ireland.
Notes: Data are gross premium income of Irish entities writing insurance business in the UK on an FOS or FOE basis (outwards) and of UK entities writing insurance business in Ireland on and FOS or FOE basis (inwards).

Chart A11: Total assets in Irish authorised funds and special purpose entities sector



Source: Central Bank of Ireland.
Notes: Yearly data between 2016Q2 and 2018Q2.

provision profitability declined by 15 per cent compared to 2017H1. The low interest rate environment contributed in part to operating income decreasing in 2018H1. The overall impact of future interest rate increases on net-interest income is unclear. Capital ratios have declined marginally since the last Review but remain high relative to regulatory requirements. Provisions for the introduction of an O-SII buffer, to take effect in 2019, have been made.

The Irish retail banks' aggregate balance sheet increased marginally in the last twelve months. Loans books are heavily concentrated in lending to Ireland and the UK and mainly involve property loans (Chart A9). Any adverse economic conditions arising from Brexit could reduce bank profitability and have a material impact on the credit quality of Irish retail banks' loan portfolios. In the event of a hard Brexit, the ability of Irish retail banks to issue debt through the UK could be affected and they may face operational and logistical challenges issuing debt in alternative markets. The eligibility of MREL liabilities governed by UK law may be affected by the UK becoming a third country after Brexit.

Domestically-focussed, high-impact non-life insurance firms made an aggregate operating profit in 2018H1 as underwriting performance improved. Their investment income remains suppressed in the current low interest rate environment, although higher interest rates could affect firms' capital base adversely. The current operating environment for the domestic life insurance sector is supported by favourable economic conditions. A sustained fall in asset prices or increased financial market volatility could affect demand for the sector's products. The introduction of IFRS 17 is likely to present significant costs and implementation challenges for insurance firms.

Substantial premium volumes are written by insurance firms between Ireland and the UK (Chart A10). Were Brexit to result in no specific arrangements between the EU and the UK arising that ensured access to each other's markets, insurance firms established in Ireland would be unable to write business in the UK by way of freedom of establishment (FOE) or freedom of service (FOS). Firms might also be unable to pay out on claims or pension benefits on a cross-border basis. Many firms are in the process of implementing plans to mitigate the impact of a hard Brexit on their business models. Although it is uncertain if all firms will have completed these actions prior to the March 2019 withdrawal date, the UK has enacted a temporary permissions regime that will provide additional time to complete the implementation of the plans.

The total assets of the investment funds and financial vehicles sector in Ireland in 2018Q2 were close to €3.6 trillion, with investment funds accounting for the largest share, at almost €2.5 trillion (Chart A11). The sector's exposure to the domestic economy is limited, with between 10 and 15 per cent of assets and liabilities linked to Irish counterparties, but is large in nominal terms. The aggregate portfolio of the sector in Ireland contains a broad range of global assets, many of which are trading at historically elevated levels. The use of leverage and the liquidity and maturity transformation conducted within the sector pose general financial stability risks. The sector's interconnectedness to global financial markets means that it could be a transmitter of adverse shocks to the domestic economy. A disorderly Brexit could affect the continuity of certain non-central derivative contracts. This is the case for so-called 'lifecycle' events and the continuity will depend on each Member State's national legislation and regulation on the provision of investment services from third country investment firms into their jurisdiction. It could also affect access to UK-based central counterparties, who would lose their status as qualifying CCPs without an equivalence decision from the European Commission and recognition from ESMA. In such a scenario, Irish-domiciled financial entities subject to the regulatory clearing obligation would not be able to hedge with interest rate swaps and clearing for products not subject to the clearing obligation would become more expensive. Beyond Ireland, concerns arise about risk-taking in the EA investment fund sector, particularly in terms of liquidity and maturity transformation.

Box 1: Overview of systemic risks in Ireland

In this box, the main systemic risks facing Ireland are considered.[1] This assessment complements the regular sectoral analysis of the MFR. The box focuses on changes, if any, in the intensity and the profile of the main systemic risks since the last MFR, published in June. These systemic risks could materialise under certain conditions over the short-to-medium term (i.e., up to a 3 year horizon). The assessment of their impact is driven by the combination of the probability of certain negative shocks (i.e., potential triggers) occurring and the corresponding impact of these shocks on existing vulnerabilities in the Irish macro-financial system. The table below indicates in the first instance the main systemic risks for Ireland, while its lower panels outline the potential trigger events and vulnerabilities that together determine the intensity of those risks. The right-hand-side column shows the change in the perceived risk intensity of each of the systemic risks and determining factors since the last MFR. The sectoral analysis in the MFR reflects each sector's exposure to these risks, as well as particular vulnerabilities that arise in each.

Main Domestic Systemic Risks (≈A*B)	*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	→
Elevated Vulnerabilities (A)	*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 that are sensitive to interest rate re-pricing	→
· Direct and indirect exposures to UK including reliance on provision of financial services from UK	→
Potential Triggers (B)	*Change in probability*
· A disruptive 'hard' Brexit	→
· Increased market volatility due to European/global geopolitical developments	↑
· Intensified correction to a macroeconomic shock as the Irish economy operates above productive capacity	↑
· A more general move towards protectionism in international trade and changes in corporate tax arrangements	↑
· 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. Specifically, the overall assessment and impact of the main domestic systemic risks is the combination of the probability of the potential triggers (B) with the prevailing vulnerabilities (A) in the Irish macro-financial environment. The change in the risk intensity is judgement-based and not derived from a fixed weighting scheme. 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, where available.

While the main domestic systemic risks remain unchanged from MFR 2018: I, the level of intensity of the first risk – an abrupt negative change in financial conditions - is considered to be higher now. This is mainly due to the increased probability of some of the potential triggers most related to that risk. A robust domestic macroeconomic environment has raised concerns about the potential for capacity constraints emerging and the economy operating above potential in the near term. In the context of a fragile external environment, this makes the Irish economy and financial system especially exposed to any adjustment from a negative macroeconomic shock. The increased probability of certain triggers (e.g. greater protectionism in international trade) and the emergence of others (i.e., higher risk of correction in the domestic economy) since MFR 2018: I increases the likelihood of an abrupt change in financial conditions and a revaluation in asset prices. The uncertainty surrounding the future EU-UK economic relationship continues. At the time of writing, a withdrawal treaty, and a political statement, has been agreed at inter-governmental level but is yet to be ratified.

In terms of the other potential triggers, the external macro-financial environment remains fragile, especially given recent volatility in international financial markets, particularity in EMEs. Other factors, such as the emergence of protectionist policies, ongoing geopolitical issues and changes in international corporate tax arrangements, contribute to this assessment. Furthermore, as interest rate policy continues to normalise in certain advanced economies, any existing mis-pricing of risk in the markets could be corrected with a consequent negative impact on valuations and higher risk premia arising. While the direct implications of recent market volatility for Ireland have been minimal, any adverse international macro-financial shock could have significant negative repercussions for domestic asset prices, including real estate prices. An abrupt correction in risk pricing could increase the debt-servicing costs of the Irish public and private sectors, which remain relatively highly indebted, while also reducing net wealth if domestic asset prices were to fall substantially.

The heightened probability of these potential triggers needs to be considered in the context of the existing elevated vulnerabilities in Ireland. These arise as legacy issues of the last financial crisis, such as the high levels of non-performing loans (NPLs), public debt and private debt and the concentrated lending portfolios of Irish retail banks. Vulnerabilities also arise related to the robust cyclical recovery since the crisis (i.e., the possibility of misaligned house prices arising) and the reliance of financial and non-financial firms on UK-based entities given the uncertainty around Brexit.

While the NPL rate continues to decline, standing at 11.4 per cent for the Irish retail banks in 2018Q2, it is significantly above the EU average of 3.6 per cent. Residential real estate prices continue to rise, albeit at a more moderate pace than in early 2018. These increases have moved price levels close to or above what would be consistent with broader economic developments. The exposures of the domestic banking system also remain heavily concentrated in real estate, implying that any price adjustment would affect collateral values. While the proportion of mortgage lending to households at fixed rates for greater than 3 years has increased, Irish households remain sensitive to interest rate re-pricing given the high level of outstanding lending at variable rates or fixed rates of less than 3 years duration. The overall level of household indebtedness is declining but remains amongst the highest in the EU when expressed as a proportion of disposable income. Meanwhile, public sector indebtedness ratios have improved in part due to increased economic activity, although the nominal amount of General Government Debt remains broadly unchanged. The refinancing of maturing sovereign debt remains sensitive to international financial market conditions. The relatively benign reaction of Irish sovereign yields to recent market tensions, including developments in the Italian sovereign bond market, is noteworthy, although adverse domestic economic and fiscal events could affect the attractiveness of Irish sovereign bonds.

In summary, given the increased probability of a number of relevant trigger events, the continuing high levels of debt that are sensitive to re-pricing, the steady rise in residential property prices relative to economic fundamentals, and the economy's exposure to the UK, the risk intensity related to an abrupt negative change in financial conditions is perceived to have increased since MFR 2018: I. The risk intensity relating to structural issues in the banking sector, broadly speaking, is similar to that in June 2018, but remains elevated across the key contributing vulnerabilities of NPLs, exposure to the UK and the degree of system-wide concentration in Irish real estate. Similarly, even though a high proportion of such debt remains sensitive to interest rate changes, the marginal improvements in public and private sector indebtedness since MFR 2018: I is deemed sufficient to minimise the impact of the higher probability of market turbulence. As a result, the risk intensity related to public and private sector debt sustainability is deemed to be unchanged since the last MFR.

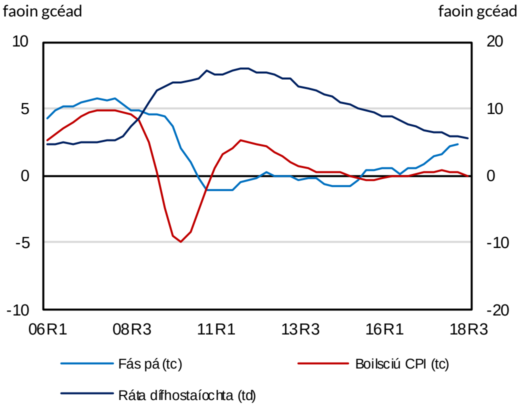
Acknowledging the strength of emerging cyclical vulnerabilities and the susceptibility of the Irish macro-financial system to negative shocks, the Central Bank has recently activated the Countercyclical Capital Buffer (CCyB), with the rate set at 1 per cent effective from July 2019. The CCyB complements the other macroprudential instruments currently operational in Ireland, in particular the mortgage measures, in reaching the overall objective of macroprudential policy in mitigating the impact of systemic risks, including those highlighted in this box.

---

[1] Systemic risks are those that have the potential to disrupt the provision of financial services significantly, caused by an impairment of all or parts of the financial system. The materialisation of such risks would lead to serious negative consequences for the real economy.
[2] 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.

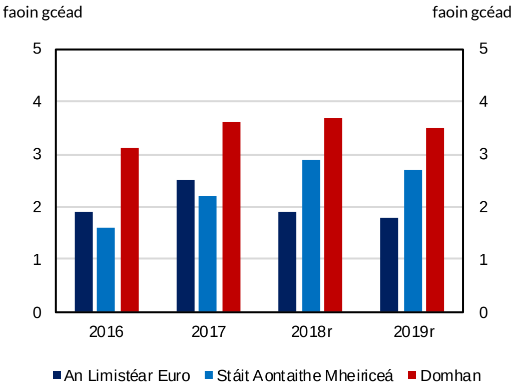
1. Forbhreathnú

Cairt A1: Dífhostaíocht, pá agus boilsicú CPI



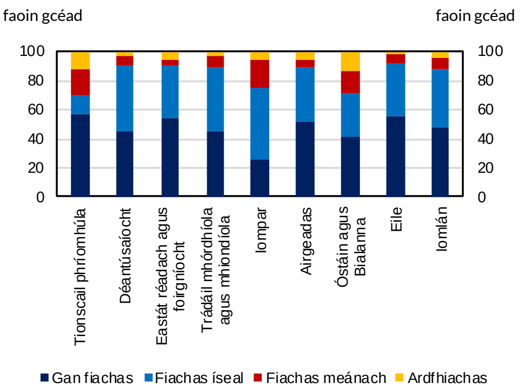
Foinse: CSO, Banc Ceannais na hÉireann.
Nóta: Is sonraí ceithre ráithe iad seo ar meán gluaisteach sraoilleach iad. Grinniú deireanach: 2018R3. tc=taobh clé, td=taobh deas

Cairt A2: Fíorfhás OTI



Foinse: OECD Economic Outlook Uimh. 104 - Samhain 2018.
Nótaí: Seasann 'r' do réamhaisnéis.

Cairt A3: Féichiúnas FBManna – cóimheas fiachais le láimhdeachas de réir earnála



Foinse: Suirbhé Éilimh Creidmheasa na Roinne Airgeadais agus ríomhanna Bhanc Ceannais na hÉireann
Nótaí: Baineann sonraí leis an tréimhse Meán Fómhair 2017-Márta 2018

Forbhreathnú

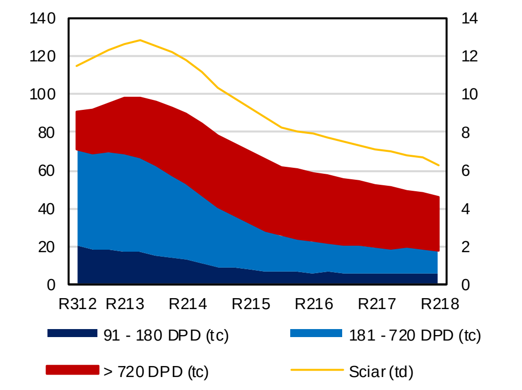
Tá geilleagar na hÉireann fós ag fás ag ráta láidir, á spreagadh ag forbairtí éilimh intíre agus fás leathan fostaíochta. Tá fás láidir ann fós ar bhuninfheistíocht (i.e. infheistíocht glan ar aerárthaí agus ar shócmhainní doláimhsithe) agus tá fás láidir fós ar onnmhairí freisin. Tá boilsciú CPI fós maolaithe, i bpáirt de bharr laige steirling lena laghdaítear praghasanna allmhairíochta tomhaltóirí. Tá an margadh saothair á theannadh agus tá pá ag fás (Cairt A1). Is léir go bhfuil easnaimh bhonneagair ann, go háirithe san earnáil tithíochta, agus tá riosca ag baint leis sin don gheilleagar sna blianta atá le teacht. Sa timpeallacht seo, níor cheart go gcuirfeadh gníomhaíochtaí beartais le dinimic chomhthimthriallacha.

I gcoitinne, tacaíonn forbairtí eacnamaíochta idináisiúnta le geilleagar na hÉireann (Cairt A2). Is rioscaí ar an taobh thíos iad na rioscaí don timpeallacht idirnáisiúta eacnamaíochta agus airgeadais. Tá baol ann do sreafaí trádála idirnáisiúnta, ó chonstaicí trádála agus ón bhféidearthacht go mbeidh Brexit crua ann, agus ó leochailleacht GMEnna de bharr fiachas ard agus luachmhéadú dhollar na Stát Aontaithe. D'fhéadfadh aisiopmú ar sheintimint infheisteoirí sna margaí airgeadais tionchar díobhálach a imirt ar fhás domhanda agus ar mhargaí airgeadais, go háirithe sa mhargadh domhanda iasachtaí giaráilte.

D'fhéadfadh éifeacht iarmhartach a bheith ag na rioscaí sin ar thimpeallacht mhacra-airgeadais na hÉireann má thagann siad chun cinn. D'fhéadfadh aon laghdú ar thrádáil dhomhanda agus athruithe ar an timpeallacht chánach idirnáisúnta tionchar a imirt ar earnálacha onnmhairí-dírithe sa gheilleagar. Maidir le leibhéil ioncaim atá á bhfeabhsú, tacaíonn siad sin le seirbhísiú ar fhiachas, ach tá imní ann fós maidir le hinbhuanaitheacht fiachais. Cé go bhfuil laghdú ag teacht fós ar iasachtaí neamhthuillmheacha, déantar teorannú ar chumas idirghabhála na hearnála baincéireachta intíre le dúshláin struchtúracha. (Féach Bosca 1 i gcomhair forbhreathnú ar rioscaí sistéimeacha in Éirinn)

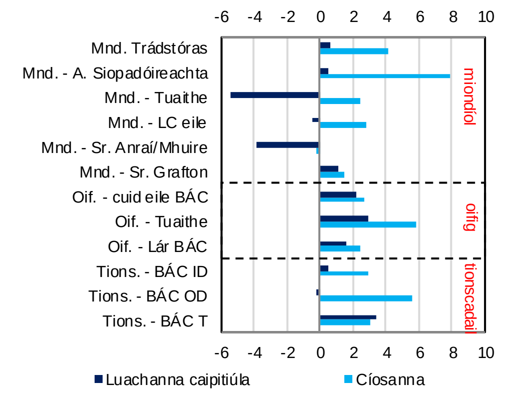
Is é Brexit an phríomh-shaincheist roimh gheilleagar na hÉireann, go háirithe an fhéidearthacht go mbeidh Brexit mí-ordúil ann. Bheadh éiginnteacht ann fós le Brexit ina gcaomhnófaí na socruithe trádála ata anois ann, de bharr na caibidlíochta AE-RA a bheadh fós le críochnú tar éis Mhárta 2019. Bheadh Brexit 'crua' ina bhunús le laghdú suntasach ar aschur agus ar fhostaíocht. Bhí géarghluaiseachtaí ann le blianta beaga anuas ar an ráta malairte euro-steirling. Dá laghdófaí steirling tuilleadh, bheadh onnmhairí Éireannacha chuig an Ríocht Aontaithe níos daoire. I gcás Brexit crua, d'fhéadfadh punt níos laige a bheith ann an tráth céanna le méadú ar tharaifí ar na honnmhairí sin. Tá earnálacha amhail an earnáil agraibhia agus an earnáil mórdhíola agus miondíola níos neamhchosanta ar éifeachtaí Brexit ná mar atá earnálacha eile, fad

Cairt A4: Riaráistí morgáistí PDH



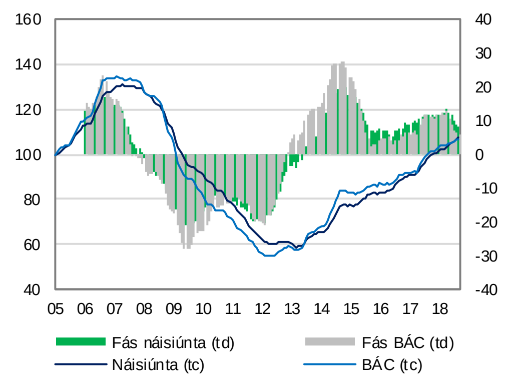
Foinse: Banc Ceannais na hÉireann.
Nótaí: Is ionann sciar agus an sciar d'iasachtaí iomlána atá níos mó ná 90 lá thar téarma. Grinniú deireanach: Meitheamh 2018

Cairt A5: Miondealú ar luach caipitiúil maoine trádála agus ar fhás cíosa de réir earnála agus réigiúin



Foinse: MSCI/IPD
Nótaí: Mnd = miondíol, Tionsc = tionscadail, Oif = oifig, T = tuaisceart, OD = oirthear-deisceart, ID = iarthar-deisceart, Sr = sráid agus LC = lárchathracha. Sonraí ag 2018R3.

Cairt A6: Innéacs praghsanna maoine cónaithe CSO agus rátaí fáis



Foinse: CSO.
Nótaí: Innéacs praghsanna maoine cónaithe = 100 in Eanáir 2005. Grinniú deireanach: Meán Fómhair 2018.

is atá réigiúin ina ndírítear ar mhargadh na Ríochta Aontaithe, amhail contaetha na teorann, níos leochaillí. D'fhéadfadh Brexit cur isteach ar ghníomhaíochtaí na ngnóthas a bhraitheann ar allmhairí ón Ríocht Aontaithe. Tugtar le tuiscint i sonraí suirbhé go bhfuil gnóthais ag glacadh cur chuige níos airdeallaí maidir le hinfheistíocht agus leathnú de bharr éiginnteacht a bhaineann le Brexit. Is FBManna iad formhór na ngnóthas a bhfuil caidreamh díreach trádála acu leis an Ríocht Aontaithe. D'fhéadfadh iarmhairtí ar ionadú teacht chun cinn, fiú d'earnálacha a raibh cosaint acu cheana ar iomaíocht ó ghnóthais sa Ríocht Aontaithe, de bharr gluaiseachtaí móra marthanancha airgeadra.

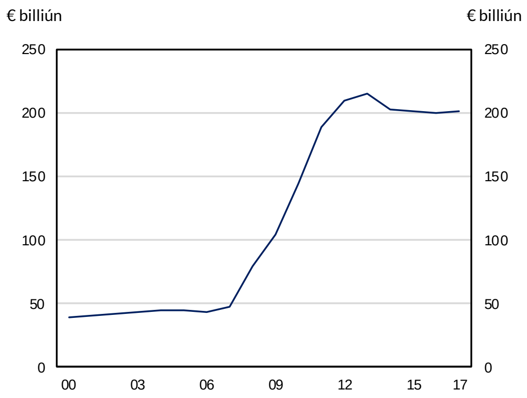
Tá fás comhiomlán creidmheasa fós maolaithe, cé bhfuil ráta fáis níos láidre ann i roinnt fo-earnálacha, amhail iasachtaí morgáisite PDH ráta sheasta agus iasachtaí d'fhiontair mhóra. D'fhógair an Banc Ceannais ráta 1 faoin gcéad don Chúlchiste Fritimthriallach ar risíochtaí Éireannacha i mí Iúil, a thiocfaidh i bhfeidhm in Iúil 2019. Is é an príomhchuspóir atá leis athléimneacht na earnála baincéireachta a chur chun cinn in aghaidh riosca sistéimeach timthriallach.

Tá laghdú ag teacht ar an leibhéal fiachais ó chontrapháirtithe intíre i seilbh CNAnna Éireannacha ó 2012R3 agus bhí an leibhéal sin gar do 100 faoin gcéad de OIN* in 2018R2. Tá fás dearfach bliain ar bhliain ar chreidmheas CNA le roinnt míonna anuas den chéad uair le deich mbliana anuas nach mór, cé go bhfuil fás creidmheasa d'fhiontair san earnáil phríobháideach fós diúltach go himeallach. Bhí iasachtú nua €3.4 bhilliún do FBManna ann sna 12 mhí go dtí deireadh 2018R2. Tagann sciar níos mó d'iarratais iasachtaithe chun cinn anois ó FBManna le haghaidh fás agus leathnú, fad is atá laghdú tagtha ar na líon na n-iarratas a bhaineann le maoiniú gearrthéarmach. Tá an sciar de FBManna aicmithe mar FBManna ardfhiachais (i.e. a bhfuil a bhfiachas gan íoc níos mó ná a láimhdeachas) sách íseal, cé go bhfuil sciartha níos airde ann san earnáil óstán agus bialann agus sna hearnálacha tionscail phríomhúil (Cairt A3).

Cé go bhfuil a fiachas iomlán mar chion d'ioncam indiúscartha ag titim, tá fiachas ard i gcónaí san earnáil tithíochta. Tá ardú suntasach tagtha ar íostarraingtí morgáiste le deireanas, cé gur ó bhonn íseal atá an t-ardú, rud a léiríonn, go pointe áirithe, fás ar líon na n-íostarraingtí ó cheannaitheoirí céaduaire. Cé gur morgáistí ráta sheasta iad sciar níos mó d'iaschtaí nua, tá formhór na morgáistí fós amuigh ar ráta athraitheach nó ar ráta rianúcháin, rud a fhágann go bhfuil na morgáistí sin agus morgáistí ráta sheasta soghonta i leith na n-éifeachtaí a bhainfeadh le harduithe ar rátaí úis, arb arduithe iad a mbeifí ag súil leo nó nach mbeifí ag súil leo. Tá laghdú ag teacht fós ar líon na gcásanna riaráistí mogáiste ach tá tuairim is 28000 cuntas PDH ann atá gan íoc le níos mó le 720 lá (Cairt A4).

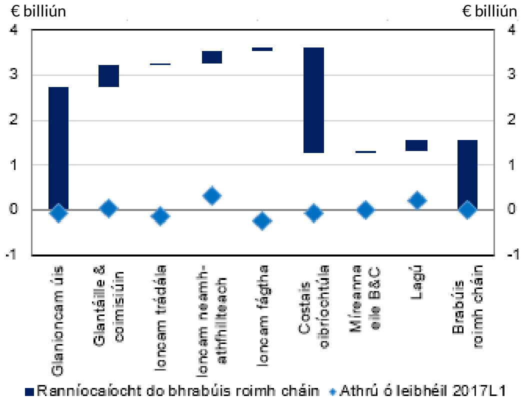
Tá torthaí CRE Éireannach maolaithe ó na leibhéil arda a bhí ann in 2014-2015. Tá éagsúlacht áirithe ann maidir le feidhmíocht caipitil agus cíosa ar fud fo-earnálacha agus suíomhanna (Cairt A5). Is do

Cairt A7: Fiachas Rialtais Ghinearálta, 2000-2017



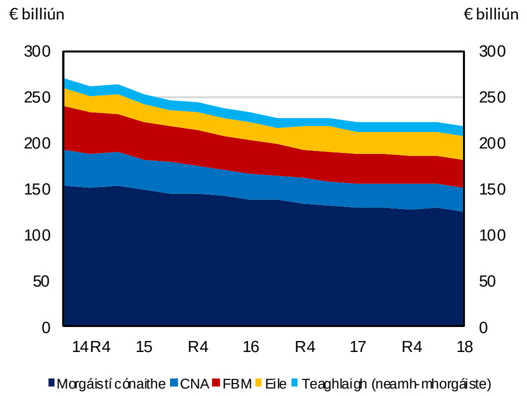
Foinse: Bunachar sonraí AMECO AE.

Cairt A8: Miondealú ar bhrabúis roimh cháin na mbanc miondíola Éireannach



Foinse: Banc Ceannais na hÉireann.
Nótaí: Don tréimhse sé mhí go dtí deireadh 2018L1. Sonraí comhdhluite agus bailithe i gcomhréir le ceanglais tuairiscithe FINREP ÚBE.

Cairt A9: Miondealú de réir earnála ar iasachtaí agus airleacain fós amuigh de chuid na mbanc miondíola Éireannach



Foinse: Banc Ceannais na hÉireann.
Nótaí: Sonraí comhdhluite agus bailithe i gcomhréir le ceanglais tuairiscithe FINREP ÚBE. Grinniú deireanach: 2018R3

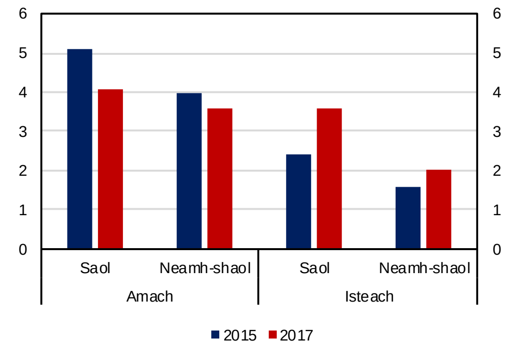
mhaoin tionsclaíochta agus oifige atá an fás is láidre ar luachanna caipitiúla á thuairisciú, fad is atá feidhmíocht mheasctha ann san earnáil miondíola ina bhfuil an dearcadh tráchtála éirithe níos éiginnte. Tá an earnáil oifige i mBaile Átha Cliath i lár an téarnaimh i margadh foriomlán CRE ó 2013 agus tá leibhéil arda gníomhaíochta glactha ann fós i dteannta le seachadadh spáis nua oifige. Ní mórchuid den fhorbairt sin réamh-ligthe agus mar sin tá sé fós leochailleach do dhálaí éilimh amach anseo.

Tá infheistíocht CRE fós láidir, le níos mó ná leath de chaiteachas 2018 ag teacht ó infheisteoirí thar lear go dtí seo. Is dócha go mbeadh iarmhairtí díobhálacha ar an margadh ag baint le laghdú géar ar éileamh ceannaitheoirí eachtracha de bharr, mar shampla, deiseanna infheistíochta níos fabhraí in áiteanna eile. D'fhéadfadh Brexit tionchar a imirt ar mhargadh CRE trí athlonnuithe gnóthas, tríd an bhféidearthacht go mbeadh athruithe ann i slabhraí soláthair agus an éiginnteacht níos leithne a chruthaítear leis do phleananna infheistíochta. Tá luach na n-iasachtaí maoine tráchtála i seilbh na mbanc miondíola Éireannach á laghdú go seasta le himeacht ama de bharr amúchadh, díolacháin punanna agus díghiaráil ach is luach suntasach é fós. Tá cuid shuntasach d'úinéireacht an mhargaidh maoine infheistithe in Éirinn i seilbh cistí infheistíochta. Le héagsúlú foinsí maoinithe CRE, déantar leathnú ar chomhroinnt riosca san earnáil ach osclaítear cainéail nua freisin do tharchur turraingí seachtracha.

Tá maolú ar bhoilsciú praghais maoine cónaithe le míonna beaga anuas (Cairt A6). Tugtar le tuiscint i bhfianaise suirbhé go bhfuil ionchais laghdaithe freisin maidir le fairsinge na n-arduithe praghais amach anseo sa ghearrthéarma agus sa mheántéarma. Luaitear inacmhainneacht, soláthar nua agus tuairimí maidir le luach i measc na ngnéithe a mhúnlaíonn na hionchais sin. Tá cíosanna ard ó thaobh comparáid staire de, go háirithe cíosanna i gceantair uirbeacha agus cíosanna d'árasáin. Tá feabhas ag teacht i gcónaí ar ghníomhaíocht foirgníochta a léirítear le táscairí ar sholáthar tithíochta ó chéim luath (amhail ceadanna pleanála agus tosaigh feidhme) agus le líon na gcríochnuithe, ach tá an leibhéal fós níos lú ná mar a bhfuil gá leis chun éileamh tithíochta gearrthéarmach agus fadtéarmach a shásamh. Ag deireadh mhí na Samhna, d'fhoilsigh an Banc Ceannais a athbhreithniú bliantúil ar na bearta don mhargadh morgáiste. Maidir leis na cuspóirí chun athléimneacht banc agus iasachtaithe a neartú agus chun an riosca á laghdú go rachadh creidmheas bainc agus praghsanna tithe ó smacht, tugtar le tuiscint san anailís go bhfuil na cuspóirí sin á mbaint amach leis na bearta morgáiste mar atá calabraithe faoi láthair agus go bhfuil siad ag cur leis an gcobhsaíocht airgeadais foriomlán. Mar thoradh air sin, beidh na teorainneacha CIL agus na teorainneacha CII do na catagóirí éagsúla iasachtaithe agus do na liúntais iasachtaithe thar na teorainneacha sin gan athrú in 2019.

