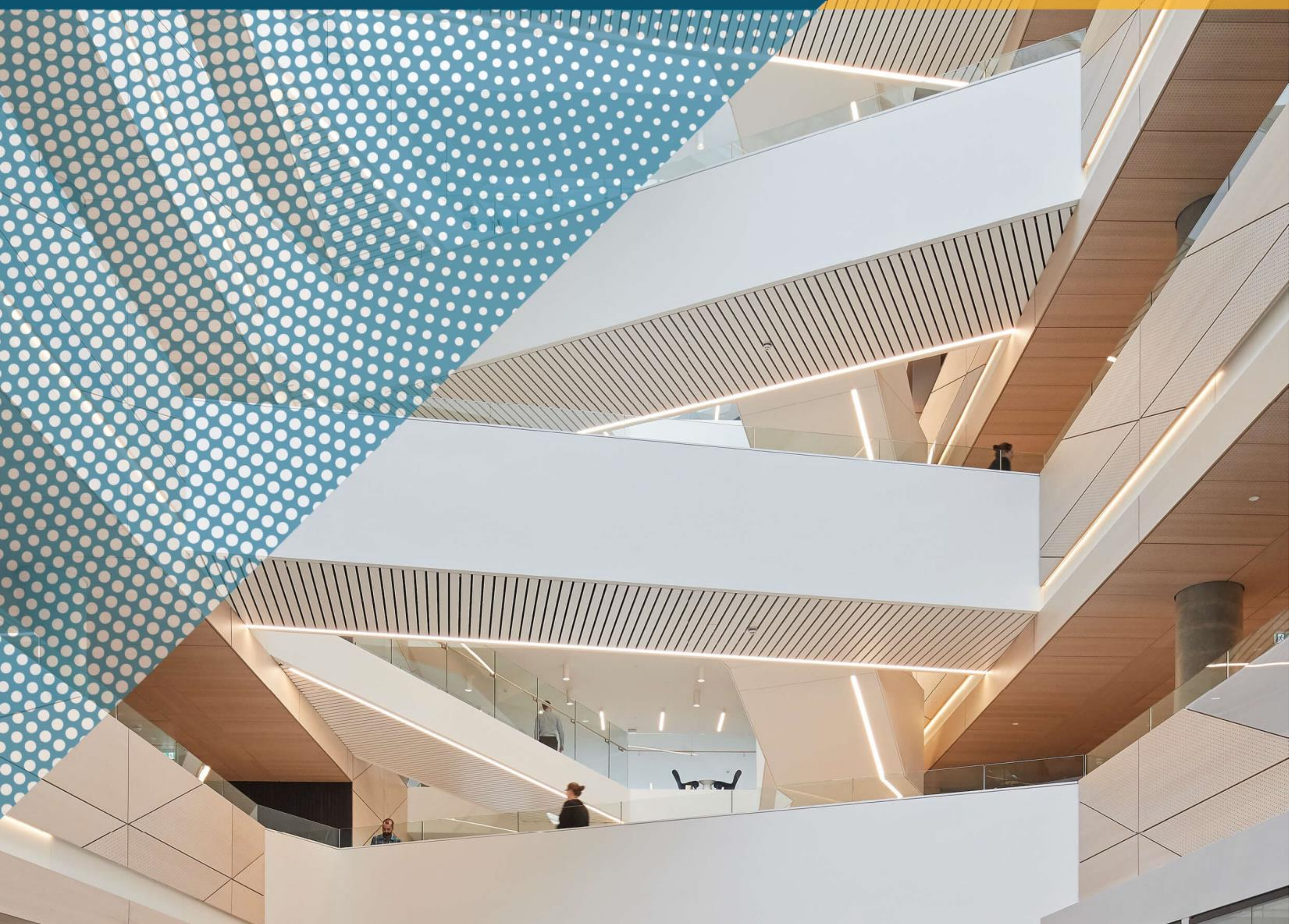
Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

# Financial Stability

## Review 2021:II



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# Notes

1. Unless otherwise stated, this document refers to data available on 5 November 2021.

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.

3. The following symbols are used:

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

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# Preface

The Central Bank is responsible for maintaining monetary and financial stability and ensuring the financial system works in the interests of the community.

The *Financial Stability Review* evaluates the main risks facing the financial system and assesses the resilience of the financial system to those risks. A resilient financial system is one that is able to provide services to Irish households and businesses, both in good times and in bad. The Central Bank's policy actions seek to ensure that the financial system is able to absorb, rather than amplify, adverse shocks.

The structure of this publication mirrors the overall approach the Central Bank takes in reaching a judgement around its macroprudential policy stance.

- The first section outlines the Central Bank's assessment of the main risks facing the Irish financial system over the short to medium term.
- The second section outlines the Central Bank's assessment of the resilience of the domestic financial system to adverse shocks and its ability to absorb, rather than amplify, shocks of this nature.
- The third section explains the Central Bank's policy actions to safeguard financial stability and ensure that the resilience of the financial system is proportionate to the risks it faces.

Ireland is host to a large and diverse financial sector. A growing part of that financial sector serves international clients, with limited direct implications for the domestic economy. This publication focuses on the segments of the financial sector that provide services to Irish households and businesses.

The *Financial Stability Review* reflects, and is informed by, the deliberations of the Central Bank's Financial Stability Committee and Macroprudential Measures Committee. The aim of the *Review* is not to provide an economic forecast, but instead focuses on the potential for negative outcomes to materialise. The Central Bank is committed to transparency over its judgements around financial stability and plans to use this publication as a key vehicle to explain the policy actions taken, within its mandate, to safeguard financial stability.

# Réamhrá

Tá an Banc Ceannais freagrach as cobhsaíocht airgeadaíochta agus airgeadais a choimeád ar bun agus as a chinntiú go bhfeidhmeoidh an córas airgeadais ar mhaithe le leas an phobail.

San *Athbhreithniú ar Chobhsaíocht Airgeadais*, déanaimid measúnú ar na príomhrioscaí atá ann don chóras airgeadais agus ar athléimneacht an chórais airgeadais in aghaidh na rioscaí sin. Is córas airgeadais athléimneach é córas inar féidir seirbhísí a chur ar fáil do theaghlaigh agus do ghnólachtaí Éireannacha le linn tréimhsí maithe agus drochthréimhsí araon. Le gníomhaíochtaí beartais an Bhainc Ceannais, féachtar lena chinntiú go bhfuil an córas airgeadais in ann turraingí dochracha a iompar seachas iad a mhéadú.

Tá struchtúr an fhoilseacháin seo ag teacht leis an gcur chuige atá ag an mBanc Ceannais chun teacht ar thuairim faoina sheasamh beartais macrastuamachta.

- Sa chéad mhír, déantar cur síos ar mheasúnú an Bhainc Ceannais ar na príomhrioscaí atá ag bagairt ar chóras airgeadais na hÉireann sa ghearrthéarma agus sa mheántéarma.
- Sa dara mír, leagtar amach measúnú an Bhainc Ceannais ar athléimneacht an chórais airgeadais intíre in aghaidh turraingí dochracha agus ar a chumas chun rioscaí den sórt sin a iompar seachas iad a mhéadú.
- Sa tríú mír, déantar cur síos ar ghníomhaíochtaí beartais an Bhainc Ceannais chun cobhsaíocht airgeadais a chosaint agus chun a chinntiú go bhfuil athléimneacht an chórais airgeadais ar comhréir leis na rioscaí atá roimhe.

Tá earnáil mhór ilchineálach airgeadais in Éirinn. Tá fás ag teacht ar an gcuid sin den earnáil airgeadais a fhreastalaíonn ar chliaint idirnáisiúnta, agus tá impleachtaí díreacha teoranta ann don gheilleagar intíre. Dírítear san fhoilseachán seo ar na codanna sin den earnáil airgeadais a chuireann seirbhísí ar fáil do theaghlaigh agus do ghnóthaí Éireannacha.

San *Athbhreithniú ar Chobhsaíocht Airgeadais*, léirítear breithnithe ón gCoiste um Chobhsaíocht Airgeadais agus ón gCoiste um Bearta Macrastuamachta de chuid an Bhainc Ceannais agus tá na breithnithe sin mar bhonn eolais don athbhreithniú. Ní hé is aidhm don *Athbhreithniú* réamhaisnéis eacnamaíoch a chur ar fáil. Ina ionad sin, dírítear ar an bhféidearthacht go dtiocfadh torthaí diúltacha chun cinn. Tá an Banc Ceannais tiomanta do thrédhearcacht a chuid breithnithe maidir le cobhsaíocht airgeadais agus tá sé beartaithe aige an foilseachán seo a úsáid mar bhealach tábhachtach chun míniú a thabhairt ar na gníomhaíochtaí beartais a ghlactar laistigh dá shainordú chun cobhsaíocht airgeadais a chosaint.

# Overview

**The economic recovery has continued since the last *Review*, reducing some of the near-term risks stemming from the pandemic shock. At the same time, medium-term vulnerabilities, such as those stemming from stretched asset valuations in financial markets and higher levels of global indebtedness, have continued to build, while – in the real economy – supply chain disruptions and sectoral capacity constraints have led to growing price pressures. The impact of the pandemic on the financial position of the banking sector has started to dissipate, with the sector returning to profitability. If the current outlook for economic growth continues to hold, the Central Bank expects to begin the rebuilding of cyclical macroprudential capital buffers during 2022. In parallel, reflecting the evolving links between the financial sector and the domestic economy, the Central Bank's macroprudential framework is broadening to safeguard resilience in the non-bank financial sector, enabling the wider financial system to absorb – rather than amplify – adverse shocks.**

Pandemic-related risks have reduced, but the recovery has been associated with material capacity constraints in some sectors, which could intensify. Reflecting the continued roll-out of the vaccination programme and the economic reopening, downside domestic risks and uncertainty have reduced since the last *Review*. While the tapering of policy support or a re-emergence of risks related to the virus may result in a crystallisation of 'latent distress' for a subset of the most affected households and firms, in aggregate, the potential for widespread borrower distress has been diminishing. At the same time, pandemic-related supply chain disruptions and capacity issues in some sectors have given rise to price pressures. While these pressures are currently expected to gradually fade, there is a risk that they could prove more persistent than expected, contributing to overheating dynamics.

External risks stem from stretched valuations in global financial markets, higher levels of global indebtedness and structural shifts in the international trading environment. Global financial conditions remain accommodative, contributing to continued growth in public and private indebtedness, on the back of historically low yields. Stretched asset valuations in certain global market segments amplify risks of a sudden market correction, which could be triggered by a range of factors including real estate fragilities in China or market mispricing of inflation risk. As a small open economy, with a significant reliance on investment by foreign multinational enterprises, Ireland is particularly exposed to the impact of such a correction on the global outlook. Reflecting this openness, the domestic economy is highly integrated in global supply chains and particularly exposed to the potential adverse effects of shifts in international trading and tax arrangements.

In light of the economic recovery, the risk posed by tapering pandemic support to the resilience of most households and firms has been receding. Pandemic policy support has offset the liquidity shock facing households, with liquidity buffers growing in aggregate during the pandemic. The mortgage market is relatively well insulated from remaining pandemic-related risks, as mortgage borrowers are less likely to work in the sectors most exposed to the economic disruption caused by COVID-19. The financial performance of Irish businesses is recovering, reflecting the reopening of the economy throughout the second half of the year. Policy support and widespread forbearance, which remain important for the most affected, have mitigated risks to most businesses. This support has lowered the pass-through to corporate insolvencies, with a subset of SMEs that had financial difficulties before the pandemic likely to face the most significant long-term viability challenges.

The impact of the pandemic on the financial position of the banking sector has started to dissipate. Reflecting the strengthening economic outlook, the rate of deterioration in the credit quality of banks' loan books has slowed markedly in recent quarters. At the same time, new lending has increased from pandemic lows, reflecting the increase in credit demand as the economy has re-opened. The sector's capital position has remained stable over the pandemic, and the recent EBA 2021 stress test points to banks' ability to remain adequately capitalised in the event of an adverse shock. Bank profitability has recovered to its pre-pandemic level, although long-standing structural challenges relating to a reliance on net interest income and a high cost base remain.

The Central Bank maintains the CCyB rate at 0 per cent. If the current outlook for the economic recovery holds, the Central Bank would expect to announce a gradual rebuilding of the CCyB in 2022. In line with previous guidance, the CCyB is maintained at 0 per cent, enabling the banking sector to continue to support the economic recovery. Looking forward, if pandemic related risks continue to reduce and medium-term vulnerabilities continue to build, consistent with the objective of promoting resilience early in the cycle, the Central Bank would expect to announce a gradual re-introduction of a positive CCyB rate during 2022. The annual review of the O-SII buffer, aimed at reducing the probability of failure of a systemically important institution, has resulted in no change.

The Central Bank has completed the annual review of the mortgage measures, with operational changes providing for the 'First Home' shared equity scheme and the carryover of allowances. The mortgage measures have the twin objectives of strengthening bank and borrower resilience and reducing the likelihood of an adverse credit-house price spiral emerging. The mortgage measures will be amended to clarify the participation of retail banks in the 'First Home' shared equity scheme. This reflects the Central Bank's judgement around the manner in which the scheme interacts with financial stability, including due to the characteristics of this form of financing, other safeguards in place – such as bank capital – as well as the initial scale and scope of the scheme. Reflecting the challenges to the operationalisation of the allowances during the recent uncertainty posed by the COVID-19 pandemic and the changing structure of the banking system, a carryover system for loans approved in the previous calendar year will be introduced. More broadly, the annual mortgage measures risk assessment highlights a reduction in pandemic-related uncertainty and disruption in the mortgage market. There is no evidence of deteriorating lending standards or an increased role for credit dynamics in explaining recent house price trends. In light of the ongoing framework review, the current calibration of LTI and LTV limits and allowances will remain unchanged. The framework review continues with extensive analysis and stakeholder engagement, and the Central Bank will issue a public consultation paper in December.

The Central Bank is consulting on a set of measures to limit leverage and liquidity mismatches for property funds. Property funds have grown significantly in recent years and now hold more than 40 per cent of the estimated investable stock of commercial real estate in Ireland. Leverage is higher among Irish-resident property funds than European peers, creating additional vulnerability to price falls, which could lead to selling pressures in the market. The Central Bank is seeking feedback on new macroprudential policy measures aimed at increasing the resilience of the Irish resident property fund sector, so that this form of financial intermediation is better able to absorb – rather than amplify – adverse shocks.[1]

[1] Details of the public consultation are available in Consultation 145: Macroprudential measures for the property fund sector.

# Forbhreathnú

**Leanann an téarnamh eacnamaíoch ó foilsíodh an *tAthbhreithniú* deiridh, rud a laghdaíonn roinnt de na rioscaí gearrthéarmacha a eascraíonn as turraing na paindéime. Ag an am céanna, tá méadú ag teacht i gcónaí ar leochaileachtaí meántéarmacha, amhail na cinn sin a éiríonn as luachálacha sínte sócmhainní i margaí airgeadais agus as leibhéil fiachais dhomhanda níos airde, fad atá brúnna ar phraghsanna ag méadú - san fhíorgheilleagar - mar gheall ar an gcur isteach ar shlabhraí soláthair agus mar gheall ar shrianta acmhainneachta earnála. Tá tionchar na paindéime ar staid airgeadais na hearnála baincéireachta ag dul i léig agus tá an earnáil ag filleadh ar bhrabúsacht. Má fhanann an t-ionchas reatha don fhás eacnamaíoch mar atá, measann an Banc Ceannais go bhféadfaí tús a chur le hathbhunú na maolán timthriallach caipitil macrastuamachta le linn 2022. I gcomhthreo leis sin, agus ag féachaint do na naisc atá ag teacht chun cinn idir an earnáil airgeadais agus an geilleagar intíre, tá a chreat macrastuamachta á leathnú ag an mBanc Ceannais chun athléimneacht san earnáil airgeadais neamhbhainc a chosaint, rud a chumasóidh don chóras airgeadais níos leithne turraingí díobhálacha a iompar - seachas iad a mhéadú.**

Tá laghdú tagtha ar na rioscaí a bhaineann leis an bpaindéim, ach tá srianta acmhainneachta ábhartha ag bagairt ar an téarnamh in earnálacha áirithe, agus d'fhéadfaidís sin éirí níos géire. I gcomhréir le leathadh amach leanúnach an chláir vacsaínithe agus athoscailt an gheilleagair, tá laghdú tagtha ar rioscaí intíre ar an taobh thíos agus ar an éiginnteacht ó foilsíodh an *tAthbhreithniú* deiridh. Cé go bhféadfaidh go dtiocfaidh 'anás neamhfhollais' chun cinn i bhfothacar de na teaghlaigh agus gnólachtaí is mó a ndéantar difear dóibh mar thoradh ar laghdú tacaíochtaí beartais nó teacht chun cinn rioscaí maidir leis an víreas athuair, tá an fhéidearthacht maidir le hanás forleathan d'iasachtaithe ag dul i léig, trí chéile. Ag an am céanna, tá brúnna ag teacht chun cinn ar phraghsanna mar gheall ar an gcur isteach ar shlabhraí soláthair de bharr na paindéime agus mar gheall ar shaincheisteanna acmhainneachta in earnálacha áirithe. Cé go meastar go maolóidh na brúnna sin de réir a chéile, tá an baol ann go bhféadfaidís a bheith níos seasmhaí ná mar a bhfuiltear ag súil leis, rud a chuirfidh le dinimic an rótheimh.

Eascraíonn rioscaí seachtracha as luachálacha sínte i margaí airgeadais domhanda, as leibhéil níos airde féichiúnais dhomhanda agus as aistrithe struchtúracha sa timpeallacht trádála idirnáisiúnta. Tá dálaí airgeadais domhanda in-chomhfhoirmeach i gcónaí, rud a chuireann le fás leanúnach ar fhéichiúnas príobháideach agus poiblí mar gheall ar thorthaí atá níos ísle ná riamh. Le luachálacha sínte sócmhainní i ndeighleoga áirithe den mhargadh domhanda, méadaítear na rioscaí maidir le ceartúchán tobann sa mhargadh arna spreagadh ag raon tosca lena n-áirítear leochaileachtaí eastáit réadaigh sa tSín nó míphraghsáil margaidh ar riosca boilscithe. Toisc go bhfuil geilleagar beag oscailte ag Éirinn a bhíonn ag brath go mór ar infheistíocht ó fhiontair eachtracha ilnáisiúnta, tá Éire neamhchosanta ar an iarmhairt a bheadh ag ceartúchán den sórt sin ar an iochas domhanda. I bhfianaise na hoscailteachta sin, tá an geilleagar intíre comhtháite go mór i slabhraí soláthair domhanda agus is beag cosaint atá aige ar na héifeachtaí díobhálacha a d'fhéadfadh a bheadh ag aistrithe tobanna ar shocruithe idirnáisiúnta trádála agus cánach.

I bhfianaise an téarnaimh eacnamaíoch, tá an riosca d'athléimneacht fhormhór na dteaghlach agus na ngnólachtaí mar gheall ar laghdú na tacaíochta paindéime ag maolú. Rinneadh an turraing leachtachta a bhí ag bagairt ar theaghlaigh a fhritháireamh le tacaíocht beartais paindéime, agus tháinig méadú, trí chéile, ar mhaoláin leachtachta le linn na paindéime. Tá an margadh morgáiste cosanta, a bheag nó a mhór, ar rioscaí atá fós ar marthain ón bpaindéim toisc gur lú an dóchúlacht go bhfuil iasachtaithe morgáiste ag obair sna hearnálacha sin is mó atá buailte ag an suaitheadh eacnamaíoch ó COVID-19. Tá téarnamh ag teacht ar fheidhmíocht airgeadais gnóthaí Éireannacha, rud a léiríonn athoscailt an gheilleagair sa dara leath den bhliain. Trí bhíthin tacaíocht beartais agus staonadh forleathan, maolaíodh na rioscaí d'fhormhór na ngnóthaí. Leis an tacaíocht sin, laghdaíodh an traschur chuig dócmhainneachtaí corparáideacha, sa mhéid go raibh an dóchúlacht ann go mbeadh dúshláin shuntasacha inmharthanachta ag an bhfothacar sin de FBManna a raibh deacrachtaí airgeadais acu roimh an bpaindéim.

Tá iarmhairt na paindéime ar staid airgeadais na hearnála baincéireachta ag maolú anois. I bhfianaise ionchas eacnamaíoch atá ag neartú, tá moilliú suntasach tagtha le ráithí beaga anuas ar ráta an mheathlaithe ar cháilíocht chreidmheasa leabhair iasachta na mbanc. Ag an am céanna, tá méadú tagtha ar iasachtú nua ó leibhéil ísle na paindéime, rud a léiríonn an méadú ar an éileamh ar chreidmheas de réir mar a osclaíonn an geilleagar athuair. D'fhan staid caipitil na hearnála cobhsaí le linn na paindéime agus tugtar le fios i dtástáil struis 2021 a rinne ÚBE le deanaí go bhfuil cumas ag na bainc a bheith caipitlithe go leormhaith i gcás turraing dhiúltach. Tá leibhéal brabúsachta na mbanc ar ais ag an leibhéal réamh-phaindéime, ach tá dúshláin struchtúracha fhadtéarmacha fós ar marthain i ndáil le spleáchas ar ghlanioncam úis agus bonn costais ard.

Tá ráta CCyB coimeádta ag 0 faoin gcéad ag an mBanc Ceannais. Má fhanann an t-ionchas reatha don téarnamh eacnamaíoch mar atá, bheadh an Banc Ceannais ag súil go bhféadfaí athbhunú céimseach CCyB in 2022 a fhógairt. I gcomhréir le treoir roimhe seo, coimeádtar CCyB ag 0 faoin gcéad, rud a chuirfidh ar chumas na hearnála baincéireachta leanúint de thacaíocht a thabhairt don téarnamh eacnamaíoch. Ag féachaint romhainn, bheadh an Banc Ceannais ag súil go bhféadfaí fógra a thabhairt maidir le ráta dearfach CcyB a tabhairt isteach athuair le linn 2022, má leanann na rioscaí ón bpaindéim de bheith ag maolú agus má leanann leochaileachtaí meántéarmacha de bheith ag teacht chun cinn. Tar éis an t-athbhreithniú bliantúil a dhéanamh ar mhaolán O-SII, rud a fhéachann leis an dóchúlacht go dteipfidh ar institiúid a bhfuil tábhacht shistéamach léi a laghdú, beartaíodh gan aon athrú beartais a dhéanamh.

Tá an t-athbhreithniú bliantúil ar na bearta morgáiste curtha i gcrích ag an mBanc Ceannais agus forálann na hathruithe oibríochtúla do scéim cothromais chomhroinnte 'Céad Teach' agus do liúntais tabhartha anonn. Tá dhá chuspóir ghaolmhara ag na bearta morgáiste, is é sin athléimneacht na mbanc agus na n-iasachtaithe a neartú agus an dóchúlacht go dtiocfaidh bíseanna creidmheasa - praghsanna tithe chun cinn a laghdú. Déanfar na bearta morgáiste a leasú chun rannpháirtíocht na mbanc miondíola sa scéim cothromais chomhroinnte 'Céad Teach' a shoiléiriú. Léiríonn sé seo dearcadh an Bhainc Ceannais maidir leis an gcaoi ina mbíonn an scéim ag idirghníomhú le cobhsaíocht airgeadais, lena n-áirítear sainghnéithe an chineáil maoinithe seo, cosaintí eile atá i bhfeidhm - ar nós caipiteal bainc - mar aon le scála agus scóip tosaigh na scéime. Ag féachaint do na dúshláin atá ann d'oibríochtú na liúntas le linn na tréimhse éiginnteachta le déanaí de bharr phaindéim COVID-19 agus struchtúr athraitheach an chórais baincéireachta, tabharfar isteach córas tabhartha anonn le haghaidh iasachtaí arna gceadú sa bhliain féilire roimhe sin. Ar bhonn níos leithne, leagann measúnú riosca bliantúil na mbeart morgáiste béim ar an laghdú atá tagtha ar an éiginnteacht a bhaineann leis an bpaindéim agus ar an gcur isteach ar an margadh morgáiste. Níl aon fhianaise ann go bhfuil meathlú tagtha ar chaighdeáin iasachtaithe nó go bhfuil ról níos mó ag dinimic creidmheasa i dtaca leis na treochtaí atá feicthe le déanaí ar phraghsanna tithe a mhíniú. I bhfianaise an athbhreithnithe creata atá ar siúl go fóill, ní bheidh aon athrú ar chalabrú reatha theorainneacha agus liúntais CII agus CIL. Tá dul chun cinn á dhéanamh maidir leis an athbhreithniú creata trí bhíthin anailís fhairsing agus trí rannpháirtíocht le páirtithe leasmhara, agus eiseoidh an Banc Ceannais páipéar comhairliúcháin phoiblí i mí na Nollag.

Tá an Banc Ceannais ag dul i mbun comhairliúcháin maidir le sraith beart chun neamhréireachtaí giarála agus leachtachta i gcistí réadmhaoine a theorannú. Tá méadú mór tagtha ar chistí réadmhaoine le blianta beaga anuas agus sealbhaítear iontu anois breis agus 40 faoin gcéad den stoc measta in-infheistithe d'eastát réadach tráchtála na hÉireann. Tá giaráil níos airde ann i measc cistí réadmhaoine atá lonnaithe in Éirinn i gcomparáid le piaraí Eorpacha, rud a chruthaíonn leochaileacht bhreise i leith laghduithe ar phraghsanna, agus d'fhéadfadh sé sin brúnna díola a chruthú sa mhargadh. Tá aiseolas á lorg ag an mBanc Ceannais ar bhearta beartais macrastuamachta nua a fhéachann le hathléimneacht earnáil na gcistí réadmhaoine atá lonnaithe in Éirinn a neartú, sa chaoi go mbeidh an cineál idirghabhála airgeadais seo ábalta turraingí díobhálacha a iompar - seachas iad a mhéadú.[2]

[2] Tá sonraí maidir leis an gcomhairliúchán poiblí ar fáil in Consultation 145: Macroprudential measures for the property fund sector.

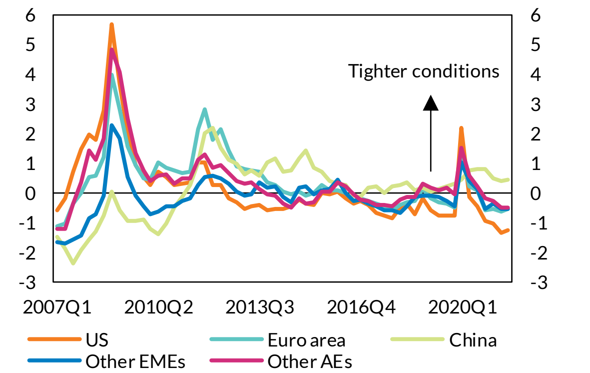
# Risks

## *An abrupt tightening of global financial conditions, accompanied by a repricing of risk premia*

*Global financial conditions have remained accommodative since the last Review, facilitating debt issuance by private and public sector borrowers. This has been accompanied by a continued global search for yield in financial markets, with strong investor appetite for riskier assets, including higher-yielding corporate debt. Potential triggers of a sharp repricing in financial markets could stem from unexpected increases in interest rates or a disruption in the economic recovery, amid evidence of increasing inflationary pressures internationally, or a crystallisation of debt-related fragilities, such as those that have built up in the property sector in China. Shocks in global financial markets could be amplified by the behaviour of non-bank financial institutions, as was evident during the most acute phase of the COVID-19 shock. A sudden and persistent deterioration in global financial conditions is more likely to have severe negative consequences for the economic recovery, both internationally and in Ireland, due to the sustained build-up of these financial vulnerabilities in recent years.*

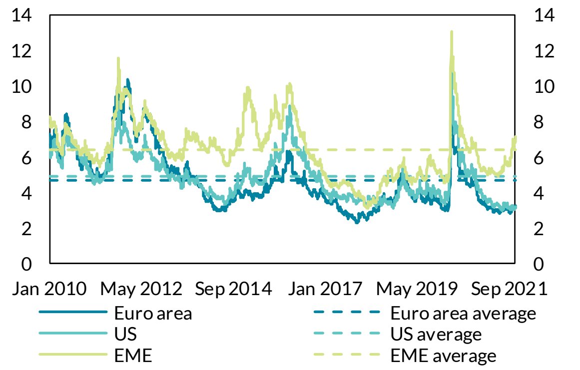
Financial conditions have remained at accommodative levels in advanced economies and many emerging markets since the last *Review*, reaching levels not seen since prior to the global financial crisis in some cases. Despite the ongoing uncertainty around the pandemic and its implications for the global economic recovery, markets have remained buoyant on the back of ongoing upward revisions to global growth prospects as well as continued monetary and fiscal support. Low interest rates, rising house prices and corporate valuations have recently been the driving forces behind the loosening of the IMF financial conditions index for the euro area, with increased corporate valuations particularly influencing the easing of financial conditions in the US (Chart 1).

**Chart 1: Global financial conditions remain accommodative reaching levels not seen since before the Global Financial Crisis**
IMF financial conditions index




Source: IMF.
Notes: Last observation 2021 Q3.

**Chart 2: Spreads remain historically low even in riskier asset classes, especially in advanced economies**
High yield corporate bond spreads




Source: St Louis Fed and Central Bank of Ireland calculations.
Notes: ICE BofAML Option-Adjusted Spreads on below investment grade corporate bonds. Dashed lines indicate historic averages since 2010. Last observation 5 November 2021.

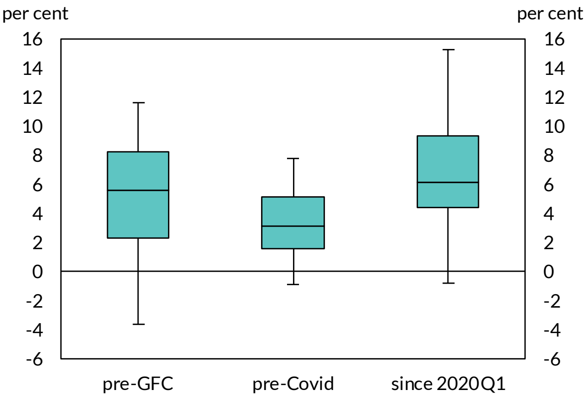
Valuations appear stretched in segments of global equity markets. As noted in the last *Review*, price/earnings ratios remain high by historical comparisons in some equity market segments, particularly in the US. While the implied equity risk premium for the US is just below its average over the past two decades, this is a reflection of the very low level of interest rates. This implies that equity valuations appear somewhat less stretched when compared to the current record low rates on risk-free bonds. However, it also means that valuations remain exposed to interest rate changes. There are also indications of a growing use of leverage by investors, which could magnify losses if equity market volatility were to increase. For example, the US debit balances in customers' securities margin accounts, a measure for investor leverage, stand at record highs.[3]

Amid a global search for yield, the risk premium required to invest in riskier forms of debt has compressed further. This is, for example, reflected in spreads on US and euro area high-yield corporate bonds falling below pre-pandemic levels (Chart 2). Moreover, prices in leveraged finance markets have kept rising.[4] Buoyant risk appetite, based on expectations of a strong recovery and continued policy support throughout 2021, may contribute to a mispricing of risk built up in corporate debt markets. Meanwhile, the measured credit quality of corporate debt is still significantly below pre-pandemic levels globally, notwithstanding rating upgrades in 2021.

Accommodative global financial conditions – together with other factors, such as shifting household preferences and increased household savings – have also led to a sharp rise in global house prices. Residential real estate prices globally registered sharp synchronised price increases across advanced economies since the onset of the COVID-19 pandemic (Chart 3). Median real house price growth is now at pre-global financial crisis levels in OECD countries and the latest increase in prices follows a period of already sustained house price growth prior to the pandemic. For many OECD countries, price-to-rent and price-to-income ratios are currently higher than they were before the 2008 financial crisis. However, lending standards in the US and in most parts of the euro area are more prudent than before the global financial crisis, guarding against some of the most significant risks that have emerged historically when both asset prices were rising fast and lending standards loosened materially.

**Chart 3: House prices have surged in several countries**

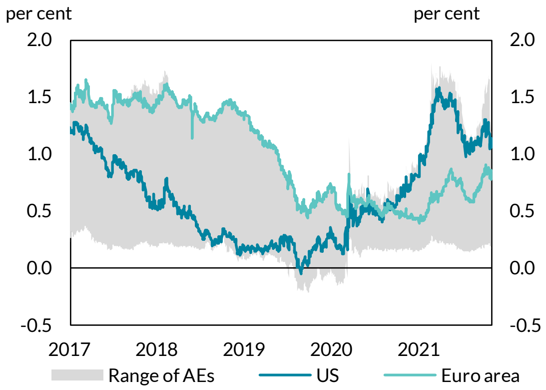
Real House Price Growth across OECD countries




Source: OECD via Haver Analytics and Central Bank of Ireland calculations.
Notes: Compound annual growth rate in seasonally adjusted real house price indexes, for each period, among OECD countries. Boxes show 25th, 50th, and 75th percentile across countries, whiskers are maximum and minimum values. Pre-GFC denotes 2002-2007, pre-COVID relates to 2015-2019. Last observation 2021 Q2, 2021 Q1 for NZ and KR.

**Chart 4: Signs of upward pressure in sovereign yields**

10-year minus 2-year government bond yield




Source: Bloomberg and Central Bank of Ireland calculations.
Notes: Advanced economies (AEs) include AU, CA, CH, DK, euro area, JP, SE, UK and US. Last observation 5 November 2021.

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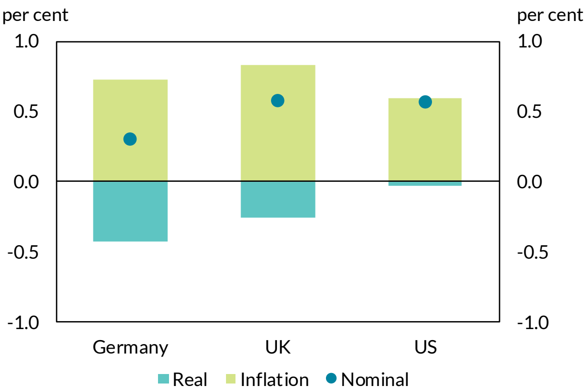
[3] According to the US Financial Industry Regulatory Authority (FINRA) the combined margin debt of member firms' customers stood at USD 903 billion or 3.9 per cent of US GDP in September 2021.
[4] See IMF Global Financial Stability Report, October 2021.

Developments in global financial markets remain vulnerable to unexpected increases in interest rates and disruptions to the global economic recovery. US inflation developments have resulted in an acute focus on the FOMC's policy deliberations, while higher than expected inflation could also pose downside risks through the effect on growth. Long-term nominal yields have increased over the course of the year, leading to a steepening of yield curves (Chart 4), driven by higher market expectations of inflation (Chart 5). The risk of abrupt increases in nominal long-term yields would have implications for both asset prices as well as the cost of servicing the record levels of debt outstanding (see *Risks: Divergent global economic recovery*). At the same time, low real yields continue to incentivise risk-taking in financial markets, including through increased demand for riskier assets such as CLOs and lower rated debt securities (Chart 6).

**Chart 5: Inflation expectations have led to an increase in long-term nominal yields, while low real rates induce risk-taking**

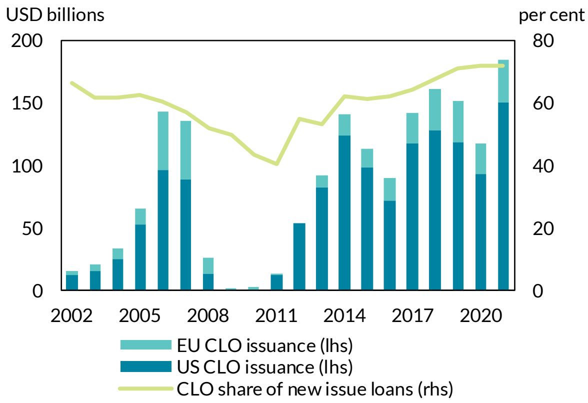
Decomposition of changes in nominal long-term yields




Source: Bloomberg, and Central Bank of Ireland calculations.
Notes: Change in nominal 10-year yields since start of the year. Real component expressed as change in nominal yield less change in inflation breakeven rates. Last observation 5 November 2021.

