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Notes

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2. Unless otherwise stated, statistics refer to the State, i.e., Ireland exclusive of Northern Ireland.
3. In some cases, owing to the rounding of figures, components do not add to the totals shown.
4. The method of seasonal adjustment used in the Bank is that of the US Bureau of the Census X-12 variant.
5. Annual rates of change are annual extrapolations of specific period-to-period percentage changes.
6. The following symbols are used:

e	estimated
n.a.	not available
p	provisional
..	no figure to be expected
r	revised
-	nil or negligible
q	quarter
f	forecast
7. Data on euro exchange rates are available on our website at www.centralbank.ie.

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Comment

Covid-19 has caused a very sudden and severe contraction in economic activity across the world, as a global health pandemic has quickly become a global economic crisis. The speed and scale with which this unfolded has been unprecedented and has posed an unparalleled challenge to governments and policymakers everywhere.

In most countries, including Ireland, the policy response has been two-fold, involving far-reaching public health measures to limit the spread of the virus and measures to cushion the impact on the economy. The necessary containment measures to contain the virus, both in Ireland and internationally, have themselves significantly interrupted economic activity, the impact of which has been mitigated by a range of fiscal, monetary, macro-prudential and micro-prudential policy actions to support vulnerable households and businesses.

Real-time data for the Irish economy point to a trough in activity being reached in April, with activity now above this low point, as the economy has started to re-open. However, activity remains significantly below pre-Covid levels.

The widespread shutdown of businesses triggered sudden and large-scale job losses and, allied to extreme uncertainty, gave rise to a severe negative shock to both consumer spending and investment. Heightened precautionary behaviour is also evidenced by a sharp rise in household savings. While the impact of labour market developments on household incomes has been mitigated by the provision of large-scale income support by the State, the pandemic has had a severe impact across the economy. The hardest hit sectors have been those with a high dependence on face to face contact or physical interaction, including accommodation and food services, retail and construction. On a regional basis, there has been some variation in impact, explained largely by differences in industry and occupation composition across regions (see Box E, page 41), with the impact being greatest where employment has less 'work from home' potential and where sectors such as hospitality and tourism are particularly important. Elsewhere in the economy, other sectors such as high-tech manufacturing and the pharmaceutical and chemical sectors, where physical distancing measures have been more easily accommodated and where demand has proved resilient, appear to have been less affected.

As the phased reopening of the economy has gotten underway, there have been some signs of a gradual start to the recovery. Recent weeks have seen the beginning of the return to work of some of those in the construction, retail and manufacturing sectors and the numbers in receipt of income

supports have started to decline. High frequency card payment data point to some rebound in spending from the lows reached in April. Overall, however, economic output has declined substantially in recent months and the projections outlined in this Bulletin imply a fall of approximately 20 per cent in underlying domestic demand in the second quarter of this year.

Looking ahead, the outlook is very uncertain and the path ahead for the economy depends on the scale and duration of the shock and its after-effects. There is significant uncertainty, in particular, with regard to the future path of the virus; the degree to which containment measures need to remain in place or be re-introduced; the immediate and longer-lasting effects on behaviour and economic activity; the damage to the productive capacity of the economy and the pace at which economic activity normalises.

The scale of uncertainty surrounding the economic impact of Covid-19 makes scenario analysis the best approach. The baseline scenario broadly assumes that the planned phased easing in containment measures comes into effect. The gradual reopening of the economy would allow for an initial rebound in economic activity over the near term. Some containment measures would remain in place meaning that activity would be constrained in some sectors for a longer period. The significant negative economic impact from the lockdown, combined with a continuation of some measures would mean that while output would recover, activity would be constrained by the effects of the severe recession in 2020 and the ongoing impact of the pandemic.

In line with the phased re-opening of the economy, consumer spending is projected to rebound in the second half of this year, but not recover the decline in the second quarter. As a result, consumer spending is expected to decline by 10 per cent for the year as a whole. Beyond the initial rebound, recovery is expected to be gradual, in line with a projected gradual recovery in employment and incomes and a slow unwinding of precautionary behaviour as the effects of the shock on consumers and businesses lingers. Contact-intensive sectors, which also tend to be labour-intensive sectors, may be slowest to recover. The unemployment rate is set to decline from its second quarter peak of about 25 per cent as the year progresses and is projected to be around half that level by the end of this year, before averaging just over 9 per cent next year and 7 per cent in 2022. On the external side, notwithstanding a severe contraction in demand, the resilience of some key exporting sectors should limit the decline in overall exports this year with some recovery in prospect thereafter. The resilience in exports will contain the decline in GDP this year, which is projected to fall by 9 per cent.

In summary, the baseline scenario sees output recovering to its pre-crisis level by 2022. However, the level of activity will be significantly below where it would have been had the economy grown in line with expectations before the outbreak of the pandemic. This lost growth is reflected in a lower level of employment and higher unemployment.

In a more severe scenario, the strict lockdown period is assumed to have a more damaging impact on economic activity and is not successful in effectively containing the disease. Stringent, albeit gradually loosened, containment measures would remain in place based on an assumption that there would be a resurgence of the virus at some point over the next year. In this scenario, there is a subdued economic recovery with a larger permanent loss of output. Unemployment remains higher for longer in this scenario and would average just below 17 per cent in 2020, while consumer spending is projected to fall by around 14 per cent and GDP by over 13 per cent this year. In this scenario, the projected recovery in growth in 2021 and 2022 would not offset the loss of output this year, leaving the level of GDP in 2022 about 5 per cent below its pre-crisis level.

Both of these scenarios assume that a Free Trade Agreement (FTA) between the EU and the UK, with no tariffs and quotas on goods, takes effect in January 2021. If such an agreement is not reached, then the EU and the UK would move to trading on WTO terms from January 2021. While the Covid-19 crisis may pre-empt the short-run losses that Brexit would have caused in some sectors, it may amplify them in some others, for example, in agriculture, where tariffs would apply in a WTO scenario (See Box D, page 31). This makes it difficult to quantify the short-run effects, but it is likely that, in the case of a WTO outcome, growth in the Irish economy will be weaker than outlined in the above scenarios. In the long-run and, separate to the effects of Covid-19, a move to WTO arrangements would reduce output in the Irish economy relative to an FTA arrangement.

Turning to the policy response, the unprecedented challenges posed by Covid-19 have been met by exceptional policy support aimed at safeguarding economic activity. Sizeable targeted measures have been put in place to support households and firms, protect individuals and families against loss of income and allow businesses to be in a position to recover.

Domestically, the Irish government's response to the pandemic has focused on three broad categories of spending: providing enhanced income supports for those whose employment has been affected by the pandemic; business supports in the form of direct and indirect funding; and additional health spending. In total, it is estimated that the cost of direct supports this year will be close to €9 billion, with a further €7 billion being made available through indirect supports such as credit guarantees and rate deferments.

The Central Bank of Ireland's immediate macroprudential policy response to the COVID-19 pandemic was the reduction in the countercyclical capital buffer rate to 0 per cent, announced in March, which has made an additional €940 million available to absorb losses or to be leveraged to maintain and extend lending to the real economy.

On the monetary side, the Eurosystem, of which the Central Bank of Ireland is a constituent part, has put in place a series of measures aimed at supporting the smooth provision of credit and further operations to support bank lending, as well as further expanding the large-scale asset programme, which should help keep the cost of borrowing for governments low. In addition, European institutions are making unprecedented efforts to provide direct fiscal support, including the establishment of a European-wide recovery fund dedicated to dealing with the crisis. It is important that policy support at a European level remains sufficiently strong, co-ordinated and proportionate to the magnitude of the shock throughout the EU.

The scale of the necessary policy support that has been provided, both globally and domestically, has helped to contain the extent of the downturn and mitigate some of its impact. On the fiscal side, it has also led to a sharp deterioration in government deficit and debt positions. For Ireland, these issues are explored in Box E (page 41). The recent sharp rise in the government deficit and debt ratios was both warranted and necessary and, for now, the cost of financing the debt position is relatively low. The high level of the debt ratio, however, leaves government finances vulnerable to future shocks to growth and interest rates or any that may emanate, for example, from Brexit or a sudden decline in corporation tax revenue as a result of international tax reform.

While the fiscal supports already in place have provided an important measure of relief and stability, additional policy measures may be required to give some impetus to recovery. For example, there may be a need to transition from the type of direct supports currently in place to more broad-based measures, including to address structural challenges, such as the risk of long-term unemployment or enhancing the productive capacity of the economy. Any such measures are likely to be costly and would have to be targeted and designed with care so that they both support a quicker, stronger and more sustainable recovery but also provide for a clear, credible and time-bound return to much lower and sustainable deficit and debt positions.

An Timpeallacht Gheilleagrach

Tá cúngú tobann géar spreagtha ag Covid-19 ar an ngníomhaíocht eacnamaíoch ar fud an domhain agus tá paindéim sláinte domhanda tagtha chun bheith ina géarchéim eacnamaíoch dhomhanda go han-tapa. Tá luas agus fairsinge na géarchéime seo gan fasach agus cruthaíonn sí dúshlán nach bhfuil a mhacasamhail feicthe riamh cheana do rialtais agus do lucht déanta beartais ar fud an domhain.

I bhformhór na dtíortha, in Éirinn san áireamh, bhí dhá ghné i gceist leis an bhfreagairt beartais, is iad sin bearta leathana sláinte poiblí chun leathadh an víris a shrianadh agus bearta chun an geilleagar a chosaint an iarmhairt. Tá na bearta imshrianta atá riachtanach chun srian a choinneáil ar an víreas, anseo in Éirinn agus go hidirnáisiúnta, tar éis cur isteach go mór ar an ngníomhaíocht eacnamaíoch, ach tá iarmhairt na mbeart sin á maolú le réimse gníomhaíochtaí beartais fhioscaigh, airgeadaíochta, macrastuamachta agus micreastuamachta chun tacú le teaghlaigh agus gnóthaí leochaileacha.

Tugann sonraí fíor-ama le tuiscint go ndeachaigh geilleagar na hÉireann ó rath i mí Aibreáin; tá an ghníomhaíocht os cionn an phointe ísil sin anois de réir mar a chuirtear tús le hathoscailt an gheilleagair. Ar a shon sin, tá an ghníomhaíocht i bhfad níos ísle anois ná mar a bhí roimh Covid-19.

Tharla cailteanais thobanna, mhórsála post mar thoradh ar dhúnadh forleathan gnóthaí, rud ba chúis, i dteannta leis an móréiginnteacht a bhí i réim, le turraing ghéar dhiúltach do chaiteachas tomhaltóirí agus don infheistíocht. Tá iompar réamhchúramach á léiriú freisin san ardú ar choigiltis teaghlach. Cé gur maolaíodh tionchar na bhforbairtí sa mhargadh saothair ar ioncam teaghlach le soláthar tacaíochtaí mórsála ioncaim ón Stát, tá éifeacht thromchúiseach na paindéime le brath ar fud an gheilleagair. Buaileadh go trom na hearnálacha sin a bhíonn ag brath go mór ar theagmháil duine le duine nó ar theagmháil fhisiciúil, lena n-áirítear seirbhísí lóistín agus bia, seirbhísí miondíola, agus foirgníocht. Ar bhonn réigiúnach, tá éagsúlacht le feiceáil ó thaobh iarmhairt na paindéime de mar gheall ar éagsúlachtaí i gcomhdhéanamh tionscail agus gairmeacha ar fud na réigiún éagsúil (féach Bosca E, leathanach 41), agus tá an iarmhairt is mó le brath in áiteanna inar lú deiseanna chun bheith ag ‘obair ón mbaile’ agus ina bhfuil tábhacht ar leith ag baint le hearnálacha amhail fáilteachas agus turasóireacht. Is cosúil gur lú an difear a dhéantar d’earnálacha eile den gheilleagar amhail déantúsaíocht ardteicneolaíochta agus na hearnálacha cógaisíochta agus ceimiceán inar féidir bearta maidir le scaradh sóisialta a chur i bhfeidhm go héasca agus inar léir go bhfuil an t-éileamh seasmhach i gcónaí.

De réir mar a chuirtear tús le hathoscailt chéimseach an gheilleagair, tá roinnt comharthaí ann go bhfuil téarnamh ag teacht chun cinn ar bhonn céimseach. Le seachtainí beaga anuas, tá roinnt daoine ag filleadh ar an obair san earnáil foirgníochta, san earnáil mhiondíola agus san earnáil déantúsaíochta agus tá líon na ndaoine a bhfuil tacaíochtaí ioncaim á bhfáil acu ag tosú ag dul i laghad anois. Tugann sonraí ardmhínicíochta maidir le híocaíochtaí cárta le tuiscint go bhfuil téarnamh éigin ar chaiteachas ó na leibhéil ísle a chonacthas i mí Aibreáin. Ar an iomlán, áfach, tá laghdú suntasach tagtha ar an aschur eacnamaíoch le míonna beaga anuas agus tugann na réamh-mheastacháin san Fhaisnéis Ráithiúil seo le tuiscint go mbeidh laghdú thart ar 20 faoin gcéad ar mbunéileamh intíre sa dara leath den bhliain.

Ag féachaint romhainn, tá móréiginnteacht ag baint leis an ionchas agus tá an chonair don gheilleagar ag brath ar fhairsinge agus ar fhad na turrainge agus ar an lorg a fhágfaidh sí. Tá éiginnteacht shuntasach ann, go háirithe, maidir leis an méid seo a leanas: conair an víris; a mhéid is gá bearta imshrianta a choinneáil i bhfeidhm nó a thabhairt isteach athuair; na héifeachtaí láithreacha agus fadtéarmacha ar iompar agus ar an gníomhaíocht eacnamaíoch; an damáiste do chumas táirgthe an gheilleagair agus an luas ag an normalóidh an gníomhaíocht eacnamaíoch.

Ó tharla go bhfuil éiginnteacht mhór ann maidir le hiarmhairt eacnamaíoch Covid-19, is fearr anailís ar chásanna a úsáid mar chur chuige. Sa chás bunlíne, glactar leis go maolófar na bearta imshrianta ar bhonn céimnithe mar atá beartaithe. Le hathoscailt chéimseach an gheilleagair, d'fhéadfadh an gníomhaíocht eacnamaíoch teacht chuici féin sa ghearrthéarma. D'fhanfadh roinnt de na bearta imshrianta i bhfeidhm, rud a chiallaíonn go mbeadh an gníomhaíocht in earnálacha áirithe srianta go ceann tréimhse níos faide. Cé go mbeadh téarnamh ar an aschur, chiallóidh tionchar suntasach diúltach eacnamaíoch na dianghlasála, i dteannta le feidhmiú leanúnach roinnt de na bearta, go mbeadh an gníomhaíocht srianta ag éifeachtaí an mhórchúlaithe in 2020 agus ag tionchar leanúnach na paidéime.

I gcomhréir le hathoscailt chéimseach an gheilleagair, meastar go dtiocfaidh caiteachas tomhaltóirí chuige féin arís sa dara leath den bhliain ach nach ndéanfar cúiteamh ar an laghdú a tharla sa dara ráithe. Dá bhrí sin, meastar go mbeidh laghdú 10 faoin gcéad ar chaiteachas tomhaltóirí don bhliain iomlán. Taobh amuigh den téarnamh tosaigh, meastar go mbeidh téarnamh céimseach i gceist a bheidh ag teacht le téarnamh céimseach réamh-mheasta ar fhostaíocht agus ar ioncam agus le maolú mall ar an iompar réamhchúramach de réir mar a bheidh éifeachtaí na turrainge fós le brath ar thomhaltóirí agus ar ghnóthaí. Tá seans ann go mbeidh an téarnamh is moille le feiceáil sna hearnálacha sin ina mbíonn níos mó teagmhála i gceist,

ar earnálacha dlúthfhostaíochta iad freisin. Meastar go laghdóidh an ráta dífhostaíochta le linn na bliana freisin óna bhuaicphointe de tuairim is 25 faoin gcéad sa dara ráithe agus tuartar go dtitfidh sé faoina leath faoi dheireadh na bliana seo agus gurb ionann a mheán agus 9 faoin gcéad an bhliain seo chugainn agus 7 faoin gcéad in 2022. Ar an taobh seachtrach, ba cheart go dteorannófaí an laghdú ar onnmhairí foriomlána i mbliana le hathléimneacht príomhearnálacha onnmhairíochta áirithe, d'ainneoin cúngú géar ar éileamh, agus táthar ag súil go mbeidh téarnamh éigin i gceist ina dhiaidh sin. Le hathléimneacht onnmhairí, coinneofar srian ar an laghdú ar an OTI i mbliana a bhfuil laghdú 9 faoin gcéad réamh-mheasta ina leith.

Go bunúsach, meastar sa chás bunlíne go mbeidh an t-aschur ar ais chuig an leibhéal a bhí ann roimh an ngéarchéim faoin mbliain 2022. Ar a shon sin, beidh leibhéal na gníomhaíochta i bhfad níos ísle ná an leibhéal a bheadh ann dá mbeadh an geilleagar ag fás i gcomhréir leis na hionchais a bhí ann sular tharla an phaindéim. Tá an fás cailte seo le feiceáil i leibhéal níos ísle fostaíochta agus i ndífhostaíocht níos airde.

I gcás níos déine, glactar leis go mbeadh éifeacht níos measa ag an tréimhse dianghlasála ar an ngníomhaíocht eacnamaíoch agus nach n-éireodh léi an galar a shrianadh. D'fhanfadh bearta diana imshrianta i bhfeidhm, bíodh go scaoilfí de réir a chéile iad, ar an mbun go mbeadh borradh faoin víreas arís tráth éigin sa bhliain atá romhainn. Sa chás seo, bheadh téarnamh maolaithe eacnamaíoch i gceist mar aon le cailteanas buan aschuir. Bheadh leibhéal níos airde dífhostaíochta ann ar feadh tréimhse níos faide sa chás seo, díreach faoi bhun 17 faoin gcéad ar an meán in 2020, agus meastar go mbeadh laghdú thart ar 14 faoin gcéad ar chaiteachas tomhaltóirí agus os cionn 13 faoin gcéad ar an OTI i mbliana. Sa chás seo freisin, ní dhéanfaí an cailteanas aschuir i mbliana a chúiteamh leis an téarnamh réamh-mheasta ar fhás in 2021 agus in 2022, rud a d'fhágfadh go mbeadh an leibhéal OTI in 2022 thart ar 5 faoin gcéad níos ísle ná an leibhéal a bhí ann roimh an ngéarchéim.

Sa dá chás seo, glactar leis go dtiocfadh Comhaontú Saorthrádála (FTA) in éifeacht i mí Eanáir 2021 idir an AE agus an Ríocht Aontaithe, sa chaoi go mbeadh earraí saor ó tharaifí agus ó chuótaí. Mura féidir teacht ar chomhaontú den sórt sin, thosódh an AE agus an Ríocht Aontaithe ag trádáil ar théarmaí WTO ó mhí Eanáir 2021. Cé go dtagann géarchéim Covid-19 roimh aon chailteanais ghearrthéarmacha a d'eascródh as Brexit in earnálacha áirithe, d'fhéadfaí go méadódh géarchéim Covid-19 na cailteanais sin in earnálacha eile, mar shampla talmhaíocht, áit ina mbeadh taraifí i bhfeidhm i gcás WTO (féach Bosca D, leathanach 31). Dá bhrí sin, tá sé deacair na héifeachtaí gearrthéarmacha a mheas ach is dócha, i gcás WTO, go mbeadh an fás i ngeilleagar na hÉireann níos laige ná mar a leagtar amach sna cásanna sin thuas. San fhadtéarma, agus ar leith ó éifeachtaí

Covid-19, laghdófaí an t-aschur i ngeilleagar na hÉireann i gcomparáid le socrú FTA.

Ag breathnú ar an bhfreagairt beartais, táthar ag dul i ngleic leis na dúshláin gan fasach a eascraíonn as Covid-19 trí bhíthin mórtacaíocht beartais a fhéachann le gníomhaíocht eacnamaíoch a chosaint. Tá bearta spriocdhírthe réasúnta mór curtha i bhfeidhm chun tacú le teaghlaigh agus le gnóthaí, chun daoine aonair agus teaghlaigh a chosaint ar chaillteanas ioncaim agus chun a chur ar chumas gnóthaí teacht slán ón ngéarchéim.

Sa chríoch baile, bhí freagairt rialtas na hÉireann ar an bpaindéim ag díriú ar thrí aicme leathana caiteachais: tacaíochtaí feabhsaithe ioncaim a thabhairt do na daoine sin a ndearna an phaindéim difear dá bhfostaíocht; tacaíochtaí do ghnóthaí i bhfoirm maoiniú díreach agus neamhdhíreach; agus caiteachas breise ar shláinte. San iomlán, meastar go gcosnóidh na tacaíochtaí díreacha beagnach €9 billiún i mbliana agus go gcuirfear €7 billiún eile ar fáil trí bhíthin tacaíochtaí neamhdhíreacha amhail ráthaíochtaí creidmheasa agus iarchur rátaí. Mar fhreagairt beartais macrastaumachta láithreach ar phaindéim COVID-19, laghdaigh Banc Ceannais na hÉireann ráta an chúlchiste fhritimthriallaigh go dtí 0 faoin gcéad, rud a fógraíodh i mí an Mhárta, agus ar an gcaoi sin, cuireadh €940 milliún breise ar fáil chun cailteanas a iompar nó lena ghíaráil chun iasachtú chuig an bhfíorgheilleagar a chothabháil agus a leathnú.

Ó thaobh na hairgeadaíochta de, tá sraith beart curtha i bhfeidhm ag an Eurochóras, a bhfuil Banc Ceannais na hÉireann ina chomhpháirt de, arb é is cuspóir dóibh soláthar rianúil creidmheasa agus oibríochtaí breise a éascú chun tacú le hiasachtú bainc, mar aon leis an gclár mórsála sócmhainní a leathnú tuilleadh, rud a choinneoidh an costas do rialtais chun iasachtaí a fháil íseal. De bhreis air sin, tá iarrachtaí níos mó ná riamh á ndéanamh ag institiúidí Eorpacha chun tacaíocht dhíreach fhioscach a chur ar fáil, lena n-áirítear ciste uile-Eorpach téarnaimh a bhunú chun déileáil leis an ngéarchéim. Tá sé tábhachtach go mbeidh an fhreagairt beartais ar leibhéal Eorpach sách láidir, comhordaithe agus comhréireach chun dul i ngleic leis an turraing atá i réim ar fud an AE.

De thoradh scála na tacaíochta riachtanaí atá curtha ar fáil, go hidirnáisiúnta agus go hintíre araon, cuidíodh le fairsinge an chor chun donais a shrianadh agus le cuid dá thionchar a mhaolú. Ar an taobh fioscach, chuir sé le meathlú mór ar riocht easnaimh agus fiachais rialtas. Pléitear na saincheisteanna seo i gcás na hÉireann i mBosca E (leathanach 41). Bhí an méadú mór le déanaí ar chóimheasa easnaimh agus fiachais an rialtais inchosanta agus bhí sé riachtanach, agus tá costas maoiniúcháin an reachta fiachais sách íseal faoi láthair. Ach fágann leibhéal ard an chóimheasa fiachais go bhfuil airgeadas an rialtais leochaileach d'aon turraingí amach anseo don fhás agus do rátaí úis nó d'aon turraingí a d'eascródh, mar

shampla, ó Brexit nó ó laghdú tobann ar ioncam cánach corparáidí mar thoradh ar athchóiriú cánach idirnáisiúnta.

Cé go bhfuil faoiseamh agus cobhsaíocht áirithe curtha ar fáil ag na tacaíochtaí fioscacha atá i bhfeidhm faoi láthair, tá seans ann go mbeidh gá le bearta breise beartais chun an téarnamh a spreagadh. Mar shampla, b'fhéidir gur gá athrú ó thacaíochtaí díreacha mar atá i bhfeidhm faoi láthair chuig bearta leathana, lena n-áirítear bearta chun dul i ngleic le dúshlán struchtúracha amhail dífhostaíocht fhadtéarmach nó cumas táirgthe an gheilleagair a fheabhsú. Is dócha go mbeadh aon bhearta den sórt sin costasach agus níor mhór iad a bheith spriocdhírthe agus ceaptha go cúramach chun go dtacóidís le téarnamh níos tapúla, níos láidre agus níos inbhuanaithe agus chomh maith leis sin go ndéanfaidís socrú chun filleadh ar riocht inbhuanaithe easnaimh agus fiachais ar bhealach soiléir, inchreidte agus faoi cheangal ama.

The Domestic Economy

Overview

The Covid-19 pandemic and the measures to contain the spread of the virus have caused an unprecedented contraction in economic activity. Real-time data show a sharp collapse in economic activity through March and April, which then stabilised and, more recently, has recovered somewhat.

However, levels of activity remain well down. Given the exceptional nature of the shock, and the uncertainty surrounding the future development of the pandemic, the outlook for economic activity is itself surrounded by considerable uncertainty. Accordingly, this Bulletin outlines two possible paths ahead for the economy, as well as assessing the potential impact of a new EU-UK trading relationship, the nature of which is still uncertain. In the baseline scenario, underlying domestic demand is expected to contract by 9.5 per cent this year, while GDP is estimated to fall by 9 per cent.