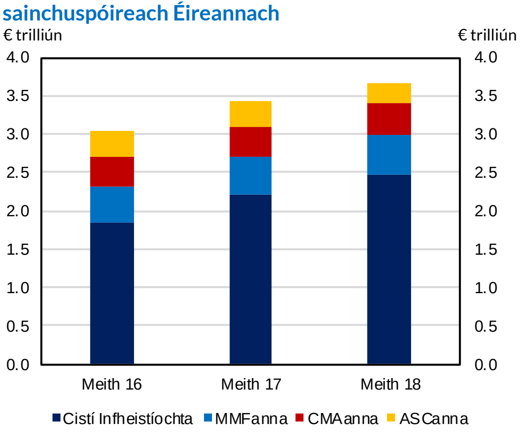
Tá ardú géar tagtha ar thorthaí bhannaí ceannasacha na hIodála ó Aibreán, rud a léiríonn forbairtí polaitiúla intíre agus a tharraingíonn aird ar shealúchais sách ard fiachais phoiblí intíre na mbanc Iodálach. Ní raibh tionchar díobhálach ag na forbairtí sin go

Cairt A10: Margadh árachais trasteorann idir Éire agus an Ríocht Aontaithe



Foinse: Banc Ceannais na hÉireann.
Nótaí: Is ollioncam préimhe d'eintitis Éireannacha a scríobhann gnó árachais sa Ríocht Aontaithe ar bhonn FOS nó FOE (amach) agus d'eintitis a scríobhann gnó árachais in Éirinn ar bhonn FOS nó FOE (isteach) iad na sonraí seo.

Cairt A11: Sócmhainní iomlána in earnáil na gcistí údaraithe Éireannach agus na n-aonán sainchuspóireach Éireannach



Foinse: Banc Ceannais na hÉireann.
Nótaí: Sonraí bliantúla idir 2016R2 and 2018R2.

fóill ar an margadh do bhannaí ceannasacha Éireannacha. Tagann leibhéil arda fiachais phoiblí chun cinn i mórán Ballstát, Éire san áireamh (Cairt A7), rud a fhágann na tíortha sin leochailleach do thurraingí margaidh airgeadais agus do thurraingí eile. Cé go bhfuil sealúchas mór airgid ag Éirinn, tá méid measartha mór fiachas ceannasach le teacht in aibíocht in 2019 agus in 2020. Beidh athmhaoiniú fiachais atá ag teacht in aibíocht agus eisiúint fiachais nua faoi réir dálaí margaidh, lena n-áirítear na rátaí úis i réim. Ag féachaint romhainn, tá sé tábhachtach go gcruinnítear maoláin fhioscacha le linn tréimhsí maithe chun dul i ngleic le haon turraingí díobhálacha don gheilleagar a d'fhéadfadh teacht chun cinn amach anseo.

Cé go bhfuil feabhas ginearálta tagtha ar an timpeallacht oibríochtúil, tá fás ioncaim ar fud earnáil baincéireachta AE fós maolaithe agus is ábhar imní fós iad saincheisteanna cáilíochta creidmheasa i mórán tíortha. Cé go bhfuil iarmhéideanna iasachtaí neamhthuillmheacha ag titim ar fud na mórchatagóirí iasachtaithe, tá leibhéil arda NPLanna fós ann ar chláir chomhordaithe na mbanc miondíola Éireannach. Bhí brabús oibríochtúil na mbanc gan athrú den chuid ba mhó in 2018R1 (Cairt A8). Nuair a dhéantar coigeartú do thionchar athscríofa, tháining laghdú 15 faoin gcéad ar bhrabúsacht réamhfhorálacha i gcomparáid le 2017L1. Chuir an timpeallacht rátaí ísle úis, go pointe áirithe, le laghdú ar ioncam oibríochtúil in 2018L1. Ní léir an tionchar foriomlán a bheadh ag arduithe ar rátaí úis amach anseo ar ghlanioncam úis. Tá laghdú imeallach tagtha ar chóimheasa caipitil ó bhí an t-athbhreithniú deireanach ann ach tá siad fós ard i ndáil le ceangalis rialála. Tá forálacha déanta chun maolán O-SII a thabhairt isteach, a chuirfear i bhfeidhm in 2019.

Tháinig méadú imeallach ar chomhiomlán chlár comhordaithe na mbanc miondíola Éireannach le 12 mhí anuas. Tá leabhair iasachta comhchruinnithe go mór in iasachtú in Éirinn agus sa Ríocht Aontaithe agus baineann siad ar an mórchuid le hiasachtaí maoine (Cairt A9). D'fhéadfadh aon dálaí eacnamaíochta díobhálacha arna n-eascrú as Brexit brabúsacht banc a laghdú agus tionchar ábhartha a imirt ar cháilíocht chreidmheasa phunanna na mbanc miondíola Éireannach. I gcás Brexit crua, d'fhéadfaí go n-imreofaí tionchar ar chumas na mbanc miondíola Éireannach fiachas a eisiúint tríd an Ríocht Aontaithe agus b'fhéidir go mbeadh dúshláin oibríochtúla agus lóistíochta rompu chun fiachas a eisiúint i margaí malartacha. D'fhéadfaí go n-imreofaí tionchar ar incháilitheacht dhliteanas MREL arna rialú faoi dhlí na Ríochta Aontaithe toisc an Ríocht Aontaithe a bheith ina tríú tír i ndiaidh Brexit.

Gnólachtaí ardtionchair árachais neamhshaoil dírithe ar an margadh intíre, rinne siad brabús oibríochtúil comhiomlán in 2018R1 fad is a tháining feabhas ar fheidhmíocht frithghealltа. Tá a n-ioncam ó infheistíocht maolaithe i gcónaí sa timpeallacht rátaí ísle úis atá anois ann, ach d'fhéadfadh go mbeadh éifeacht dhíobhálach ag rátaí níos airde úis ar a mbonn caipitil. Tacaíonn dálaí eacnamaíochta fabhracha leis an timpeallacht oibríochtúil atá anois ann don earnáil árachais saoil intíre. D'fhéadfadh laghdú marthanach ar phraghas sócmhainní nó luaineacht mhéadaithe margaí airgeadais tionchar a imirt ar éileamh do tháirgí na hearnála sin. Is dócha go mbeidh costais shuntasacha agus dúshláin cur chun feidhme ag baint le teacht isteach IFRS 17 do ghnóthais árachais.

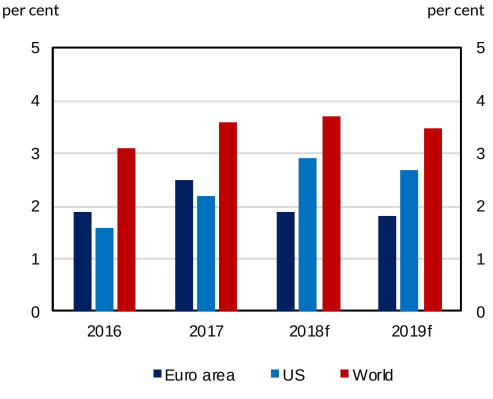
Déanann gnóthais árachais líon suntasach préimheanna a fhrithghealladh idir Éire agus an Ríocht Aontaithe (Cairt A10). Dá mbeadh sé mar thoradh ag Brexit nach mbeadh aon sain-chomhaontuithe idir Éire agus an Ríocht Aontaithe ina n-áiritheofaí rochtain ar mhargaí a chéile, ní bheadh gnóthais árachais arna mbunú in Éirinn ábalta gnó sa Ríocht Aontaithe a scríobh trí shaoirse bhunaíochta (FOE) ná trí shaoirse chun seirbhísí a sholáthar (FOS). D'fhéadfadh nach mbeadh gnóthais in ann éilimh nó sochair phinsin a íoc ar bhonn trasteorann. Tá mórán gnóthas i mbun pleananna a chur chun feidhme chun tionchar Brexit chrua ar a samhlacha gnó a mhaolú. Cé nach léir an mbeidh na bearta sin curtha i gcrích ag na gnóthais uile roimh an dáta um tharraingt siar i Márta 2019, tá córas sealadach ceadanna curtha i ngníomh ag an Ríocht Aontaithe lena gcuirfear am breise ar fáil chun cur chun feidhme na bpleananna a chríochnú.

Bhí sócmhainní iomlána na hearnála cistí infheistíochta agus na meán airgeadais in Éirinn gar do €3.6 thrilliún in 2018R2, agus bhain an chuid is mó le cistí infheistíochta, ag nach mór €2.5 thrilliún (Cairt A11). Tá risíocht na hearnála don gheilleagar intíre teoranta, agus idir 10 faoin gcéad agus 15 faoin gcéad de shócmhainní agus de dhliteanais nasctha le contrapháirtithe Éireannacha, ach is mór é i dtéarmaí ainmniúla. Tá réimse leathan sócmhainní domhanda i bpunann comhiomlán na hearnála in Éirinn agus tá mórán de na sócmhainní sin ag trádáil ar leibhéil ardaithe ó thaobh comparáid staire de. Tá rioscaí ginearálta cobhsaíochta airgeadais ag baint le húsáid giarála agus leis an aistriú leachtachta agus aibíocha arna ndéanamh san earnáil. De bharr idircheangailteacht na hearnála le margaí airgeadais idirnáisúnta, d'fhéadfadh an earnáil turraingí díobhálacha a tharchur chuig an ngeilleagar intíre. D'fhéadfadh Brexit mí-ordúil tionchar a imirt ar leanúnachas conarthaí díorthacha neamhlárnacha áirithe. Is amhlaidh an cás d'imeachtaí 'saolré' agus braithfidh an leanúnachas ar reachtaíocht náisiúnta gach Ballstáit ar leith agus ar rialáil soláthair seirbhísí infheistíochta ó ghnóthais infheistíochta tríú tíortha ina ndlínse. D'fhéadfadh sé tionchar a imirt freisin ar lár-chontrapháirtithe lonnaithe sa Ríocht Aontaithe, a chaillfeadh a stádas mar lár-chontrapháirtithe imréitigh (CCPanna) d'uireasa cinneadh coibhéise ón gCoimisiúin Eorpach agus aitheantas ó ESMA. Maidir le heintitis airgeadais atá lonnaithe in Éirinn atá faoi réir na hoibleagáide imréitigh rialála, sa chás sin ní bheidís in ann falú le malartuithe rátaí úis agus ba chostasaí táirgí nach bhfuil faoi réir na hoibleagáide imréitigh. Lasmuigh d'Eirinn, ta údar imní ann maidir le glacadh rioscaí in earnáil cistí infheistíochta EA go háirithe i dtaca le claochlú leachtachta agus aibíochta.

2. International economic and financial developments

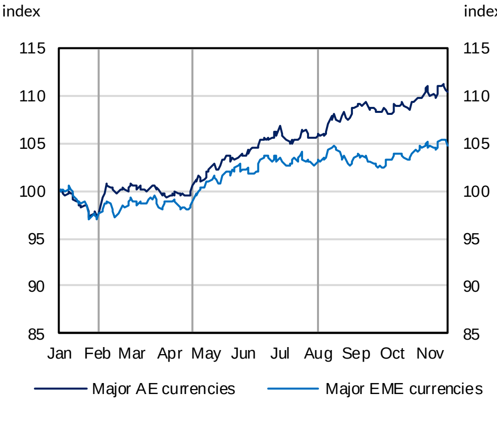
With a slowdown in global trade, the global economy is now forecast to grow at below 4 per cent in 2018. Recent depreciations of EME currencies have been limited to specific countries, with no signs of contagion arising. Looking ahead, risks arise from the effects of any large appreciation of the US dollar on EMEs' financial and non-financial sectors, given the build-up of debt and currency mismatches in those countries. A more general repricing of risk in international financial markets - including from political uncertainty fuelled by mounting trade protectionism, Brexit, and political risks - could also have an adverse effect on global growth and financial markets, notably the global leveraged loan market.

Chart 1: Real GDP growth



Source: OECD Economic Outlook No. 104 - November 2018.
Notes: 'f' denotes forecast.

Chart 2: USD exchange rate against AEs and EMEs



Source: Federal Reserve Bank of St Louis.
Notes: Index, 02 January 2018=100.Trade-weighted dollar indices, Board of Governors of the Federal Reserve System; an increase indicates appreciation. Major AE (advanced economies) currencies include AUD, CAD, CHF, EUR, GBP, JPY, and SEK. Major EME currencies (other important trading partners) include ARS, BRL, CLP, CNY, COP, HKD, IDR, ILS, INR, KRW, MXN, MYR, PHP, RUB, SAR, SGD, THB, and VES. Vertical lines indicate the following events: 2 February 2018 (US labour market report triggers stock market jitters), 20 April 2018 (Argentina starts large intervention to support the peso) and 1 August 2018 (US government announces sanctions on Turkey). Last observation: 16 November 2018.

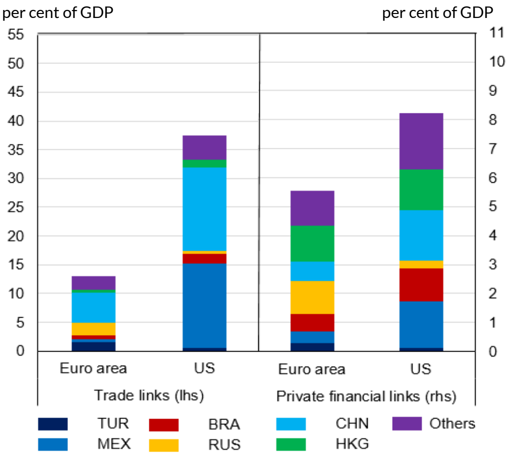
Global economic growth has slowed down and is projected to continue on this trend in 2019 (Chart 1). With global trade and manufacturing growth decelerating, the OECD has revised down its forecast for global growth in 2018 and 2019, reflecting revisions to both advanced economies and emerging markets. Looking ahead, economic and financial risks in major advanced economies are tilted further to the downside given threats to international trade flows (including from the US-China trade war), increased vulnerabilities in EMEs, and political tensions in the EU and elsewhere. Low interest rates and high levels of private and public indebtedness constrain the policy space. Monetary policy normalisation is anticipated to continue in the euro area and the US.

A further appreciation of the US dollar (such as has occurred recently (Chart 2)) could arise in response to higher policy interest rates in the US, the imposition of new tariffs, or rising uncertainty in the euro area and EMEs and has the potential of triggering turmoil in EMEs. August 2018 saw strong depreciations of some EMEs' currencies vis-á-vis the US dollar, in particular the Turkish lira and the Argentinian peso. Both countries have large external financing needs and, consequently, are vulnerable to international investor sentiment. While the spillover to other countries was contained during August, vulnerabilities have been building up over time in EMEs. With a weaker growth outlook, private sector indebtedness and borrowing in foreign currency, particularly in US dollars, expose those economies to balance sheet risks, while also constraining policy space.[1]

International trade was 5.2 per cent higher in 2017, but has slowed down since. Future growth is threatened by ongoing tensions between China and the US, which could affect global value chains or start impinging on consumer and business confidence.[2] Another threat to international trade comes from the uncertainty over trade relations between the EU and the UK. Moreover, a continued depreciation of some EMEs' currencies against the US dollar could

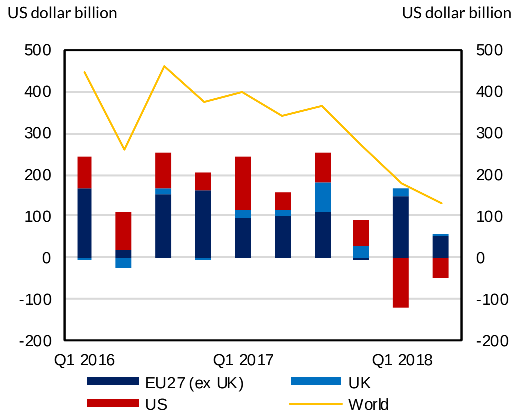
[1] See BIS Quarterly Review, September 2018.
[2] See IMF WEO (October 2018), pp. 33-35.

Chart 3: Trade and financial exposure to EMEs



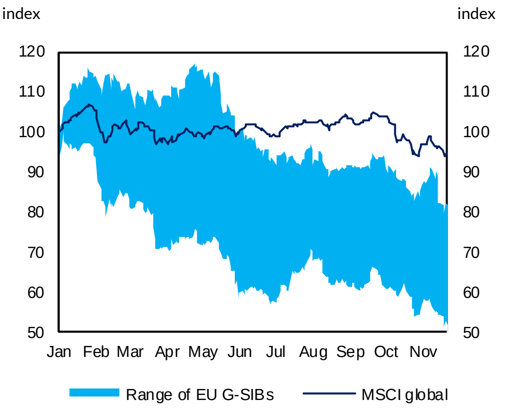
Source: IMF DOTS, IMF CDIS, IMF CPIS, BIS LBS, staff calculations.
Notes: Trade links are the averages of export and import shares of major EMEs in euro area (EA) and US trade. Private financial links is the average share of EMEs in EA and US total financial assets and liabilities. The averages are calculated across the following investment types: FDI, PI, and OI (bank exposures). Major EMEs are TUR, ZAF, ARG, BRA, SAU, MEX, IND, IDN, RUS, CHN, HKG. Data are for the year 2017.

Chart 4: FDI outward flows



Source: OECD Investment Statistics. Directional presentation: the direct investment flows are organised according to the direction of the investment for the reporting economy. All flows of direct investors resident in the economy are shown under outward investment.
Notes: Data for 2017 and 2018 are preliminary. Last observation: 2018Q2.

Chart 5: EU G-SIBs and Global Equity Index, 2018



Source: Datastream.
Notes: Index, 02 January 2018 = 100. The shaded area represents the range of equity price developments of EU global SIBs in the calendar year to date. Latest observation: 22 November 2018.

trigger further trade tensions by widening current account imbalances.

Direct economic and financial exposures to EMEs are relatively limited for the euro area but mask growing indirect links through global value chains and financial intermediation by financial centres, notably via the US. While the euro area is characterised by higher trade and financial openness, US exposure to selected EMEs is particularly high towards China and Mexico, which on their own constitute almost 80 per cent of US trade exposure to major IEMEs and which are added to by financial exposures through private financial links (Chart 3). Private financial links of the US to China and Hong Kong need to be considered together given Hong Kong's role as a financial centre and its substantial links to China. Recent changes to US tax policies and the uncertainty surrounding international trade have contributed to the sharp decline in global FDI (Chart 4). Probably related to the activities of multinational enterprises, this decline, while uncertain in its implications, could have a bearing on tax revenues in countries with vulnerable fiscal positions.

Several asset classes' valuations remain historically high, but their upward trend seems to have halted. Country-specific events might act as a catalyst for an overall loss of risk appetite in financial markets, hampering financial institutions' ability to strengthen their balance sheets. Although declining, the level of NPLs on EA banks' balance sheets remains of concern (see section 4.1). Such issues combined with money-laundering scandals have depressed valuations of some EA banks (Chart 5). Concerns arise about risk-taking in the EA investment fund sector, particularly in terms of liquidity and maturity transformation (discussed in section 4.3).

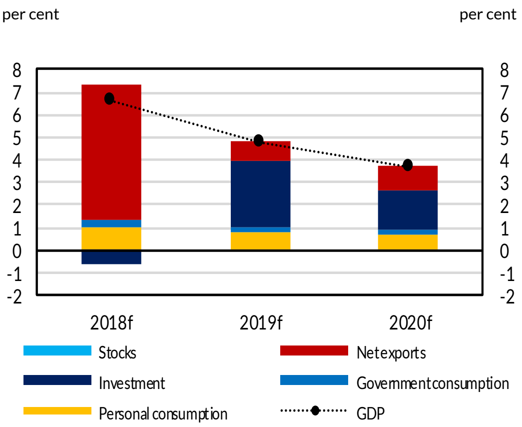
A sudden and sharp repricing in risk premia has the potential of affecting a highly-indebted non-financial sector, where the global issuance of highly leveraged loans has surpassed pre-crisis levels, and of exacerbating tensions in sovereign bond markets. As regards the leveraged loan market, the share of the most highly-indebted firms has been rising steadily, while in the US, loans with fewer investor protections (so called 'covenant-lite' loans) now dominate new issuance. Both expose investors to higher risks. The possibility of a sharp change in investor sentiment is particularly relevant for those advanced and emerging economies where public debt sustainability is a concern and fiscal space is constrained by legacy debt. Increasing yields on debt issued by the Italian sovereign since the summer have also put pressure on the valuations of Italian banks since, due to home bias in their bond holdings, they face a risk of recapitalisation if high yields persist. The increases in Italian sovereign bond yields have not, however, had significant spillover effects to other EU member states (see section 3.4 for further discussion).

3. Macroeconomic environment

3.1 Macroeconomic overview

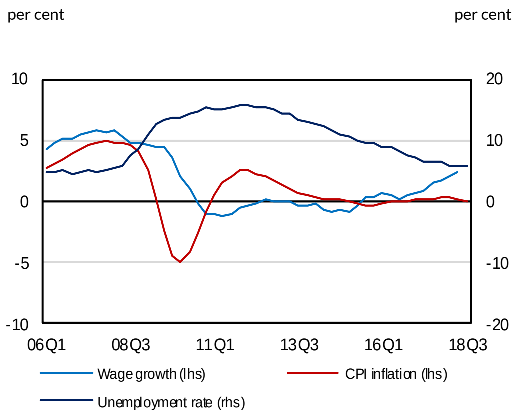
The Irish economy continues to grow at a strong pace, driven by domestic demand and employment growth. External factors, in particular the UK's planned departure from the EU in March 2019, pose the main risks to the outlook. With uncertainty surrounding Brexit, the extent of its impact on the Irish economy remains highly uncertain. Declines in global trade, such as have been observed in recent quarters, and the possibility of further changes in the international tax environment pose risks to the export-oriented sectors of the economy. Faster-than-expected growth in domestic demand could absorb the spare capacity of the economy.

Chart 6: Contributions to GDP Growth



Source: CSO and Central Bank calculations.

Chart 7: Unemployment, wages and CPI inflation



Source: CSO and Central Bank of Ireland.
Note: Data are 4-quarter trailing moving average. Last observations: 2018Q3.

Domestic environment

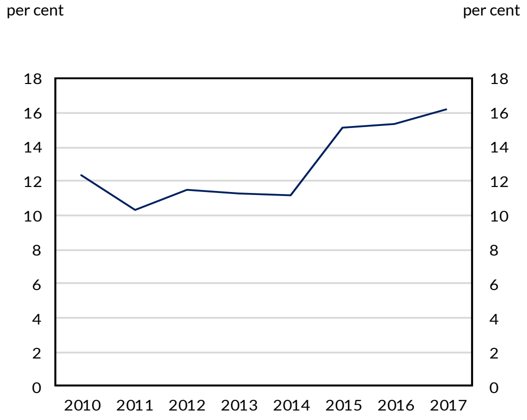
GDP is projected to grow by 6.7 per cent in 2018, and 4.8 per cent in 2019 before moderating to 3.7 per cent in 2020 (Chart 6).[3] Underlying domestic demand is projected to grow by 5.6 per cent in 2018, 4.2 per cent in 2019, and 3.6 per cent in 2020. Personal consumption is forecast to rise by 3 per cent in 2018, with retail sales having grown strongly since the beginning of the year. Underlying investment (which removes distortions caused by MNEs) grew by 20 per cent in 2018H1. This was driven by robust growth in the construction and machinery sectors. Government consumption is expected to grow by 3.5 per cent in 2018.

CPI inflation remains subdued, with an inflation rate of 0.6 per cent forecast for 2018. This is expected to rise to 0.9 per cent in 2019 and 1 per cent in 2020. Low inflation is partly due to an exchange rate effect with sterling weakness reducing the cost of many consumer imports. This effect could be stronger after Brexit if sterling falls further in value relative to the euro.

Real wages are increasing as the labour market tightens and firms have greater difficulty in filling vacant positions. With the economy continuing to expand at rates above estimates of its long run sustainable growth rate, there is the risk that absorption of its spare capacity will lead to further wage and price pressures. The size and openness of the economy mean that estimates of the NAWRU, the rate of unemployment below which wage pressures emerge, are subject to considerable uncertainty. Yet available estimates indicate the unemployment rate (Chart 7) is approaching, or at, the NAWRU level and, as such, it is likely that wages and prices will begin to rise over the Central Bank's forecast horizon.[4] The unemployment rate is expected to have an average value of 5.6 per cent in 2018, and is forecast to fall to 4.9 per cent

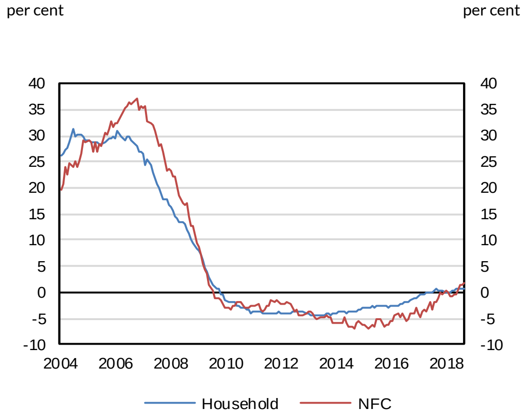
[3] Central Bank of Ireland Quarterly Bulletin 4 2018
[4] See Linehan, Lydon, McIndoe-Calder, Reddan and Smyth (2017), "The Labour Market and Wage Growth after a Crisis", Central Bank of Ireland Quarterly Bulletin 04 2017.

Chart 8: Corporation tax as percentage of total revenue



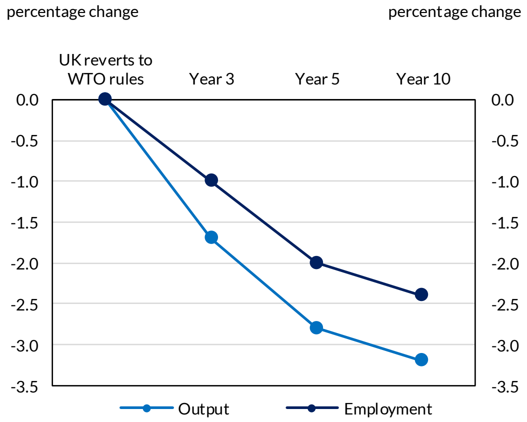
Source: Department of Finance

Chart 9: Credit growth in household and NFC sectors



Source: Central Bank of Ireland.
Notes: Year-on-year growth in nominal on balance sheet credit. Last observation: September 2018.

Chart 10: Impact of WTO Brexit on employment and output



Source: Central Bank of Ireland.
Note: Output measure is gross value added (GVA). The '0' value on the y-axis represents the "no Brexit" baseline.

and 4.7 per cent in 2019 and 2020, respectively. The overall job vacancy rate is 1.1 per cent, with the highest rates arising in the Professional, Scientific, and Technical sector, at 3.6 per cent, and the Financial, Insurance and Real Estate sector, at 2.6 per cent. In all of the sectors reported by the CSO, the vacancy rate is higher than its long-term average.

Infrastructure shortages, particularly in the housing sector, also pose a risk to growth over the medium term. After the financial crisis, Ireland went through a prolonged period of exceptionally weak investment in residential construction. With the economy now growing strongly, the low supply of housing is contributing to the growth in property prices and average rents. Supply is beginning to respond - housing completions in 2017 were 14,435, an increase of 46 per cent on the previous year. A challenge for policymakers is to undertake the required structural investment without elevating risks to the sustainability of economic growth.

There is the potential for a sudden reduction in corporation tax revenue. Sixteen per cent of total revenue in 2017 came from corporation tax (Chart 8). Potential triggers for a lower corporation tax take include a decline in competitiveness, which could limit MNEs' activity in Ireland, and a change in the international taxation environment.

Credit developments

In September, for the third month in a row, the year-on-year rates of growth in on-balance sheet credit to households and NFCs were both positive, at 0.7 per cent and 1.9 per cent respectively (Chart 9).[5] Somewhat stronger rates of growth are evident in certain sub-sectors, for instance, PDH mortgage lending and credit to large enterprises. Sectoral lending developments are discussed further in sections 3.2 and 3.3.

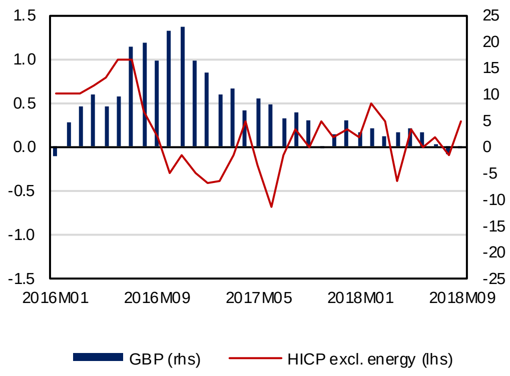
Increases in new mortgage lending were among the cyclical dynamics which informed the Central Bank's decision to announce a 1 per cent CCyB rate on Irish exposures in July.[6] The rate will come into effect in July 2019. The primary motivation in setting a positive rate for the first time was to promote banking sector resilience against cyclical systemic risk. The Central Bank considered 1 per cent appropriate given the cyclical dynamics present in the economy, the vulnerabilities within the macro-financial environment, and the risk outlook. The Central Bank reviews the CCyB rate on a quarterly basis. (See Box 2 for a further discussion of the CCyB and other macroprudential policies of the Central Bank.)

External environment

Euro area GDP grew by 2.1 per cent year-on-year to 2018Q2. The ECB has forecast GDP growth of 1.8 per cent for the euro area in 2018 and 1.7 per cent in 2019. These forecasts are broadly in line

[5] Negative growth is still being observed in household credit when loans that have been securitised but continue to be serviced by the credit institution itself are accounted for.
[6] See CCyB Rate Announcement July 2018 for further details.

Chart 11: Sterling movements and domestic inflation



Source: Eurostat.
Note: Positive navy bars indicate rate of year-on-year depreciation of sterling versus the euro. Last observation: October 2018.

with the average growth rate of 2 per cent in the euro area since 2014.

External risks to the Irish economy are tilted to the downside, with the disruption that may be caused by Brexit to the fore. The Bank's forecasts assume that a transition agreement is put in place by March 2019, and Ireland's current trading relationship with the UK is maintained. Separate modelling exercises have been carried out which estimate the impact on Ireland of a 'hard' Brexit (Chart 10).[7] The results show that within five years of the UK reverting to WTO rules, output and employment in Ireland would be 2.8 per cent and 2 per cent lower, respectively, than under current trading arrangements. Even if Brexit preserves current trading arrangements, uncertainty will arise over the two-year transition period. Such an environment can have a negative impact on investment. This is shown by EIB survey data, which indicate that because of Brexit-related uncertainty, Irish firms are less willing to invest in expansion than they would be in the absence of Brexit.[8]

Some areas of the economy are more exposed to Brexit than others. The agri-food sector is particularly reliant on the UK as an export market, with, for example, 50 per cent of Irish beef exports going to the UK in 2017. Were WTO rules to apply on trade between Ireland and the UK, the tariff on beef under current rates would be 65 per cent. Exposure to Brexit also varies across different parts of Ireland. Regions with employment and activity concentrated in Brexit-exposed industries, such as the border counties, are likely to face larger declines in output and employment than the economy on average if a hard Brexit occurs. Brexit could also have an effect via the exchange rate, with recent years seeing fluctuations in sterling feeding through to domestic inflation (Chart 11).[9] As sterling weakens, it also makes Irish exports to the UK market less competitive. In the event of a hard Brexit, an increase in tariffs on Irish exports to the UK could coincide with a weakening pound. It could also disrupt the activities of firms reliant on imports from the UK.

Further challenges to output growth over the medium term could arise from an escalation of protectionist measures in the global economy. The impact of such measures would be negative for Ireland, in particular if it were to affect the investment and location decisions of foreign direct investors. As a small open economy, any reduction in global trade could also interrupt supply chains and have implications for Irish firms, even those not directly engaged in export activities. (Box 3 considers Ireland's external balance sheet position.)

[7] See Conefrey, T. and Walsh, G. (2018), "Box A: Macroeconomic Implications of the UK Government Brexit White Paper: A Preliminary Analysis" Central Bank of Ireland, Quarterly Bulletin 04, 2018.
[8] EIB (2017) "EIB Investment Survey: Ireland overview", IPSOS Public Affairs.
[9] See Reddan, P. and Rice. J. (2017). "Exchange rate pass-through to domestic prices." Central Bank of Ireland Economic Letter 2017.8.