**Chart 6: CLO issuance has increased substantially suggesting increased search for yield behaviour**

Issuance of Collateralised Loan Obligations




Source: IMF.
Notes: 2021 data are annualised to estimate full-year issuance. Last observation 2021.

A crystallisation of property-related fragilities in China also has the potential to trigger a broader repricing of risks in global financial markets. The spillovers from the recent liquidity crisis at Chinese property developer Evergrande have so far been limited to Asian markets. However, substantial investor losses and volatility in China, arising from additional property firms or through spillovers to other sectors, may lead to higher volatility in global financial markets (see Box A). Evergrande's unfolding liquidity crisis has shown signs of spreading across the Chinese real estate sector recently as international bond sales failed to secure overseas investors, leading to funding shortfalls for several Chinese property developers. As real estate production and property services in China are estimated to be almost 30 per cent of GDP, these developments could pose wider macro-financial risks to the economy.[5] A significant slowdown in the Chinese economy would also risk inhibiting the wider global economic recovery (see *Risks: Divergent global economic recovery*).

The continued growth in the size, interconnectedness and risk-taking activities of non-bank financial institutions could further amplify financial market dynamics, as was evident during the most acute phase of the COVID-19 shock.[6] Structural vulnerabilities in non-bank finance

[5] See Rogoff, K. (2021). "Can China's outsized real estate sector amplify a Delta-induced slowdown?", VOXEU, 21 September 2021.
[6] See Cappiello, L., Holm-Hadulla, F., Maddaloni, A., Mayordomo, S., Unger, R. et al. (2021). "Non-bank financial intermediation", ECB Strategy Review Workstream Report.

internationally, such as liquidity mismatch and the use of financial and synthetic leverage by certain types of investment funds, give rise to potential negative feedback loops between asset valuations and redemptions. Such vulnerabilities could amplify shocks, particularly during periods of financial market stress given the continued growth in non-bank financial intermediation globally in recent years.[7] Such adverse market dynamics were evident in the 'dash-for-cash' episode in 2020, including in the US Treasuries market. This market witnessed a sharp increase in yields, which had broader implications for the repricing of risk at the onset of the COVID-19 shock.

A sudden financial market correction and deterioration in global financial conditions could have severe negative consequences for the economic recovery, particularly in Ireland. As debt levels continue to accumulate, coupled with increased risk-taking behaviour in global financial markets, looser global financial conditions imply higher downside risk to growth in the medium-term (see Box B). An abrupt tightening in financial conditions could transmit through a number of channels including the direct and indirect exposures of banks and non-bank financial institutions resident in Ireland. For example, the exposure of Irish retail banks to leveraged finance remained broadly stable at €15.4 billion in 2021Q2. Meanwhile, Irish resident insurance corporations' holdings of just above non-investment grade bonds amount to 74 per cent of their portfolios in 2021Q2 compared to 71 per cent at end-2020. Moreover, the share of unit linked corporate bond holdings that are rated BBB increased slightly, leaving individual policyholders more exposed to risks of further downgrades (for further discussion of the resilience of Irish resident insurers, see *Resilience: Insurance*). More broadly, the domestic economy has over time increased its reliance on market-based finance with non-bank lenders accounting for 18 per cent of funding to Irish SMEs at end-2020 while significant foreign investment in commercial real estate in Ireland is intermediated by domestic property funds.[8] In that context, a generalised repricing of risk could reverberate on the domestic economy through foreign investment in the commercial real estate sector which is intermediated via Irish resident property funds.

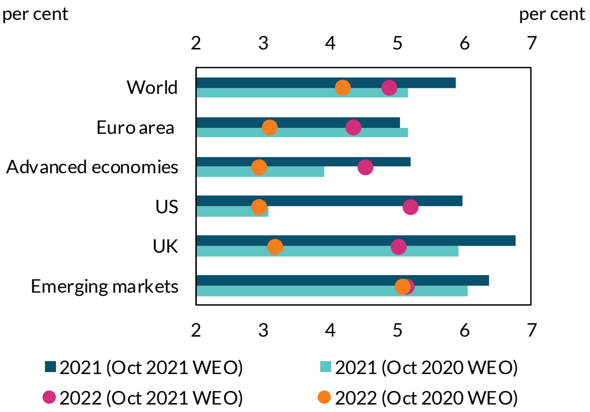
[7] ECB Financial Stability Review – 2021: II.
[8] See Heffernan T., McCarthy B., McElligott R., Scollard C., "The role of non-bank lenders in financing Irish SMEs", Central Bank of Ireland, 04/2021; and Daly, P., Moloney, K., and Myers, S. (2021), "Property funds and the Irish commercial real estate market", Financial Stability Notes, Vol. 2021, No. 1.

## *A divergent global economic recovery and rising inflation, amid higher levels of indebtedness internationally*

*The global economic recovery has continued since the last Review, but remains uneven across countries and sectors. Downside risks to the global economic outlook remain, given the potential for further COVID-19 setbacks, while supply chain disruptions coupled with increases in commodity prices are leading to broader price pressures. Sustained price pressures could erode real income growth disrupting the recovery and, if they were to feed through to higher medium-term inflation expectations, they could also lead to earlier than expected increases in interest rates internationally. At the same time, higher levels of indebtedness have increased the vulnerability of the global economy to potential future macroeconomic shocks, including any potential tightening of financing conditions. Given the open and highly-globalised nature of Ireland's economy, such global macro-financial shocks would have the potential to increase domestic downside risks.*

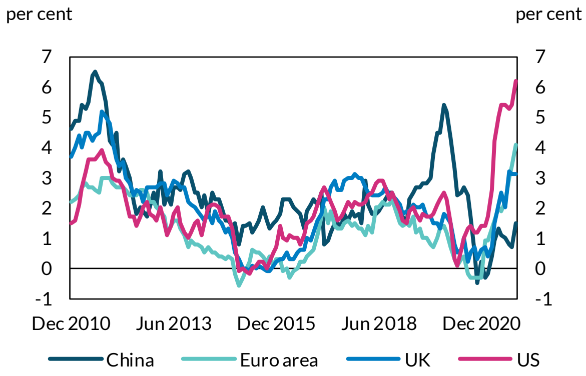
The global economic recovery has continued since the last *Review*, supported by unprecedented policy support, although there are increasing signs of divergence across advanced and emerging economies. Economic activity in advanced economies is expected to recover to its pre-pandemic trend in 2022 while the IMF forecast that aggregate output for emerging and developing economies (excluding China) will remain 5.5 per cent below the pre-pandemic trend forecast in 2024. This divergence in growth prospects reflects the large differences in vaccine access and disparities in policy support. As shown in Chart 7, growth forecasts for some of Ireland's key trading partners, including the euro area, UK and US, suggest a relatively robust rebound in economic activity this year and next year.

**Chart 7: The global recovery has continued with growth forecasts remaining higher than a year ago**
Evolution of global growth forecasts




Source: IMF.
Notes: WEO refers to the World Economic Outlook.

**Chart 8: Inflationary pressures have increased internationally**
Inflation rate



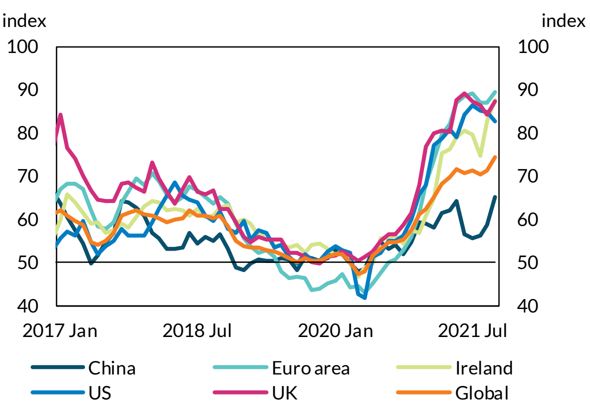

Source: Bloomberg.
Notes: Inflation rate refers to the year-on-year percentage change in the consumer price index in China, UK and US, and HICP in the euro area. Last observation October 2021.

Downside risks to the global economic outlook nevertheless remain, including from the recent rise in inflation internationally. A disruption in the global economic recovery owing to further COVID-19 shocks, slower than anticipated vaccine roll-outs or further restrictions on economic activity have the potential to disrupt the recovery. The recent increase in inflation internationally also poses risks to the recovery. Recent spikes in consumer prices have been linked to base-effects from the fall in prices in 2020, pent-up demand associated with the easing of public health restrictions in many economies, coupled with higher energy and commodity prices and supply chain bottlenecks (Chart 8). Recent survey data also suggest an increase in manufacturing input costs, which may potentially translate to sustained pressures on output prices (Chart 9). A more sustained increase in prices globally has the potential to erode real income growth, with implications for the economic recovery.

Recent inflationary pressures, if sustained, may lead to higher medium-term inflation expectations, and could lead to earlier than expected interest rate increases internationally. Recent price increases are currently not expected to translate to longer-term inflationary pressures. Nevertheless, there remains a risk that these feed through to broad-based wage pressures, as workers look to preserve real wages, which could potentially have implications for monetary policy and, in turn, wider financing conditions.  Even market expectations of an earlier than expected withdrawal of monetary policy support could have implications for the cost of debt financing of borrowers internationally.

**Chart 9: Supply chain disruptions and increases in input prices leading to price pressures for firms**

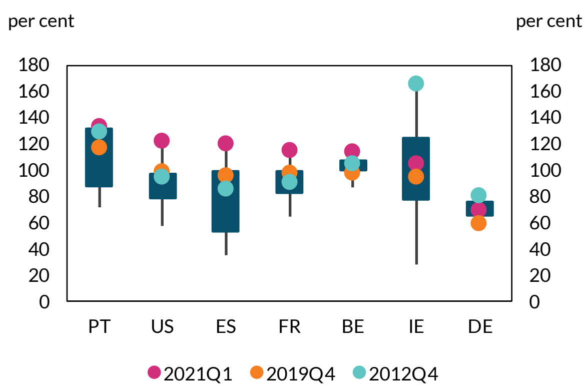
Manufacturing Input Prices PMIs for selected economies




Source: Refinitiv Datastream.
Notes: Value of 50 signifies no change in activity compared to the previous month, values above 50 signify an expansion of activity, while those below 50 signify a contraction of activity. Last observation: October 2021.

**Chart 10: Sovereign debt levels for many countries are historically high**

Sovereign debt as a percentage of GDP/GNI*




Source: Datastream and Central Bank of Ireland calculations.
Notes: Data cover the period 2006Q1-2021Q1. IE data expressed as a percentage of GNI*.

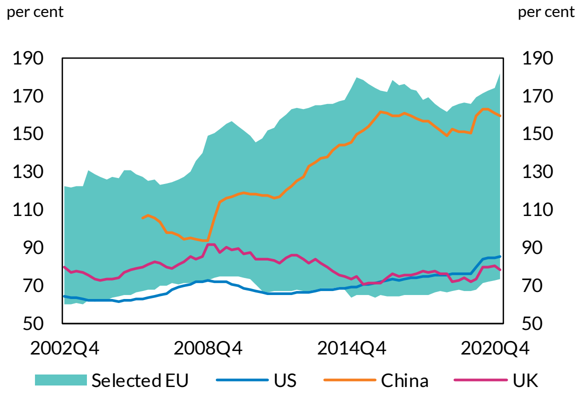
Higher levels of indebtedness increase the global economy's vulnerability to potential macroeconomic tail risks.[9] Governments internationally have provided large fiscal support programmes since the onset of the COVID-19 shock. While these measures have been necessary to avoid longer-term scarring to economies, the associated higher levels of sovereign debt reduce the capacity of governments to mitigate future shocks (Chart 10). Moreover, such policy support has increased the co-dependency between the sovereign and corporate sectors. Therefore, any shocks to the future performance of the corporate sector could directly impact sovereign balance sheets, through global governments' exposures via emergency lending support or deferred tax liabilities.

[9] The risks associated with the phasing out of government supports are discussed in ESRB (2021) "Financial Stability Implications of support measures to protect the real economy from the COVID-19 Pandemic"

Corporate debt levels have also been on the rise in several large economies. Corporate debt levels in some of the world's largest economies had increased to historic highs before the pandemic (Chart 11), facilitated by the low interest-rate environment. In the US, the level of non-financial corporate debt relative to economic activity has been growing over the past decade, to levels exceeding those observed before the global financial crisis. Having risen further during the pandemic, the non-financial corporate debt to GDP level in the US has fallen back most recently as economic activity has recovered. Within that aggregate picture, however, debt issuance by riskier US business borrowers —through high-yield bonds and leveraged loans— continued to be strong this year. In China, concerns surrounding the ability of companies in the real estate sector to service their debt obligations have increased in recent months, with the ongoing uncertainty surrounding Evergrande. Any disorderly default of such a large corporation could have potential spillover effects to the Chinese economy or financial system and prompt a generalised repricing of risks in international financial markets (see *Risks: Global repricing*).

**Chart 11: Corporate debt has also increased and is particularly elevated in China**

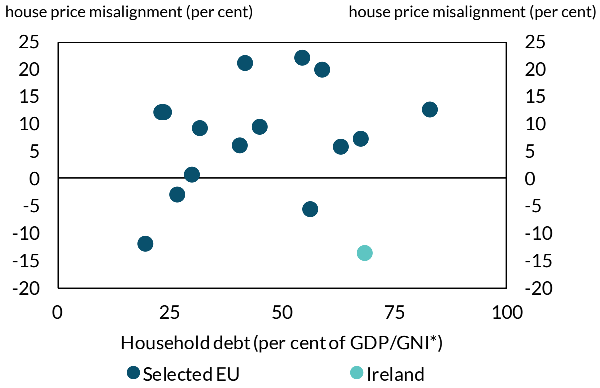
NFC debt as a percentage of GDP




Source: Refinitiv Datastream and Central Bank of Ireland calculations.
Notes: Last observation 2021 Q1.

**Chart 12: Household indebtedness and measures of house price misalignment varies across the EU**

Household indebtedness and house price misalignment measures.




Source: ECB, Haver Analytics and Central Bank of Ireland calculations.
Notes: ECB estimates of house price misalignment relative to estimated values. Data as at 2020 Q4.

Household indebtedness varies internationally, but the rapid increase in house prices globally relative to incomes – if sustained – could lead to higher indebtedness. While the prevalence of fixed-rate debt varies by country, many households have locked in mortgages at low interest rates. Nevertheless, despite the impact of the COVID-19 pandemic on economic activity, global house prices have increased substantially, with the increases in house prices relative to incomes also becoming more pronounced in some countries in the EU (Chart 12). Growing levels of house prices relative to incomes, if sustained, would have the potential to lead to higher levels of household indebtedness. Such market dynamics could leave households susceptible to any sudden repricing of risks in the future (see *Risks: Global repricing*).

## *Structural changes in the international tax and trade environment*

*As one of the most open economies globally, with a heavy reliance on foreign investment and international trade, Ireland is particularly exposed to any structural changes in international tax and trading arrangements. The reform of corporate taxation, as proposed in the OECD International Tax agreement - which Ireland has joined since the last Review - will result in changes to the international corporate tax landscape. This global agreement has the benefit of reducing uncertainty, but will also have implications for the public finances in Ireland given the increased reliance on, and concentration of, corporate tax receipts. Beyond tax arrangements, Ireland is heavily integrated into global supply chains that continue to experience significant disruptions since the last Review. Such shocks – if sustained - could have broader macroeconomic consequences for Ireland, especially if amplified by a slowdown in the global economic recovery or accompanied by a tightening in global financing conditions.*

As a small open economy with a heavy reliance on foreign MNEs, Ireland is increasingly exposed to changes in international tax. Since the last *Review*, the Irish Government has agreed to join the OECD International Tax agreement. As part of this agreement, a revised statement and detailed implementation plan was agreed by 136 jurisdictions in October including all the EU Members States and OECD members. There are two main elements to this international agreement. Pillar 1 will see a re-allocation of a proportion of profits to the jurisdiction of the consumer. In practice, this will see tax revenue that would otherwise have flowed to the government where the company was located being redistributed elsewhere based on the location of where sales transactions took place. Pillar 2 will see the adoption of a new global minimum effective tax rate applying to MNEs with global revenues in excess of €750 million. The technical details underpinning the two pillars will be further developed over the coming months with an implementation date of 2023 set for both pillars.

The reform in international corporate taxation reduces uncertainty, but is also expected to impact Irish corporate tax revenue. For instance, the Department of Finance and the Revenue Commissioners have estimated that the cost of the agreement will be up to €2 billion annually.[10] Nevertheless, the OECD International Tax agreement has provided greater clarity over the medium to longer term on the likely corporate tax landscape in Ireland which can inform the potential investment decisions of foreign investors and MNEs, mitigating some of the downside risks.

Ireland is particularly exposed to any structural changes in international taxation given its heavy reliance and increased concentration of corporate tax revenues. In 2020, over 21 per cent of the total tax revenue came from corporation tax with these receipts continuing to be a significant source of revenue in the public finances throughout the COVID-19 shock. The share of total government revenue accounted for by corporate tax is among the largest in the OECD (Chart 13). Not only is the share of revenue high but the majority of this revenue is heavily reliant on a relatively small number of large firms in certain sectors.[11]

[10] See the report by the International and EU Tax Developments Tax Strategy Group.
[11] See Governor's pre-Budget letter to Finance Minister.

Foreign multinationals support the domestic economy via a number of different channels. Aside from corporate tax revenues, foreign MNEs also indirectly contribute to the public finances through other forms of taxation (Chart 14). In addition to both direct and indirect taxation, they also employ more than 400,000 people within the State.

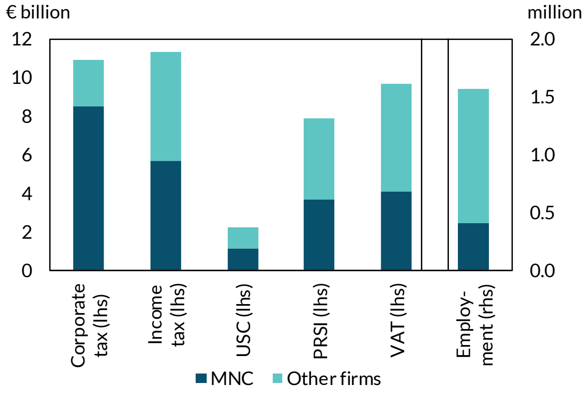
**Chart 13: Irish reliance on corporation tax is high by international standards**

International comparison of corporation tax share of total tax revenue


Source: OECD and Central Bank of Ireland calculations.
Notes: Sample of 37 OECD countries.

**Chart 14: The importance of MNEs to the Irish economy extends beyond corporate tax**

Breakdown of taxation and employment by firm type




Source: The Revenue Commissioners, CSO and Central Bank of Ireland calculations.
Notes: Taxation data are for 2019. Employment data are for 2018.

Ireland, given its reliance on international trade, is susceptible to disruption in global value chains. As was highlighted during the pandemic, global supply chains are heavily interconnected and complex. Delays and bottlenecks in one location can have knock-on effects that lead to price pressures *(see Risks: Divergent global economic recovery)*. A number of measures point to a deterioration and delays in global supply chains (Chart 15). For example, delays in the production of semiconductors are expected to have knock-on consequences for a wide range of sectors. Global delivery times across a number of manufacturing sectors continue to lengthen. At the same time, a lack of raw materials and equipment is affecting a record number of EU manufacturers. Beyond the near-term macroeconomic effects of supply-chain disruptions, more structural changes to supply chains, accelerated by the COVID-19 shock, could also have implications for small, highly-globalised economies like Ireland.

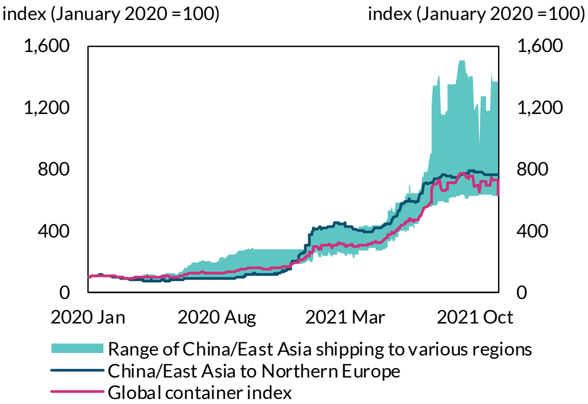
The reliance of the domestic economy on a small number of particular sectors increases the sensitivity of the Irish economy to sector specific or firm shocks. As mentioned above, a large share of economic activity is accounted for by a small number of firms and this increases the sensitivity of the domestic economy to the performance of these firms. During the height of the pandemic, economic activity was supported by the performance of certain sectors. In particular, the pharmaceutical sector was a significant contributor to Irish exports. However, sector specific issues can give rise to broader macroeconomic tail risks including, for example, risks associated with patent cliffs in the pharmaceutical sector.[12] Moreover, US high-tech firms with a large presence in Ireland could be adversely impacted by any escalation of trade disputes given their extensive global value chains, including strong connections to China. Coupled with ongoing supply chain disruptions and ongoing external trade complexities as a result of Brexit, this heightens

[12] See, for instance, Enright, S. and M. Dalton (2013), "The Impact of the Patent Cliff on Pharma-Chem Output in Ireland", Working Paper No. 1, Department of Finance and Emter, L., McQuade, P. and C. Mehigan (2019), "Box E: MNEs and Ireland: A Firm Level Analysis", Central Bank of Ireland Quarterly Bulletin, No. 3.

Ireland's exposure to international trade disruptions which could have broader knock-on macroeconomic consequences.

**Chart 15: Global supply chain disruption and bottlenecks have increased in recent months**

Global container index




Source: Refinitiv Datastream.
Notes: Range of China/East Asia shipping to various regions includes Northern Europe, Mediterranean, US (east coast) and US (west coast). Last observation 5 November 2021.

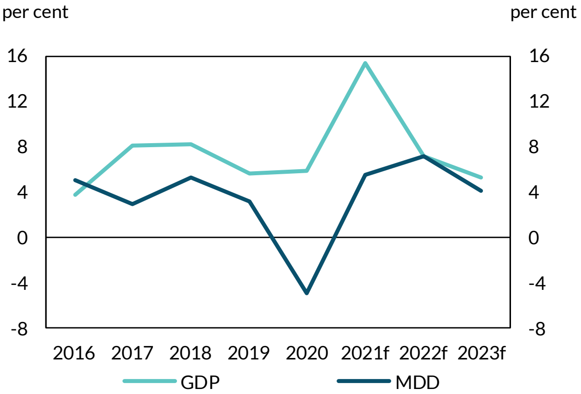
## *An uneven domestic macro-financial outlook, with the potential for capacity constraints and price pressures to intensify in some sectors*

*The domestic economy has continued to rebound strongly since the last Review and the recovery is expected to be robust, albeit uneven across sectors. The roll-out of the vaccination programme coupled with the re-opening of large parts of the economy has resulted in a reduction in uncertainty and near-term downside risks. However, tail risks related to the path of the COVID-19 pandemic remain, as evidenced by heightened public health concerns in recent weeks. In addition, just as the COVID-19 shock resulted in an unprecedented downturn in economic activity, the ensuing recovery has also been atypical, bringing its own risks. In some sectors, the adverse effects of the pandemic on activity have been more persistent. In other sectors, strong demand, supply chain disruptions and labour shortages have led to price pressures. While not the central expectation, there is a potential risk that capacity constraints in parts of the economy could become increasingly binding, leading to an emergence of imbalances in the medium term. The uneven domestic macro-financial outlook is also evident in real estate markets where the substantial cumulative growth in house prices contrasts with declines in capital values and rents in the CRE market, albeit the declines in the latter have moderated.*

The Irish economy has rebounded in recent months, although the recovery is likely to remain uneven across sectors. The latest forecasts for the Irish economy suggest a sustained period of robust growth, with domestic economic activity expected to recover to pre-pandemic levels this year and broadly to be where it would have been had the pandemic not occurred by end 2023 (Chart 16). Policy support helped to shield both firm and household incomes and reduced the degree of permanent economic 'scarring' on the economy relative to what it might have been in the absence of such support.

**Chart 16: Economic growth is forecast to grow strongly in the coming years**

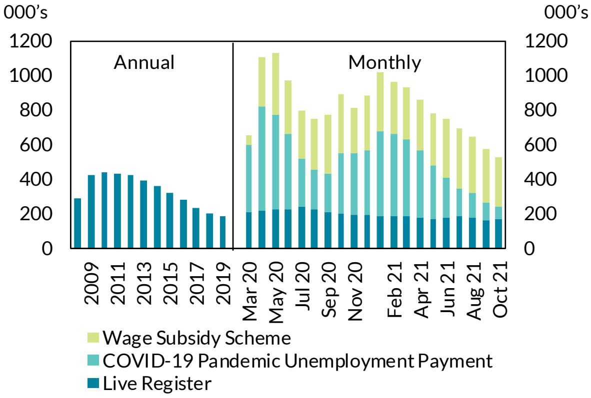
Actual and Central Bank of Ireland forecast annual growth in real GDP and Modified Domestic Demand




Source: Central Bank of Ireland.
Notes: Modified Domestic demand (MDD) excludes investment in intellectual property and aircraft related to the leasing industry. Forecasting data as of October 2021.

**Chart 17: Labour market conditions have improved but COVID-19 support still substantial**

State income support recipients




Source: CSO, DEASP and Revenue Commissioners.
Notes: Annual series shows live register figures as at the end of December each year. Monthly data are available from March 2020 onwards. Last observation October 2021.

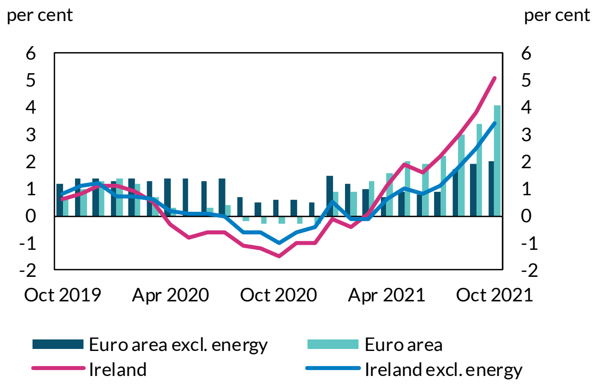
The improvement in macroeconomic conditions in Ireland since the last *Review* means that some of the near-term pandemic-related risks have started to decrease. This is reflected in the labour market, which has seen a continued reduction in the numbers in receipt of State income support.

The improvement in labour market conditions throughout the summer months has coincided with the easing of public health restrictions, a gradual reopening of large parts of the economy and the tapering of some fiscal supports (Chart 17). Nevertheless, public support remains an important feature of the labour market, especially for those parts of the economy that have been most adversely affected by public health restrictions. Indeed, economic activity in some sectors continues to be affected by the effects of the pandemic and the gradual removal of public support over time may lead to a crystallisation of 'latent distress' in parts of the corporate sector. Moreover, tail risks related to the path of the COVID-19 pandemic remain, as evidenced by heightened public health risks in recent weeks.

The strong recovery in demand, coupled with supply chain disruptions and labour shortages in some sectors, have led to increasing price pressures. Distribution and supply chain bottlenecks have been associated with recent rising costs across a broad spectrum of goods and services. Cost increases have already begun to filter through in terms of consumer prices, both internationally (including in the euro area, see *Risks: Divergent global economic recovery*) and the domestic economy (Chart 18). Risks to inflation globally are tilted to the upside, particularly if supply bottlenecks were to last longer and feed through into higher than anticipated wage rises. However, the economic outlook could also deteriorate if the pandemic worsened, which would delay the recovery in the economy, or if supply shortages turned out to be more persistent than currently expected.

**Chart 18: Price pressures have increased in the euro area and domestically**

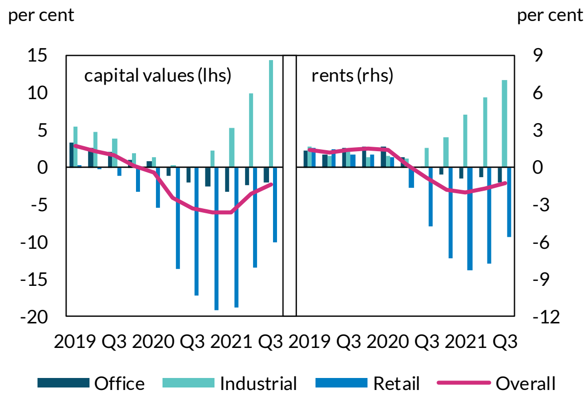
Recent increase in euro area and Irish inflation rates




Source: Eurostat.
Notes: Annual growth rate of harmonised index of consumer prices (HICP) including and excluding energy. Last observation October 2021.

**Chart 19: There was an easing in the annual rate of decline in CRE market values during the second and third quarters of 2021**

Annual change in CRE sectoral capital value and rental growth indices




Source: MSCI.
Notes: Last observation 2021 Q3.

While not the baseline expectation, there is a risk that capacity constraints could intensify which, over the medium term, could result in the emergence of domestic imbalances. One key factor that will have implications for the trajectory of the domestic economy in the coming years is around the extent and speed at which household pandemic-related savings are unwound. The household savings ratio increased to 26.1 per cent of disposable income in 2020, as a result of constrained consumption opportunities and possibly some precautionary behaviour while overall household income continued to grow. In a scenario where households were to quickly unwind these savings, this extra spending could add to capacity constraints, resulting in either increasing imports of goods and services and/or upward pressure on prices, including asset prices. The path the public finances may take is another important consideration. In an economy already experiencing strong economic growth, there is a risk that higher than planned government spending could exacerbate inflationary pressures.

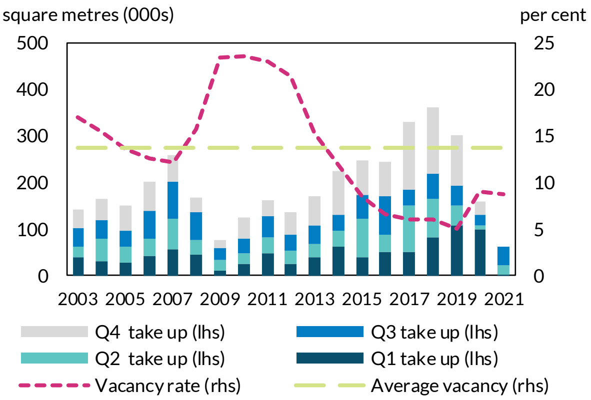
### The pace of decline in Irish commercial property market values has moderated, albeit structural challenges remain

Declines in Irish commercial real estate capital values and rents were less severe during the second and third quarters of 2021. Overall, Q3 2021 capital values were 2.4 per cent lower on an annual basis compared to falls of 6.1 and 3.6 per cent in Q1 and Q2 2021, respectively (Chart 19). Similarly, year-on-year rents were down 1.3 per cent at the end of September, following on from the 1.7 per cent fall recorded at the end of June 2021. As one of the sectors most adversely impacted by pandemic-related closures, the retail sector continued to experience the largest declines (Chart 19). Post-COVID, the retail sector will continue to face a range of broader structural challenges, some of which have been exacerbated during the past couple of years, such as the increased competition provided by the growth of on-line shopping.

Since the last *Review*, there has been a notable increase in the demand for space in the Dublin office market, which is facing its own structural challenges in the aftermath of COVID-19.[13] Approximately 40,000 square metres of space was leased in the third quarter of the year, the highest amount since the beginning of the pandemic and more than double the amount taken-up in the previous quarter. As a result, office take-up for the nine months to September 2021 has surpassed 60,000 square metres, with a further 99,000 square metres reserved at the end of the quarter. Increased letting activity has seen the Dublin office vacancy rate decline marginally to 8.8 per cent in Q3 2021 from over 9 per cent at the end of 2020 (Chart 20).

**Chart 20: Uptick in leasing activity during Q3, with corresponding decline in the Dublin office vacancy rate**

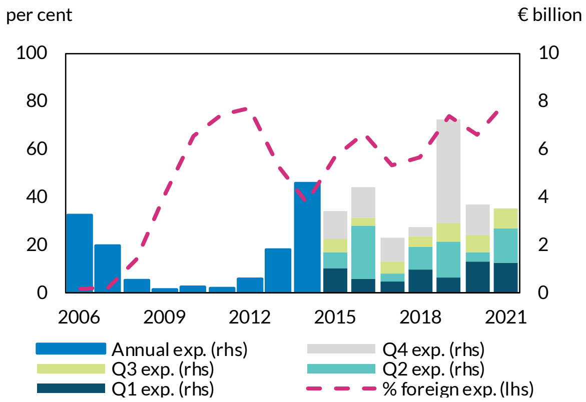
Dublin office stock take-up and vacancy rate




Source: CBRE Research.
Notes: Last observation 2021 Q3.

**Chart 21: Significant volumes of largely foreign investment continue to flow into the Irish CRE market**

Investment expenditure on Irish CRE




Source: CBRE Research.
Notes: Last observation 2021 Q3.

Despite the uncertain outlook, investment in Irish CRE has been robust throughout 2021. The €800 million invested during Q3, brought the year-to-date 2021 total to €3.5 billion, which is

[13] According to CBRE for instance, demand for office accommodation in the capital has increased in each of the last three quarters, with the total requirement for Dublin office estimated to be over 400,000 square metres in Q3 2021 – close to the pre-pandemic level high of 430,000 square metres at the end of 2019 and up significantly from the estimated end-2020 requirement of approximately 230,000 square metres. For more see CBRE Dublin Office Report Q3 2021.

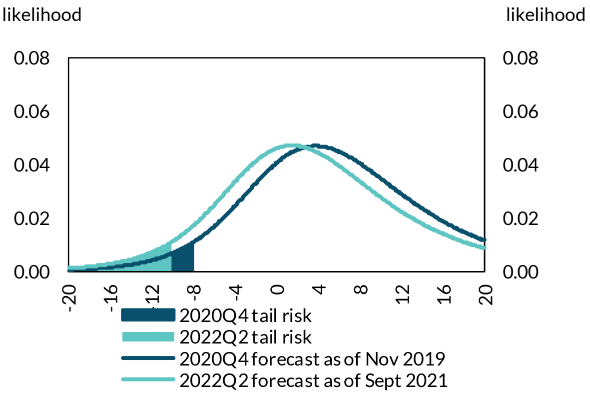
approximately 50 and 20 per cent higher than the equivalent respective figures for 2020 and 2019 (Chart 21). It is also well above average annual volumes of CRE investment from 2006 to 2020 (€2.5 billion). Overseas investors continue to play a prominent role in the Irish CRE market, with about 80 per cent of this year's "known" investment[14] originating from overseas (Chart 21). While the increased presence of foreign investors – often intermediated via the domestic investment fund sector – brings diversification benefits, it may also act a channel of propagation of global shocks to the domestic property market. Overall, tail risk in the Irish CRE market remains relatively unchanged since the last *Review* but is elevated compared to the pre-pandemic period (Chart 22).

## The on-going imbalance between supply and demand has resulted in continued strong price increases in the residential property market

The housing market has seen a very strong recovery following the initial COVID-19 shock, resulting in rapid house price growth. COVID-19 has accentuated pressures arising from existing imbalances between supply and demand for housing in Ireland. According to September 2021 data, residential property prices are currently growing at their fastest rate annually (12.4 per cent) since mid-2018 (Chart 23).

**Chart 22: Near-term tail risk to CRE growth is largely unchanged since the last Review, but remains elevated relative to pre-pandemic period**

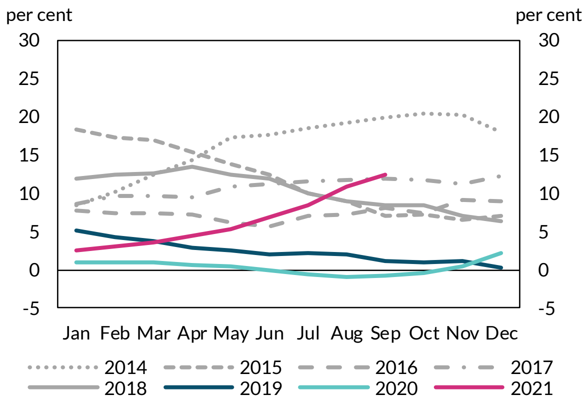
CRE prices at risk




Source: Central Bank of Ireland calculations.
Notes: Darker line shows a pre-pandemic forecast whereas lighter line represents a post-pandemic onset forecast. Last observation 2021Q2.