Table 1: Scenario Summary Table

	Baseline				Severe		
	2019 ^e	2020 ^f	2021 ^f	2022 ^f	2020 ^f	2021 ^f	2022 ^f
UDD	3.2	-9.5	4.6	4.4	-12.3	2.7	4.5
Private Consumption	2.8	-10.1	3.9	4	-13.9	3	5
Government Consumption	5.6	8	-0.3	3.2	9.2	-0.3	2.3
Investment	94.1	-34.7	9	6.3	-44.4	3.3	6.1
Exports	11.1	-4.2	5	2.9	-5.5	4	3.1
Imports	35.6	-12.3	4.7	2.8	-14.3	2.2	2.2
GDP	5.5	-9	5.7	4.5	-13.8	4.9	5.4
Employment	2.9	-11.9	7.6	2.7	-14.4	5.9	4.1
Unemployment Rate (% of Labour Force)	4.9	14.5	9.2	7.3	16.6	12.4	9.4
HICP Inflation	0.9	0.1	0.3	1.3	-0.2	-0.5	1.2

Source: CBI Calculations.

Note: All Figures are percentage changes year-on-year unless otherwise specified)

Recent developments

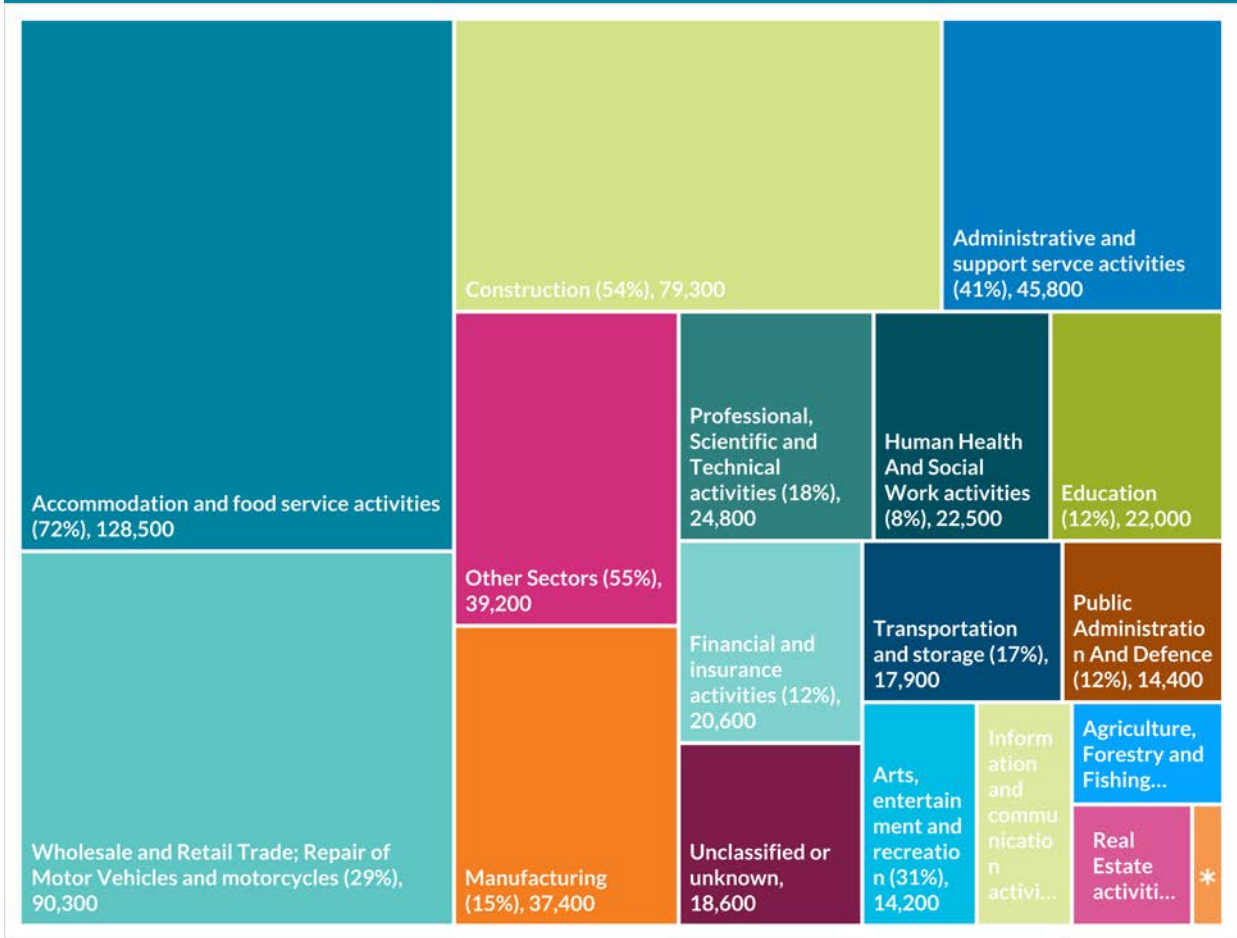
The Covid-19 pandemic, and the necessary measures taken to contain its spread, have resulted in an unprecedented decline in economic activity since mid-March. Labour-intensive sectors such as the retail, food and beverage, accommodation, tourism and travel sectors have been worst

affected. The required closure of all non-essential businesses, as well as high levels of uncertainty, has reduced consumption and underlying investment. Exports have also been affected by the severe contraction in Ireland's main trading partners, although the continued strong growth of the pharmaceutical and ICT sectors has offset the decline to some extent.

The impact on the labour market has been historically severe. From a position of full-employment prior to the outbreak, unemployment increased to 28.2 per cent on a COVID-adjusted basis¹ in April, before falling to 26.1 per cent in May. However, the impact of labour market developments on household incomes has been mitigated by the provision of large-scale income support by the State. At its peak, approximately 1.2 million people were in receipt of some form of income support – some 600,000 via the pandemic unemployment payment (PUP); 400,000 via the temporary wage subsidy scheme (TWSS) and 200,000 via the Live Register.

¹ The COVID-19 adjusted monthly unemployment rate is based on the assumption that all claimants of the COVID-19 Pandemic Unemployment Payment would have qualified for the jobseeker's benefit/jobseeker's allowance. As this scenario is highly unlikely, the COVID-19 adjusted monthly unemployment rate represents the upper bound for the true rate and the standard Monthly Unemployment Rate as the lower bound.

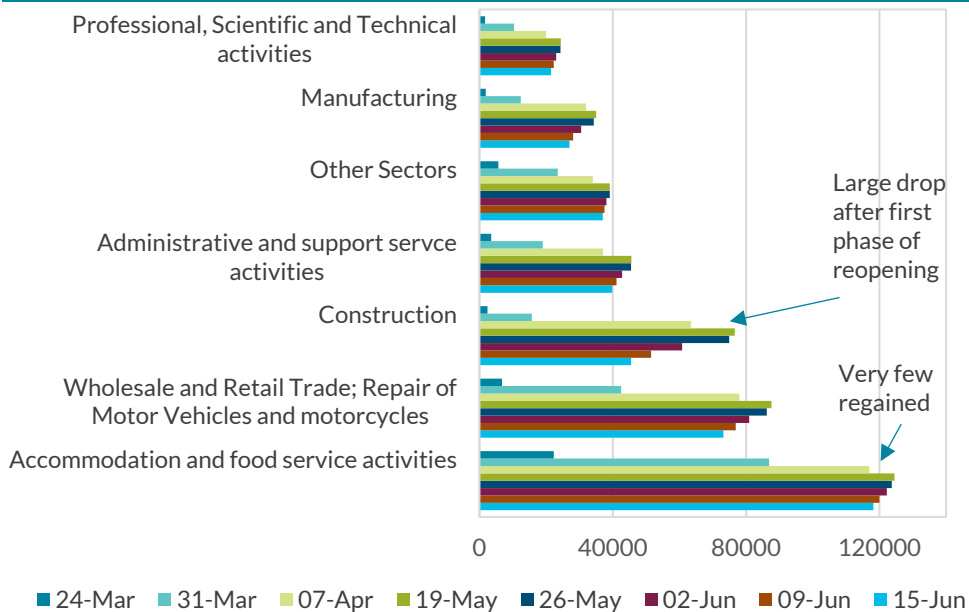
Figure 1: Job losses have been largest in accommodation and food services, retail and construction (percentage of 2019Q4 employment and total)



Note: Numbers represent number of PUP claims from peak (week ending 19th April). Percentages are against total employment in that sector in Q4 2019. Size of the boxes represent their scale in overall job losses.

Job losses came in waves (Figure 2), coinciding with the increasing levels of public health restrictions. The largest job losses came in *Accommodation and Food Service Activities, Wholesale and Retail Trade, and Construction*. Some sectors saw substantial job losses even prior to the stay-at-home order. For example, the majority of the job losses in accommodation and food services occurred in the week prior to the 27th of March. In addition, county-level industrial and occupation composition has a bearing on the local impact of the containment measures on the labour market (see Box E, page 41), with the greatest impact occurring where employment has less ‘work from home’ potential and where sectors such as hospitality and tourism are particularly important.

Figure 2: Job losses came in waves, which coincided with increasing containment measures



Note: Bars indicate stock of PUP claimants at end of each week.

The volume of retail sales fell by almost 40 per cent in April compared with the same month in 2019. This reflects both the constraints arising from the widespread business closures, and a sharp increase in precautionary behaviour. This behaviour relates both to cutting spending in anticipation of a deterioration in the economic outlook, but also avoiding activities deemed to be at high risk for transmission of Covid-19. Indeed, consumer sentiment declined sharply, falling to levels similar to those seen during the global financial crisis (Figure 4).

Spending declines were largest in areas with high levels of face-to-face contact. Hotels, restaurants, pubs and the retail sector were required to close or substantially curtail their activities due to the containment measures. While the effective closure of all non-essential businesses lasted from the 27th of March until the 18th of May, cautiousness of the part of consumers meant that spending began to decline from mid-March). Payment card data collected by the Bank show the extent of the decline in spending (Figure 3). During the strict lockdown period, in sectors such as travel and restaurants, card payments fell by between 60 and 80 per cent compared with a year ago.

Figure 3: Consumption fell across all sectors except “Food and Drug” spending.

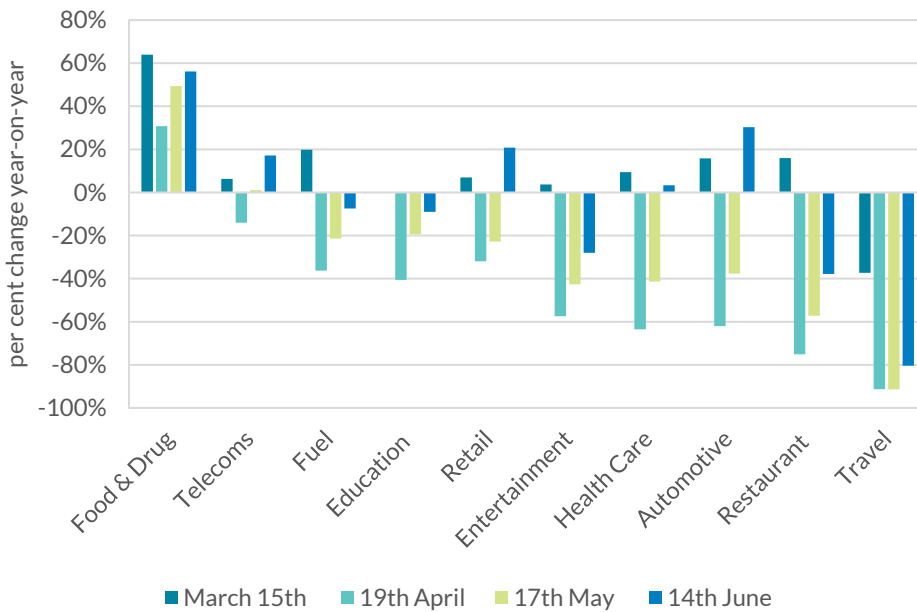
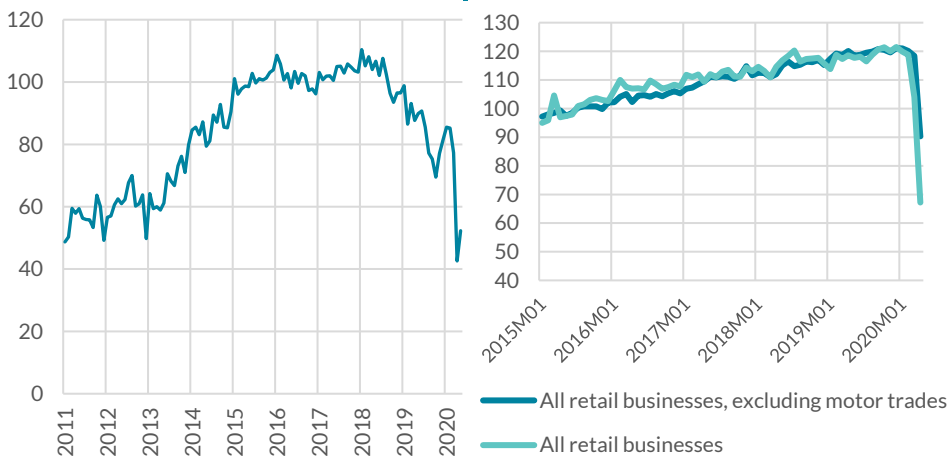


Figure 4: Consumer sentiment declined (LHS), which was reflected in retail sales figures for March and April (RHS)



With incomes supported by the PUP and TWSS schemes and spending falling significantly, household savings rose sharply. Underlying this was a combination of forced saving resulting from the closures of many retail outlets, and precautionary saving in light of heightened uncertainty, reflected in the steep decline in consumer confidence. Statistics collected by the Central Bank of Ireland show that households added €3bn in deposits in April and a further €1.5bn in deposits in May (see Box A).

On the output side, high frequency indicators show the scale and speed of the downturn. During April and early-May, electricity demand fell by approximately a fifth compared with a year previously. Traffic on major

motorway routes in Dublin and Cork, as well as inter-city routes fell to between 20 and 30 per cent of normal levels. The closure of construction sites after the 27th of March led the construction purchasing managers index (PMI) to fall to its lowest level ever (Figure 6), as did the services PMI. At the same time, the overall manufacturing PMI had its largest fall on record in April.

Figure 5: Electricity demand fell sharply, while road traffic was 20 per cent of normal level

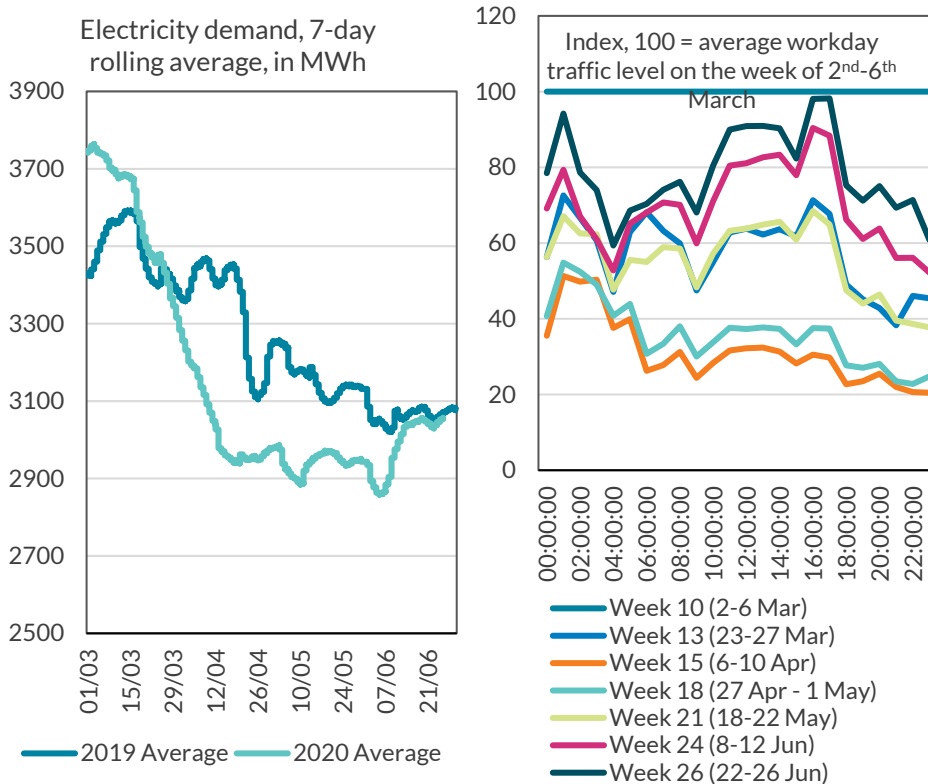
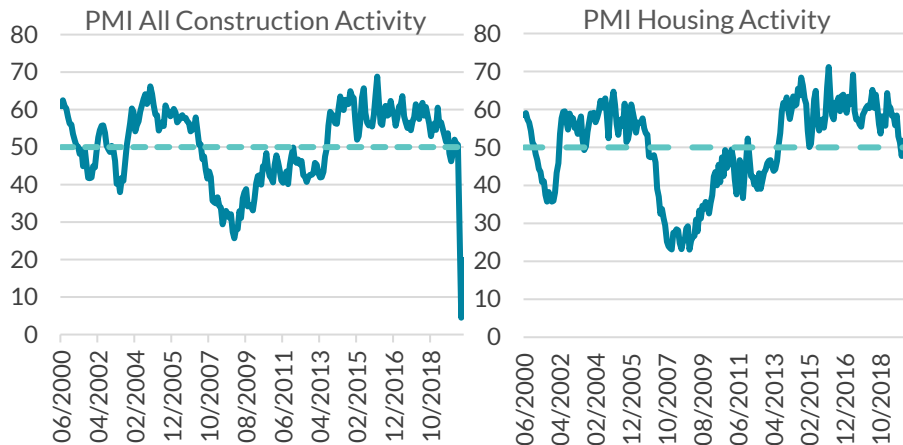


Figure 6: Construction sites ordered to close from March 27th saw purchasing managers indices for the sector decline to 2008 levels



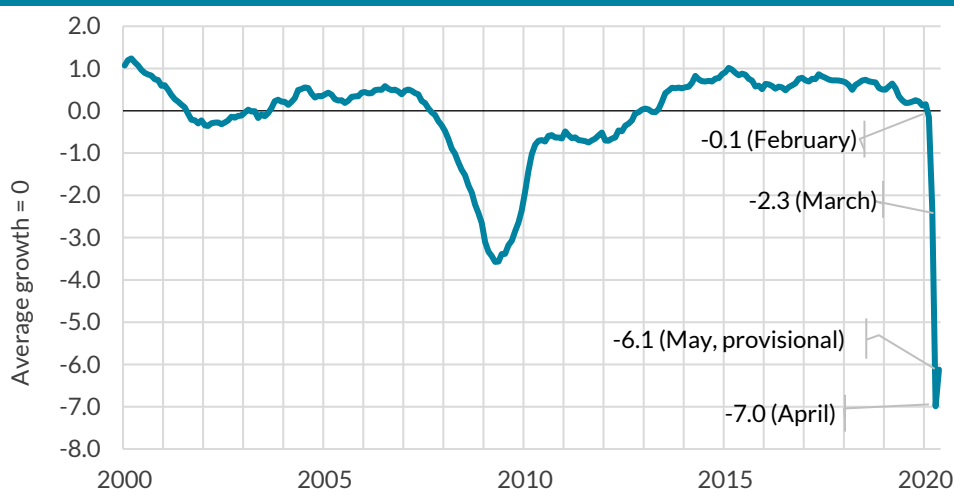
Source: Ulster Bank

National Accounts data showed that GDP grew by 4.6 per cent year-on-year in the first quarter of 2020. These data, which only contain 2-3 weeks of the period between the school closures on 12th March and the end of the quarter, are the first traditional data available containing some impact of the crisis. The clearest evidence of Covid-19 was the fall in personal consumption of 2.5 per cent year-on-year. This decline was primarily in goods consumption. Modified Final Domestic Demand, which includes personal and government consumption, as well as modified investment, grew by 0.6 per cent year on year but declined by 1.6 per cent compared with the fourth quarter of 2019. This represents a significant slowdown compared with the 3 per cent average annual growth seen during 2019.

The strong growth in the exports of pharmaceuticals, computer processors and computer services continued. Exports grew by 5.9 per cent year-on-year. Merchandise exports grew by 43 per cent year on year in March. Services exports also grew by 6.9 per cent year-on-year.

The Central Bank's Business Cycle Indicator (BCI) provides a timely picture of overall domestic economic activity. In April, the BCI fell to a new all-time low beyond that experienced during the 2008/09 economic crisis. This large decline in the BCI provides a signal of a very sharp and deep contraction in domestic activity. The latest estimate of the BCI for May, based on data available up to 29 June, points to a small improvement in economic conditions compared to April suggesting some stabilisation in activity during the month. The overall level of the BCI, however, remains substantially below that observed prior to the emergence of the COVID-19 crisis.

Figure 7: BCI indicates an unprecedented slowdown in April and May



Source: Conefrey and Walsh (2020).

Note: the BCI was updated using data available up to 29 June

Since the first phase of the reopening on the 18th of May, high frequency data have pointed towards a tentative start to the recovery. Card payments returned to levels close to 2019 in the first week of June, after falling more than 30 per cent below during April (See Box A). Card payments are being boosted by the decline in cash usage. ATM withdrawals remain between 40 and 50 per cent down on 2019 levels. The increase in card payments has also been boosted by the increase in many firms' online offerings. Domain registrations, recorded by the IE domain registry, increased by 40 per cent year-on-year since the beginning of the pandemic in March.² Retail sales data show that the percentage of total turnover generated by online sales increased substantially in April.

The restoration of jobs across sectors is occurring broadly in the reverse order in which they were lost. For example, there has been a 42 per cent decline from the peak in those from the *construction* sector in receipt of the PUP, whereas *accommodation and food services* has only seen an 8 per cent decline. The retail sector has seen a 20 per cent decline in the number of PUP recipients who previously worked in that sector. As the economy reopens, workers who return to employment in sectors which have been strongly impacted by the pandemic may transition to the TWSS. Further changes will be recorded after the opening up of food services and further retail outlets on 29 June.

On the whole, economic output has declined substantially in the second quarter. The scenarios outlined in the next section are consistent with a fall of approximately 20 per cent in underlying domestic demand in the second quarter. GDP will not fall by as much, owing to the mitigating impact of pharmaceutical, ICT, and computer services exports and the collapse in imports.

Box A: Household and Business Financing Developments during Covid-19

By Statistics Division

The Covid-19 pandemic has affected the global economy and society in a manner not seen in recent times. The abrupt decline in economic activity in Ireland in mid-March has created financial repercussions for both households and companies. In fast moving and unique circumstances, the standard package of official statistics present limitations as they are produced with a lag and with relatively low frequency (e.g. monthly). The rapid onset of the pandemic and subsequent economic developments has

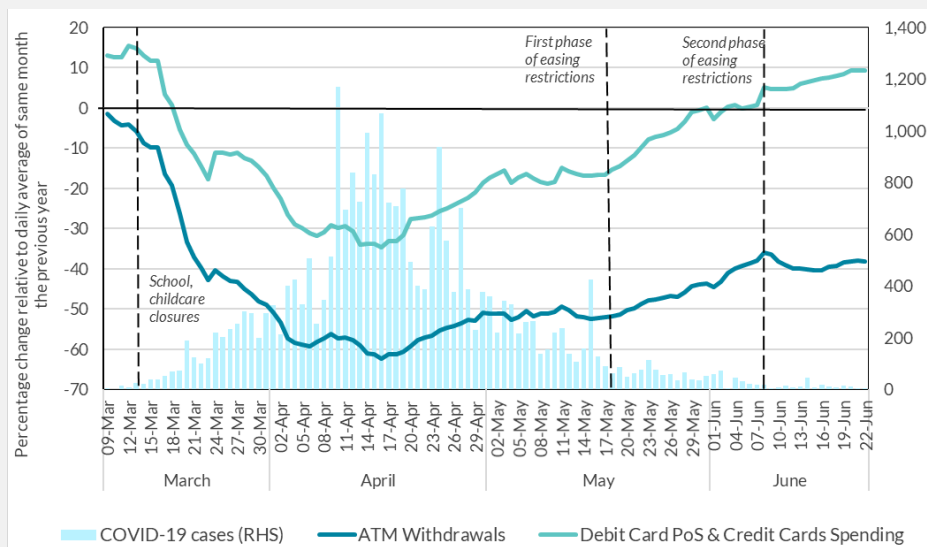
² <https://www.iedr.ie/increase-in-ie-registrations/>

required new high frequency and close to real time indicators. To that end, the Central Bank has produced a range of new indicators including daily payments data and daily credit application data. This box aims to describe the key trends observed in the reaction of households, companies and banks across both the high frequency and traditional data in recent months.

Households

The level of household spending began to decline rapidly once the first containment measures were introduced on 12 March. The sharp decline in overall spending also masked a large rebalancing in the type of spending occurring³, with grocery sales surging and activities such as restaurants, travel and entertainment suffering large declines. The decline in spending bottomed-out in mid-April and has since started to recover at a consistent pace. Nonetheless, spending is still significantly below pre-Covid levels as of mid-June. Reflecting new spending habits, spending on cards is now at levels above June 2019, as spending using cash recovers at a slower rate (Figure 1).