Box 2: Macroprudential policy implementation by the Central Bank of Ireland

This box provides an overview of the macroprudential instruments currently used by the Central Bank in pursuing its financial stability mandate. As the macroprudential authority in Ireland, the Central Bank has a number of instruments at its disposal to mitigate systemic risk.[1] Each instrument has a different purpose and can be used to address different types of risk or vulnerability. Any number of instruments may be active at any point in time, either individually targeted at distinct risks or used in combination (where they act as complements) in targeting a particular source of systemic risk.

Among these instruments is the countercyclical capital buffer (CCyB). In July, the Central Bank announced a 1 per cent CCyB rate on Irish exposures.[2] In utilising the CCyB, the Central Bank's objective is to build resilience within the banking system to support the sustainable provision of credit to the real economy throughout the financial cycle. This objective requires the buffer to be built up in advance of the realisation of systemic risk/financial stress. The decision to activate the CCyB was based on the trajectory in indicators relating to emerging cyclical systemic risk, in particular, concerning the strengthening credit environment, robust growth in new lending, developments in house prices, and overall economic activity moving closer to its potential output level. The calibration was also informed by the exposure and susceptibility of the Irish economy to a downturn or the materialisation of cyclical systemic risk. The CCyB has a direct effect on the resilience of the banking system as it increases the loss-absorbing capacity of banks and the system as a whole. The Central Bank reviews the CCyB rate on a quarterly basis. In doing so, the Central Bank expects to maintain a positive CCyB rate when there is a sustained trajectory in indicators related to emerging cyclical systemic risk, with the rate expected to be above 1 per cent where the trajectory becomes more persistent or there are emerging imbalances. The CCyB rate will be reduced or fully released when a downturn or the materialisation of cyclical systemic risk is identified.

A second macroprudential instrument are the mortgage measures, which have been in place since 2015. They aim to strengthen both bank and borrower resilience and to reduce the likelihood and impact of a credit-house price spiral. The mortgage measures enhance the resilience of households by providing a level of protection against a shock to household income or a decline in property values. They also build bank resilience incrementally through the flow of new lending by limiting (new) lending relative to household incomes and/or property values. The measures are reviewed annually and while the fundamental elements of the measures should be seen as a permanent feature of the mortgage market, their specific calibration can respond to cyclical developments if required. The 2018 review found little evidence of a credit-house price spiral emerging, nor of a generalised deterioration in lending standards to the detriment of bank and borrower resilience. Overall then, the measures were deemed to be achieving their objectives and contributing to overall financial stability and the review did not result in changes to the limits or allowances.[3]

The mortgage measures differ from the CCyB in that they specifically target risks in the residential real estate market, rather than broad cyclical dynamics. Nonetheless, the two instruments can re-enforce each other in building resilience against systemic risk. For instance, a potential unintended consequence of limits on mortgage lending is that banks may look to divert credit toward sectors not covered by the measures. The CCyB, however, can help to mitigate against risk-taking in non-mortgage lending as it applies broadly across all asset classes with institutions having to hold the required level of capital against lending, regardless of the distribution across sectors.

O-SIIs are institutions that are systemically important to the domestic economy or to the EU economy. A third macroprudential instrument, the O-SII buffer, like the CcyB, is a capital-based instrument and is aimed at reducing the potential for systemically-important banks to adopt destabilising strategies and to mitigate their impact. In contrast to the CCyB, which is an exposure-based measure and so applies uniformly across institutions, the O-SII buffer is institution-specific. The Central Bank has identified six O-SIIs in Ireland and has announced associated capital requirements for these firms. The O-SII buffers, ranging between 0 and 1.5 per cent depending on the systemic importance of the individual bank, are being phased in between July 2019 and July 2021. This was reaffirmed during the 2018 O-SII review.[4]

The Central Bank will continue to implement macroprudential policies individually and in combination in order to target the source and intensity of systemic risk appropriately. In addition to reviewing the existing instruments regularly, the Central Bank assesses the need for additional policy instruments as required. Information on macroprudential policy implementation can be found at www.centralbank.ie.

---

[1] Systemic risk is the risk of a disruption to the provision of financial services, caused by an impairment of all or parts of the financial system, with serious negative consequences for the real economy.
[2] The CCyB rate is subject to a 12-month phase-in and so will become effective as of July 2019.
[3] For further details see centralbank.ie/mortgagemeasures. .
[4] For further details see the O-SII section of the Central Bank website

Box 3: An indicator of external vulnerabilities[1]

By Vahagn Galstyan and Valerie Herzberg (International Relations)

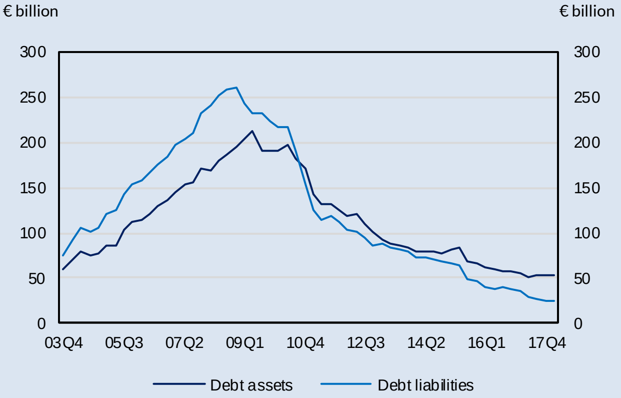
Recent history suggests that a focus on the external balance sheet of a country is highly relevant for an economy such as Ireland. The banking sector played a decisive role in channelling external funds to finance domestic property investments and in fuelling a credit and construction boom during the early-to-mid 2000s. When global inter-bank markets subsequently froze and external funding declined, Emergency Liquidity Assistance and, ultimately, an external adjustment programme became necessary to restore confidence and stability to the banking sector and the economy. This episode raises important questions about the monitoring of external balance sheet risks in Ireland and the framework for doing so. In particular, looking back, at what point should policymakers have become attentive to the external funding risks of the Irish economy, and what lessons can be drawn for the future?

For any economy, the net international investment position, i.e. the balance of all external assets and liabilities, represents a useful starting point for surveillance. However, the Irish net international investment position is subject to many complexities as to serve as a guiding metric for financial stability analysis.[2] Accordingly, given the important role of debt in signalling crises, the focus here is on the external debt liabilities of a narrow definition of Irish domestic banks, not least because the Irish banking sector was on the centre stage during the last crisis.[3,4] Over the past fifteen years, Irish domestic banks have seen their external debt assets and liabilities go through a full cycle, with both assets and liabilities of the narrow domestic market group expanding rapidly in the 2000s, reaching €212 billion and €262 billion in 2008-9, respectively, before declining thereafter (Chart A).

Galstyan and Herzberg (2018) propose a simple threshold indicator to monitor external balance sheet risks. Specifically, the tipping point of 35 per cent for net external debt liabilities to GDP for the whole economy, estimated by Catão and Milesi-Ferretti (2014), is re-scaled to the narrow definition of Irish domestic banks.[4] To construct the scaling factor, the banking sector's share of external assets and liabilities of advanced European economies was calculated. The calculations suggest a range of 14 to 25 per cent of net external debt to GDP with an average estimate of 17 per cent of GNI* for banks as the appropriate tipping point in the Irish case. Chart B plots the dynamics of net debt liabilities over the period 2003 to 2017 alongside the calculated threshold. The ratio of net external debt liabilities to GNI* of the domestic market group breached the threshold in 2004Q1 and continued to rise thereafter until reaching a peak of 44 per cent in 2008Q3. The net liability position reversed at end-2010, stabilizing at around -16 per cent of GNI* by end-2017.

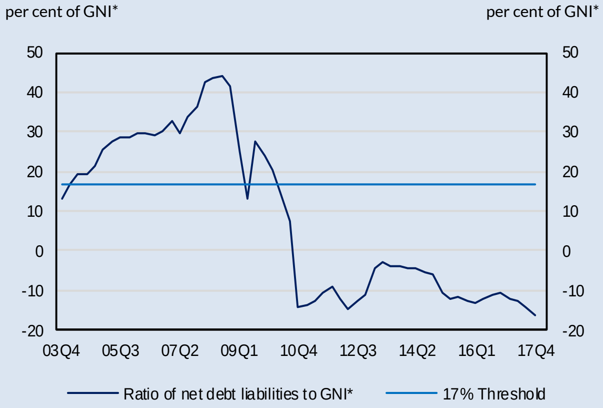
In summary, recent Central Bank research suggests a closer monitoring of the external balance sheet risk when the net external debt liabilities of domestic banks exceed 17 per cent of GNI*. In retrospect, policymakers should have been wary about the build-up of external debt in Ireland by as early as 2004. In contrast to what the official net international investment position of Ireland suggests, based on this new metric alone, the Irish economy currently faces a low probability of a financial crisis emanating from external funding risks in the banking sector.

Chart A: Foreign debt assets and liabilities of Irish banks



Source: Galstyan and Herzberg (2018).

Chart B: Net debt liabilities and threshold indicator



Source: Galstyan and Herzberg (2018).

---

[1] This box is based on Galstyan and Herzberg (2018), "External Balance Sheet Risks in Ireland," FSDN N9.
[2] For a discussion see Galstyan, Vahagn (2018), "Estimates of Foreign Assets and Liabilities for Ireland," mimeo, Central Bank of Ireland.
[3] The banks considered are the Bank of Ireland, AIB, KBC, Permanent TSB, Ulster Bank and Danske Bank.
[4] Catão, Luis and Gian Maria Milesi-Ferretti (2014), "External Liabilities and Crises," *Journal of International Economics* 94, 18-32.

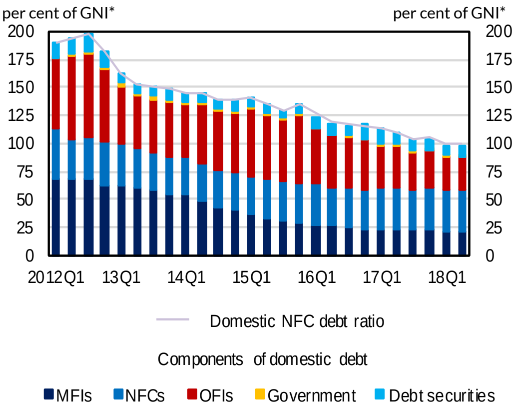
3.2 Non-financial corporate sector

While the NFC sector has been benefitting from favourable economic developments of late, firms face an increasingly uncertain trading environment. If plausible, disruptive Brexit scenarios were to materialise, the sector as a whole and, in particular, firms with a material trading relationship with the UK would be negatively affected. A further tightening of labour market conditions could result in higher wage inflation and reduce the cost competiveness of firms. Returns on Irish CRE appear to have stabilized in 2018H1, albeit with a marked divergence in developments across sectors and locations. Foreign investors continue to have a strong presence in Irish CRE. The engagement of the funds sector in the CRE market has increased markedly in recent years. Investment funds have a substantial portion of the ownership of the invested Irish property market.

Chart 12: Business sentiment index

Source: KBC Bank Ireland/Chartered Accountants.
Notes: Index base 2006Q4=100. Last observation: 2018Q3.

Chart 13: NFC indebtedness vis-à-vis Irish counterparties



Source: Central Bank of Ireland and CSO.
Notes: Debt is equal to securities other than shares and loans. Domestic NFC debt is debt issued by an Irish counterparty. Last observation: 2018Q2.

Operating environment

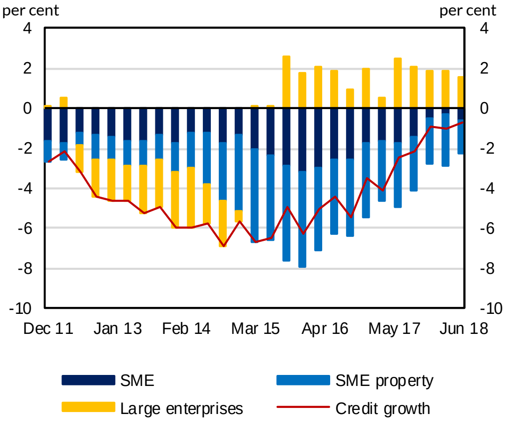
Broadly speaking, the operating environment faced by firms remains favourable, notwithstanding the presence of substantial downside risks. Underlying investment (i.e. investment net of intangibles and aircraft-related investment) and exports continue to grow strongly. On the back of continued strength in building and construction activity, underlying investment is expected to increase by 16.4 per cent this year. These developments are forecast to continue into 2019 albeit with growth in underlying investment moderating somewhat to circa 11 per cent. Export volumes are estimated to rise by 5 per cent in 2018, with further growth of 4.6 per cent forecast for 2019, driven mostly by services exports.

Following an easing of business sentiment during the first half of the year, 2018Q3 saw a more marked decline with the index falling to a six year low (Chart 12). Nonetheless, business sentiment remains consistent with healthy conditions in the Irish economy as more firms experienced (and expect) increases in employment and output than declines. Firms have become more cautious on the back of Brexit concerns. It is seen by them as the single biggest threat to the Irish economy, with the more uncertain outlook leading firms to take a more cautious approach to investment and firm growth.

Brexit and protectionism in trade policies have the potential to affect the operating environment faced by firms in Ireland negatively. Brexit will have a direct and negative impact on those firms with a trading relationship with the UK. Data relating to 2016 indicate almost 7,000 firms exported goods to the UK with over 26,000 importing goods from there.[10] The data illustrate that the UK accounted for the highest share of exports/imports in the wholesale and retail sector with the UK also being an important region for the agri-food sector, leaving these sectors particularly exposed to Brexit. Furthermore, Byrne & Rice (2018) note that firms with internationally integrated supply-chains that use

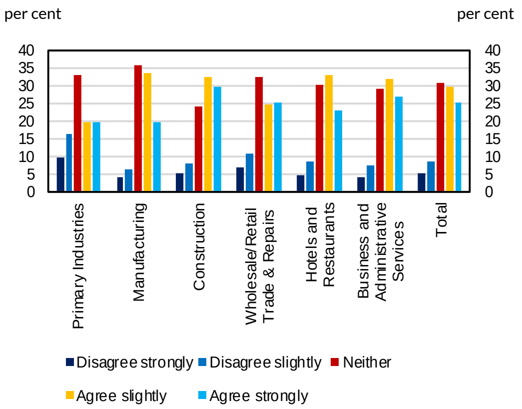
[10] Irish Traders and the UK 2016, CSO

Chart 14: Contributions to credit growth to private sector enterprises



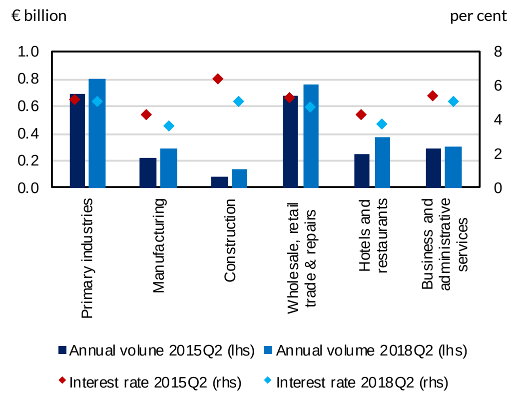
Source: Central Bank of Ireland.
Notes: Data exclude financial intermediation sector. Last observation: June 2018.

Chart 15: SME business sentiment



Source: Department of Finance Credit Demand Survey and Central Bank calculations.
Notes: Data relate to the period September 2017-March 2018. Survey respondents were asked how much they agree/disagree with the statement "I think the business climate in Ireland will improve in the next 6 months".

Chart 16: SME new lending: volume and interest rates



Source: Central Bank of Ireland.
Notes: Data exclude financial intermediation and real estate activities. Data as of 2018Q2.

imports of intermediate goods from (or exporting such goods to) the UK will be heavily exposed to increases in non-tariff barriers.[11] The paper also observes that it could be difficult to redirect the (expected) decline in trade with the UK arising from Brexit given the factors that tend to determine the volume of trade between countries (e.g. common language, similar legal system, common preferences and tastes). A further weakening of the UK pound relative to the euro would also likely have a damping effect on export growth. More generally, the NFC sector would be adversely affected by the expected weaker economic performance arising from Brexit.[12] On the domestic front, firms may face greater difficulties in recruiting appropriately skilled staff if unemployment continues to fall. A tightening labour market could also see wage inflation having a negative impact on firms' cost competitiveness.

NFC indebtedness and credit developments

The level of debt from domestic counterparties held by Irish NFCs has been declining since 2012Q3 and stood at €186 billion, or about 100 per cent of GNI*, in 2018Q2 (Chart 13). The share of domestic NFC debt held by financial institutions (both MFIs and OFIs) has declined over time to the extent that the largest component of domestic NFC debt is now the debt held between companies. It is nevertheless the case that Irish NFCs hold a much higher level of debt (about €420 billion) with counterparties outside of Ireland than they do with domestic sources. This is principally related to the activities of large multinational firms located in Ireland. By its nature, this debt is less connected with the Irish financial system and economy than debt sourced from domestic entities.

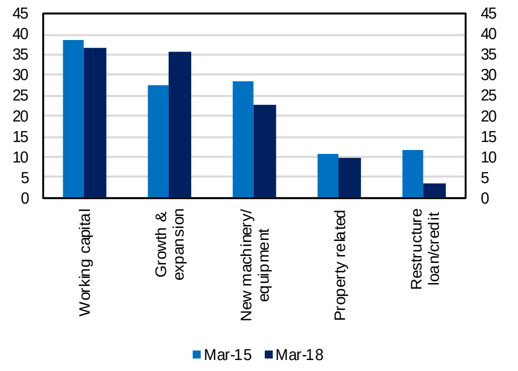
Recent months have seen positive year-on-year growth in NFC credit for the first time in almost a decade although credit growth to private sector enterprises remains marginally negative.[13] The trend is similar in both cases, being one of gradual strengthening. Data on private sector enterprises allows for a disaggregated look at the drivers of credit dynamics. These data point to lending to SMEs for property-related activities continuing to have a downward effect on credit growth to private sector enterprises (Chart 14).

Developments and vulnerabilities in the SME sector

The majority of firms with a direct trading relationship to the UK are SMEs, which are then directly exposed to the potential imposition of UK trade barriers and a fall in UK demand as a result of Brexit.[14] According to survey data, business sentiment among SMEs recorded as of March 2018 was positive despite the risks and challenges posed to them by Brexit (Chart 15). The primary industries sector was less optimistic with positive sentiment of 40

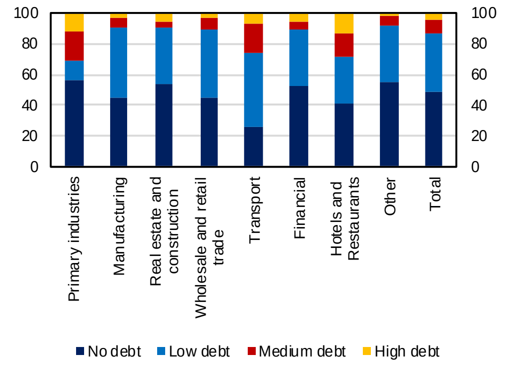
[11] Byrne, S., & J. Rice "Non-tariff barriers and goods trade: a Brexit impact analysis", Central Bank of Ireland, Research Technical Paper Vol. 2018 No. 7.
[12] Box A of the Central Bank of Ireland's Quarterly Bulletin October 2018 presents a preliminary analysis of the macroeconomic implications of Brexit scenarios.
[13] The definition of private-sector enterprises differs from the definition of non-financial corporations. Non-incorporated enterprises, sole-traders and partnerships which are not large enough to be considered quasi-corporations are not considered part of the NFC institutional sector.
[14] Approximately 93 per cent of the firms trading goods with the UK are SMEs (see, Irish Traders and the UK 2016, CSO). In addition, SMEs make up the vast majority of firms in Ireland (see CSO Business Demography 2016).

Chart 17: SME credit applications by purpose



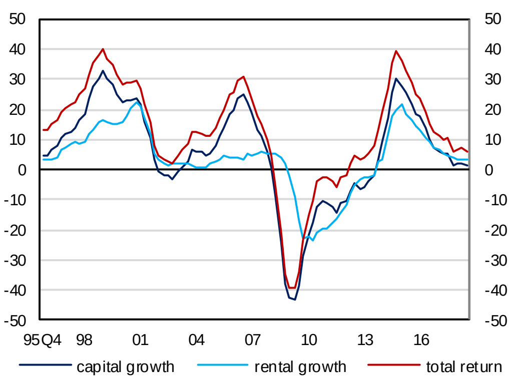
Source: Department of Finance Credit Demand Survey and Central Bank calculations.

Chart 18: SME indebtedness – debt-to-turnover ratio by sector



Source: Department of Finance Credit Demand Survey and Central Bank calculations.
Notes: Data relate to the period September 2017-March2018.

Chart 19: Irish commercial property: total annual returns and annual growth in capital values and rents



Source: MSCI/IPD.
Notes: Last observation 2018Q3.

per cent and negative sentiment of 27 per cent. This outlook in the primary industries sector (which includes agriculture) is consistent with the earlier findings of both InterTrade-Ireland (2017) and Lawless and Morgenroth (2016). Both studies note that in the event of a "no deal" Brexit, the impact of a reversion to a WTO trading regime would largely be incurred by firms operating in the food sectors, particularly in the meat and dairy sectors.[15]

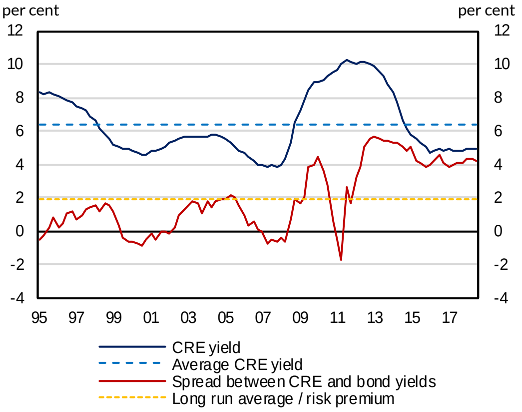
In 2018Q2, the average interest rate on new lending for non-financial non-property-related SMEs stood at 4.6 per cent, compared to an interest rate in 2015Q2 of 4.9 per cent.[16] New lending of €3.4 billion occurred in the twelve months up to 2018Q2, compared to €2.7 billion in 2015Q2. These changes in interest rates and lending are common across the six main economic sectors but with smaller changes arising in some sectors, such as the primary industries sector (Chart 16).

Gargan *et al.* (2018) find that a lack of internal funds rather than access to external finance was the main reported issue for firms with a perceived investment gap in 2016.[17] Drawing on their findings, the authors suggest any perceived sluggishness in demand for credit may have come from firms preferring to fund investments with internal funds rather than by external financing. For those SMEs that do apply for external finance, survey data indicate that the reasons for applying for loans has changed in recent years. Applications for loan-and-credit restructuring have declined from 12 per cent of applications in March 2015 to 4 per cent in March 2018, reflecting less financial distress among SMEs (Chart 17). Applications for working capital have also decreased slightly from 39 per cent to 37 per cent over the same timeframe. In contrast, applications for credit for the purposes of growth and expansion have increased from 28 per cent to 36 per cent. These shifts point to slightly less concern among SMEs with short-term cash flow funding – which can reflect financial difficulties – now arising and a greater emphasis on longer term investment to expand production capacity so as to meet current and future expected demand.

Total non-financial non-real estate gross outstanding debt stood at €15.7bn in 2018Q2, with the wholesale, retail trade and repairs sector (€3.6bn) and the primary industries sector (also €3.6bn) having the largest stock of debt, followed by the hotels and restaurants (€2.6bn) sector. As of December 2017, the wholesale, retail trade and repairs sector had the highest rate of new defaults (2 per cent) and an outstanding default rate of 22.7 per cent on the stock of lending on bank balance sheets, in line with the overall SME default rate.[18] The hotels and restaurants sector records the lowest rate of new defaults at 0.4 per cent but the highest default

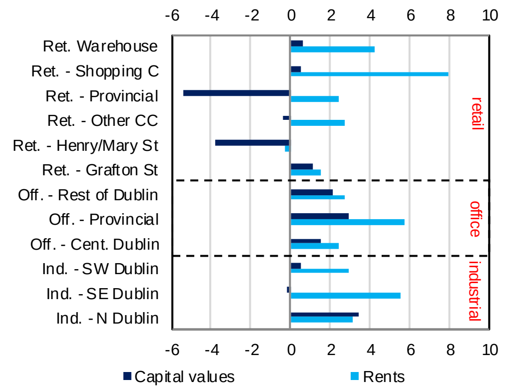
[15] InterTradeIreland (2017), "*Potential impact of WTO tariffs on cross-border trade*". Lawless, M. and Morgenroth, E. L. W. (2016), "The Product and Sector Level Impact of a Hard Brexit across the EU", Working Paper No. 550, Economic and Social Research Institute
[16] The average interest rate is calculated by averaging interest rates on new lending weighted by new lending amounts.
[17] Gargan, E., Lawless, M., Martinez-Cillero, M. and O'Toole C. (2018) "Exploring SME Investment Patterns in Ireland: New Survey Evidence", Quarterly Economic Commentary Special Article, ESRI, available at https://doi.org/10.26504/QEC2018AUT_SA_OToole
[18] These data are collected every six months. The latest data are for December 2017. The finance types predominantly comprise of loans, overdrafts, hire-purchase and leasing. 'Default' is defined as loans greater than 90 days past due or deemed unlikely to repay without giving up collateral. These data are in line with the EBA's Implementing Technical Standards definition of default.

Chart 20: CRE yield and risk premia



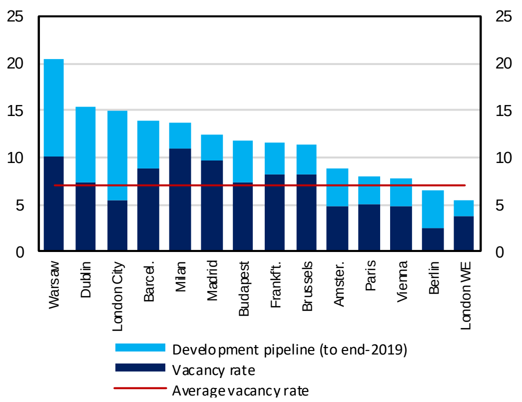
Source: MSCI/IPD and Datastream.
Notes: Risk premium / spread is the difference between the yield on Irish CRE (calculated as the rent passing on a property at the end of a period, divided by its net market capital value) and the yield on an Irish 10 year government bond. Last observations: 2018Q3.

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



Source: MSCI/IPD
Notes: Ret = retail, Ind = industrial, Off = office, N = north, SE = south east, SW = south west, Cent = central, St = street, CC = city centre and C = centre. Data as of 2018Q3.

Chart 22: Selected European city office vacancy rates and supply pipeline



Source: CBRE Research.
Notes: Data as of 2018Q3

rate on the stock of lending at 34.3 per cent, reflecting legacy debt issues remaining on firm and bank balance sheets.

High levels of firm indebtedness hinder firm investment and pose a risk to firm survival in the event of an adverse shock to profitability or an increase in interest costs. Based on survey data for the period September 2017-March 2018, the share of high debt SMEs (i.e. where outstanding debt exceeds turnover) was 4.2 per cent (Chart 18). However, as many as one in two SMEs held no debt. Disaggregating data by sector illustrates pockets of vulnerability with a relatively high share of SMEs in the hotel and restaurants (13.6 per cent) and the primary industries (11.6 per cent) sector having a high debt-to-turnover ratio.

Commercial property market values

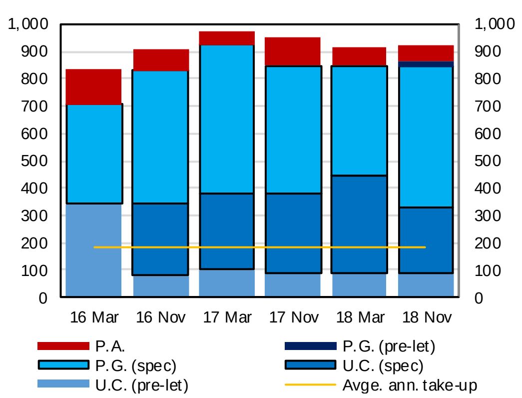
Notwithstanding a slight dip in 2018Q3, returns on Irish CRE have been relatively stable during 2018. At just over 6 per cent at end-2018Q3, total annual commercial property returns were broadly in line with the rate of return for 2017 (Chart 19).[19] Commercial property capital values increased 1.4 per cent year-on-year in the third quarter of the year, the same rate as last year.[20] Meanwhile, the appreciation of annual commercial property rents slowed to 3 per cent in September 2018, from 3.9 per cent last December.[21]

At approximately 5 per cent, yields on Irish commercial property remain steady, if just below their historical average (Chart 20). In contrast, spreads between CRE yields and domestic sovereign bond yields are well above their long-run average, suggesting CRE risk premiums may not be excessively compressed at this time. Recent research from JLL on the potential impact of interest rate tightening on European property markets suggests that a central scenario, where bond rates rose by 200 basis points and euro area office yields increased by circa 40 basis points over a five-year period in response, would see a fall of about 5 per cent in office capital values.[22] [23] While stylised analyses of how CRE markets may respond to a future normalisation of euro area policy rates are a useful reminder of the risks associated with the current low levels of commercial property yields, other factors, such as investor demand for real estate, rental growth and developments in non-prime markets will also affect capital values and yields.

Statistical analysis of CRE valuations (up to 2018Q2), based on an average of five indicators (the ratios of commercial property values to, in turn, domestic demand, consumption, employment, and rent, as well as commercial property yields), suggests CRE prices in Ireland are currently in line with long-run historical average values.[24]

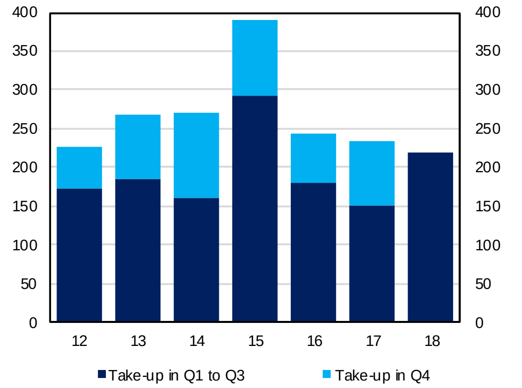
[19] Total return is an indicator of investment performance. It takes account of both capital and rental elements of a property's value, and is calculated by MSCI/IPD as the percentage change in capital values plus net income accrual, relative to capital employed. Total returns on Irish commercial property were 6.4 per cent in 2017.
[20] As a result, the cumulative increase in annual capital value index has been over 80 per cent, since bottoming out in 2013. It remains however, some 40 per cent below its 2007 peak.
[21] Commercial property rents are currently about one third lower than their 2008 high, following a 44 per cent increase since 2013.
[22] See "Interest rates and their impact on European property markets", JLL Macro Insights, August 2018.
[23] Under a more extreme set of assumptions whereby (i) euro area office yields revert to their historical (1996-2017) mean (i.e. an increase of 80 basis points from current levels) or (ii) rise in line with the 200 basis point increase in bond rates, capital values are estimated to decline by approximately 20 and 50 per cent, respectively.
[24] For more on the methodology behind this indicator, see Box 6, "Indicators for detecting possible value misalignments in commercial property markets", ECB FSR, December 2011. For details of latest observation for Ireland, see Central Bank "Systemic Risk Pack", August 2018.