**Chart 23: House price growth has accelerated in 2021**

CSO National Residential Property Price Index, annual percentage change by year




Source: CSO.
Notes: Last observation September 2021.

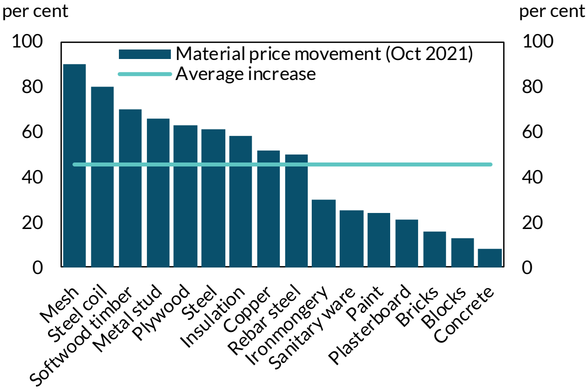
Supply chain disruptions and personnel shortages have the potential to further increase the cost of housing construction, and could also feed through to house prices. According to research by building contractor Sisk, price hikes of between 90 (mesh) and 8 per cent (concrete) have occurred in a number of key construction inputs since the end of 2019 (Chart 24). Similarly, in their Autumn "*Market Intelligence Survey*" for Ireland, Turner and Townsend[15] report an average increase in building material costs of 13.4 per cent in the 12 months to July 2021, with average labour costs in the sector up 4 per cent over the same period. Such inflationary pressures are feeding into overall

[14] "Known" CRE investment refers to the funds where it is possible to identify a geographical source of origin. About 88 per cent of the CRE investment which has occurred during the opening three quarters of 2021 falls into this category.
[15] See "Republic of Ireland market intelligence survey", Turner & Townsend, Autumn 2021.

construction tender prices, which rose by more than 8 per cent annually in June 2021[16], with further increases expected during the remainder of 2021 and throughout 2022 and 2023.[17] As direct construction costs (i.e. materials and labour) account for approximately half of the overall price of a new RRE unit, any prolonged rise in the price of key inputs has the capacity to delay the delivery of new housing units and/or potentially contribute to additional house price growth. This could also increase medium-term vulnerabilities, as periods where house prices are growing consistently faster than incomes or rents are more likely to be associated with subsequent corrections over time (see *Policy: Mortgage measures*, for the latest assessment of housing and mortgage market developments).

**Chart 24: The cost of many key construction materials has increased sharply**

Change in the price of key construction materials since end 2019




Source: Sisk "Price Update Dashboard"
Notes: All information contained in this chart reflects a summary of the latest market intelligence available to Sisk as of November 5th, 2021 and is for guidance purposes only.

[16] See "Tender price index", SCSI, October 2021.
[17] For instance contractors surveyed by Turner and Townsend in their Autumn market survey predict tender prices will rise by 8.9 per cent over the course of 2021, by 3.5 per cent in 2022 and by 1.6 per cent in 2023.

# Overall Risk Environment

*The overall risk environment is gradually shifting, with pandemic-related risks having decreased since the last Review, while medium-term vulnerabilities continue to build.*

*The easing of public health restrictions has led to a rapid rebound in the Irish economy in recent months, which is expected to be followed by a sustained period of robust growth. The reopening of large parts of the economy has led to a reduction in near-term uncertainty and downside risks since the last Review. However, tail risks related to the path of the pandemic remain, as evidenced by heightened public health concerns in recent weeks. Moreover, the recovery has been uneven across sectors and it is likely that some degree of 'latent distress' among borrowers will crystallise as government support tapers.*

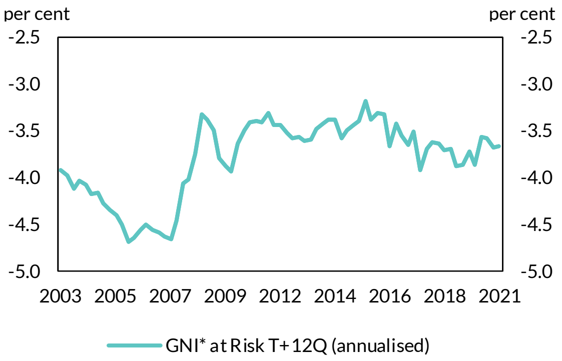
*At the same time, developments in global financial markets – including continued search for yield behaviour among investors, compressed risk premia and increasing debt issuance by riskier corporate borrowers – point to a build-up of vulnerabilities. In the real economy, both domestically and internationally, there is increasing evidence of supply chain disruptions, price pressures and capacity constraints which, given the recovery in economic activity since the last Review, could pose medium-term risks.*

*Significant interdependencies exist across the four headline risks presented in this Review creating the potential that these risks crystallise at the same time due to common triggers such as a global mispricing of inflation risk prompting a widespread repricing of risk. Moreover, slower-moving and structural risks continue to build such as those stemming from changes in international tax and trade arrangements, climate change as well as risks linked to operational and cyber security.*

*The growth-at-risk framework is a useful tool for assessing the evolution of downside risks to the macro-financial outlook in Ireland. These at-risk models can be used to assess future tail macroeconomic outcomes given current economic activity, financial conditions and cyclical systemic indicators. These models do not, however, account for structural changes occuring in the broader macro-financial environment. Tail risks over the medium-term horizon, based on the three year growth forecast for Irish GNI* (i.e. the 5$^{th}$ percentile "at risk"), has shown a slight deterioration in the six months to 2021Q1 but has not approached the levels which preceded the 2008 global financial crisis (Chart 25).*

**Chart 25: GNI* growth at risk vulnerability remains over the medium-term forecast horizon**

T+12Q GNI* Growth At Risk




Source: Central Bank of Ireland
Notes: Model estimated at T+12Q up to 2018 Q1. Last forecast for 2024 Q1 fitted from observed data as of 2021 Q1. X axis shows forecast "as at".

## *Cyclical risk*

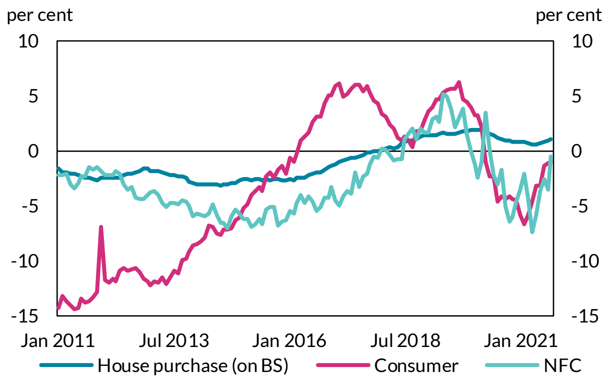
Cyclical risks relate to developments in credit, asset markets (including real estate), risk-taking behaviour, the broader economic cycle and external imbalances, which are reflective of the gradual build-up of vulnerabilities in the macro-financial environment. The Central Bank monitors the evolution of the cyclical risk environment on an ongoing basis to inform policy decisions such as the CCyB (see *Policy*: *CCyB*).

Developments in global financial conditions point to a build-up of cyclical risks (see *Risks*: *Global repricing*). As a small, highly-globalised economy, Ireland is particularly sensitive to developments in the rest of the world. Looser global financial conditions – accompanied by increased search for yield and rising levels of global indebtedness – imply higher downside risk to global growth in the medium-term. These have the potential to transmit back to Ireland through a range of real and financial channels, also influencing the magnitude of downside risks to growth in Ireland in the medium-term (see Box B).

Domestically, the economic recovery, while uneven, also points to a gradual increase in cyclical risks (see *Risks: Domestic macro-financial*). Positive consumption and labour market dynamics have contributed to the recovery in domestic demand since the last *Review*. In some sectors, strong demand, supply chain disruptions and labour shortages have led to price pressures. There is a risk that capacity constraints in parts of the economy become increasingly binding, leading to an emergence of imbalances in the medium term. In the housing market, similar to developments internationally, house prices have risen strongly recently, rising faster than household incomes and rents.

**Chart 26: Credit growth remains relatively subdued**

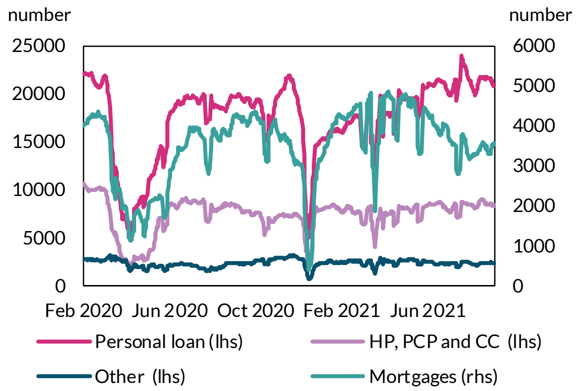
Credit growth by segment, year-on-year




Source: Central Bank of Ireland, Credit advanced to Irish private sector Table A.1.
Notes: 'on BS' refers to on balance sheet, does not include securitisations. Last observation September 2021.

**Chart 27: Credit applications have stabilised after the COVID-19 shock**

Credit enquiries on new loan applications by individuals

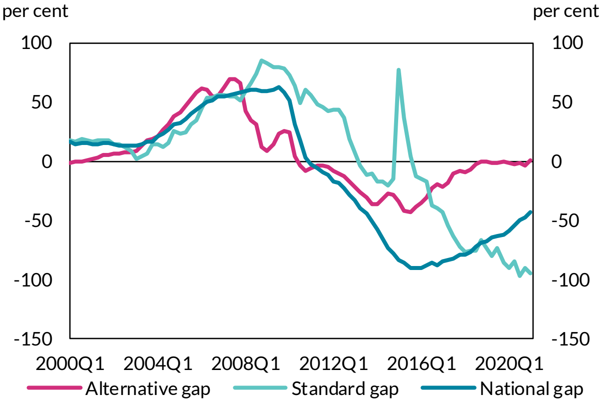



Source: Central Credit Register and Central Bank of Ireland calculations.
Notes: Data relate to credit enquiries to the Central Credit Register for individual loan applications. HP, PCP and CC refer to hire purchase, personal contract plans and credit cards, respectively. Last observation 21 October 2021.

Nevertheless, domestic credit growth remains relatively subdued. Year-on-year rates of credit growth to the non-financial private sector has been negative since the second quarter of 2020, largely driven by a fall in the demand for credit at the onset of the pandemic. Underlying this aggregate, credit to NFCs and consumer credit observed negative rates of growth, while lending for house purchase remained positive (Chart 26). As the economy has started to recover and demand for credit has picked up, new lending activity has strengthened, but remains uneven across different segments of the market. Moreover, forward-looking indicators such as credit enquiries on new loan applications by individuals have stabilised following the COVID-19 shock (Chart 27). The alternative gap, which is the preferred measure of the “credit gap” used by the Central Bank, has remained close to zero over the last number of quarters (Chart 28). This suggests levels of cyclical risk that are neither particularly subdued nor particularly elevated. High frequency indicators of financial stress display a stabilisation at pre-pandemic levels (Chart 29). Nonetheless, vulnerabilities may build up over the medium term as a result of a higher risk-taking behaviour by investors (see *Risks: Global repricing*).

**Chart 28: Nationally preferred alternative credit gap remains around zero while standard credit gaps remain substantially below zero**

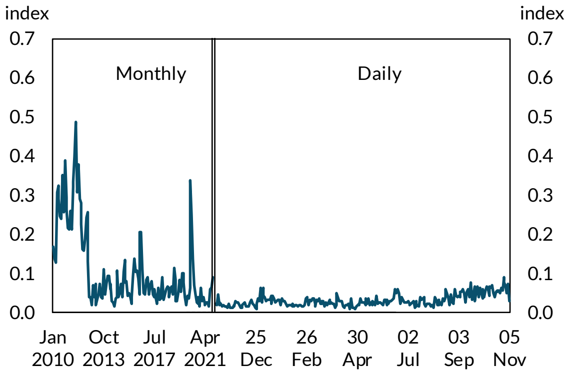
Various measures of the credit gap




Source: CSO, ECB and Central Bank of Ireland calculations
Notes: Standard Gap and National gap calculated with the HP-filter. Alternative gap computed as in O’Brien, O’Brien and Velasco (2018) appended with last observation 2021 Q1 based on O’Brien and Velasco (2020).

**Chart 29: Irish financial market stress has stabilised at close to pre-pandemic levels**

Irish Composite Stress Index (ICSI)




Source: Refinitiv Datastream and Central Bank of Ireland calculations.
Notes: The ICSI is a weighted composite of five market sub-indices (Banking, Bond, Equity, FX, Money) that is further adjusted to account for the degree of correlation amongst sub-indices (see Parla., 2021). Daily and monthly frequency. Last observation 5 November 2021.

## *Structural risk*

Structural risks exist within the financial system independent of the financial and economic cycles. They stem from slow-moving features of the financial system or economy, such as market or exposure concentration, the degree of financial system interconnectedness and systemic importance, and the scope for structural macroeconomic shocks.

International tax and trade developments pose the most imminent structural risk to Ireland, given the structure of the Irish economy. As one of the most open economies globally, with a heavy reliance on foreign investment and international trade, Ireland is particularly exposed to any structural changes in international tax and trading arrangements (see *Risks: International tax and trade and Resilience: Sovereign*).

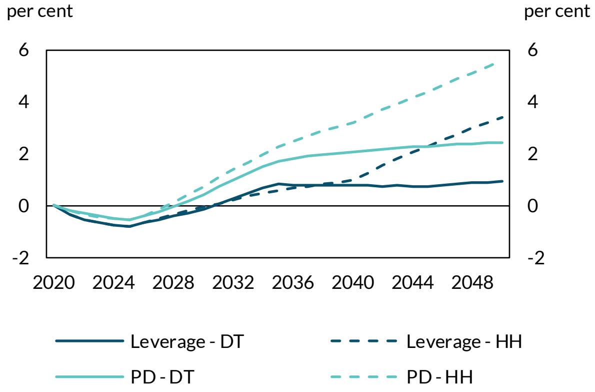
Structural risks stemming from climate change are becoming increasingly pronounced. Broadly, risks from climate change fall under two categories. First, so-called 'physical risks' which result from the increased incidence or severity of extreme weather events as well as gradual and structural shifts in the environment. Second, 'transition risks' also exist, which stem from the possibility of, for example, changes in the relative price of carbon-intensive assets, due to the necessary adjustment toward a less carbon-intensive economy. To mitigate the damage from climate change over the course of this century (and beyond), the EU, including Ireland, along with other major economic regions, will be transitioning to a net-zero emissions economy by 2050. This target is unprecedented in terms of its depth and urgency, and will embody a profound structural shift in the types of energy society's use, future consumption and investment patterns, and the stock of energy-consuming technologies and infrastructure.

Carbon price increases – either through direct taxation on fuels or indirectly through the EU Emissions Trading System and the proposed Carbon Border Adjustment Mechanism – represent one of the channels through which a transition to a low-carbon economy can affect the financial system. The impact on various segments of the economy will depend on a firm or household's current emission intensity and the cost-minimising timing of technology or process change. Interactions across climate policies will also be important. For example, Ireland's 2030 70 per cent renewable electricity target (43 per cent in 2020) will partially shield firms and households from rising carbon prices through increased electrification (adoption of electric vehicles and heat pumps, for example).

Forward-looking projections for the euro area show that the costs of early and effective climate policies are more than offset by long-term profitability increases. The 2021 European Central Bank economy-wide climate stress test applied a range of climate scenarios across the euro area to explore the financial resilience of large corporates. Overall, results show that any short-term declines in profitability (and increases in default probabilities) that accompany an orderly transition are more than offset in the medium to long-run (Chart 30 and Chart 31). It is also evident that risks are unevenly distributed across regions, sectors and banks. This analysis, while a significant contribution to the understanding of climate-macro-financial channels and risks, also serves to motivate further work in this area.

**Chart 30: ECB forward-looking projections of climate change – corporate leverage & PDs**

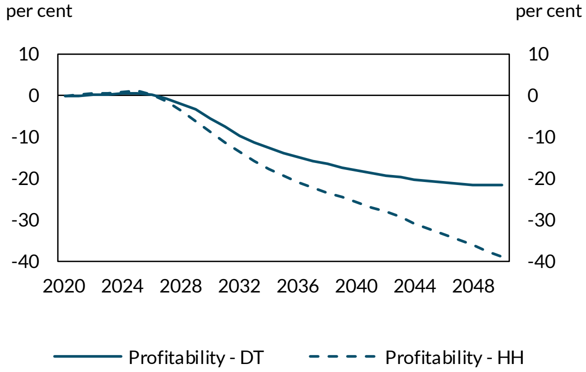
Change in corporate leverage and default probabilities of the median firm (relative to an orderly transition), 2020 to 2050




Source: ECB Occasional Paper No. 281.
Notes: "PD" refers to probability of default, "DT" refers to the "Disorderly transition" scenario with average physical risk due to a delay in implementing policies. "HH" refers to the "Hot house world" scenario with extreme physical risk as the result of no new policies implemented (only current policies).

**Chart 31: ECB forward-looking projections of climate change – corporate profitability**

Change in corporate profitability of the median firm (relative to an orderly transition), 2020 to 2050




Source: ECB Occasional Paper No. 281.
Notes: "DT" refers to the "Disorderly transition" scenario with average physical risk due to a delay in implementing policies. "HH" refers to the "Hot house world" scenario with extreme physical risk is the result of no new policies implemented (only current policies).

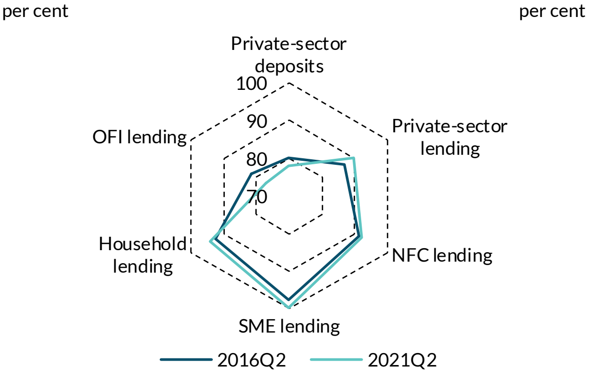
Operational and cyber risks have also increased within the financial system in recent years, both internationally and in Ireland. Over the last two years, firms have seen a fundamental shift in their use of, and dependence on, technology to carry out their business activities. The sudden shift to remote working in March 2020, coupled with the increased activity of cyber threat actors seeking to take advantage of initial vulnerabilities in remote working practices, has increased cyber risks. Moreover, the substantial increase in customer demand for digital service offerings due to the pandemic has increased pressure on firms to accelerate their adoption of technology to meet these challenges which also raises additional operational vulnerabilities.

Beyond these aforementioned risks, the structure of the financial system in Ireland also continues to evolve, with increasing concentration in the domestic banking sector. While the total assets of the overall banking sector in Ireland continues to increase, the number of banking groups offering financial services to the domestic economy will fall in the coming years. A reduction in the number of banks will increase the level of concentration within the domestic market. The market share of the five largest banking groups across various markets remains significant (Chart 32). While non-bank financial institutions have increased their activity within certain domestic markets they remain primarily active in specific markets e.g., funding of CRE and, increasingly, the mortgage market.

The Irish financial sector is heavily interconnected with the wider global financial system. This reflects the role of Ireland as a hub for international banks and non-bank financial institutions such as investment funds and special purpose entities. As documented in previous *Reviews*, cross-border and intra-financial system interconnectedness are possible channels for transmitting and amplifying external shocks to domestic financial stability (see *Risks: Global repricing*). The Irish banking system is also increasingly characterised by the diverse range of business models. Broadly speaking, the banking system can be divided into two groups. Those banks that provide financial services to the domestic economy and those that are more internationally focused with limited direct involvement in the domestic economy. The level of financial sector interconnectedness and complexity within the Irish banking system continues to reflect the more outwardly-focused segment of the market (Chart 33). The retail-focused elements of the banking system have a small, if still material, exposure to the global financial system.

**Chart 32: Domestic banking markets are heavily concentrated into a small number of banking groups**

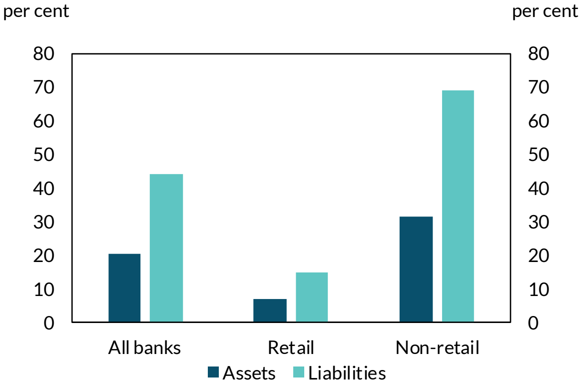
Market share of top five banking groups.




Source: Central Bank of Ireland.
Notes: Data are collected on a residency basis and for the purposes of the chart are adjusted for group structure. Credit unions are grouped together. Five largest banking groups are calculated per category and may not be the same across markets or points in time.

**Chart 33: Irish banking system is interconnected with the global financial system**

Irish banking system share of balance sheet exposure to the global financial system




Source: Central Bank of Ireland.
Notes: Exposures are expressed as a per cent of total assets.

## Box A: Chinese real estate sector liquidity strains – implications for Ireland

**By Stephen Doyle and Lorenz Emter (International Analysis and Relations)**

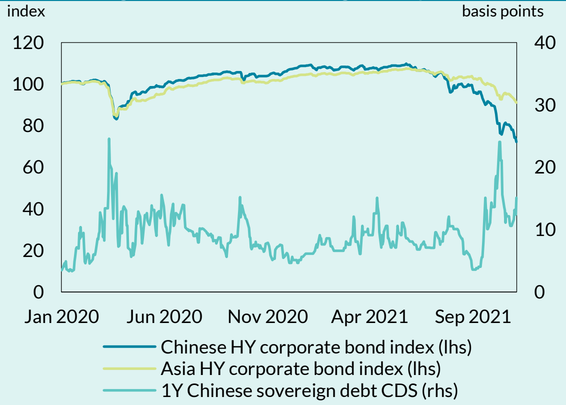
Prior to the pandemic, China experienced 20 years of strong economic growth averaging 9 per cent p.a., partly fuelled by sustained high credit growth of an average 16.5 per cent over the same period. After a swift recovery from the COVID-19 induced contraction, China experienced a deceleration in economic activity in 2020Q3, in part due to authorities' efforts to limit leverage among Chinese property developers. With a contribution of 29 per cent to Chinese GDP, developments in the real estate production and property services sectors have drawn particular attention.[1] Given China's increasing role in global trade and financial developments, a protracted slowdown and/or broader financial stress could add to downside risks for global economic growth. This Box considers the channels of exposure of Ireland's diverse financial sector and the potential implications for financial stability in Ireland.

Market participants have become increasingly concerned about a possible default by Evergrande, one of China's largest property developers. Evergrande's rapidly unfolding liquidity crisis has shown signs of spreading across the Chinese real estate sector as international bond sales fail to secure overseas investors, leading to funding shortfalls for several Chinese property developers.[2] These developments are of particular concern given potential macro-financial feedback loops in Chinese regions with weak public finances, in which slower credit growth could induce local-government entities to scale back investment. The resulting economic slowdown and lower fiscal revenues would force curbs on supports to local government-owned entities that would otherwise help finance operating cash flow deficits and provide capacity to backstop local firms. This, in turn, may lead to further tightening of credit conditions in China with potential global repercussions.[3] Such concerns might be reflected in falling prices for high yield Chinese issued international corporate bonds. Meanwhile, signs of spillovers to high yield issuers outside of China emerged. The potential for sectoral spillovers in China also became visible as the price for insurance against sovereign default reacted to news around solvency issues in other large Chinese property developers, albeit mainly at short maturities (Chart A).

According to aggregate Balance of Payments (BOP) statistics, Ireland's direct financial exposures to China are relatively limited (Table B). Hence, implications from financial turmoil and a protracted slowdown in China for Ireland would be more likely to arise indirectly, including through major trading partners such as the US and the UK which have substantial financial ties to China, also via Hong Kong. Specifically regarding exposures to Evergrande, financial liabilities, which account for approximately one-third of Evergrande's total liabilities, are largely dispersed among creditors and financial institutions worldwide - dampening fears of concentrated financial risks arising from Evergrande's debt crisis.[4] However, Irish financial exposures to China may be underestimated due to the residency principle underlying the BOP statistics and widespread offshore issuance by Chinese firms. For example, on aggregate, the euro area's exposure to Chinese equities is more than three times the value listed in official statistics, according to recent academic research.[5] For Ireland, portfolio investment exposures are concentrated in the internationally oriented investment funds sector. In September 2021, Irish resident funds reported holding €700 million of international bonds and €200 million in equity issued by Chinese developers which could potentially become distressed.[6] These developers had issued at least USD 40 billion in international bonds, according to securities listed in Bloomberg. The subset of Irish-resident funds with exposures to Chinese developers, for which such exposures amounted to more than 1 per cent of total assets, accounted for around €8.8 billion in total assets under management, compared to € 4.3 trillion for the resident fund sector as a whole.

In summary, the main channels of spillovers to Ireland from a financial shock and/or a slowdown in China – possibly amplified by accumulated financial vulnerabilities following years of very rapid credit growth – are likely to be indirect, but could still be material. Measured direct exposures to China appear limited, but official statistics might underestimate the full magnitude of underlying financial linkages. In addition, indirect links via Ireland's most important trading partners are substantial. Most importantly, financial distress in parts of the property sector in China could lead to a slowdown in global growth and/or a broad-based deterioration in global risk appetite, in particular to assets tied to global trade and commodities.[7] In this case there might be substantial spillovers back to Ireland.[8]

## Chart A: Signs of sectoral and regional spillovers




Source: Refinitiv Eikon Datastream, Bloomberg, and authors' calculations.
Notes: Base date 02/01/2020 == 100. Asian high yield corporate bond index excludes Japan. Last observation 05 November 2021.

## Table A: Limited direct Irish exposures to China

| Trade links | IE | UK | US | DE | IT | FR |
|---|---|---|---|---|---|---|
| CN | 5.7 | 8.4 | 13.7 | 8.0 | 5.8 | 5.6 |
| HK | 0.3 | 2.5 | 1.0 | 0.3 | 0.5 | 0.7 |

| Consolidated position of headquartered banks | IE | UK | US | DE | IT | FR |
|---|---|---|---|---|---|---|
| CN | 0.0 | 5.5 | 3.0 | N/A | 0.7 | 1.7 |
| HK | 0.0 | 5.3 | 1.6 | N/A | 0.2 | 1.3 |

| Outward direct investment positions | IE | UK | US | DE | IT | FR |
|---|---|---|---|---|---|---|
| CN | N/A | 0.7 | 1.9 | 5.3 | 2.1 | 2.1 |
| HK | N/A | 4.8 | 1.4 | 0.5 | 0.7 | 0.7 |

| Equity exposures | IE | UK | US | DE | IT | FR |
|---|---|---|---|---|---|---|
| CN | 1.7 | 3.3 | 2.4 | 0.4 | 0.0 | 1.0 |
| HK | 0.8 | 1.8 | 1.8 | 0.3 | 0.0 | 0.3 |

| Debt exposures | IE | UK | US | DE | IT | FR |
|---|---|---|---|---|---|---|
| CN | 0.7 | 0.8 | 1.0 | 0.2 | 0.3 | 0.2 |
| HK | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.2 |

Source: IMF Direction of Trade Statistics, IMF Coordinated Portfolio Investment Survey, IMF Coordinated Direct Investment Survey and BIS Enhanced Consolidated Banking Statistics.
Notes: Trade links measured by average share of export and imports in total exports and imports of selected economies to and from CN and HK. For example 5.7per cent of all Irish external trade was with CN. Consolidated position of headquartered banks refers to share of claims by banks headquartered in selected AEs on residents in CN and HK in all international claims on immediate counterparty basis. Direct and portfolio investment links captured by average share of FDI, portfolio equity and debt assets in total assets. In each column green, orange and red indicate low, medium and high exposures relative to other countries. Last observations for equity and debt exposures and trade links relate to 2020 while data on direct investment positions relate to 2019. Data on the consolidated positions of headquartered banks relate to 2021Q2.

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[1] For more, see Rogoff, K. (2021), "Can China's outsized real estate sector amplify a Delta-induced slowdown?". VOXEU, 21 September 2021.
[2] For example, see Financial Times article "Evergrande crisis leaves Chinese developers shut out of global debt market.", 14 October 2021.
[3] See for instance Box 1.5 in the IMF Global Financial Report, October 2021.
[4] See Speech and Q&A by PBoC Governor YI Gang at the 2021 G30 International Banking Seminar, 20 October 2021.
[5] Coppola, A., Maggiori, M., Neiman, B., Schreger, J. (2021), "Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens", *The Quarterly Journal of Economics*, Volume 136, Issue 3, Pages 1499-1556.
[6] Potentially distressed Chinese developers are those that cross at least one of the 3 red lines set out by Chinese authorities, i.e. developers must have a liability-to-asset ratio of less than 70 per cent (excluding advance receipts), a net debt-to-equity ratio below 100 per cent and a cash-to-short-term debt ratio of more than one. For details, see UBS (2021).
[7] See Miranda-Agrippino, S., and Rey, H. (2021), "The Global Financial Cycle", *NBER Working Paper*, No. 29327.
[8] See IMF Global Markets Monitor, 20 September 2021.

## Box B: Foreign financial conditions and downside risks to growth

By Lorenz Emter (International Analysis and Relations) and Sofia Velasco (Macro-Financial Division)

This Box examines the importance of global financial conditions for downside risks to domestic economic growth for a sample of 24 countries. Lloyd et al. (2021) show that tighter foreign financial conditions are associated with a more severe left tail of domestic GDP growth, even when controlling for domestic indicators.[1] The transmission of shocks from changes to global financial conditions may have relevant financial stability implications for those economies that have large international exposures and especially in the current environment that has been characterised by a prolonged period of accommodative financial conditions.[2]

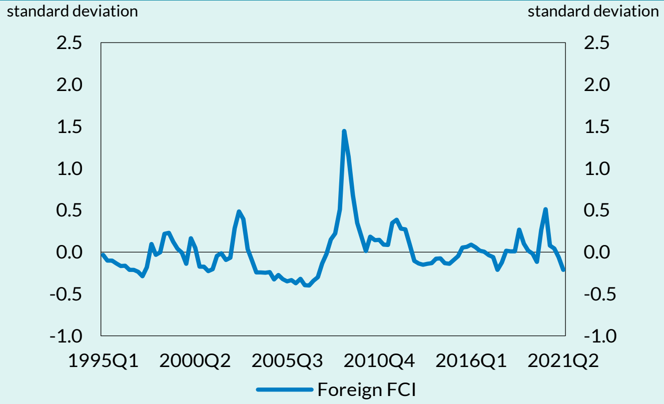
Expanding the growth at risk (GaR) framework presented in O'Brien and Wosser (2021), this Box examines the historical relationship between global financial conditions and the conditional distribution of GDP (GNI* for Ireland) growth.[3] Future weak output growth is therefore modelled to account for measures of global financial conditions (FCI) estimated following Arrigoni et al. (2020).[4] Following Lloyd et al. (2021), we construct foreign FCIs for each country in our sample as trade exposure weighted averages of FCIs in all other countries. Other explanatory variables of the GaR framework include local financial conditions as well as the credit-to-GDP gap (or, in the case of Ireland, the credit-to-GNI* gap).

For Ireland, the foreign FCI indicates that financial conditions in the rest of the world were very loose prior to the global financial crisis of 2007/8. Conditions then tightened abruptly during 2008 and 2009 and again, albeit to a lesser extent, during the euro area sovereign debt crisis in 2011. Along with the normalisation of global economic performance, foreign financial conditions moved back to a relatively loose level before tightening again abruptly during the first quarter of 2020 in the wake of the pandemic outbreak (Figure A).

Figure B shows the estimated coefficients on the foreign FCI index from panel quantile regressions for the 5th percentile (GaR) for one to twelve quarters into the future. We document that the effect of loose foreign financial conditions varies across the horizon of our growth at risk estimates. Taking as an example the run-up to the global financial crisis, during this period loose global financial conditions contributed positively to growth at risk in the short run. However, at a longer forecast horizon (i.e. 8 quarters ahead), the effect of looser foreign financial conditions changes in sign and has a negative impact on downside risks to growth. This result is in line with the findings in Adrian et al. (2021), who show that looser financial conditions imply higher GaR (less downside risk) in the near-term, but these effects reverse and imply a lower GaR (higher downside risk) in the medium-term.[5] As argued by these authors, loose contemporary FCIs capture a low price of risk and a low volatility level. The combination of both factors can create the potential for greater risk-taking by financial intermediaries, which leaves the economy in a more vulnerable position to absorb negative shocks in the medium term.

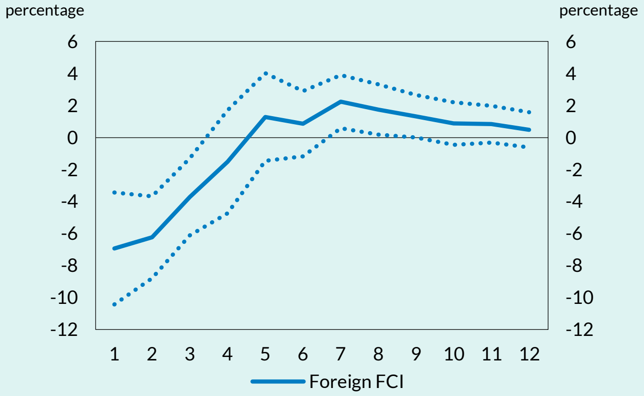
From a financial stability perspective, our results imply that the currently very loose global financial conditions contribute to build-up of risks in the financial system, which might lead to higher downside risks in the medium term. However, at least on the measure employed in this analysis to summarise financial conditions, vulnerabilities stemming from global financial conditions are not at levels as those seen before the global financial crisis.

**Chart A: Foreign FCI for Ireland**




Source: Authors' calculations.
Notes: Foreign FCI shows exposure weighted average across individual financial condition indexes (FCIs) for 24 advanced economies (AE) and 18 emerging market economies (EME). Higher values indicate tighter financial conditions.

**Chart B: Estimated coefficients from cross-country sample on foreign FCIs for GaR**




Source: Authors' calculations.
Notes: Estimated coefficients on foreign FCI from panel quantile regressions for the 5th percentile (GaR) for one to twelve quarters into the future. Dotted lines show 90 per cent confidence intervals.

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[1] See Lloyd, S., Manuel, E., and Panchev, K. (2021), "Foreign vulnerabilities, domestic risks: the global drivers of GDP-at-Risk", Bank of England Staff Working Paper, No. 940.

[2] Previous analysis on the short-run sensitivity of the Irish economy to a tightening in global financial conditions can be found in earlier editions of the FSR. Refer to "Global financial conditions and downside risks to growth: lessons from past shocks", Central Bank of Ireland Financial Stability Review, 2020:I, Box 1, pp. 32-33.

[3] O'Brien and Wosser (2021) find that near term downward tail risks to the economic growth path are largely impacted by financial market conditions, while systemic financial risks are the most relevant driver in the medium term. Their set-up builds on the Central Bank's Early Warning (EWS) system dataset. It includes yearly growth rates as dependent variables and current GDP growth, the Country –Level Indices of Financial Stress (CLIFS), and the credit-to-GDP gap as independent variables.

[4] In particular, financial condition indexes (FCIs) for 24 advanced economies (AE) and 18 emerging market economies (EME) are computed. As in Arrigoni et al. (2020), individual FCIs are computed as weighted average across corporate spreads (where available), term spreads, interbank spreads, sovereign spreads, changes in long-term interest rates, equity returns, equity return volatility, changes in the market share of the financial sector, and credit growth. See Arrigoni, S., Bobasu, A., and Venditti, F., (2020), "The simpler the better: measuring financial conditions for monetary policy and financial stability", ECB Working Paper, No. 2451.