Figure 1: Daily Card Activity



Source: Central Bank of Ireland

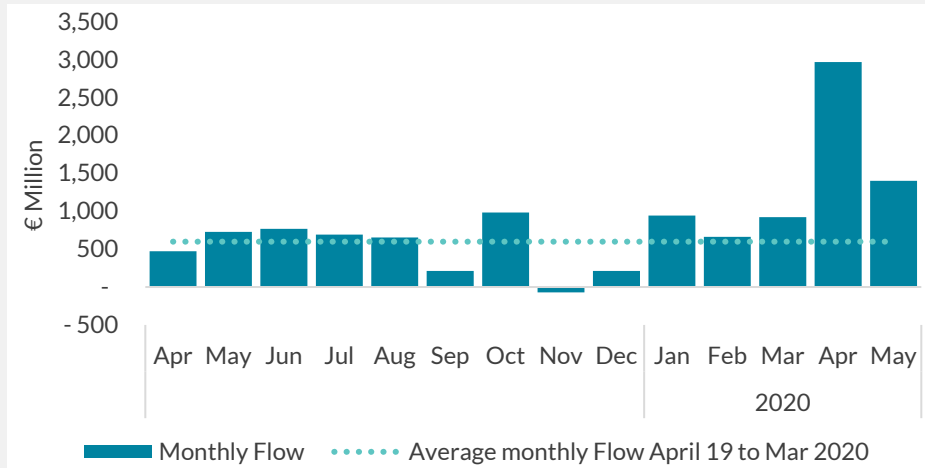
Notes: Card data are calculated as 7-day moving averages

While the closure of large parts of the economy has had serious financial implications for numerous households, many in the labour market continue to work and be paid. As a result, household deposits have grown substantially, with a historical high €3 billion increase in April, followed by growth of €1.5 billion in May (Figure 2). This compares with average monthly growth in the preceding 12 months of €598 million. Household deposits now stand at an all-time high of €118 billion. This suggests that

³ See '[How has the COVID-19 Pandemic Affected Daily Spending Patterns?](#)'

households possess a significant source of funds to support a future recovery in consumer spending. However, further evidence on the distributional impact of the pandemic on incomes, spending and saving will be needed to understand better the potential for this stock of deposits to be drawn down in the future.

Figure 2: Household Deposit Net Inflows

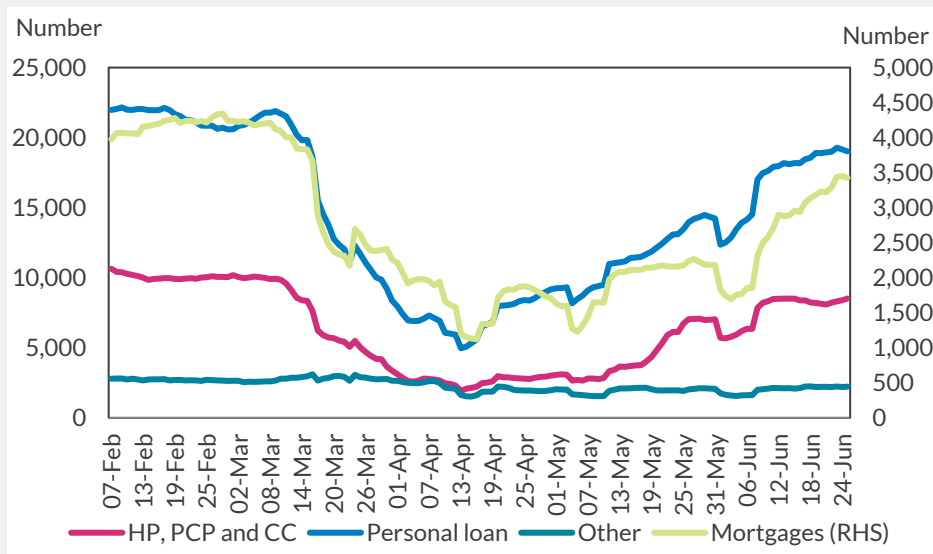


In line with the reduction in spending, household demand for credit⁴ declined in March following the introduction of the initial containment measures. Similar to spending patterns, the trough in demand was seen in mid-April (Figure 3). Demand initially picked up in personal loans, but hire purchase (HP), personal contract plan (PCP) and credit card demand have also picked up since mid-May. This implies that there are tentative signs of a recovery in consumer spending, in particular in durables frequently purchased under HP/PCP type contracts. Mortgage enquiries have remained more subdued and remained at levels far below normal for April and May, while picking up somewhat from mid-June. However, forward looking indicators show that Irish banks expect lending criteria to tighten over the second quarter of the year, and also expect loan demand from households to decrease.⁵

⁴ Credit enquiries to the CCR is used as a proxy for credit demand. See also ['Has demand for new loans changed during the COVID-19 crisis?'](#)

⁵ See ['COVID-19: Bank credit conditions and monetary policy'](#)

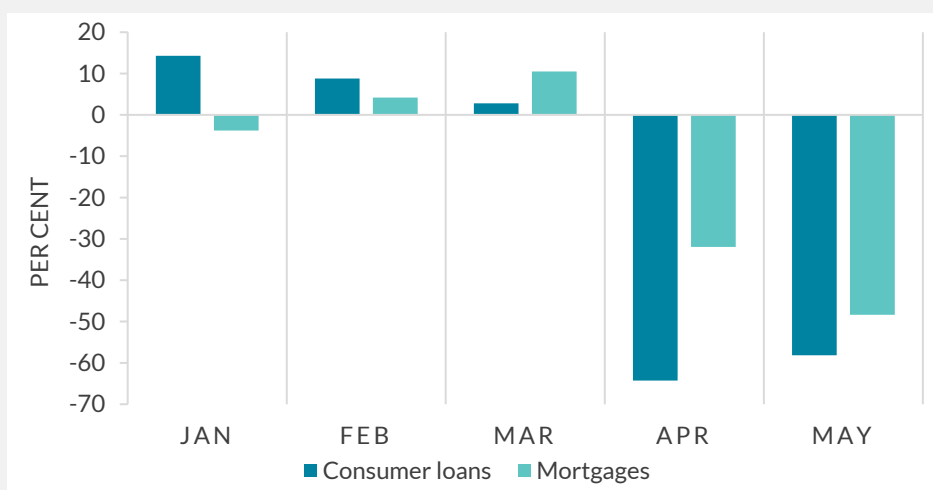
Figure 3: Credit Enquiries on New Loan Applications from Individuals



Source: Central Credit Register, and Central Bank of Ireland calculations.
 Notes: Data are 7-day moving sum credit enquiries. The term “Individual” covers households and sole traders.

The containment measures also reduced households’ ability to consume, with the actual drawdown of new bank household loans declining by 65 per cent in April and 58 per cent in May (Figure 4). Consumer lending is heavily influenced by car purchases, and new car sales declined by 86 per cent in April and May relative to 2019.⁶ Nonetheless, car sales are heavily weighted towards January and July so the outturn for July will be important for the overall 2020 picture in relation to that industry.

Figure 4: Household gross new lending agreements (Year-on-Year Changes)



New mortgage agreements (excluding renegotiations) were down 32 per cent in April compared to the previous year, and down by almost 50 per

⁶ Source: <https://stats.beebpeep.ie/>

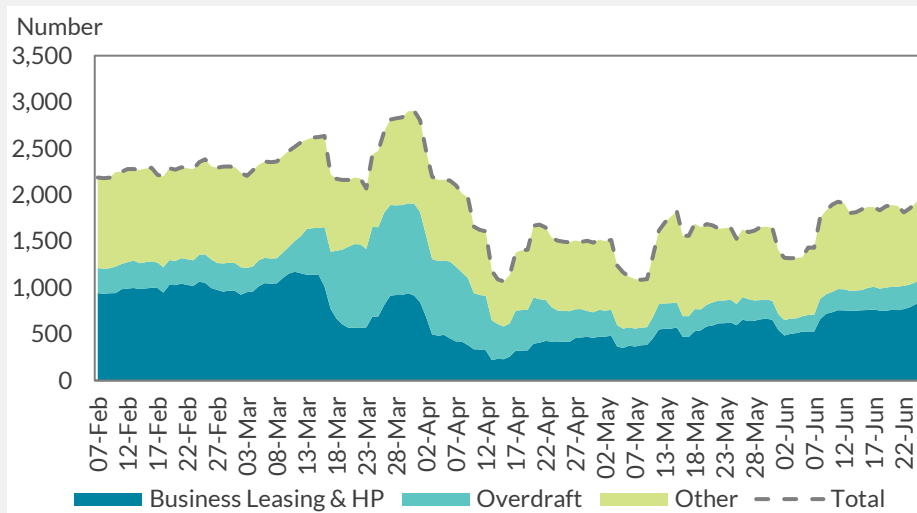
cent in May compared to May 2019. Enquiries on mortgage applications began to decline in late March. There is, however, generally a lag between application and drawdown stage and it may take some time for the full impact to feed through.

Banks have offered a wide range of loan payment breaks since late March. As of May 29th, 10.8 per cent of the Irish mortgage book was on a payment break in the main retail banks.⁷ These breaks have limited the amount of deleveraging that has occurred in the household sector despite the sharp decline in new borrowing. As a result, the total decline in outstanding bank loans for house purchase in across April and May was €453 million, not dissimilar to the €316 million seen for the same period in 2019.

Business

New corporate credit enquiries increased by a fifth in March, mainly due to new overdraft requests (Figure 5). However, over the month of April, the number of business-related credit enquiries fell 36 per cent month-on-month, and May enquiries were down a further 11 per cent. May has seen a steady increase in enquiries relating to hire purchase applications, which have grown by 50 per cent on April. This perhaps reflects a slight increase in sales of light commercial vehicles⁸ and equipment to support new ways of working. Although enquiries for June are up compared to May, demand is still significantly below normal levels.

Figure 5: Credit Enquiries on New Loan Applications from Companies



Source: Central Credit Register, and Central Bank of Ireland calculations.

Notes: Data are 7-day moving sum credit enquiries.

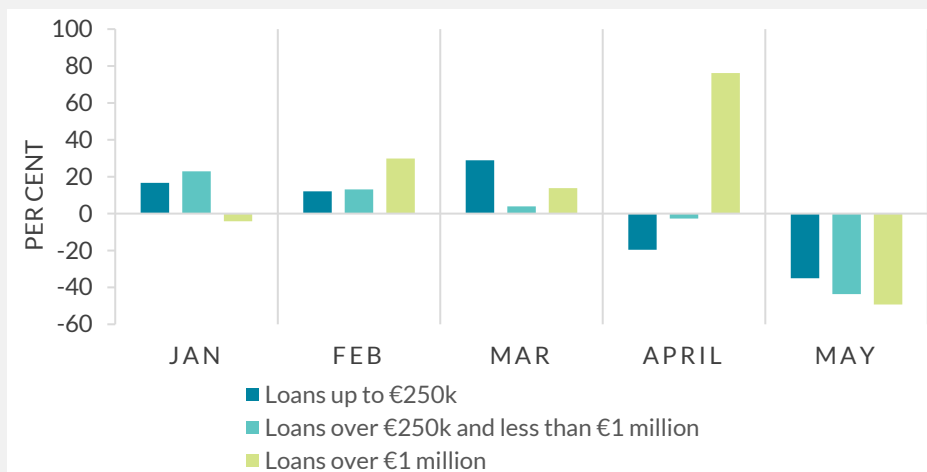
⁷ See p.46 *Financial Stability Review, 2020:1*

⁸ <https://stats.beepbeep.ie/light-commercial-vehicles>

The increased applications for short-term finance from late-March is evident in the monthly statistics on bank lending to the non-financial corporate (NFC) sector. Net drawdowns of revolving loans and overdrafts totalled €660 million in April, which compares to net repayments of €131 million for these product types in March. These forms of credit accounted for 43 per cent of the increase in total NFC lending, indicating that existing and new short-term credit lines have been an important provider of liquidity to Irish firms. Overall, total NFC outstanding lending increased by €1.5 billion in April compared to an average monthly decrease of €26 million in the twelve-months before April 2020. Data for May however, shows a partial reversal of the April movement, with net loan repayments of €627 million by NFCs in the month.

Larger NFCs can dominate the aggregate data. The trends diverge significantly when looking at different loan sizes (Figure 6). Gross lending for larger loans increased substantially in February, and growth remained positive into March and April, before declining in May. Smaller loans of up to €250,000 increased significantly in March relative to 2019, but have since fallen considerably in April and May. The data indicate that larger firms may have acted more quickly to draw down facilities in advance of Covid-19, and have continued to access credit at levels above that observed in 2019.

Figure 6: New NFC Lending by Loan Size (Change on same month in 2019)



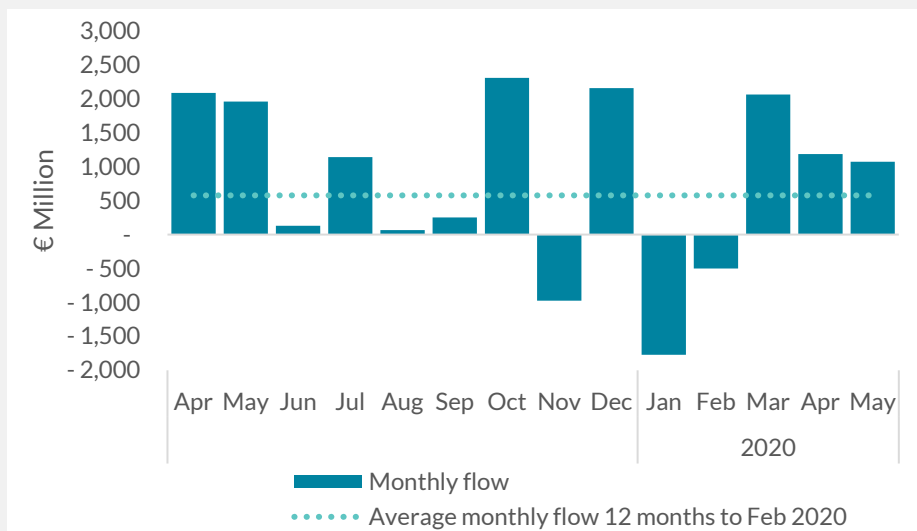
Source: Central Bank of Ireland Retail Interest Rate Statistics.

Notes: Data for April (over €1 million) and May are based on unadjusted data.

On an aggregate level, Irish corporate deposits have remained robust with strong monthly inflows in recent months. It is likely that there is significant divergence across firm type, size and economic sector within these aggregates. The increase in deposits is also likely to be supported

by the precautionary drawdown of credit lines by firms seen in February and March.

Figure 7: Deposits by Non-Financial Corporates (Monthly net flow)



Summary

Recent analysis by the Central Bank shows that households, firms and banks have entered this particular crisis in a stronger position than that of 2008.⁹ The economic shock from the Covid-19 pandemic is still a substantial challenge and firms and households have been affected significantly. Household spending has been curtailed in recent months, and this has resulted in a substantial build-up of deposits, and a reduction in demand for, and utilisation of credit. There are some signs of an initial rebound in consumer credit demand as spending slowly increases from the low point in April.

Aggregate data on firms show that credit flows and deposit growth in the sector remain relatively robust. However, demand for credit was initially observed for overdraft facilities and subsequent growth in credit has been driven by such short-term credit lines. Demand across other types of credit remains low with some tentative pick up in leasing and hire purchase in May. Trends in credit agreements do diverge by different types of firms, with smaller loan agreements declining significantly, and larger loans over €1 million occurring at levels above 2019.

⁹ See [Financial Stability Review, 2020:1](#)

Macroeconomic Projections

Box B: Key Judgements and Assumptions Underlying the Projections

By Irish Economic Analysis Division

The projections contained in this Bulletin were produced in line with the Eurosystem staff macroeconomic projections published on 4 June, which were finalised on the 25th of May.¹⁰ The figures contained herein are updated from that projection to take account new data, in particular the Q1 Quarterly National Accounts published on the 5th of June.

The scale of the uncertainty surrounding the potential economic impact of Covid-19 necessitates an analysis based on alternative scenarios.

There are considerable uncertainties surrounding the future development of the pandemic, the required containment measure, the degree to which behaviour and economic activity adapts and the extent to which there are longer lasting effects. These uncertainties are best illustrated through scenario analysis.

In the baseline scenario, the strict lockdowns in place in April and May 2020 are assumed to be unwound on a phased basis over the coming months. The gradual reopening of the economy would allow for an initial rebound in economic activity over the near term. Some containment measures would remain in place meaning that activity would be constrained in some sectors for a longer period. The significant negative economic impact from the lockdown combined with a continuation of some containment measures mean that while output would recover, activity would be constrained by the effects of the severe recession in the first half of 2020 and the ongoing impact of the pandemic.

In the severe scenario, the strict lockdown period is assumed to have a more damaging impact on economic activity and is not successful in effectively containing the disease. Stringent, albeit gradually loosened, containment measures would remain in place based on an assumption that there would be a resurgence of the virus at some point between now and the end of 2021. In this scenario there is a subdued economic recovery with a loss in potential output.

Substantial support from fiscal and monetary policy, as well as labour market supports targeted at supporting employment, are assumed to

¹⁰ [Eurosystem Staff Macroeconomic Projections](#)

mitigate the fall in incomes and limit economic scars from the pandemic. The policies are also assumed to be successful in preventing adverse financial amplifications.

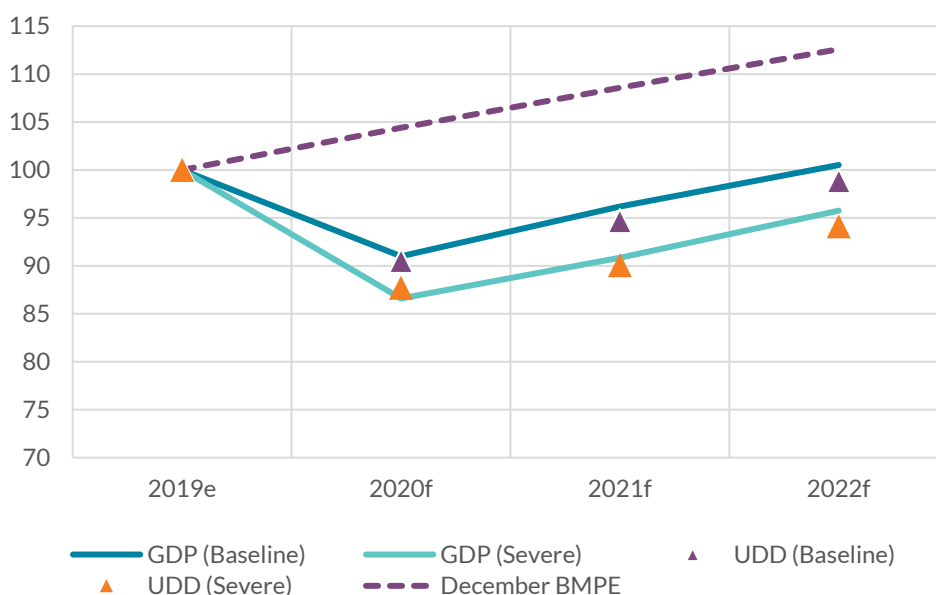
Demand and Output

Real GDP is expected to have declined sharply in the second quarter, and the baseline scenario expects a gradual recovery to begin thereafter. The phased reopening of the economy, the supportive fiscal and monetary policies, and some recovery in foreign demand in the second half of the year are expected to stimulate activity. However, the ongoing requirement for physical distancing, as well as elevated levels of uncertainty mean that economic activity will remain subdued. The size of the decline in 2020 is large enough that output does not recover its 2019 level until 2022. Underlying Domestic Demand (UDD), which removes the distortionary effects of globalisation activities in the National Accounts, is forecast to decline by 9.5 per cent this year before growing by 4.6 per cent in 2021 and 4.4 per cent in 2022.

In the severe scenario, the sustained efforts to prevent the spread of the virus continue to dampen activity across sectors of the economy more strongly than in the baseline. While the magnitude of output losses would be lower in a second phase of containment than during the first, such losses would likely be more persistent and thus more damaging to the long run potential growth rate of the economy. The hit to output in a resurgence of the virus would be amplified by an increase insolvencies and a potential increase in structural unemployment. Eventually, this can lead to workers becoming discouraged and leave the labour force.¹¹ This implies a slower trajectory in the recovery towards pre-crisis output levels (Figure 9).

¹¹ <https://voxeu.org/article/labour-markets-during-covid-19-crisis-preliminary-view>

Figure 8: In the baseline scenario, GDP recovers its 2019 level of output by 2022



Turning in more detail to the components of GDP. In the baseline scenario, consumption is expected to decline by 10.1 per cent in 2020 before beginning to recover in the following years. Payment card data, as well as retail sales and consumer sentiment data all point towards a substantial decline in consumption in the second quarter. Some sectors, which have large weights in total consumption, are among the worst affected – including spending on restaurants and on recreation. While the hit to incomes for many has been cushioned by the pandemic unemployment payment and the temporary wage subsidy scheme, consumption is projected to decline in 2020. This is partly as a result of the continued requirements for physical distancing and as a result of heightened uncertainty and continued precautionary behaviour. In 2021 and 2022, the improvement in the labour market, the unwinding of uncertainty and the release of some spending which was postponed during 2020, will support a gradual recovery in consumption over the forecast horizon. However, with the unemployment rate projected to only gradually decline, this recovery will also be gradual. In the baseline scenario, consumption is expected to fall by 10.1 per cent in 2020, before growing by 3.9 per cent in 2021 and by 4 per cent in 2022.

The savings ratio will increase markedly in 2020 as a result of the decline in consumption coupled with the income support measures. The use of these forced savings will be quite important in the later years of the recovery from the pandemic.¹² However, their use to support consumption

¹² See FitzGerald, John. [Box 1: The Effect of Government Policy on Personal Savings. ESRI Quarterly Economic Commentary \(Summer\)](#)

over the forecast horizon d to remain limited owing to elevated levels of uncertainty about the economic outlook, as well as continued cautionary behaviour relating to the virus. Recent survey evidence from the CSO points towards this being the case, with savings topping the list of items that respondents plan to use additional available money on. If, on the other hand, confidence returns more quickly, these savings, this would provide a significant boost to consumption, and therefore GDP growth, in 2021 and 2022.

In the severe scenario, the reintroduction of stringent containment measures and the continued spread of the virus results in a significantly slower recovery in consumer spending. Uncertainty and precautionary behaviour, which abate somewhat in 2021 in the baseline scenario, continue owing both to the poorer labour market prospects and ongoing precautionary behaviour relating to the virus.

Box C: The International Outlook

By Monetary Policy Division

The COVID-19 pandemic has triggered the most severe economic recession in nearly a century and is causing enormous damage to people's health, employment and well-being. In April, the IMF projected that the global economy would contract by 4.9 percent in 2020 and – assuming that the pandemic fades in the second half of 2020 – grow by 5.4 percent in 2021 as economic activity normalises, aided by policy support. Risks of more severe outcomes, however, were considered substantial. In June, the OECD released projections based on two equally probable scenarios – a double-hit scenario in which a second wave of infections, with renewed lock-downs, hits before the end of 2020, and a single-hit scenario in which another major outbreak is avoided. While the latter projects global economic activity to fall by 6 percent in 2020, in the double-hit scenario world economic output could plummet by 7.6 percent this year, before climbing back by only 2.8 percent in 2021.

In the euro area, seasonally adjusted GDP decreased by 3.6 percent on a quarterly basis (down from a 0.1 percent increase in the previous quarter) and by 3.1 percent on a yearly basis during the first quarter of 2019. The number of persons employed decreased by 0.2 percent compared with the previous quarter, displaying the first decline in the time series since the second quarter of 2013. In June, the ECB revised downward its projections for euro area economic activity. Euro area GDP is now expected to decrease by 8.7 percent in 2020, before increasing by 5.2 percent in 2021 and 3.3 percent in 2022. However, if a more adverse

scenario of the pandemic materialises,¹³ the ECB estimates that GDP could decrease by 12.6 percent in 2020, before increasing by 3.3 percent in 2021 and 3.8 percent in 2022.

Sentiment indicators continue to signal a sharp fall in economic activity in the euro area. Following April's survey historical low (13.6), the Markit Eurozone Composite PMI noticeably bounced in May, posting 31.9. Nonetheless, by remaining well below the 50.0 no-change mark, the index was again consistent with sharply falling activity as Covid-19 continued to have a severe impact on economic performance in both manufacturing and services. After the record slumps of March and April, the European commission business and consumer surveys showed first signs of a recovery in economic sentiments in May, while remaining historically low.

Euro area annual HICP was 0.1 percent in May, down from 0.3 percent in April. Low headline inflation was mainly due to sharply falling energy prices, which decreased by 11.9 percent in May on an annual basis. Measures of underlying inflation remained broadly stable but subdued, with HICP inflation excluding energy and unprocessed food at 1.2 percent (up from 1.1 per cent in April). ECB macroeconomic projections released in June include substantial downward revisions compared with March projections for the whole projection horizon, and foresee annual HICP inflation of 0.3 percent in 2020, 0.8 percent in 2021 and 1.3 percent in 2022. However, if a more adverse scenario of the Covid-19 pandemic materialises, the ECB estimates that HICP inflation could be even lower – namely, 0.2 percent in 2020, 0.4 percent in 2021 and 0.9 percent in 2021.