Chart 23: Dublin office supply pipeline



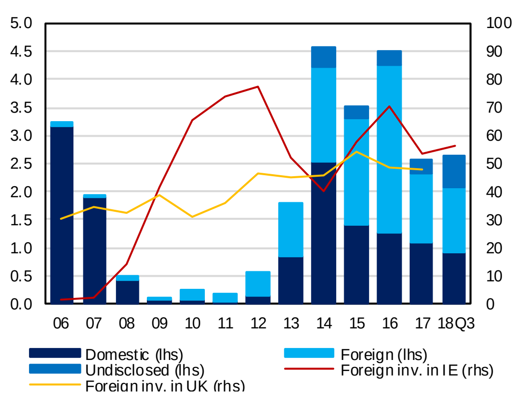
Source: CBRE research
Notes: P.A. = planning application; P.G. (pre-let) = planning granted with a tenant upon completion; P.G. (spec) = planning granted with no tenant at present; U.C. (spec) = under construction with no tenant at present; U.C. (pre-let) = under construction with a tenant upon completion; Avge. ann. take-up = average annual take-up.

Chart 24: Take-up of Dublin industrial space



Source: JLL research.
Notes: Data as of 2018Q3.

Chart 25: Breakdown of commercial property investment volumes by source and UK comparison



Source: CBRE, Bank of England and Central Bank of Ireland calculations.
Notes: Bars represent source of investment in Irish CRE. Lines denote share of foreign investment in the Irish and UK CRE markets. Data as of 2018Q3.

Aggregate figures for the entire CRE market mask a divergence in developments across sectors and locations. In particular, some commercial property segments continue to record substantial rental gains (Chart 21). Industrial properties situated in north Dublin have seen the strongest rate of annual capital growth. In the retail sector, where the outlook has grown increasingly uncertain due to the advancement of e-commerce and internal competitive pressures, capital growth has been more muted. There have been notable decreases in retail capital values across some well-known Dublin shopping districts as well as for provincial units over the past year. Rental growth was spread out a little more evenly across sectors, with shopping centres, retail warehouses, provincial offices and Dublin industrial properties experiencing higher than average growth.

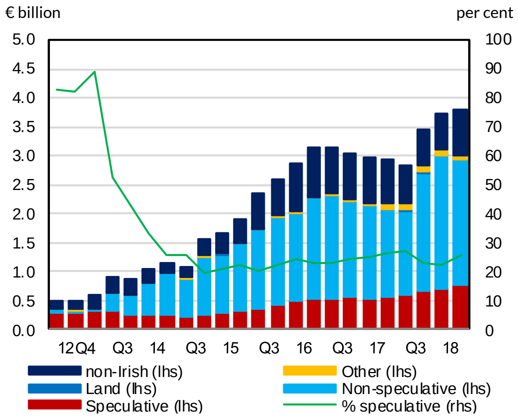
Commercial property market activity

According to CBRE estimates, the Dublin office market consists of approximately 4 million square metres of space, 60 per cent of which is located in the city centre where the majority of leasing activity occurs. The performance of the Dublin office sector has been central to the recovery in overall commercial property capital values and rents since 2013. The brisk pace of take-up activity evident in 2017, the busiest year on record, has continued into 2018. More than 220,000 square metres of office space was leased during the first nine months of 2018, one of the strongest opening three quarters of leasing on record and a 20 per cent increase on the equivalent period in 2017. Economic recovery, FDI and, to a lesser extent, companies relocating from the UK in advance of Brexit have contributed to strong demand for Dublin office space. The high volume of office development that has occurred in the capital over recent years has seen the office vacancy rate in Dublin recover to 7.3 per cent, from a low of 6 per cent, bringing it back in line with the average across a number of major European cities (Chart 22).

The delivery of new office space in Dublin continues apace. According to CBRE estimates, over 900,000 square metres of office space is currently under construction, has acquired planning permission, or is seeking permission at an earlier stage of the planning process (Chart 23). Current projections are for about 400,000-450,000 square metres of this space to be delivered by the end of 2020, which one estimate indicates is capable of accommodating about 39,000 employees.[25] Such an outcome would leave Dublin well-placed vis-à-vis its peers in terms of the availability of modern office space (Chart 22). Given the high degree of speculative (i.e. not pre-let) development that is occurring (approximately eighty per cent of total area in the current construction or planning pipeline at present) and with demand for such accommodation (including from Brexit-relocations) uncertain, prudent management and financing of the supply pipeline is critical in the period ahead.

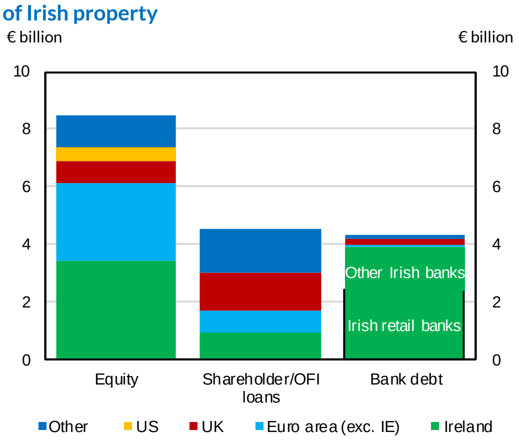
[25] Based on Goodbody analysis and an assumed requirement of 10.3 square metres of space per worker.

Chart 26: Irish retail banks' commercial property new lending – rolling annual total



Source: Central Bank of Ireland calculations.
Notes: Data are consolidated and are collected in accordance with the Central Bank of Ireland's QSFR reporting requirements. Data as of2018Q2

Chart 27: Funding profile of resident IFs with holdings of Irish property



Source: Central Bank of Ireland calculations.
Notes: Data as of end-2017

Occupier demand for retail space varies by sector and location. The food, beverage and homeware segments in prime locations are benefitting from demand underpinned by low levels of unemployment, rising disposable incomes and growing consumer confidence. Conversely, some market intelligence indicates that total retail lettings fell in 2017 due to Brexit uncertainty and the focus of some retailers on the development of on-line platforms.[26] In addition, a recent CBRE release notes the conclusion of 23 retail leasing transactions in Dublin's "M50 shopping centres and high streets" in the first 9 months of 2018, compared to a total of 42 for the whole of 2017.[27]

Demand for industrial/logistics space, in particular from international firms, is strong at present. While the limited availability of new, prime stock in well-situated locations (i.e., close to main transport networks) has been put forward as one of the main reasons for the decline in take-up in the sector during the course of 2017, there has been a notable pick-up in sales/leasing activity so far in 2018 (Chart 24).[28] Take-up of industrial/logistical space reached 218,000 square metres during the first three quarters of 2018 (a 44 per cent increase on the equivalent period of 2017) due in part to a number of large leasing agreements.[29] The current appetite for industrial/logistics space among both occupiers and investors likely reflects the rise of on-line trading more generally and the consequent need for strategically located goods delivery services. The fall-out and continued uncertainty surrounding Brexit, including the potential for supply chain upheaval, is beginning to have an effect on the sector. According to JLL, occupiers are delaying leasing decisions until there is greater clarity on the nature of future trading relations, while also being conscious of the potential requirement for substantial additional warehouse capacity in the event of a disruptive "hard" Brexit.

Commercial property market transactions and financing

The demand for Irish commercial property assets has been strong in 2018. The level of CRE investment (€2.6 billion) in the nine months to September was 2 per cent greater than that in the whole of 2017 (Chart 25). In terms of buyer profile, private investors and institutional funds have been quite active. More than half of the traceable investment since the start of 2017 has originated from overseas (mainly North America and Europe).[30]

A strong presence of foreign and non-bank investors in CRE markets brings a diversification of CRE financing sources that can increase liquidity and provide for risk sharing, as direct losses resulting from any future shock will be shared more widely and beyond the domestic banking system. At the same time, it does open up new transmission channels for the amplification of external shocks that need to be considered. Foreign capital flows are vulnerable to a rise in market uncertainty or a change in global

[26] See Savills, "Retail market in minutes", December 2017.
[27] See CBRE "Irish retail market view", 2018Q3.
[28] See JLL, "Dublin industrial market report", 2017Q4.
[29] See JLL, "Dublin industrial market report", 2018Q3
[30] Is not possible to distinguish whether approximately 15 per cent of the total CRE investment volumes recorded since 2017Q1 originated domestically or from abroad.

financing conditions, including the occurrence of more favourable yield prospects elsewhere. A sudden stop in or a reversal of foreign investor demand would increase the probability of sharp declines in CRE prices occurring, with negative consequences for the value of banks' CRE portfolios and the economy.

Irish banks have had a relatively limited role in the funding of new commercial property-related activity since the financial crisis. The value of Irish commercial property loans held by Irish retail banks has been decreasing steadily due to amortisations, portfolio sales, and delevering but remains substantial, standing at €12.2 billion in 2018Q2.[31] The share of non-performing Irish commercial property loans has also been falling, down to just under 22 per cent of total CRE loans by June 2018, from a peak of over 75 per cent in early 2014.[32]

New lending to the domestic CRE market is still quite muted, with €570 million advanced in 2018Q2, bringing the cumulative rolling four-quarter total to €3 billion, from €2.2 billion a year earlier (Chart 26). In overall terms, new Irish commercial property lending over the 12 months to 2018Q2 amounted to 10 per cent of all new bank lending.[33] Central Bank regulatory data show that this new commercial property lending tends to be for non-speculative purposes, i.e. for existing or pre-let buildings. Of the 25 per cent or so of lending that is classified as "speculative", the vast majority relates to residential and, to a lesser extent, mixed commercial property development schemes.

While the stocks and flows of banks' individual CRE exposures are relatively well identified, those of the non-banking sector are less transparent. Aggregate data on commercial property flows would appear to suggest that the engagement of the non-bank financial intermediary sector has increased markedly, both in Ireland and across Europe over the past decade. As a result, efforts are underway to improve data collection and analysis pertaining to the involvement of institutional investors, such as investment funds, insurance firms and REITs, in commercial property markets.[34] These data will facilitate inspections that can help uncover potential transmission channels related to these holdings, through which shocks in commercial property markets may act.

Internal analysis of Central Bank investment fund statistics at end-2017 indicate that Irish-domiciled investment funds held approximately €16 billion of Irish real estate, of a total "professionally managed" commercial property market estimated by MSCI to be worth approximately €26 billion.[35] [36] While investment funds represent a substantial portion of the ownership

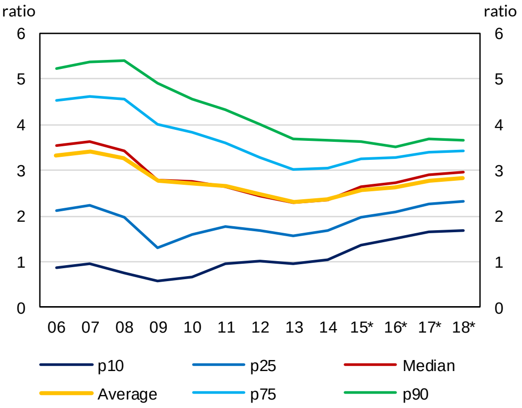
[31] Overall commercial property lending at Irish retail banks amounted to €17.6 billion at end-2018Q2.
[32] The NPL rate across the entire CRE book was 19 per cent at 2018Q2, down from 70 per cent at the end of 2013.
[33] Similarly, 17 per cent of all new Irish lending was accounted for though lending to the Irish commercial property market.
[34] For instance, ESRB "Recommendation (2016/14) on the closing of real estate data gaps" aims to establish a more harmonised framework for the monitoring of real estate market developments (residential and commercial) in the EU, and to address existing gaps in the availability and comparability of real estate data across countries.
[35] Traditional CRE sectors such as office, retail, industrial and hotel stock combined account for the vast bulk of property assets (€13.5 billion), followed by RRE (€1.6 billion) and a further €1 billion that was classified as "other" (mainly land and developments under construction).
[36] A professionally managed property is defined as one owned for the primary purpose of benefitting from investment returns, as distinct from owner-occupied and non-investment leased real estate. Included in the MSCI estimates are the holdings of insurance and pension funds, sovereign wealth funds, unlisted funds (closed and open-end), traditional estates and charities, listed funds, large private landlords (with holdings of greater than US$100m/ca. €83m), leased office, retail, industrial, residential, other property and investment land under development. In contrast, the holdings of small private landlords (with holdings of less than US$100m/ca. €83m), owner-occupied portfolios, pubs, hotels and hospitals, timberland, farmland and infrastructure, mortgage companies, development companies, funds of funds and indirect holdings, municipal and social housing are excluded from the figures.

of the invested Irish property market, real estate assets account for less than 1 per cent of the total assets of Irish-domiciled funds. Approximately one-half of the identifiable funding associated with these investments originates from abroad (Chart 27). Equity finance makes up the largest category of funding (€8.6bn) (Chart 27). There is also a notable tranche of bank lending, mainly originating from Irish institutions (Chart 27).

3.3 Household Sector

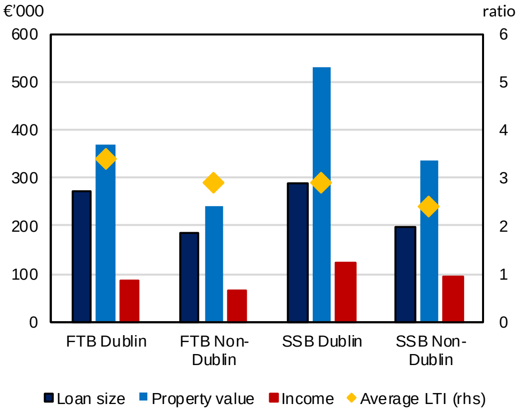
Households continue to benefit from the economic recovery and the low interest rate environment. Although debt levels have been declining in recent years, households remain heavily indebted. Almost 80 per cent of the stock of mortgages are on variable interest rates and thus susceptible to any interest rate increases. While mortgage arrears continue to decline, over 28,000 PDH loan accounts have been in arrears for over 2 years. Both residential property prices and rents are continuing to grow albeit at a slower pace than previously. Despite increases in construction activity, a shortage of housing supply remains a feature of the residential property market.

Chart 28: PDH loan-to-income ratios



Source: Central Bank of Ireland.
Notes: P stands for percentile. For example, p10 is the bottom 10 per cent of observations while p90 is the top 10 per cent. Sample comprises up to 6 banks. *In-scope loans only. All PDH loan type. Data are based on volume and are for 2018H1.

Chart 29: House prices, loan size and LTI by borrower type and region



Source: Central Bank of Ireland.
Notes: Sample includes 6 banks. Average loan size and collateral value are in €'000. New property purchases only. Data for 2018H1.

Economic and credit developments

Since the last MFR, labour market developments have remained positive. Unemployment is expected to fall to 5.6 per cent by year-end, down from 6.7 per cent last year. Employment growth and economy-wide compensation are projected to rise by 3 per cent and 5.9 per cent in 2018, respectively. Growth in employment continues to be broadly-based across sectors. It is unclear how the labour market will be affected by Brexit or by changes in FDI resulting from adjustments to international tax regimes.[37]

The value of total mortgage drawdowns increased by 18 per cent year-on-year in 2018Q3.[38] This figure partly reflects the 14 per cent growth in first time buyer (FTB) drawdowns, which comprise almost half of the total. Re-mortgages and top-ups have increased by 82 per cent and 12 per cent, respectively, but collectively they account for just under one-fifth of total drawdowns. Second and subsequent buyer (SSB) drawdowns grew more slowly, increasing by only 6 per cent.

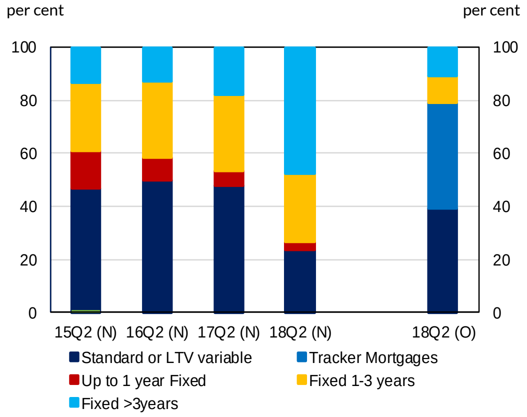
Mortgages have become more sustainable, increasing borrower resilience to future shocks. Average LTI ratios (Chart 28) are now significantly lower than in the mid-to-late 2000s. Furthermore, no new mortgages are observed with an LTI greater than 5, while over 10 per cent of all PDH mortgages had an LTI greater than 5 in 2006-2008. Nevertheless, the share of new FTB lending with an LTI above the 3.5 limit (as prescribed by the macroprudential mortgage-measures) increased from 16 per cent of the value of FTB lending in 2016H1 to 23 per cent in 2018H1. Some households may be reaching their borrowing limits, because they can only borrow up to 3.5 times their income. Average LTI ratios are highest among Dublin FTBs, in part reflecting higher property prices (Chart 29).

Financial position of households

Although debt as a proportion of disposable income is falling, the household sector remains the fourth most indebted in the EU.

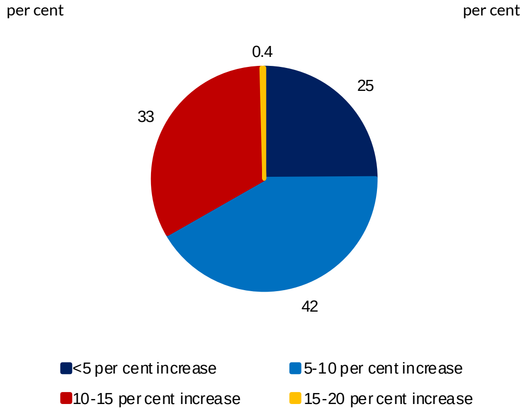
[37] Lawless et al. (2018) estimate that a hard Brexit could increase the cost of living for all households in Ireland by 2 per cent to 3.1 per cent – an annual increase of €892 to €1,360 per household. See ESRI 2018 Quarterly Economic Commentary "Brexit and Irish Consumers".
[38] See BPFI Mortgage Drawdowns Report Q3 2018.

Chart 30: Composition of New and Outstanding PDH lending by interest rate type



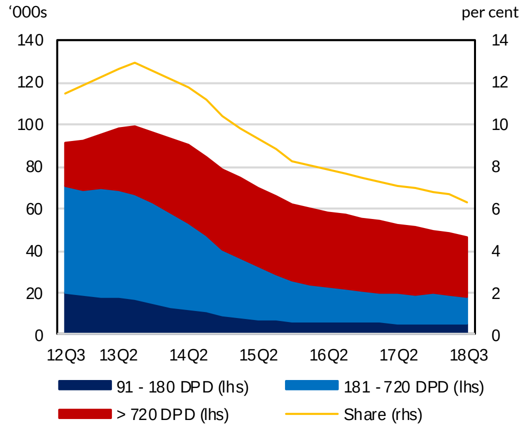
Source: Central Bank of Ireland.
Notes: "N" represents new lending. "O" is outstanding stock. For outstanding stock "up to 1 year fixed" is included in Standard and LTV Variable category. Last observation is 2018 Q2.

Chart 31: Monthly PDH payments: impact of 1 per cent interest rate rise



Source: Central Bank of Ireland loan-level data and model simulation.
Notes: 5 banks, excludes fixed rate mortgages. Ratio indicates mortgage repayment post- to pre- interest rate rise. The chart shows the ratio of the shocked to the current instalment on variable rate and tracker mortgages after a hypothetical 1 per cent increase is applied. As at December 2017.

Chart 32: PDH mortgage arrears



Source: Central Bank of Ireland.
Notes: Share is loans that are in arrears of more than 90 DPD relative to total loans outstanding. Last observation: June 2018.

Household debt stood at €138.1 billion, or €28,423 per capita, at end-2018Q1. High debt levels reduce the resilience of households to potential income or repayment shocks.

Loans for house purchases comprised just over 85 per cent of outstanding Irish household debt at end-2018Q2, with consumer credit accounting for 12 per cent. Growth in consumer credit has slowed to 0.1 per cent in August 2018 from 5.9 per cent a year earlier, in part reflecting lower loan volumes for new car purchases.[39]

The general decline in interest rates since the financial crisis has helped lessen debt-servicing burdens for many households. The median debt-service-to-income ratios for new FTB and SSB lending in 2018H1 were 20 per cent and 10 per cent, respectively, with the bulk of the FTB distribution concentrated below 30 per cent.[40]

While fixed rate mortgages are becoming more prevalent (accounting for almost three-quarters of new lending in 2018Q3), almost 80 per cent of outstanding mortgages are on variable or tracker rates (Chart 30). Those loans, and short-dated fixed rate loans, are susceptible to interest rate shocks. Were interest rates to increase by 1 per cent, simulations suggest that about one-third of these mortgages would incur repayment increases of between 10 and 20 per cent (Chart 31). (Box 4 discusses fixation periods on new Irish lending.)

Mortgage arrears and debt resolution

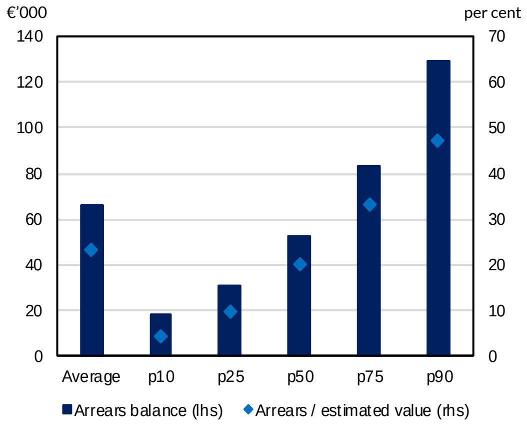
The number of accounts in mortgage arrears stood at 87,796 loan accounts in June 2018, compared to 98,860 in June 2017. As of June 2018, some 6 per cent of Personal Dwelling House (PDH) loan accounts are in arrears of over 90 days past due (DPD), down from a peak of 12.9 per cent in 2013Q3 (Chart 32). Of these accounts, over 28,000 are more than 720 DPD days. The average arrears balance for mortgages more than 720 DPD was €66,000 at end-2017, with the top 10 per cent exceeding €129,000 (Chart 33). The arrears balance for mortgages over 720 DPD represented an average of 23 per cent of the estimated property value at end-2017.[41]

Many long-term arrears accounts have repayment restructures in place.[42] Borrowers on short-term, reduced payment restructures could be vulnerable if repayment obligations increase (for example, if the arrangement matures or interest rates rise). Approximately 16 per cent of banks' PDH mortgages are currently restructured. Of these restructures, 89 per cent are meeting the terms of their arrangements as of end-2018Q2.

An approved personal insolvency arrangement allows insolvent debtors to return to solvency while keeping them in their home. There were 11,023 applications for a personal insolvency

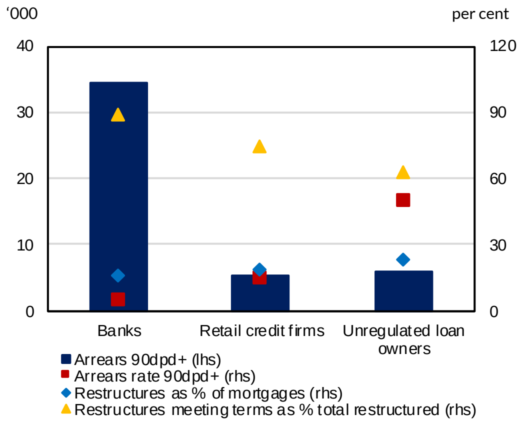
[39] See non-mortgage household credit section within the 2018 Household Credit Market Report and Car Finance Statistics H1 2018.
[40] See Household Credit Market Report 2018 page 6. The debt service ratio is defined here as the ratio of monthly mortgage repayments to gross income.
[41] See O'Malley T, "Long-term mortgage arrears in Ireland", FS Note No.7 2018
[42] McCann (2017) found that over 60 per cent of the accounts that entered 720DPD arrears between 2009Q4 and 2015Q4 underwent restructure. See McCann, F. "Resolving a Non-Performing Loan crisis: The ongoing case of the Irish mortgage market", Research Technical Paper No. 10 2017.

Chart 33: Arrears balances and arrears/estimated property value on 720+ DPD mortgages



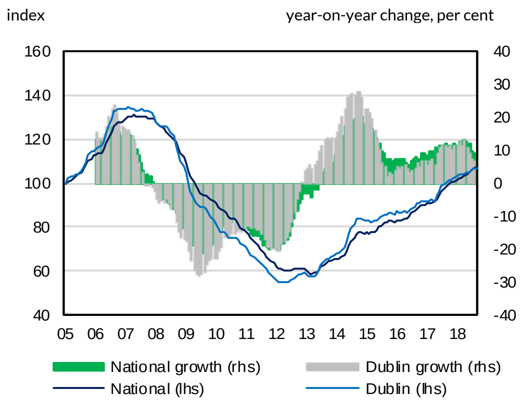
Source: Central Bank of Ireland loan level data.
Notes: P stands for percentile so for example p10 is the bottom 10 per cent of observations while p90 is the top 10 per cent for each category. Arrears balance is combined for borrowers with multiple loans secured against the same property. Sample comprises 5 banks. Data as at December 2017.

Chart 34: Arrears and restructures by entity type, 2018 Q2



Source: Central Bank of Ireland
Notes: RCFs are Retail Credit Firms. ULOs are Unregulated Loan Owners.

Chart 35: CSO residential property price index and growth rates



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

arrangement between 2013 and 2018Q3, with 2,850 arrangements approved during this time.[43] Debtors aged 35 to 54 accounted for over two-thirds of applications, while unemployed debtors accounted for around one-quarter of applications. A further 2,210 bankruptcy adjudications were made between 2014 and 2018Q3. Of the €271 million in bankruptcy debt in 2018Q3, only 8.3 per cent of the debt was secured, indicating unsecured (non-mortgage) debt is an important factor for this household group. The total number of PDH properties in possession at end-June 2018 stood at 1,702.

Mortgages in arrears are held not only by banks, but also by retail credit servicing firms (RCFs) and unregulated loan owners (ULOs).[44] Although RCFs and ULOs hold a small number of PDH loan accounts relative to banks, they have higher proportions of accounts in default over 90 DPD (Chart 34).[45] Since the loans they acquire are often already in distress, ULOs' share of PDH accounts that are currently restructured is higher at almost one quarter, compared with 19 per cent at RCFs and 16 per cent at banks. Furthermore, of those accounts, a lower percentage are meeting the terms of their current restructure at ULOs compared with other lenders.

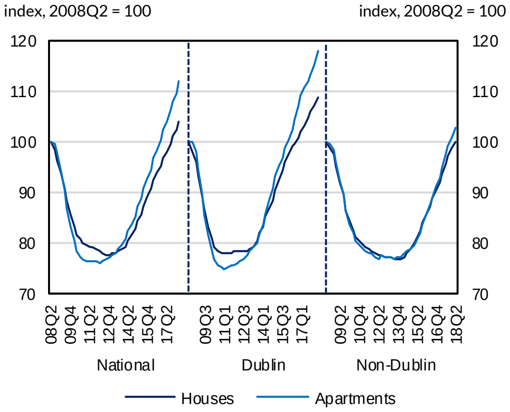
Residential property prices and rents

There has been a moderation in the rate of residential property price inflation in recent months with a national annual growth rate of 8.2 per cent being recorded in September 2018 (Chart 35). Prices for apartments increased at a faster rate, at 11.6 per cent, than for houses, at 8 per cent over the same period. Overall, national residential prices are now 18 per cent below their 2007 peak, with the CSO RPPI at its highest point since February 2009. Dublin property prices increased by 5.8 per cent in the year to September, compared to 10.8 per cent for the rest of the country. Recent MyHome.ie and Daft.ie reports point to a moderation in the rise in asking prices in urban centres, with sharper rates of increase now occurring outside of the four main urban areas.[46] Both reports refer to a lack of affordability as the primary factor affecting market conditions in Dublin. The price slowdown is more evident for homes at the higher end of the price distribution, while price changes are shown to be more substantial in lower price bands.[47] The CBI/SCSI 2018Q3 Quarterly Property Survey, conducted in October 2018, shows a moderation in respondents' median anticipated price changes across both medium and long-term horizons. (See Box 5 for further details).

Residential rent inflation continues to display signs of easing, with CSO data showing a 6.4 per cent annual increase in national private residential rents to October 2018. While this figure is down from

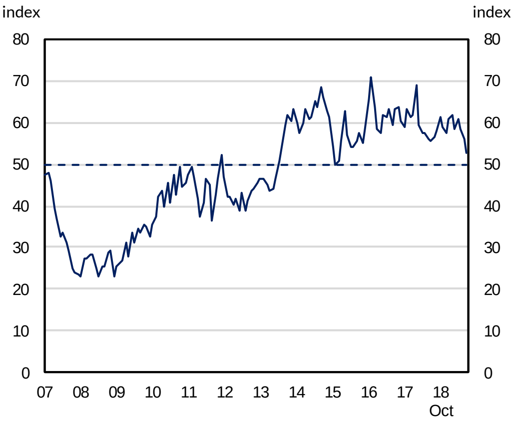
[43] There were also 3,153 other types of debt relief or settlement applications, of which 2,127 were approved. For full details, see Insolvency Service of Ireland (ISI) Statistics Quarter 3 2018.
[44] For a more detailed discussion of different types of mortgage holders, see Meehan, C. and Menton, A. "Recent Enhancements to Mortgage Arrears Statistics", in Quarterly Bulletin No. 3, July 2018.
[45] Unregulated loans owners include owners of mortgages not regulated by the Central Bank of Ireland, that have purchased mortgage loans secured on Irish residential properties. The Consumer Protection (Regulation of Credit Servicing Firms) Act, 2015 was enacted to ensure that relevant borrowers, whose loans are sold to third parties, maintain the same regulatory protections they had prior to the sale. See add link.
[46] MyHome.ie 2018Q3 Report and Daft.ie 2018Q3 House Price Report
[47] See Gaffney, E. (2018), "Residential property price segments and mortgage finance", Central Bank of Ireland, Financial Stability Note, No. 11

Chart 36: RTB rental indices by type of property



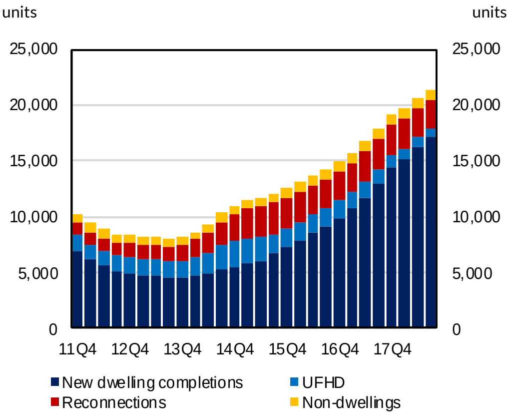
Source: Residential Tenancies Board.
Last observation: 2018Q2.

Chart 37: Ulster Bank PMI: Housing Activity



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

Chart 38: CSO new dwellings



Source: CSO
Notes: New dwellings, reconnections, and UFHD refer to homes now available for occupancy. UFHD refers to unfinished housing developments. Data are four-quarter rolling totals. Last observation: 2018Q3.

7.4 per cent a year previously, it has increased slightly in recent months. Apartment rents for Dublin are 18 per cent higher than their pre-crisis peak in 2008. Quarterly data from the Residential Tenancies Board complements the trends evident in the CSO data by showing that rental prices for apartments are rising faster than for houses (Chart 36). This may reflect greater pent-up demand for smaller housing units within urban rental markets relative to the owner-occupied sector.[48] The 2018Q2 RTB Report highlights that there has been a steady increase in the share of lease renewals from 10 per cent in 2013 to 20 per cent in 2018Q2, as sitting tenants benefit from the Rent Pressure Zone (RPZ) regulations, which safeguard against rent increases in excess of 4 per cent.