[5] See Adrian, T., Grinberg, F., Liang, N., Malik, S. (2021), "The Term Structure of Growth-at-Risk", American Economic Journal: Macroeconomics, forthcoming.

# Resilience

## *Non-financial corporations*

*The financial performance of Irish businesses improved in 2021, aided by the vaccine rollout and associated improvement in economic activity. SME turnover and profitability are recovering from depressed 2020 levels, but in some sectors businesses continue to struggle. The level of latent financial distress among SMEs is estimated to have reached between 10 and 15 per cent in 2020, but is expected to fall significantly under baseline macroeconomic forecasts. Despite this level of distress, most SMEs and large corporates have been able to boost their cash holdings throughout the pandemic, highlighting the importance of policy supports and widespread forbearance. This support has meant that corporate insolvency notifications remain lower than levels seen in the years preceding the pandemic. Businesses that were financially distressed prior to the pandemic face the greatest long-term viability challenges.*

Trading conditions have improved significantly for most businesses in 2021, supported by the vaccine rollout and associated relaxation of public health restrictions. Measures of domestic demand growth, labour market conditions, and consumer spending all point to a strong economic recovery in 2021. Macroeconomic forecasts show this recovery continuing over the next two years.[18]

SME turnover declines in 2020 highlight the uneven impact of the pandemic (Chart 34). Half of SMEs saw no decline in their full year turnover compared with 2019. A quarter of firms experienced turnover declines of 30 per cent or more, while a quarter of firms saw their turnover rise by over 6 per cent. The Accommodation and Food sector was a particular outlier, having experienced extremely poor turnover outcomes in 2020. The median decline for this sector was 64 per cent and a quarter of firms had declines of over 85 per cent. This extraordinary divergence demonstrates the sector-specific intensity of the pandemic and the difficulty firms faced under public health restrictions.

One fifth of SMEs were loss-making in the six months to March 2021, with Accommodation & Food firms performing worst (Chart 35). This compares with 35 per cent of firms reporting being loss-making in the early months of the pandemic. Fifty-two per cent of SMEs were profitable in this period and a further 27 per cent reported breaking even. The proportion of loss-making firms was relatively constant across all reporting sectors, apart from Accommodation & Food, where 62 per cent of businesses were still loss-making by March 2021.

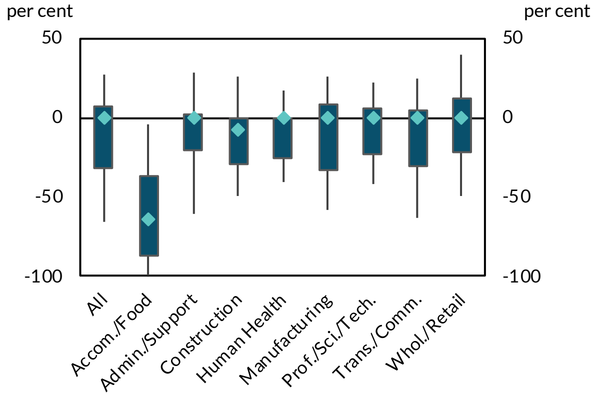
SME cash holdings have risen sharply during the pandemic (Chart 36). The median cash-to-turnover ratio has more than doubled from 5 per cent in 2019 and to 11 per cent in 2021. Three quarters of firms now hold over 4 per cent of their turnover as cash balances. Previous Central Bank research noted the modest cash holdings SMEs had at the onset of the pandemic.[19] The scale of the economic shock hitting firms would typically imply an erosion of cash balances as firms struggled to meet outgoings. However, the substantially higher liquidity levels in 2021 likely reflect a number of factors including precautionary cash hoarding, strong trading conditions for

[18] See the Central Bank's 2021Q4 Quarterly Bulletin.
[19] See FSR 2020-I and McGeever, N., McQuinn, J. and Myers, S (2020) "SME liquidity needs during the COVID-19 shock" Central Bank of Ireland Financial Stability Note, Vol. 2020, No. 2.

some businesses, and the impact of government policy support, loan guarantees, and credit and tax forbearance. Many SMEs have also delayed payments to other creditors such as landlords and trade creditors. See Box C for comparative analysis of government support in Ireland, which highlights that the nature of this support, relying more on grants and subsidies than on loans, means Irish SMEs are at lower risk of debt overhang than those in other European countries.

**Chart 34: SME turnover declines show an uneven impact of the pandemic**

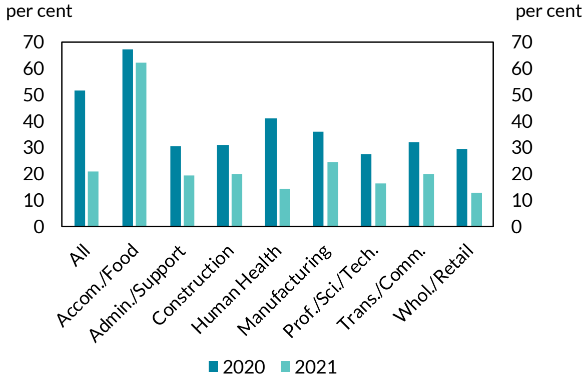
Annual turnover change distribution in 2020 by sector




Source: SME Credit Demand Survey.
Notes: Turnover change between full-year 2019 and full-year 2020.

**Chart 35: A fifth of SMEs were loss-making in the six months to March 2021**

Share of SMEs that were loss-making at October 2020 and March 2021




Source: SME Credit Demand Survey.
Notes: Profitability status in October 2020 and March 2021.

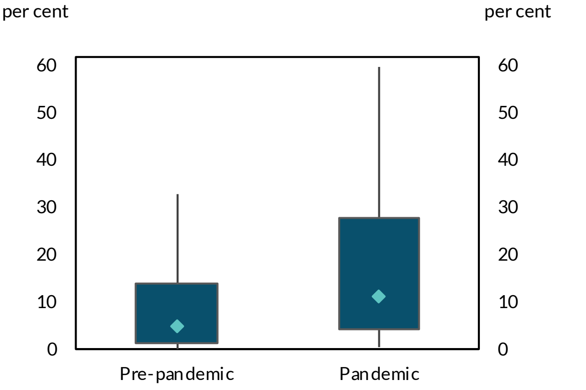
SME distress rates are expected to fall as the economy recovers (Chart 37). Estimates suggest that 12 per cent of SMEs were financially distressed at end-2020, with half of these firms already distressed in 2019. The analysis suggests that policy support and widespread forbearance have been critical: if firms had been forced to use all cash balances to immediately meet pandemic-related shortfalls, the financial distress rate may have reached 30 per cent. A recovery scenario consistent with headline macroeconomic projections from the Central Bank's *Quarterly Bulletin* would result in a significant reduction in distress levels to 7 per cent by 2023. This decline is driven by those firms that were temporarily liquidity-distressed due to the pandemic, the majority of whom are likely to recover sufficiently to remain viable. The relatively low projected distress rates among ex-ante healthy businesses highlights that the policy response of widespread support and forbearance was, in the main, appropriate in the face of an exogenous shock such as the pandemic.[20] Firms that were distressed prior to the pandemic face greater challenges and may struggle to escape distress even as economic conditions improve.

There is considerable uncertainty around estimates of future financial distress rates. While headline estimates suggest a level of financial distress of 12 per cent at end-2020, falling to 7 per cent by 2023, a range of factors may increase these levels. First, a weak recovery for heavily affected sectors such as hospitality and retail has the potential to add 2-3 percentage points to the aggregate distress rate. Secondly, the financial sector is a critical source of bridging liquidity finance in the coming years: in a scenario where external financing can only provide 60 to 80 per cent of financing requirements, the 2023 distress rate could rise from 7 to between 9 and 13 per cent.

[20] See Beck (2020), Blanchard (2020), and Gourinchas (2020) for policy discussion on emergency business supports.

**Chart 36: SME cash holdings have risen sharply**

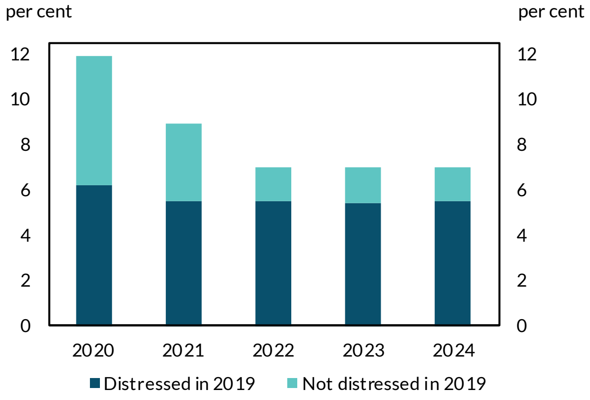
SME cash-to-turnover distribution by period




Source: SME Credit Demand Survey.
Notes: Pre-pandemic refers to the 2019 cash-to-turnover distribution. Pandemic refers to the distribution of 2021 cash to 2019 turnover.

**Chart 37: SME distress rates are expected to fall**

Simulated financial distress rate 2021 to 2024 by pre-pandemic distress status

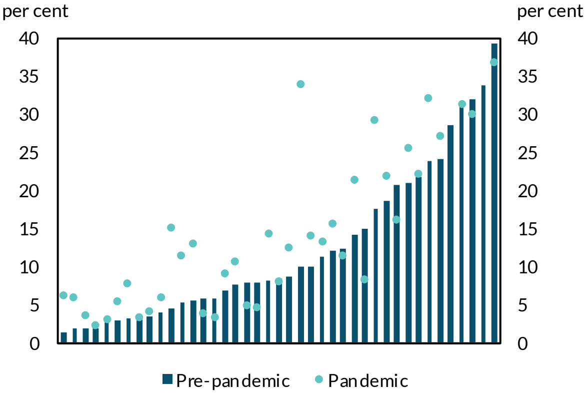



Source: Central Bank of Ireland; SME Credit Demand Survey.
Notes: See McCann, McGeever, and Yao (2021, forthcoming).

The cash holdings of large corporates remain above pre-pandemic levels (Chart 38). The median cash-to-assets ratio of large corporates is 12.5 per cent, compared with 8.6 per cent prior to the pandemic. Three quarters of firms have raised their level of cash holdings since the onset of the pandemic and some have boosted their holdings significantly. The increase in cash holdings in response to the pandemic likely reflects a precautionary motive to boost liquidity and perhaps also some delayed investment decision-making. Access to liquidity finance has also been supported by macroprudential policy measures and extraordinary monetary policy.

**Chart 38: The cash holdings of large corporates remain above pre-pandemic levels**

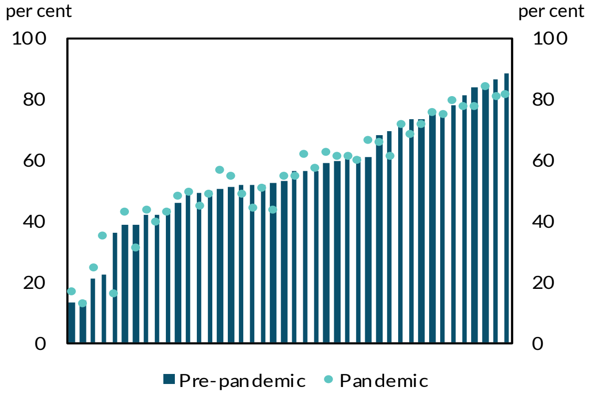
Cash-to-assets ratios of the largest 40 Irish corporates




Source: Companies Registration Office.
Notes: Foreign-parent and re-domiciled firms are excluded. Pre-pandemic is defined as the most recent balance sheet date prior to 31 March 2020. Pandemic is defined as the most recent interim or annual balance sheet after 31 March 2020.

**Chart 39: The leverage of large corporates has remained stable through the pandemic**

Liabilities-to-assets ratios of the largest 40 Irish corporates




Source: Companies Registration Office.
Notes: Foreign-parent and re-domiciled firms are excluded. Pre-pandemic is defined as the most recent balance sheet date prior to 31 March 2020. Pandemic is defined as the most recent interim or annual balance sheet after 31 March 2020.

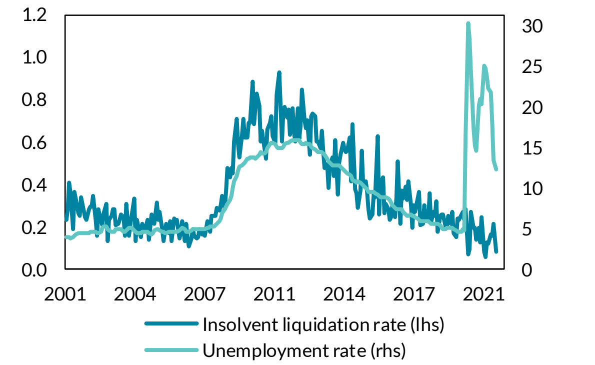
The leverage of large corporates has remained stable through the pandemic (Chart 39). The median liabilities-to-assets ratio rose from 53.1 to 55.1 per cent, while the average fell modestly from 55.4 per cent to 54.6 per cent. The evidence thus far shows that the largest Irish corporates have been able to contain trading losses and minimise the impact of the pandemic on their balance sheet. However, there are vulnerabilities among this cohort. A quarter of firms have leverage ratios in excess of 70 per cent and a tenth of firms have ratios over 80 per cent. A deterioration in trading and financing conditions would make these debt burdens more difficult to service.

Corporate insolvency notifications remain low (Chart 40). This is similar to the experience of other jurisdictions, where corporate failure rates have been unusually low during the pandemic.[21] There is no evidence of firms failing in high numbers due to liquidity shortfalls and there appears, so far, minimal evidence of increased pressure from creditors trying to force firms into liquidation. Government support and various forbearance measures have played a central role in this by boosting firm liquidity and helping to minimise the number of liquidations of long-run viable companies. Nonetheless, the outlook for policy support, with wage subsidy schemes and other policies planned to wind down in 2022, suggests that some increase in the insolvency rate is likely. Policy reforms to improve access and reduce the cost of restructuring processes for smaller firms are an important ingredient in the policy response to ensure that an orderly fallout from the pandemic can occur for the most-affected firms.[22]

Loan forbearance remains an important relief for affected firms (Chart 41). Fourteen per cent of Irish SME balances at Irish retail banks were forborne in July 2021, up from 8 per cent in December 2019. The forbearance rate is 32 per cent among the group of most affected loans that were previously on a COVID-19 market-wide payment break. Non-performing loan (NPL) rates are high in a European context at 10 per cent overall, and are similarly higher for loans with an expired payment break, again indicative of the effect of the pandemic. Loan-level evidence previously published by the Central Bank shows that payment break utilisation by firms was driven by sectoral exposure to the pandemic shock rather than pre-pandemic credit quality.[23] This suggests that borrowers remaining on forbearance are likely those firms that were acutely affected by the pandemic shock and, given the mitigating impact of government support, many within this group are likely to be in a position to recover in a reopened economy.

**Chart 40: Corporate insolvency notifications are low**

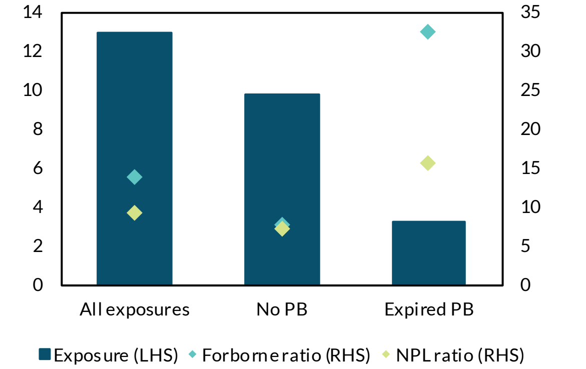
Monthly insolvent liquidation and unemployment rates




Source: Companies Registration Office, CRIF Vision-Net, and CSO.
Notes: Insolvent liquidations are defined as the sum of Creditors' Voluntary Liquidations and Court-Ordered Liquidations.

**Chart 41: Loan forbearance remains an important relief for affected firms**

Forbearance and NPL ratios of Irish SME retail bank exposures by payment break history



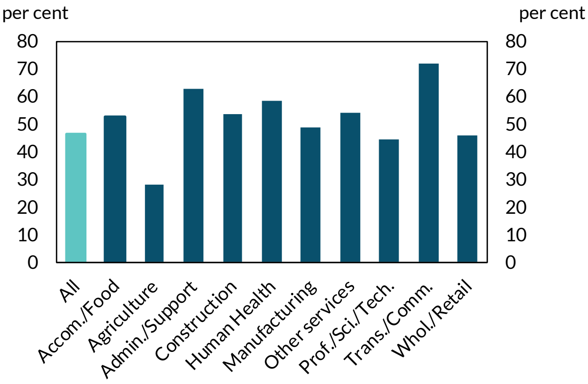

Source: Central Bank of Ireland.
Notes: The data are sourced from supervisory returns submitted by three Irish retail banks. The data are as of July 2021.

[21] See OECD figures on firm bankruptcies and Djankov and Zhang (2021) for discussion.
[22] For more information on this reform of examinership processes for smaller businesses, see here.
[23] See Duignan, D. and McGeever, N. (2020) "Which firms took COVID-19 payment breaks?" Central Bank of Ireland Financial Stability Note, Vol. 2020, No. 6.

A rise in interest rates would take time to feed through to SME borrowing costs (Chart 42). Half of the balances owed by Irish SMEs to the retail banks have fixed interest rates, meaning that sudden interest rate rises (see *Risks: Global repricing)* would only impact borrowing costs if or when loan facilities are renewed. Approximately half of balances to the Accommodation & Food and Wholesale & Retail sectors are fixed, while Agriculture has a relatively low fixed rate share of 28 per cent.

**Chart 42: A rise in interest rates would take time to feed through to SME borrowing costs**

Fixed rate share of retail bank exposures to Irish SMEs by sector




Source: Central Bank of Ireland.
Notes: Based on loan-level data from three retail banks as at 31 December 2020.

## Box C: Pandemic policy support and debt overhang risks among SMEs

**By Elena Durante and Fergal McCann (Macro-Financial Division)**

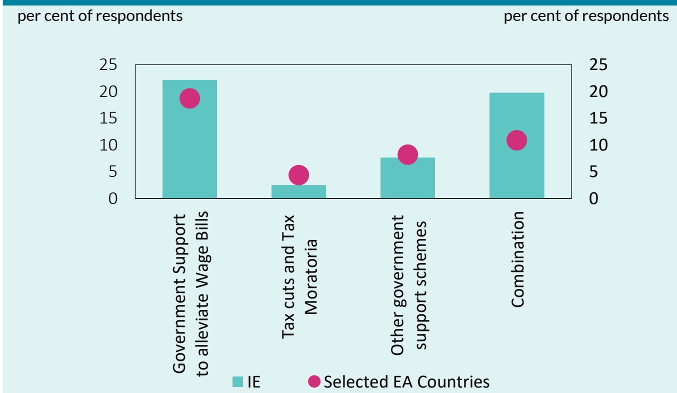
This analysis assesses the extent of fiscal support to businesses in Ireland during the pandemic in a European context and evaluates the role played by policy design choices in creating or mitigating future risks related to debt overhang. The focus is on small and medium sized enterprises (SMEs).

In response to the pandemic-induced shock to business liquidity, governments across Europe introduced a range of supportive measures. Across countries, the degree to which these support policies relied on direct grants and wage subsidies, as opposed to debt-related instruments such as loan guarantees, varied substantially. The distinction between support types has important implications for the economic recovery and for financial stability: in cases where pandemic-related fiscal support was provided predominantly through lending and loan guarantees, repayment challenges, loan default and debt overhang are more likely to pose risks in the future. Firms with higher debt levels have been shown to reduce investment and employment more after a crisis and, in turn, slow down the speed of the recovery (Kalemi-Ozcan et al., 2019). Research from the BIS (Banerjee et al., 2021) highlights the nature of this risk, showing that substantially more credit has been issued to loss-making firms during the pandemic than was the case during the previous global financial crisis beginning in 2008.

Recent survey data (Chart A) show that the share of Irish SMEs receiving wage subsidies alone was above the European average. Irish SMEs were also more likely to receive a combination of support types when compared to their European peers. By contrast, other schemes including loan guarantees appear to have been more commonly used in other European countries.

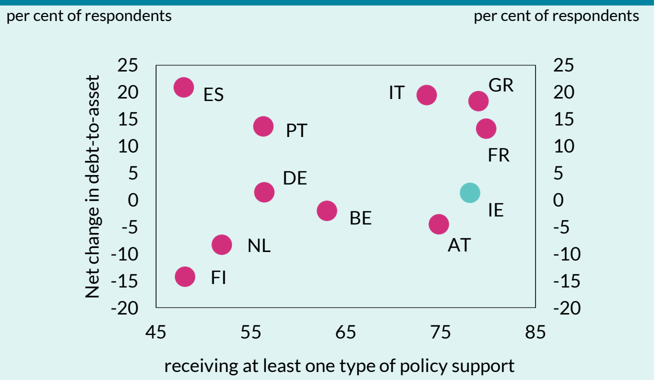
80 per cent of Irish SMEs received at least one type of support, highlighting the extensive and wide-reaching nature of the policy response. However, this level of support has not been associated with a material increase in the debt-to-assets ratio of SMEs (Chart B). Unlike other countries with extensive policy support take-up like Italy, Greece and France - that provided significant liquidity injections in the form of credit guarantees - Ireland relied more on wage subsidies and a diversified portfolio of fiscal stimuli. This policy design choice meant that the Irish exchequer engaged in greater up-front risk sharing with the business sector, at greater direct cost, than in many other countries. However, this choice is now likely to provide benefits in terms of the financial resilience of Irish SMEs, with a relatively lower risk of debt-overhang leading to either a drag on investment or loan repayment challenges than may be the case in other countries with a greater reliance on debt-related support.

**Chart A: European and Irish SMEs that have received government support in response to the pandemic**




Source: SAFE survey data.
Notes: SMEs only. All companies that made use of the relevant government support scheme. Data refers to round 24 (October 2020-March 2021) of the survey. Selected EA Countries comprises: Austria, Belgium, Finland, France, Germany, Greece, Italy, Netherlands, Portugal and Spain.

**Chart B: Relation between net change in debt-to-asset and the share of SMEs receiving fiscal support**



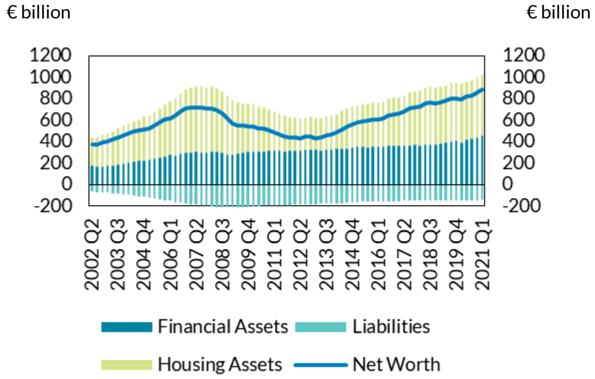

Source: SAFE survey data.
Notes: SMEs only. All companies that made use of the relevant government support scheme. Data refers to round 24 (October 2020-March 2021) of the survey. Net percentages are the difference between the percentage of enterprises reporting an increase for a given factor and the percentage reporting a decrease.

## Households

*Government policy responses have supported the resilience of Irish households during the pandemic. Liquidity buffers of the household sector as a whole have been strengthened and leverage ratios of household borrowers have continued to fall. The mortgage market is relatively well insulated from risks associated with the tapering of income supports, as mortgage borrowers are employed in sectors that have been less exposed to the economic disruption caused by COVID-19. Mortgage borrowers have also proved resilient since the expiry of payment breaks, with mortgage arrears levels falling throughout the pandemic, and new flows into either loan default or forbearance falling sharply since March 2021. Scenario analysis shows that this improved resilience implies more capacity than in the past to absorb adverse shocks related to interest rate rises, employment developments or a decline in house prices.*

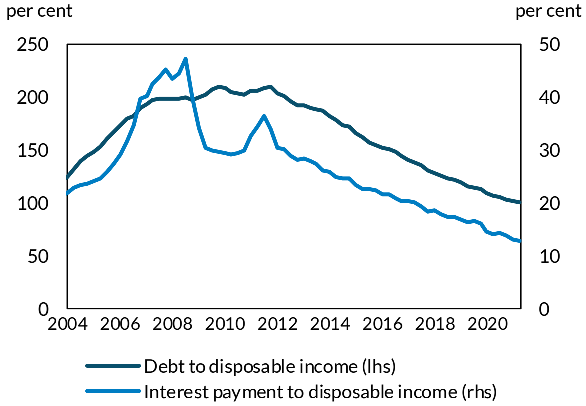
During the COVID-19 pandemic, liquidity buffers of the household sector as a whole have been strengthened. Compared to Q1 2020, household net worth increased by €89 billion (Chart 43), to a series high of €883 billion in Q1 2021. The rise in household net worth was driven by an increase in financial assets and housing assets. On aggregate, households experienced a fall in labour income by €2.5 billion compared to Q1 2020, but have also seen a €3.9 billion rise in Social Transfers (PUP) and wage subsidies, alongside a fall in consumption of €2.9 billion. These offsetting movements in the balance sheet have mitigated the impact of unemployment and the fall in income experienced by household.

**Chart 43: Increasing deposits and housing assets have led to household net worth reaching a record high.**
Household balance sheet and net worth




Source: Quarterly Financial Accounts, Central Bank of Ireland.

**Chart 44: Indebtedness ratios of household borrowers have continued downward trends**
Household sector debt to disposable income and the debt servicing ratio




Source: CSO and Central Bank of Ireland.
Notes: Interest rate calculated as a weighted average of interest rates on all household debt types. Last observation 2021 Q2.

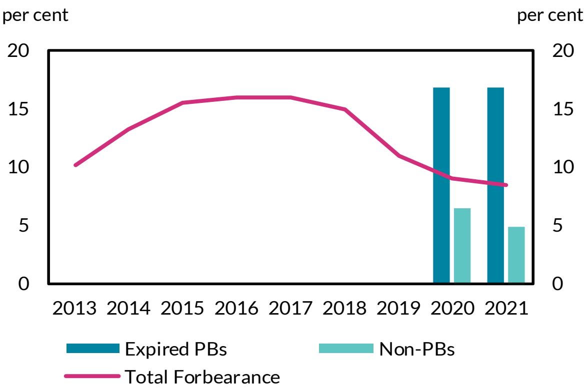
The resilience of household borrowers has continued to improve, with aggregate indebtedness at its lowest level since the last crisis. Due to a range of factors, including prudent approaches to new lending, and income growth, the household sector as a whole has continued to become less indebted in 2021 (Chart 44). Both aggregate debt to income ratios and interest payment burdens have continued their downward trends since the end of the previous financial crisis.

There has been relatively low usage of additional forbearance since the expiry of mortgage payment breaks, suggesting mortgage holders have been resilient to the pandemic. Payment breaks initially supported one in nine mortgage holders during the pandemic, providing much needed liquidity relief at the onset of the shock.[24] Having expired during the second half of 2020, around fifteen per cent of retail bank mortgages that previously had a system-wide payment break have since moved onto forbearance as at August 2021. By contrast, the forbearance rate was below 5 per cent among loans not having used these breaks (Chart 45). When taking both pre-pandemic forbearance and system-wide payment breaks into account, the share of the mortgage market requiring payment relief from the banking sector temporarily rose far above levels seen in recent years during 2020. However, given the success of more than five-in-six payment break recipients in returning to full payments, the pre-pandemic decline in reliance on forbearance has now continued, with the rate across retail bank mortgage borrowers standing at 6.7 per cent as of August 2021, down from 8.1 per cent in December 2020.[25]

Legacy vulnerabilities persist, but have become smaller in recent years. In line with previous *Reviews*, legacy vulnerabilities from loans issued before 2008 continue to represent a key source of risk: loans with forbearance history before the pandemic were more than twice as likely to have a payment break when compared to those never forborne, and have previously been shown to have much higher default risk.[26] The share of PDH mortgages that are currently restructured has fallen from a peak of 16 per cent to 10 per cent at March this year, indicating the steady decline in size of this higher-risk group.

**Chart 45: Mortgage forbearance rates have been in decline since 2017, while just over 15 per cent of mortgages with a payment break have needed further support.**

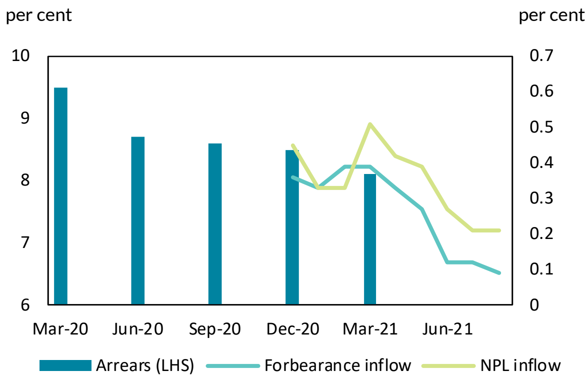
PDH forbearance rate in number of accounts conditional on the payment break history




Source: Central Bank of Ireland.
Notes: Forbearance rates before 2020 are based on data on restructure arrangements from Central Bank Statistical Tables: Residential Mortgage Arrears, Repossessions & Restructures (PDH, banks only). Forbearance rates conditional on Payment Break status in 2020 and 2021 are calculated with data from Distressed Debt Monitoring template. Sample includes the 5 retails banks.

**Chart 46: Arrears have fallen during the pandemic, while flows into NPL and forbearance have fallen since March**

Quarterly mortgage arrears ratio and new inflows to NPL/forbearances as percentage of total number of mortgage loans




Source: Central Bank of Ireland.
Notes: The share of mortgage arears is calculated as the ratio of the number of mortgage accounts in arrears to the total number of mortgage loan accounts outstanding. Data before Dec 2020 are based on Central Bank Statistical Tables: Residential Mortgage Arrears, Repossessions & Restructures, while flow data since Dec 2020 are based on Distressed Debt Monitoring template. Sample includes the 5 retails banks.

Measures of mortgage risk have improved throughout the year. The proportion of retail bank mortgage loans that have flowed into non-performing status and forbearance has fallen steadily

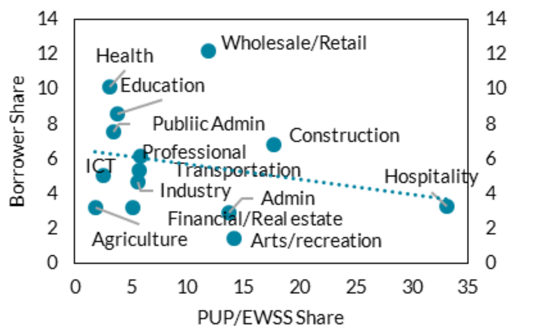
[24] See FSR 2021: I (Chart 44) for more details.
[25] The fall in forbearance rates for the mortgage portfolio was driven by significant loan sale activity in 2021. Loan sales have also contributed to the lowering of banks' forbearance rates since 2017. However, falling forbearance rates across all borrowers are also shown in Central Bank mortgage arrears statistics, which include borrowers at banks and non-banks. Across the entire PDH market, the share of restructured loans has fallen from 16 to 10 per cent between 2016 and 2020.
[26] See Gaffney and Greaney (2020)

during 2021, reaching historically low levels of 0.1 per cent and 0.2 per cent, respectively (Chart 46).[27] The share of mortgages in arrears, which reflects all borrowers across banks and non-banks, was 9.5 per cent at March 2020, but despite the unprecedented nature of the economic shock, has in fact fallen to 8.1 per cent as of March 2021.

Mortgage holders are less likely than other households to be affected by the tapering of policy support. Mortgage holders are less likely to work in sectors where employment has been most affected by the COVID-19 pandemic (Chart 47). As of the end of October 2021, wholesale/retail, human health, education, and public administration are four of five largest sectors of employment for mortgage holders, all of which have relatively limited exposure to the adverse employment effects of the pandemic. As a result, the tapering of policy support does not appear to represent a systemic financial stability risk through the mortgage market (see *Risks: Domestic macro-financial*).

**Chart 47: Mortgage holders are less likely to work in more-affected sectors by the COVID-19 pandemic**

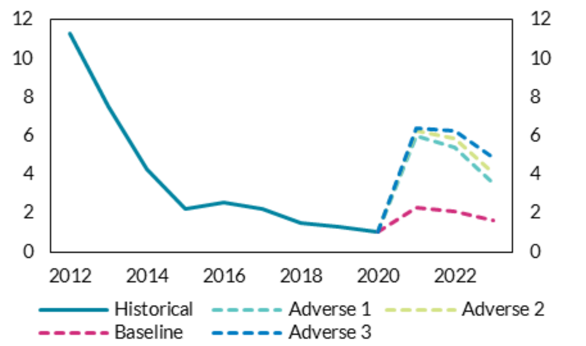
Mortgage book exposure and proportion on PUP/EWSS of each NACE sector




Source: Central Bank of Ireland analysis based on CSO Census, PUP, EWSS and labour force statistics.
Notes: Proportion of employees in receipt of PUP and EWSS as of the 29th of August 2021; Sectoral labour force is based on CSO labour force survey (QLF07) in 2019 Q4. Dashed line indicates the slope of the negative relationship between the two variables.

**Chart 48: Mortgage borrowers have greater capacity to absorb shocks than a decade ago**

Probability of default under different house price and unemployment scenarios (indexed to probability of default in 2020)




Source: Central Bank of Ireland.
Notes: Numbers in the chart are indexed to the PD at the end of 2020. In the Baseline scenario, the unemployment path follows the forecasted ILO series as presented in the recent Quarterly Bulletin; the house price path follows the central bank's baseline projection. In the Adverse 1 scenario, the unemployment path is more heavily weighted towards the COVID-adjusted series, while house prices follow the same path as in the baseline scenario. The Adverse 2 scenario features the same unemployment path as in the Adverse 1 scenario, but assumes that house prices decline to the level observed two years prior. Finally, the Adverse 3 scenario features the same unemployment path as in the other two adverse scenarios, but assumes that house prices decline to the level observed 4 years prior.

Mortgage holders appear more capable of absorbing adverse shocks than in the aftermath of the global financial crisis. Scenario analysis based on an internal Central Bank credit risk model suggests default rates well below those seen between 2011 and 2015 under the macroeconomic forecast in the baseline scenario (Chart 48). The probability of default is expected to reach just under a tenth of the 2012 level by the end of 2021, and then gradually decline towards levels seen from 2017 to 2019. This is driven by rising house prices and an improved outlook for the labour market that are envisaged in the baseline scenario. However, were unemployment and house prices to change due to the materialization of tail risks relating to the COVID-19 pandemic (see *Risks: Domestic macro-financial*), the probability of default among mortgage borrowers would

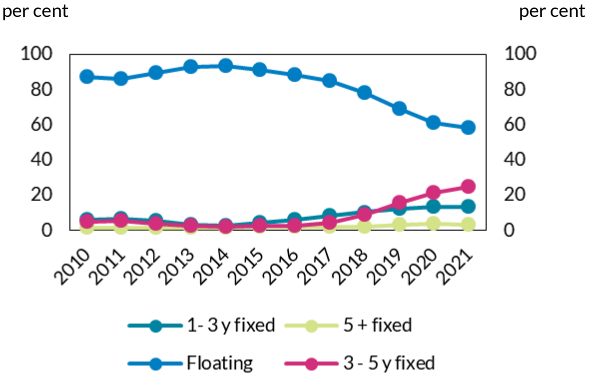
[27] Gaffney and McCann (2019) have documented that the transition rate into NPL was over 0.5 per cent per quarter prior to 2015, and it was above 1 per cent in 2011-13.

increase to between 3 and 5 times the 2020 level in the next three years, while remaining well below the default rates seen in 2012.

A growing number of households have short-term fixed interest rates, which will provide initial protection against potential interest rate rises. The proportion of mortgages at retail banks with a fixed interest rate has reached a historical high (Chart 49). The proportion of mortgages whose interest rates are fixed for a 3 - 5 years has grown especially rapidly over the past 12 months. However, despite this increase in fixation, 60 per cent of mortgages at retail banks continue to be exposed to a reversal of interest rates which may emerge if inflation pressure persists (see *Risks: Global repricing)*, with another 13 per cent due to finish fixation periods in the next three years. These trends will partially mitigate the risk of increases in monetary policy rates over the short to medium term, which would almost certainly transmit to higher mortgage rates.