In June, in response to the pandemic-related downward revision to inflation over the projection horizon, the Governing Council (GC) of the ECB decided to increase the envelope for the pandemic emergency purchase programme (PEPP) by an additional €600 billion, bringing it to a total of €1,350 billion. The horizon for net purchases under the PEPP was extended to at least the end of June 2021, and the maturing principal payments from securities purchased under the PEPP will be reinvested until at least the end of 2022. The GC reiterated its commitment to adjust all of its instruments as appropriate to ensure that inflation moves towards its aim in a sustained manner.

¹³ In the severe scenario, a longer-term strict lockdown period (ending in the course of June 2020) has only limited success in containing the spread of the virus, thus requiring ongoing tough containment measures to remain in place even after some loosening of the very strict lockdowns. This scenario envisages significant and permanent output losses.

Since the outbreak of Covid-19, the US Federal Reserve has intervened to provide monetary accommodation. The target range of the federal funds rate has been reduced by a total of 150 basis points and is now at 0 to 0.25 per cent. To support the smooth functioning of the monetary transmission mechanism, the Fed has moreover steadily increased its holdings of Treasury securities and agency residential and commercial mortgage-backed securities, offering at the same time large-scale overnight and term repurchase agreement operations.

Over the last monetary policy meetings, the Bank of England has also reduced its Bank Rate by 65 basis points to 0.1 per cent. In addition, it has increased its holdings of UK government bonds and sterling non-financial corporate bonds. This takes the total stock of asset purchases to £645 billion, and has introduced a new term funding scheme with additional incentives for small and medium-sized enterprises. This will be financed by the issuance of central bank reserves.

Turning to investment, the components of underlying investment are expected to fall more sharply than GDP in 2020, and are forecast to remain well below pre-crisis levels over the projection horizon. Faced with unprecedented uncertainty and the potential for some tightening in financing conditions, firms are likely to postpone investment decisions. The shape of the downturn is projected to be more severe than other components of demand with a slower recovery expected as uncertainty around COVID-19 persists.

Construction sector activity is expected to decline by approximately 25 per cent in 2020. With almost no activity in March and April, except for a small number of public engineering and MNE-related activity deemed low-risk, most sites re-opened in mid-June. Market intelligence carried out by the Central Bank suggests that physical distancing requirements were impacting on productivity at some sites, with completions dates pushed out by a number of months. This is projected to delay some projects into 2021.

The outturn for building and construction activity could be even worse if the pandemic impacts labour in the sector disproportionately. This would particularly be the case if there was to be reduced inward migration, or if migrants who previously worked in the sector have returned to their home countries since March.

Housing completions are expected to decline to approximately 15,000 units in 2020. Projects already started are expected to continue, albeit at a slower pace owing to public health restrictions. Supply will also be lower than previously expected over the projection horizon since construction

projects are typically planned with a significant lag. As experienced during the global financial crisis, house-building activity responds asymmetrically over the business cycle, declining rapidly in downturns and slowly in upturns¹⁴. The uncertainty around prices, financing and demand increases the likelihood that some projects will be postponed, reducing supply over the projection horizon.

Machinery and equipment expenditure, already displaying weakness in 2019, is forecast to decline by approximately 30 per cent in 2020.

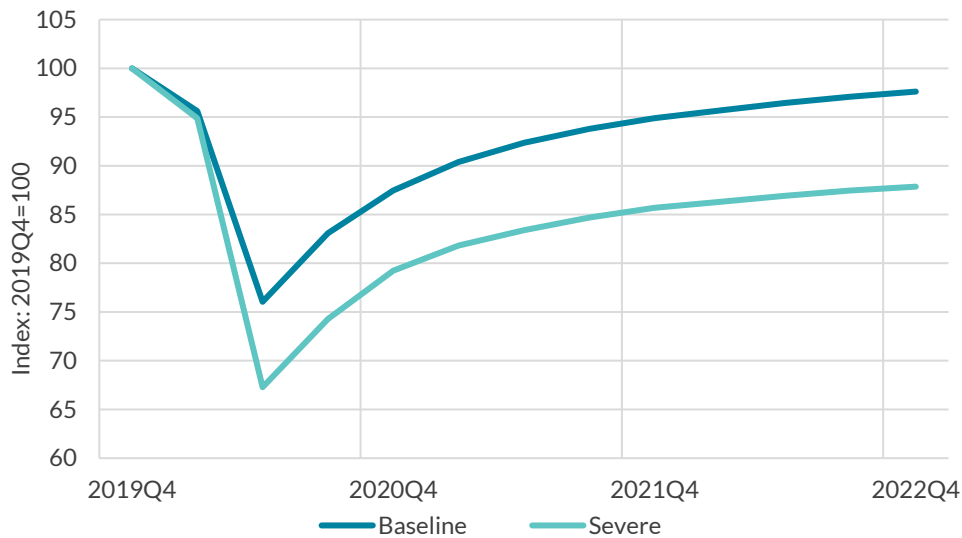
In the severe scenario, housing completions are expected to number approximately 11,000 and 13,000 units in 2020 and 2021, with further containment measures, reduced credit, declining house prices and increased uncertainty all factors which are likely to dampen activity. In this scenario, underlying investment is forecast to decline by almost 30 per cent in 2020, increasing by 6.4 per cent in 2021.

On the external side, world demand for Irish exports will fall sharply this year, leading to a sharp decline in the exports of indigenous firms (Figure 5). Import demand from Ireland's main trading partners is assumed to decline by around 15 per cent this year, before recovering somewhat in 2021 and 2022. Tourism is likely to be the worst affected sector, but other exporting sectors outside of pharmaceuticals, computer processors and computer services will also be affected.

The initial evidence is that the impact on pharmaceutical, computer processors and ICT services exports has been negligible to date. If this continues as expected, this is likely to strongly mitigate the fall in headline exports. In March, merchandise exports grew by 43 per cent year on year driven by a significant increase in the exports of pharmaceutical products. In April, the Irish export basket continues to be highly concentrated, the top ten products by value accounting for approximately half of total exports.

¹⁴ G, Kenny (2003), Asymmetric Adjustments Costs and the Dynamics of Housing Supply, *Economic Modelling*, Vol 20, pp 1097-1111.

Figure 10: Trade weighted demand from Ireland's main trading partners is forecast to decline substantially under both scenarios



Source: ESCB and CBI Calculations

On Brexit, the scenarios outlined above assume that a Free Trade Agreement (FTA) in goods between the EU and the UK takes effect in January 2021. This trade agreement would allow continued tariff and quota free trade in goods to continue. If such an agreement is not reached, then the EU and the UK could move to trading on WTO terms from January 2021 (See Box D). With regard to the latter, two variants of a WTO outcome are considered. These differ in terms of the assumptions made about the impact on uncertainty facing households and firms and the degree of short-run disruption to trade that would arise. Taking account of the interaction with the impact of Covid-19, both WTO variants examined imply that growth in the Irish economy in 2021 and 2022 would be weaker than outlined in the scenarios above.

Box D: Implications of Potential EU-UK Trade Arrangements at the End of the Brexit Transition Period

By Thomas Conefrey and Graeme Walsh

Following the UK's exit from the EU on 31 January 2020, negotiations are ongoing between the two parties with the aim of concluding a Free Trade Agreement (FTA) before the end of 2020. With the UK's decision not to seek an extension to the current transition period, the EU and UK could move to trading on WTO terms from January 2021 if there is no agreement on a new FTA. This Box provides a brief update of the macroeconomic implications of the ongoing Brexit negotiations and the potential outcomes which could result when they conclude. It also considers how the economic challenges of the COVID-19 crisis could interact with the effects of Brexit.

The aim of the ongoing negotiations between the UK and the EU, as envisaged in the agreed Political Declaration, is to conclude a FTA with no tariffs or quotas on goods before the end of the transition period on 31 December 2020. COVID-19 has impeded the negotiations on the new EU-UK economic relationship, with the teams from both sides meeting less frequently. Even prior to the emergence of COVID-19, a question mark existed as to whether it would be possible to conclude talks on the future relationship in time for an agreement to take effect by the end of this year. Drawing on international evidence, analysis published by the Central Bank in January 2020 showed that the average duration of bilateral trade negotiations worldwide took 40 months while multilateral trade negotiations lasted 48 months.¹⁵ From the commencement of the EU-UK negotiations in March 2020, the timeframe to complete a new trade deal is less than 10 months. Although the UK is starting from a position of alignment with the EU, the short time available to negotiate a new EU-UK FTA could result in a bare bones agreement, if one is reached before the end of the year.

Free Trade Agreement

Even if a FTA is successfully concluded before the end of 2020, such an arrangement would imply significantly higher trade costs relative to the status quo. Free trade agreements typically allow for tariff- and quota-free trade in goods and in this regard a FTA is an improvement relative to

¹⁵ See Conefrey, T. and G. Walsh. 2020. "Dealing with Friction: EU-UK Trade and the Irish Economy after Brexit." Available at:

<https://www.centralbank.ie/docs/default-source/publications/quarterly-bulletins/qb-archive/2020/quarterly-bulletin---q1-2020.pdf#page=87>

trading under WTO terms. Nevertheless, firms would still face significantly more frictions in trading with the EU than under current arrangements.

A basic free trade agreement would lead to higher non-tariff barriers (NTBs) to EU-UK trade due to the introduction of customs procedures and other trade costs as EU and UK economic regulations diverged over time. Because the UK would no longer be part of the EU customs union, exporters would need to prove that their products meet the “rules of origin” criteria of the EU-UK FTA. Compliance with such rules comes with complications, paperwork and cost.¹⁶ Businesses trading between the EU and UK will be required to manage new import and export formalities, including customs and security declarations, risk-based inspections and the payment of tariffs (for any goods not covered by the FTA) and other taxes payable on import such as VAT and excise duty. Unless the UK agrees to adhere fully to the EU’s sanitary and phytosanitary regime (for food and plant hygiene), trade in agri-food products will require export health certificates and there will be a need for veterinary border inspections.

In relation to services trade, it is likely that the UK financial services sector would lose its ability to trade freely across EU member states and there would be new regulatory barriers to trade. Some recent FTAs, such as the Canada-EU FTA, go beyond tariff-free goods trade and include some provisions to increase trade in services. Such an arrangement, however, enables significantly less comprehensive trade in services than is possible with Single Market membership. In addition, recent research has demonstrated important interlinkages between goods and services trade whereby large amounts of services trade is generated by the activities of firms in the manufacturing sector who export goods.¹⁷ This bundling of goods and services trade in Global Value Chains (GVCs) could amplify the overall economic impact of any new disruption to goods trade after the end of the transition period.

Trading on WTO Terms

If the UK and EU do not agree a new trade deal, then trade between them would be on WTO terms only. This would introduce additional frictions on top of those that would apply in the case of a FTA. The EU and UK would have to treat each other like any other trading partner with whom they do not have a trade agreement. Imported British goods would be

¹⁶ See Lowe, S. 2019. “What a Boris Johnson EU-UK Free Trade Agreement means for Business.” Centre for European Reform Insight. Available at: https://www.cer.eu/sites/default/files/insight_SL_5.11.19_2.pdf

¹⁷ See <https://blogs.sussex.ac.uk/uktpo/2020/06/11/foreign-investment-as-a-stepping-stone-for-services-trade/>

charged tariffs according to the EU's Most Favoured Nation (MFN) terms and vice versa. In the case of cars, for example, there would be a 10 per cent tariff. The UK set out its proposed tariff schedule to the WTO in 2018. In May 2020, it announced a new "UK global tariff" that eliminates a number of low tariffs, but leaves others in place on goods such as cars and ceramics and on many agricultural goods.¹⁸ The aim of these tariffs is to protect the UK industry in these goods from cheaper imports.

The UK's services trade would also be subject to WTO rules. The EU's regime for the free movement of services is much more extensive than the WTO's. In the EU, there is an extensive programme of mutual recognition of qualifications making it much easier to provide services across borders. Since the WTO has made significantly less progress than the EU in liberalising trade in services, this would mean much reduced access to EU markets for UK service producers.¹⁹

Economic Implications for Ireland

In January 2020, the Central Bank published estimates of the impact of different post-Brexit trade arrangements (Conefrey and Walsh, 2020). That analysis takes into account the effect of Brexit on the UK economy and on Ireland through the following main channels: trade, foreign direct investment, migration and productivity. The evidence from the literature underpinning the assumptions on these key channels refers generally to long-run changes in trade and FDI but there is uncertainty over the short-run adjustment. The analysis suggested that, in the long run, Irish output could be reduced by between 3.5 per cent in the case of an FTA and 5 per cent if trade moves to WTO terms.

There is significant uncertainty around the short-run economic impact of whatever EU-UK trading arrangement will replace the status quo from 1 January 2021. Relative to a baseline where the UK remained an EU member, our estimates indicate that a FTA would knock just under 1 percentage point off the growth rate of the economy in 2021. In comparison to a FTA, a move to WTO terms implies an even larger degree of divergence from the trading arrangements that existed under EU membership and, therefore, a more distant EU-UK economic relationship. This increases the uncertainty regarding the economic impact of a move to WTO terms in six months time.

¹⁸ See <https://www.gov.uk/check-tariffs-1-january-2021>

¹⁹ Dhingra, S., Huang, H., Ottaviano, G., Pessoa, J., Sampson, T. and J. Van Reenen. 2017. "The Costs and Benefits of Leaving the EU: Trade Effects." Centre for Economic Performance, Discussion Paper No. 1478. April 2017. Available at: <http://cep.lse.ac.uk/pubs/download/dp1478.pdf>

The approved Withdrawal Agreement provides detailed provisions that allow for the orderly winding down of ongoing EU-UK processes and arrangements. The Withdrawal Agreement also provides legal certainty in relation to citizens' rights, the financial settlement and the arrangements for Northern Ireland.²⁰ As a result, the first year losses from trading on WTO terms from January 2021 should be less than in the case of a disorderly WTO outcome with no Withdrawal Agreement.²¹

Nevertheless, a move to WTO terms on 1 January 2021 could cause significant economic disruption. The very short transition period may not give firms and authorities sufficient time to adjust to the unprecedented change in trading arrangements. The magnitude of the disruption would depend on factors such as by how much and how quickly trade flows would be affected by the imposition of WTO tariffs, what would be the scale of logistical and supply-chain disruption and possible border delays and how would financial markets and exchange rates react.

Given the significant uncertainty around the impact on the Irish, EU and UK economies of a transition to trading on WTO terms in 2021, we consider two variants of this outcome in order to provide a range for the possible impact of a WTO scenario in the near term. It is important to note that these scenarios are not forecasts. The variants shown make different assumptions about the impact on uncertainty of a WTO outcome in January 2021 and the degree of short-run disruption to trade that would arise. The scenarios illustrate what could happen under these assumptions rather than representing a forecast of what will happen. Since the scenarios being modelled have no historical precedent, there is considerable uncertainty around the estimates presented.

Our modelling approach follows that in the Bank of England's "Transition to WTO" scenarios published in 2018.²² In the disruptive WTO case, the profound change in trading arrangements compared to the position that applied while the UK was an EU member is assumed to result in a

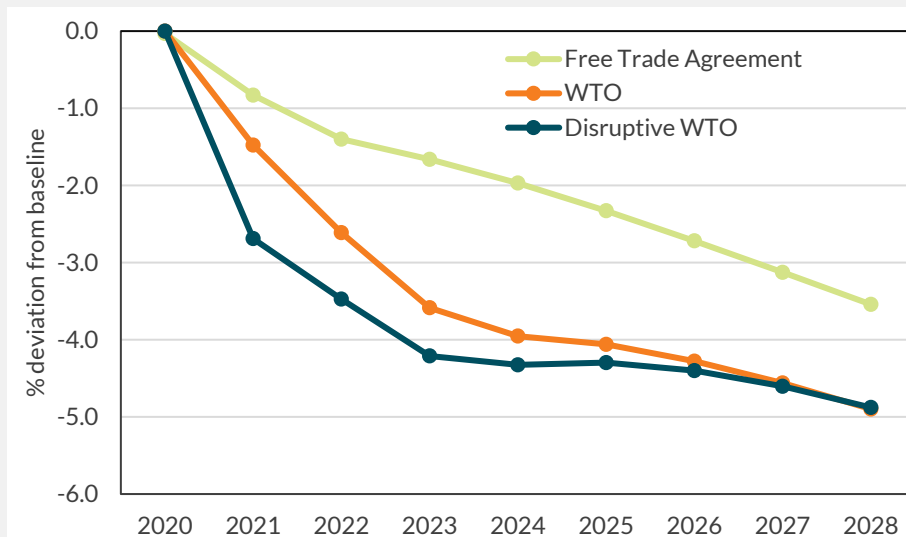
²⁰ See EC (2019). "The revised EU-UK Withdrawal Agreement Explained." Available at: https://ec.europa.eu/commission/sites/beta-political/files/slides_the_wa_explained.pdf

²¹ In addition, regardless of whether a new trade deal is agreed or not, the UK government recently announced that it would implement full border controls on imports coming into Great Britain from the EU on a phased basis until 1 July 2021. This gives UK firms some additional time to prepare for the introduction of border controls. Nevertheless, despite this phased introduction, tariffs would still apply from 1 January 2021 and firms would be required to complete new customs declarations and other formalities.

²² See Bank of England (2018). "EU withdrawal scenarios and monetary and financial stability." Available at: <https://www.bankofengland.co.uk/-/media/boe/files/report/2018/eu-withdrawal-scenarios-and-monetary-and-financial-stability.pdf>

significant increase in uncertainty. The rise in uncertainty reduces consumer spending by households while firms respond by cutting investment. In addition, the disruptive WTO variant assumes that the initial decline in trade in a WTO outcome is sharper than in the alternative more benign WTO scenario. This could arise if the impact of tariffs and non-tariff barriers on trade flows is front-loaded or if trade is disrupted due to border delays or other bottlenecks caused by the introduction of new border infrastructure. The assumptions underpinning the impact of a WTO outcome on trade, FDI, productivity and migration in the long run is the same in both variants and in line with those used in Conefrey and Walsh (2020).

Figure 1: Effect of Brexit Scenarios on Irish Output, % Deviation from the Baseline



Source: Own Calculations based on COSMO

The estimate from our previous analysis of the effect of a disorderly Brexit – i.e. a move to WTO terms with no withdrawal agreement and no transition period – indicated that such a scenario could have reduced growth in the economy by up to 4 percentage points in the first year, relative to a baseline where the UK remained an EU member. In the case of an orderly WTO arrangement – i.e. a move to WTO terms after a transition period – our estimate indicates that the reduction in growth in the first year would be around 1.5 per cent, slightly higher than the losses in the case of a FTA (Figure 1). In the disruptive WTO variant – where trading on WTO terms leads to an increase in uncertainty and additional disruption to trade flows – the short-run economic impact is more severe with output being reduced by around 2.7 per cent in the first year. The additional shocks which give rise to the more severe initial output loss in the disruptive WTO scenario are assumed to fade out over time so that,

in the long-run, the impact on Irish output in both WTO variants is broadly the same.

The Interaction of Brexit and COVID-19

The emergence of the COVID-19 crisis has increased the uncertainty around the short-run effects of Brexit. It is unclear how some of the specific economic effects triggered by a transition to a FTA or WTO arrangement in January 2021 will interact with the global pandemic. For firms, the necessity to deal with the immediate challenges created by the COVID-19 crisis is likely to have disrupted or potentially halted the planning underway for the new EU-UK trading arrangements. This may apply in particular to firms in the SME sector with already limited staffing and other resources available for Brexit contingency planning. The majority of firms will have experienced reductions in revenue in 2020 and some will have accumulated losses, leaving them in a weaker position to withstand further economic disruption from a move to either a FTA or WTO arrangement in 2021. The preparations of governments and public authorities are also likely to have been significantly curtailed by the need to re-direct resources to tackling the COVID emergency.

The global recession currently being experienced and the collapse in world trade could amplify the negative consequences of Brexit in some sectors, although it is unclear whether the economic impact of Brexit in overall terms will be more severe than in the absence of the COVID-19 pandemic. With some vulnerable sectors already facing large demand shortfalls (for example tourism and accommodation and food services), it is possible that losses that would have been triggered by Brexit effects have been brought forward due to the impact of COVID-19. This will not be the case in other areas and, for the UK, recent analysis indicates that the sectors that have suffered least during the COVID-19 lockdown are the ones exposed to larger negative shocks from Brexit.²³

The COVID-19 crisis may hinder the ability of firms attempting to diversify into new markets if it results in higher company debt. Expanding into new export markets is expensive and risky and involves incurring extra costs. As a result, there is evidence that more financially constrained firms may be less likely to break into new markets.²⁴ This could make it difficult for Irish firms wishing to diversify beyond the UK

²³ See De Lyon, J. and S. Dhingra. 2020. "COVID-19 and Brexit – Contrasting Sectoral Impacts on the UK." Available at: <https://voxeu.org/article/covid-19-and-brexit-contrasting-sectoral-impacts-uk>

²⁴ See Winters, Di Ubaldo and Konara (2020). Available at: https://blogs.sussex.ac.uk/uktpo/2020/05/27/covid-19-will-reinforce-the-brexit-shock/#_ftn10

market and UK firms attempting to increase their non-EU exports after Brexit.

For the agri-food sector in Ireland – the part of the economy with the largest reliance on the UK market – the COVID crisis could amplify the impact of Brexit. The sector is likely to experience significant losses this year due to the impact of COVID-19 on demand and the prices of the main commodity outputs of Irish agriculture.²⁵ In the case of a FTA, the new non-tariff barriers that would apply to Ireland-UK goods trade are most onerous for this sector. These NTBs could reduce or eliminate trade in certain goods. In a WTO scenario, tariffs would also apply which would further reduce trade flows. It is important to note that the imposition of tariffs and NTBs would negatively affect both importing and exporting. Over 20 per cent of imports of Irish-owned firms are either completely or very highly reliant on imports from the UK, with the majority of these imports being intermediate inputs used for further production in Ireland.²⁶

While the COVID-19 crisis may pre-empt the short-run losses that Brexit would have caused in some sectors, the longer-term consequences of the UK's exit will impair economic growth. These include a permanent reduction in EU-UK trade and lower productivity. Both of these effects are likely to reduce output in the Irish economy in the long run separate to the impact of the COVID crisis. These long-run losses could be mitigated by Irish exporters finding new markets or by an increase in foreign investment and inward migration.

In relation to the short-run outlook, the scenarios for the economy presented in the Quarterly Bulletin (QB3 2020) assume that a FTA is concluded between the EU and UK in time to take effect in 2021. If an agreement is not reached, both WTO variants examined in this analysis imply that growth in the Irish economy in 2021 and 2022 would be weaker than outlined in the Quarterly Bulletin scenarios.

The Labour Market

Following the sharp increase in job losses across all sectors since the onset of the COVID-19 outbreak, the labour market situation is expected

²⁵ See Donnellan, T., Hanrahan, K. and Fiona Thorne. 2020. Available at: <https://www.teagasc.ie/media/website/publications/2020/Covid19TeagascfinalMay1.pdf>

²⁶ See Lawless, M. 2018. "Intermediate Goods Inputs and the UK Content of Irish Goods Exports." Available at: <https://www.esri.ie/system/files/media/file-uploads/2018-06/BKMNEXT362.pdf>

to begin to recover gradually in line with the phased reopening of the economy. Unemployment will remain elevated over the forecast horizon with slower employment growth expected in labour-intensive and consumer-facing businesses such as restaurants, pubs and hotels where social distancing guidelines may restrict operating capacities.

Employment is projected to decline by 11.9 per cent in 2020 before rebounding by 7.6 per cent (156,000 jobs) in 2021. The timing of the COVID-19 containment measures has meant that the Labour Force Survey (LFS) has not fully reflected the impact of the pandemic in the first quarter. As a result, the CSO has produced a supplementary measure of monthly unemployment, which incorporates those in receipt of the Pandemic Unemployment Payment (PUP) along with the traditional measure of unemployment to produce a COVID-adjusted unemployment rate.²⁷ On this basis, the unemployment rate reached 28.2 per cent in April before falling slightly to 26.1 per cent in May. The traditional measure of unemployment, which was 5.4 per cent in April, rose to 5.8 per cent in May.²⁸ The recovery in employment in the third quarter is expected to be relatively large as businesses reopen. As a result, the unemployment rate is projected to fall to around 15 per cent in Q3 and 12.5 per cent in the fourth quarter. After the initial recovery in employment following the re-opening of the economy, it is assumed that employment grows at a similar level to that observed in the early years of the last labour market recovery, between the trough in the second quarter of 2012 and the end of 2015.

Employment losses have been evident across all sectors. Recent analysis examined PUP statistics to identify that job losses have been greater for younger, non-Irish, and part-time workers as well as those in their role less than 12 months than the population average.²⁹ The number in receipt of the PUP peaked in early-May at 618,600, and has declined somewhat in recent weeks, driven by those sectors which have reopened in the first phase. The biggest decline was evident in the construction sector (27,900). As of 22nd of June, Accommodation and food services remains the largest cohort availing of the scheme with 119,800 recipients or 70 per cent of those employed in the sector during Q1 2020.

²⁷ For further information on the differences between the standardised ILO unemployment definition and the COVID-adjusted measure see the [CSO Technical Note](#) and [Byrne and Keenan \(2020\)](#) "Statistical Classification of Job Losses During COVID-19" Box A, Central Bank of Ireland Quarterly Bulletin Q2 2020.

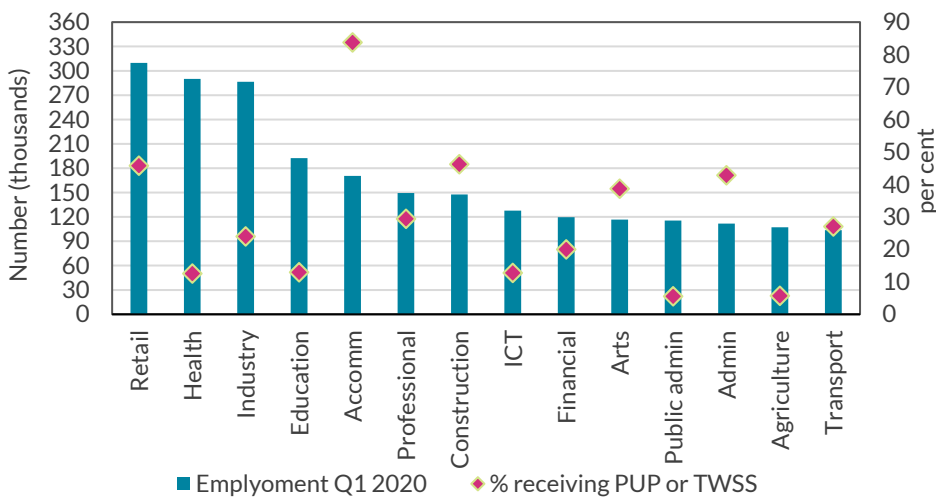
²⁸ Treatment of unemployed persons under strict ILO conditions or the inclusion recipients of various income support schemes is likely to affect labour force figures, which can have subsequent upward or downward effects on the unemployment rate depending on the methodology applied.

²⁹ [Byrne et al \(2020\)](#)

The labour force is expected to be smaller as the impact of the crisis adversely affects both the labour force participation rate and net migration levels. A number of factors are expected to reduce the participation rate in the coming quarters. First, many of those who are currently counted as unemployed in under the pandemic unemployment payment would not ordinarily be counted as unemployed if they were to have lost their jobs, in the same way that the Live Register would not typically be used to measure the unemployment rate. Secondly, analysis has shown that the participation rate in Ireland exhibits a strong response to the business cycle. Third, the participation rate was boosted by the higher than average participation rate of migrants prior to the pandemic, a proportion of whom have likely returned to their home countries. Looking ahead, the labour force is projected to decline by 2 per cent in 2020 followed by an increase of 1.3 per cent in 2021.

The COVID-adjusted unemployment rate is forecast to average 14.5 per cent for 2020. This is due to the sharp increase in the second quarter before easing containment measures and resumption of economic activity contribute to an increase in labour demand in the latter half of the year. The unemployment rate is anticipated to decline slowly to 9.2 per cent and 7.3 per cent in 2021 and 2022, respectively, as unemployment effects are likely to impact younger workers for longer in a similar manner to the financial crisis.

Figure 11: Face-to-face industries more adversely affected by job losses during the pandemic



In the severe scenario, employment is projected to decline by 14.4 per cent before recovering by 5.9 per cent in 2021, as the impact of a second wave of the virus would mean a stronger adverse effect on labour-intensive and consumer-facing sectors due to stricter physical distancing guidelines

and lower consumer sentiment. The unemployment rate for 2020 is expected to average 16.6 per cent, declining to 12.4 per cent in 2021.

The impact of the crisis on incomes is expected to be cushioned by Government supports. The establishment of the Temporary Wage Subsidy Scheme (TWSS) has enabled employees to maintain a proportion of their incomes as over 514,700 employees have received at least one payment since March. Employees receive a subsidy of up to €410 per week dependent on previous earnings, with 85 per cent of employees receiving an additional top-up from their employer in the most recent pay period.³⁰ Overall, 52 per cent of workers are receiving a top-up of less than €100 and 27 per cent are receiving between €101 and €200.

Along with the level of employment losses, job vacancies have declined sharply particularly in sectors directly affected by social distancing measures. Research by Adrjan and Lydon (2020) on job postings has identified that labour demand has declined. Unsurprisingly, occupations where it is more difficult to work from home have seen larger declines.

Table 2: Baseline Scenario Forecast

	2019	2020 ^f	2021 ^f	2022 ^f
Employment	2323	2047	2203	2263
% change	2.9	-11.9	7.6	2.7
Labour Force	2443	2394	2425	2440
% change	2	-2	1.3	0.6
Unemployment	121	347	222	177
Unemployment Rate (%)	5	14.5	9.2	7.3

³⁰ See Revenue [releases](#) for further information on Temporary Wage Subsidy Scheme.

Table 3: Severe Scenario Forecast

	2019	2020f	2021f	2022f
Employment	2323	1989	2107	2193
% change	2.9	-14.4	5.9	4.1
Labour Force	2443	2384	2406	2421
% change	2	-2.4	0.9	0.6
Unemployment	121	396	299	228
Unemployment Rate (%)	5	16.6	12.4	9.4

Box E: Regional Labour Market Impact of Covid-19*By Reamonn Lydon*

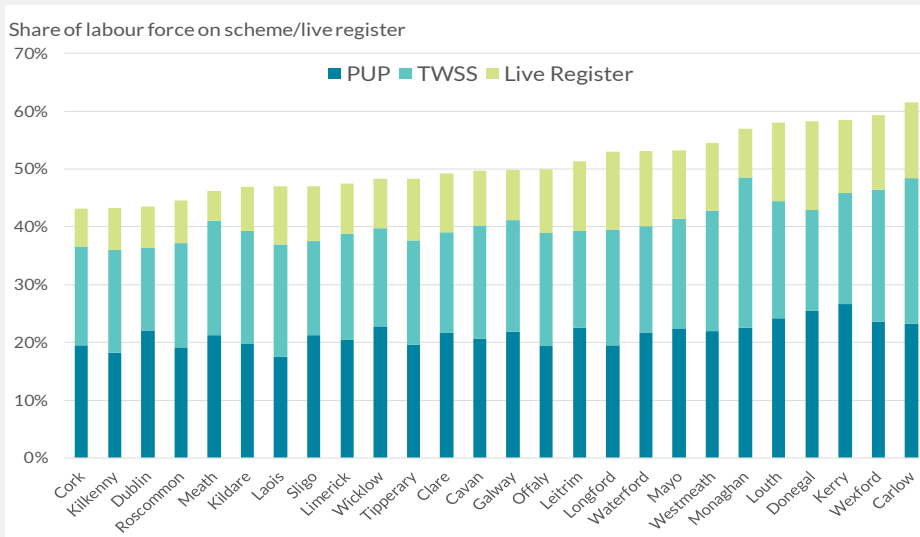
By mid-June, almost half of the labour force were receiving income support from the State. Areas more directly exposed to Covid-19 containment measures see a bigger take-up of supports. This includes counties with more workers in sectors such as retail, accommodation and food, construction and services. Counties with a greater share of jobs that require close physical interaction with customers or co-workers are also see greater take-up of supports. Looking ahead, the fall in job postings bottomed-out towards end-June, with tentative signs of a small uptick since.

By mid-June 2020, over 1.1 million people, or almost half the labour force, were receiving income support from the State. The Pandemic Unemployment Payment (PUP) accounts for 44 per cent, followed by the Temporary Wage Subsidy Scheme (TWSS, 36 per cent) and the Live Register (LR, 20 per cent).³¹ Some counties have a greater share of their

³¹ The PUP and Live Register figures are from the [CSO 26 June 2020 release](#) for the week ending 14 June. The total TWSS figure is based on "410,000 employees ... currently being supported by the Scheme having received a subsidy in their most recent pay period" as reported by [The Revenue Commissioners \(18 June\)](#). In this Box, the geographic information for all three schemes is drawn from the weekly data in the [CSO 26 June 2020 release](#) for the week ending 14 June. TWSS recipients are reported weekly only if the individual is paid that week. We scale up the county numbers by the ratio of the sum in week ending 14 June (242k) to the numbers reported by Revenue currently on the scheme (410k). This amounts to assuming broadly similar payment frequencies across counties for those on the scheme. There is a small degree of overlap between the schemes, which the CSO attributes to differences in frequency of payments. The series in this box do not remove this

labour force availing of these supports. Kilkenny, Dublin and Cork are all at the low end of the range (44 per cent of the labour force); Donegal, Kerry, Louth and Carlow are at the top-end (60 per cent, see Figure 1).

Figure 1: Share of labour force in each county on PUP or TWSS, or on the Live Register

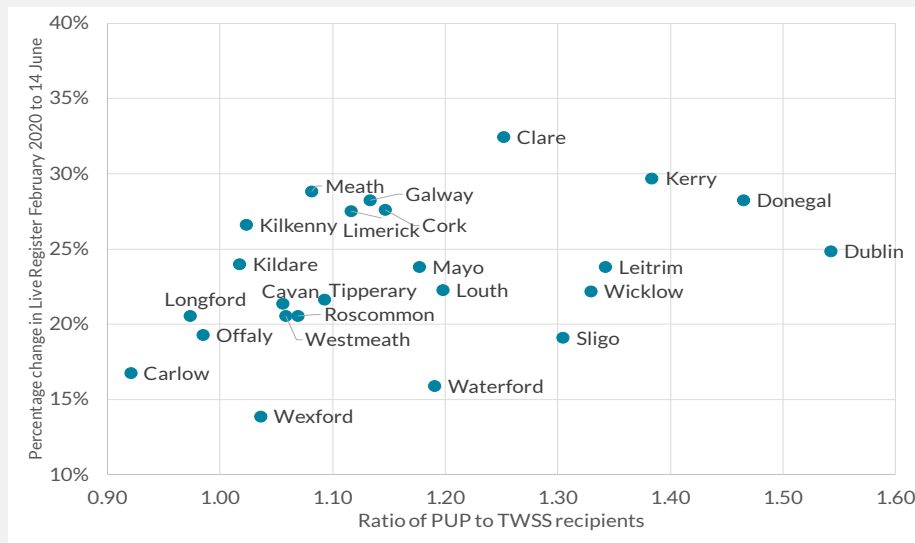


Source: Own calculations using CSO and Revenue Commissioner data. See also footnote 1.

PUP numbers generally exceed TWSS numbers, initially reflecting slow TWSS take-up by firms. In some counties, such as Kerry, Donegal and Dublin, the ratio of PUP to TWSS recipients is more than 1.4 to 1. These counties have also had larger increases in the Live Register since February (Figure 2) – with increases in the region of 25 to 30 per cent. This suggests that higher PUP numbers could indicate higher future unemployment. Although, it should be emphasised that this could change as different sectors reopen and we see workers flowing between the various schemes.

overlap as there is no non-overlap figure for people ‘currently being supported’ by TWSS. Using the weekly data, CSO estimates the overlap at around 1 per cent of recipients. The county-level labour force figures are all from Census 2016.

Figure 2: Ratio of PUP to TWSS recipients and change in live register (to 7 June)



Source: Own calculations using CSO data.

Labour force composition at county level influences impact of Covid-19 shock

The type of work workers do – by either sector of work or occupation – has a bearing on the labour market impact of the containment measures.³² Counties with a greater share of their labour force in more *directly* impacted sectors have a greater take-up of the income supports (top panel, Figure 3). The county-level sector impact is estimated by weighting the county-sector labour force by the sector output declines in [Conefrey \(April, 2020\)](#). Using these weights, the national share of the labour force impacted by the measures is 45 per cent. The x-axis in the chart shows the county estimate relative to the national average.

Similarly, counties with a greater share of the labour force in more directly affected *occupations* also see greater take-up (bottom panel, Figure 3). This chart uses the CSO *Proximity Index* for almost 300 four-digit occupations to estimate a median proximity score for each county.³³ Proximity scores measure the degree of physical interaction in a job, and could also proxy the work-from-home potential of an occupation. The x-axis shows the metric relative to the national level. The national median score for the proximity index is 57.6 ([see Lydon, June 2020](#)). Counties

³² [Adrjan and Lydon \(April, 2020\)](#) also find that the composition of occupations in terms of work-from-home potential can explain *cross-country* differences in the labour market impact of Covid-19 containment measures

³³ Further details on the *Proximity Index* are in the CSO release “*Occupations with Potential Exposure to COVID-19*” ([CSO, June 2020](#)). As noted in the background notes to the release, a small number of occupations are missing a proximity index and a smaller number again are grouped.

with fewer workers in higher-proximity jobs see less take-up of the income support schemes.

Figure 3: Composition of the labour force and take up of income-supports

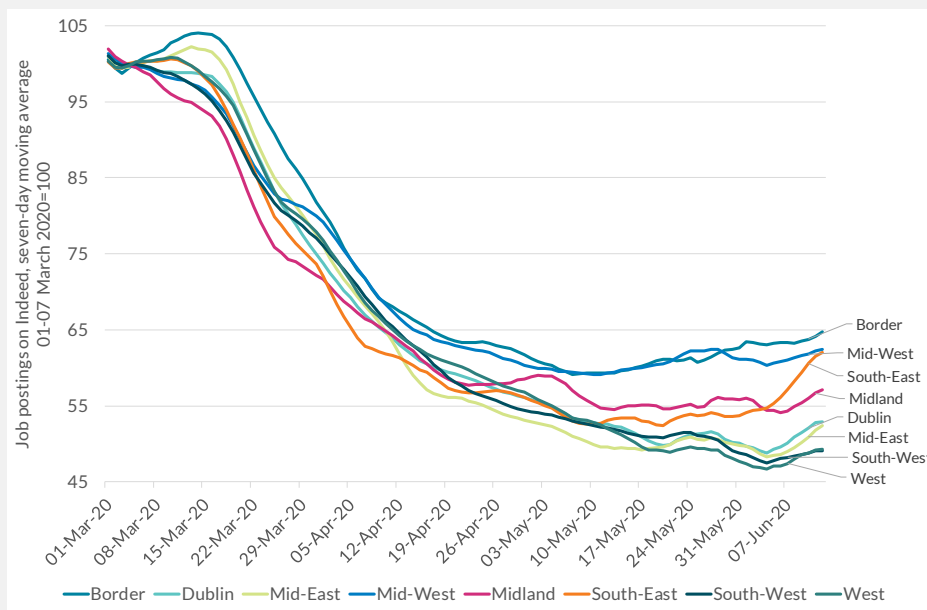


Source: CSO. Sector and occupation impact based on [Conefrey \(April, 2020\)](#) and [CSO \(June 2020\)](#).

Looking ahead: job postings decline bottoms-out by end-June

Indeed job postings data points to a bottoming out in the decline around end-June ([Kennedy, June 2020](#)). There has also been a small uptick in job postings in the first two weeks of June, although the level remains over 50 per cent below last year's trend. Figure 4 shows these recent trends for the eight regional authorities.³⁴ The peak-to-trough changes are in the range of -42 (Mid-West) to -54 (West and South-West) per cent. For comparison, the peak-to-trough fall in CSO vacancies during the financial crisis was *minus* 70 per cent.

Figure 4: Job posting trends on Indeed



Source: *Indeed*. See [Kennedy, June 2020](#) for further details. Job postings are indexed to average of the first week of March 2020=100.

The number of unemployed people per job posting is a key metric for assessing the state of the labour market. It influences both the likelihood of moving from out-of-work to in-work, and the wages workers can bargain for.³⁵ Figure 5 shows this pre-Covid 19 (first week in March) and as of 5th-7th June, excluding and including PUP recipients. Nationally, in February 2020, there were *three* unemployed people per job posting. By June, this had *at least* doubled to between 7 and 33 unemployed per job posting. The top-end of the range results from including *all* PUP

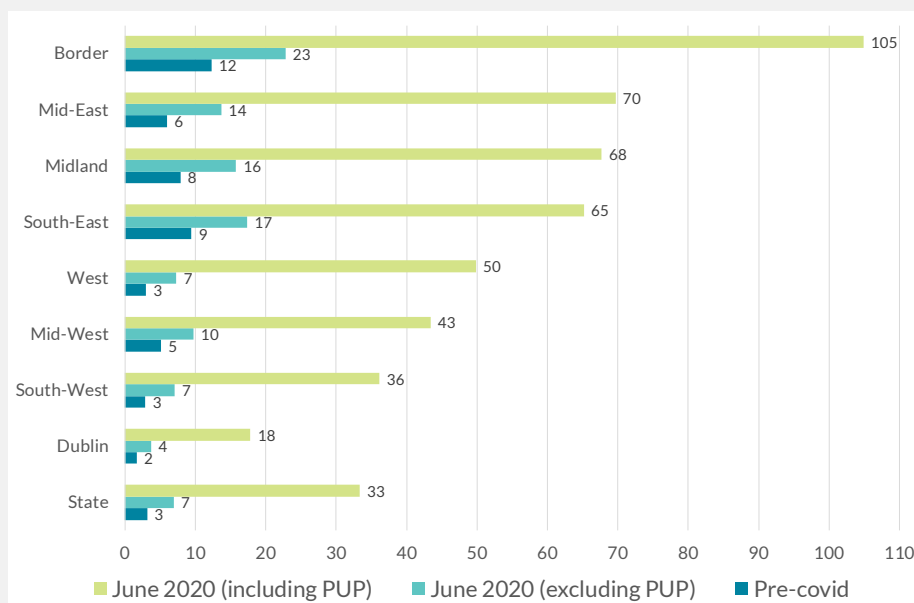
³⁴ The regions are: **Border** – Cavan, Donegal, Leitrim, Monaghan and Sligo; **Midland** – Laois, Longford, Offaly and Westmeath; **West** – Galway, Mayo and Roscommon; **Dublin** – Dublin City, Dún Laoghaire-Rathdown, Fingal and South Dublin; **Mid-East** – Kildare, Louth, Meath and Wicklow; **Mid-West** – Clare, Limerick and Tipperary; **South-East** – Carlow, Kilkenny, Waterford and Wexford; **South-West** – Cork and Kerry.

³⁵ See Chapter 9 in "Labor economics", by Cahuc, Pierre, Stéphane Carcillo, and André Zylberberg (MIT press, 2014) for a derivation of a wage curve linking wages and labour market tightness through the wage bargaining process. Applications for the Irish labour market include [Lydon & Lozej \(2018\)](#), for new hires, [Stauton & Lydon \(2018\)](#), for job switchers, and [Adrian & Lydon \(2019\)](#) for wages in job postings.

recipients as ‘unemployed’. This could significantly overstate things: according to CSO survey data ([May, 2020](#)), more than nine of ten of those whose employment situation was affected by Covid-19 expect to return to the same job.

The overall picture will become clearer over time, but is likely somewhere in this range. Notably, the top-end of the range (33) is still below the trough reached during the financial crisis, which was 38 unemployed persons per job posting. This largely reflects the fact that postings/vacancies have declined by less as of June. The regional variation in the green bars (unemployed per job posting *including* PUP) is driven in the main by differences in the number on PUP by region/county.

Figure 5: Unemployed persons per job posting



Source: Analysis of *Indeed* in March 2020 and June 2020. Unemployed by region pre-covid is taken from the Q1 2020 LFS. For the June data we adjust the Q1 LFS unemployed numbers by region in line with Live Register changes by region, calibrating it to the overall monthly unemployment rate published by the CSO.

The sector and occupation make-up of the labour force can explain some of the regional differences observed in the take-up of the Covid-19 support schemes. That said, even the ‘least’ impacted counties experience a very negative shock.

The medium term prospects for the labour market will only become clear some weeks after the easing of containment measures. Crucially, this will also depend on health developments, including a potential ‘second wave’ of the virus. The current easing of containment measures and gradual re-opening of the economy has coincided with a bottoming-out of the decline in job postings. Whilst recent data points to a small uptick in

postings in early June across all regions, the degree of slack – measured as the number of unemployed people per job postings – is *at least* double that seen in February 2020.

Prices

The impact of COVID-19 is expected, on balance, to reduce inflation, with downward pressures from weak demand likely to outweigh cost pressures from supply-side disruptions. Headline HICP inflation is projected to decline from 0.9 per cent in 2019 to just 0.1 per cent in 2020. Core inflation, excluding food and energy prices, is expected to turn negative both this year and next, at -0.2 and -0.5 per cent. Most of the impact will be on services prices, as these sectors are hit hardest by declines in demand and increase in costs.

The sharp decline in GDP and rise in economic slack related to the COVID-19 outbreak will put downward pressures on prices. Lower aggregate demand will decrease price pressures as higher unemployment, lower consumption, lower disposable income, higher savings and lower world demand decrease the demand for goods and services. This is likely to be the dominant downward factor over the projection horizon.

Supply chain disruptions are likely to put upward pressures on prices as firms face delays in seeking alternatives. Disruptions and shortages, arising from hampered global value chains and implemented social distancing measures will increase costs and prices for some producers and consumers.

Energy price declines in the opening months of 2020, driven by declines in oil prices, are forecast to reverse later in the year and in 2021, boosting the headline inflation figures. Energy inflation is expected to turn positive in the course of 2020 and increase further in 2021, as the downward base effects from the steep fall in oil prices fade and oil prices are assumed to rise in line with the oil price futures curve. Carbon tax increases are also likely to be a feature of the Irish energy price environment in the years ahead.

With regard to other factors. Increased slack in the labour market is projected to lower wage demands with reduced demand-led pressure on prices. On the other hand, **reduced competition**, as firms exit the market, may result in increased pricing power for remaining firms. **In addition**, reduced productivity could result in lower capacity and greater price pressures.

Supportive monetary and fiscal policies are likely to sustain demand and, in turn, prices. Fiscal policy should be supportive of prices as, in addition to

automatic stabilisers, the substantial income supporting policies will limit the fall in domestic demand and prices.

Table 4: The effects of Covid-19 on consumer price inflation

Transmission Mechanism	Impact on prices
Lower aggregate demand	↓
Supply chain disruption	↑
Social distancing constraints	↑
Energy prices	↑
Wages	↓
Competitive Effects	↑
Lost Potential Output	↑
Fiscal and Monetary Policy	↑

Ample economic slack is expected to continue to weigh on HICP inflation excluding energy and food in 2021 and to a lesser extent in 2022. As the economic recovery progresses, HICP inflation excluding energy and food is expected to be pushed up as some upward price pressures from rising demand increase.

In the severe scenario, a sharper decline in prices is expected. Headline HICP inflation in Ireland is projected to decline by -0.1 and -0.5 per cent in 2020 and 2021 before recovering by 1.2 per cent in 2022. Core inflation (excluding food and energy prices) is forecast to decline by -0.5 and -1 per cent in 2020 and 2021, respectively, before recovering by 1 per cent in 2022.

Fiscal Outlook

Overview

Ireland's fiscal position is set to deteriorate sharply this year, reflecting both a contraction in economic activity and the significant support measures introduced by Government. The negative impact of these channels is already evident from Exchequer returns data for May, which showed declining indirect tax receipts and a rapid acceleration in social transfers in the first five months of the year. Incorporating the macroeconomic scenarios outlined earlier in the Chapter, the general government balance is projected to decline from a surplus of 0.6 per cent of GNI* in 2019 to a deficit of between 12.8 and 17.6 per cent of GNI* this year (or between 7.6 and 10.4 per cent of GDP). As a result, the gross government debt ratio would increase from just under 100 per cent of GNI* last year to between 120 and 130 per cent (or between 71 and 77 per cent

of GDP). Under the assumption that the fiscal measures that have been introduced by Government are temporary in nature, and supported by a recovery in economic activity, both indicators are expected to improve over the projection horizon, but to remain at elevated levels.

In terms of financing this year's expected large deficit, the Government has significant resources to hand, most notably large cash balances held by the National Treasury Management Agency (NTMA). Despite the sharp economic downturn, Irish sovereign borrowing rates remain at very low levels - supported by the ECB's pandemic emergency purchase programme - while the medium term maturity profile is relatively favourable, with no bonds maturing in 2021.

There is a much higher level of uncertainty surrounding the fiscal outlook than would normally be the case. This not only reflects broader uncertainty about the impact of the pandemic on the macro economy as sectors begin to open up once again, but also over the final cost and duration of the support measures introduced by Government. Brexit and potential changes to international tax systems could also affect the public finances over the medium term. Accordingly, the risks to the projections presented here are high.

Exchequer Returns

The Exchequer ran a deficit of €6.1bn in the first five months of the year, more than double that recorded in the same period of 2019. The position would have been worse but for factors that have no impact on the general government balance - most notably the benefit of a portion of the Central bank surplus income payment. Excluding those factors the Exchequer deficit was just over €8.3 billion (see Table 5)³⁶.

³⁶ It is more appropriate to focus on the Exchequer balance excluding transactions with no general government impact. This provides a better proxy for the main international budgetary measure and the one that is relevant for both domestic and European fiscal rules.

Table 5: Analytical Exchequer Statement, 2019 (€ millions)

	2020 Jan to May €m	2019 Jan to May €m	Annual Change (%)
Revenue	28,146	27,899	0.9
Tax Revenue	21,703	21,710	0
Appropriations-in-Aid	5,443	5,175	5.2
Other Revenue	1,001	1,014	-1.3
Expenditure	36,494	30,863	18.2
Current Primary Expenditure	30,977	25,744	20.3
Capital Expenditure	2,132	1,883	13.2
Interest on National Debt	3,385	3,236	4.6
Balance	-8,347	-2964	-181.6

Source: Department of Finance

Note: The figures in the Table exclude transactions with no general government impact, to try give a closer approximation to the general government balance.

Total revenue was marginally higher from a year earlier (+0.9 per cent) in the period January to May as developments in the four major tax heads diverged significantly. Indirect taxes showed the most immediate impact of the pandemic, with VAT and excise receipts both declining by close to 22 per cent (see Table 6). This reflected a fall in consumption and a deferment of some payments. Income tax receipts recorded annual cumulative growth over the period but this was the result of developments prior to the crisis, with revenue declines in the months of April and May revealing a clear negative trend emerging. Corporation tax receipts, by comparison, continued their trend of recent years by surprising strongly on the upside – they were almost €1bn higher than the Government’s revised revenue targets³⁷ – and were primarily responsible for total revenue not recording an annual decline. May is a particularly important month for corporation tax receipts, however, and it appears unlikely that it will be able to compensate for declines in other revenue components as the year progresses.

³⁷ Given the significant deterioration in the economic outlook since October’s Budget, the Government revised its revenue profiles for the year in April to be consistent with the projections in the Stability Programme Update.

Table 6: Developments in tax heads, End May 2020

	Year on Year - Cumulative			Year on Year - Monthly		
	End May 2020 (€m)	End May 2019 (€m)	% Change	End May 2020 (€m)	End May 2019 (€m)	% Change
Income Tax	9,143	8,725	4.8	1,623	1,760	-7.8
VAT	5,720	7,308	-21.7	1,496	2,316	-35.4
Excise	1,898	2,448	-22.5	306	480	-36.2
Corporation Tax	3466	1,807	91.8	2,563	1,339	91.4
Other	1,476	1,422	3.8	230	245	-6.1
Total	21,703	21,710	0	6,218	6,140	1.3

Source: Department of Finance

Total gross expenditure was significantly higher than a year earlier (+18.2 per cent), reflecting increased Departmental drawdown in response to the pandemic. The Department of Employment and Social Protection saw its spending increase by 40 per cent compared to the first five months of 2019 on the back of a very sharp increase in unemployment. Reflecting both jobless payments and the pandemic unemployment payments, more than 750,000 people were receiving unemployment assistance at the end of May, compared to just under 176,000 in February. Expenditure in the Department of Health, meanwhile, increased by 17 per cent, almost double the pace of a year earlier.

Fiscal Outlook, 2020 to 2022

The Exchequer data highlight the trends that are expected to lead to a sharp deterioration in the general government balance this year; with falling revenue, led by strong declines in tax receipts, and significantly higher expenditure - in particular large increases in health spending and social transfers. Under the baseline scenario, total revenue is projected to decline by €12.5bn or 14 per cent this year (compared to 6.2 per cent growth in 2019). Despite the above profile performance of corporation tax receipts in May, direct taxes for the year as a whole are expected to be negatively affected by declines in employment and compensation per employee. These developments are also likely to have an impact on social contributions, while the significant effect of lower private consumption on indirect tax receipts is already evident. Other revenues - primarily sales and investment income - are also expected to decline against the backdrop of the weaker economic outlook. Expenditure is projected to increase by €12bn or 14 per cent (compared to 5.1 per cent in 2019) reflecting both the support measures introduced by Government and increased social transfers (although the latter are significantly lower than would be the case

in the absence of the pandemic unemployment payment). The direct cost of measures introduced by Government are currently estimated at approximately €9bn, with around 70 per cent of this due to income support schemes. There is a considerable degree of uncertainty around their final cost, however, which depends on factors such as how quickly sectors open up. A further €7bn of measures have been introduced - guarantees, loans and deferments - that do not currently affect the budget balance, but which could do so in the future if, for example, guarantees were called or deferments were not paid.

Overall these developments result in a baseline deficit of 12.8 per cent of GNI* (7.6 per cent of GDP) this year (see Table 7). With economic activity set to return to growth next year the deficit position is projected to improve over the remainder of the projection horizon, falling to 6.5 and 5.7 per cent of GNI* in 2021 and 2022 respectively (3.9 and 3.4 per cent of GDP). It will remain at a very elevated position, however, particularly relative to the pre-pandemic outlook. This outlook assumes that the fiscal support measures that have been introduced are temporary in nature and fall out of the expenditure base next year.

Table 7: Fiscal outlook under a baseline scenario (per cent of GNI* unless otherwise stated)

	2019	2020	2021	2022
GG Balance (€bn)	1.3	-23.3	-12.7	-11.8
GG Balance	0.6	-12.8	-6.5	-5.7
GG Debt (€bn)	204.1	217.5	228.5	239.1
GG Debt	98.9	119.3	116.8	115.6

Source: Central Bank of Ireland Projections

In terms of general government debt, the baseline scenario would see a sharp increase from 99 per cent to around 120 per cent of GNI* this year (or from 59 to 71 per cent of GDP). The nominal increase in debt - €14bn - is not as significant as the €25bn deterioration expected in the budget balance as the Government plans to use sizeable existing resources to fund a large part of the deficit. This includes cash reserves held by the NTMA, National Asset Management Agency surplus payments and resources in the Rainy Day Fund. Debt dynamics should be favourable in subsequent years, with strong growth, low interest rates and a positive deficit-debt adjustment offsetting the negative impact of primary deficits³⁸. As a result,

³⁸ This is in sharp contrast to the financial crisis years, when the deficit-debt adjustment contributed to the deterioration in the debt ratio.

the debt ratio is expected to moderate, albeit at a slower pace than has been seen in recent years, falling to around 115 per cent by 2022.

Under the severe scenario, the stronger economic downturn leads to a bigger contraction in revenue, which declines by 19.6 per cent this year. The scenario also assumes that additional support measures are required by the Government, increasing their cost from approximately €9bn to €12bn – with some of this occurring in 2021. With higher social transfers required due to higher unemployment, total expenditure growth increases by 16.7 per cent. These developments result in a significantly higher deficit of 17.6 per cent of GNI* (10.4 per cent of GDP) this year. As in the baseline scenario, the deficit improves in subsequent years, falling to 11.5 and 9.0 per cent of GNI* (6.8 and 5.3 per cent of GDP respectively) in 2021 and 2022 respectively.

Table 8: Fiscal outlook under a severe scenario (per cent of GNI* unless otherwise stated)

	2019	2020	2021	2022
GG Balance (€bn)	1.3	-30.3	-21.2	-17.8
GG Balance	0.6	-17.6	-11.5	-9
GG Debt (€bn)	204.1	224.3	243.8	260.3
GG Debt	98.9	130.4	132.6	131.6

Source: Central Bank of Ireland Projections

Given that it results in higher primary deficits, the severe scenario also leads to higher public debt. Under the assumption that similar existing resources as those in the baseline scenario are used to finance part of the deficit, the gross government debt ratio increases to 130 per cent of GNI* (77.5 per cent of GDP). Unfavourable debt dynamics result in a further small increase in the ratio in 2021, before it moves to a downward trend. Even so, at 132 per cent of GNI* in 2022, debt in the severe scenario is 16 percentage points higher than in the baseline at the end of the projection period.

Debt sustainability depends on a number of factors, including the growth rate of the economy, funding costs, debt structure and contingent liabilities. As discussed in more detail in Box F, negative shocks to growth, interest rates or the primary balance could result in the debt-GNI* ratio remaining elevated for a prolonged period. More generally the high level of debt at the end of the projection horizon would leave the economy more vulnerable to additional shocks such as those caused by Brexit or a decline in corporation tax revenue linked to changes in international tax policies.

Funding and Other Developments

The NTMA entered June with significant cash balances of just under €27bn and raised an additional €6bn at the beginning of the month. As a result of the latter, total issuance in the first half of the year was €18.5bn. This means 80 per cent of the Agency's total borrowing target for the year has already been raised, and this should increase their flexibility if additional issuance is considered necessary in the second half of 2020. The cost of Irish sovereign borrowing remains very low, supported by the ECB's pandemic emergency purchase programme. The latest issuance, for example, saw the €6bn raised over 10 years at a yield of just below 0.3 per cent. In September 2010, by comparison, the cost of borrowing €1bn over 8 years was an average yield of around 6 per cent. The NTMA have also taken advantage of favourable market conditions in recent years to improve Ireland's maturity profile by extending out borrowing and replacing expensive loans with cheaper ones. While maturing bonds were relatively elevated this year at around €17bn, redemptions are much lower in the coming years. In fact, total bond redemptions for the period 2021 to 2023 as a whole - €19bn - are only marginally higher than those that occurred this year, with none set to mature in 2021. This should further increase their flexibility in the coming years.

Box F: Irish Debt Dynamics over the Medium Term

By Rónán Hickey and David Horan

The Covid-19 pandemic will have a significant and lasting impact on the public finances. In light of the unavoidable deterioration in many of the key fiscal aggregates, the general government balance is expected to be somewhere in the region of -13 to -18 per cent of GNI* in 2020. With deficits likely to persist into the medium term, debt financing will therefore be necessary to bridge the gap between revenue and expenditure. Debt sustainability depends on a number of factors – including the growth rate of the economy, funding costs, debt structure and contingent liabilities. In this Box, debt projections are extended out to 2025 and a number of shocks are applied to key economic variables. This analysis highlights the risks associated with the high debt level in the severe scenario.

Debt Developments in Ireland over the Medium Term

Understanding the sustainability of government debt is vital for policy makers, as governments around the world are increasing borrowings in response to the rising costs of the pandemic. While debt financing in the short term is both warranted and necessary to support the economy, it is

equally important that government debt is sustainable over the medium term. In this Box, we extend the debt projections presented earlier in the Chapter out to 2025 by incorporating a number of macroeconomic and fiscal assumptions. This enables us to undertake a longer, medium term assessment of Irish debt dynamics³⁹ which, alongside factors such as debt structure, funding costs and contingent liabilities, are an important consideration in assessing sustainability.

Under the baseline scenario, we expect general government debt (GGD) to rise from 99 per cent of GNI* in 2019 to 120 per cent in 2020⁴⁰. This would still be lower than the peak of 166 per cent reached following the financial crisis. Beyond the initial spike this year, and under the assumption that the fiscal supports introduced are temporary in nature, the debt ratio is expected to decline in 2021 and continue on this path as the macroeconomic environment recovers and the fiscal position improves. Under the severe scenario, additional debt financing will be required, pushing the debt ratio above 130 per cent of GNI* in 2020. Moreover, as additional spending on health and social transfers would be required in the event of second wave taking hold, the debt ratio is projected to rise to 132 per cent next year, before resuming its downward trajectory thereafter. As Figure 1 illustrates, the estimates imply that in both scenarios, the debt to-GNI* ratio would eventually begin to decline after an initial sharp increase in 2020 and 2021. The decline in the debt ratio in the medium-term is driven by a resumption of economic growth, low interest rates and favourable deficit-debt adjustments, which are sufficient to offset the negative impact of running primary deficits. In both scenarios, vulnerabilities persist however. The pace of improvement in the debt-GNI* ratio in the coming years is relatively gradual – particularly compared to developments after the financial crisis (see Figure 2). Moreover, high debt ratios leave the economy vulnerable to future or more persistent shocks, the potential impact of which are examined in more detail below.

³⁹ Public debt dynamics are driven by developments in three key variables: (i) the primary balance, which is the headline government balance excluding interest payments; (ii) the snowball effect, which reflects the difference between the nominal interest rate paid on government borrowing and the nominal GNI* growth rate; and (iii) the deficit debt adjustment (DDA), which incorporates factors that affect debt but are not included in the budget balance – such as the rundown of cash balances or the divestment of banking assets.

⁴⁰ For a detailed explanation of the assumptions used to produce the Baseline and Severe scenarios see Box B.

Figure 1: General government debt as a percentage of GNI*

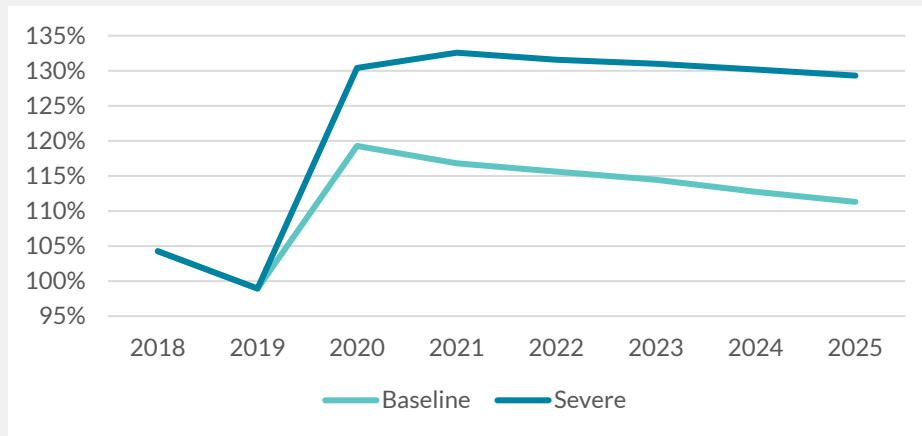
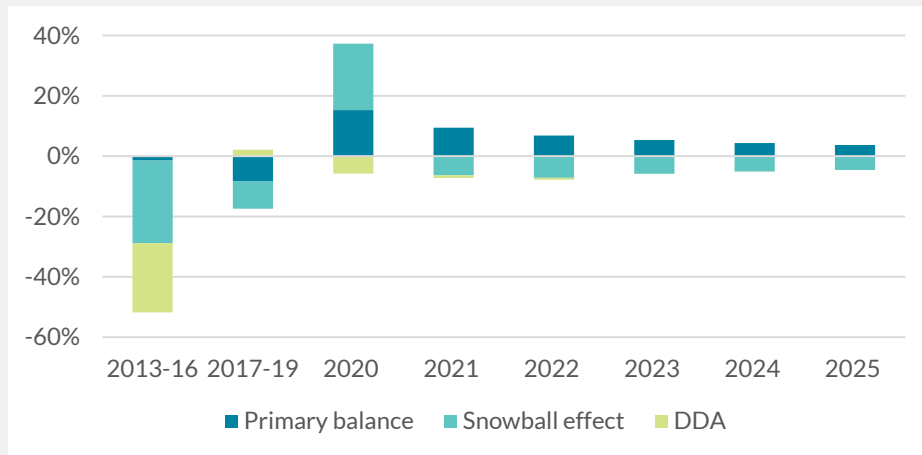


Figure 2: Decomposition of changes in the Irish debt ratio (Severe Scenario)⁴¹



Source: CSO, Central Bank of Ireland Calculations

Scenario Analysis and Debt Dynamics

Debt dynamics over the medium term are inherently sensitive to key macroeconomic and fiscal assumptions. This is particularly the case when the improvement in the debt ratio is expected to be relatively gradual, as the downward momentum is more vulnerable to changes in interest rates, growth and the budget balance. As a result, it is useful to incorporate a range of shocks to assess how debt dynamics react to less benign developments. The shocks we apply are:

- **Standard interest rate shock**, which assumes interest rates on new sovereign borrowing increases by 200 basis points from 2022 onwards.

⁴¹ The deficit debt adjustment (DDA) is assumed to be zero over the period 2023 to 2025

- Severe interest rate shock, which assumes interest rates on new sovereign borrowing increases by 400 basis points from 2022 onwards.
- Constant primary balance shock, where there is no change in the primary balance post 2022.
- Historical growth shock, where the nominal growth rate in output (GNI*) reverts to its long run (10-year) average post 2022.

The interest rate shocks begin in 2022 to account for the current favourable funding environment. This is a purely technical assumption for the purposes of the analysis and should not be seen as a prediction of future rate movement or policy change - forward rates remain extremely low for the entire projection horizon assessed in this Box. Rather, it allows us to see what could happen if funding conditions were to deteriorate in the future. Similarly, the constant primary balance shock does not pre-empt any future decisions on budgetary policy - deficit reduction could occur faster as well as slower - and does not take in to account any changes that might be required under the national and European fiscal rules.

Figure 3a and 3b show how the projections for the debt-GNI* ratio respond to these shocks. Broadly speaking, in the baseline scenario the debt-to-GNI* ratio would continue to decline even when higher funding costs and lower growth are incorporated. The pace of improvement would be slower than in the absence of these shocks, however, with risks more apparent in the constant primary balance shock. In the severe scenario, by comparison, all four of our shocks could lead to unfavourable debt dynamics, pointing to risks to sustainability over the medium term.

Figure 3a: Baseline Shocks

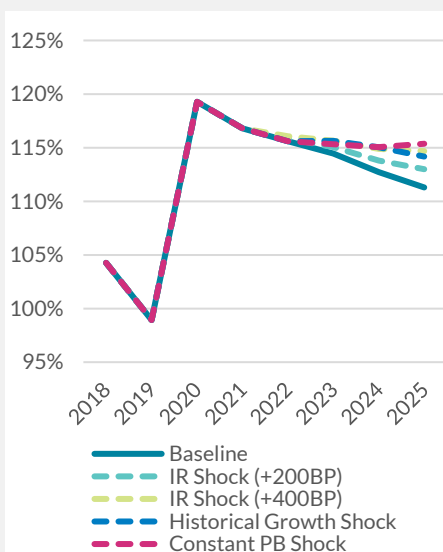
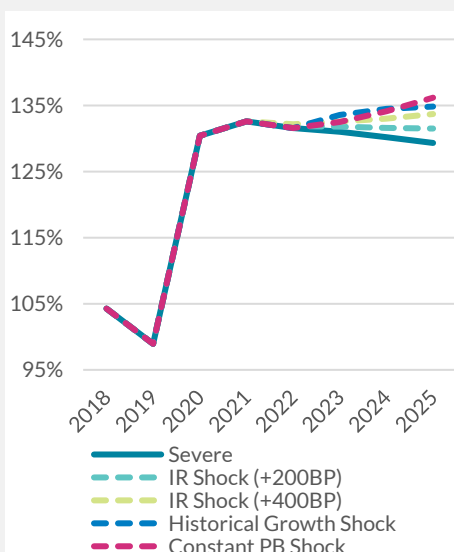


Figure 3b: Severe Shocks



Source: CSO and Central Bank of Ireland Calculations

Conclusion

In this Box, the Quarterly Bulletin fiscal projections are extended out to assess debt dynamics over the medium term. The analysis shows that negative shocks to growth, interest rates or the primary balance could result in the debt-GNI* ratio remaining elevated for a prolonged period, particularly in the severe scenario. It is also worth noting that, while we have assessed them in isolation here, the shocks we have outlined could occur in some combination resulting in a less favourable outcome. More generally, the high level of debt at the end of the projection horizon would leave the economy more vulnerable to additional shocks such as those caused by Brexit or a decline in corporation tax revenue linked to changes in international tax policies.

Policy Response to COVID-19

Irish policy response

The Irish government's response to the pandemic has focused on three broad categories of spending; providing enhanced income supports for those whose employment has been affected by the pandemic; business supports in the form of direct and indirect funding; and additional health spending. The government has so far committed approximately €16 billion of funding towards these schemes, details of which are outlined in table 9. In total, it is estimated that the cost of direct supports this year will be close to €9 billion, with a further €7 billion being made available through indirect supports such as credit guarantees and rate deferments. While the latter do not impact expenditure now, they could do so in the future if, for example, guarantees were called or deferments were not paid. The final cost will depend on factors such as the length of the crisis and the uptake of various schemes.

In terms of macroprudential response, the Central Bank's objective in its use of macroprudential policy is to promote financial stability in Ireland and to mitigate the impact of negative shocks on the continuous provision of financial services to the real economy. The Central Bank's immediate macroprudential policy response to the COVID-19 pandemic was the reduction in the countercyclical capital buffer rate to 0 per cent, announced in March.⁴² This complemented the decisions on capital relief made by the ECB, including allowing banks to operate below the levels of capital implied

⁴² Central Bank of Ireland [Statement 18 March](#).

by Pillar2 Guidance (P2G).⁴³ The release of macroprudential buffers such as the CCyB reduces banks' regulatory capital requirements with a view to minimising the potential that they act as a constraint on the provision of lending to the real economy. In the Irish case, the CCyB release has made an additional €940 million available to absorb losses or to be leveraged to maintain and extend lending to the real economy.⁴⁴ In addition, authorities have emphasised the usability of banks' combined buffer requirement, albeit subject to certain limitations, to absorb the impact of COVID-19.⁴⁵ The Central Bank has further confirmed that the Other Systemically Important Institutions (O-SII) Buffer is fully available for use to absorb losses at the current time.⁴⁶

The effectiveness of these capital buffer measures is being strengthened by complementary actions taken to conserve capital. Measures here include flexibility in terms of the implementation of payment moratoria and IFRS9 accounting standards.⁴⁷ Authorities have also encouraged banks to refrain from certain voluntary pay-outs including dividends.⁴⁸ These actions – and others, such as the payment breaks made available to household and business customers – should reduce the front-loading of COVID-19 related losses on banks' balance sheets and reduce any immediate depletion of bank capital.

⁴³ On March 12, ECB Banking Supervision announced a series of measures which would apply to institutions directly supervised by the ECB within the SSM. The Central Bank has extended the application of supervisory measures taken by the ECB, and other European authorities, to those institutions, which it supervises directly.

⁴⁴ See De Nora, O'Brien and O'Brien (2020)

⁴⁵ A banks combined buffer requirement is made up of the capital conservation buffer and where applicable the institution specific countercyclical capital, systemic risk and O-SII buffers. Where an institution's level of capital dips below its combined buffer requirement certain restrictions and limitations apply – See ECB Banking Supervision FAQs on supervisory measures in reaction to the coronavirus.

⁴⁶ See Financial Stability Review

⁴⁷ See ECB Banking Supervision provides further flexibility to banks in reaction to coronavirus.

⁴⁸ See ECB asks banks not to pay dividends until at least October 2020 and [ESRB/2020/7](#) on restriction of distributions during the COVID-19 pandemic.

Table 9: Fiscal policy measures introduced by government

Income Supports	
COVID-19 Illness Payment	For workers told to self-isolate, or who have been diagnosed with COVID-19, an increased support payment of €350 (from €203) will be paid. These payments apply from first day of illness and are available to self-employed workers.
COVID-19 temporary wage subsidy scheme	Government will subsidise 70 per cent of employees wages up to a maximum weekly €410 (equivalent of pre-tax €38,000 per year). For salaries between €38,000 and €76,000 support of up to €350 per week will be available. The employer is expected to make their best effort to maintain as close to 100 per cent of actual salary as possible. The scheme was introduced on 26 March and was initially expected to last for 12 weeks, however, the scheme has been extended and will remain in place until end August 2020.
COVID-19 pandemic unemployment payment	Workers who have lost their jobs due to the crisis will receive an enhanced emergency payment of €350 per week (up from €203). The scheme, which was expected to run for the 12 weeks to 8th June, has been extended until 10th August 2020. From 29th June, the scheme will be revised, with those who earned less than €200 per week prior to the pandemic receiving €203 per week and those who earned in excess of €200 remaining on the €350 rate.
Business Supports	
COVID-19 Working Capital Scheme	The €450 million Working Capital Scheme is aimed at providing short term liquidity where cash flow has been impeded by the pandemic. Loans ranging from €25,000 - €1.5 million will be made available, for a loan period of up to 3 years at a maximum of 4% interest rate, for qualifying firms.
COVID-19 Funding for Future Growth Loan Scheme	An additional €500 million aims to provide long terms loans to companies affected by COVID-19. Loans ranging from €100,000 to €3 million will be available over an 8 – 10 year term.
Sustaining Enterprise Fund	The Sustaining Enterprise Fund of up to €180 million is an EU approved initiative to provide financial support to Irish companies (targeted at the manufacturing and internationally traded sectors) that have been affected by pandemic.
COVID-19 Credit Guarantee Scheme ⁴⁹	The €2 billion scheme will provide an 80% guarantee on lending to SMEs until the end of this year. Loans ranging from €10,000 to €1 million, for a term of between 3 months and 6 years, will be available for SMEs that otherwise could not access bank loans.
Pandemic Stabilisation and Recovery Fund (PSRF)	The Ireland Strategic Investment Fund (ISIF) will make available a new €2 billion fund to support medium and large enterprises in Ireland affected by Covid-19. The PSRF will focus on investment in large and medium enterprises employing more than 250 employees or with annual turnover in excess of €50 million.
Restart Grant for Micro and Small Businesses	The €250 million Restart Grant is aimed at helping micro and small businesses with the costs associated with reopening and reemploying workers following COVID-19 closures. The grant – which is available to businesses that have an annual turnover of less than €5million or employ less than 50 people – will be equivalent to the 2019 rates bill, with a minimum of €2,000 and a cap of €10,000.

⁴⁹ Legislation will be required to implement this Scheme.

Revenue support measures for business	Commercial rates have been waived for a three-month period commencing 27th March for businesses that have been forced to close due to public health requirements. Tax liabilities on affected businesses have been warehoused for a period of twelve months, after their recommencement date of trading.
Health Sector Supports	
Additional resources for the health sector	Due to additional capacity issues (including additional staffing and overtime requirements), the cost of securing the 19 private around Ireland and the additional funding and supports for nursing homes, an additional €2 billion in healthcare spending is expected by year end.

European policy response

The focus of European policymakers remains centred on tackling the severe negative impact that the Covid-19 pandemic is posing on economic activity in Europe. Due to the pandemic and related containment measures, euro area real GDP registered a record decline of 3.6% in the first quarter of 2020, and a further dramatic fall of around 13% is expected for the second quarter even though most countries have started to loosen their strict lockdowns.⁵⁰ Unprecedented uncertainty surrounds future developments. Most recent macroeconomic forecasts, including those provided by the ECB in June, have been revised substantially downward. A severely deteriorated outlook characterises not only economic activity but also inflation. Such adverse developments warranted additional monetary accommodation.

Following the launch of the Pandemic Emergency Purchase Programme (PEPP) in March the Governing Council of the ECB decided in June to increase its envelope by additional €600 billion, so that the total purchases under the programme will amount to at least €1,350 billion. The horizon for net purchases under the PEPP was also extended until the end of June 2021 at the earliest, and the maturing principal payments from securities purchased under the PEPP will be reinvested until at least the end of 2022. The size and horizon of PEPP purchases can be further extended, until the Governing Council judges that the Covid-19 crisis phase is over.

The crisis has weakened the outlook for inflation and growth and impaired financing conditions across sectors and countries. In an attempt to offset this adverse development, additional monetary policy measures have been taken since March. Specifically, the Governing Council decided to further ease the conditions of the targeted longer-term refinancing operations (TLTRO III), by increasing their size and lowering the interest rate charged.

⁵⁰ See Eurosystem/ECB staff macroeconomic projection exercise for the euro area: https://www.ecb.europa.eu/pub/projections/html/ecb.projections202006_eurosystemstaff~7628a8cf43.en.html

The in-built incentive scheme makes TLTRO III attractive for banks to call on central bank funding in order to extend credit to the private sector, especially small and medium-sized enterprises which lack access to capital markets. This will support credit conditions in the current environment. In addition, the Governing Council decided to launch a series of pandemic emergency longer-term refinancing operations (PELTROs), which provides a liquidity backstop for the banking sector at a low interest rate. PELTROs also provide additional longer-term funding for banks whose business models focus on lending to sectors not covered by the TLTRO programme. These credit easing measures, together with the negative interest policy, the asset purchase programme (APP) and the PEPP, reinforce each other and work as a package to ensure a smooth transmission of monetary accommodation to firms and households.

In addition to monetary policy, there have been other economic policy interventions taken by governments across Europe to respond to the Covid-19 crisis, including ensuring sufficient health sector resources are available and providing support for firms and households which have been hit most strongly by the crisis. European institutions are also looking to play a role by coordinating national policy responses and also providing direct fiscal support, including through the proposed establishment of a €750 billion European-wide recovery fund dedicated to dealing with the crisis.

Section 2 Signed Articles

The articles in this section are in the series of signed articles on monetary and general economic topics introduced in the autumn 1969 issue of the Bank's Bulletin. Any views expressed in these articles are not necessarily those held by the Bank and are the personal responsibility of the author.

Recovery Paths from COVID-19 and the Impact of Policy Interventions

Thomas Conefrey, Niall McNerney, Gerard O'Reilly and Graeme Walsh ⁵¹

Abstract

The COVID-19 pandemic and the measures put in place to control its spread have resulted in a collapse in economic activity around the world. The long-term recovery path from this deep economic shock is uncertain. In this article we explore different potential recovery scenarios over the medium term and the economic mechanisms that will influence the shape of the recovery. In the baseline scenario, output rebounds strongly but the recovery is incomplete by 2025, with output still below the level that could have been achieved had COVID-19 not occurred. A severe adverse scenario could see persistently high unemployment until the middle of the decade. Policy interventions by governments and central banks will play an important role in ensuring the economy recovers within a reasonable timeframe. We estimate that domestic and international policy responses announced to date could reduce the fall in output in Ireland by almost 4 percentage points in 2020.

⁵¹The authors work in the Irish Economic Analysis Division. The views expressed in this article are those of the authors only, and do not necessarily reflect the views of the Central Bank of Ireland or the ESCB. We thank Dawn Holland for sharing the calibration of the fiscal shocks in NIESR (2020). The authors would like to thank Mark Cassidy, Sharon Donnery, John Flynn, Sarah Holton, Matija Lozej and Caroline Mehigan for helpful comments and suggestions.

Introduction

The coronavirus pandemic is set to inflict a considerable toll on economies around the world, the exact magnitude of which is still uncertain. In the space of less than three months, the outlook for the global economy in the short run changed drastically. While the ultimate economic effects of the pandemic are highly uncertain, the virus and the locking down of economies to control its spread will clearly have a substantial economic cost in 2020. The latest IMF projections point to a fall in global GDP this year of 4.9 per cent (IMF, 2020). For comparison, the worst fall in global GDP during the financial crisis was 0.1 per cent in 2009. According to the National Institute for Economic and Social Research (NIESR) in the UK, the prospective fall in global GDP in the first half of this year could be five times larger than that experienced in the financial crisis a decade ago (NIESR, 2020).

As a small open economy, the spillovers from this sharp decline in the international economy on their own would result in a significant slowdown in Ireland. On top of the effects from the contraction in global demand, the domestic economy is also experiencing a deep recession. The clearest indication of this is from the labour market where as of end May, over 1.1 million people, or around 45 per cent of the labour force, were in receipt of unemployment and other COVID-19- related income supports.⁵²

The outlook for the economy has seldom been more uncertain. This is because the current economic crisis stems from a health crisis caused by a new virus whose epidemiological properties are not fully understood. Important questions remain unanswered at present such as the possibility of a second wave of infections after containment measures are eased or whether an effective vaccine treatment can be developed. These issues will have a key bearing on the progress of tackling the virus and therefore on its economic impact.

In relation to the economic effects of the virus, the closure of some businesses that may not reopen and the possibility of some workers enduring extended periods of unemployment can lead to hysteresis effects that persistently lower the output path of the economy (Blanchard and Summers, 1986). At the household level, an elevated level of uncertainty about future income growth or employment prospects can lead to a corresponding rise in precautionary savings and the postponement of durable consumption and house purchases. At the firm level, uncertainty about future demand raises the real option value of waiting so that investment with high fixed or sunk costs is deferred until business confidence returns.

⁵² See <https://www.cso.ie/en/releasesandpublications/er/lr/liveregistermay2020/> and Byrne, Coates, Keenan and McIndoe-Calder (2020) for further details.

The strength and persistence of these effects will determine whether the recovery trajectory of the Irish economy can be characterised by some variant of a V, U, or L shape. Accordingly, one of the contributions of this *Article* from an analytical perspective is the illustration of different possible recovery paths and some of the economic mechanisms that will influence the trajectory of the economy over the medium term. The Central Bank's *Quarterly Bulletin* (Quarterly Bulletin 3, 2020) shows the prospects for the economy in the short term under two potential scenarios: *baseline* and *severe*. In this *Article* we extend the analysis in the *Quarterly Bulletin* to illustrate how the recovery paths for the economy under these scenarios might evolve over the longer term beyond 2022.

As well as the path of the virus itself, the prospects for the economy will also be influenced by the fiscal and monetary policy interventions of governments and central banks around the world. For the euro area, the ECB has announced a wide-ranging package of monetary policy measures designed to preserve the flow of credit to households and firms and to ensure the transmission of monetary policy to bank lending rates for households and firms in all sectors across the euro area (Holton *et al.*, (2020), Lane, (2020) and Makhlouf, (2020)). In Ireland, the Government has implemented a range of fiscal measures that aim to protect the incomes of workers affected by the economic crisis. Supports to businesses have also been announced to help ensure that firms can survive through the crisis and are in a position to restart their operations when the virus passes. In this paper, we carry out a preliminary assessment of the extent to which these global and domestic policy measures may mitigate the economic losses from the coronavirus pandemic.

The paper is organised as follows. In Section 2, we outline a series of stylised possible recovery paths from the COVID-19 crisis and discuss the economic mechanisms underpinning each. In Section 3, we present model-based estimates of the potential recovery in the economy over the medium term, extending the short-term projections for the *baseline* and *severe* scenarios in the latest Bank's *Quarterly Bulletin*. In Section 4 we present our analysis of the impact of domestic and international fiscal and monetary supports on the Irish economy. Section 5 concludes.

Illustrative Recovery Paths from COVID-19

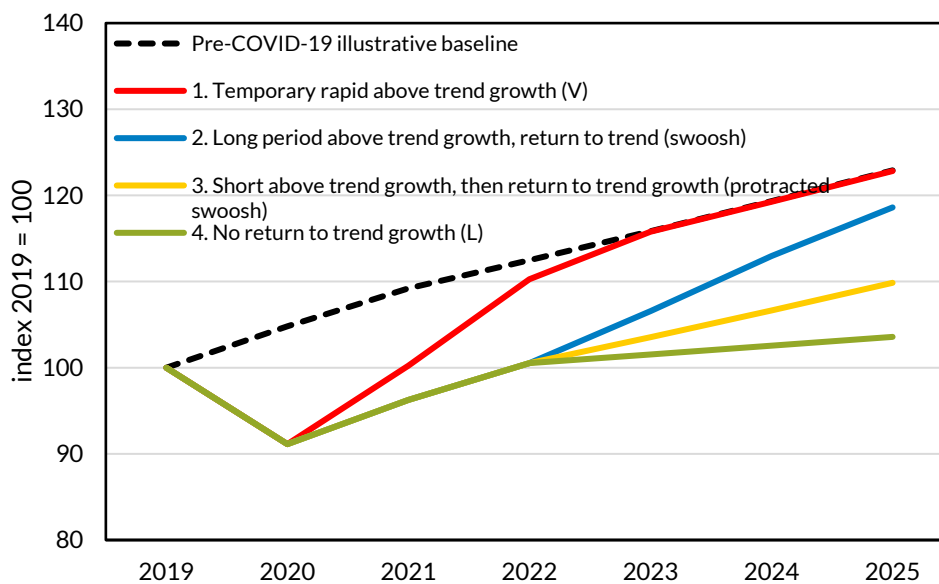
Although the impact of COVID-19 on economic activity in 2020 is starting to become clearer, the shape of the recovery from the crisis in the longer term is uncertain and will depend on the prevalence of the virus. In this section we explore different hypothetical recovery paths from COVID-19 and examine what each implies for the scale of the loss from the crisis and

whether output returns to the level that could have been achieved in the absence of the pandemic.

Illustrative Recovery Paths

Figure 1 shows a number of stylised paths for overall economic output after the COVID crisis. The paths are purely illustrative rather than model based and are designed to show the possible evolution of the economy over the medium term depending on the strength of the recovery. In each case the level of output in 2019 is set equal to 100.⁵³

Figure 1: Stylised Illustrative Recovery Paths from COVID-19



Source: Own Calculations

The most benign scenario (1) is shown in the red line and depicts a **V-shaped recovery**. In this scenario, there is rapid above trend growth in the economy from 2021-2023 with growth returning to trend thereafter. This scenario would see a resurgence in consumer confidence and business sentiment and demand would be boosted by the release of pent-up consumption. This period would see some unwinding of the exceptional increase in the savings rate observed in 2020 (FitzGerald, 2020). The initial period of rapid above trend growth brings the level of output back up to its pre-COVID-19 baseline but the output lost in the crisis is never recovered. To avoid this permanent loss, an even more vigorous V-shaped recovery would be required whereby output would not only recover to baseline but would increase above the pre-crisis trend for a period.

The blue line (2) shows a scenario where output grows above the trend rate for a prolonged period from 2020, but the pace of growth is slower than in the V-shaped scenario. In this **swoosh-shaped** scenario, some of the

⁵³ See Bordo, Levin and Levy (2020) who conduct a similar analysis for the US.

consumption and investment postponed during the pandemic takes place in later years but not all of the lost output is recovered. A more benign version of this scenario would show a **U-shaped recovery** whereby more rapid growth in the early post-COVID phase would see output returning to baseline earlier than in the swoosh scenario, for instance in 2024/2025.

The yellow line (3) shows a more pessimistic version of the swoosh scenario. In this case, as in scenario (2), there is also a temporary period of above trend growth but it is much more short-lived with output growth returning to its pre-crisis rate immediately after two years. This scenario results in a large permanent loss of output over the medium term. The most severe scenario is shown in the **L-shaped** recovery path (4). In this case, there is a brief period of above trend growth in 2021 and 2022 but thereafter the economy returns to a lower potential growth rate than before the crisis and the gap between trend output pre-COVID and actual output widens over time. In this scenario, the virus does not abate and containment measures are required for a prolonged period. The downturn becomes entrenched leaving the economy mired in depressed economic conditions.

What are Hysteresis Effects?

One of the concerns with the COVID-19 pandemic is that it may have long lasting impacts on the economy. With the exception of the V-shaped scenario illustrated in Figure 1, in the other stylised paths the economic recovery from COVID-19 is impaired by the presence of hysteresis effects. These effects are strongest in the L-shaped scenario. In this section, we examine some potential channels whereby the crisis could have longer run effects on the economy.

Hysteresis (scarring) is the notion that temporary shocks can have very persistent or permanent effects on the economy. The term was initially coined by Blanchard and Summers (1986) with respect to widespread persistent unemployment witnessed across many western countries in the 1970s and 1980s and the forces that impede unemployed workers from finding new jobs. Cerena, Fatas and Saxena (2020) argue the idea of hysteresis is not unique to the labour market and that transitory or cyclical shocks may also have very persistent effects on other factors of production such as physical capital or technology. These effects have negative implications for the level of output or growth rate of an economy.

In terms of the labour market, there are a number of mechanisms by which a cyclical downturn which results in job losses can lead to persistent unemployment. In the aftermath of the fiscal crisis and low growth episode of the 1980s, unemployment in Ireland remained persistently high until the late 1990s. In the 2008 crisis, the flexibility of the labour market and highly

elastic labour supply through migration provided some mitigation against the build-up of severe hysteresis. The circumstances of the current crisis differ from those experienced in the past and it is useful to review the channels which could trigger hysteresis effects following COVID-19.

Job matches between employees and employers which are temporarily broken, due to the lockdown phase as firms shut down, could become more permanent once lockdown had eased. This would necessitate workers and firms to engage in costly job search and recruitment processes to form new matches as well as the potential loss of job specific human capital (see Fujita, Moscarini and Postel-Vinay (2020)). This belief in the importance of preserving the job match between employees and employers underlies the rationale for the Temporary Wage Subsidy Scheme. The aim of the scheme is to encourage the employer to rehire staff who were temporarily laid off during the pandemic. Byrne *et al.* (2020) provide more detail on the labour impact of COVID-19.

Being permanently laid off reduces future employment and wage prospects. Longer unemployment spells tend to lead to an actual or perceived (by the employer) depreciation of a worker's human capital. In addition, Lozej and Lydon (2018) found that those entering the labour market during a recession tend to be offered lower wages than current employees. Moreover, labour market participation can also be affected due to discouraged worker effects, with a non-temporary decline in the numbers participating in the labour market ultimately lowering the potential productive labour force (see Conefrey, Lawless and Lenihan (2014), Byrne and O'Brien (2017)).

If human capital accumulation slows, through the disruption of schooling or the process of learning-by-doing on the job, it can adversely impact the economy's supply potential. Even a short period of missed schooling can potentially have consequences for skills growth. With empirical estimates of the wage premium from an extra year of schooling of between 7-8 per cent, it is clear that even missing part of a year could be costly in terms of permanent wages, see for example, Burgess and Sievertson (2020).

COVID-19 has led to a widespread shutting down of many sectors in the economy. There are concerns that if the crisis is prolonged, this could result in a large increase in insolvencies as well as a rise in non-performing loans (NPLs) as firms revenue streams have disappeared while they still incur costs (see McGeever, McQuinn and Myers (2020) and the Central Bank's Financial Stability Review (2020)). This would have a negative effect on employment, growth and productivity. An increase in financial stress in the household sector could reduce consumption. High NPLs tend to be persistent and are consistent with deep recessions and weak recoveries. Two-thirds of the countries that experienced high NPLs following the 2008

financial crisis could not resolve those within seven years of the crisis. High NPLs impair bank balance sheets, depress credit growth and delay recovery (Aiyar *et al.*, (2015), Ari, Chen and Ratnovski, (2020)).

Higher firm closures, weaker balances sheets, depressed demand and generalised uncertainty will also depress firm investment and R&D activities over the period of the pandemic. Unless this is subsequently recovered, this could lead to a lower capital stock, reduced labour productivity and a lower level of output in the longer term. While COVID-19 is primarily a combination of real demand and supply shocks, a more persistent crisis could generate financial system shocks that could amplify the downturn (Ball (2014), Claessens, Kose and Terrones (2011), Jorda, Schularick and Taylor (2011)).

Ireland is a highly open economy and is dependent on strong global economic activity. Given the worldwide nature of the COVID-19 shock, world output and income have fallen which in turn has led to a reduction in demand for Irish exports. Production processes have become much more globalised in recent years with many interlinked chains in the production of goods and services by firms and industries spread over a wide range of countries. However, there are concerns these global value chains may be re-evaluated as elements of the production processes were hindered during the pandemic. This could have implications for Ireland if multinational firms were to locate more activity in their home countries.

COVID-19 has affected the economy in a heterogenous manner with sectors that involved a large degree of personal contact with customers being the worst affected. While a vaccine may be developed, and there has been a large degree of adaptation and innovation by firms to reduce possible risks some industries such as tourism, hospitality and travel may see a persistent decline in their productive capacity. Moreover, demand for their services may not fully recover. Unless the underutilised resources in many sectors are successfully redeployed elsewhere, this could affect the productive capacity of the economy. Structural change – where one industry sees a secular decline – can have persistent negative consequences as there may be mismatches between the skills of staff in the sectors where jobs are being lost and the skills required for the jobs that are available. Kambourov and Manovskii (2009) show that displaced workers future earnings losses are three times larger when they are unable to find a job in their original occupation.

Ireland entered the COVID-19 crisis with a high level of public debt. Since the start of the pandemic, the deficit has surged with a substantial decline in government revenue due to the lockdown while government expenditure has increased through enhanced automatic stabilisers, and

employment and firm supports, and spending on the health service. While the current low interest rate environment reduces the cost of servicing the additional debt, lowering the debt ratio in future years may require a more restrictive fiscal stance than would have been the case in the absence of the pandemic. This could have a dampening impact on economic growth over the longer term.

Summing up, in a scenario where the economy is successfully reopened along the lines currently envisaged and there is no significant resurgence of the virus, it is likely that some of the most pernicious hysteresis effects could be avoided. In contrast, a severe adverse scenario where the crisis is prolonged could trigger some of these mechanisms and thereby result in a protracted period of low economic growth.

Scenarios for the Irish Economy

In this section we provide quantification for two possible recovery paths for the economy from the range of potential scenarios discussed above. The scenarios we examine are in line with those published in *Quarterly Bulletin 3* (2020). For the first three years (2020-2022), the scenarios match the projections in the *Quarterly Bulletin* and thereafter evolve in line with the underlying modelling assumptions.

In the *baseline* scenario, the strict lockdowns in place in April and May 2020 are assumed to be unwound on a phased basis over the coming months. The gradual reopening of the economy would allow for an initial rebound in economic activity over the near term. Some containment measures would remain in place meaning that activity would be constrained in some sectors for a longer period. The significant negative economic impact from the lockdown combined with a continuation of some containment measures mean that while output would recover, activity would be constrained by the effects of the severe recession in 2020 and the ongoing impact of the pandemic.

In the *severe* scenario, the strict lockdown period is assumed to have a more damaging impact on economic activity and is not successful in effectively containing the disease. Stringent, albeit gradually loosened, containment measures would remain in place based on an assumption that there would be a resurgence of the virus at some point between now and the end of 2021. In this scenario there is a subdued economic recovery with a larger permanent loss of output as negative hysteresis effects are assumed to take hold.

For both scenarios, the main channels by which the COVID-19 pandemic is expected to impact the Irish economy are detailed below.

- 1. Lower external demand from other countries affected by COVID-19.** As outlined above, preliminary data for Q1 indicate a sharp decline in output in all of Ireland's key trading partners. More timely PMI data point to a large drop in economic activity in April. The decline in activity is modelled by reducing spending by households and firms around the globe including in the Asia-Pacific economies, the euro area and advanced northern hemisphere economies. In both scenarios, the negative shocks peak in 2020 with a larger decline in external demand in the severe scenario. For the euro area, the decline in 2020 GDP is close to that in the "severe" scenario recently published by the ECB (ECB, 2020). Relative to the baseline case, the severe scenario assumes a weaker recovery in external demand as the necessity to maintain containment measures curtails the recovery in Ireland's key trading partners.
- 2. Uncertainty and financial market effects:** For both scenarios, heightened uncertainty is modelled via an increase in investment risk premia in all countries in 2020 and equity prices are reduced. The risk premium on banks' lending rates is also assumed to rise due to the deteriorating economic outlook and the rise in unemployment.
- 3. Reduced employment and economic activity due to sectors closing down:** A large-scale outbreak of the virus in Ireland and the containment measures already announced will result in a temporary reduction in labour supply. This will come about via absence through illness, for those infected by the virus, or indirectly, as a result of school closures which cause households with dependent children to temporarily stay at home. Calibrating the size of the potential labour supply effects is challenging given the few available estimates from the existing literature. It is also uncertain how practices such as homeworking may affect the scale of the reduction in labour supply and productivity. We have included the labour supply channel in our simulations based broadly on the work of Keogh-Brown, Wren-Lewis *et al.* (2009) and CBO (2006), and the observed trends in the data to date.

We also assume a direct effect on employment from the closing down of sectors of the economy which occurred in March and April. The reduction in labour supply resulting from the closure of sectors, as well as through the channel above, causes a related fall in production and demand in the economy. In the baseline scenario, the recovery in employment continues beyond 2023 as output picks up. In contrast, employment is significantly weaker in the severe

scenario due to subdued demand and the emergence of some hysteresis effects through the channels discussed in Section 3.

4. **Supply chain disruption:** There is already evidence of significant disruption to global supply chains as a result of the spread of the virus. Given the deep integration of Irish firms (both exporters and non-exporters) in Global Value Chains (GVCs), Irish output is particularly sensitive to disruption to imports of intermediate goods. In both scenarios, we proxy this shock to the supply of imported intermediate goods as a reduction in the effective capital stock using the respective shares of capital and imported intermediates in output.

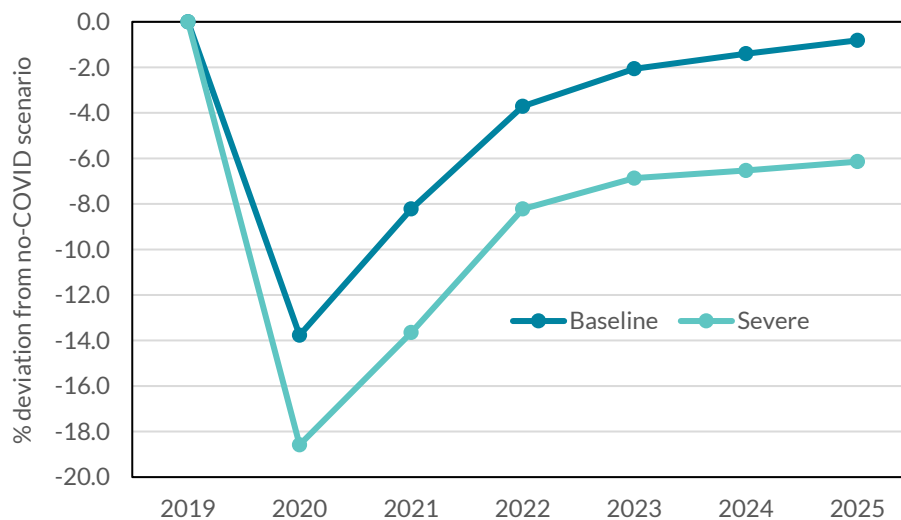
Drawing on these assumptions, the model-based analysis in this *Article* is carried out in two steps. In the first stage, we estimate the impact of the scenarios on the international economy using the UK-based National Institute for Economic and Social Research's (NIESR) global model called NiGEM. In the second stage, on top of these international shocks, we add a layer of supply and demand shocks and simulate the final impact on the Irish economy using the Central Bank's COSMO model. This approach allows us to capture the impact of the combination of shocks to both the external environment (euro area, US and UK GDP, interest rates, exchange rates) and the Irish economy in an internally consistent manner.

It is important to note that the possible path for the economy under the scenarios cannot be estimated with precision. The models we use capture only some of the channels through which the pandemic is likely to impact the economy. In addition, there is relatively little research on how particular epidemiological outcomes translate into macroeconomic effects. Since COVID-19 is a new virus, the level of uncertainty in this regard is exceptionally high. However, with these caveats in mind, some quantification is useful for illustrating the relative severity of the two scenarios.

Figure 2 shows the path of output under both scenarios out to 2025. The estimates for the first three years are consistent with the forecasts in the *Quarterly Bulletin*. The results are shown relative to a scenario in which the COVID-19 shocks listed above do not occur. In the baseline scenario, there is a moderate recovery in line with a gradual and successful opening up of the economy. Consumer and business confidence improves giving rise to a strong recovery in consumer spending and investment in the initial period which is later supported by a pick-up in external demand. In line with the forecasts in the *Quarterly Bulletin*, the projected recovery in the baseline scenario would see output regain its 2019 level in around 2022.

Nevertheless, some containment measures are assumed to remain in place for a prolonged period and, as a result, a degree of caution prevails which curtails spending and investment. In the medium term, output continues on a steady recovery path but by 2025 still remains below the level that would have been achieved in the absence of the pandemic. Reflecting the path of output, the unemployment rate drops consistently from its 2020 peak and by 2025 would be around 1 percentage point above the no-COVID scenario.

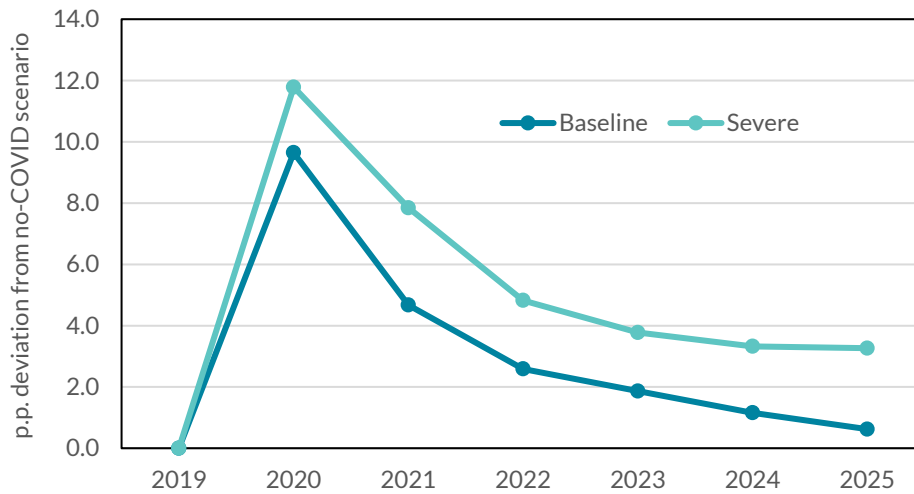
Figure 2: Output in Baseline and Severe Scenarios, % Deviation from a no-COVID scenario



Source: Own calculations.

In the severe scenario, there would be some recovery in 2021 and 2022 but thereafter the pace of recovery weakens as the persistence of the virus triggers a series of negative shocks and hysteresis effects materialise. The prolonged contraction in global economic activity is transmitted directly to the Irish economy through lower demand for Irish goods and services. This reduces output in the traded sector and in turn lowers investment. These negative spillovers from the weaker external environment further reduces labour demand, compounding the negative impact on the economy from the drop in domestic economic activity (Figure 3). With continuing high unemployment, consumer spending remains weak and subdued demand reduces investment. Overall, the level of output in the severe scenario remains substantially below the no-COVID scenario by 2025.

Figure 3: Unemployment Rate in Baseline and Severe Scenarios, p.p. Deviation from a no-COVID scenario



Source: Own calculations.

Impact of International and Domestic Policy Interventions

The policy measures implemented across countries to cushion the economic and financial impact of the public health containment measures have been swift and of an unprecedented scale. For example, NIESR (2020) estimate that the total economic policy measures taken to April amount to 2.5 per cent of GDP and have mitigated the fall in global GDP by close to a third.

In this section, we outline our approach to assessing the impact of the domestic and international monetary and fiscal policy measures on the Irish economy. As in the previous section, our analysis proceeds in two stages. In the first, we calibrate and simulate the impact on the global economy of the various international policy measures using NIESR's model NiGEM. In the second, we incorporate the international impact along with the domestic policy response in the Central Bank's model of the Irish economy, COSMO, and simulate their impact.

International Monetary Policy Response

Deteriorating financial conditions, rising uncertainty and a perceived increase in counterparty risk can impede the smooth functioning of financial markets and the banking system. This can inhibit access to credit by both the private and public sector, thereby suppressing household consumption, corporate investment, and government spending. In this context, the response of monetary authorities to the economic disruption generated by the pandemic has been aggressive and multi-faceted in an effort to mitigate a procyclical tightening of financial conditions. In addition, in the case of the ECB the policy supports have been designed to

prevent medium-term inflation from deviating from its inflation target of below, but close to, 2 per cent (Schnabel, 2020).

Table 1 outlines how central banks across the world have used a variety of policy instruments to provide monetary, financial, and liquidity supports in their respective economies.⁵⁴ The monetary response has comprised both conventional and non-conventional measures, depending on whether the effective lower bound on policy rates was a binding constraint. Non-conventional measures have included the purchase of both government debt and corporate securities and have sought to mitigate the impact of market stress on the yields of these securities. Finally, central banks have deployed a range of liquidity tools with the aim of stabilising bank-intermediated credit conditions in the real economy. In the euro area, the announcement of measures such as new asset purchases in the Pandemic Emergency Purchase Programme (PEPP) and easing the conditions on the targeted long-term operations (TLTROs) have led to a narrowing of government bond spreads across member countries and to more accommodative bank lending conditions (Lane, 2020a).

To assess the impact of the international monetary policy measures on the Irish economy, we first simulate the effects of these measures using the NiGEM model. In terms of conventional measures, we implement in the model changes to policy rates that have been announced in those countries that are not constrained by the effective lower bound. As shown in Table 1, the cuts to policy rates have been particularly large in some countries, such as the United States and Canada, which in the model will not only have a domestic impact in those economies, but will also lead to significant international macroeconomic and financial spillovers.

The second dimension of the monetary policy response we consider relates to asset purchases. As shown in Table 1, several central banks have announced asset purchases as part of their response to the pandemic. These purchases reduce the overall supply of government bonds in the market, thereby putting upward pressure on the prices and corresponding downward pressure on the yields of the bonds (Schnabel, 2020). In NiGEM, the impact of asset purchases on the economy can be simulated by calibrating the expected impact of the purchases on the term premium component of long-term sovereign yields and then solving the model with these term premium shocks imposed. To calibrate the impact on yields in

⁵⁴ The analysis in this article excludes the impact of the various macroprudential measures that central banks and financial regulatory authorities have announced in response to the pandemic. For example, see DeNora et al (2020) for a discussion of the changes to the countercyclical capital buffer (CCyB) that have been introduced by the Central Bank of Ireland.

each country, we use estimates from the empirical literature on the effects of previous purchase programmes, detailed below.⁵⁵

In terms of the euro area, the ECB has announced that it will purchase €120bn of government bonds through the Asset Purchase Programme (APP) and €1350bn of both government and corporate bonds through the newly established PEPP, specifically to counter the effects of the virus (Lane, 2020a; Lane, 2020b). Based on recent data on ECB purchases through these programmes, we assume that approximately 80 percent of asset purchases through the PEPP will comprise government bonds.⁵⁶ We use estimates from Rostagno *et al.* (2019) and Chadha and Hantzsche (2018) of the effects of previous ECB asset purchase programmes to inform the calibration of the impact of the newly announced purchases on euro-area yields in NiGEM.⁵⁷ Based on these estimates, (GDP) weighted-average euro-area yields could fall by over 50 basis points over the horizon of the APP and PEPP programmes. It should be noted that the assumed fall in yields is relative to the yields that would have prevailed in the absence of these purchase programmes.

Our estimates for the impact of asset purchase announcements on US long-term yields are based on Gagnon *et al.* (2011) and Krishnamurthy and Vissing-Jorgenson (2011). Broadly, these studies find that \$600 billion of large scale asset purchases lower ten-year Treasury yields by 15-25 bps. We scale these results based on the assumption that the Federal Reserve continues to purchase securities at its current rate of \$US80bn per month until the end of the year.

In terms of the UK, we use the estimates from Meaning and Warren (2015) who find that the first GBP 375 billion of purchases of UK government bonds by the Bank of England lowered long-term yields by 25 bps.⁵⁸ For Japan, we take the estimates from Lam (2011) and Ueda (2012) who show that the announcement of a 5 trillion yen quantitative easing program lowered long-term government bond yields by approximately 8 basis points. We proportionately scale these estimates for UK and Japan based on the respective central bank's planned purchases outlined in Table 1.

⁵⁵ For the purposes of this exercise we abstract from potential issues underlying the structural relationship between central bank asset purchases and government bond yields such as non-linearities and state-dependence.

⁵⁶ See <https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html>.

⁵⁷ Broadly similar estimates are contained in Eser *et al.* (2019).

⁵⁸ Note that the most recent expansion of the asset purchase programme announced by the Bank of England on 18 June is not included in our analysis.

Table 1: Policy Responses to COVID-19 by selected Central Banks

Central Bank	Conventional Policy	Asset Purchases	Other (selected) Interventions
ECB	Deposit facility rate maintained at -0.5%.	€120bn through APP and €1350bn through PEPP (including corporate securities).	Forward Guidance; Collateral easing measures; TLTRO III and PELTRO programmes; Foreign currency swap lines.
Federal Reserve	Federal funds target range lowered 150bps to 0-0.25%.	Announcement US\$500bn Treasury purchases (currently US\$80bn per month).	Forward guidance; Purchases of MBS; US\$750bn Primary and Secondary Market Corporate Credit Facility.
Peoples Bank of China	One-year prime rate reduced from 4.15% to 3.85%.		Reserve requirement ratio (RRR) reduced by 50-150bps; One-year Medium-term Lending Facility rate lowered to 2.95%.
Bank of Japan	Overnight call rate maintained at -0.1%.	Purchases conditional on achieving 0% target for sovereign ten-year yield (currently 80trn yen p.a.).	12trn yen annual purchases of Exchange Traded Funds; 180bn yen per month purchases of Japanese REITs.
Bank of England	Bank rate lowered from 0.75% to 0.1%.	Set GBP 745bn target for total purchases of government and corporate bonds.	Expansion of Treasury account; liquidity support to firms through Covid Corporate Financing Facility.
Reserve Bank of India	Policy repo rate lowered by 115bps to 4%.		RRR reduced by 100bps to 3%; Reverse repo rate reduced by 130bps to 3.35%.
Bank of Canada	Overnight lending rate cut by 150bps to 0.25%.	Minimum C\$5bn per week of government bonds, conditional on economic outlook.	Purchases of C\$10bn corporate bonds and C\$50bn regional government bonds.
Central Bank of Brasil	Policy rate lowered by 125bps to 3%.		RRR reduced by 600bps; US\$20bn in liquidity support for households and firms.
Bank of Russia	Policy rate lowered by 50bps to 5.5%.		500bn roubles bank liquidity supports through repo auctions.
Bank of Korea	Base rate lowered by 75bps to 0.5%.		Bank Intermediated Lending Support Facility limit raised to 35trn won.
Reserve Bank of Australia	Target for cash rate lowered by 50bps to 0.25%.	Purchases conditional on achieving 0.25% target for three-year sovereign yield.	Forward guidance for cash rate; AU\$90bn Term Funding Facility for banks at 0.25%.

Source: Central Banks, various countries.

Both the Reserve Bank of Australia (RBA) and Bank of Canada have announced that they will begin a programme of asset purchases. We

assume that the RBA conducts purchases to meet the 25 bps target reduction in the three-year government bonds yields so that longer term yields fall by a similar amount. In the case of Canada, we assume the initial rate of purchases continues until the end of this year. As Canada has not previously conducted an asset purchase program, there are no empirical estimates with which to calibrate the likely impact of the purchases on Canadian government bond yields. We therefore calibrate the impact to be proportionately similar to that of the Federal Reserve purchases on US Treasury yields.

In addition to purchases of sovereign bonds, some central banks have also announced that they will purchase corporate securities, including commercial paper. Estimates of the impact of these purchases on corporate spreads are relatively scarce. However, for the euro area we can use the estimates reported in DeSantis *et al.* (2018), who find that the €150bn of corporate bond purchases under the ECB's Corporate Security Purchase Program (CSPP) since 2016 has lowered corporate bond spreads by approximately 20 basis points. If we assume that the 20 per cent, or €270bn, of the PEPP not used to purchase government bonds is used to purchase corporate securities, corporate spreads in the euro area could fall by over 35 basis points as a result of these purchases. In NiGEM, we implement this fall in debt costs as a similar reduction in the risk premium component of the user cost of capital.

Finally, Table 1 also outlines other important innovations by central banks in response to the pandemic including cuts to reserve requirement ratios and liquidity facilities. In most cases, it is not possible to incorporate the impact of these interventions as either that element of the transmission mechanism is not present in the model or it is not possible to calibrate the instrument with any certainty due to the absence of empirical evidence on its impact. Accordingly, we focus only on modelling the impact of the third key element of the ECB's monetary response: the TLTROs and pandemic emergency longer-term refinancing operations (PELTROs) programmes.⁵⁹ These programmes are designed to funnel monetary easing through the banking system to firms and households. Although the actual rate paid by banks in some of these operations will be conditional on their lending behaviour, we assume that the average effect will be to reduce banks' funding costs by 50 basis points.⁶⁰ In NiGEM, we implement this as a

⁵⁹ PELTROs allow banks with loans not eligible for TLTROs, such as mortgages, or banks that have exhausted TLTRO limits to access cheaper sources of funding from the ECB. See Holton *et al.* (2020), Lane (2020a) and Lane (2020b) for an overview of the TLTRO-III and PELTRO programmes.

⁶⁰ Funding cost relief from TLTROs applies also to banks that do not bid in the operations, as they benefit from the general reduction in demand for liquidity in financial markets, which reduces the cost of market financing for all banks.

corresponding reduction in short-term funding rates, which will be passed through to the real economy in the form of lower lending rates.

International Fiscal Policy Response

Regarding the international fiscal policy responses, we model the impact of these in NiGEM based on shocks to government consumption, transfers and changes in taxation. The size of the specific fiscal shocks in each country are based on those included in NIESR's latest global projections (NIESR, 2020), which in turn are informed by the estimates from the IMF's Policy Responses Tracker.^{61,62} The impact of these discretionary policy shocks are in addition to the impact of automatic fiscal stabilisers, which reflect the cyclical behaviour of government revenue and expenditure.

As mentioned, the response of fiscal authorities has been unprecedented in both size and scope. A particular focus of the measures has been the use of transfers and wage subsidies to preserve the link between firms and workers. In broad terms, the fiscal policy response has included a combination of income supports, tax rebates, business grants and increases in government consumption.

In most countries, the most sizeable outlays have been in terms of furlough schemes. In the case of the UK, the government established the Coronavirus Job Retention Scheme in which companies that have been severely affected by the pandemic can furlough employees and avail of a grant covering 80 percent of their monthly wage costs, up to GBP 2,500 per employee. The total expected cost of this package is between GBP 10 billion and GBP 30 billion (NIESR, 2020). We calibrate the fiscal cost of these job retention schemes across countries as an increase in public transfer payments.

A second key element of the international fiscal response has been in the form of tax rebates and VAT deferrals. For example, the German government has announced a three percentage points reduction to VAT until the end of 2020, with an expected cost to the German exchequer of €20 billion. Similarly, in France the government have postponed social security and tax payment for companies and accelerated the refund of tax credits. We treat these tax measures in NiGEM as a reduction in corporate tax rates.

Given the nature of the pandemic, an important component of the policy packages that have been introduced by governments relates to health

⁶¹ See <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>

⁶² As the detailed composition of the €750 billion recovery fund proposed by the European Commission in May 2020 is currently unclear, the potential impact of the policy package on EU countries including Ireland is excluded from our analysis.

expenditure. This expenditure is designed to strengthen the healthcare system in terms of infrastructure, equipment and personnel. Italy, for example, introduced fiscal measures worth €7 billion to support hospitals, while Spain introduced measures worth close to €5 billion to protect health services. In NiGEM, we calibrate this health-related expenditure as an increase in government consumption.

In many countries, governments have introduced fiscal supports in the form of conditional guarantees for loans to firms and the broader banking system.⁶³ For example, the US announced a package worth US\$510 billion as part of the Coronavirus Aid, Relief and Economy Security Act that would provide loans and guarantees to firms to prevent bankruptcy. However, calibrating the impact of policies such as loan guarantees across countries is exceptionally difficult given differences in the particular details of each guarantee, the extent of the fiscal liability, and uncertainty regarding how much support will likely be drawn down and how exactly it will affect businesses given the incentives they face. Accordingly, we exclude the impact of contingent business loans and loan guarantees from the international component of our analysis.

An important caveat to our analysis of the impact of domestic and international fiscal shocks is that there are many uncertainties as to the effectiveness of fiscal interventions depending on what particular measure is used (a rise in transfers, direct government spending or tax cuts), where the economy is in the cycle and the marginal propensity to consume of individuals who may benefit from the expansion.

Impact of Domestic and International Policy Measures in COSMO

The second stage of our analysis incorporates the results from NiGEM on the impact of the international policy measures as shocks to external variables in the Central Bank's semi-structural model of the Irish economy, COSMO. Along with the international measures, we calibrate the fiscal and monetary policy variables in the model to capture the impact of the domestic policy response.

In addition to the international channels through which the policy actions of different central banks will indirectly affect the Irish economy, the programmes announced by the ECB in response to the pandemic will have a direct effect on the Irish banking system and market for Irish sovereign debt. To calibrate the impact of the PEPP and APP asset purchases on Irish government bond yields, we again use the estimates of the impact of previous ECB asset purchase programmes from Rostagno *et al.* (2019) and Chadha and Hantzsche (2018). Based on these estimates, we assume that

⁶³ See <https://www.bruegel.org/publications/datasets/covid-national-dataset/>

the asset purchase programmes will lower long-term Irish government bond yields by close 50 basis points.

COSMO also has a detailed banking sector so that changes to ECB actions that affect banks' funding costs can be directly incorporated in the model.⁶⁴ Similar to the calibration in NiGEM, we assume that the average effect of the TLTRO-III and PELTRO programmes will be to reduce non-deposit funding costs by approximately 50 basis points.⁶⁵ In COSMO, this reduction in the weighted- average cost of capital will be passed through to households and firms in the form of lower lending rates.

The fiscal shocks for Ireland are implemented based on the measures announced by the government for households and businesses. The majority of the supports to households are modelled as an increase in transfers arising from the Pandemic Unemployment Payment (PUP) and the Temporary COVID-19 Wage Subsidy Scheme (TWSS), with a smaller rise in government consumption to account for the additional spending in the health area. In terms of the supports to business announced on 2 May, these are modelled as follows. The impact of the €2 billion ISIF Pandemic Stabilisation and Recovery Fund is proxied by an increase in investment in the private sector. The effect of the €2 billion Credit Guarantee Scheme is modelled as a 50 basis point reduction in the risk premium component of the corporate lending rate.⁶⁶

Based on this range of assumptions, we estimate the economic impact of the fiscal and monetary policy measures that have been introduced around the globe. The results are shown in Figure 4 and indicate that the international monetary and fiscal policy interventions, as well as the fiscal measures announced by the Irish government, have a meaningful impact in reducing the severity of the COVID-19 crisis. Our estimates suggest that including these measures would reduce the scale of the decline in output in 2020 by just under 4 percentage points (Figure 4).⁶⁷

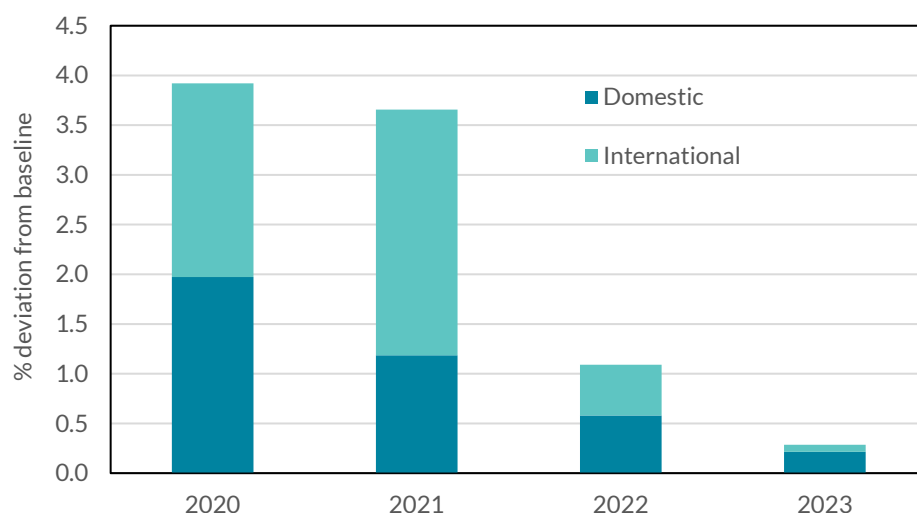
⁶⁴ See McNerney (2020) for details on the banking sector in COSMO.

⁶⁵ The impact of these programmes will be influenced by the level of take up by financial institutions in Ireland which has been low to date.

⁶⁶ Assessing the impact of both the Pandemic Stabilisation and Recovery Fund and the Credit Guarantee Scheme is difficult ex-ante due to the demand-driven nature of the supports. We assume that there is full take-up of the Recovery Fund which translates into higher investment than in the baseline. We calibrate the impact of the Credit Guarantee Scheme on risk premiums based on NIESR (2020).

⁶⁷ Note that our analysis only considers the impact of the *announced* fiscal and monetary measures. It therefore abstracts from additional stimulus that may be introduced in future and which may be conditional on the effectiveness of these measures.

Figure 4: Impact of Domestic and International Policy Measures on Irish Output, % deviation from Baseline



Source: Own calculations.

The positive effect on Irish output comes through the following channels. The fiscal expansion in Ireland's trading partners supports demand in those economies both directly, through higher government consumption and transfer payments, and indirectly through the impact of fiscal multipliers on the aggregate economy. Higher levels of economic activity in those countries also spills over into higher demand for Irish exports, thereby supporting the output recovery in Ireland. Similarly, the domestic fiscal measures boost Irish growth both directly and indirectly, by stimulating investment and consumption. They also increase Irish demand for imports from our trading partners, which supports the recovery in those countries.

It is important to note, however, that while the domestic and international fiscal supports help to mitigate the loss of output, they result in a rise in government debt. As discussed in Section 2, excessive levels of public debt overhang can act as a drag on economic growth. The impact of the COVID-19 crisis on the public finances in Ireland is discussed in detail in the latest *Quarterly Bulletin* and by IFAC (Central Bank, 2020 and IFAC, 2020).

On the monetary side, policy rate cuts are likely to lower borrowing costs for firms and households and thus incentivise consumption and investment.⁶⁸ In addition, lower interest rates are associated with higher asset prices, which can further support these components of demand. Lower sovereign yields due to asset purchases enhance the government's

⁶⁸ Due to the difficulty of disentangling the impact of euro area monetary policy on Ireland vis-à-vis other member countries, we allocate all of the impact of the ECB's policy measures to the international policy component in Figure 4.

fiscal position and reduce firms' user cost of capital.⁶⁹ Finally, the ECB's targeted operations lower banks' funding costs and therefore support bank lending to the economy.

The policy interventions continue to have a positive effect beyond 2020, although their impact begins to taper out. While the policy supports help to mitigate the losses in some areas, they are not sufficient to outweigh the negative impact of the crisis given the range of channels through which the pandemic is impairing growth in the economy. The policy measures we have modelled are in line with those announced to date by central banks and governments. If additional measures were announced, or if the existing measures are kept in place for a longer period, then their impact on the economy would be larger than shown here.

Conclusions

As well as its high and rising human costs, the coronavirus pandemic has triggered a severe economic shock that is being felt in Ireland and around the globe. At present, there is still major uncertainty over the economic outlook. The timing and pace of the recovery will depend on the evolution of the virus and on how households and businesses respond once the containment measures are lifted, as well as on policy actions in Ireland and around the world.

In this *Article*, we illustrate a range of potential paths for the economy over the medium term and discuss the economic mechanisms that will influence the shape of the recovery. Based on a set of key assumptions, we then attempt to quantify two of these possible scenarios out to 2025. The baseline scenario would see a strong but incomplete rebound in activity in 2021 and 2022, followed by more gradual pace of recovery thereafter. In the severe scenario, output in Ireland would remain significantly below the level that could have been achieved in the absence of the pandemic. The unemployment rate would fall initially but remain persistently higher than its level prior to the pandemic outbreak until the middle of the decade. This recovery path is consistent with the emergence of hysteresis effects which result in the economy becoming entrenched in a protracted period of low growth.

Our analysis shows that international and domestic policy interventions (expansionary fiscal policy and accommodative monetary policy) are likely to play an important role in reducing the loss of output and employment from the COVID-19 crisis. As an open economy highly interconnected with the global system, Ireland benefits from the positive effects of monetary

⁶⁹ Long-term government bond rates act as the reference risk-free rate in most loan and capital asset pricing models.

and fiscal policy measures implemented abroad. Our preliminary assessment of the combined effects of domestic and international policy supports indicates that the interventions will help to meaningfully reduce the scale of the output loss in Ireland from the pandemic.

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