Residential housing supply

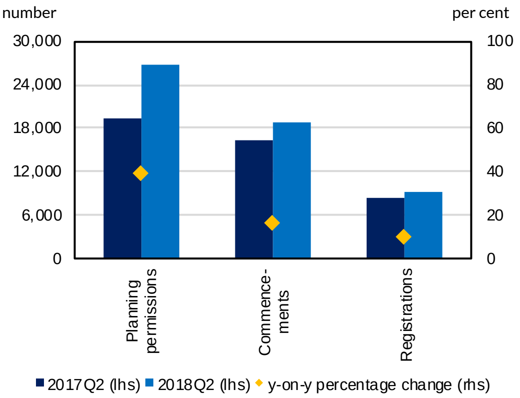
The Ulster Bank PMI for construction activity shows that Irish construction companies continue to expand their operations (Chart 37), albeit at a slightly slower pace than arose in 2017. Increased employment in the sector is indicative of positive sentiment, with homebuilding reported to be the strongest performing component. The index, which is designed to track changes in total construction activity, has been above 50 since June 2013. It also indicates expansion across various construction subsectors, including commercial activity and civil engineering. There is some indication of cost pressures arising in the construction sector from both the overall PMI and the SCSI Tender Price Index for non-residential projects. This is due to a shortage of materials, which may serve to increase costs and reduce viable margins for developers.[49]

Despite this increase in construction activity, a shortage of housing supply remains a feature of the Irish residential property market. CSO data show that new dwelling completions have increased annually by 33 per cent since 2017Q3, to 17,100 units (Chart 38). Some 60 per cent of these new dwellings are in the form of scheme houses (10,300 units), which are primarily being constructed in the Dublin and Mid-East regions.[50] Over 3,200 unfinished housing developments and reconnections have also been completed to occupancy standards, adding to the supply of new dwellings. Apartments comprise only 13.2 per cent of new builds. Early-stage indicators of housing supply such as planning permissions and commencements back up the PMI data in pointing to an expansion in construction activity with annual growth rates of 39 and 15 per cent, respectively, arising (Chart 39). Central Bank analysis of forward-looking indicators suggest that 19,000 new dwellings will be completed this year, increasing to 24,000 in 2019 and 28,500 in 2020.[51]

Dept. of Housing policies to address short-term tourism letting on residential units in the coming months may also act to increase

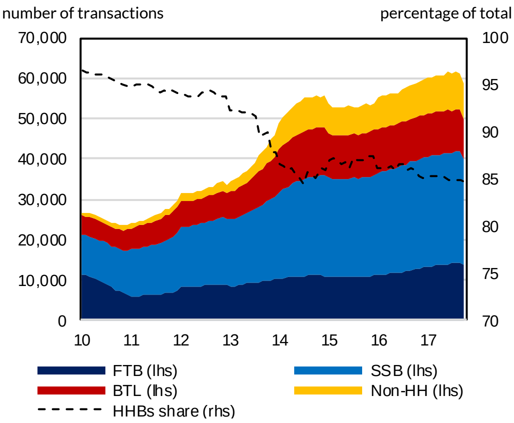
[48] AIB Real Estate Finance – The Private Rented Sector in Ireland.
[49] SCSI Tender Price Index August 2018
[50] Scheme houses refer to multi-unit developments as denoted by ESB application form NC1 for electricity connections.
[51] Central Bank of Ireland Quarterly Bulletin 2018Q3

Chart 39: Residential housing activity



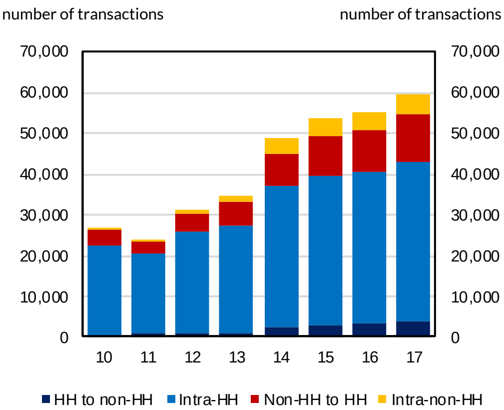
Source: Department of Housing, Planning and Local Government, CSO, and Goodbody Stockbrokers
Notes: Latest observations: 2018Q2.

Chart 40: Residential property transactions by buyer type (rolling annual total)



Source: CSO.
Notes: Data refer to all residential property transactions.

Chart 41: Sectoral flow of residential property transactions



Source: CSO and Central Bank of Ireland calculations.
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.

supply in the short-term for urban areas. Such action may add to the second-hand market which according to Daft.ie data has increased nationally by 4.5 per cent to 22,800 units in the twelve months to September 2018. Budget 2019 announced a €310 million subsidy to assist local authorities in providing 6,000 affordable homes at a discounted rate to qualifying buyers within outlined income thresholds.[52] It also provided €1.25 billion for the delivery of 10,000 new social homes in 2019 through the development of a Land Development Agency, which will involve a range of joint ventures with the private sector and the sale of state lands.

Although the level of housing output has increased steadily in recent years, supply remains short of the quantities needed to address short-term and 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 up to 2027.[53] Demographic changes are adding to housing demand, including from a rise in net migration figures. Decreases in household size over time towards the European average of 2.3 persons as well as a rise in the age profile of the population could see increased demand for apartments and smaller housing options arising in due course.

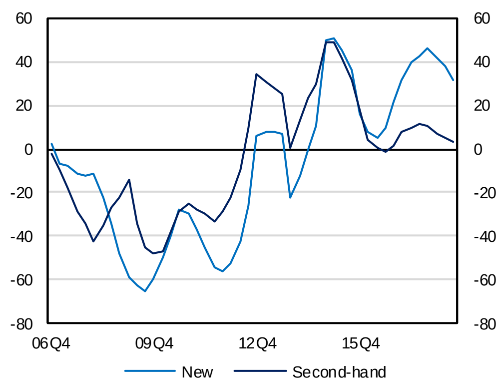
Residential property transactions and mortgage market activity

Housing transactions have increased 5.7 per cent in the year to August 2018, with 61,000 transactions occurring (Chart 40). This constituted the highest twelve-month number of transactions since data collection began in 2010. SSBs continue to account for the largest proportion of market activity (at 44 per cent), but the annual percentage figure for August 2018 was marginally lower on the previous year. This drop is compensated for by rising FTB transactions. The increase in sales activity has led to a rise in the turnover rate for Ireland from 2.7 per cent in 2016 to 3 per cent in 2017, bringing it closer to rates in other European housing markets such as the UK, Sweden, and the Netherlands.[54] Increased turnover is primarily due to a rise in housing supply in recent months. International evidence suggests that rising turnover may also reflect changes in underlying conditions such as higher net migration flows, greater employment, and a higher volume of mortgage drawdowns, all of which are evident in Ireland.[55]

A contributor to the higher turnover rate in Ireland is the non-household sector, which accounts for 15 per cent of property transactions. Chart 41 shows that the level of transactions from households to non-households has increased in recent years, as have sales in the opposite direction. Of the 59,700 units transacted at end-2017, 5,000 units were transferred between non-household bodies. CSO data based on NACE codes provide a further breakdown of sales to show construction, financial, and real

[52] Budget 2019 Expenditure Allocations, Vote 34 Housing, Planning, and Local Government
[53] Project Ireland 2040: National Planning Framework
[54] Turnover rates in 2017 for the UK, Sweden, and the Netherlands were 4.3 per cent, 3.4 per cent, and 3.1 per cent, respectively.
[55] Leal (2017) Housing Market Turnover. Reserve Bank of Australia.

Chart 42: Growth rate of mortgage drawdown volumes by type of property (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. Last observation: 2018Q3.

estate companies accounting for 9 per cent of all transactions. National average residential yields have remained steady at 6.2 per cent for 2018Q2, according to Daft.ie data.[56]

BPFI data point to continuing increases in the volume and value of mortgage drawdowns in 2018Q3. The share of FTB new lending has increased above the 60 per cent mark for the first time since 2013. There appears to be a disparity in the type of property sought after by borrowers as drawdown volumes for new units increased by 43.2 per cent year-on-year in 2018Q3 compared to 5.2 per cent for second-hand units (Chart 42). This trend may be motivated by the Help-to-Buy Scheme or the cost of retrofitting an existing property for energy efficiency standards. The 2018Q2 BPFI Housing Market Monitor states that the average loan size and deposits for all borrowers is increasing with a €37,500 deposit estimated for FTBs nationally and €86,000 for SSBs. These estimates are consistent with Central Bank loan level analysis and highlight a moderation in growth rate of both loans and deposits.[57]

At end-November, the Central Bank published its annual review of the mortgage market measures. The analysis indicates that the mortgage measures as currently calibrated are achieving their objectives of increasing bank and borrower resilience and reducing the risk of bank credit-house price spirals from emerging and are contributing to overall financial stability. As a result, the LTV and LTI limits for the various borrower categories and the related lending allowances above those limits will remain unchanged in 2019.

[56] Data are attained privately from Daft.ie on a quarterly basis.
[57] See Kinghan, C. (2018), "Macroprudential measures and Irish mortgage market lending insights from H1 2018", Central Bank of Ireland, Financial Stability Note No. 8.

Box 4: Fixation periods on new mortgage lending

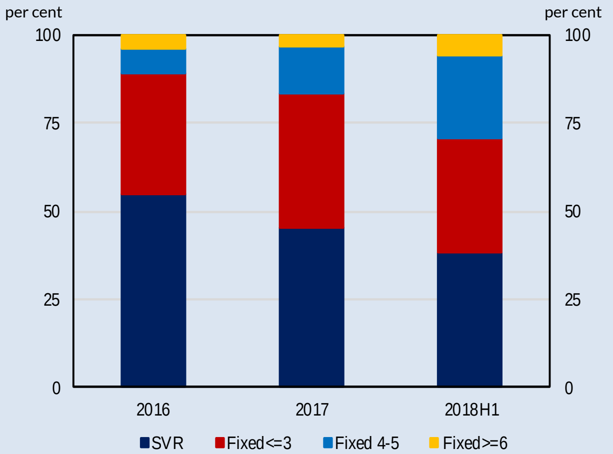
By Jane Kelly and Christina Kinghan (Macro-Financial Division)

While the stock of mortgage lending is predominately on variable interest rates, the popularity of fixed rate contracts in new lending has increased in Ireland in recent years. This box examines fixation periods for new mortgage lending in Ireland, that is, the lengths of time for which the interest rate on new loans are fixed, and compares them to fixation periods for a sample of EU countries. The share of new loans on a fixed rate increased further during 2018H1, with a move towards longer fixation periods also occurring. Contributing factors to the demand for fixed rate loans may include expectations that interest rates will rise in the coming years, household preferences for certainty given the relatively small difference between the pricing of fixed and variable interest rates, and bank strategies to attract households towards mortgages for a fixed period as competition and refinancing activity increase from the depressed levels of recent years.

Chart A provides a comparison of interest rate fixation periods for new PDH mortgage lending since 2016. It shows a movement away from standard variable rates towards fixed rates and towards longer fixation periods among fixed interest rate loans. The share of loans with a fixed rate of 4-5 years increased from 7 per cent of PDH mortgages in 2016 to 24 per cent in 2018H1. The share of loans fixed for 6 years or more also increased from less than 4 per cent to over 5 per cent during the same timeframe. The share of fixed rate mortgages has also increased in some other euro area countries in recent years, including Spain, Portugal, Italy and Luxembourg. In countries where fixed rate loans have been the traditional mortgage type, fixation periods are much longer. This includes Belgium, Germany and the Netherlands, where a large share of loans have an initial fixation period of greater than 10 years (Chart B) and the US and Denmark, where fixed rate loans of 30-years are common.[1]

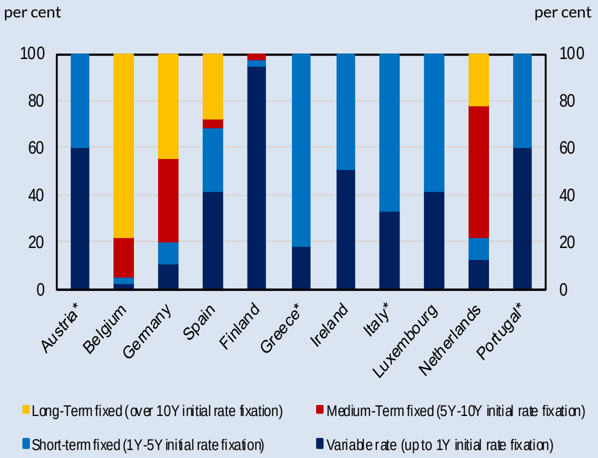
From a financial stability perspective, a higher share of fixed rate mortgages, particularly longer-term fixed rates, acts to reduce household sensitivity to potential interest rate increases during the period of fixation. On the other hand, households may not be able to benefit from lower interest rates during a period of monetary easing or to switch mortgage providers without incurring fixed rate breakage fee penalties. The international evidence on the link between mortgage fixation and loan default is mixed. In a 26 country study, Stanga et al. (2017) find that mortgage defaults are lower in countries with predominantly fixed rate loans relative to variable rate loans.[2] In contrast, ESRB (2015) suggests households in euro area countries with the highest share of variable rate lending benefitted most from large ECB rate reductions following the global financial crisis and were not more vulnerable than those with a lower share of variable rate lending to a real estate-related banking crisis.[3] The financial stability and consumer protection implications of shifts in fixation periods merit ongoing attention.

Chart A: Interest rate fixation period (years), 2016 – 2018H1



Source: Central Bank of Ireland, Monitoring Template Data , Five Bank View PDH Loans Only

Chart B: Cross country comparison: share of mortgage market gross issuance by fixation type in 2017



Source: European Mortgage Federation, Hypostat 2018, "A review of Europe's mortgage and housing markets". * For these countries all interest rate initial fixation rate over 1 year fixation have been pooled together.

[1] Green, R. K., and Wachter, S. M. 2005. "The American Mortgage in Historical and International Context." *Journal of Economic Perspectives,* 19 (4): 93-114.
[2] Stanga, I, Vlahu, R. and de Haan, J., 2017 "Mortgage Arrears, Regulation and Institutions: Cross-Country Evidence", De Nederlandsche Bank Working Paper No. 580.
[3] ESRB, "Report on residential real estate and financial stability in the EU", December 2015.

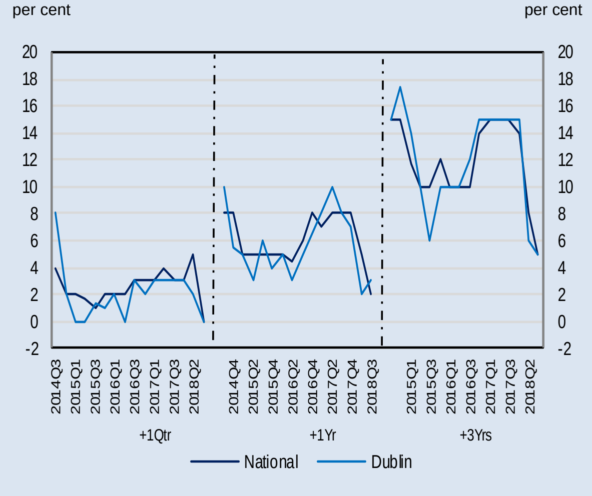
Box 5: Residential property price expectations survey

The Central Bank and the Society of Chartered Surveyors of Ireland have jointly carried out a quarterly sentiment survey of residential property expectations since 2012Q3.[1] This box presents findings from the most recent survey, conducted in October 2018, and earlier surveys. Respondents' house price expectations and the main factors put forward as influencing them are outlined. Median expectations of house price appreciation, over a number of horizons, have declined sharply relative to recent surveys across both national and Dublin areas as CSO data indicate price moderation occurring in recent months and construction activity continuing to increase.

Chart A summarises the median price expectations for both the national and Dublin markets at quarterly intervals since 2014Q3. In general, while most survey participants in the October 2018 survey (about 93 per cent of them) expect property prices to rise over the next three years, the expected residential property price increase has declined sharply in recent surveys. In 2018Q3, the national median expectations for one year and three years ahead were 2 and 5 per cent increases, respectively. The comparable projections in the 2017Q3 survey were for 8 and 15 per cent rises, respectively. The same trends are evident for Dublin as 2018Q3 survey results exhibit anticipated price rises of 3 and 5 per cent, respectively, across the same time horizons. The results of the survey mirror developments in the CSO RPPI as August data show year-on-year property price inflation moderating to single-digit values. Comparable survey findings to here are evident in the 2018Q3 Daft.ie Irish House Price Report (of over 1,000 market participants) which shows an expected change in house prices nationally over the coming 12 months of 4.7 per cent, down from 8.4 per cent a year ago.[2]

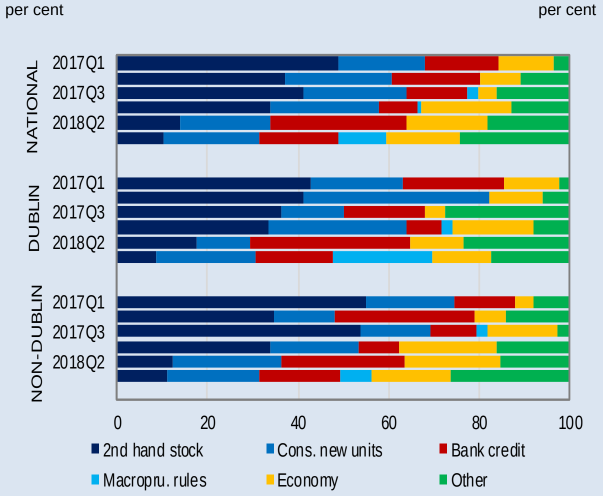
In the CBI/SCSI survey, respondents are asked to rank which three factors they consider to have the most influence on future house price developments from a list of twelve pre-selected factors, with a further option to include other issues not on that list. Chart B shows the first-ranked factors in the 2018Q3 survey for the national, Dublin, and Non-Dublin markets from the most recent surveys. A combination of 'Other' factors (at 24 per cent) were deemed the most important factors affecting anticipated price changes at national level in the most recent survey.[3] The perception of value was the largest sub-component of this option, followed by respondents making specific reference to Brexit. The construction of new units (21 per cent) was the highest-ranked single factor at the national level. Dublin-based respondents selected the supply of new units and the Central Bank of Ireland macroprudential mortgages measures as the joint primary factors influencing their expectations (22 per cent, respectively). The macroprudential measures were selected as the primary factor by 7 per cent of respondents based outside of Dublin.

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



Source: Central Bank of Ireland & SCSI Survey of Property Professionals.
Notes: Chart provides details of the results from the past 16 surveys (2014Q3 to 2018Q3). Number of observations varies from survey to survey.

Chart B: Number one ranked factor influencing expectations



Source: Central Bank of Ireland & SCSI Survey of Property Professionals.
Notes: Chart provides details of the results from the past 6 surveys (2017Q1 to 2018Q3). Number of observations varies from survey to survey.

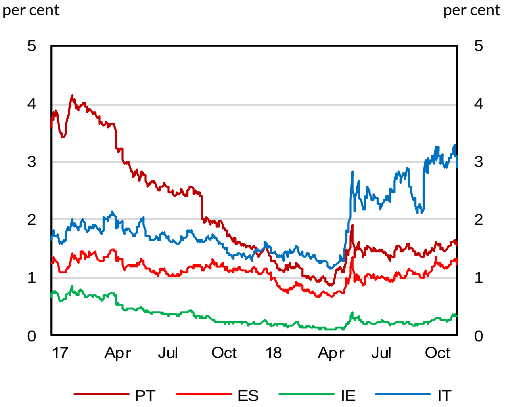
---

[1] Respondents include estate agents, auctioneers and surveyors, as well as economists, market analysts and academics. While the main focus of the survey is on participants' price expectations, questions are also included on activity levels and other market issues. The survey is a snapshot of respondents' expectations at a particular point in time and so can provide only limited information about possible future property price developments. It also provides a measure of uncertainty regarding those expectations, which is a useful complement to the available information on the domestic property market.
[2] Daft.ie Irish House Price Report Q3 2018
[3] 'Other' represents responses under all other categories including perception of value, rental market developments, changes in demographics/population, level of interest rates, and open-ended response options.

3.4 Sovereign

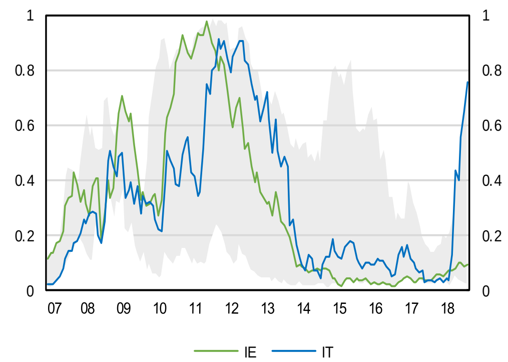
Italian bond yields have risen sharply since April amid concerns as to Italy's budgetary plans and economic performance. The impact on other EA sovereign bond markets has been limited. Net purchases of sovereign bonds under the ECB APP are expected to cease at year-end. Concerns remain that bond market liquidity in general has declined, which could amplify the effects of economic and financial shocks on bonds. While Ireland is expected to meet its medium-term fiscal objective in 2019, government debt remains high. A large amount of debt is due to mature in 2019 and 2020.

Chart 43: Sovereign bond spreads for selected EA Member States



Source: Thomson Reuters Datastream.
Notes: Chart shows yield spreads on sovereign bonds, 10-year maturity over Germany. Last observation: 26 November 2018.

Chart 44: 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: Oct 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

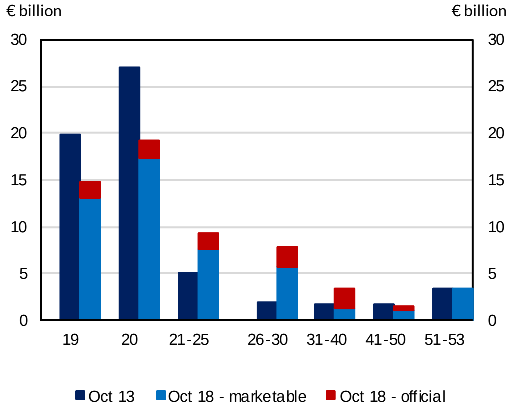
While long-term bond yields among EA sovereigns remain well below values of the early 2010s, there has been upward movement in yield values for some EA member states in recent months. This stands in contrast to the general downward movement in yields that had been evident in recent years. This change in yields mainly took effect during May in response to political developments in Italy. The Italian ten-year sovereign bond spread over Germany rose from 1.2 per cent on 1 May to 2.5 per cent by end-month (Chart 43). This reflected both a sharp rise in Italian yields and a moderate decline in German yields. Among some of the other Member States most affected by the EA sovereign bond market crisis, Spain and Portugal's long-term yield values increased at that time, while Ireland's remained relatively unchanged.

Since then, Italy's sovereign bond yields have varied in a higher range than prior to May and in recent weeks their long-term spread over Germany has exceeded 3 per cent (Chart 43) amid concerns about the country's economic performance and its adherence to the EU fiscal rules. As well as the impact of political events, the related standing of its banks, including their high holdings of domestic sovereign debt, is an influence on the Italian sovereign debt market.[58] The Composite Indicator of Sovereign Stress, compiled by the ECB, has seen a general rise in stress levels during 2018, with Italy's values rising sharply during the summer months (Chart 44).

These developments at national level arise at a time when the ECB has indicated that, subject to incoming data confirming the Governing Council's medium-term inflation outlook, net purchases under its Asset Purchase Programme (APP) will cease at year-end. During 2018, monthly purchases under the APP were €30 billion on average from January to September, before being reduced to €15 billion per month from October through December. Beyond the euro area, the US Federal Reserve, which previously operated a quantitative easing programme, is allowing sovereign bonds it holds reach maturity without replacement.

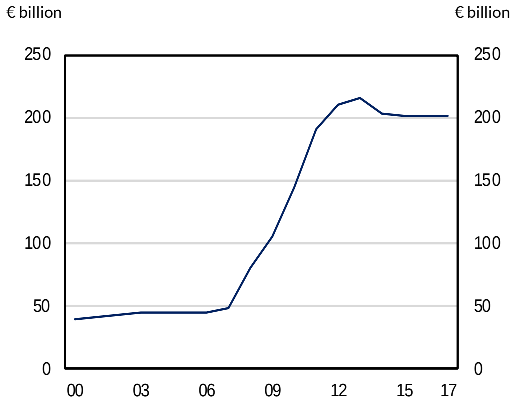
[58] Italy also has a relatively high gross financing need over the next few years – see Table 1.3 in IMF Fiscal Monitor, April 2018.

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



Source: Central Bank, based on NTMA data.
Notes: Entries for 2021-25, 2026-30, 2031-40, 2041-50, and 2051-53 are yearly averages.

Chart 46: General Government debt, 2000-2017



Source: EU AMECO database.

Bond market liquidity remains a concern as primary dealers contend with new bank regulations and electronic trading amid central banks' bond purchasing programmes.[59] [60] [61] Such market conditions can amplify the effects of economic and financial shocks and exacerbate market volatility.

High public debt levels arise in many Member States, including Ireland, leaving them susceptible to shocks. Sovereign bond markets in some EMEs, most notably Turkey and Argentina, have experienced turbulence in recent months reflecting, among other factors, a considerable amount of their debt being denominated in US dollars at a time when that currency is appreciating.

Domestic environment

Irish long-term bond yields and stress levels remain low (Chart 43, Chart 44) and the sovereign holds an 'A' rating from all major credit rating agencies. The NTMA has raised €17.25 billion long-term debt in 2018, against a target range of €14 billion to €18 billion for the year. Its projected cash holding for end-year is of the order of €13.3 billion. A relatively large amount of debt is due to mature in 2019 and 2020 (Chart 45) although refinancing needs over that period have been reduced in recent years through the early repayment of EU-IMF loans and bond switching. While most outstanding government debt is at fixed rates, the re-financing of maturing debt and the issuing of new debt will be subject to market conditions, including prevailing interest rates.

The stock of government debt remains high by historical comparison (Chart 46). Government debt per resident, at €42,000, is the third highest among advanced economies.[62] The debt-to-GNI* ratio is expected to be 105 per cent at end-year.[63] The Irish economy's openness leaves it vulnerable to the effects of external shocks, including Brexit, which could have an adverse effect on the fiscal position. The corporation tax component of government revenue has been above Budget target in recent years but is heavily dependent on a small number of MNEs. A headline General Government deficit for 2018 of 0.1 per cent of GDP is expected, while the projected structural budget balance in 2019 is broadly in line with attaining the medium-term objective of a balanced budget in structural terms. It is important that fiscal policy remains prudent to maintain the Irish public finances on a sustainable path.

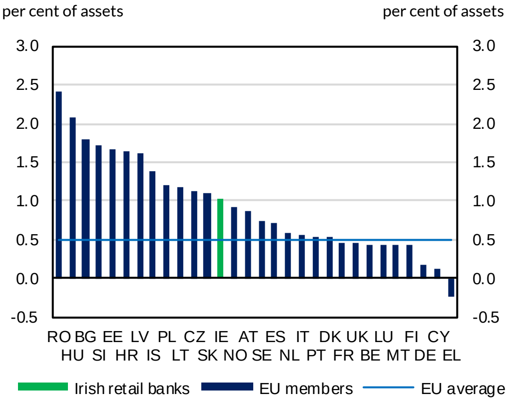
[59] The effects of electronic trading on fixed income markets is considered in BIS Markets Committee, *Electronic trading in fixed income markets*, January 2016.
[60] The relationship between bond market liquidity and bank regulation is addressed in Shin, H.S. "Market liquidity and bank capital." Address at LBS, 27 April 2016.
[61] A recent paper (Schlepper, K. et al. "Scarcity effects of QE: a transaction-level analysis in the Bund market." Deutsche Bundesbank Discussion Paper 06/2017) considers the impact of APP on the market for Bunds. Among its findings are that large-scale asset purchases can have an adverse effect on market conditions. The effects of APP and other asset purchase programmes on yield values have been considered in recent Macro-Financial Reviews.
[62] Department of Finance, Annual Report on Public Debt in Ireland, September 2018.
[63] Budget 2019: Economic and Fiscal Outlook.

4. FINANCIAL SYSTEM

4.1 Banking sector

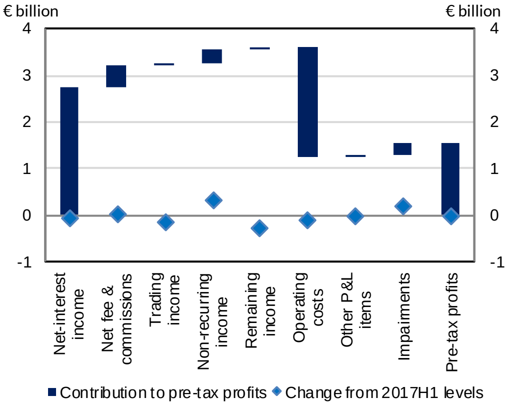
Despite a decline in operating income, Irish retail banks' operating profits in 2018H1 were broadly unchanged owing to a write-back of loan impairment provisions. The stock of NPLs held on Irish retail banks' balance sheet continues to decline but the ratio of NPLs to total loans remains among the highest in the EU. Despite ongoing sales of non-performing assets, the aggregate balance sheet of Irish retail banks increased marginally in the past twelve months. Capital ratios declined in the nine months to 2018Q3 but remain high relative to regulatory requirements, as well as to international peers. Brexit presents a number of challenges to Irish retail banks. The UK represents the second largest credit market to the sector. A slowdown in the UK economy could affect bank profitability and credit quality. In addition, Irish banks are reliant on UK markets for debt issuance. In the event of a hard Brexit, Irish retail banks may face operational and logistical challenges in switching to alternative debt markets and the eligibility of existing MREL liabilities governed by UK law may also be affected by the UK becoming a third country after Brexit. There is a need for further developments in banks' business models to support income growth and profitability through the economic cycle.

Chart 47: European banking sector return on assets



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 and relate to 2018Q2.

Chart 48: Breakdown of Irish retail banks' pre-tax profits

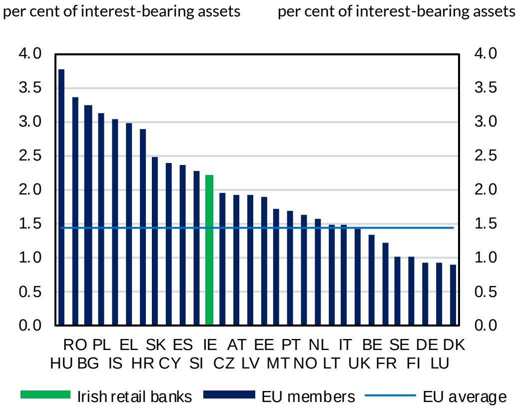


Source: Central Bank of Ireland.
Notes: For the 6-month period to end 2018H1. Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements.

Aggregate measures of the profitability of the EU banking sector remained broadly unchanged in 2018Q2 in comparison with the same period last year. Aggregate ROA across Europe was 0.5 per cent in 2018Q2 (Chart 47). A cross-country comparison shows that significant variation remains across the various banking sectors. While economic growth and improving sentiment have contributed to a better operating environment, credit institutions' ability to generate income remains subdued. Credit quality issues remain a concern for many banking sectors in Europe. Over the 12 months to 2018Q2, European banks' NPL ratios continued to decline with the aggregate ratio falling to 3.6 per cent. The level of troubled assets and the pace at which national banking sectors are able to address underlying issues varies significantly.