**Chart 49: While more households are protecting themselves from interest rate rises through mortgage fixation, 60 per cent of mortgages are still on a floating rate**

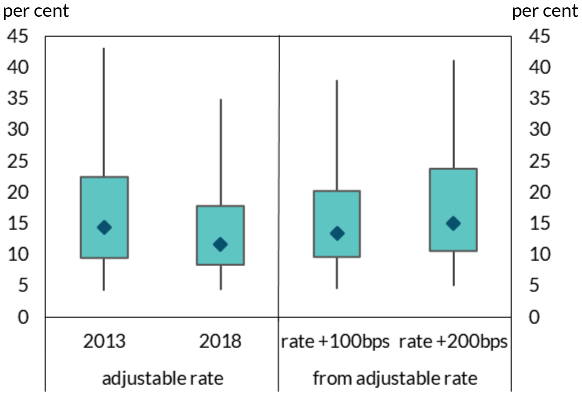
Proportion of mortgages at retail banks that are on a floating or a fixed rate by period of remaining fixation




Source: Central Bank of Ireland.
Notes: Floating rates include standard variable rates, tracker and fixed rates up to one year.

**Chart 50: Even large shocks to interest rates would have a moderate impact on most households' monthly mortgage repayments**

Mortgage Debt Service to Income distribution among loans with an adjustable interest rate (SVR or Tracker) only




Source: CSO Household Finance & Consumption Survey (HFCS).
Notes: Gross income used in all calculations. MSTI distributions for households with an adjustable rate mortgage loan only. 86.5 per cent and 78.9 per cent of Irish HMR (Household Main Residence) loans in the HFCS had an adjustable rate in 2013 and 2018, respectively.

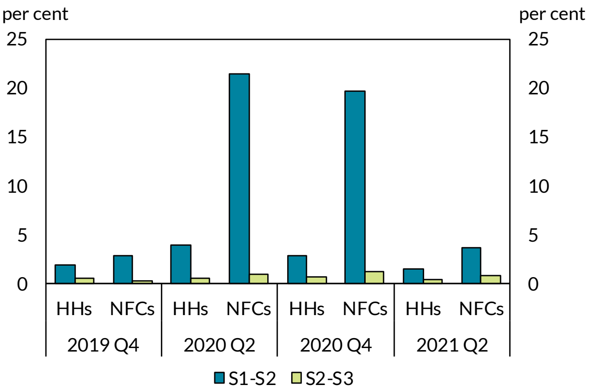
Material shocks to interest rates are unlikely, in isolation, to severely challenge most households' capacity to service mortgage debt. Kelly et al. (2021) show that LTI ratios fell by more in Ireland between 2013 and 2018 than almost all European countries. This deleveraging means that households currently are in a better position to absorb adverse shocks, as illustrated in Chart 49. If interest rates started reversing (see *Risks: Global Repricing* and *Risks: Divergent Global Economic Recovery)*, there would be an exposure in the Irish mortgage market among floating (SVR and tracker rate) mortgages. Based on Central Bank calculations, if interest rates were to rise by 1 per cent, the average household on a floating-rate mortgage would pay €141.85 extra per month, which represents less than 2 per cent of the gross median monthly income of households on a floating-rate mortgage. Under a 200 bps mortgage interest rate increase, which would be further into the tail of potential outcomes, the debt service ratio distribution would revert to that similar to 2013. These debt service ratio projections would become more stressed if the scenario also entailed job loss and income falls occurring in conjunction with rising interest rates.

## *Retail banks and credit unions*

*The impact of the pandemic on the financial position of the banking sector has started to gradually dissipate. Growth in measured credit risk has slowed in recent quarters, supported by the strong rebound in the domestic economy, although there remains an elevated share of underperforming commercial loans on banks' balance sheets. Profitability has improved from the sharp losses of 2020, but continues to be hampered by long-standing structural challenges relating to a reliance on net interest income, falling interest margins in the context of the low-rate environment, and a high cost base. The solvency position of the sector remains resilient with ample headroom above regulatory minima, reflected in participating banks' capacity to absorb the adverse scenario in the EBA stress test. Pandemic-related tail risks relate to commercial lending in the most affected sectors, heightened by recent unwinding of provisions taken during 2020.*

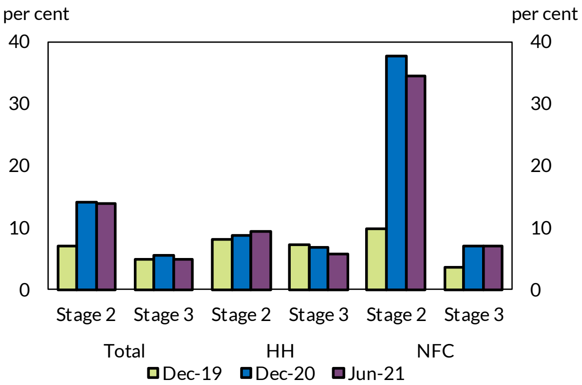
Consistent with the strengthening of the economy, the credit performance of retail banks' loan books has stabilised. There has been a marked slowdown in credit risk deterioration on Irish banks' loan books in 2021, although there remains an elevated share of commercial lending exhibiting greater credit risk. Supported by the recent strengthening in the domestic economy, the rate of commercial loans exhibiting a significant increase in credit risk (transitioning from IFRS9 Stage 1 to Stage 2) has slowed considerably, declining from a peak rate of 21.5 per cent in 2020 Q2 to 3.6 per cent in 2021 Q2 (Chart 51). By comparison, the rate of loans being reclassified as actual credit-impaired (transitioning to Stage 3) has been more modest during the pandemic, likely on account of expansive fiscal policy that has supported borrowers, the provision of system-wide payment breaks and subsequent case-by-case forbearance activity. These developments are in line with typical delays in NPL formation that follow a decline in economic activity.[28] However, the effects of the pandemic on particular commercial sectors continue to pose a headwind: as at 2021 Q2, the share of commercial loans classified as IFRS9 Stage 2 remains elevated at 34.4 per cent and may be indicative of a source of pandemic-related credit risk vulnerability (Chart 52).

**Chart 51: Loans transitioning into higher-risk states has slowed in recent quarters.**
IFRS 9 Transition Rates




Source: Central Bank of Ireland.
Notes: Transition rates are calculated by dividing the volume of movements from either IFRS 9 Stage 1 to Stage 2 or from IFRS 9 Stage 2 to IFRS 9 Stage 3 divided by all loans advances to either households, "HH"s or non-financial corporations, "NFCs".

**Chart 52: The share of commercial loans exhibiting a significant increase in credit risk remains elevated.**
IFRS 9 Stage Shares




Source: Central Bank of Ireland.
Notes: The chart shows the share of loans classified as IFRS 9 Stage 2 and 3. The "Total" bars indicate the relative share of either Stage 2 or Stage 3 loans as a percentage of all loans subject to impairment. "HH" and "NFC" reflect the relative share of loans classified as either Stage 2 or Stage 3 as a percentage of all loans advanced to households and NFCs respectively.

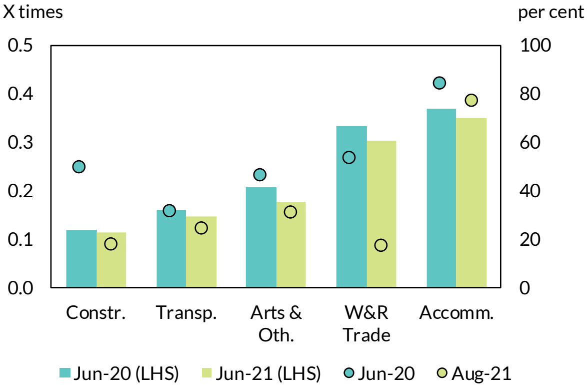
[28] See, for example, Ari et al (2020).

The exposure of commercial lending to sectors hardest hit by the pandemic has remained relatively unchanged over the past year, but the level of pandemic-related risk has fallen markedly in recent months. The magnitude and composition of lending to vulnerable sectors has remained unchanged between 2020 Q2 and 2021 Q2 when expressed relative to headroom CET1 capital (Chart 53). By proxying the current level of distress in each sector through the share of employees that remain in receipt of either the EWSS or the PUP, there has been a decline across most vulnerable sectors over the past year, albeit with some variation among sectors where public health restrictions have had a longer-lasting impact. Policy support intensity in the accommodation and food sector, for example, remains relatively high, with approximately 4 in 5 employees still in receipt of either form of support as at August of this year.

After taking among the highest provisions in Europe last year, Irish banks are now writing back provisions. The increase in provisions by Irish banks in 2020 was, on a proportional basis, among the highest in Europe.[29] As at September of this year, the sector has retained a significant portion of these provisions, despite engaging in some write-backs. Current provisioning levels imply that, at an LGD of 30 per cent, banks can absorb a new default rate on performing loans of 5 per cent, after which new provisions would be required. At an LGD of 50 per cent, this number falls to 3 per cent (Chart 54). There remains significant uncertainty around the eventual effect of the pandemic and the unwinding of government support, after which a truer picture of the financial health of the most affected households and businesses will be apparent. Until this uncertainty recedes, there are risks associated with any further write-backs of provisions.

**Chart 53: Intensity of policy support has fallen across all sectors deemed vulnerable**

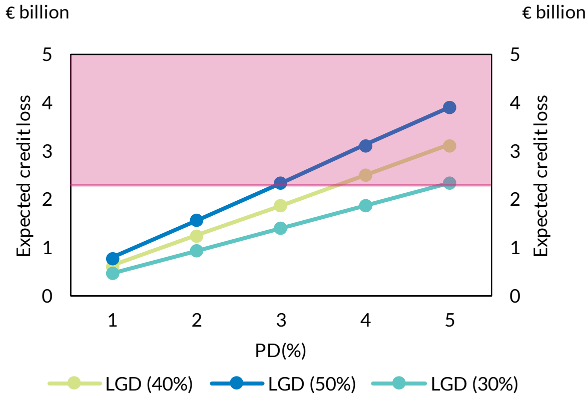
Share of pre-COVID employees in receipt of PUP or EWSS by sector over time; sectoral lending exposure as a share of CET1 capital headroom




Source: Central Bank of Ireland and CSO.
Notes: The chart shows the volume of lending to various sectors hardest hit by the pandemic expressed as a multiple of headroom CET1 capital, defined as the amount of CET1 capital held in excess of the Pillar 1 and Pillar 2 requirements. "Contr." denotes construction, "Transp." denotes transport and storage, "Arts & Oth." denotes arts, entertainment and other services. Figures are presented on an aggregate basis. Pre-COVID employees are based on the Labour Force Survey as 2019 Q4.

**Chart 54: Current provisions can absorb some further credit deterioration.**

PD and LGDs on performing exposures




Source: Central Bank of Ireland.
Notes: The various lines in the chart show the combinations of the probability of default (PD) and loss given default (LGD) that, when multiplied with gross-carrying amount on aggregate performing household and non-financial corporate exposures, produce an estimate of expected credit losses on performing household and NFC exposures observed at 2021 Q3. The shaded box reflects a level of provisioning that exceeds the current expected credit loss as at 2021 Q3.

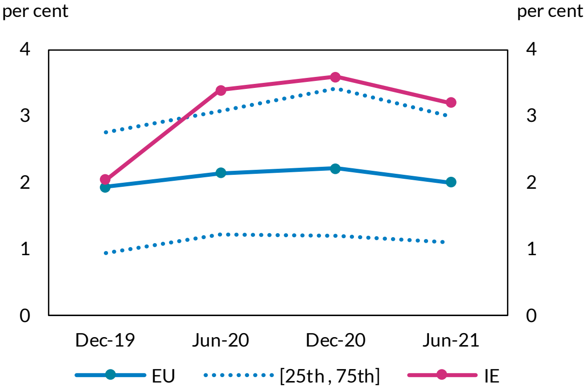
While retail banks returned to profit in 2021, pre-impairment income continues to trend downwards, indicative of the structural challenges facing the sector as well as the pandemic-related excess liquidity. After recording losses in 2020 for the first time since the global financial crisis (GFC), the sector has since returned to profit in 2021. The improvement in profitability is largely on account of a significant reduction in net provisioning in 2021, owing to the much

[29] See FSR 2021: I (Chart 52) for context.

improved macroeconomic outlook. While Irish banks have written back provisions in 2021, their provision coverage levels were in the top quartile of European banks at June this year (Chart 55). The system-wide RoE stood at 5 per cent in 2021 Q2, which remains lower than the level observed between 2015 and 2018 (Chart 56). Similarly, pre-impairment profit scaled by total equity has also been trending downwards in recent years. This latter trend points to the presence of structural factors which continue to compress profitability, even after the volatile impact of provisioning on profitability has been removed.

**Chart 55: Gross coverage ratio on loans and advances has fallen in recent quarters**

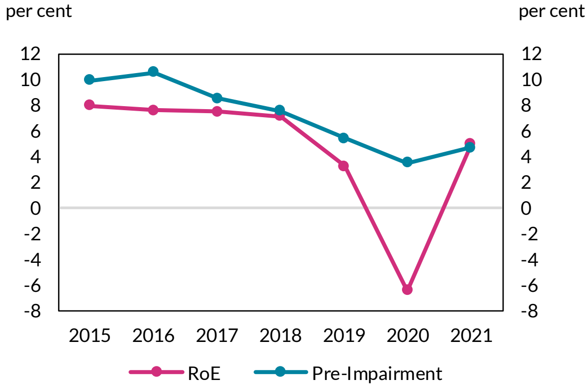
Loan loss reserves scaled by gross customer loans and advances




Source: BankFocus.
Notes: "IE" reflects the loan loss coverage ratio for AIB, BOI and PTSB on a weighted average basis, while "EU" denotes the median loan loss coverage ratio for a sample of representative European banks. The upper and lower quartile for the sample of European banks is reflected through the dotted lines. Last observation at 2021 Q2.

**Chart 56: The sector is no longer making losses but long-term structural challenges persist**

RoE and Pre-impairment profit scaled by total equity




Source: Central Bank of Ireland and BankFocus.
Notes: "RoE" denotes the system-wide return on equity, while "Pre-impairment" denotes the aggregate pre-impairment operating profit divided by total equity. Sample includes AIB, BOI and PTSB. Last observation at 2021 Q2.

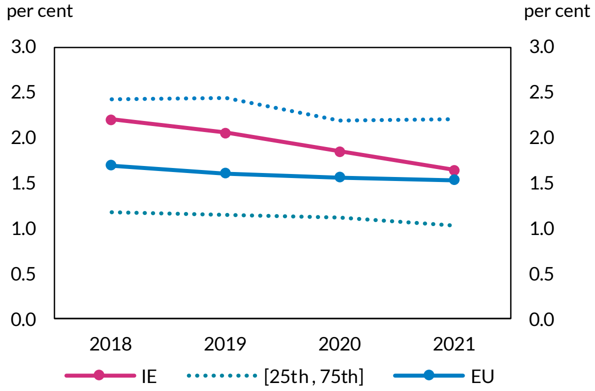
## The net interest margin has continued to decline, a trend that has been exacerbated by the prolonged low interest rate environment and the excess liquidity created during the pandemic.

Prior to the pandemic, the system-wide net interest margin (NIM), although high in a European context, had been declining in light of the prevailing low interest rate environment (Chart 57).The decline in the Irish NIM has been particularly pronounced in 2021 falling from 1.9 per cent in 2020 Q4 to 1.64 per cent in 2021 Q2, which is now only marginally higher than the European median of 1.53 per cent at the same point in time. The sharp decline in the NIM over the past year has largely been the result of the sector absorbing a large surge in deposits in light of increased liquidity in the real economy. Higher deposits have largely been funnelled into central bank reserves and sovereign bonds which attract a lower margin relative to lending to HHs and NFCs. Across Europe, those banks that experienced relatively larger increases in customer deposits during the pandemic tended to experience the largest compressions in their NIMs (Chart 58). The increase in deposits across the Irish banking system were among the largest in Europe. The outlook for the NIM will be affected by the evolution of the stock of deposits accumulated over the pandemic. To the extent that households and businesses begin to unwind their savings to fund consumption and investment amid an improving economic outlook[30], this should provide support to Irish NIMs.

[30] On household deposits, as discussed in the Quarterly Bulletin Q4 2021, withdrawals exceeded lodgements for the first time since late 2019, pointing to a slowdown in the annual rate of change in household deposit growth.

**Chart 57: NIM has continued to fall, exacerbated by pandemic-related excess liquidity**

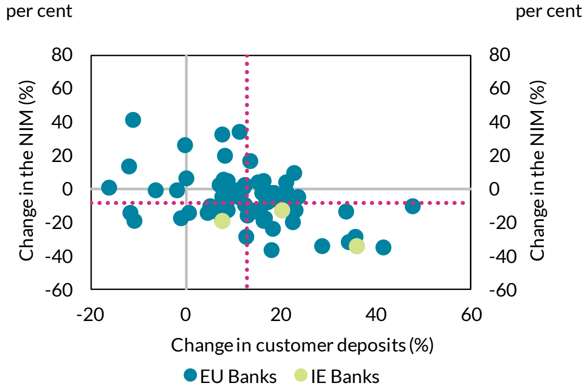
Net interest margin.




Source: Central Bank of Ireland and BankFocus.
Notes: "IE" reflects the system-wide net interest margin for the 5 Irish retails banks, while "EU" denotes the equivalent measure for a sample of representative European banks. The upper and lower quartile for the sample of European banks is reflected through the dotted lines. Last observation 2021 Q2.

**Chart 58: The increase in deposits absorbed by Irish banks are among the highest in Europe, adding pressure on NIMs**

Changes in the net interest margin and changes in customer deposits between 2019 Q4 and 2021 Q2.




Source: Central Bank of Ireland and BankFocus.
Notes: The dashed lines reflect the median values across Europe for the change in customer deposits and change in the NIM. Irish banks include AIB, BOI and PTSB.

The cost-to-income ratio has declined slightly over the pandemic, but remains elevated in a European context. The sector entered the pandemic with an aggregate cost-to-income (CTI) ratio that had been trending upwards in recent years reaching 78 per cent in 2019 Q4, placing it above the median for European banks (Chart 59). The gradual weakening of the CTI ratio between 2015 and 2019 was driven by both a decline in income but also an increase in costs (Chart 60). On the income side, a decline in non-interest sources of income was the largest contributory factor behind the increase in the CTI ratio. On the expenses side, past investments in IT and transformation programmes are reflected through higher depreciation costs, which, in addition to higher other administrative expenses, account for much of the increase. The annual decline in the CTI ratio in 2020 was largely driven by a significant decline in other administrative expenses. While the current high CTI ratio does remain a structural challenge for the sector, the pandemic has accelerated the move towards the digitalisation of banking services which may provide opportunities for the sector to lower its future cost base.

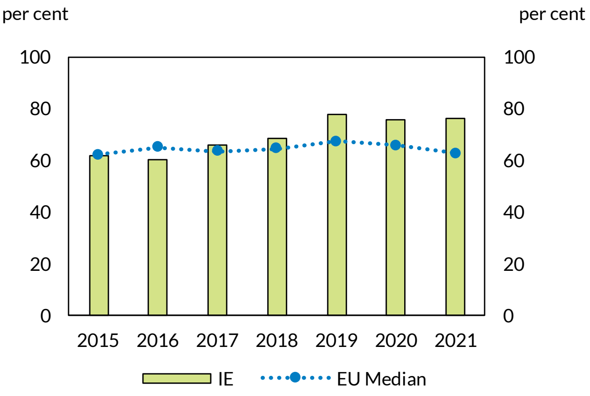
The capital position of the sector has remained stable over the pandemic, with substantial buffers above minimum regulatory requirements. Despite the downward pressure that additional provisions have exerted on profitability throughout the pandemic, various policies targeted at the banking sector[31] have offset the impact of provisioning, leaving the CET1 ratio broadly unchanged since 2019 Q4 (Chart 61) . In particular, the transitional arrangements on the recognition of expected credit losses continue to support the CET1 ratio, providing approximately 1 percentage point of capital relief across the system as at 2021 Q2. The gradual phasing out of this policy[32] in addition to the rescindment of the ECB's recommendation to limit dividend distributions will naturally serve as headwinds to the sector's capital adequacy in the coming years. By contrast, the leverage ratio, which assesses capital resilience independently of risk-weighted assets, has declined over the past year but also remains well above the regulatory minimum requirement. Driving the divergence between these two capital indicators is the significant balance sheet

[31] See FSR 2021: I (Chart 57) for more details.
[32] As detailed in the amendments presented in the "CRR Quick Fix", institutions are permitted to add back all of their new provisions for financial assets that were not credit-impaired in 2020 and 2021. From 2022 to 2024, the percentage of provisions that may be added back to their CET1 capital will decrease in a linear manner to being completely phased out by 2025.

expansion of the sector, which has seen the surge in customer deposits funnelled mainly into assets with a low risk profile (Table 1). While the outlook for credit deterioration remains uncertain, the results of the recent EBA 2021 stress test – consistent with the Central Bank's own analysis – suggest that the banking system has sufficient capital buffers to absorb further losses, even in economic outcomes considerably worse than currently expected (see Box D).

### Chart 59: CTI has started to decline in recent years, but remains high in a European context

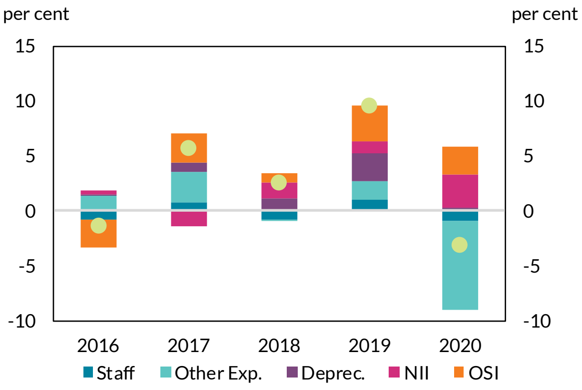
Cost-to-income ratio




Source: Central Bank of Ireland.
Notes: "IE" indicates the system-wide cost-to-income ratio across the five retail banks. "EU Median" is the median cost-to-income ratio across a sample of representative European banks.

### Chart 60: The deterioration in the cost-to-income ratio has been driven primarily through declining non-interest sources of income, higher depreciation costs and other administrative expenses

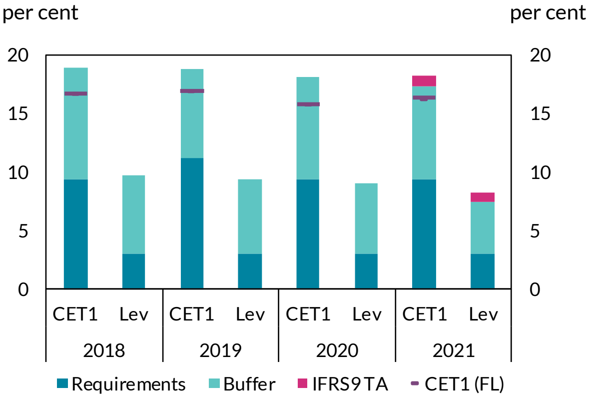
Annual decomposition of the cost-to-income ratio




Source: Central Bank of Ireland.
Notes: The chart shows the contributory factors behind the annual change in the cost-to-income ratio for the Irish retail banking system. "Staff" denotes the contribution from staff expenses, "Other Exp." denotes the contribution from other administrative expenses, which includes items such as the restitution costs associated with the tracker mortgage examination, "Deprec." denotes the contribution from depreciation, "NII" denotes the contribution from net interest income and "OSI" denotes the contribution from non-interest income.

### Chart 61: Capital has remained resilient, but an increase in exposures has reduced headroom in the leverage ratio

CET1 and leverage ratios




Source: Central Bank of Ireland.
Notes: Both ratios are presented on a weighted average basis for the 5 retails banks. CET1 requirements are presented as the overall capital requirement to be made up of CET1 capital, whereas the requirements for the leverage ratio are given as 3 per cent as prescribed under CRR2. "IFRS9 TA" reflects the impact of the transitional arrangements on the recognition of expected credit losses. For the CET1 ratio, these arrangements amounted to 92 basis points of support across the system at 2021 Q2, while providing 72 basis points of support for the leverage ratio. "CET1 (FL)" denotes the CET1 ratio on a fully-loaded basis.

### Table 1: Expansion of the sector's balance sheet has largely been through assets of a low risk profile

Change in original exposures and risk-weighted assets.

€ billion | € billion

| *Jun-20 - Jun-21* | *Δ Original Exposures (€bn)* | *Δ RWAs (€bn)* |
|---|---|---|
| *Central Govts/Central Banks* | 41.7 | 0.2 |
| *Corporates* | 2.0 | 2.5 |
| *Retail* | -0.7 | -0.1 |
| *Other* | -6.0 | 0.5 |

Source: Central bank of Ireland.
Notes: The table reports the change in both original exposures and risk-weighted assets (RWAs) across various counterparties between 2020 Q2 and 2021 Q2. Amounts reported are presented on an aggregate basis across the IRB and SA portfolios for the five retail banks.

The transactions under consideration stemming from the planned exit of two of the retail banks are likely to result in lower capital headroom for remaining banks. The precise impact of the exit of Ulster Bank and KBC Ireland will depend on the commercial details of asset and liability disposals and transfers to the remaining banks. It is likely that, with some assets of exiting banks being absorbed onto the balance sheets of the remaining banks with a fixed capital base, there will be an erosion of the sector's capital headroom as a result of the exits. Combined with the removal of pandemic measures that have bolstered capital resilience, this implies that even in a benign macroeconomic setting, the sector's capacity to absorb shocks will be compromised somewhat in the coming years.

The operational and cyber resilience of the financial sector remains a key strategic objective of the Central Bank. While firms have adapted well to the pandemic, risks have not diminished (see *Structural Risks)*. In recent years, the Central Bank has undertaken a number of initiatives to enhance resilience, including TIBER-IE in 2019 and CIISI-IE.[33] The Central Bank issued a consultation on *Cross Industry Guidance on Operational Resilience* in April 2021 which was well received by the industry. Following review of the feedback, the finalised guidance is expected to be published in December 2021. Operational resilience will remain a key focus of work across the Central Bank through 2022 and beyond. As the risks to operational resilience can materialise in both the short and the longer term, firms need to be taking steps now to understand their critical or important business services and make them more resilient to disruption, both now and with an eye to the future and the continuously evolving nature of technology and the associated operational and cyber risks.

[33] TIBER-IE is a programme that works with the largest or most critical financial institutions to test their cyber security using threat intelligence led ethical red-teaming (ethical hacking). More recently, the Central Bank launched CIISI-IE, a cyber information and intelligence sharing initiative that brings together many of the most critical financial firms into a trusted community where they can share, in real time, cyber-related threats and issues they are facing, with a view to a more collective and shared resilience and response. This initiative also includes the National Cyber Security Centre as a member.

## Box D: EBA stress test 2021

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

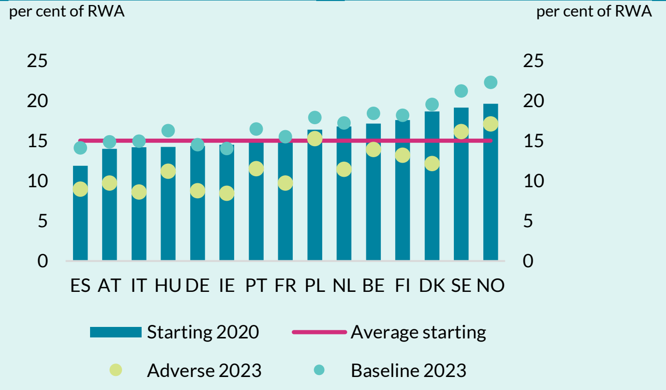
The European Banking Authority (EBA) conducted a stress test of EU and EEA banks in 2021.[1] The stress test assessed the resilience of the EU banks over a three year horizon under both a baseline and an adverse scenario. In total, the stress test involved 50 systemically important banks, of which two were Irish. This box examines the results of the stress test and in particular from an Irish (IE) banking perspective.

The 2021 stress test pointed to the continued capital resilience of EU (and IE) banks. Under the adverse scenario, the EU and IE banking sector would remain above a CET1 ratio of 10 (8.4) per cent, against an end-2020 starting CET1 ratio of 15 (14.5) per cent (Chart A). While the stress test highlighted vulnerabilities for Irish banks, the results are broadly consistent with the findings of the Central Bank's own forward looking assessment of Irish banking resilience published in FSR:2020:II, that the Irish banking system has sufficient loss-absorbing capital to absorb material adverse shocks.[2] Notably, the CET1 ratio for IE banks also declined over the three year baseline projection period, partly reflecting the baseline impact of the COVID-19 shock but also pointing to underlying business model challenges of the sector. We examine the drivers of this in Chart B.

Credit losses explain most of the capital depletion in the stress test (-5.1 CET1 percentage points in 2021 adverse). Irish banks experience greater credit losses than most other countries (near the 25th percentile in both baseline and adverse). However, it was also notable that Irish banks had a particularly weak contribution of profits from continuing operations, especially from net interest income in the 2021 stress test (2.45 and 0.31 percentage points in baseline and adverse, respectively). This latter result highlights the challenge Irish banks face in generating profits in a lower-for-longer interest rate scenario envisaged by the EBA 2021 stress test. As highlighted in this and previous *Reviews*, this owes to the greater dominance relative to European peers of lending as an asset and interest as an income stream on Irish banks' balance sheets.

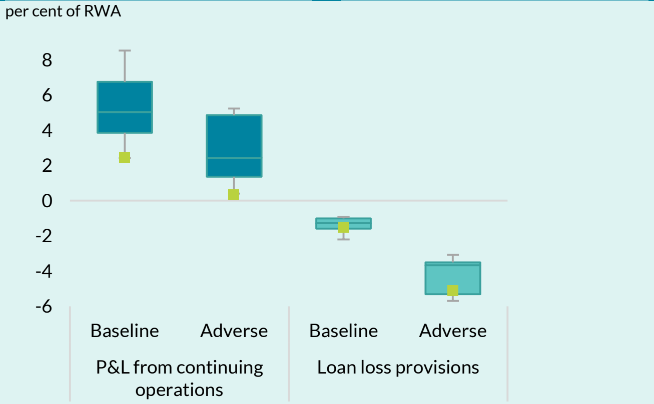
In terms of the capital impact of these profitability items, the IE banks ranked in the bottom 10th of the sample in both scenarios. This again highlights the importance of cost reduction programmes and revenue diversification for IE banks, as well as the particularly positive effect that a reversal of the low interest rate environment would have on Irish banks, were it to arise. While the EBA 2021 stress test was not a 'pass/fail' exercise, banking supervisors use the results to challenge banks on their capital positions as part of their supervisory review process.[3]

Chart A: EBA Stress Test 2021 – Common Equity Tier 1 capital, end- 2020 starting point, baseline and adverse by country




Source: EBA, Central Bank of Ireland calculations.
Notes: CET1 ratios are fully loaded capital ratios.

Chart B: CET1 Capital impact due to P&L from continuing operations and loan loss provisions – distribution across countries




Source: EBA, Central Bank of Ireland calculations.
Notes: P&L from continuing operations is before credit and market risk losses. Boxplot distribution shows the European country level 10th, 25th, 50th, 75th and 90th percentiles. Ireland are highlighted with the green point.

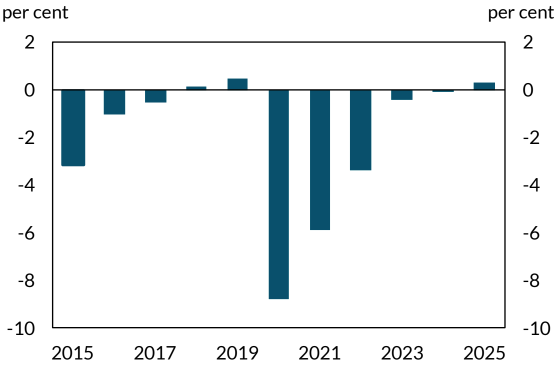
[1] EBA stress testing results https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing
[2] FSR:2020:II https://www.centralbank.ie/publication/financial-stability-review/financial-stability-review-2020-ii
[3] SSM guidance on setting P2G from Stress tests https://www.bankingsupervision.europa.eu/banking/srep/html/p2g.en.html

## Sovereign

*The pandemic continues to pose risks to the public finances. Having run a surplus of 0.9 per cent of GNI* in 2019, the general government balance was in deficit of 8.8 per cent in 2020 and is projected to record a deficit of 5.9 per cent in 2021. These deficits have been primarily driven by the necessary counter-cyclical fiscal response to the pandemic, largely comprised of health spending and income support schemes. The increase in the debt ratio has been less severe than the increase in the deficit, and given the improved projections in Budget 2022 is expected to be back below 100 per cent of GNI* by end-2022. This still represents a significant stock of debt that in nominal terms is currently €30 billion higher than its pre-pandemic level in 2019. As the economy recovers and pandemic-related spending attenuates, a gradual reduction of the debt ratio would increase resilience to external shocks and enhance the State's ability to implement counter-cyclical fiscal policies during any possible future downturn, as was done in response to the pandemic.*

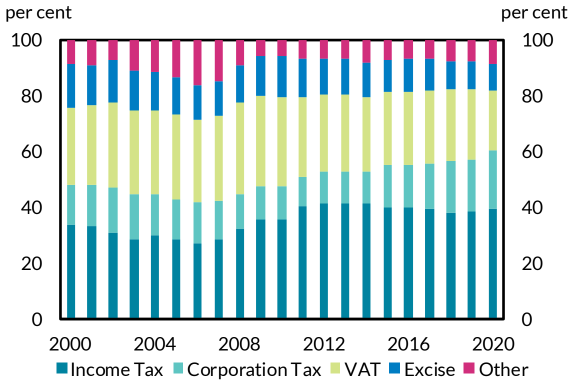
The public finances remain heavily affected by the COVID-19 pandemic. Based on Budget 2022 projections, the general government balance is expected to record a deficit of 5.9 per cent of GNI* (€13.3 billion) this year before improving to a deficit of 3.4 per cent (€8.3 billion) in 2022 (Chart 62). While such deficits are smaller than had been anticipated as recently as the summer, they also represent a significant deterioration relative to the pre-pandemic period.[34] Assuming that the necessary temporary fiscal measures introduced as part of the response to the pandemic are gradually phased out, the size of the deficit should continue to decline over the coming years. The Government now expects the budget balance will return to surplus in 2025. While the debt-to-GNI* ratio will increase marginally this year to 106.2 per cent, it is projected fall to 99.2 per cent in 2022 and to continue to decline out to 2025.

**Chart 62: There will be a substantial deficit again this year**
Irish GG Balance (per cent of GNI*)




Source: Budget 2022.

**Chart 63: Reliance on corporation tax has steadily increased since 2014**
CT as a share of tax revenue




Source: CSO.

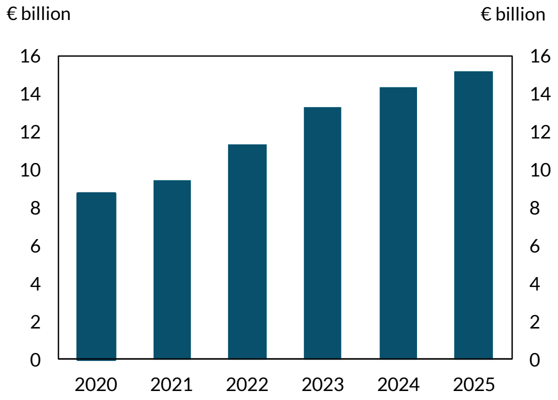
The deterioration in government finances during the pandemic was severe, but tax receipts are supporting a robust recovery in revenues (Chart 63). The latest Exchequer returns indicate strong revenue growth, with almost all tax categories ahead of profile and higher than the January to September period last year. Total tax receipts for the year to September are 15.9 per cent above

[34] The July Summer Economic Statement had projected a general Government deficit of 9.4 per cent of GNI* in 2021 and a 6.2 per cent deficit in 2022. The debt to GNI* ratio was projected to be 111.8 per cent and 108.6 per cent in 2021 and 2022, respectively.