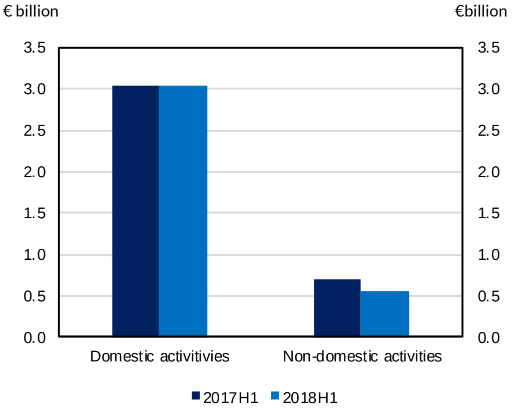
The domestic banking sector faces headwinds as it continues to repair and expand its business activities. Some of these challenges are specific to the Irish market – for example, the need to continue to address the high levels of impaired loans on the Irish retail banks' balance sheets. Outside of the Irish-specific factors, banking systems across Europe remain susceptible to a reversal of investor sentiment and the potential for increases in risk premia in bank funding which would affect their income-generating ability and ultimately impinge upon internal capital generation. The ongoing uncertainty surrounding future UK/EU arrangements and geopolitical developments more generally are just some examples of what might trigger a reassessment of risk in financial markets.

Chart 49: International comparison of net-interest margins



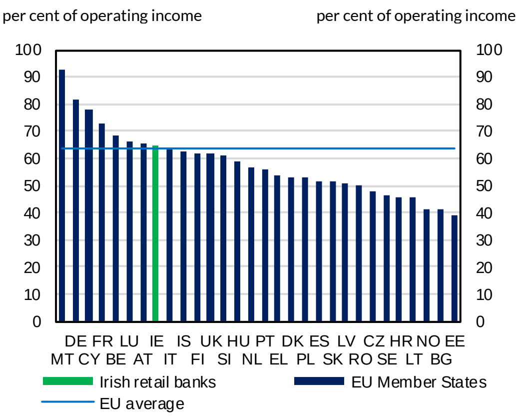
Source: EBA and Central Bank of Ireland calculations.
Notes: Data are consolidated and are consistent with the EBA's FINREP reporting templates. Data are annualised and relate to 2018Q2.

Chart 50: Geographical breakdown of operating income



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

Chart 51: International comparison of cost-to-income ratios



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 and relate to 2018Q2.

Income and profitability

The aggregate level of pre-tax profitability was broadly unchanged in 2018H1 from a year previously (Chart 48). Irish retail banks' ROA compares relatively favourably with other European banking sectors (Chart 47). Headline profit values mask a number of underlying trends. The write-back of provisions offset declines in operating income in the first half of this year. Adjusting for the impact of write-backs, pre-provision profitability declined by close to 15 per cent in comparison to 2017H1.

Operating income for the first half of the year declined by 3.5 per cent in comparison with the same period in 2017. Approximately three-quarters of banks' income stems from interest-related income. Net-interest income declined marginally by 2.3 per cent in 2018H1 (Chart 48). There was also a corresponding reduction in net-interest margins, which still remain above the EU average (Chart 49). The overall impact of future interest rate increases on net-interest income is unclear.

While fee and commission income increased marginally in 2018H1, trading-related incomes decreased in the same period (Chart 48).[64] Increases in non-reoccurring income were reported by some banks.[65] Geographical factors have also contributed to the fall in income, with income from Irish activities – which account for the majority of banks' income – being broadly unchanged, while non-domestic activities showed a large decline (Chart 50).

At a time of declining income, improvements in operating efficiency and cost reductions can support profitability. Although some banks reported a fall in expenses, overall operating costs rose by 3.5 per cent in 2018H1. Just over half of this increase related to depreciation while the remainder arose from higher administrative expenses, including in staff wages and pensions. While increasing, cost-to-income ratios in aggregate remain broadly in line with the EU average (Chart 51).

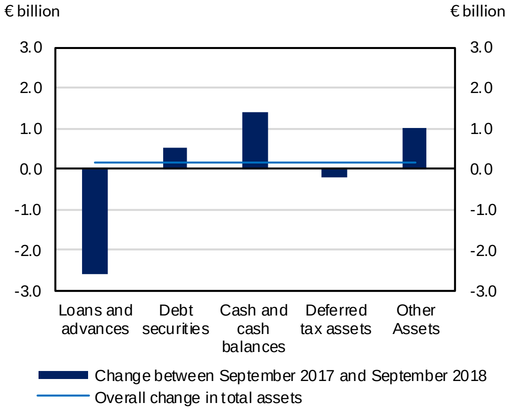
Irish retail banks continue to benefit from the write-back of provisions, with write-backs in 2018H1 amounting to 19 per cent of total profits. These gains are associated with the release of provisions stemming from the sale of non-performing portfolios and hence, are a short-term source of profit for Irish retail banks. In light of these developments and the potential pro-cyclicality of IFRS 9, Irish retail banks should assess the appropriate level of profit retention in order to ensure a prudent capital base is maintained. More generally, Irish banks should continue to develop business models that are robust and capable of generating profits through the economic cycle.

Credit and asset quality

At end-2018Q3, the aggregate value of total assets held by Irish retail banks increased marginally by €159.6 million year-on-year to €263.8 billion (Chart 52). Net loans and advances declined by 1.4

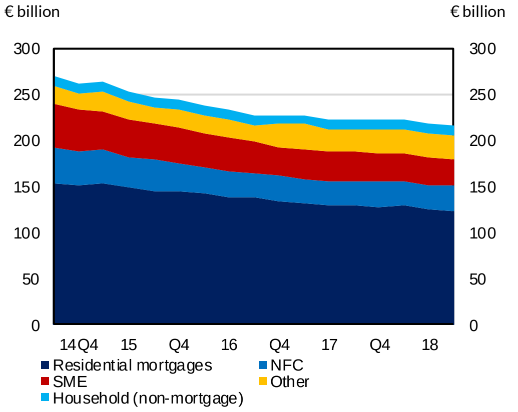
[64] The reduction in trading income may partly reflect the reduction in banks' holdings of securities which declined by 11 per cent between 2017H1 and 2018H1.
[65] The increase primarily relates to gains associated with financial assets that are not recorded at fair value but are reported in the profit and loss account.

Chart 52: Change in the contribution to Irish retail banks' total assets



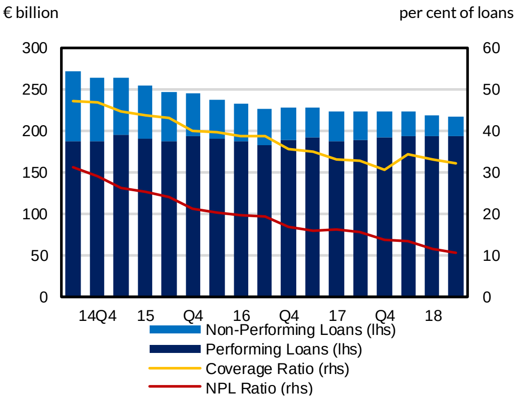
Source: Central Bank of Ireland.
Notes: Data are consolidated and are collected in accordance with the EBA's FINREP reporting requirements and relate to 2018Q3.

Chart 53: Sectoral breakdown of outstanding Irish retail banks' 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: 2018Q3.

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: 2018Q3.

per cent to €191 billion to account for 73 per cent of total assets. Debt securities increased by 1.4 per cent over the year to €38.4 billion, while cash and cash balances rose by 10.2 per cent.[66]

The value of gross loans outstanding decreased by 2.8 per cent to €216.5 billion in 2018Q3.[67] Residential mortgages are the largest sectoral exposure, accounting for 57 per cent in 2018Q3 (Chart 53). The decline in outstanding residential lending by €6.8 billion is the primary driver of decreases in overall loans and advances. SME lending decreased in the year to 2018Q3 by 6.7 per cent to €29 billion, which was partially offset by increases of €1.5 billion in NFC loans and €1.1 billion in household and 'other' loans.[68]

Irish retail banks' loan books are concentrated in lending to Ireland and the UK. Irish-based counterparties account for 70 per cent of Irish retail banks' exposure, and UK-based borrowers account for 26 per cent of exposures. Any adverse economic conditions arising from Brexit could have a material impact on the credit quality of Irish retail banks' portfolios.

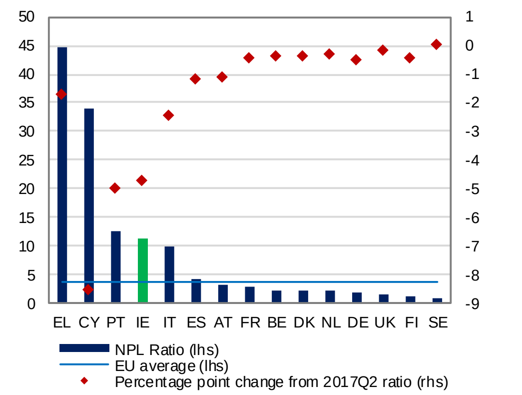
While having declined since 2013, NPLs in Ireland still constitute a vulnerability to the banking system. The value of outstanding NPLs held on Irish retail banks balance sheet declined by a substantial amount in the twelve months to end-2018Q3, falling by €11.9 billion to €22.4 billion (Chart 54). Approximately €6.5 billion of these NPL reductions are attributable to loan sales, primarily BTL and PDH loans. A further €4.5 billion of loan sales are due to occur in the period end-2018-2019. Irish retail banks plan to reduce NPL levels in line with ECB bank-specific supervisory expectations for the provisioning of NPLs.[69]

Non-performing loan balances across all major lending categories continue to decrease. The largest declines in the NPL stock over the year to 2018Q3 occurred in the residential mortgage and SME sectors with reductions of €6.2 billion and €3.7 billion, respectively. Irish retail banks' overall NPL ratio of 10.4 per cent in 2018Q3 remains above the European average of 3.6 per cent for 2018Q2 (Chart 55).

The reduction in NPLs, including through the sale of NPL portfolios, can serve to lessen financial stability risks. In that regard, the transfer of credit risk and funding risk to investment funds that buy loan portfolios constitutes a reduction in overall exposure for the banking sector. The reduction of NPLs through suitable solutions remains a priority from a supervisory perspective. However, given the large stock of longer-term arrears across some categories, asset sales or foreclosures may represent the only viable option. While domestic macroeconomic conditions have been an important contributor to the marked decline in NPLs in recent years, a cyclical reversal could undo some or all of this progress by making it more difficult for debtors to maintain adherence to the

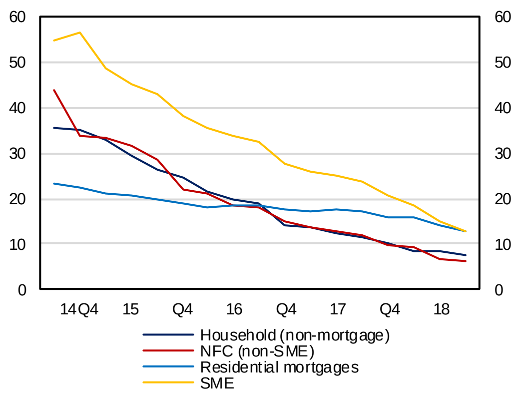
[66] Cash and cash balances refer to items on the balance sheet that are cash assets or liquid assets. These include bank accounts, marketable securities, commercial paper, Treasury bills and short-term government bonds with a maturity date of three months or less.
[67] The difference between gross loans and net loans reflects impaired lending. Gross loans is the sum of performing and non-performing, while net loans is the amount of performing loans only.
[68] 'Other' loans include loans and advances to central banks, general governments, credit institutions, and other financial corporations
[69] See ECB Supervisory approach to the stock of NPLs.

Chart 55: NPL ratios in selected EU Member States



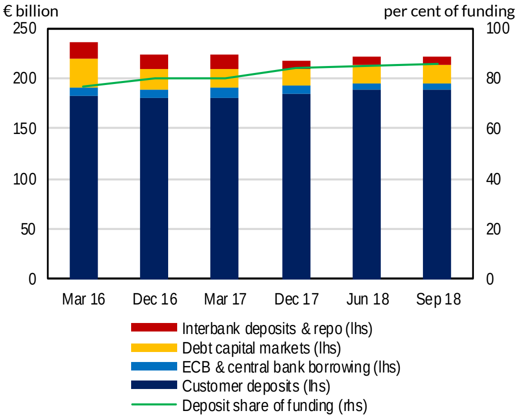
Source: EBA and Central Bank of Ireland.
Notes: Irish data are consolidated data for the five retail banks and collected in accordance with the EBA's FINREP reporting requirements. Last observation: 2018Q2.

Chart 56: Irish retail banks' sectoral NPL rate



Source: Central Bank of Ireland.
Notes: Data consolidated and are collected in accordance with the EBA's FINREP reporting requirements. Last observation: 2018Q3.

Chart 57: Funding profile of Irish retail banks



Source: Central Bank of Ireland.
Notes: Data are consolidated. Last observation: September 2018.

terms of loan contracts or comply with the terms of restructured loans.

Residential mortgages account for 71.5 per cent of the total NPL stock in 2018Q3. Resolution of distressed mortgages has been a slow process, with 13 per cent non-performing in 2018Q3, down from 17.1 per cent a year previously. SMEs account for the second highest stock of NPLs. Despite a notable improvement in recent years, SME loans are one of the most distressed asset classes when measured as a percentage of gross loans. In 2018Q3, 12.8 per cent of SME loans were non-performing, down from 24 per cent a year previously (Chart 56). The lowest NPL rate arises for larger NFC loans at 6.1 per cent, down from 12.2 per cent a year previously.

The stock of provisions for NPLs fell by 32.7 per cent to €8.6 billion in the year to 2018Q3.[70] The coverage ratio for Irish retail banks (32.1 per cent) remains below the EU average of 46 per cent. The low ratio is in part due to NPL resolution activities, underlying collateral values, and improving economic conditions. Lower coverage ratios in general can pose a vulnerability to banks in a stressed scenario.

Funding

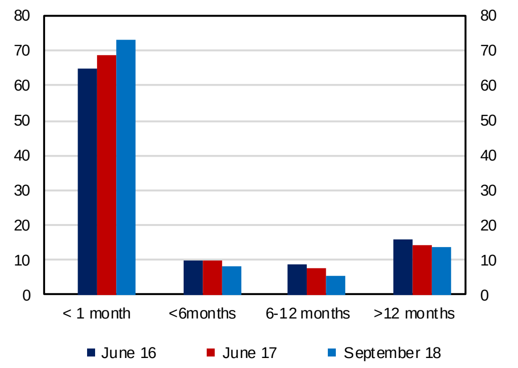
The overall funding level of Irish retail banks amounted to €221.6 billion in September 2018, an increase of €2.8 billion from that recorded in December 2017 (Chart 57). Customer deposits and capital market debt increased by €4.6 billion and €2.3 billion, respectively, on a net basis. Over the same period, central bank borrowings and Interbank deposits and repos declined.

Customer deposits, as a share of total bank funding, have steadily increased in recent years and now represent 85.5 per cent of aggregate funds (Chart 57). In the current low-interest rate environment, deposit funding represents an attractive source of funding for Irish banks. Such deposits, however, have shorter contractual maturities than the asset side of the balance sheet, leading to potential maturity-mismatch concerns. Since June 2016, short-term funding with a maturity profile of less than 30 days, has increased from 65.1 per cent of total funds to 73.2 per cent (Chart 58). All other categories, with funding maturity profiles greater than 1 month, declined as a proportion of total funds. Nonetheless, Irish banks' LCR, an indicator of liquidity risk, remains in line with European peers (Chart 59).[71]

In terms of funding costs, deposit rates are broadly unchanged since the last Review, while the ECB's main refinancing rate is expected to remain at current levels until summer 2019, at least.[72] Overnight interest rates offered to NFCs on existing deposits increased by 10 basis points to their current level of 0.2 per cent, in May 2018.

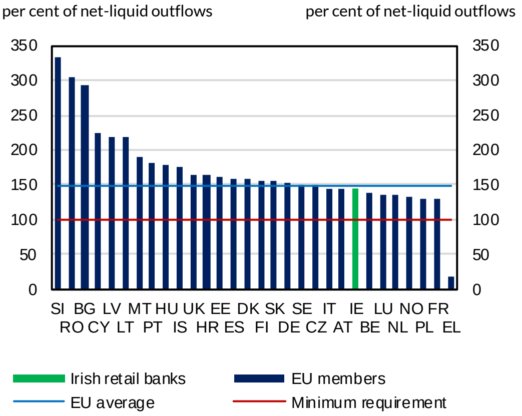
[70] There was a once-off increase in the coverage ratio in 2018Q1 which can be attributed to a rise in provisions due to enhancements in impairment clarifications reported by one institution. The impact on the coverage ratio was subsequently offset by loan disposals in 2018Q2.
[71] Under the LCR requirements, banks are required to hold enough liquid assets to meet their expected financial obligations over a 30-day horizon.
[72] For further details refer to the ECB's July 2018 monetary policy press conference.

Chart 58: Irish retail banks' funding maturity profile



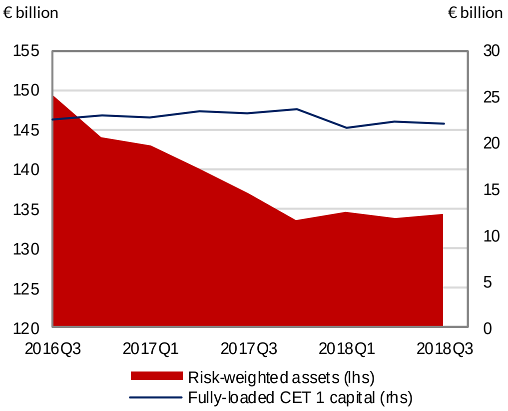
Source Central Bank of Ireland.
Notes: Last observation: September 2018.

Chart 59: Country dispersion of LCR ratios



Source EBA Risk Dashboard and Central Bank of Ireland.
Notes: Last observation: 2018Q2.

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: 2018Q3.

As noted in the previous Review, capital market activity increased during 2018H1. This activity has continued in recent months, with corporate bond issuances taking place primarily in London and Dublin. One reason for the increases in capital market debt is the introduction of MREL and the associated regulatory requirements for minimum loss-absorbency buffer levels.[73] Irish retail banks have traditionally relied on UK-based investment banks for debt issuance purposes. In the event of a hard Brexit, Irish banks may have limited access to UK debt markets and may face operational and logistical challenges in issuing debt through alternative markets. The eligibility of MREL liabilities governed by UK law may also be affected by the UK becoming a third country after Brexit. In light of the uncertainty surrounding Brexit negotiations and the potential for elevated financial market volatility, banks should ensure that their funding plans are robust to cater for all adverse scenarios.

Capital and leverage

The Irish retail banks' aggregate capital position is moderately lower than that reported in the last Review, having declined by 7.2 per cent since 2017Q4. A significant proportion of the reduction was due to the repatriation of excess capital (i.e., capital over and above the required minimum thresholds) by one institution to its parent bank. In addition, the recent trend of falling RWA levels appears to have tailed off (Chart 60).

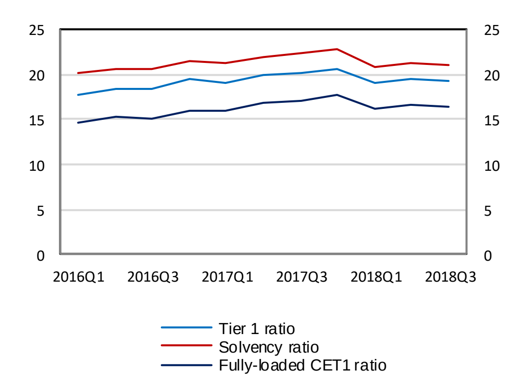
Currently, the Irish retail banks remain on target to meet their CET 1 targets under CRD IV by 2019. Aggregate fully-loaded CET 1 capital was €22.0 billion in 2018Q3, a 7.2 per cent decline from €23.7 billion in 2017Q4. Over the same period, RWAs increased marginally to €134.4 billion in 2018Q3.

Although Tier 1, CET 1 and Solvency ratios have declined marginally since December 2017 (Chart 61), all regulatory capital ratios remain above minimum levels required under CRD IV. There are, nonetheless, a number of potential risks to capital. Operating profits fell in 2018H1, with write-backs of impairment provisions constituting a significant proportion of reported earnings. The capacity for such write-backs will diminish over time. Lower ongoing operating profit levels may restrict banks' ability to generate additional capital internally. Market volatility increased in 2018, reflecting uncertainty surrounding the stability of global trade agreements, geo-political developments and ongoing Brexit-related negotiations (see Section 2). Adverse movements in asset prices and/or interest rates have the potential to affect capital levels and associated buffers negatively. (Box 6 considers the results of the EBA 2018 banking stress test.)

With both overall non-financial private sector credit growth and the national specific measure of the credit gap demonstrating an upward trajectory (Chart 62), the Central Bank increased the CCyB

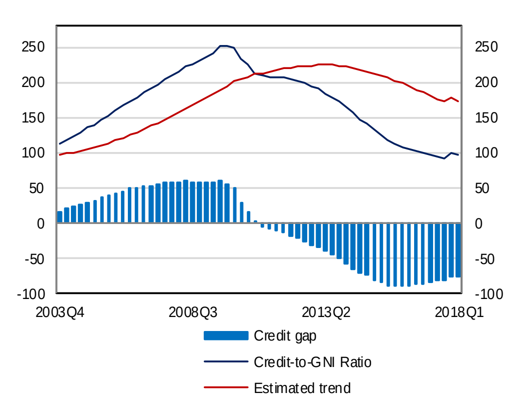
[73] The BRRD requires banks to meet a minimum requirement for own-funds and eligible liabilities (e.g. bail-in bonds), or MREL, to be able to absorb losses and to restore their capital position where regulatory targets or trigger points have been breached.

Chart 61: Irish retail banks' capital ratios



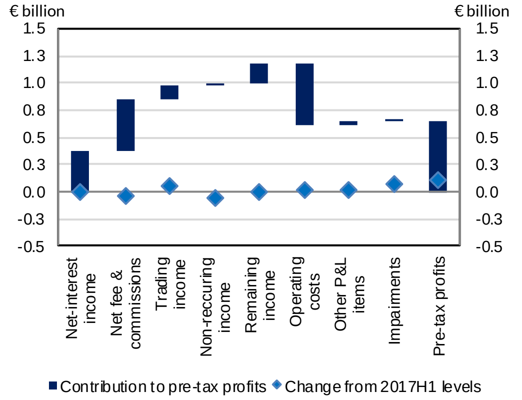
Source Central Bank of Ireland.
Notes: Last observation 2018Q3

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



Source Central Bank of Ireland.
Notes: Last observation 2018Q2.

Chart 63: Breakdown of Internationally-focussed banks' pre-tax profits



Source: Central Bank of Ireland.
Notes: For the 6-month period to end 2018H1. Data are consolidated and collected in accordance with the EBA's FINREP reporting requirements.

rate to 1 per cent (from 0 per cent) in July. The new rate will come into effect in July 2019. The purpose of the CCyB is to help moderate excessive credit growth during economic upturns, thereby limiting the severity of any downturns that might flow from the realisation of cyclical systemic risks.[74]

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.[75] As currently designated, the O-SII buffer will range from 0 per cent to 0.5 per cent upon its introduction, rising to 1.5 per cent by 2021 for certain banks.

The financial crisis highlighted the negative effects of excessive leverage on the macro-financial system. CRD IV specifies minimum capital requirements to address excessive leverage risk. Under these requirements, banks must hold a minimum capital balance of 3 per cent of their total balance sheet exposures. Irish retail banks are fully compliant with this requirement with current capital, according to leverage ratio definitions, at 8.7 per cent of exposures as of June 2018. The corresponding EU average leverage ratio is 5.1 per cent.

Internationally-focussed banks

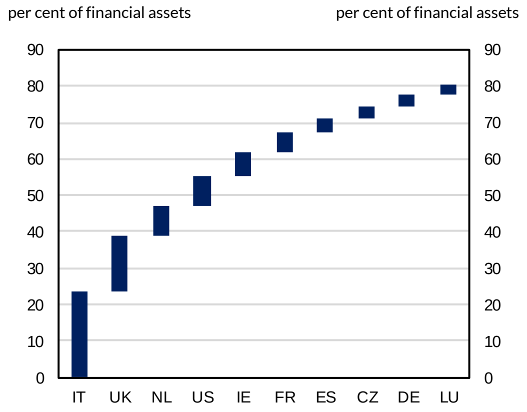
The Irish banking system is characterised by two distinct banking components: retail banks that are primarily focussed on providing credit and other banking services to Irish residents, and foreign-focussed banks. The latter group, while located in Ireland, primarily conduct activities and provide banking-related services to counterparties outside of Ireland.

Total operating income of internationally-focussed banks declined marginally in 2018H1 compared to 2017H1. Net fee and commission income, which accounts for 40 per cent of operating income, declined by close to 6 per cent (Chart 63). Operating income was also negatively affected by a reduction in one-off factors. Gains in trading income, primarily due to movements in exchange rates, partially offset these reductions. Other forms of income remained broadly unchanged. Improved cost efficiencies resulted in a modest decrease in the cost-to-income ratio – declining by one percentage point to 48.9 per cent. A significant reduction in impairment charges in comparison with a year previously contributed to a 6 per cent increase in pre-tax profits (Chart 63). The ROA for the internationally-focussed banks was 2.1 per cent in 2018H1 compared to 1.6 per cent a year earlier.

The balance sheet of internationally-focussed banks declined by 5.1 per cent in the year to 2018Q2. Total assets currently amount to €103.6 billion. Reductions in loans and advances accounted for the largest portion of the decline. Unlike Irish retail banks, loans are a smaller proportion of assets – accounting for just over 44 per

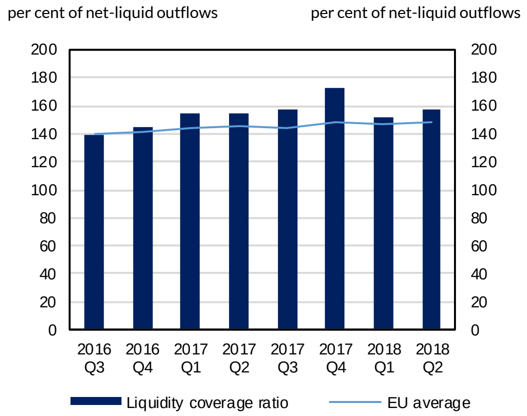
[74] See the Central Bank of Ireland March 2018 CCyB statement at https://www.centralbank.ie/ for further details.
[75] The O-SII buffer is a capital charge ranging from 0- 2 per cent of total risk exposures. For more on the O-SII buffer see www.centralbank.ie

Chart 64: International exposures – top 10 economies



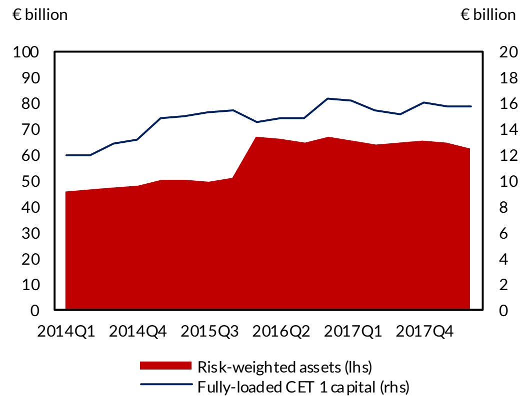
Source: Central Bank of Ireland.
Notes: Data relate to the geographical residency of counterparty. Financial assets are the sum of loans and advances, debt securities, equity instruments and derivatives.

Chart 65: Liquidity coverage ratio – Internationally-focussed banks



Source: EBA and Central Bank of Ireland.
Notes: Data are consolidated and collected in accordance with the EBA's COREP reporting requirements. Last observation: 2018Q2.

Chart 66: Internationally-focussed banks' fully-loaded CET 1 capital and RWA



Source: Central Bank of Ireland.
Notes: Data are consolidated and collected in accordance with the EBA's COREP reporting requirements. Last observation: 2018Q2.

cent. Debt securities also decreased and currently amount to just under 23 per cent of total assets. Part of the decline in the main categories of assets reflects the reclassification of some assets as non-current assets held for trading purposes. This has had the impact of increasing other assets by 22 per cent.[76]

Non-performing exposures increased to 0.8 per cent of total exposures in 2018Q2, from 0.4 per cent in mid-2017.[77] The more geographically diverse balance sheet has allowed these banks to avoid the same level of non-performing exposures as Irish retail banks. The greater international exposure and structure of the balance sheet does leave the internationally-focussed banks exposed to geopolitical risks and risk repricing. In particular, international-focussed banks have significant exposures to Italy and the UK (Chart 64).

All of the internationally-focussed banks are part of wider banking groups. This affects the structure of their funding. Intragroup transfers accounted for almost one-third of total funding in 2018H1. This represents an increase from 29 per cent in 2017H1. Corporate deposits also rose and now account for 18 per cent of total funding. These increases were offset by reductions in the level of outstanding unsecured debt. Just over one-half of total funding is for contractual maturities of one month of less. Overall, internationally-focussed banks' aggregate LCR remains in line with the EU average (Chart 65).

The stock of fully-loaded CET 1 capital increased by 2 per cent in the 12 months to 2018Q2 (Chart 66). Over the same period, RWA declined by 5 per cent. As a result, the CET 1 ratio increased to 25.3 per cent in 2018Q2, from 24.2 per cent mid-2017. The leverage ratio remained broadly unchanged.

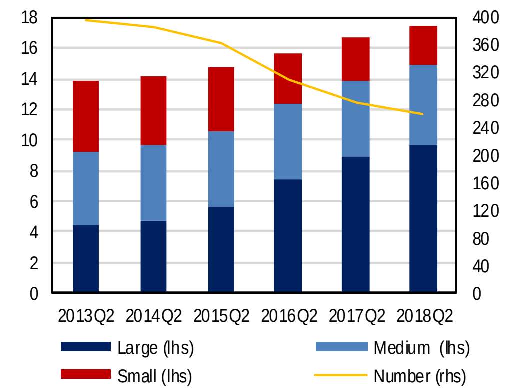
Credit unions

The number of credit unions continues to fall. In the twelve months to June, the number of credit unions declined by 15 to 260 (Chart 67). Despite the decrease in the number of active institutions, overall assets of the sector increased by approximately 3 per cent since the start of the year, to stand at €17.5 billion. The combination of increasing total assets and further consolidation within the sector has seen the average balance sheet size of credit unions increase. The number of large credit unions stood at 53 in 2018Q2 and these firms accounted for approximately 56 per cent of the sector's assets. This share has grown considerably since 2013 (Chart 67).

Operating conditions remain challenging for the credit union sector. The low interest-rate environment continues to act as a drag on key income categories. Declines in both investment income and loan-interest income were recorded in the six months to March. Operating costs increased over the same period.[78] The recovery of bad loans and the write-back of loan-loss provisions

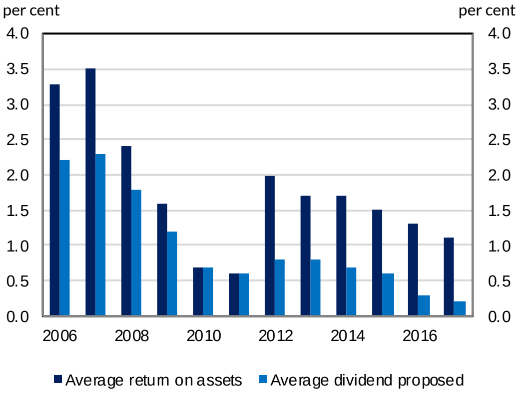
[76] Other assets account for approximately 35 per cent of assets. Cash and deposit accounts held with other institutions account for the majority of this (20 percentage points).
[77] Non-performing exposures are a broader measure than non-performing loans and include other asset classes such as debt securities, derivatives and equity instruments.
[78] The increase in operating expenses primarily reflects a rise in salaries and related expenses.

Chart 67: Size and composition of credit union sector



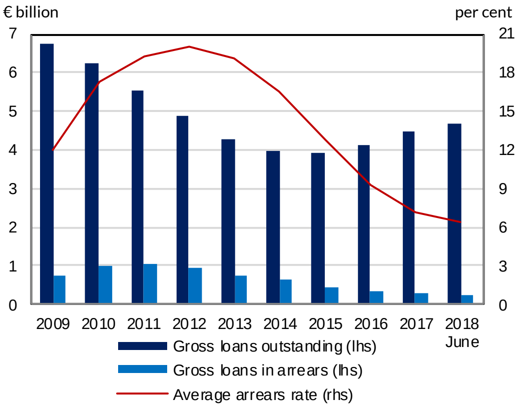
Source: Central Bank of Ireland.
Notes: Large relate to credit unions with total assets in excess of €100 million. Medium-sized credit unions relate to firms with a balance sheet size of between €40 million and €100 million. Small refer to institutions with a balance sheet of less than €40 million.

Chart 68: Return on assets and proposed dividends



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

Chart 69: 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.

continue to contribute positively to operating surpluses. Overall ROA for the sector declined from 1.3 per cent in 2016 to 1.1 per cent in 2017 (Chart 68). Reflecting the difficulties faced in the sector, the number of credit unions reporting a deficit for between the periods ending March 2017 and March 2018 increased from 18 to 24.

Arising from the lower levels of reported surpluses, average dividends continue to decline. Proposed dividends in 2017 amounted to 0.2 per cent of members' shares. Loan-interest rebates, which are also paid out of surpluses, are increasing in popularity across the sector with approximately 72 per cent of credit unions proposing such rebates.

The increase in the sector's aggregate balance sheet reflects developments in its main asset categories. Investment assets, which account for 70 per cent of credit unions' total assets, grew by 3 per cent in the six months to 2018Q2. Approximately 75 per cent of investments assets were held with authorised credit institutions in Ireland. From March 2018, the range of asset classes that credit unions can invest in has expanded.[79] This could lead to a greater diversification of investment assets in the future. The second largest asset category remains loans advanced to members. Accounting for some 27 per cent of total assets, lending grew by just under 4.3 per cent in the six months to June. Members' loans amounted to €4.7 billion in June, well below the peak value of €7.3 billion reached in 2008. Personal lending accounts for over 94 per cent of total lending.[80]

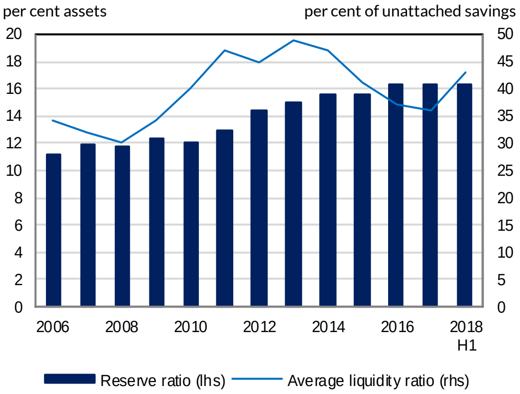
Credit unions' loan arrears continue to decline. The balance of loans in arrears in June stood at just under €249 million. This is down from a peak of €1,021 million (Chart 69). The arrears rate in June was 6.4 per cent.

Total members' savings continue to increase. By June of this year, savings amounted to €14.5 billion –an increase of 3 per cent over the December 2017 figure. Changes in the definition of what constitutes liquid assets has led to an improvement in the overall liquidity ratio (Chart 70). The inclusion of certain bonds has resulted in the aggregate liquidity ratio for the sector increasing to 43 per cent of unattached savings, well above the 20 per cent minimum.[81]

Credit unions are required to hold a minimum level of regulatory reserves in order to absorb losses and reduce the impact of financial shocks. Total realised reserves held across the sector amounted to €2.8 billion in June, an increase of 2.5 per cent in a six-month period. The sectoral reserve ratio has remained unchanged since December at 16.3 per cent (Chart 70).[82] There are two credit unions with ratios below the regulatory requirements.

[79] Three additional classes of permitted investments for credit unions have been introduced - supranational bonds, corporate bonds and investment in Tier 3 Approved Housing Bodies.
[80] House loans account for 3.5 per cent while the balance of 2.2 per cent is made up of community loans, commercial loans and other loans.
[81] The expanded class of liquid assets now includes bank bonds, supranational bonds and government bonds. Excluding the impact of the broader pool of liquid assets, the liquidity ratio would have been in line with last year's figure of approximately 38 per cent.
[82] The minimum regulatory reserve ratio is set at 10 per cent of total assets.

Chart 70: Credit unions' reserve ratio and liquidity ratio



Source: Central Bank of Ireland.

The continued work-out of loans in arrears and overall growth in assets are positive for the sector. Against that, declining ROA highlights the challenges faced by credit unions. Increased competition and developments from other segments of the financial services sector highlight the need for credit unions to continue to adapt and develop business models in order to support the long-term viability of the sector.

Box 6: EBA 2018 Banking Stress Test

By Paul Lyons and Frances Shaw (Macro-Financial Division)

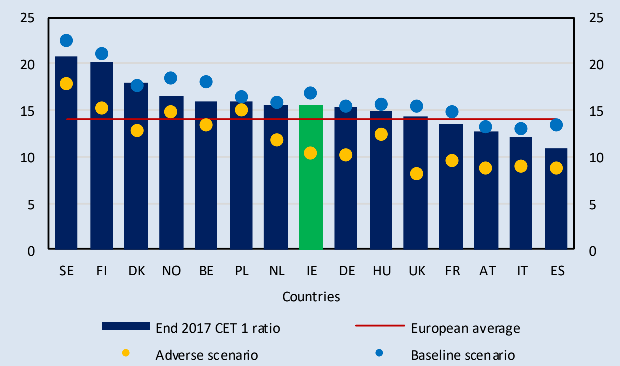
The EBA conducted a stress test of EU banks in 2018 and published the results in November.[1] The aim of the stress test was to assess the resilience of EU banks in a consistent way under a baseline and a hypothetical adverse economic scenario. The stress test included 48 banks from across the EU (and wider EEA). While not a 'pass/fail' exercise, banking supervisors use the results to challenge banks on their capital positions as part of their supervisory review process.[2] The 2018 exercise was similar to past EBA stress tests but also examined the impact of the new international accountancy standard - IFRS 9.[3] This box summarises the main findings from the 2018 EBA stress test including the initial assessment of the impact of IFRS 9 for EU banks. It also considers the aggregated results for the two Irish banks in the exercise (Allied Irish Banks Group plc and Bank of Ireland Group plc) in the context of their European peers.

At an overall level, the stress test confirmed the continued capital strengthening of EU banks since 2013, meaning that banks now have relatively greater resilience to withstand adverse shocks. The fully-loaded CET1 capital ratio (restated for IFRS 9 & weighted average) for the sample of banks was 14.0 per cent in December 2017 (average line in Chart A below). While the composition of banks change across stress tests, the nearest equivalent starting value as of end-2013 was 9.9 per cent. The starting capital positions and the impact of the scenario on capital varied across individual banks and countries. Chart A shows that, in aggregate, Irish banks had starting capital ratios just slightly above the EU average at end-2017 at 15.8 per cent. This ratio falls to 10.5 per cent in the third year of the adverse scenario. Therefore, while Irish banks remain vulnerable to adverse economic shocks, the results of the 2018 stress test reveal that they remain well-capitalised under the selected hypothetical adverse shock. Among the 48 banks assessed, the impact of the adverse scenario varied, with the UK and Irish banks being the most affected by the adverse scenario (illustrated by the greater fall between baseline and adverse points in Chart A), while Polish and Swedish banks were among the least affected.

IFRS 9 is a new accounting standard for banks introduced in Europe in 2018.[3] It is being phased in and requires banks to account for losses earlier under an 'expected loss' approach. Given this requirement, the impact of IFRS 9 is expected to be negative for banks' CET1 capital positions. While the full impact will take a number of years to assess, the EBA stress test results reveal that the impact of IFRS 9 was generally limited based on the re-statement of 2017 accounts (amounting to an average of 20 basis points on a fully-loaded capital basis). The impact, nevertheless, varied across countries, with Italian banks recording the largest drop in CET1 due to restating their end-2017 starting points to reflect the effects of IFRS 9 (86 basis point impact) (Chart B).

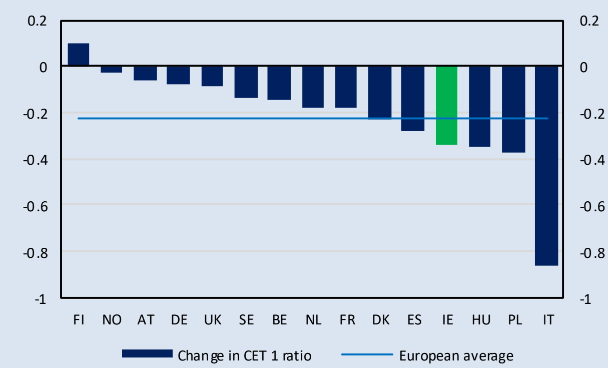
In summary, the 2018 EBA stress test revealed that Irish and EU banks continue to build their capital buffers, increasing their resilience to adverse shocks. The results also showed that IFRS 9 accounting rules have had a limited impact so far on banks' capital ratios with some variation across countries arising. Stress tests play a crucial role in ensuring that banks will be able to lend to households and businesses even in a severe recession by identifying, for supervisory follow-up, any potential capital shortages at banks under adverse but plausible scenarios. Stress tests help to reinforce market discipline and good risk management practices at banks and form one important element in the ongoing assessment of domestic and external vulnerabilities facing Irish and European banks.

Chart A: EBA Stress Test – Common Equity Tier 1 capital, end-2017 starting point, baseline and adverse by country



Source: EBA Stress Test 2018 Results
Notes: The yellow points represent the common equity CET1 fully loaded ratio under the adverse scenario in 2020 and the blue points represent the ratio under the baseline scenario in 2020. The bars show the current CET1 fully loaded ratio restated for IFRS 9 for 2017. The red line shows the EU average of the 2017 CET 1 fully-loaded ratio.

Chart B: Impact of IFRS 9 on common equity Tier 1 (CET1) ratio by country



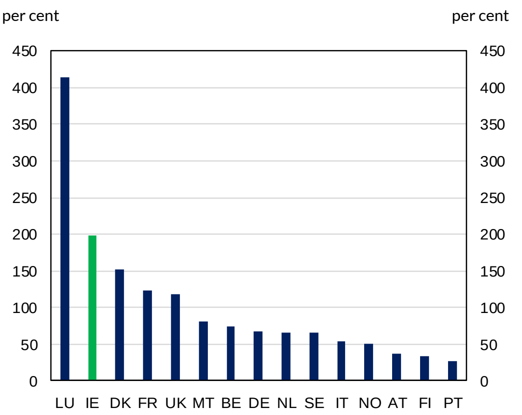
Source: EBA Stress Test 2018 Results
Notes: The bars show the difference between the actual CET1 fully-loaded ratio and the IRFS9-restated CET1 fully loaded ratio fat end-2017. The average change is given by the light blue line.

[1] See EBA 2018 EU-wide stress test results for full details of results and press release
[2] This challenge takes place in the SREP process, which is a key mechanism by which supervisors review the risks not covered, or not fully covered, under Pillar 1 and decide whether capital (and liquidity) resources are adequate.
[3] See Box 4 from MFR 2017:I for further details on International Financial Reporting Standard 9 (IFRS 9) impairment requirements

4.2 Insurance sector

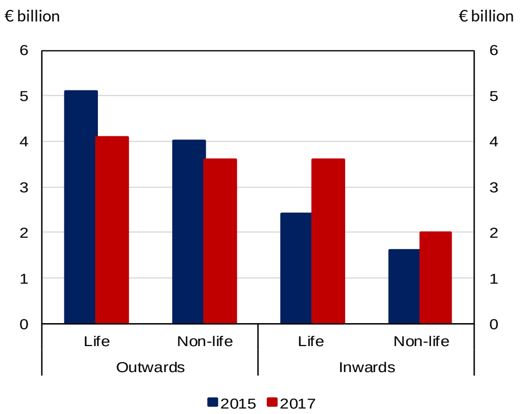
Economic conditions are supportive of growth in the domestic life insurance sector, although competitive pressures present challenges to the sector. Domestically-focussed, high-impact non-life insurance firms made an aggregate operating profit in 2018H1 as underwriting performance improved. Non-life insurance firms' investment income remains suppressed in the low interest rate environment, although rises in interest rates could adversely affect firms' capital base. Most insurance firms established in Ireland are likely to be affected by financial market volatility and any deterioration in economic conditions arising from Brexit. Many firms are in the process of implementing plans to mitigate the impact of a hard Brexit on their business models. Although it is uncertain if all firms will have completed these actions prior to the March 2019 withdrawal date, the UK has enacted a temporary permissions regime that will provide additional time to complete the implementation of the plans. The introduction of IFRS 17 is likely to present significant costs and implementation challenges for firms.

Chart 71: EU insurance firms' assets in relation to GDP



Source: EIOPA and Eurostat.
Notes: GNI* is used as the denominator in the case of IE. Data are for 2017.

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



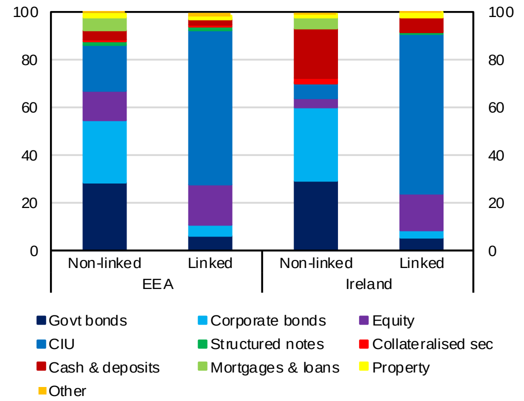
Source: Central Bank of Ireland.
Notes: Data are gross premium income of Irish entities writing insurance business in the UK on an FOS or FOE basis (outwards) and of UK entities writing insurance business in Ireland on and FOS or FOE basis (inwards).

The Irish insurance sector comprises life, non-life and reinsurance firms operating across a range of product and geographical markets. The presence of a large number of internationally-oriented insurance firms in Ireland, particularly in the life and reinsurance sectors, is reflected in the size of the Irish insurance market vis-à-vis the sector in other EU countries (Chart 71). In response to Brexit, a number of global insurance groups are also considering relocating their headquarters for European business from the UK to Ireland. Any relocations could result in changes to the sector in Ireland, such as an increase in more volatile and complex speciality lines of business in the non-life sector.[83]

Most insurance firms established in Ireland are likely to be affected by financial market volatility and any adverse economic conditions arising from Brexit. In 2017, premium volumes written by life and non-life firms on an "outwards" and "inwards" basis between Ireland and the UK amounted to €7.7 billion and €5.6 billion, respectively (Chart 72). In the case of a hard Brexit, where no specific arrangements between the EU and the UK would arise to ensure access to each other's market, insurance firms established in Ireland and writing business in the UK would be unable to continue to conduct business in the UK by way of FOE or FOS.[84,85] Insurance firms in the UK and Gibraltar would also lose their right to conduct business in Ireland by way of FOE or FOS. A hard Brexit could also result in firms being unable to service insurance contracts written on a cross-border basis, i.e., firms may be unable to pay out on claims or pension benefits. Many firms, in Ireland, the UK and Gibraltar, are in the process of implementing mitigating actions, such as the establishment of a third-country branch and/or a portfolio transfer. Although most of the larger firms are well

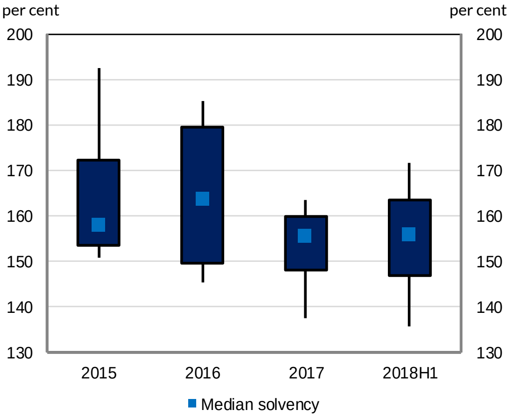
[83] Specialty lines insurance markets are a segment of the insurance industry where unusual and difficult to assess risks are written. Specialty lines markets require a high degree of specialisation during the underwriting process and include such risks as marine, aviation, cyber and political risk.
[84] The cross-border operation 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.
[85] The UK Government has enacted legislation that creates a temporary permissions regime to allow relevant firms to continue their activities in the UK for a limited period while they seek authorisation from the PRA if the passporting regime falls away on 29 March 2019. See the Bank of England's website for further details of the temporary permissions regime.

Chart 73: EEA and Irish insurance firms' investments



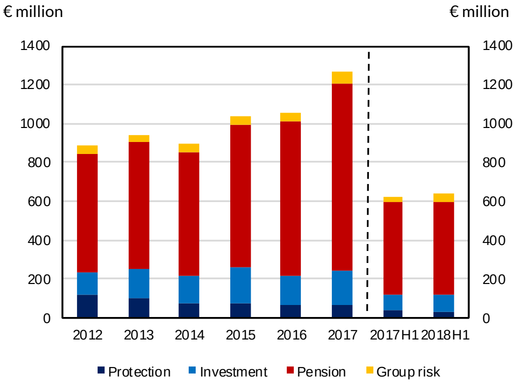
Source: EIOPA.
Notes: Data as at 2018Q1.

Chart 74: Distribution of solvency position of domestic life insurers



Source: Central Bank of Ireland.
Notes: The solvency position is measured as eligible own funds as a percentage of solvency capital requirements (SCR). Firms must maintain a SCR ratio of 100 per cent or higher to comply with regulatory requirements. The box at each point shows the interquartile range of solvency positions and the vertical lines show the 10th and 90th percentiles. Last observation: June 2018.

Chart 75: 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-focussed life insurers.

advanced in their plans it is uncertain if all firms will have completed these actions prior to the March 2019 withdrawal date. The UK has enacted a temporary permissions regime that will provide additional time to Irish fims passporting into the UK to complete the implementation of their plans.[86] The Bank continues to engage with relevant insurance firms and European authorities with respect to contingency planning.

International Financial Reporting Standard (IFRS) 17, a new accounting standard for insurance contracts, is expected to come into force in 2022.[87] This standard will change the basis for profit recognition on insurance contracts. Conversion to the standard is likely to have the effect of reducing retained earnings, with a knock-on effect to firms' ability to pay dividends. Solvency positions are calculated according to Solvency II requirements and, hence, are unlikely to be affected. The IFRS 17 standard is expected to have a greater impact on life insurance firms than non-life firms, as changes to short duration insurance contracts are minimal. Firms are likely to face increased costs and operational challenges in implementing the standard. There may also be indirect effects on firms' business models should they need to adjust product mix or pricing models to reflect changes to IFRS profit measures.

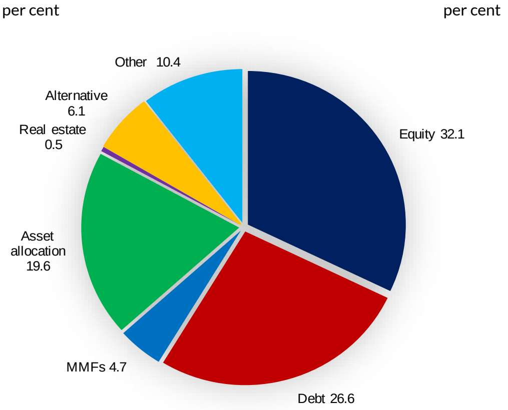
The low interest rate environment and the risk of an abrupt negative adjustment in financial conditions give rise to an increased focus on EU insurers' investment allocations.[88] Although insurers are typically conservative in their investment approach (by investing predominantly in fixed-income securities), there has been some shift to other asset categories in recent years in a search for yield. In particular, the EU insurance sector is becoming increasingly connected with other non-bank financial institutions through its increased investments in collective investment undertakings (CIUs). EEA insurers invest about 19 per cent of non-linked assets in CIUs, while Irish insurers invest almost 6 per cent (Chart 73). The top 1 per cent of CIUs hold approximately 52 per cent of total investments of EEA insurers through funds, while the top 10 per cent of CIUs account for approximately 90 per cent of EEA insurers' total investments through CIUs.[89] A high concentration in CIUs could pose risks to financial stability as any common investment behaviour could exacerbate the transmission of shocks in times of market stress.[90]

Life insurance[91]

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 in the sector as well as with non-

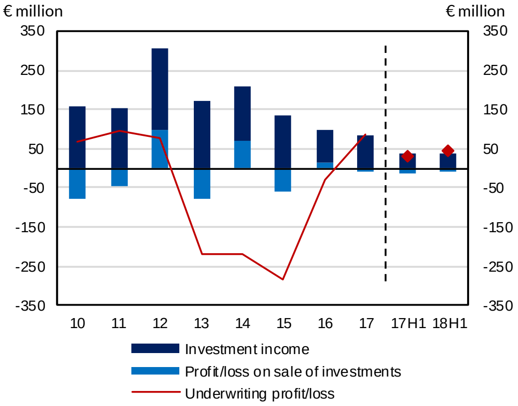
[86] EIOPA published an Opinion on 28 June on the obligations of insurance undertakings and insurance intermediaries to inform customers about the possible impact of the withdrawal of the UK from the EU on insurance contracts.
[87] IFRS 17 is an International Financial Reporting standard issued by the International Accounting Standards Board. See International Accounting Standards Board for details. IFRS 17 was due to be effective from 1 January 2021. At its November 2018 meeting the IASB tentatively decided to defer the date of implementation to 1 January 2022 as the Board plans to consider whether to explore amendments to IFRS 17 during 2019. The standard is subject to an explicit endorsement before it becomes applicable in the EEA.
[88] See EIOPA Financial Stability Report June 2018 quantitative risk assessment for further details.
[89] See EIOPA Financial Stability Report June 2018.
[90] see ESAs' Joint Committee Report on Risks and Vulnerabilities in the EU Financial System.
[91] Analysis of the domestic life insurance market is based on the four largest domestically focussed 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.

Chart 76: Distribution of Irish life insurers' unit linked assets invested in CIUs



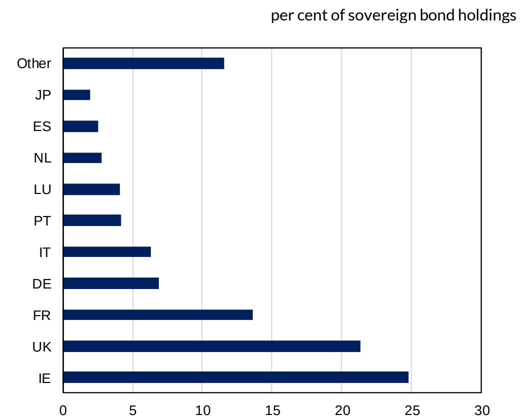
Source: EIOPA
Note: Data are as at 2018Q1.

Chart 77: Non-life insurers' underwriting profits and investment income and gains



Source: Central Bank of Ireland.
Notes: Data are an aggregation of domestically focussed 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 78: Non-life insurance firms' sovereign bond exposures



Source: Central Bank of Ireland.
Notes: Data as at 2018Q2.

insurance firms that offer similar products in the pension and investment markets. The impact that Brexit may have on the structure of the market is uncertain. Any adverse effects of Brexit on the Irish economy pose a risk to the sector.

The current operating environment for the domestic life insurance sector is supported by favourable economic conditions, in particular, employment and wage growth. The sector is strongly capitalised on a Solvency II basis with all domestically-focussed firms' solvency position exceeding regulatory requirements (Chart 74). Proposed changes to the interest rate risk element of Solvency II could materially increase firms' solvency capital requirements (SCR) in the coming years.[92]

The premium income of domestic life insurers increased by 3.7 per cent in the first half of 2018 compared to 2017 with a mixed performance occurring across business lines (Chart 75). Pension and group risk business premium income increased by 2.5 per cent and 48.6 per cent, respectively, as employment conditions continue to improve. The retail segment of the market is highly competitive and premium income in both the protection and investment business declined.

Unit-linked products are the main product offering by Irish life insurers.[93] Almost 70 per cent of unit-linked assets are held in CIUs (Chart 73) with equity and debt funds accounting for the majority of investments (Chart 76). A sustained fall in asset prices or increased financial market volatility could affect demand for these products and potentially increase lapse rates. This could reduce firms' management fee income, an important component of profitability.

Non-life insurance[94]

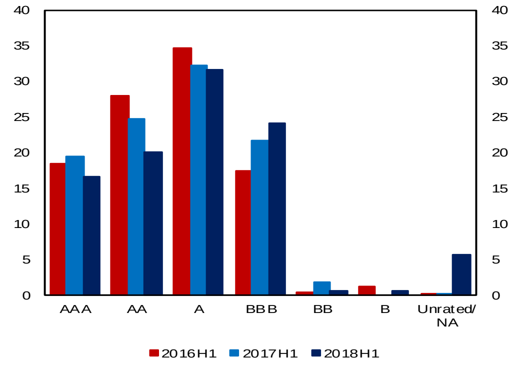
The domestic non-life insurance market is concentrated across eight firms, six of which are regulated by the Central Bank and two of which operate on a FOE basis from the UK. There are also a number of firms operating in the domestic market on a FOS basis and which account for approximately 10 per cent of the overall non-life market. Most of the domestically-focussed high-impact non-life insurance firms write business in the UK (predominantly in Northern Ireland), accounting for between 6 per cent and 23 per cent of each firm's business. Some firms may have to adjust their business models to continue operating in that market after Brexit.

In aggregate, the domestically-focussed non-life insurance sector generated operating profits of €67 million in 2018H1 on its domestic and foreign business, an increase of 31 per cent compared to the same period in 2017. The performance across firms was more mixed with some firms experiencing a decline in profitability in 2018H1. Despite the adverse weather events in

[92] 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.
[93] Unit-linked products comprise approximately 90 per cent of domestic life insurers' assets under management.
[94] The analysis focusses on the domestically focussed high-impact firms which comprises five firms who collectively write approximately 58 per cent of Irish-risk business. Analysis is based on firms' global risk business. Data are sourced from returns submitted to the Central Bank of Ireland, unless otherwise stated.

Chart 79: Non-life insurers' financial asset quality

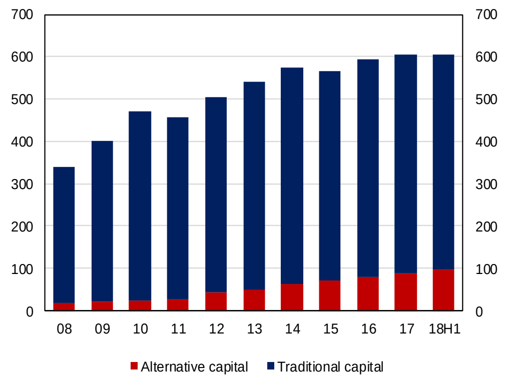
per cent of total financial assets per cent of total financial assets



Source: Central Bank of Ireland.

Chart 80: Capital levels of global reinsurance sector

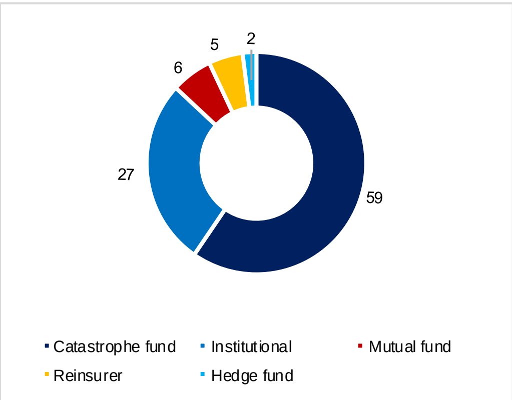
USD billion USD billion



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

Chart 81: Global ILS investors

per cent per cent



Source: AON Benfield.
Note: Data as at June 2018. See [AON Benfield's Insurance-Linked Securities, September 2018]

2018Q1, underwriting profits, in aggregate, improved strongly in the same period, increasing by 44 per cent, (Chart 77). Storm Emma in early 2018 resulted in gross claims of approximately €38 million.

The annual growth rate of total gross premium income slowed to 1.1 per cent in 2018H1, compared to 5.6 per cent in 2017H1. This is explained, in part, by the decline in motor premium rates during the period, as motor business is the predominant line of business for all non-life insurance firms.[95, 96] Nevertheless, the aggregate motor book of business was profitable, with all firms experiencing a combined ratio below 100 per cent in 2018H1.[97] The property book of business was also profitable for all firms despite increases in their combined ratios in this area due to the severe weather events in the first quarter of the year.

Firms' investment income remains suppressed in the low interest rate environment (Chart 77) as firms predominantly invest in fixed-income securities.[98] Irish and UK sovereign bonds together account for 46 per cent of firms' sovereign bond holdings with other EU sovereigns accounting for a further 40 per cent (Chart 78). Although firms' bond holdings are typically high quality (with an A-rating or better), there is some evidence that firms are attempting to increase investment income by investing in lower-rated bonds (Chart 79). Firms have also increased their investments in CIUs to gain exposure to high-yielding equity and debt investments.

Although a rise in interest rates would increase firms' investment income, an abrupt increase due to a shift in risk premia could pose challenges for firms if widespread rating downgrades were to arise also. Corporate credit rating downgrades would increase firms' required capital under Solvency II. Higher interest rates would also erode unrealised gains on firms' investment holdings due to falling bond prices and would subsequently have an adverse effect on firms' capital base.[99] Domestic non-life insurers are currently maintaining strong solvency positions in line with Solvency II capital requirements.

Reinsurance

Risks to the stability of the domestic financial system stemming from the reinsurance sector are low as that sector operates globally with little or no interaction arising between the two. Irish-domiciled reinsurance firms are subsidiaries of global insurance groups. Although this can potentially benefit the firm through intra-group financing and the pooling and diversification of risk, counterparty risk is significant as a large portion of Irish reinsurers' books are ceded back to their parent firms. Reputational risk also arises as Ireland's reinsurance sector is among the largest in Europe.

[95] According to the CSO's CPI, motor-car insurance declined by 6.7 per cent in the 12 months to July 2018.
[96] In aggregate, motor business accounts for 66 per cent of the sector's business while property and liability account for 21 per cent and 11 per cent, respectively. Other lines of business account for the remaining 2 per cent of business. However, business mix varies across firms with some firms particularly concentrated in the motor line of business.
[97] 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.
[98] In aggregate, sovereign and corporate bonds account for 33 per cent and 52 per cent, respectively, of firms' investment portfolio.
[99] For most firms, the realised and unrealised losses on investment holdings completely offset investment income in 2018H1.