2020 levels and 5.8 per cent ahead of the Department of Finance profile. The economic recovery is particularly apparent in the VAT receipts, which are up 26 per cent versus the same period last year, and are 7.7 per cent ahead of profile. General Government revenue is expected to grow by 11.3 per cent in 2021, supported by the labour market recovery and increased consumer spending.[35] However, roughly one in every five euros collected in tax now comes from corporation tax. The uncertainty surrounding the impact of global tax reform (see *Risks: Global Tax and Trading Developments)*, and the concentration of these receipts in a very small number of companies, raise concerns over the sustainability of receipts over the medium term.

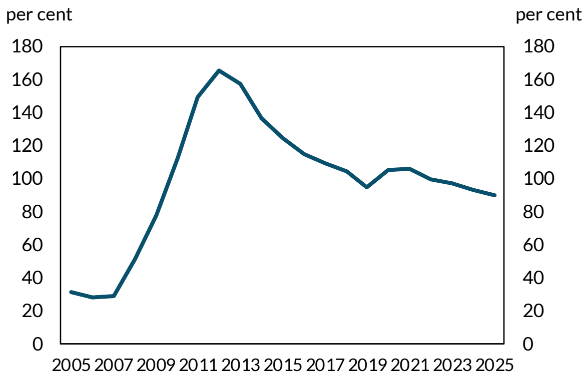
There have been substantial increases in medium-term expenditure commitments since the last Review. In July's Summer Economic Statement, the Government adopted a new expenditure rule that will incorporate 5 per cent growth in voted expenditure (approximately €4 billion) per annum. This would see Government spending grow roughly in line with the estimated trend growth rate of the economy. Embedded within this expenditure growth, and as set out in the National Development Plan (NDP)[36], is the target of increasing capital expenditure to 5 per cent of GNI* by 2025 (Chart 64). This increased investment is apparent in the projected growth in Gross Fixed Capital Formation to 2025. Well-targeted, productive investment spending can increase the economy's public capital stock and increase economic growth and employment in the long run. However, this increase in capital spending is being combined with significant growth in current spending at a time when the economy is already expected to grow strongly. Such structural or permanent increases in spending will need to be financed in a sustainable manner.

**Chart 64: Government investment is projected to increase strongly over the coming years**
Government Gross Fixed Capital Formation




Source: Budget 2022.

**Chart 65: Government debt balances are projected to shrink relative to the size of the economy out to 2025**
Government Debt ( per cent of GNI*)




Source: CSO, Budget 2022.

The Government debt ratio remains elevated. Having declined steadily since 2012, and fallen below 100 per cent of GNI* in 2019, pandemic-related measures meant the debt ratio increased in 2020 and will increase again in 2021 to stand at 106.2 per cent of GNI* (Chart 65). Having declined steadily since 2012, and fallen below 100 per cent of GNI* in 2019, pandemic-related measures meant the debt ratio increased in 2020 and will increase again in 2021 to stand at 106.2 per cent of GNI* (Chart 65). The debt ratio has only increased marginally despite significant budget deficits, as growth in GNI* offset some of the increase in nominal debt. Gross government debt has risen

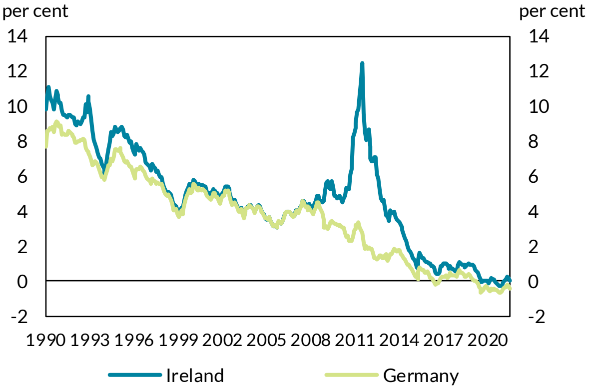
[35] Budget 2022, Economic and Fiscal Outlook, Table 10
[36] National Development plan, 2021 - 2030

from €204 billion in 2019 to €238 billion 2021, an increase of 16 per cent. Expenditure rose by 19 per cent in 2020. While expenditure growth is projected to moderate from 2022, a significant COVID-19 contingency allocation of €4 billion is included in the Budget projections for next year. There is some uncertainty over the impact of the COVID-19 crisis on expenditure growth over the medium-term. As the deficit reduces over the medium-term and GNI* continues to grow the debt ratio will fall, but will remain at an elevated level. It is currently projected that in 2025 total debt will have risen above €250 billion.

The trajectory for government debt ratios is benefitting from the low interest rate environment and the elongation of debt maturity. ECB support over the course of the pandemic, particularly via the Pandemic Emergency Purchase Programme (PEPP), has helped to keep interest rates at historically low levels despite the deterioration in the public finances (Chart 66). The National Treasury Management Agency (NTMA) has now raised almost its entire target funding for 2021 at close to zero interest rates. The NTMA has also built up cash reserves of €29.4 billion as of September 2021 and there are no long-term bonds due to mature until March 2022. While deficits are expected to persist over the coming years, these factors will increase the Agency's flexibility with respect to debt issuance over the medium-term. Low interest rates have allowed the NTMA to swap maturing high interest debt for newly issued low interest rate debt. This has led to the Department of Finance to consistently revise down forecasted general government interest expenditure. The average interest rate on Irish debt has fallen by nearly three percentage points over the last ten years, one of the largest reductions in the euro-area (Chart 67). Given the size of the decline already experienced, the scope for further reductions in interest expenditure over the medium term is likely to be limited.

**Chart 66: Government borrowing costs remain at historic lows**

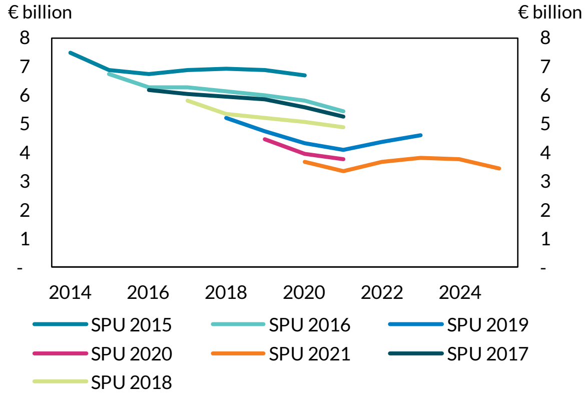
10-year Government bond yields




Source: FRED.

**Chart 67: Projected total interest costs on government borrowing have continued to fall.**

Annual interest expenditure forecast




Source: DoF Stability Programme Updates.

While the medium-term outlook for the budget balance improved considerably in Budget 2022, the public finances remain exposed to a range of risks.[37] The most recent projection indicates that a budget surplus will be achieved in 2025, with the debt ratio nearly 17 percentage points lower than it is this year. As the economy recovers, pandemic-related support should continue to become more targeted, to ensure that the resilience of the fiscal position can be protected. While

[37] See Conefrey et al. (2021) "An analysis of the medium term risks to the public finances" Central Bank of Ireland Economic Letter, Vol. 6.

debt sustainability risks have declined relative to the outlook earlier this year, known future expenditure pressures such as from an ageing population and climate change increase the need to consider measures to bolster balanced budgets.[38] The government is also exposed to the potential for sovereign borrowing conditions to change due to changes in risk sentiment globally, or fluctuations in monetary policy (see *Risks: Global Financial Markets)*. Similarly, there are risks to corporation tax revenues given the known volatility of receipts from this tax heading and current global policy developments (see *Risks: Global Tax and Trading Developments)*.

A lower debt ratio over the medium term would increase policy space in a future shock. Continuing to reduce the debt ratio can preserve the ability to respond to future adverse shocks with countercyclical fiscal policy, as occurred during the pandemic. In light of the projected strong pace of economic growth in the coming years, along with the planned expansion in government current and capital expenditure, it is important that fiscal policy remains countercyclical, and avoids adding to excess demand as the economy returns to robust growth.

[38] As noted by the Irish Fiscal Council, the reduction in corporation tax could be larger and more sudden than the gradual €2 billion reduction assumed by the Department of Finance. See IFAC Fiscal Assessment Report 2021

# *Non-bank financial sector*

## Market-based finance

*Ireland has one of the largest market-based finance sectors in the world relative to the size of its economy. While the sector is mostly internationally oriented, two areas are particularly important to the domestic economy: Irish property funds and non-bank SME finance. Irish property funds own over 40 per cent of the investable commercial real estate (CRE) market and so may have systemic importance if they were forced to sell a large volume of assets simultaneously. This risk would be amplified in the presence of by certain vulnerabilities, specifically high leverage and – to lesser extent – liquidity mismatches in parts of the sector. Separately, non-bank lending is becoming an increasingly important source of SME finance, particularly in the real estate/construction sector. Since this form of financing remains untested across the full economic cycle, it is important to understand the vulnerabilities and resilience of these financing entities.*

The market-based finance (MBF) sector overall is largely internationally-focused, but institutions with exposures to Irish commercial real estate (CRE) play an important role in that market. The total value of Irish-domiciled MBF institutions' (including investment funds, special purpose entities and other financial intermediaries) assets are large compared with the Irish economy. However, most MBF institutions' investments and their investors are predominantly internationally focused. Nonetheless, there are some MBF institutions whose exposures are related to the domestic economy. In particular, property funds and, separately, non-bank lenders to SMEs play important (direct and indirect) roles in Irish real estate markets and to the financing of certain non-financial corporations.

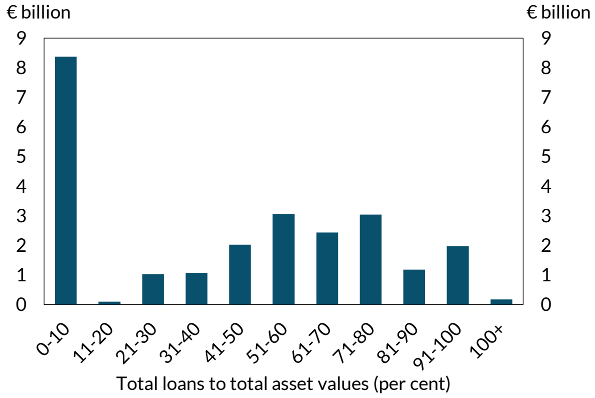
Investment by funds is particularly important in the financing of domestic CRE. Irish property funds hold a total of €23 billion in Irish property and land or over 40 per cent of the estimated 'investable' Irish CRE market (see FSR 2021:I). As Irish property funds are largely funded from overseas, this represents a beneficial diversification of CRE funding, away from domestic investors towards international investors. However, the growing importance of funds in the CRE market also means that the resilience of this form of financing matters more today for the functioning of the overall CRE market than it did a decade ago.

Leverage and, to a lesser extent, liquidity mismatches are two important sources of financial vulnerability for these funds, which can amplify shocks. Highly leveraged funds are more likely to be forced to sell in the event of a shock. For example, falls in capital values could lead to some funds breaching loan-to-value (LTV) covenants (contractual arrangements with their lenders). Equally, a loss of rental payments may impact funds' ability to repay loans and potentially breach their debt servicing covenants (also contractual agreements). The lender may require the fund/s to sell assets or may take ownership of the assets themselves and sell them quickly into a falling market (as happened during the GFC). Redemption risk is less of an issue for Irish property funds, as the funds are not daily dealing but rather have lower frequency dealing periods. However, given the very illiquid nature of property assets, there is a cohort of funds where some liquidity mismatch remains apparent. In these cases, funds may be forced to sell assets at valuations that are out of line with the economic value of the assets.  These forced sales can amplify any CRE market downturn or market dysfunction.

Some Irish property funds have high levels of leverage, making them vulnerable to potential further CRE price declines. The average level of leverage (calculated as the ratio of total loans to total assets) among Irish property funds is 46 per cent, significantly higher than the average leverage of property funds across other European countries (i.e. 25 per cent in 2020, see the consultation paper on Macroprudential Measures for Irish Property Funds).[39] However, this average masks significant heterogeneity in the levels of leverage across cohorts of Irish property funds. For example, 34 per cent of all Irish property funds' total assets are held by funds with a leverage of 10 per cent or less, whereas 49 per cent of assets are held by funds with leverage of over 50 per cent (Chart 68). Funds with higher levels of leverage would be most vulnerable to any external shock or future decline in CRE values. This is particularly relevant given that these funds have considerable exposure to the retail CRE sector (see FSR 2021:I), which experienced the largest falls in value following the COVID-19 shock and at present faces the weakest recovery prospects across all CRE subsectors *(see Risks: Domestic macro-financial).*

**Chart 68: Some Irish property funds have high levels of leverage**

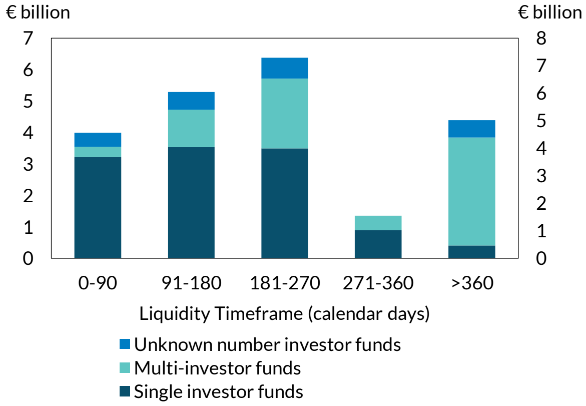
Distribution of Irish property funds total assets by ratio of loans to total asset values




Source: Central Bank MMIF returns, Investment funds audited financial statements and Central Bank calculations
Notes: Data as of 2021 Q2.

**Chart 69: Irish property funds have a diversified liquidity profile**

Distribution of Irish property funds total assets by liquidity timeframe (calendar days)




Source: Central Bank MMIF returns, Investment fund prospectuses and Central Bank calculations.
Note: Information on liquidity timeframes is not available for funds with €3 billion in total assets. Liquidity timeframe is the sum of a funds standard notice period and maximum settlement period. The notice period is the number of days prior to the dealing day by which a redemption request must be submitted. Settlement period is the maximum number of days following the dealing day by which a redemption request must be settled. Data as of 2021 Q2.

A cohort of Irish property funds also have a liquidity mismatch. Property funds are intrinsically vulnerable to liquidity mismatches. Property is not liquid. Unlike securities (e.g. equity), property is not a traded financial instrument. Each property is different and cannot be easily split into smaller parts with equal valuations. Thus unlike most securities, it is difficult to sell a building in a short period and the seller may not always receive a price that reflects fundamental market value. Analysis of Irish property funds CRE transaction times suggests that an average time to sell is around 6.5 months in non-stressed periods (see Daly et al., 2021). In stressed periods, this is likely to lengthen. For example, funds use an average period of 14 months as the time to sell property in their stress tests. In contrast, the time between the latest date when investors can notify the fund of their intention to withdraw funds and the date by which funds state they will typically settle any redemptions in cash (called the liquidity timeframe) is often shorter. For example, there are 69

[39] Part of the reason for the higher observed leverage is due to borrowing from shareholders, but – even accounting for that – there is a cohort of funds who have historically had elevated levels of leverage, see Daly et al., 2021.

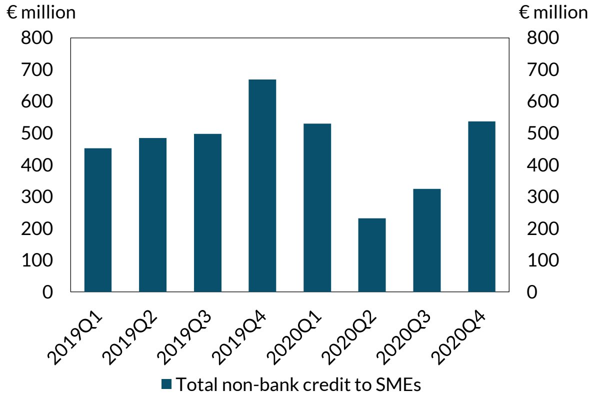
funds with €9.3 billion in total assets for whom the liquidity timeframe is 180 days or less (Chart 69). This suggests a liquidity mismatch may be present for such funds in normal times. More funds would likely have a liquidity mismatch in this sense during stressed times. Some of the factors that may counter these risks are that many of the funds: (i) are single investor funds, and therefore likely less vulnerable to runs, and (ii) have access to liquidity management tools (such as suspensions of trading). Nevertheless liquidity mismatch remains an apparent vulnerability for these funds, particularly during periods of stress.

The Central bank has proposed macroprudential policy interventions to address both leverage and liquidity mismatch in Irish property funds.[40] More details on the proposal are provided in (*Policy: Market-based Finance)*.

Separately, non-bank lending is also becoming an increasingly important source of finance for Irish SMEs, particularly in the real estate and construction sectors. Between 2019 and 2020 non-bank lenders provided €3.7 billion in new lending to Irish SMEs (Chart 70). While this is still significantly smaller than the amount lent by banks to SMEs (€9.5 billion), at 28 per cent of total new SME lending, this form of finance is now significant (Heffernan et al., 2021). The share of lending provided by non-bank lenders is highest in the real estate, construction and wholesale/retail sectors (Chart 71). Overall Irish SMEs owed non-bank lenders €4.3 billion at end-2020 compared to €19.8 billion owed to banks.

**Chart 70: Non-banks credit to SMEs**

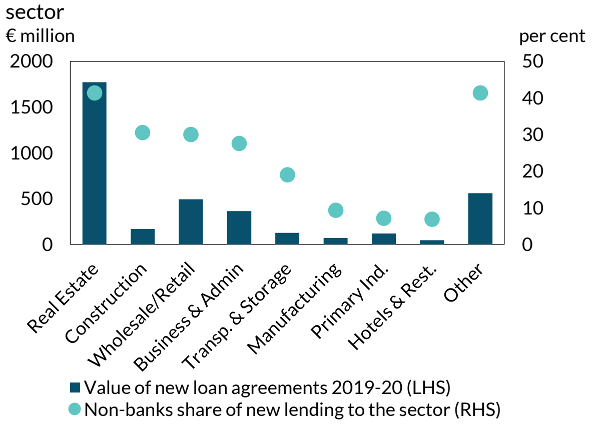
Quarterly new lending to SME by non-bank




Source: Heffernan et al., 2021 (Central Credit Register, CRO, Register of Affiliates and Assets Database and Central Bank of Ireland calculations).

**Chart 71: Sectoral use of non-bank loans**

Non-bank share of new lending from all credit providers by sector




Source: Heffernan et al., 2021 (Central Credit Register, CRO, RIAD and Central Bank of Ireland calculations).

Non-bank lenders are different to investment funds and banks, so the risks that they face and their ability to absorb different types of shocks are also likely to be different. Unlike investment funds, non-bank lenders provide debt finance (loans and leasing) to entities active in the real estate and other sectors, rather than equity capital. They are also different from banks, in that they do not finance themselves through deposits. Instead, they are funded via numerous channels, including company groups; debt raised through Special Purpose Vehicles (SPVs); loans from domestic and international banks, and investor equity. The relative use of different funding sources varies according to each business model. For example, lenders specialising in leasing have a tendency to use intragroup funding, while those that specialise in property finance tend to raise funds through SPVs.

[40] The proposal is outlined in detail in Consultation 145: Macroprudential measures for the property fund sector.

Overall, non-bank lending brings benefits, but necessitates a better understanding of the vulnerabilities and resilience of these entities. Non-bank lending provides diversification in terms of choice for borrowers, competition for banks, financing in market segments underserved by other lenders, and innovations in products and funding models. It also facilitates broader risk sharing across the financial system. However, the resilience of this form of financing remains relatively untested across the full economic cycle (FSR 2021: I, pg. 30). For example, many non-bank lenders raise financing from international lenders and markets, and could potentially be a channel for transmitting any tightening of global financial conditions into domestic credit intermediation. This could be further amplified if they are exposed to significant liquidity or maturity mismatches, or are highly leveraged. Further data and analysis is required to develop a deeper understanding of the vulnerabilities of these institutions, their funding models and resilience across the full economic cycle.

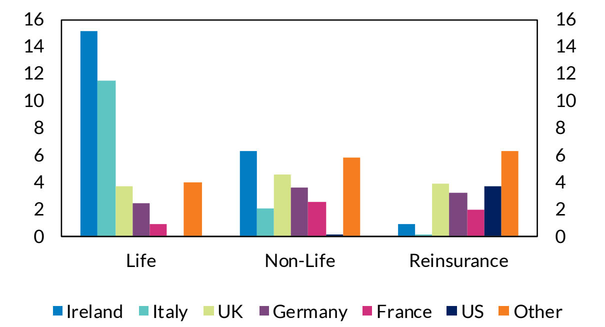
## Insurance firms

*The insurance sector has grown substantially in recent years, with Ireland being a major European hub for insurance and reinsurance firms operating both domestically and internationally. The solvency position of insurers has continued to recover from the lows of 2020Q1 and, at an industry level, is back to pre-pandemic levels. The nature of the industry means that it is exposed to both global and local financial market and real economy conditions. These include the risk of stretched asset valuations, exogenous economic shocks and the general financial and operational risks associated with an increasingly uncertain and complex operating environment. Some non-life insurers, in particular, also have to contend with general reserving uncertainty given that the full effect of COVID-19 on claims has not yet played out and the impact of inflation on claims settlement costs is uncertain.*

The insurance industry has grown substantially in recent years, with capital deployed in the sector (Own Funds) standing at €54 billion in 2021Q2, up 45 per cent from 2016 levels. Ireland is a major European insurance hub, being home to a heterogeneous set of almost 190 life and non-life insurance and reinsurance companies, including captive insurers[41], with a broad international footprint (Chart 72). As such, the sector provides financial protection and long term savings vehicles for citizens and businesses in Ireland, Europe and across the world, facilitating economic activity and contributing to financial stability and resilience. Key drivers of this growth have been financial market movements, emerging surplus and net capital injections, plus exceptional items, for example, Brexit-related relocation of activities to Ireland and global (re)insurance corporations moving group liabilities and assets between jurisdictions to optimise their operations (Chart 73).

**Chart 72: (Re)insurance companies domiciled in Ireland generate over two-thirds of their gross written premium overseas**

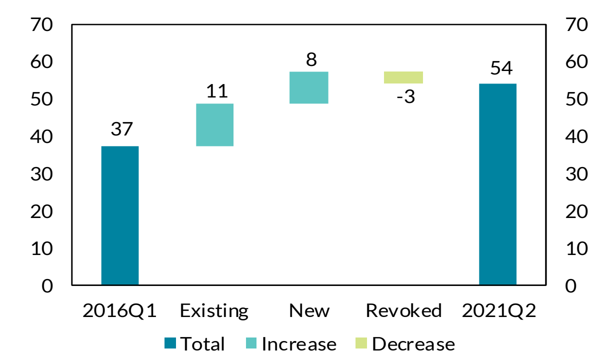
Gross written premium by country in 2020




Source: Central Bank of Ireland.
Notes: For direct business, the country refers to the country in which the insurance services are provided under freedom of establishment (FoE) or freedom to provide services (FoS). For reinsurance business, the country refers to the location of the ceding undertaking.

**Chart 73: The growth in the capital deployed in the industry has been driven by organic and non-organic factors**

Movements in Own Funds 2016Q1 to 2021Q2




Source: Central Bank of Ireland.
Notes: Revoked authorisations generally relate to undertakings whose assets and liabilities have been absorbed into other authorised firms (for example as a result of acquisitions).

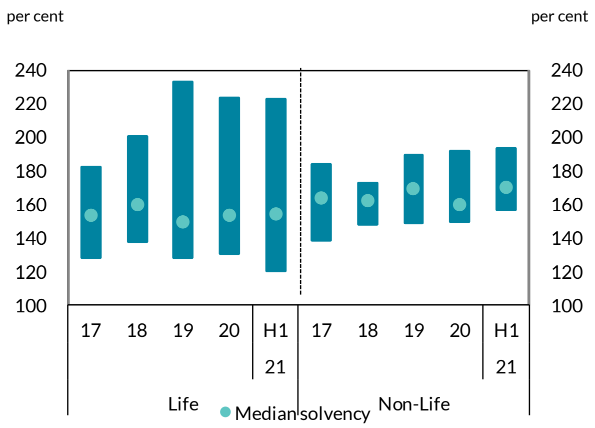
The solvency position of insurers based in Ireland has continued to recover from the lows of 2020Q1, with solvency coverage[42] back above pre-pandemic levels. Solvency II Solvency Capital Requirement (SCR) coverage ratios fell at the outset of the pandemic but recovered in the second half of 2020. That recovery continued into 2021, with the industry median rising to 197 per cent at

[41] A captive insurance company is a wholly-owned (re)insurance subsidiary that provides risk-mitigation services for its parent company or a group of related companies.
[42] Solvency coverage is measured as a firm's available capital (known as "own funds" under Solvency II) as a percentage of its Solvency Capital Requirement (SCR).

2021Q2. Given the heterogeneity of the industry, solvency coverage movements at a firm level diverge, with coverage rising at 55 per cent of firms over 2021H1 while it fell at 45 per cent. The median SCR coverage ratios of the subset of life and the non-life insurers that are active in the Irish domestic market[43] rose in 2021H1 with available capital continuing to exceed firms' SCRs (Chart 74).

**Chart 74: Domestic insurers' solvency positions remain robust and are above regulatory requirements**

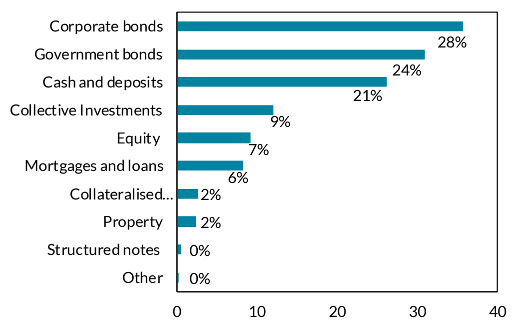
Solvency coverage of domestic life and non-life insurers




Source: Central Bank of Ireland.
Notes: The box at each point shows the maximum and minimum range. Sample is time varying comprising the largest domestic life and non-life insurance firms. Last observation 2021 Q2.

**Chart 75: Insurers' investments are predominantly sovereign and corporate bonds with limited exposure to riskier asset types**

Insurers' non-linked investment allocation




Source: Central Bank of Ireland.
Notes: Non-linked investments which exclude those which life insurers hold to back their unit-linked policies. Last observation 2021 Q2.

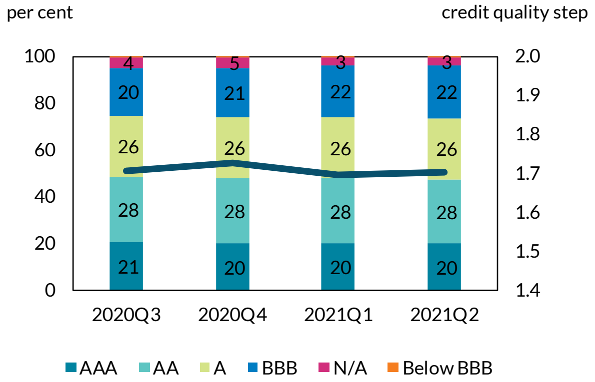
Insurers are exposed to financial markets and real economy conditions not just in Ireland but globally. Many of the key risks to the financial sector and real economy highlighted in this review are pertinent to the insurance sector, in particular relating to asset valuations (see *Risks: Global repricing)* and downgrade and default risks relating to the pandemic (see *Risks: Divergent global economic recovery)*. The current ultra-low and negative interest rates particularly affect the limited number of life insurers offering longer term guaranteed products and act as a drag on non-life insurer profitability through the lower investment income they can generate. However, the possibility of interest rate increases in response to rising inflation may lead to a changed operating environment for firms.

Exposure to market risk varies across the sector and depends on an individual firm's asset mix which will reflect the duration, nature and currency profile of their liabilities plus their risk appetite. Fixed interest securities comprise the majority of insurers' investments accounting for 52 per cent of non-linked investments at 2021Q2, with a spread of country of issue and currency denominations (Chart 75). Exposure to Irish sovereign and corporate debt remains low and accounted for only 4 per cent of bond holdings at 2021Q2. Across the industry there was a slight improvement in the credit quality of the bond holdings backing non-linked business in H1 2021, with the weighted average broadly equating to a Standard & Poor's AA- rating at 2021Q2 (Chart 76).

[43] This relates to firms prudentially regulated by the Central Bank of Ireland. More than 200 insurers authorised in EEA members states other than Ireland write business in Ireland. The solvency of these firms is monitored by their home member state competent authority and are not included in the chart.

**Chart 76: The credit rating of insurers' corporate and sovereign bond holdings improved slightly in H1 2021**

Credit quality of non-linked corporate and sovereign bond holdings




Source: Central Bank of Ireland.
Notes: The credit quality scale (RHS) shows the average credit quality using the credit quality steps specified in Solvency II reporting, which map the ratings for each rating agency to a scale from 0 (AAA) to 6 (CCC and below). A higher score means a lower credit quality.

Non-life insurers have been most affected by COVID-related claims while the impact on life insurance claims is subject to complex and potentially contradictory dynamics. COVID-19 has resulted in increased levels of some non-life claims, notably business interruption, travel and event cancellation. Contractual ambiguity associated with some business interruption policy wordings resulted in test cases being brought to the Irish Commercial Court. In February 2021, the Court ruled that the insurer was liable under the contested policies for business interruption claims arising out of the pandemic and related closure orders. The basis of the compensation calculation will be separately addressed by the Court in the coming months. Claims have yet to emerge in material numbers on credit insurance and suretyship lines of business, however they may just be delayed by government support which will eventually expire. *Long COVID* and well-publicised delays in the diagnosis and treatment of non-COVID conditions could flow through to higher mortality and morbidity rates over the longer term.

Within the Irish domestic market, new Judicial Guidelines on personal injury award levels were approved by the Judicial Council in March 2021. Early results published by the Personal Injuries Assessment Board (PIAB)[44] show that personal injuries award values have fallen materially following their implementation, with average awards made by the PIAB from end April to end September 2021 reduced by 40 per cent on 2020 levels. However, it will take some time to see the full effects of the Guidelines. A more stable claims environment in Ireland could contribute positively over time to the availability of insurance in some sectors and premium levels.

The establishment of the National Claims Information Database (NCID)[45] was one of the recommendations made by the Cost of Insurance Working Group (CIWG), which was set up by the

[44] PIAB Personal Injuries Award Values report published 15 October 2021.
[45] The NCID is a repository for aggregate claims data with the aim of increasing transparency around the cost of claims in Ireland. Aggregate data, including premium, policy and claims data, is collected from insurers operating in the Irish market, whether resident in Ireland or overseas. This allows the Central Bank to publish annual reports containing analysis of the cost of claims, the cost of premiums, how claims are settled, how settlement costs vary depending on how claims are settled, and an analysis of the various types of cost that make up settlements. The current classes of insurance that are in scope of the NCID are Private Motor Insurance and Employers' and Public Liability Insurance.

Minister for Finance in 2016. The purpose of the CIWG is to examine the factors contributing to the costs of insurance and to identify measures to reduce this cost, taking account of the requirement to maintain a financially stable insurance sector. Total gross written premiums for private motor insurance in Ireland fell 4 per cent in 2020 to €1.2 billion, with some firms providing premium rebates during 2020 to reflect reduced car usage and the expected lower claims frequency due to COVID-related restrictions. The recently published Private Motor Insurance Report[46] based on the latest NCID data shows that the average per policy earned[47] private motor premium fell 7 per cent in 2020 compared to 2019, while the average claim cost per policy fell by some 20 per cent, with a 26 per cent reduction in frequency being partially offset by a 9 per cent increase in the average cost per claim. Operating profit from motor insurance was 12 per cent, up slightly from 11 per cent in 2019, although this has to be seen in the context of general volatility in motor insurance profits and losses from year to year, with the average annual margin in the 10 year period 2011 to 2020 being 2.6 per cent. The Employer's Liability, Public Liability and Commercial Property Insurance Report[48] published in July 2021 based on 2019 data showed combined operating profits of 3 per cent of total income in 2019. However, 2019 was the first year since 2014 that these business lines combined had generated an operating profit. By enabling analysis of this sort, the NCID is delivering improved transparency around the cost of settling claims. This should contribute to improved policy decisions in relation to the cost and availability of insurance, both of which can impact the budgets and activities of businesses and households.

Most insurance undertakings supervised by the Central Bank are part of large international organisations and often have significant financial and operational dependence on their groups. While there are advantages to utilising group infrastructures and achieving operational and financial synergies, firms' concentration risk to a single counterparty is also increased. Material exposures to group companies, for example through intra-group loans or reinsurance and reliance for capital, could mean that financial distress emerging in other parts of the group, which include non-financial corporations, could transmit to the Irish entity. This could be via loan default or reduced financial support. During the pandemic, the benefits of group membership in terms of the availability of additional capital have been seen, while on the other hand, some smaller niche companies have been detrimentally impacted by problems at parent level leading to intervention by the Central Bank to proactively manage the recovery or resolution of the firms.

The insurance sector has proved to be resilient during the pandemic. However, it remains exposed to elevated financial and real economic risks and the increasingly visible impact of climate change. These forces will drive future insurance demand and premium income, customer retention rates, claims levels, investment income and profitability levels, with some firms' business models potentially coming under pressure if they are not able to consistently deliver adequate return on capital. Extreme weather events such as flooding in Europe this summer are a reminder of the pertinence of climate change as a current risk to the sector.

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[46] Central Bank of Ireland Private Motor Insurance Report 3 published November 2021.

[47] The gross written premiums of €1.2 billion is an aggregate figure comprising all premiums due in respect of private motor insurance contracts during 2020. This will include amounts that may in whole or in part relate to a later year. Written premiums are different to earned premiums which are the amounts that an insurance company books as earnings for providing insurance cover during a particular year.

[48] Central Bank of Ireland Employers' Liability, Public Liability and Commercial Property Insurance Report 1 published July 2021.

# Macroprudential policy

The Central Bank's approach to macroprudential policy is to build resilience when times are good, so that this resilience can be used when times are bad. In doing so, the aim is to ensure the domestic financial system can absorb, rather than amplify, adverse shocks. Since the onset of the COVID-19 pandemic, the Central Bank's macroprudential policy stance (Table 2) has aimed to support the banking sector in absorbing the pandemic shock, so that it can continue to serve the real economy in a sustainable manner.

**Table 2 | Summary of macroprudential policies for the banking sector**

| | Mortgage Measures | O-SII | CCyB |
|---|---|---|---|
| **Objective** | (i) Increase resilience of banks and borrowers to negative economic and financial shocks<br>(ii) Dampen pro-cyclicality of credit and house prices. | Increase resilience of systemically important banks, defined as those institutions whose failure would have a large impact on the financial system. | Increase banking system resilience to cyclical risks to facilitate a sustainable flow of credit to the economy in good times and bad. |
| **Rate** | LTV: 70% - 90% depending on borrower type<br>LTI: 3.5 times<br>A proportion of new lending above the limits is allowed<br>*See Table 3 for more detail* | 0.5% - 1.5% depending on the institution | 0% |
| **Type of risk addressed** | Cyclical and structural | Structural | Cyclical |
| **Exposures in scope** | Proportion of newly originated mortgage exposures | All exposures | Irish exposures |
| **Effective from** | February 2015 | July 2019 on a phased basis | April 2020 |
| **Next review** | 2022 | Q4 2022 | Q1 2022 |

Given the recovery in the domestic economy, and were the current outlook for the macro-financial environment to hold, the Central Bank would expect to announce a gradual rebuilding of the CCyB in 2022. As discussed in *RISKS*, the economic recovery has reduced the near term risk stemming from the pandemic shock. At the same time medium-term vulnerabilities are building. It will be important that the Central Bank's macroprudential policy stance evolves to provide a level of resilience consistent with the risks faced. As discussed below, while the Central Bank continues to maintain the CCyB rate at 0 per cent at this time, based on the current outlook for macro-financial conditions the Central Bank would expect to announce the commencement of a return to a positive CCyB rate in 2022. As and when conditions once again warrant focusing on enhancing resilience, the Central Bank will consider the build-up of macroprudential buffers in a holistic manner. This approach will acknowledge the interactions between the Central Bank's macroprudential policy instruments as well as wider aspects of the prudential framework where appropriate (*Box E* discusses one such potential element – risk weights). This year's O-SII assessment did not result in any policy changes with the associated buffers for all six institutions due to be fully phased in as of January 2022.

This year's annual review of the mortgage measures takes place in the context of the ongoing wider framework review. As part of the annual review, operational changes are being made providing for the 'First Home' shared equity scheme[49] and the carryover of allowance lending. The current calibration of LTI and LTV limits and allowances will remain unchanged. The mortgage measures framework review, which will continue over 2022, is considering the overarching approach, toolkit and strategy to ensure the measures remain fit for purpose in view of the evolution of our financial system and economy. As part of the framework review, the Central Bank will, in December, invite the public and broader stakeholders to provide feedback on a range of specific questions relating to the mortgage measures framework. This public consultation is being informed by the public engagement events which occurred during the summer along with substantial Central Bank research and engagement with external experts.

The Central Bank is proposing new macroprudential policy measures aimed at safeguarding the resilience of the Irish property fund sector. Property funds have become a key participant in Irish CRE markets, with the benefit of diversifying funding sources. However, this changing form of financial intermediation also raises the potential that new macro-financial vulnerabilities could emerge, so it is important the regulatory framework adapts accordingly. The proposed measures which the Central Bank is consulting on would limit leverage and liquidity mismatch in property funds. The measures aim to better equip the sector to serve its purpose as a valuable and sustainable source of funding for economic activity.

## *Macroprudential policy announcements*

### Mortgage measures

*The Central Bank reviews the mortgage measures on an annual basis to ensure they continue to meet their objectives. The 2021 annual review has taken place in parallel to the ongoing wider framework review of the measures. The framework review is considering the overarching approach to the mortgage measures to ensure that they remain fit for purpose, in view of the evolution of the financial system and economy since the measures were first introduced in 2015. This framework review will conclude in the second half of 2022.*

*The assessment of the mortgage and housing markets carried out as part of the 2021 annual review indicates a reduction in pandemic related uncertainty and a robust recovery in the mortgage market. An exacerbation of existing demand-supply imbalances in the housing market is leading to upward pressure on house prices. The assessment showed no evidence of deteriorating lending standards or an increased role for credit dynamics in explaining recent house price trends.*

*As part of the annual review, the Central Bank has decided that the calibration of the mortgage measures will remain unchanged, in light of the ongoing framework review. Operational changes to the measures are being made with the introduction of a 'carry-over approach' for allowance lending and clarifying regulated mortgage lenders' ability to participate in the 'First Home' Shared Equity Scheme.*

The Central Bank is currently undertaking a review of the policy framework of the mortgage measures. As the mortgage measures have been in operation for nearly seven years, it is important

[49] The 'First Home' scheme is part of the 'Housing for All – a New Housing Plan for Ireland', the Government's housing plan to 2030. The First Home scheme will provide a shared ownership model, whereby a purchase is partly funded by a traditional mortgage and the remainder by an equity stake. Further information on the First Home scheme is available here, Irish Government, September 2021.

that the Central Bank not only reviews the calibration of policy annually, but that the overarching framework is also considered. The framework review of the mortgage measures is considering the objectives of the measures, the macroprudential tools used, and the factors that are taken into account when calibrating the measures. This is to ensure that the mortgage measures continue to remain fit for purpose, in light of changes to the financial system and economy since the measures were first introduced in 2015.

As part of this framework review the Central Bank will be launching a public consultation in December. The consultation will outline the Central Bank's view on the mortgage measures framework, taking on board the findings of the stakeholder engagements and analysis undertaken to date. In June and July 2021 the Central Bank conducted an online engagement survey alongside a series of listening events where the public and other stakeholders were asked to share their views and experiences on the functioning of the mortgage measures. The Central Bank has reviewed the responses received. At the same time, the Central Bank has conducted in-depth analysis on the mortgage measures in both the domestic and international context. The findings of this public engagement together with the results of this analysis will be published as part of a public consultation in December. The consultation will remain open into the first quarter of 2022, after which the Central Bank will analyse the responses received before finalising its conclusions on the framework review. It is expected that the outcome of the framework review will be announced in the second half of 2022.

The 2021 annual review of the mortgage measures has taken place in parallel to the ongoing framework review of the mortgage measures. The Central Bank is committed to annually reviewing the mortgage measures so that they continue to meet their objectives of:

- increasing the resilience of banks and borrowers to negative economic and financial shocks, and;
- dampening the pro-cyclicality of credit and house prices so a damaging credit-house price spiral does not emerge.

The assessment carried out for 2021 shows no evidence of deteriorating lending standards or an increased role for credit dynamics in explaining recent house price trends. The review indicates a reduction in pandemic related uncertainty and a robust recovery in the mortgage market. Existing demand-supply imbalances in the housing market have been exacerbated, leading to upward pressure on house prices.

The current calibration of the mortgage measures (Table 3) will remain in place in light of the ongoing framework review, although a number of operational changes to the mortgage measures are being implemented as part of the 2021 review. The operational changes are in relation to the functioning of the system of allowances and an amendment to Regulation 3.2 of the mortgage measures regulations[50] to remove potential ambiguity regarding regulated mortgage lenders' ability to participate in the 'First Home' shared equity scheme.

[50] Central Bank (Supervision and Enforcement) Act 2013 (Section 48)(Housing Loan Requirements), as amended

**Table 3 | Details of the LTV and LTI Regulations – 2021**

| | | | |
|---|---|---|---|
| **LTV Limits** | **For primary dwelling homes (PDHs):** | First-time buyers (FTBs): 90%<br><br>Second and subsequent buyers (SSBs): 80% | 5% of new lending to FTBs allowed above 90%<br>20% of SSB new lending allowed above 80% |
| | **For buy-to-let borrowers (BTLs):** | 70% LTV limit | 10% of new lending allowed above the BTL limit |
| **LTI Limit** | **For PDHs** | 3.5 times income | 20% of new lending to FTBs allowed above 3.5 limit<br>10% of SSB new lending allowed above 3.5 limit |
| **Exemptions** | **From LTV Limit**<br>Borrowers in negative equity | **From LTI Limit**<br>BTL borrowers<br>Lifetime mortgages | **From both limits:**<br>Switcher mortgages<br>Restructuring of mortgages in arrears |

## Assessment of housing and mortgage market developments

***The pandemic has exacerbated the pre-existing demand-supply imbalance.***

The impact of COVID-19 related health restrictions has been keenly felt in the residential construction sector. The closure of building sites for prolonged periods throughout last year and into the early part of this year impeded residential construction activity[51], leading to a fall in the delivery of new housing units in 2020 and a likely flattening of output for 2021 (Chart 77). Approximately 500 less housing completions occurred in 2020 (20,535), compared to 2019, while the total for 2021 is not expected to surpass 22,000 according to Central Bank projections (Chart 77).[52]

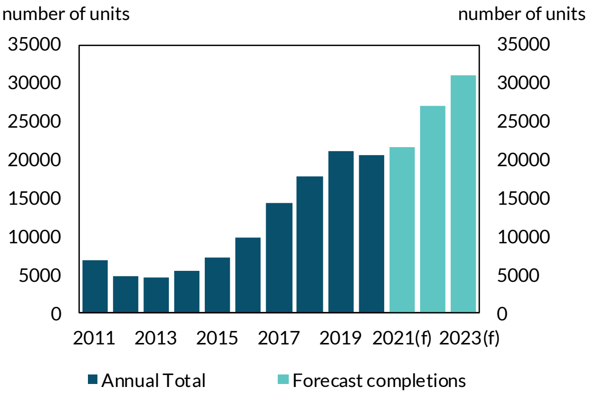
Residential building activity rebounded sharply following the re-opening of the construction sector in April 2021. Notwithstanding some recent moderation, the value of Ulster Bank's "*Housing Activity PMI*"[53] was above 50, the mark signalling expansion, for the sixth consecutive month in September 2021 (Chart 78). The recovery alluded to in this survey is evident in the large increase in housing starts from the second quarter of 2021, which should translate into a strong pick-up in residential property completions from next year (Chart 79). Significant upward revisions in forecasts of housing output, allied to the latest market data showing a 17 per cent increase in cumulative completions during quarters 2 and 3 of 2021, over the same period in 2020 suggest the COVID-19 shock served to stall, rather than reverse, the upward momentum in new housing supply that had been building before 2020. Nevertheless, even with the delivery of the forecasted

[51] For instance, the number of units commenced during the opening quarter of 2021 (2,875), a period when restrictions were particularly rigid, was the lowest quarterly total since Q4 2015, a time when annual completions were running at less than 10,000 units per year.
[52] See Central Bank of Ireland, *Quarterly Bulletin 4*, October 2021.
[53] See Ulster Bank *Construction PMI*, September 2021. As well as increased levels of activity, construction firms are also reporting a rise in staffing levels and future orders as both the sector and the wider-economy emerge from COVID restrictions. Survey participants also appear positive about the near-term outlook for the sector, with just under half of respondents anticipating further activity gains over the coming year, despite concerns around rising inflation and supply-side challenges such as difficulties sourcing key materials and staff.

31,000 new units in 2023, the level of completions remains well short of estimates placing the annual requirement for new residential properties in the region of 34,000.[54]

**Chart 77: Having been flat in 2020 and 2021, growth in annual housing output is expected to resume once more from 2022**

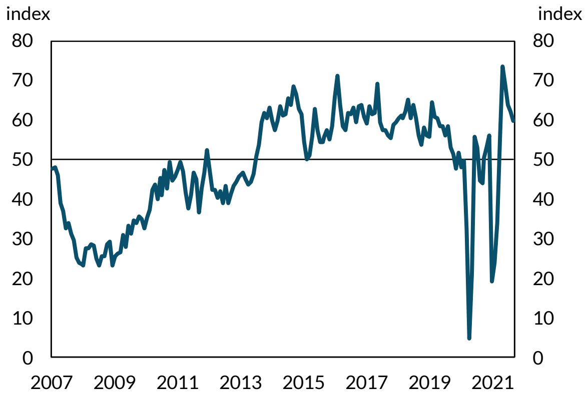
Annual residential property completions: actual & forecast




Source: CSO and Central Bank of Ireland (forecasts).
Notes: Forecast completions are from the Central Bank's Quarterly Bulletin 4, 2021.

**Chart 78: There has been a sharp rebound in construction activity since the easing of restrictions earlier in the year**

Ulster Bank PMI: Housing Activity

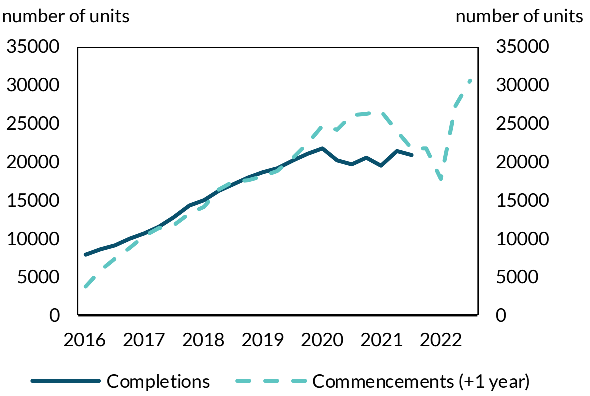



Source: Ulster Bank.
Notes: Value of 50 signifies no change in activity compared to the previous month, values above 50 signify an expansion of activity, while those below 50 signify a contraction of activity. Last observation September 2021.

**The supply shortage is also evident in the lack of available second hand stock for sale.** Data from Daft.ie show that the number of properties listed for sale nationally is close to its lowest ever level in mid-2021 (Chart 80). Across the country, approximately one third fewer properties were on the market at the end of June 2021 (12,300) compared to the same point in 2020. Of the properties for sale, about one quarter were located in Dublin, where despite a slight pick-up in listings in more recent months, the availability of properties is ten per cent lower than the figure one year ago.

**Chart 79: A resumption of the relationship between residential property commencements and completions will ensure a resumption in the trend of increasing housing supply**

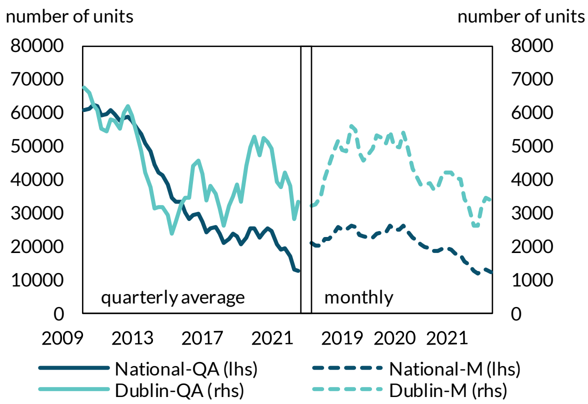
Residential property completions (real time) vs. +1 year commencements




Source: CSO and Department of Housing, Local Government & Heritage.
Notes: Chart takes account of data available as of 2021 Q3.

**Chart 80: Listings of housing stock for sale remains at historically low levels**

Stock listed for sale on Daft.ie: National and Dublin




Source: Daft.ie.
Notes: On a monthly basis, March 2021 saw the lowest number of units listed for sale (11,919 units) on Daft.ie, while the quarterly average was lowest in 2021 Q2 (12,731 units). Last observation 2021 Q2 (quarterly) and June 2021 (monthly).

[54] See Conefrey. T and D. Staunton, "Population change and housing demand in Ireland", Vol. 2019, No. 14.

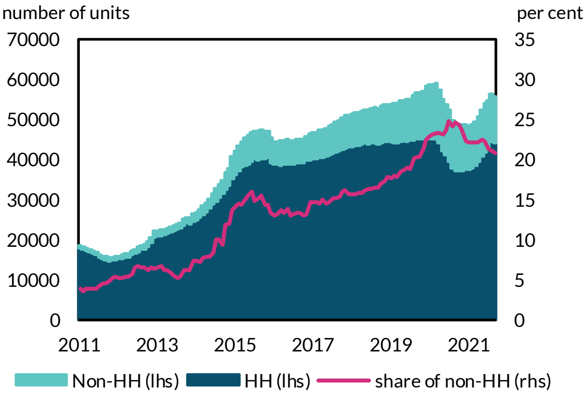
***Significant levels of activity from non-mortgage purchasers is important in the context of assessing the relationship between credit developments and house price dynamics.***

The volume of annual housing transactions is gradually returning to its pre-pandemic level. The CSO's rolling annual total of housing transactions was well over 55,000 in September 2021, up 15 per cent from its January 2021 low, to stand about 6 per cent off its pre-COVID level of approximately 59,000 (Chart 81). The extent of the recovery in housing transactions is more apparent in year-to-date figures. For instance the 29,700 residential property sales which occurred between January and July 2021, was almost 6,200 more than took place during the same period in 2020 and even surpassed the 2019 level by about 400 units.

Non-household buyers have become a significant component of the Irish residential property market. Approximately one fifth of the housing units sold during the past 12 months were purchased by non-household buyers, a group consisting largely of private institutional investors, such as property companies and real estate funds, as well as publically financed entities, such as local authorities and approved housing bodies (Chart 81). While the former is responsible for a larger share of the deals executed by non-household buyers during 2020 (47 per cent), the latter was involved in a greater number of transactions involving new dwellings (Chart 82). Increasing levels of activity from non-households and other non-mortgage (household) purchasers in the Irish housing market is important when considering whether or not mortgage credit is playing any role in driving house prices.[55]

**Chart 81: Residential property transactions are slowly returning to pre-pandemic levels**

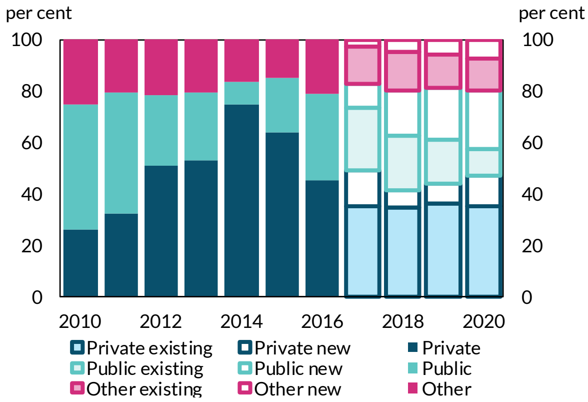
Residential property transactions by buyer type




Source: CSO.
Notes: Last observation September 2021.

**Chart 82: While the largest portion of non-household buyers are from the private sector, publically funded non-household entities obtain a higher share of new units**

Breakdown of non-household residential property transactions




Source: CSO.
Notes: Private cohort consists of transactions involving construction, financial & insurance and real estate NACE categories as per CSO data. Public cohort consists of transactions involving public/education/health NACE category as per CSO data. Other cohort consists of extra-territorial and other categories as per CSO data. Last observation 2020.

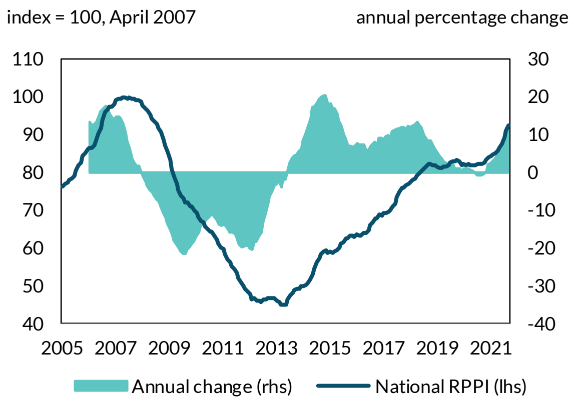
[55] Together, non-household and other non-mortgaged (household) buyers, or "cash buyers", are estimated to account for approximately 40 per cent of the residential property transactions which occurred in the 12 months to September 2021.

***Following a notable increase in the pace of house price inflation in recent months, a combination of structural forces and cyclical factors has led to market expectations of further price growth***

House price growth has accelerated in recent months, fuelled by the continuing imbalance between supply and demand, which was exacerbated by the COVID-19 shock. National residential property prices in September 2021 were 12.4 per cent higher than a year earlier, at which point they had been declining by 0.8 per cent on an annual basis (Chart 83). The current rate of growth is the fastest since mid-2018, placing average house prices about 7 per cent below their previous peak (2007) value in nominal terms (Chart 83). Annual house price inflation outside of Dublin (13.2 per cent) is marginally higher than it is in the capital (11.5 per cent) right now, as it has been since early-2018. Unlike recent years where house price growth has been more apparent at the lower-end of the house price distribution, the rate of increase has been more homogenous across the price deciles in 2021. Residential property prices have grown rapidly in many international housing markets during the pandemic (see *Risks: Global repricing)*.

**Chart 83: There has been a significant increase in the pace of house price growth**

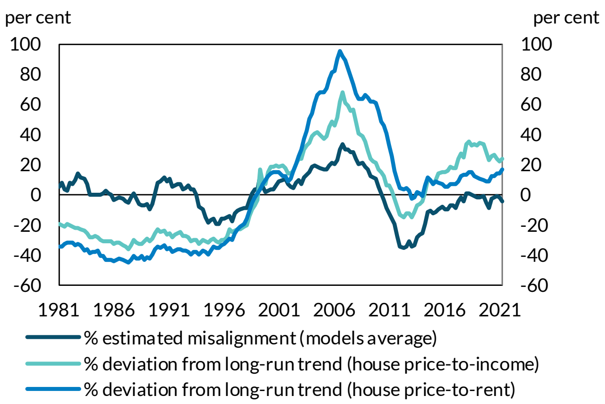
CSO RPPI (nominal) and annual percentage change: National




Source: CSO.
Notes: Last observation September 2021.

**Chart 84: House price valuations are around long-run estimates of fundamental levels, but high compared to income or rent on a historical basis**

Estimated house price misalignment and deviation of statistical house price indicators from long-run average values

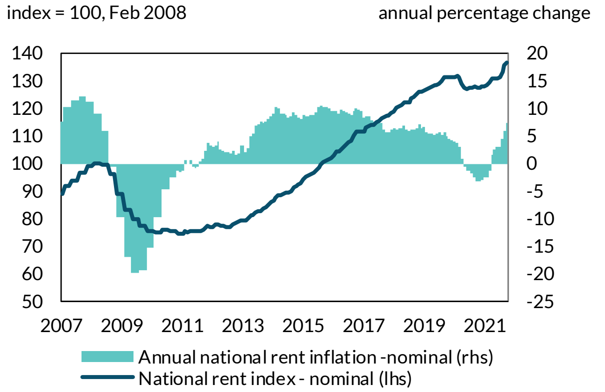



Source: CSO and Central Bank of Ireland calculations.
Notes: "Models" series is calculated as the average of 3 simple reduced form house price models, outlined in Kennedy, O'Brien and Woods (2016).
Last observation 2021 Q2.

Taking low supply into account, residential property prices are around the level expected based on underlying fundamentals. The suite of model-based approaches used by the Central Bank to assess house price misalignment indicate that actual prices in 2021Q1 remain on average, around the level expected given present economic fundamentals (Chart 84). This is explained, in part, by the relative shortfall in supply compared to medium-term estimates of demand in recent years, a situation likely to persist in the period ahead. On a historical basis, however, prices appear relatively high when compared to incomes, and to a lesser extent, rents (Chart 84). Higher positive deviations from long-run averages of price-to-income are typically associated with higher probabilities of house price declines in the future, especially when shocks occur.

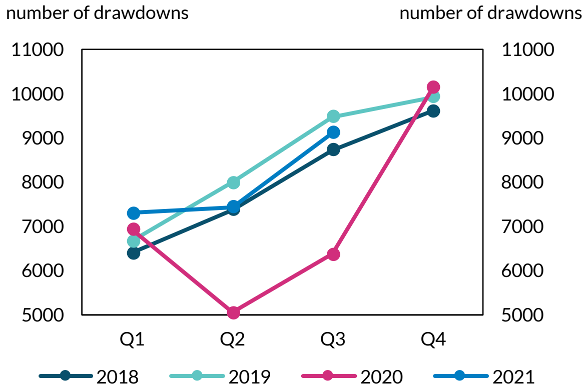
Structural and cyclical forces are likely to put continued upward pressure on house prices. Survey evidence and updated house price forecasts suggest market participants' expectations with respect to the degree of near-term house price growth have increased during 2021.[56] Construction cost inflation and the implementation of recent Government housing policy initiatives are also likely to influence house price developments over the near-to-medium term. Recent quarters have seen substantial increases in many categories of key labour and material costs compared to pre-pandemic levels. A period of prolonged increases in costs in the construction sector is likely to feed through to house price inflation (*see Risks: Domestic macro-financial).* Housing policy will also have a key influence on residential property price dynamics. The Government's "Housing for All" plan has ambitious plans to increase housing supply, which, all else being equal, should serve to ease the rate of house price growth, relative to what it might have been, over the medium turn.[57] Nevertheless, it will take time for the proposed units to be delivered and for the effects to feed through. In the short-run, the "First Home" shared equity scheme operates by shifting the demand for house purchases and, so – in a supply-constrained market – has the potential to increase pricing pressures.

**Chart 85: Residential rents are currently more than one third higher than their previous (2008) peak**
CSO private rent index (nominal) and annual percentage change: National




Source: CSO.
Notes: Last observation October 2021.

**Chart 86: The volume of mortgage drawdowns to date in 2021 is in-line with the equivalent 2019 figure**
Volume of mortgage drawdowns quarterly: 2018 - 2021




Source: Banking and Payments Federation Ireland.
Notes: Data refer to drawdowns for residential property purchases. Last observation 2021 Q3.

The residential rental market has also been affected by the COVID-19 shock and on-going mismatch between supply and demand for rental properties. The availability of some additional units in the early stages of the pandemic, due to the widespread adoption of remote working, lower migration flows etc., saw rents fall during 2020 and into 2021 (Chart 85). With the easing of restrictions and gradual re-opening of the economy however, the supply of homes to rent has fallen sharply,[58] causing rents to pick-up once more. In October 2021, annual rent inflation reached its highest level (7.5 per cent) since mid-2017, placing average rental costs more than one third higher (in nominal terms), than their previous (2008) peak value (Chart 85).

Despite being partially offset by an increase in tenancies from the voluntary sector, the rental supply shortage has been exacerbated by a decline in the number of private, largely small-scale

[56] For instance a number of surveys conducted during the first half of the year (Sherry FitzGerald, Daft.ie and Central Bank of Ireland / Society of Chartered Surveyors Ireland) found participants' expectations were for house price growth of between 1 and 5 per cent over the coming year, whereas more recently (October) Goodbody have upgraded their forecast house price growth for 2021 from 4.9 to 12.5 per cent.
[57] For more see "Housing for all, A new housing plan for Ireland", Irish Government, September 2021
[58] According to Daft.ie, less than 1,500 homes were listed for rent nationwide at the beginning of November, down 65 per cent on the same point in 2020, and the lowest rental stock figure recorded in a series dating back to 2016.

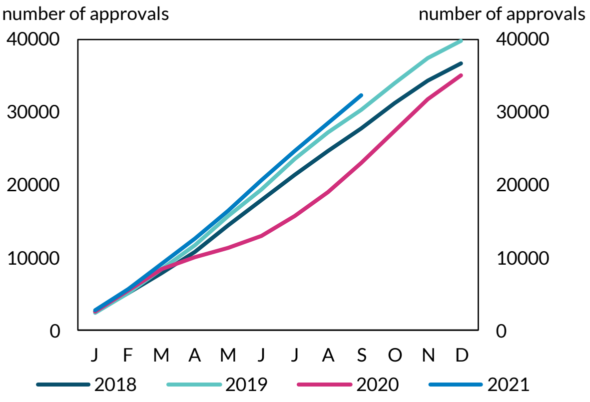
landlords, operating in the private rental sector (PRS), with many of these properties shifting to owner occupation as mortgage lending has grown.[59] Elsewhere, institutional involvement in the PRS has continued to grow despite the pandemic, with €2.4 billion invested over the 4 quarters ending Q3 2021. The construction of new stock and acquisition of existing units by these investors is estimated to have delivered over 16,000 units to the Dublin rental market since 2016, making them an important supplier of the market at this time.[60]

### *The mortgage market has seen a robust recovery*

A pick-up in recent mortgage market activity has more or less returned the volume of drawdowns and approvals to pre-pandemic levels but aggregate lending volumes appear consistent with broader income developments. Following on from a significant expansion in late 2020, mortgage drawdowns during the first three quarters of 2021 (over 23,800) were 30 per cent higher than during the equivalent period in 2020 and 1 per cent lower than the 2019 figure (Chart 86). With the volume of 2021 mortgage approvals as of September (Chart 87) tracking higher than previous years, the availability of units to purchase will be key to determining how this translates into mortgage drawdowns (Chart 88). FTBs continue to be the main drivers of mortgage drawdowns, accounting for about two thirds of the new housing loans drawn down in 2021 to date. When measured against a threshold level of lending relative to incomes, there appears to be scope for further growth in mortgage lending while remaining at sustainable levels (Chart 89).

**Chart 87: Mortgage approvals year-to-date in 2021 have surpassed their pre-pandemic levels, providing room for further increases in the volume of drawdowns**

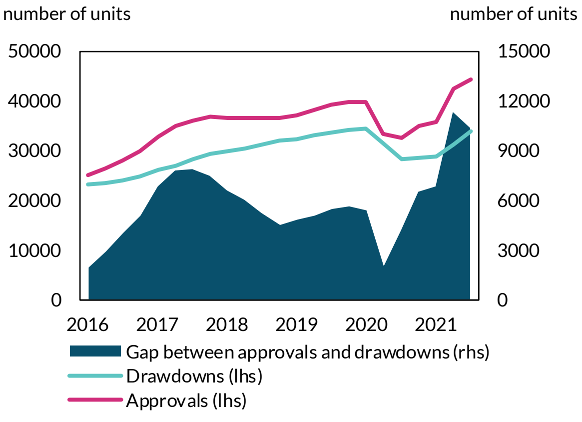
Volume of mortgage approvals - cumulative: 2018 – 2021




Source: Banking and Payments Federation Ireland.
Note: Data refer to approvals for residential property purchases. Last observation September 2021.

**Chart 88: The gap between annual mortgage approvals and drawdowns has increased sharply in recent quarters**

Rolling annual total mortgage approvals and drawdowns




Source: Banking and Payments Federation Ireland.
Notes: Data refer to approvals & drawdowns for residential property purchases. Last observation September 2021.

Looking ahead, the conditions appear to exist that would support further growth in mortgage lending. Buyer sentiment remains robust, with 85 per cent of respondents to a recent Sherry FitzGerald survey reporting themselves to have an equal or greater desire to purchase a property

[59] According to RTB figures, the number of registered private tenancies declined by almost 13,000 to 298,000 units, between Q2 2019 and the end of 2020. Registered Approved Housing Body tenancies increased by about 3,000 units to 34,200 units over the same period.
[60] For more see "The Dublin Residential Investment Report", Hooke and MacDonald, H1 2021

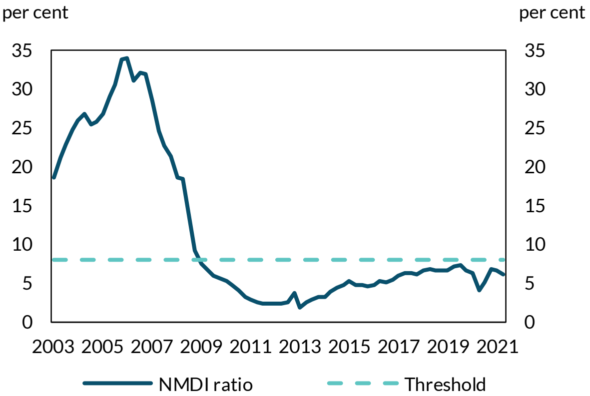
than before the pandemic.[61] Significant pandemic savings amassed by households during periods of tight public health restrictions have the potential to support any increase in the demand for mortgages. Subject to the Central Bank's proportionate limits, lenders who adopted a more cautious approach to the provision of mortgage allowances during the height of the COVID-19 shock may increase their willingness to supply such loans to borrowers. The increase in housing output envisaged over the coming years will also provide additional opportunities for those approved for a mortgage to draw down the funds.

### Implications for the mortgage measures meeting their objectives

There are few signs of a general deterioration in new lending standards that would adversely affect bank and borrower resilience, with the use of allowances for high LTV and LTI lending still remaining below pre-pandemic levels. According to figures submitted to the Central Bank €4.5 billon of new mortgage lending occurred in H1 2021, an increase of €900 million relative to the first half of 2020. The value of allowance lending has been muted compared to previous years, accounting for 12 per cent of the value of PDH mortgages originated in the six months to June 2021, down from an average of 19.4 per cent over the equivalent months during the period 2016 to 2020.[62] In addition, there has been an increase in average deposit sizes for FTBs and SSBs, accompanied by a fall in the proportion of FTBs with LTVs at 90 per cent. The share of mortgages originated at an LTV of 89-90 per cent, dropped to 42.7 per cent, from 49.6 and 45.8 per cent during H1 2020 and H1 2019 respectively (Chart 90)[63] potentially due to excess pandemic savings flowing into the housing market via increased deposits.

**Chart 89: Given current, broader economic developments, the scope exists for further sustainable mortgage lending to occur**

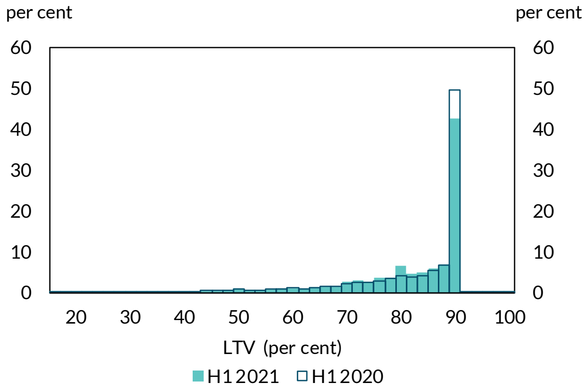
New mortgage lending to disposable income ratio




Source: Central Bank of Ireland calculations.
Notes: For more details on this indicator see Keenan and O'Brien, "New mortgage lending in a comparative context", Central Bank of Ireland, 2018. Last observation 2021 Q2.

**Chart 90: A slightly lower share of H1 2021 FTB loans were originated with an LTV of 89-90 per cent**

Distribution of FTB LTV H1 2020 vs. H1 2021




Source: Central Bank of Ireland calculations.
Notes: Sample used is new property purchase and self-build loans only. LTV>100 and LTV <15 removed. LTV>90 represent less than 0.1 per cent of LTV loans. Last observation 2021 H1.

The resilience benefits of the mortgage measures were evident in payment break take-up rates during the pandemic. Borrowers with high LTI and LTV at origination exhibited far higher take-up

[61] For more see "Buyer survey reveals robust demand despite pandemic, which is being impeded by constrained supply", Aspiring buyer attitudes survey, Sherry FitzGerald, May 2021.
[62] The data also show a month on month increase in the share of PDH lending with an allowance, from the low point of January 2021 (where 10 per cent of loans were allocated an allowance) to June 2021 (when the equivalent figure was almost 16 per cent).
[63] In addition, average LTV on FTB loans in H1 2021 was 80.8 per cent down from 81.7 per cent in the first half of 2020.

rates of payment breaks in 2020 than those with smaller mortgage burdens. Payment break take-up rates were substantially higher among borrowers with loans originated before 2008, as one would expect given the improvements in underwriting that followed the financial crisis, which have been underpinned by the mortgage measures since 2015.

Credit dynamics have not been playing an increased role in explaining recent house price trends. While analysis of the interaction between new lending and house price growth points to a large influence for unexpected changes of new lending on house price growth, this is seen to be a result of unusual market developments rather than a consequence of a pro-cyclical relationship between house prices and mortgage lending. Nonetheless, given current trends in mortgage drawdowns and approvals this is an area that should continue to be monitored over the coming year.

Overall, the risk assessment suggests that the mortgage measures will continue to play an important role in fostering resilience and containing pro-cyclical dynamics in a housing market that will continues to face considerable supply / demand pressures.

## Operation of the mortgage measures

As part of the regular annual reviews, the Central Bank assesses whether the current text of the mortgage measures regulations continues to be appropriate given experience from the practical implementation, supervision and monitoring of the measures.

A number of operational changes to the mortgage measures are being implemented arising from the 2021 review. These changes are in relation to:

(i) the functioning of the system of proportionate allowances, and

(ii) an amendment to Regulation 3.2 of the mortgage measures regulations to clarify regulated mortgage lenders' ability to participate in the 'First Home' Shared Equity Scheme.

- *Changes to the allowances*

The Central Bank has decided to introduce a 'carry-over' system for allowance lending. The 'carry-over' system will permit, within the specified limits of the measures, lenders who have allowance lending which has not been allocated in a given year to utilise this in the first half of the following year, on the condition that such allowances were fully approved in the given year.[64] The introduction of the 'carry-over' approach for lending in 2021 will facilitate lenders in carrying over any unused allowance share for use in H1 2022, on the provision that those loans were approved in 2021.[65] The carry-over system will apply to all allowance types across both PDH and BTL lending.

The proportionate allowances are an important feature of the mortgage measures, as they allow flexibility for some lending to exceed the LTV and LTI limits, subject to lenders' own lending standards. Compliance with the proportionate allowance limits in Ireland is on an annual or

[64] For a loan to be considered approved the loan will be fully underwritten and a formal letter of offer will have been issued to the borrower, but the loan would not yet have gone to drawdown. See Mortgage Measures – FAQ for further information.
[65] The carry-over allowances that go to drawdown in H1 2022 will not be factored as "in scope" lending for calculating allowance capacity in 2022.

calendar year basis. The allowances are set in terms of the percentage of the total value of new lending.

The operation of the allowances has received considerable feedback since the introduction of the mortgage measures and has been a recurring topic in annual reviews. More recently, lenders have highlighted particular challenges in managing the allowances when broader uncertainty (e.g. Brexit or COVID-19) makes forecasting unreliable. As management of allowance lending by institutions requires forecasting predicted full year new lending, in an environment of increased uncertainty, they can be difficult to operationalise.

The Central Bank has remained open to industry engagement to discuss proposals to improve the functioning of the allowances. This year the Central Bank received a carry-over proposal from Banking and Payments Federation Ireland (BPFI). Following further engagement on the issue the Central Bank assessed that introducing a carry-over approach to managing the allowances is operationally feasible from a monitoring and compliance perspective, while allowing the objectives of the measures to continue to be met.

- *Shared Equity Scheme*

The Central Bank is amending Regulation 3.2 of the mortgage measures regulations to remove potential ambiguity about regulated mortgage lenders' ability to participate in the 'First Home' shared equity scheme. The amendment to the regulations reflects the Central Bank's judgement that based on the characteristics of this form of financing, other safeguards in place including bank capital as well as the initial scale and scope of the Scheme, it would not be proportionate for the mortgage measures regulations to altogether restrict lenders from participating in the introduction of the Scheme on financial stability grounds.

The design of the shared equity scheme creates interactions with the objectives of the Central Bank's mortgage measures (i.e. borrower resilience, bank resilience and the dynamics of credit and house prices).[66] The main risk channels that the Scheme may present are related to lenders' balance sheets rather than borrowers' balance sheets – something which may be better mitigated through bank capital, rather than the mortgage measures. Nonetheless, the Scheme primarily operates through increasing demand and purchasing power of households which has the potential to result in upward pressure on house prices, particularly if a housing supply response were limited by structural factors. These broader housing dynamics underlie the importance of the Central Bank's regular reviews of the mortgage measures, in the context of broader developments in the housing and mortgage market.

- *Other topics considered*

An important feature of the annual review of the mortgage measures is an assessment of the definition of income used by lenders in relation to mortgage lending. The 2021 review was expanded to include retail credit firms due to their increased participation in the mortgage market. Income is regularly assessed due to the flexibility provided in the definition of income used in the regulations for the LTI limit.[67] This flexibility is observed, for example, in the different treatment

[66] For a more in-depth discussion see *A financial stability perspective on the First Home shared equity scheme*, Central Bank of Ireland, Financial Stability Note Vol 2021, No.12.
[67] 'income' means the total gross annual income, before tax or other deductions, of the borrower."

of variable income and pay increments by individual lenders. The treatment of income by lenders will continue to be monitored by the Central Bank.

The Central Bank highlights that the mortgage measures are in addition to individual lenders' risk appetites and credit policies. The mortgage measures are not a substitute for compliance by lenders with their other legal and regulatory obligations, for example, their obligations to assess borrowers' ability to repay and to undertake creditworthiness assessments as detailed under the Consumer Protection Code, the European Union (Consumer Mortgage Credit Agreements) Regulations 2016 and the EBA Guidelines on loan origination and monitoring, and to lend prudently.

A review of the cross-border effects of the measures, as recommended by the ESRB found no evidence to indicate notable cross-border spillovers. In line with previous years, the assessment for 2021 is not suggestive of any substantial cross-border spillovers due to the mortgage measures regulations. The UK remains the biggest market for Irish retail banks outside of Ireland. Analysis shows that new lending to the UK continues to be primarily influenced by UK domestic trends. Furthermore, the relative cost of lending does not indicate any attempts by Irish banks to undercut the wider UK market in terms of mortgage pricing.

**CCyB rate maintained at 0 per cent. If the current outlook for the economic recovery holds, the Central Bank would expect to announce a gradual rebuilding of the CCyB in 2022.**

*Consistent with its previous guidance, the Central Bank continues to maintain the CCyB rate at 0 per cent, enabling the banking sector to support the economic recovery. However, as near-term risks stemming from the pandemic shock have reduced and more medium-term vulnerabilities build, the Central Bank expects conditions in 2022, on the basis of the current outlook, to be consistent with announcing a gradual re-rebuilding of the CCyB. Such a stance is consistent with the Central Bank's objective for the CCyB of promoting resilience early in the cycle.*

The Central Bank continues to maintain the CCyB rate at 0 per cent. This policy stance is consistent with the Central Bank's previous guidance and acknowledges the on-going recovery from the COVID-19 shock. Macroeconomic developments point to an on-going recovery in the domestic economy.[68] Nonetheless, the effects of the COVID-19 pandemic are still evident in the labour market and in pockets of the credit market in particular. Employment has increased consistently since 2020Q2, but the unemployment rate remains above pre-pandemic levels. Lending to households and private sector businesses has seen a robust recovery (Chart 91) but has been slower in consumer lending and new lending to SMEs where large differences are evident across sectors (Chart 92). The Central Bank's preferred measure of the credit gap has been consistently close to zero in recent quarters *(see Risks: Cyclical risk).*[69]

Pandemic related risks have contracted, while medium term vulnerabilities are building. Notwithstanding public health developments in recent weeks, the potential risks posed by the COVID-19 pandemic to the banking sector appear to have reduced since the last *Review*. At the

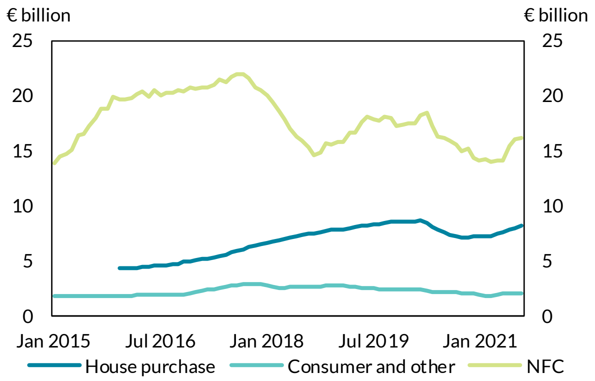
[68] See, Central Bank of Ireland, Quarterly Bulletin No.4 2021.
[69] The credit gap is a required reference indicator for the CCyB. Standard measures of the credit gap, which remain well below zero, however are of limited value in an Irish context. The Bank has developed an alternative credit gap, as discussed in *Risks: cyclical risk*.

same time, though, medium-term vulnerabilities are building. This is most evident in terms of developments in global financial markets, where asset prices have continued to rise, risk premia remain low by historical standards and there is evidence of increased risk taking and loosening lending standards in some market segments. Domestically, a robust rebound in the economy has been evident while residential property price growth has strengthened considerably in recent months.

If the current outlook for the macro-financial environment holds, the Central Bank would expect to announce a gradual rebuilding of the CCyB in 2022. The Central Bank's objective for the CCyB is to promote resilience to ensure the banking system can absorb, rather than amplify, adverse shocks. This approach envisages a positive buffer early in the cycle. Prior to 2020Q2, a CCyB rate of 1 per cent had been in effect. Releasing this buffer was an important macroprudential policy response to support lending to the real economy during the COVID-19 shock.[70] Latest forecasts point to period of robust growth in domestic economic in 2022 and 2023.[71] This is expected to bring activity to where it would have been in the absence of the pandemic by end 2023. While not the central expectation, there is the potential that capacity constraints in parts of the economy become increasingly binding, leading to an emergence of imbalances in the medium term. If this outlook of continued recovery and emergence of risks continues to hold, the Central Bank would, during 2022, expect to announce a gradual re-introduction of a positive CCyB rate.

**Chart 91: New lending to NFCs and consumers shows signs of a recovery but remains subdued while lending for house purchases has been more robust**

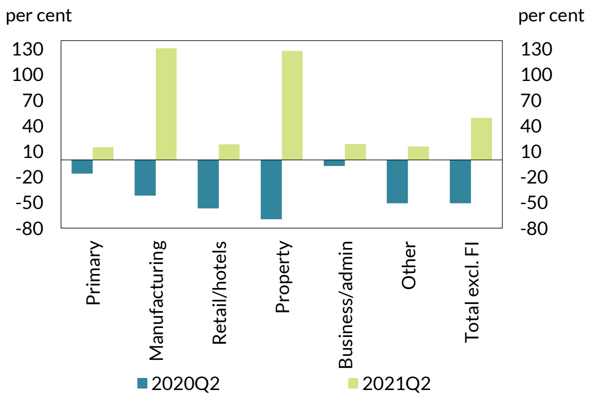
New lending volumes 12 month rolling sums by segment




Source: Central Bank of Ireland.
Notes: House purchases exclude renegotiations. Last observation August 2021.

**Chart 92: New lending to SMEs has picked up, but increases are largely driven by manufacturing and property-related sectors**

Gross new lending to SMEs by selected sectors, year-on-year change




Source: Central Bank of Ireland SME and Large Enterprise Credit and Deposits.
Notes: FI = financial intermediation. Retails/Hotels also includes Wholesale.

## Buffers for systemically important institutions

*Arising from the Central Bank's 2021 Other Systemically Important Institution (O-SII) review, six institutions are identified as systemically important and are required to maintain an associated supplementary capital buffer. This corresponds to no policy change relative to last year's assessment.*

[70] See De Nora, O'Brien and O'Brien (2020): Releasing the CCyB to support the economy in a time of stress.
[71] Central Bank of Ireland, Quarterly Bulletin 4, October 2021

The objective of the O-SII framework is to reduce the probability of failure of a systemically important institution, given the potentially greater impact of failure of those institutions. Institutions that are systemically important to the domestic economy or to the economy of the EU are referred to as O-SIIs.[72] The failure of one of these systemically important institutions would have a greater impact on the financial system and economy than the failure of a non-O-SII. Higher capital requirements for these institutions, in the form of O-SII buffers, aim to reduce the probability, and impact, of their (potential) failure.

The Central Bank's 2021 O-SII assessment has identified six credit institutions as systemically important. EBA guidelines provide a framework for the O-SII identification process.[73] These guidelines aim at setting uniform parameters at EU level, while taking into account specificities of Member States' individual banking sectors. The first step in the assessment of systemic importance was carried out using the mandatory scoring process of the EBA methodology. Under this approach the systemic importance of an institution is assessed with regard to indicators relating to size, importance in providing deposit and lending services to the non-financial private sector, complexity and interconnectedness. Five institutions were identified as part of this methodology with each exceeding the standard 350 basis point threshold set out in the EBA guidelines. One additional institution, UBIDAC, which did not have a score in excess of 350, was designated as an O-SII on the basis of supervisory overlay given its importance in terms of financial intermediation with the domestic non-financial private sector. The list of O-SIIs and their associated scores arising from the mandatory EBA methodology are laid out in Table 4

**Table 4 | 2021 O-SII identification and EBA score**

| O-SII | Category scores | | | | Overall institution score |
|---|---|---|---|---|---|
| | Size | Importance | Complexity | Interconnectedness | |
| AIB Group plc (AIB) | 1506 | 1881 | 255 | 678 | 1080 |
| Bank of America Europe DAC (BAE) | 737 | 309 | 830 | 744 | 655 |
| Barclays Bank Ireland plc (BBI) | 1842 | 725 | 4349 | 2346 | 2315 |
| Bank of Ireland Group plc (BOI) | 1559 | 2180 | 831 | 762 | 1333 |
| Citibank Holdings Ireland Ltd (Citibank) | 832 | 2565 | 1343 | 510 | 1313 |
| Ulster Bank Ireland DAC (UBIDAC)* | 426 | 562 | 72 | 169 | 307 |

Notes: Tables shows scores as calculated under the methodology outlined in EBA guidelines. Overall institution score is the average of the category scores. * Identified on the basis of supervisory overlay.

O-SII buffers ranging from 0.5 per cent to 1.5 per cent are being applied to identified O-SIIs. This year's assessment did not result in any change to buffer rates, as laid out in Table 5, for the six O-SIIs. For five of the six institutions, buffer rates are currently fully-phased in. For the remaining institution, the O-SII buffer rate will be fully-phased in as of 1 Jan 2022. While ensuring compliance with the ECB O-SII floor methodology[74], the Central Bank sets buffer rates on the basis of guided discretion. This is an approach informed by the diverse make-up of the Irish authorised banking sector and ensures buffer rates appropriately account for both an institution's

[72] Differentiating these institutions from institutions that are systemically important at a global level, referred to as G-SIIs.
[73] See EBA Guidelines in relation to the assessment of O-SIIs.
[74] See ECB Macroprudential Bulletin, June 2017.

linkages with the domestic economy as well as broader elements of systemic importance, such as those captured by the EBA identification methodology.

Notwithstanding its limitations, the EBA score provides a European wide standard approach to assessing the systemic importance of an institution. Chart 93 presents the O-SII buffer rates and EBA score applicable to Irish O-SIIs in a wider European context.

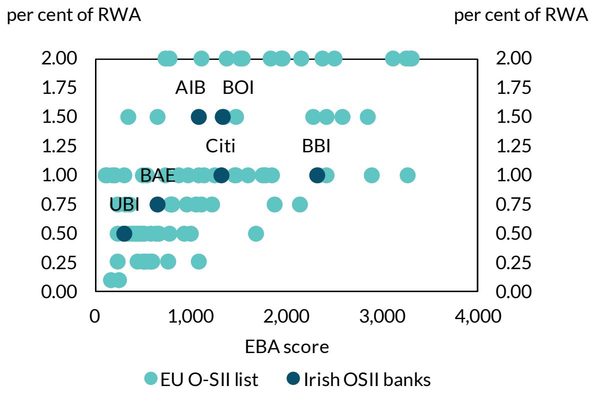
**Table 5 | 2021 O-SII and associated phased-in buffer requirements**

| | | O-SII Buffer Rate (%) | | | |
|---|---|---|---|---|---|
| **O-SII** | **Level of consolidation** | **1 July 2019** | **1 July 2020** | **1 July 2021** | **1 January 2022** |
| **AIB Group plc (AIB)** | Consolidated | 0.50 | 1.00 | 1.50 | 1.50 |
| **Bank of America Europe DAC (BAE)** | Individual | | 0.50 | 0.75 | 0.75 |
| **Barclays Bank Ireland plc (BBI)** | Individual | | 0.50 | 0.75 | 1.00 |
| **Bank of Ireland Group plc (BOI)** | Consolidated | 0.50 | 1.00 | 1.50 | 1.50 |
| **Citibank Holdings Ireland Ltd (Citibank)** | Consolidated | 0.25 | 0.50 | 1.00 | 1.00 |
| **Ulster Bank Ireland DAC (UBIDAC)** | Individual | 0.25 | 0.50 | 0.50 | 0.50 |

The Central Bank conducts an O-SII assessment on an annual basis. This ensures the Central Bank's policy in the area can respond appropriately to observed changes in the make-up and composition of the banking sector. The Irish banking sector continues to evolve. The announced withdrawal of two retail banks from the domestic market will likely result in changes in the size and scale of remaining institutions as well as alter the overall landscape of the banking sector. As these changes are finalised and take effect, they will feed through to the O-SII assessments carried out by the Central Bank.

**Chart 93: Irish O-SII buffers are broadly in line with European peers based on EBA score**

European O-SII rates by EBA score




Source: ESRB and Central Bank of Ireland calculations.

## Credit risk of certain property exposures (Article 124 & 164 CRR)

*Following changes to the CRR, the discretions available under Articles 124 and 164 are now considered in the context of the Central Bank's macroprudential remit. The annual assessments, which focus on the credit risk of certain property exposures, consider whether stricter national requirements are warranted from a financial stability perspective. Arising from this year's annual assessment, the Central Bank does not consider there to be a financial stability basis to utilise the available discretion to apply stricter requirements than what is provided for in the CRR.*

Arising from the designation of the Central Bank as the authority responsible for the application of Article 124(2) and 164(6) CRR[75], the Central Bank now considers the use of these powers in its role as macroprudential authority. The powers relate to the credit risk of exposures secured by mortgages on immovable property. CRR provides for authorities to carry out an assessment of the suitability of the credit risk requirements applied to these exposures on an annual basis. The assessment should consider whether the baseline criteria set out in CRR would result in an inadequacy, given national circumstances, to the extent that their application could adversely affect financial stability. In such circumstances, authorities can impose stricter requirements.[76] The application of stricter requirements would result in banks having to hold more capital, commensurate with the risks to financial stability, against those property exposures.

Based on this year's assessment, the Central Bank has decided not to use the discretion within either Article 124(2) or 164(6) to apply stricter requirements.[77]

- The assessment conducted in line with Article 124(2) concluded that there was not an inadequacy in standardised risks weights which would adversely affect financial stability. As such, the Central Bank will not apply the discretion to set higher risk weights or indeed impose stricter criteria beyond the baseline requirements of the CRR for the exposures in question. This removes the application of stricter requirements for certain residential and commercial property exposures which were introduced in 2006.[78]

- The impact of the removal of these stricter criteria is seen as limited from a financial stability perspective. Individual banks holding property exposures that are accounted for using the standardised approach could see a decline in capital required, given the reduction in RWAs. However, taking account of the nature and scope of the exposures, the likely potential reduction in RWAs for the banking sector in aggregate is estimated to be approximately €1.2 billion.[79] To put this in context, banking sector RWAs of all Irish authorised institutions are in the region of €270 billion (of which €130 billion relates to the 5 retail banks).

[75] Statutory Instrument 711/2020 designated the Central Bank as the authority responsible for the application of these Articles. This followed changes introduced to the CRR in 2019 (referred to as 'CRR II') available here.
[76] In the absence of authorities using discretion to apply stricter requirements the criteria as set out in CRR Articles 125, 126 and 164(4) apply as relevant.
[77] This outcome is reflected in the Implementation Notice of Competent Authority Options and Discretions which sets out the requirements and guidance relating Central Bank of Ireland options and discretions arising from CRR/CRD.
[78] Previously for instance, a risk weight of 100 per cent (instead of 50 per cent) had been required for loans backed by commercial immovable property and tighter criteria had been applied towards residential property exposures.
[79] This estimate takes account of conditional qualifying criteria. It is expected that only a proportion of exposures in-scope of the assessment would be eligible for the application of the risk weights in question given the qualifying criteria required. Conditions required are set out in CRR Article 125(2) and 126(2). Were all in-scope exposures to meet the required criteria the estimated maximum decline in RWAs, based on end-2020 data, is approximately €4 billion.

- Given the property market crash experienced in Ireland during the global financial crisis, the loss given default (LGD) on relevant exposures in the Irish case tend to be in excess of those set out in CRR. As a result, use of Central Bank discretion to set higher minimum LGD values under Article 164(6) has not been required.

## *Macroprudential policies for property funds*

*Property funds have become a key participant in Irish CRE markets, benefiting macroeconomic and financial stability. However, this change raises the potential that new macro-financial vulnerabilities could emerge, so it is important that the regulatory framework adapts accordingly. The Central Bank is therefore proposing new macroprudential policy measures aimed at safeguarding the resilience of the Irish property fund sector, so that this form of financial intermediation is better able to absorb – rather than amplify – adverse shocks to the CRE market. These measures will address leverage and liquidity mismatch in property funds. The measures aim to better equip the sector to serve its purpose as a valuable and sustainable source of funding for economic activity.*

Property funds have become a key participant in Irish CRE markets, benefiting macroeconomic and financial stability. At end-2020, their holdings of Irish property assets were valued at €23 billion, out of the €53 billion estimated total value of Irish 'invested' CRE. Property funds have increased the proportion of equity financing in the Irish CRE market relative to the period before the financial crisis, which has had risk sharing benefits for the market. In addition, as property funds are primarily financed by foreign investors, this growing form of financial intermediation also provides diversification benefits.

However, this change raises the potential that new macro-financial vulnerabilities could emerge, so it is important the regulatory framework adapts accordingly. The CRE market is systemically important: therefore so too is the resilience of the financing of that market. The analysis outlined in *Resilience: Market-based Finance*, in addition to the research previously undertaken by the Central Bank (see FSR 2021:I and Daly et al., 2021) illustrates that there is a cohort of property funds that have high levels of leverage and, to a lesser extent, liquidity mismatches. Absent policy interventions, these vulnerabilities have the potential to grow or become more widespread in the future. And, in the presence of such vulnerabilities, the property fund sector could respond to future adverse shocks through sales of property assets over a short period of time. This type of selling behaviour has the potential to amplify adverse shocks to the commercial real estate market and the wider economy.

The Central Bank is therefore proposing new macroprudential policy measures aimed at safeguarding the resilience of the Irish property fund sector, so that this form of financial intermediation is better able to absorb – rather than amplify – adverse shocks to the CRE market. Specifically, the Central Bank is proposing the introduction of leverage limits and Guidance around notification periods for property funds investing over 50 per cent directly or indirectly in Irish property. The full proposal is outlined in the Consultation Paper, and feedback on these proposals is invited until February 18, 2022.[80]

To guard against excessive levels of leverage across the sector, the Central Bank proposes to introduce leverage limit for property funds. The proposed limit would be imposed through existing regulation under the Irish transposition of the Alternative Investment Fund Managers' Directive,

[80] See Consultation Paper 145: Macroprudential Measures for the property fund sector.

in line with ESMA guidelines. The Central Bank recognises that there is significant diversity in portfolio composition and investment strategies across property funds, but the objective of the proposed measures is to guard against system-wide risks stemming from leverage across the sector as a whole. Under the Central Bank's proposals, in the event of adverse commercial real estate market shocks, the Central Bank may temporarily remove the limit, enabling the property fund sector to absorb those adverse shocks. Similarly, the Central Bank would have the option to tighten the limit if there were to be emerging evidence of growing exuberance in the commercial real estate market.

The Central Bank also proposes to provide additional Guidance with respect to how property funds ensure consistency between their investment strategy, the liquidity profile and the redemption policy. Existing regulation already requires fund managers to align their investment strategy, the liquidity profile of their assets and their redemption policy. In practice, however, the Central Bank has observed significant variation in the redemption terms of Irish property funds, which cannot be explained fully by differences in the liquidity of their assets. The Central Bank therefore proposes to introduce additional Guidance for property funds on aligning redemption terms with the liquidity of assets. In particular, under the proposed Guidance, the Central Bank would expect to see a lengthening of the timeframe between the point at which investors would submit a redemption request and the point at which funds would need to pay those investors. This longer timeframe would better reflect the significant amount of time it takes to sell property assets, especially under stressed market conditions.

Altogether, these proposed measures aim to better equip the sector to serve its purpose as a valuable and sustainable source of funding for economic activity. As with all regulatory interventions, the benefits must be weighed against the potential costs. Further details on the assessment of these impacts can be found in the consultation paper. Overall, this policy is expected to bring Irish property funds into line with their European peers, and ensure the sector as a whole will be less vulnerable and more resilient to any future shocks.

## Box E: IRB Risk weights on Irish residential mortgages

**By Paul Lyons and Jonathan Rice (Macro-Financial Division)**

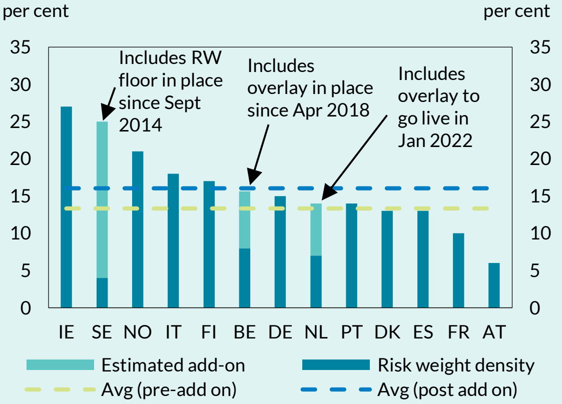
Mortgages are the predominant lending exposure for the Irish retail banks (representing approximately 60 per cent of outstanding lending at September 2021) and their risk profile is an important consideration for financial stability. This box compares Irish Internal Rating Based (IRB) mortgage risk weights (RWs) estimated by banks to those in other European countries and highlights the key factors that contribute to the relatively higher risk weights on Irish mortgages.[1] Understanding the drivers of risk weights is an important element of the Central Bank's broader work around bank capital, which covers the interactions between macroprudential buffers and other elements of the capital framework, such as minimum requirements.

Risk weights link the minimum amount of capital banks must have to the risk profile of their loan exposures and as such are an important determinant of a bank's overall capital requirements. Under rules established by the Basel Committee on Banking Supervision (BCBS), banks with riskier loan books are required to have proportionately more capital to be able to absorb higher potential losses. Subject to certain regulatory criteria, banks are allowed to internally estimate the probability of default (PD), loss-given default (LGD) and exposure at default (EAD) - the risk parameters used in the determination of risk weights.[2]

The average modelled risk weight for domestic performing mortgages held by Irish banks was 27 per cent at end-2020. This is over two times the EU average (Chart A). However, reported risk weights do not always reflect the final RWA on mortgages portfolios, as a number of authorities have introduced risk weight floors to raise minimum risk weights in their countries.[3] To enhance cross-country comparison, Chart A includes data before and after RW floors for three such countries (SE, NL & BE).

Table A shows the composition of Irish banks' mortgage portfolios split by origination cohort to help understand these higher risk weights. As can be seen in Table A, the higher risk weights on Irish mortgage lending are driven by loans originated before 2010, which exhibit much higher average RWs than more recent loan originations. This is mostly due to higher bank-estimated PDs on these loans. The riskiness of this pre-crisis vintage of lending is evident both in the higher share of loans from this period that are either currently forborne or previously forborne as well as the higher average origination loan-to-income (LTI), given the weaker mortgage lending standards before the crisis. By contrast, variation in bank-estimated LGDs is smaller across origination cohorts, primarily driven by the requirement for LGDs to be conditioned for an economic downturn. LGDs are highest for the most recent cohort of lending, consistent with the higher current LTV of this cohort, as more recent borrowers would have had less time to repay mortgage debt since origination.

## Chart A: Risk Weight Density on performing mortgages




Source: EBA Stress Test data & Macroprudential Authority Reporting
Notes: The dashed lines reflect averages pre and post add-ons reflecting the estimated impact of jurisdiction specific 'floors'. Data includes domestic performing IRB mortgages only.

## Table A: Loan Characteristics by Origination year

| Origination Cohort | Share (bal.) | RWAD | PD | LGD | Origin LTV | Origin LTI | Current LTV | Current FB | Previous FB |
|---|---|---|---|---|---|---|---|---|---|
| pre-2010 | 46% | 31% | 2.8% | 21% | 67% | 3.5 | 39% | 9.1% | 20.7% |
| 2010-2015 | 13% | 16% | 0.8% | 19% | 71% | 2.7 | 38% | 1.2% | 3.0% |
| 2016-2020 | 41% | 24% | 0.9% | 24% | 70% | 2.8 | 62% | 0.3% | 0.3% |

Source: Loan Level Data as at Dec-2020 for the five Irish retail banks.
Notes: Includes domestic performing IRB PDH mortgages only. RWAD = Risk Weight Asset Density, Loan-to-Value = LTV, Loan-to-Income = LTI and FB = Forborne.

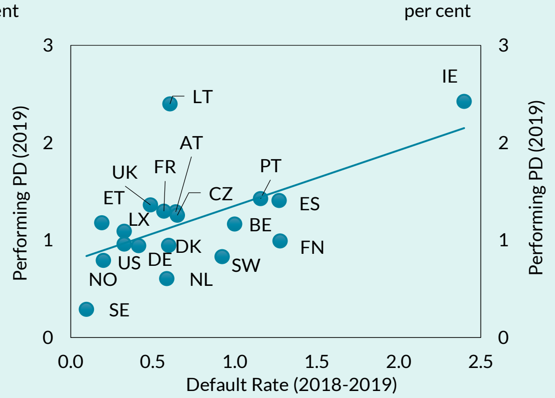
In a cross-European comparison, higher RWs on Irish mortgages reflect both higher PDs and higher LGDs. Taking each in turn:

- Average **PDs** on Irish mortgages reflect a riskier mortgage stock, driven by the cohort of pre-crisis loans. As an illustration of that higher level of default risk, in the two-year period before the pandemic, the actual, observed default rate on Irish mortgages was higher than most other countries in Europe (Chart B). These new defaults were driven by loans originated before 2008 (Chart C), many of which would have been previously forborne or restructured over the past decade and were originated during a period of weaker lending standards. Overall, estimated PDs – a core input to RWA calculations – appear to be appropriately reflecting differential levels of risk across mortgage loans. Looking forward, if the quality of the stock of mortgage books continues to improve as older, riskier loans mature, this is expected to be reflected in lower modelled PDs (Chart D), feeding through to lower RWs over time, as it has done to date.

- Average **LGDs** are also higher than European averages (Chart E). As required under the regulatory framework, LGDs are conditioned to be appropriate for an economic downturn. In that context, there are two key factors that influence higher LGDs in Ireland relative to other parts of Europe. First, longer workout periods for resolving distressed debt in Ireland relative to other countries.[4] Second, the loss experience from defaults which occurred during the Irish financial crisis, which was particularly severe.

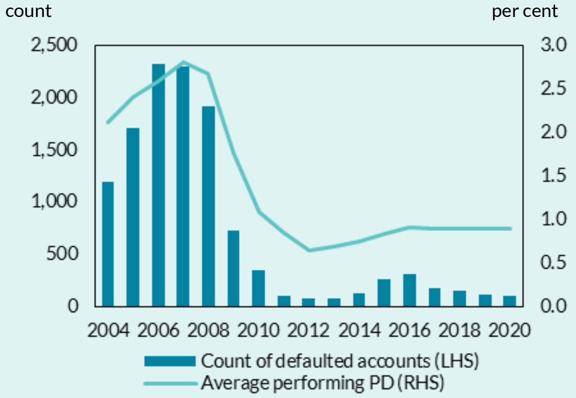
Regulatory reforms such as the introduction of the 'output floor' in Basel III (reforms) are expected to narrow the gap between overall Irish risk weights and those in other countries. Nevertheless, given factors such as the performance of pre-crisis loans that are still on banks' loan books or the longer workout periods for resolving distressed debt in Ireland, the risk weight applicable to Irish mortgages will likely remain at the higher end of EU comparisons. It is also important to put these numbers into context: performing exposures account for 19 per cent of the total RWA held in Irish retail banks. The Central Bank will be conducting similar analysis for other portfolios as part of its ongoing review of the macroprudential bank capital framework, to ensure overall coherence between macroprudential capital buffers and other elements of the capital framework.

### Chart B: IRB Probability of Default (PD) and recent Default rates (2018-2019) for performing retail mortgages



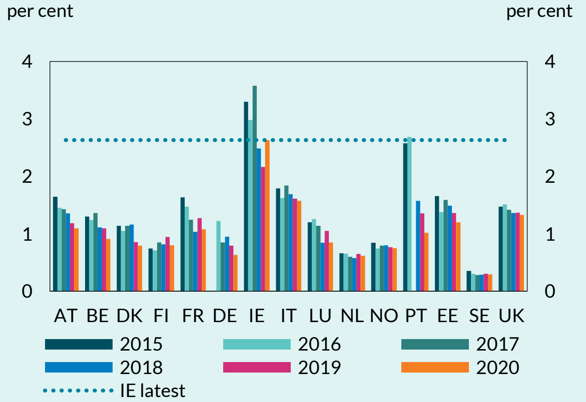

Source: EBA Risk Dashboard Data. Italy removed as an outlier. Default rate is as defined by EBA methodology and is observed new defaults for the period divided by: (original exposure – defaulted exposure)

### Chart C: Retail Mortgage Defaults occurring in 2018 to 2020 by origination year and average IRB PD



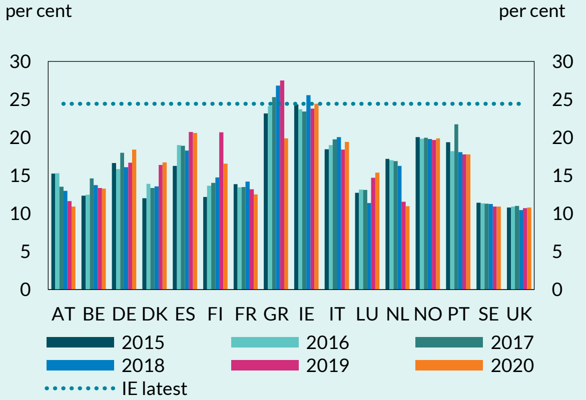

Source: Loan Level Data as at Dec-2020 for the five Irish retail banks. Performing PD is the average IRB PD on performing IRB ROI PDH mortgages as at Dec 2020 by loan origination cohort, as reported by banks. Defaulted accounts refers to new defaults (captured by date of NPE classification reported by banks) on ROI PDH mortgage portfolios in years 2018 to 2020.

### Chart D: Probability of Default(PD) – Exposure weighted Average Performing IRB PD by year




Source: *EBA Risk Dashboard Data*. Retail Mortgages. PDs for Greece are excluded as these are more than 10 per cent for each year. Data refers to Q4 of each year.

### Chart E: Loss Given Default (LGD) – Exposure weighted average performing IRB LGD by year




Source: EBA Risk Dashboard Data. Retail Mortgages. Data refers to Q4 of each year.

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[1] The Internal Ratings Based (IRB) approach permits institutions to internally model their own risk parameters for use in determining RWs for their exposures, and is the primary approach applied for mortgage exposures in the EU.
[2] For example, PDs need to reflect long run averages of one year default rates (CRR Article 180 (1) (a)) and should use both good and bad years (EBA GL para 84). LGDs must be based on own loss and recovery experience (CRR Article 181 (1) (a) and LGD estimates need to be appropriate for an economic downturn (CRR Article 181 (1) (b)).
[3] See ESRB for notification of additional measures https://www.esrb.europa.eu/national_policy/other/html/index.en.html
[4] Once legal processes are initiated, the average time in litigation in Ireland is 3.7 years versus an EU average of 2.3 years - EBA study.

# Abbreviations

Country and currency abbreviations follow the European Union standards.

| | |
|---|---|
| **AE** | Advanced economies |
| **AIB** | Allied Irish Bank |
| **AIFMD** | Alternative Investment Fund Managers Directive |
| **BIS** | Bank of International Settlements |
| **BOI** | Bank of Ireland |
| **BPFI** | Banking & Payments Federation Ireland |
| **BTL** | But-to-let |
| **CBRE** | Coldwell Banker Richard Ellis Group |
| **CCR** | Capital Requirements Regulation |
| **CCyB** | Countercyclical capital buffer |
| **CET1** | Common equity tier 1 |
| **CRD** | Capital Requirements Directive |
| **CRE** | Commercial real estate |
| **CSO** | Central Statistics Office |
| **CTI** | Cost to income |
| **EAD** | Exposure at default |
| **EBA** | European Banking Authority |
| **ECB** | European Central Bank |
| **EEA** | European Economic Area |
| **ESMA** | European Securities and Markets Authority |
| **ESRB** | European Systemic Risk Board |
| **EU** | European Union |
| **EWSS** | Employment Wage Subsidy Scheme |
| **FDI** | Foreign direct investment |
| **FOE** | Freedom of establishment |
| **FOS** | Freedom of service |
| **FSR** | Financial Stability Review |
| **FTB** | First-Time Buyer |
| **GDP** | Gross domestic product |
| **GFC** | Great Financial Crisis |
| **GNI** | Gross national income |
| **HH** | Households |
| **HICP** | Harmonised index of consumer prices |
| **IFRS** | International Financial Reporting Standards |
| **IMF** | International Monetary Fund |
| **JLL** | Jones Lang LaSalle |
| **KBC** | Kredietbank ABB Insurance CERA Bank |
| **LGD** | Loss given default |
| **LTI** | Loan to income ratio |
| **LTV** | Loan to value ratio |
| **MSCI** | Morgan Stanley Capital International |
| **NFC** | Non-financial corporation |
| **NIM** | Net interest margin |
| **NPL** | Non-performing loan |
| **NTMA** | National Treasury Management Agency |
| **OECD** | Organisation for Economic Co-operation and Development |
| **O-SII** | Other Systemically Important Institutions |
| **PDH** | Primary dwelling house |
| **PMI** | Purchasing managers' index |
| **PTSB** | Permanent PTSB |
| **PUP** | Pandemic Unemployment Payment |
| **ROE** | Return on equity |
| **RPPI** | Residential property price index |
| **RRE** | Residential real estate |
| **RWA** | Risk-weighted asset |
| **SCR** | Solvency capital requirement |
| **SCSI** | Society of Chartered Surveyors of Ireland |
| **SME** | Small and medium enterprise |
| **SSB** | Second and subsequent buyer |
| **SSM** | Single Supervisory Mechanism |
| **SVR** | Standard variable rate |
| **UBI** | Ulster Bank Ireland |
| **VAT** | Value added tax |
| **WEO** | World Economic Outlook |

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