The operating environment for the global reinsurance sector has been challenging in recent years. The profitability of the sector continues to be constrained by the effects of low interest rates on investment returns, the large catastrophes losses in 2017 and the diminishing ability of firms to release reserves. These effects are added to by the excess amount of capital in the sector which exerts downward pressure on pricing. Demand for alternative capital instruments continues to grow, increasing by 10 per cent in the six months to June 2018 to USD 98 billion (Chart 80).[100] Growth in this asset class is expected to continue as investors search for yield and are attracted to the diversification benefits of investing in an asset class whose returns have low correlation with other financial assets given the nature of the underlying risk.[101] Institutional investors, including pension funds and sovereign wealth funds, have increased their investment in the insurance-linked security market (ILS) from 20 per cent in 2016 to 27 per cent of the market in 2018 (Chart 81).[102]

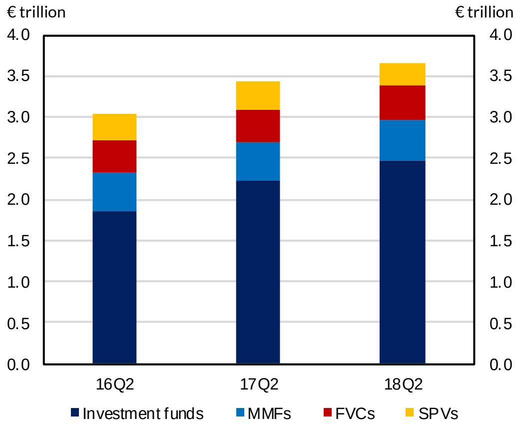
Concentration risk may become more prevalent in the sector as mergers and acquisitions continue in response to the sector's operating challenges, although less competition in the market may support underwriting discipline and help to stem weak pricing conditions. The global reinsurance industry is already dominated by a small number of large groups. In 2017, the top ten non-life global reinsurers had a 74 per cent market share of the non-life sector's $171 billion annual premium income while the top eight life global reinsurers have a 90 per cent market share of the life sector's $73 billion annual premium income.[103]

[100] Alternative capital instruments are a means of transferring insurance risk to investors. Instruments include catastrophe bonds, collateralised reinsurance, sidecars and industry-loss warrants.
[101] See Artemis report "Continued ILS and alternative capital growth expected into 2019".
[102] See AON Benfield's Reinsurance Market Outlook, September 2018.
[103] See S&P Global Ratings *Global Reinsurance Highlights 2018*.

4.3 Investment funds and financial vehicles sector

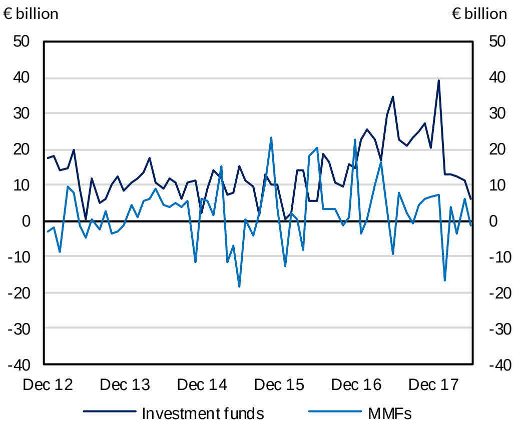
The total assets of the investment funds and financial vehicles sector in Ireland rose to over €3.6 trillion in 2018Q2 from just over €3.4 trillion twelve months earlier. The exposure to the domestic economy is limited as a share of the sector, with between 10 and 15 per cent of assets and liabilities linked to Irish counterparties, but is substantial for the domestic economy in nominal terms. Over 40 per cent of the liabilities of the sector are funded from the UK, highlighting the potential exposure of these entities to Brexit developments. High financial and off-balance sheet leverage in some pockets of the sector, together with growing liquidity and maturity transformation for bond funds, add to the build-up of risks. Current non-bank funding of the domestic real estate sector through special purpose entities warrants continued monitoring.

Chart 82: Total assets in Irish authorised funds and special purpose entities sector



Source: Central Bank of Ireland.
Notes: Yearly data between 2016Q2 and 2018Q2.

Chart 83: Monthly net flows of Irish authorised funds



Source: Central Bank of Ireland.
Notes: Data between 2012Q4 and 2018Q2. Net flows are subscriptions minus redemptions calculated at the fund level and aggregated up to the fund type. Net subscriptions have a positive value whereas net redemptions have a negative value.

Overview

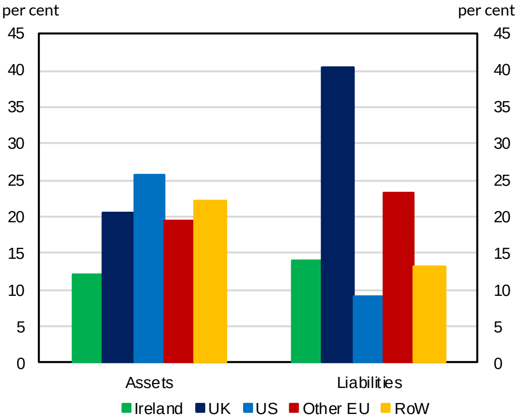
The Irish-domiciled funds and vehicles sector consists of four entity types: money market funds (MMFs), non-MMF investment funds (IFs), financial vehicle corporations (FVCs) and non-FVC special purpose vehicles (SPVs). The sector provides a market-based alternative to bank financing and has expanded in recent years, in part due to the low interest rate environment and changes in the global regulatory environment.[104]

The equity-based component of the funds and vehicles sector (i.e., the part of the sector which is not debt-based) generally creates less instability for the macroeconomy than bank-based debt finance and thus has a positive benefit from a financial stability perspective.[105] Nonetheless, the sector is important to financial stability, as systemic dependence on market-based finance means that adverse developments in the sector may be sufficient to trigger the macro-financial feedback loops that can define a financial crisis.[106] The sector could also be a transmitter of shocks from international markets to the domestic economy.

The nature of the financial stability risks emanating from the sector, both In Ireland and in the euro area, depends on investment strategies and business models employed by entities within it, and their interplay with the macroeconomic environment. There are financial stability risks associated with excessive leverage and interconnectedness, as well as liquidity and maturity transformation, in the euro area.[107] The aggregate portfolio of the sector in Ireland contains a broad range of global assets, many of which are trading at historically elevated levels. These valuations could underestimate the underlying risk to which these investments are exposed. Under such conditions, triggers such as large unexpected margin calls or redemption requests can cause fire sales and runs. These can, in turn, amplify the size of risk premia and make markets dysfunctional, reducing the availability of credit

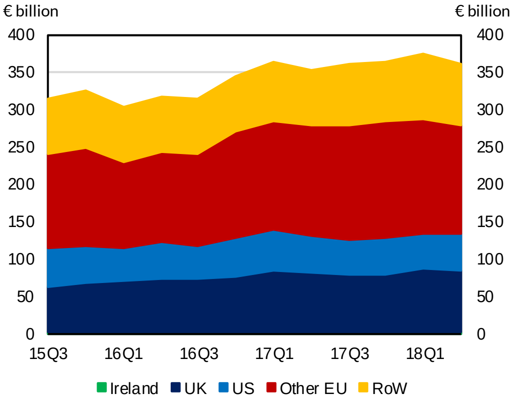
[104] Low interest rates on deposits increase incentives to invest savings in an alternative way, e.g. using investment funds. Further, post-2008 regulatory reforms concentrated on the banking sector, leading to some movement of funds from the banking sector to non-bank financial intermediaries.
[105] Lane, P.R., "Financial Globalisation and Central Banking in Ireland," speech to Financial Globalisation Forum, 2 February 2018.
[106] Lane, P.R., Moloney, K., "Market-based finance: Ireland as a host for international financial intermediation," Banque de France Financial Stability Review No. 22 - April 2018.
[107] See ECB Financial Stability Review, November 2018.

Chart 84: Balance sheet by location



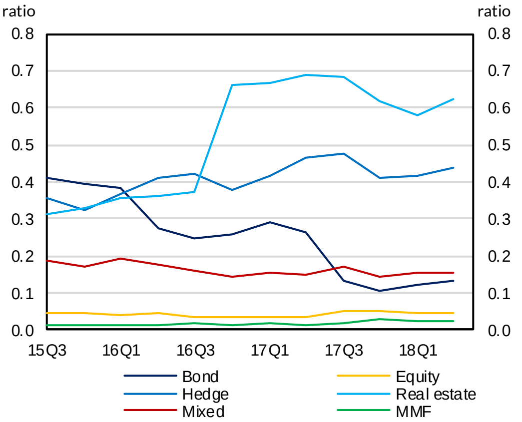
Source: Central Bank of Ireland.
Notes: Data as of 2018Q2. Figures based on aggregate total assets and liabilities of IFs, MMFs, FVCs, and non-securitisation SPVs.

Chart 85: Location of bank debt held by Irish authorised funds and special purpose entities



Source: Central Bank of Ireland.
Notes: Data between 2015Q3 and 2018Q2.

Chart 86: Financial leverage of Irish authorised investment funds



Source: Central Bank of Ireland.
Notes: Data between 2015Q3 and 2018Q2. The financial leverage ratio in the chart is defined as (total assets under management/total net asset value)-1. Some hedge funds were reclassified during 2016, causing a jump in leverage.

to the real economy. This could be exacerbated further by linkages to the banking sector.

The total assets of the sector in Ireland were over €3.6 trillion at 2018Q2 (Chart 82). Almost €2.5 trillion are associated with IFs, while the rest is divided among MMFs (€0.5 trillion), FVCs (€0.4 trillion), and (non-securitisation) SPVs (€0.3 trillion). The sector is concentrated, with a few large entities representing a substantial share of the total. The sector grew significantly in the preceding year, from just over €3.4 trillion in 2017Q2. It is difficult to disentangle that part of the growth coming from valuation effects and that stemming from new transactions. Nonetheless, monthly net flows of IFs (Chart 83) suggests that a significant portion of the growth of assets under management within investment funds in recent years stems from new investments.

Interconnectedness

Given their interconnectedness with the global financial system, Irish funds and vehicles could be transmitters of risk from global financial markets, both directly and indirectly, to the domestic economy. While assets of the Irish domiciled funds and vehicles are well diversified across regions (Chart 84), over 40 per cent of funding for the sector comes from the UK. Consequently, the possibility of a hard Brexit is a source of uncertainty and a potential trigger of downside risks. Those may include the re-pricing of risk premia in global financial markets and operational issues with regard to accessing central clearing of interest rate derivatives.

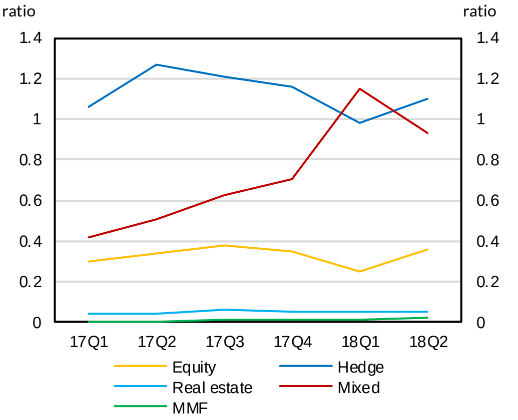
Deep interconnections between market-based financial entities and banks mean that an adverse shock to market-based finance may amplify shocks in the international banking sector.[108] For instance, Irish domiciled funds and vehicles held over €360 billion of bank debt at 2018Q2 (Chart 85). Less than 1 per cent of these holdings are bank debt instruments issued by banks domiciled in Ireland, highlighting limited direct interconnectedness with the domestic banking system. Nonetheless, the two sectors are interconnected in a myriad of other ways, including common asset holdings and vulnerability to common shocks, market perceptions of risk, fire sales, and informational contagion.[109] Furthermore, a recent study of German banks shows that being within banking groups can affect portfolio allocation decisions of mutual funds and affect fire-sale externalities through mutual liquidity insurance.[110]

Leverage

Funds and vehicles employ financial leverage by borrowing or engaging in securities-based financing transactions. Leverage can amplify gains and losses, particularly during times of financial market stress. During the global financial crisis, excessive leverage

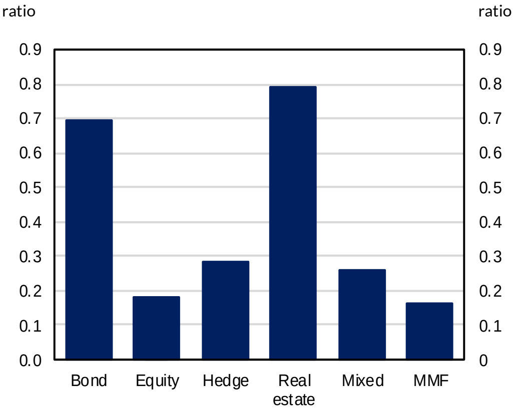
[108] Lane, P.R., "The Management of Systemic Risks: Current Priorities," speech at the ESRB Annual Conference, 27 September 2018.
[109] Hallissey, N., "Interconnectedness of the Irish banking sector with the global financial system," Quarterly Bulletin 01/2016, Central Bank of Ireland.
[110] Bagattini, G., Fecht F., Weber, P., "The fire-sale channels of universal banks in the European sovereign debt crisis," SSRN Working Paper, 15 June 2018.

Chart 87: Off-balance sheet leverage of Irish authorised investment funds



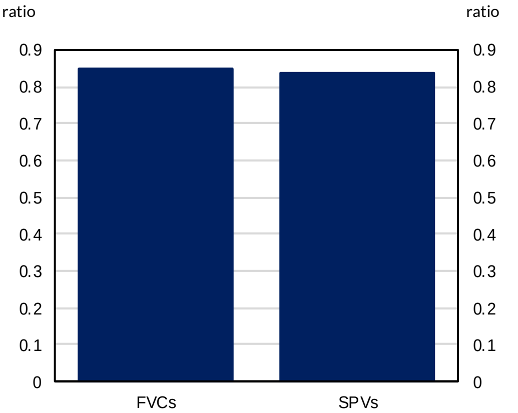
Source: Central Bank of Ireland.
Notes: Data between 2017Q1 and 2018Q2. Off-balance sheet leverage is defined as (total gross notional of derivatives/total asset value) and is an upper bound estimate of off-balance sheet leverage. Some hedge funds were reclassified during 2016. Bond funds are not included due to data quality issues.

Chart 88: Liquidity transformation of Irish authorised investment funds



Source: Central Bank of Ireland.
Notes: Data for 2018Q2. Liquidity transformation is defined as (illiquid assets/total assets). Illiquid assets are defined as all assets less cash, deposits, short-term debt, and equities.

Chart 89: Liquidity transformation of special purpose entities



Source: Central Bank of Ireland.
Notes: Data for 2018Q2. Liquidity transformation is defined as (illiquid assets/total assets). Illiquid assets are defined as all assets less cash, deposits, short-term debt, and equities.

served to amplify pre-crisis imbalances, increased vulnerability to adverse shocks, and raised the costs of post-crisis adjustment.[111]

As financial leverage is driven by the business models of the entities, the extent to which it is used depends on the type of IF in question (Chart 86). While MMFs (€499 billion worth of assets under management) and equity funds (€804 billion) use very little leverage, hedge (€298 billion) and real estate (€267 billion) funds were significantly levered at 2018Q2.[112]

IFs can also gain leverage through taking exposures in derivative markets. This is referred to as off-balance sheet leverage, and does not involve outright borrowings. Instead, 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 off-balance sheet leverage is used by the sector is not fully known, and there is not an agreed upon definition of off-balance sheet leverage, there are signs that such leverage may be non-negligible. An upper-bound estimate of off-balance sheet leverage of investment funds domiciled in Ireland suggests that hedge and mixed funds (€276 billion) employ off-balance sheet leverage to a significant extent (Chart 87). On the other hand, MMFs and real estate do not.[113]

Understanding the nature and extent of leverage in funds is important. For instance, mixed funds do not currently have significant financial leverage. Nonetheless, they do appear to have sizable off-balance sheet leverage. This underlines the need for comprehensive monitoring of leverage, including financial and off-balance sheet, in the investment funds sector.

Liquidity transformation

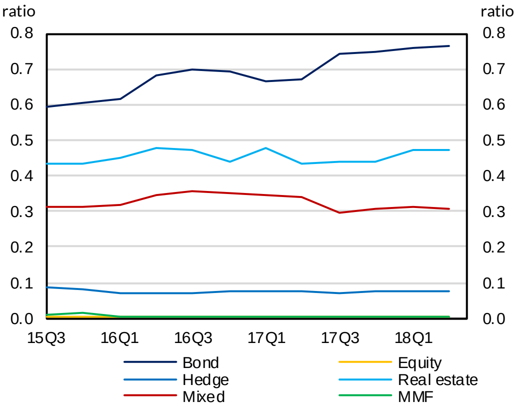
Liquidity transformation risk arises if the liquid claims on a fund or vehicle are backed by illiquid assets. IFs are generally financed through equity (the majority of which is redeemable on a daily basis), and thus can have relatively high levels of liquidity transformation risk, if they invest in illiquid markets or securities.

Real estate funds are a prime example of IFs with high levels of illiquid assets (Chart 88), which is to be expected given their focus on investing in relatively illiquid real estate markets. Most of these funds do not offer daily redemptions, limiting the potential for first-mover advantages and consequent mass redemptions. Bond funds (€727 billion) can also have high levels of liquidity transformation.[114] High levels of liquidity transformation warrant macroprudential attention, particularly for open-ended funds that employ high leverage.

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

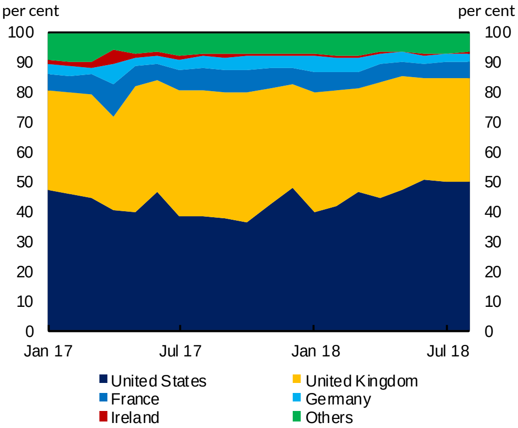
[111] Schularick, M., and Taylor A.M., "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008." American Economic Review, 102 (2): 1029-61, 2012.
[112] Note that financial leverage may be measured in a variety of ways, offering complementary perspectives. For instance, in the ESRB EU Shadow Banking Monitor 3/2018 financial leverage of European IFs is measured as the ratio of loans received to total liabilities, revealing that bond funds are the most highly leveraged.
[113] While not directly comparable, note the ESRB calculated off-balance sheet leverage of EU IFs from their credit derivative exposures in the ESRB EU Shadow Banking Monitor 3/2018.
[114] While the level of liquidity transformation for real estate funds is comparable with European aggregates, Irish bond funds appear to have higher liquidity transformation than their European counterparts, see Chart 11 in the ESRB EU Shadow Banking Monitor 3/2018.

Chart 90: Maturity transformation of Irish authorised investment funds



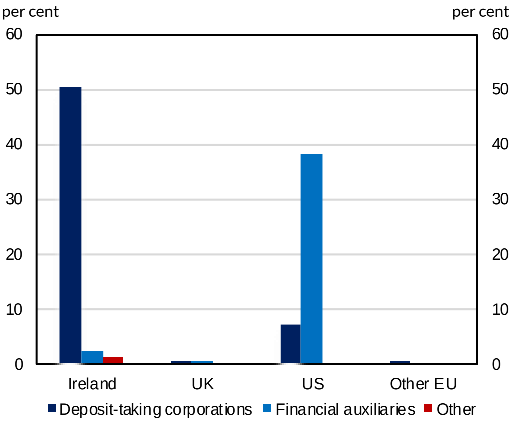
Source: Central Bank of Ireland.
Notes: Data between 2015Q3 and 2018Q2. Maturity transformation is defined as (long-term assets - long-term liabilities/total assets). Long-term defined as having residual maturity over 1 year. Some hedge funds were reclassified during 2016.

Chart 91: OTC derivative exposures of Irish authorised funds and special purpose entities by country of counterparty



Source: Central Bank of Ireland.
Notes: Data between Jan 2017 and July 2018. Per cent of gross notional exposures in OTC derivative contracts.

Chart 92: Region and sector of sponsors of special purpose entities linked to Irish real estate



Source: Central Bank of Ireland.
Notes: Data as of 2017Q4. "Per cent" indicates per cent of total assets of the relevant sponsors.

may not be as high for these vehicles. Thus, while the assets of both FVCs and SPVs have a higher proportion of illiquid assets than is the case for investment funds (Chart 89), it is potentially of lesser concern given the liquidity profile of their funding. Nonetheless, it is worth noting that these vehicles are thinly-capitalized and are connected to the banking sector. Risks related to them should be carefully assessed over time.

Maturity transformation

Maturity transformation occurs when financial institutions fund themselves on shorter timeframes than the maturity of their assets. It can pose risks to financial stability as a maturity mismatch between assets and liabilities can lead to a fire sale of assets into potentially illiquid markets.

IFs have relatively high levels of maturity transformation. Over the past two years, about 30 per cent of IFs' long-term assets have been funded by short-term liabilities. The highest levels of maturity transformation are associated with bond funds, and, to a lesser degree, real estate and mixed funds (Chart 90). Due to the nature of their business models and regulatory restrictions, significant levels of maturity transformation are not a feature of the MMF sector. FVCs and SPVs generally do not engage in maturity transformation, but such risks could return to the balance sheet of the sponsor, often a bank.

Recent developments

Brexit could affect Irish funds and vehicles significantly given their exposure to international financial markets. One of the main concerns is the potential for a disorderly exit of the UK from the EU to affect the continuity of derivative contracts and access to UK-based central clearing counterparties (CCPs).[115] There is a risk that it may become significantly more costly for some Irish-domiciled funds and vehicles to hedge with interest rate swaps. These issues are relevant to a significant part of the derivative activities of Irish domiciled funds and vehicles, given that one-third of their derivative exposures are linked to a UK counterparty (CCP for cleared trades, and other counterparties for bilateral trades) (Chart 91). (Box 7 considers the overall structure of the derivative market in Ireland and NFC and OFI residual derivative exposures.)

The increasing importance of non-bank financial institutions as investors in real estate markets also warrants macroprudential attention.[116] At end- 2017, Irish-domiciled vehicles were identified as holding €54.5 billion in credit assets which derive their value from Irish commercial and residential real estate. Chart 92 illustrates the region and sector of the sponsors of these vehicles as a percentage of their total assets (€59 billion). Irish vehicles' sponsors are generally banks (deposit taking corporations). Irish banks account for 51 per cent of all relevant assets. These vehicles generally invest in Irish residential mortgage loans originated by

[115] The European Commission has indicated that temporary access to UK-based CCPs should be permitted in the event of a no-deal Brexit scenario, based on equivalence standards. Furthermore, ESMA has proposed limited, temporary draft Regulatory Technical Standards that would facilitate novation of certain derivative contracts without triggering the clearing obligation.
[116] Lane, P.R., "The Management of Systemic Risks: Current Priorities," speech at the ESRB Annual Conference, 27 September 2018.

their sponsor. In contrast, foreign sponsors are mainly US financial auxiliaries, which represent 38 per cent of total relevant assets. Along with the remaining vehicles, this group of vehicles tend to invest in distressed credit assets, primarily loans pertaining to Irish commercial property.

Box 7: Derivative exposures of supervised and unsupervised entities in Ireland

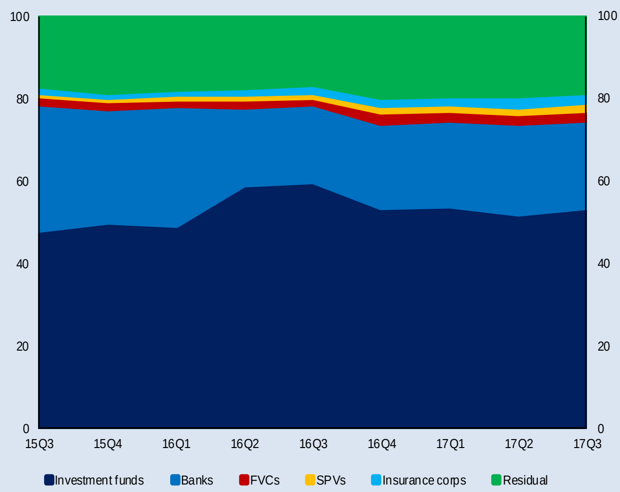
By Simone Cima, Pawel Fiedor and Neill Killeen (Market-Based Finance)

The Central Bank prudentially supervises banks, insurance corporations, and some NBFIs such as investment funds (IFs). Special purpose entities (SPEs) and other NBFIs which fall within the Other Financial Intermediaries (OFI) residual, such as holding companies and treasury companies, are not prudentially supervised.[1] In contrast to SPEs, entities within the OFI residual do not fall under relevant European or domestic legislation that require balance sheet reporting, but are active participants in market-based finance (defined as the raising of equity or debt via the financial markets as opposed to the banking system).[2] Due to the lack of balance sheet data, the activities of the OFI residual are not well understood by regulators. This box describes the off-balance sheet derivative exposures of Irish-domiciled entities, including entities within the OFI residual, using transaction data reported under the European Market Infrastructure Regulation (EMIR). The EMIR data contains all derivative trades of counterparties domiciled in Ireland. These data can therefore assist in understanding the activities of entities within the OFI residual. Data over the period between 2015Q3 and 2017Q3 are examined here.

Chart A presents the overall structure of the derivative market in Ireland. It shows that NBFIs make up around three-quarters of the gross notional value of derivative exposures of institutions domiciled in Ireland.[3] This reflects Ireland's position as a host of international financial intermediation. On the whole, IFs had a gross notional value of almost €2.2 trillion in 2017Q3, followed by the banking sector and a residual category, each of which had a derivative exposure of about €1 trillion. The residual category comprises both NFCs and OFIs engaging in financial intermediation, including holding companies, treasury companies and financial auxiliaries. Exposures within the residual category are concentrated, with a small number of companies accounting for most of the exposures. In the NFC subsector, which is more closely linked to the real economy in Ireland, there are a large number of entities with relatively small exposures. Many of these companies are in the pharmaceutical, manufacturing, and energy sectors. The main business activities of companies within the residual category are identified based on available public information.[4] Chart A shows that financial vehicle corporations (FVCs) engaged in securitisations and non-securitisation SPEs are smaller players in the derivative market according to gross notional exposure. Chart B presents a breakdown of exposures by derivative asset class for each sector. Regarding unsupervised entities, the large share of currency derivatives within the residual category is noteworthy and may reflect NFCs, holding companies, and treasury operations being included therein. Interest rate derivatives are the largest asset class for FVCs, while non-securitisation SPVs predominantly employ currency and interest rate derivatives.

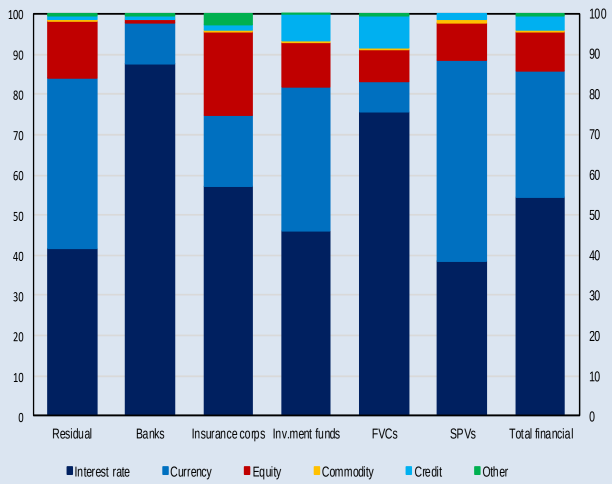
From a financial stability perspective, the analysis highlights, for the first time, the breakdown of derivative exposures between supervised and unsupervised entities. Banks and investment funds have the largest derivative exposures. Of the unsupervised entities, a small number of financial companies account for a large percentage of the total exposure. Given that derivative trading involves certain risks that can amplify systemic shocks, further analysis is needed on the entities that have large derivative exposures. As some of these lie on the perimeter of regulatory engagement, this poses challenges for risk assessment but also highlights the benefit of activity-based monitoring of derivative markets using EMIR data.

Chart A: Derivative exposures by sector



Source: European Market Infrastructure Regulation reporting, Central Bank of Ireland list of supervised entities and authors' calculations. The residual category in the chart includes both other financial entities and non-financial corporations (NFCs).

Chart B: Derivative asset class by sector, 2017Q3



Source: European Market Infrastructure Regulation reporting, Central Bank of Ireland list of supervised entities and authors' calculations. The residual category in the chart includes both other financial entities and non-financial corporations (NFCs).

[1] European Systemic Risk Board, EU Shadow Banking Monitor No 3 / September 2018
[2] Lane, P. R. and Moloney, K.(2018), "Market-based finance: Ireland as a host for international financial intermediation", Financial Stability Review No 22, April 2018, Banque de France
[3] As per Regulation 2017/104 (EU), the notional amount is defined as the reference amount from which contractual payments are determined in derivative markets (in the case of swaps, futures and forwards); or the strike price in the case of options. The gross notional exposure does not take account of netting or hedging, thus the risk exposure of the entities may be different.
[4] Due to potential misreporting and data availability issues combined with the fact that we also employ publicly available data, this part of the analysis should be interpreted as merely indicative.

Abbreviations

Country and currency abbreviations follow the European Union standards.

AE	Advanced economies
AIB	Allied Irish Bank
AMECO	annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs
APE	Annual premium equivalent
APP	Asset purchase programme
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
CCP	Central clearing counterparty
CCyB	Countercyclical capital buffer
CET1	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
ECB	European Central Bank
EEA	European Economic Area
EIB	European Investment Bank
EIOPA	European Insurance and Occupational Pensions Authority
EME	Emerging market economies
EMIR	European Market Infrastructure Regulation
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
FOS	Freedom of service
FTB	First-Time Buyer
FVC	Financial vehicle corporations
GDP	Gross domestic product
GNI	Gross national income
G-SIBs	Global systemically important banks
GVA	Gross value added
ICT	Information and communications technology
IF	Investment fund
IFRS	International financial reporting standards
ILS	Insurance-linked security market
IMF	International Monetary Fund
IPD	Investment Property Databank
JLL	Jones Lang LaSalle
KBC	Kredietbank ABB Insurance CERA Bank
LCR	Liquidity coverage ratio
LTI	Loan to income ratio
LTV	Loan to value ratio
MFR	Macro-Financial Review
MFI	Monetary financial institution
MMF	Money market fund
MNE	Multinational enterprise
MREL	Minimum requirement for own funds and eligible liabilities
MSCI	Morgan Stanley Capital International
NAWRU	Non-acceleration wage rate of unemployment
NFC	Non-financial corporation
NPL	Non-performing loan
NTMA	National Treasury Management Agency
OECD	Organisation for Economic Co-operation and Development
OFI	Other financial institution
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
ROA	Return on assets
RPPI	Residential property price index
RPZ	Rent Pressure Zone
RTB	Residential Tenancies Board
RWA	Risk-weighted asset
SCR	Solvency capital requirement
SCSI	Society of Chartered Surveyors of Ireland
SME	Small and medium enterprise
SPV	Special purpose vehicle

SREP	Supervisory Review and Evaluation Process
SSB	Second and subsequent buyer
ULO	Unregulated loan owners
USD	United States dollar
WEO	World Economic Outlook
WTO	World Trade Organisation

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

Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem