



Banc Ceannais na hÉireann  
Central Bank of Ireland  
Eurosystem

# Quarterly Bulletin

## QB1 – March 2023



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# Notes

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5. Annual rates of change are annual extrapolations of specific period-to-period percentage changes.
6. The following symbols are used:  

<b>e</b>	<b>estimated</b>
<b>n.a.</b>	<b>not available</b>
<b>p</b>	<b>provisional</b>
<b>..</b>	<b>no figure to be expected</b>
<b>r</b>	<b>revised</b>
<b>-</b>	<b>nil or negligible</b>
<b>q</b>	<b>quarter</b>
<b>f</b>	<b>forecast</b>
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# Comment

While still challenging, a better than previously expected global economic backdrop and continuing domestic resilience shapes the near-term outlook for the Irish economy. Amidst a tight labour market, household real incomes are expected to recover gradually over the forecast horizon, supporting underlying growth in the domestic economy. Headline inflationary pressures are easing. However, the general mismatch between demand and supply conditions still points to inflation remaining elevated in 2023 and 2024, albeit at lower rates than previously forecast.

With the economic implications of the Russian war in Ukraine still present, a combination of mild weather and policy actions helped the European economy fare better than expected in recent months. In Ireland, economic activity in the latter part of 2022 and early 2023 has also been somewhat stronger than what was expected at the time of the previous *Quarterly Bulletin* in October 2022.

Headline inflation has eased from its most recent peak of 9.4 per cent last autumn, as the effect of the spike in energy prices abates. Energy price levels, however, remain significantly higher than before the war and the COVID-19 pandemic. In contrast to the euro area overall, core inflation has also eased in Ireland in recent months, in part due to government measures such as reduced public transport fares and third level education fees (see Box E). This does not appear at this stage to be evidence of any significant underlying disinflationary trend.

Given the more benign market expectations for wholesale energy prices, and the likely lagged pass-through to consumer prices, headline inflation is expected to be lower than expected at the time of the last *Bulletin* and continue on a downward trajectory over the forecast horizon. While core inflation is expected to ease over the forecast horizon, the central expectation is for it to be higher than headline inflation in 2025. However, there remains a significant amount of uncertainty around the precise path for inflation, and the extent to which underlying inflation measures such as core inflation will remain elevated. This uncertainty is linked to (1) the outlook for the global economy, including

commodities markets, in the context of ongoing geopolitical tensions and the re-opening of China's economy, (2) the evolving transmission of tighter monetary policy, both globally and in Ireland, (3) the dynamics between profit margins, wages and prices, including the response to lower wholesale energy prices, and (4) the persistence of the general imbalance between aggregate supply and demand given the economic policy stance and potential structural changes in the economy.

One of the more prominent developments in the global economy recently has been the downward correction occurring in the Information Communication Technology (ICT) services sector. In a *Signed Article* accompanying this *Bulletin*, Conefrey *et al* (2022) highlight the importance of the sector in Ireland in terms of employment, output, tax revenue and its interconnectedness with the rest of the economy.<sup>1</sup> To date, the evidence suggests that developments in the sector are not symptomatic of a more widespread downturn. Job losses are small relative to the employment in the sector, and wider economy overall, as well as being concentrated in specific elements of the sector while vacancies remain in others. However, the concentration of activity in a small number of large multi-national firms does highlight again the exposure of the public finances to firm or sector specific shocks in ICT. For the public finances overall the risks remain of a more general over-reliance on corporation tax receipts and a relatively narrow tax base.

With inflation in the euro area being excessively high, the ECB Governing Council has continued raising the key policy rates to ensure a timely return of inflation back to its 2 per cent medium-term target. Restoring price stability is a necessary part of creating the conditions for macroeconomic stability and sustainable growth for the benefit of all households and businesses. The effect of monetary policy on the economy is indirect, takes time to transmit, and operates through a number of different channels. An initial view on how the recent tightening cycle is transmitting through the bank lending channel shows that the experience this time in the euro area as a whole is broadly similar to the previous cycle (Box B). In Ireland, the pass-through of higher policy rates has followed similar patterns to the euro area for new lending rates to businesses, which have been rising in recent months. However, to date, the pass-through of higher policy rates to average new mortgage lending rates in Ireland has been more muted than in the euro area overall.

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<sup>1</sup> [The Role of the ICT Services Sector in the Irish Economy \(Conefrey, Keenan, O'Grady and Staunton\)](#)

Monetary policy action is a necessary part of balancing demand and supply conditions in the economy and guarding against a persistent upward shift in inflation expectations, both of which contribute to underlying inflationary dynamics. The continuing strength of the labour market, especially in Ireland, is the clearest indication of the strength of demand conditions. With unemployment remaining at historical lows alongside significant levels of vacancies, tight labour market conditions are expected to persist for the most part over the forecast horizon. This, together with some degree of real wage catch-up in 2023, should contribute to a further pick-up in the growth of hourly wage rates. Since the pandemic, the gains to economy-wide household income from employment has mainly come from larger numbers of people being employed rather than higher wage rates. As capacity constraints become even more binding, the scope for further gains to economic activity and incomes from employment growth are diminished, placing more focus on wage rate developments. For sustainable medium-term growth, with equivalently sustainable rates of underlying inflation, growth in wage rates and profit margins will have to be anchored in underlying productivity growth in the economy.

Alongside higher wage rates, the easing in headline inflation is also expected to lead to a gradual restoration of household's real purchasing power over the forecast horizon. Having fallen by an estimated 0.8 per cent in 2022, average real household disposable income is now expected to increase by 2.1 and 2.3 per cent in 2023 and 2024, respectively. This supports a marginally stronger outlook for consumer spending than previously forecast. However, the extent of the adjustments still unfolding in the labour market and in the wider economy as a result of the pandemic and the war in Ukraine point to the need to assess carefully recent and near-term developments and whether they may reflect long-term structural change.<sup>2</sup>

Domestic policy has a significant role to play in how the economy adjusts to the negative supply-side shock that the war has brought about, with its consequences for national income and the medium-term productive capacity of the economy. There have been particular challenges since the war came about at a time when there was already considerable adjustments occurring in global and domestic demand and supply conditions arising from the response to the COVID-19 pandemic. Cost-of-living measures to mitigate the near-term impact of higher inflation have been significant, and in part targeted at those

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<sup>2</sup> For example, see Box F on the potential implications for new ways of working on average hours worked. See also [Madouros \(2023\)](#).

most vulnerable to the costs of the immediate shock. Ensuring these temporary policy measures that support demand conditions are unwound in a timely fashion will reduce the potential of adding to medium-term inflationary pressures and potentially creating a longer-term vulnerability in the public finances. At the same time, actions that support a transition to a more resilient economy, where such shocks are either less likely to emerge or be less costly if they do emerge, remain crucial. Using the windfall element of corporation tax receipts to build up the National Reserve Fund is a welcome initiative in this respect. Concerted efforts of domestic economic policy are necessary to sustainably address both immediate challenges such as housing and the transition to net zero, as well as the ageing population, through appropriate levels and types of investment. This will better assist sustainable growth in the real living standards of households and the competitive position of businesses in Ireland over the longer term.



# An Timpeallacht Gheilleagrach

Tá cúlra eacnamaíoch domhanda níos fearr ná mar a bhíothas ag súil leis, i dteannta athléimneacht leanúnach intíre, ag dul i bhfeidhm ar an ionchas gearrthéarmach do gheilleagar na hÉireann. I bhfianaise margadh saothair teann, táthar ag súil go dtiocfaidh fíorioncaim na dteaghlach chucu féin arís de réir a chéile thar thréimhse na réamhaisnéise, rud a thacóidh le bunfhás sa gheilleagar intíre. Tá brúnna boilscitheacha príomha ag maolú. Ar a shon sin, tugtar le fios leis an neamhréireacht ghinearálta idir dálaí éilimh agus soláthair go mbeidh boilsciú ardaithe i gcónaí in 2023 agus 2024, cé go mbeidh rátaí níos ísle i gceist leis sin ná mar a tuaradh roimhe seo.

Agus impleachtaí eacnamaíocha chogadh na Rúise san Úcráin fós le brath, ba chúnadh do gheilleagar na hEorpa iad meascán d'aimsir shéimh agus de ghníomhaíochtaí beartais agus d'éirigh ní b'fhearr leis le míonna beaga anuas ná mar a bhíothas ag súil leis. In Éirinn, bhí an ghníomhaíocht eacnamaíoch sa chuid dheireanach de 2022 agus go luath in 2023 ag forbairt mórán mar a bhíothas ag súil leis nuair a foilsíodh an *Fhaisnéis Ráithiúil* dheireanach i nDeireadh Fómhair 2022.

Tá maolú tagtha ar bhoilsciú príomha ón mbuaicphointe is déanaí de 9.4 faoin gcéad a chonacthas an fóimhar seo caite, de réir mar a laghdaíonn éifeacht an ardaithe thobainn ar praghsanna fuinnimh. Ar a shon sin, tá leibhéil praghsanna fuinnimh i bhfad níos airde go fóill ná mar a bhí roimh an gcogadh agus roimh phaindéim COVID-19. I gcodarsnacht leis an limistéar euro ina iomláine, tá maolú tagtha ar chroí-bhoilsciú in Éirinn freisin le míonna beaga anuas, rud atá inchurtha go páirteach do bhearta amhail laghdú ar thailí iompair phoiblí agus ar thailí oideachais tríú leibhéal (féach Bosca E). Ní dhealraítear ag an bpointe seo gur fianaise é seo ar threocht bhunúsach shuntasach fhrithbhoilscitheach.

I bhfianaise ionchais margaidh atá níos fabhraí anois maidir le praghsanna mórdhíola fuinnimh, agus moilliú dóchúil ar a gcur ar aghaidh chuig praghsanna tomhaltóirí, meastar go mbeidh an boilsciú príomha níos ísle ná mar a bhíothas ag súil leis nuair a foilsíodh an *Fhaisnéis Ráithiúil* dheireanach agus go leanfaidh an treocht sin thar thréimhse na réamhaisnéise. Cé go meastar go maolóidh croí-bhoilsciú thar thréimhse na réamhaisnéise, is é an príomhionchas go

mbeidh sé níos airde ná an boilsciú príomha le linn 2024 agus 2025. É sin ráite, tá éiginnteacht shuntasach ag baint i gcónaí le conair an bhoilscithe, agus maidir le cé chomh fada is a bheidh na tomhais ar bhoilsciú bunúsach amhail croí-bhoilsciú ardaíthe. Tá an éiginnteacht seo nasctha leis an méid seo a leanas (1) an t-ionchas don gheilleagar domhanda, lena n-áirítear margai tráchtarraí, i gcomthéacs teannas leanúnach geopholaitiúil agus athoscailt gheilleagar na Síne, (2) tarchur athraitheach beartais airgeadaíochta níos daingne, ar leibhéal domhanda agus in Éirinn araon, (3) dinimic idir corrlaigh bhrabúis, tuarastail agus praghsanna, lena n-áirítear an fhreagairt do phraghsanna mórdhíola fuinnimh, agus (4) dianseasmhacht na héagothroime ginearálta idir soláthar agus éileamh comhiomlán i bhfianaise seasamh beartais eacnamaíoch agus athruithe ionchasacha struchtúracha sa gheilleagar.

Ceann de na forbairtí ba shuntasá sa gheilleagar domhanda le déanaí ba ea an ceartú anuas a tharla in earnáil na seirbhísí Teicneolaíochta Faisnéise is Cumarsáide (TFC). In Alt Sínithe a ghabhann leis an bhFaisnéis Raithiúil seo, leagann Conefrey *et al* (2022) béim ar an tábhacht a bhaineann leis an earnáil sin in Éirinn i dtéarmaí fostaíochta, aschuir, ioncam cánach agus idirnascthacht na hearnála leis an gcuid eile den gheilleagar.<sup>3</sup> Go dtí seo, tugtar le tuiscint ón bhfianaise atá ar fáil nach léiríonn forbairtí san earnáil seo cúlú níos leithne. Tá na cailteanais post íseal i gcomparáid le fostaíocht san earnáil agus sa gheilleagar níos leithne, agus baineann na cailteanais sin le míreanna sonracha den earnáil fad atá folúntais ann go fóill i míreanna eile. Mar sin féin, léiríonn an dlúthú gníomhaíochta i líon beag gnólachtaí ilnáisiúnta go bhfuil an t-airgeadas poiblí neamhchosanta ar thurraingí gnólachta nó ar thurraingí earnáilsonracha i TFC. I gcás an airgeadais poiblí, baineann na rioscaí, tríd is tríd, le róspleáchas ginearálta ar fháltais ó cháin chorparáide agus le bonn cánachais sách cúng.

Ó tharla go bhfuil boilsciú sa limistéar euro i bhfad ró-ard, lean Comhairle Rialaithe BCE de na príomhrátaí beartais a ardú chun a chinntiú go bhfillfeadh boilsciú go tráthúil ar a sprioc de 2% sa mheántearma. Is gá cobhsaíocht praghsanna a athbhunú de riachtanas chun go gcuirfí dálaí ar bun do chobhsaíocht mhaicreacnamaíoch agus d'fhás inbhuanaithe a rachaidh chun leasa na dteaghlach agus na ngnóthaí go léir. Bíonn éifeacht an bheartais airgeadaíochta ar an ngeilleagar neamhdhíreach, tógann sé roinnt ama í a chur ar aghaidh, agus oibríonn sí trí roinnt cainéal éagsúil. Léiríonn dearcadh tosaigh ar an gcaoi ina bhfuil an timthriall daingnithe le déanaí á cur ar aghaidh trí

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<sup>3</sup> [The Role of the ICT Services Sector in the Irish Economy \(Conefrey, Keenan, O'Grady and Staunton\)](#)

chainéal an iasachtaithe bainc go bhfuil an taithí sa limistéar euro an babhta seo mórán mar an gcéanna leis an timthriall roimhe seo (Bosca B). In Éirinn, bhí an pátrún a chonacthas maidir le tarchur rátaí beartais cosúil leis na pátrúin a chonacthas sa limistéar euro maidir le rátaí iasachtaithe do ghnóthaí, ar rátaí iad atá ag ardú le míonna beaga anuas. Go dtí seo, áfach, tá tarchur rátaí beartais níos airde chuig meánrátaí iasachtaithe morgáiste níos maolaithe in Éirinn ná mar atá sa chuid eile den limistéar euro.

Tá gníomhaíocht beartais airgeadaíochta riachtanach chun dálaí éilimh agus soláthair sa gheilleagar a chobhsú agus chun athrú seasmhach aníos ar ionchais maidir le boilsciú a sheachaint, mar féadfaidh an dá rud sin cur le dinimic an bhoilscithe bhunúsaigh. An léiriú is soiléire ar neart na ndálaí éilimh is ea neart leanúnach an mhargaidh saothair, go háirithe in Éirinn. I bhfianaise gurb ísle ná riamh an leibhéal dífhostaíochta agus go bhfuil leibhéil shuntasacha folúntas ann freisin, meastar go leanfaidh dian-dálaí sa mhargadh saothair tríd is tríd thar thréimhe na réamhaisnéise. Ba cheart go gcuirfeadh sé seo, i dteannta breith suas áirithe ó thaobh fíorphánna de in 2023, le méadú ar an bhfás ar rátaí pá in aghaidh na huair. Ón bpaindéim i leith, tá na gnóchain ón bhfostaíocht d'ioncam teaghlaigh ar fud an gheilleagair ag teacht go príomha ó líon níos mó daoine bheith fostaíthe seachas ó rátaí pá níos airde. De réir mar a éiríonn srianta amhainneachta níos daingne fós, laghdaítear an scóip le haghaidh gnóchain bhreise do ghníomhaíocht eacnamaíoch agus d'ioncam ó fhás fostaíochta, rud a chuireann tuilleadh béime ar fhorbairtí rátaí tuarastail. D'fhonn fás inbhuanaithe a bhaint amach sa mheántearma, mar aon le rátaí inbhuanaithe an bhoilscithe bhunúsaigh, is gá go mbeidh fás ar rátaí pá agus ar chorrtaigh bhrabúis fréamhaithe i mbunfhás táirgiúlachta sa gheilleagar.

I dteannta rátaí pá níos airde, meastar go n-athbhunófar fíorchumhacht ceannaigh na dteaghlach de réir a chéile thar thréimhse na réamhaisnéise leis an maolú ar bhoilsciú príomha. I ndiaidh laghdú measta de 0.8 faoin gcéad in 2022, meastar anois go dtiocfaidh méadú 2.1 agus 2.3 faoin gcéad ar mheán-fhíorioncam teaghlach in 2023 agus 2024. Tacaíonn sé seo le hionchas beagáinín níos fearr do chaiteachas tomhaltóirí ná mar a tuaradh roimhe seo. Mar sin féin, tugtar le fios le méid na gcoigeartuithe atá fós ag teacht chun cinn sa mhargadh saothair agus sa gheilleagar níos leithne de thoradh na paindéime agus an chogaidh san Úcráin gur gá measúnú cúramach a dhéanamh ar na forbairtí le déanaí agus ar fhorbairtí gearrthéarmacha i dtaobh an léiríonn siad athrú fadtéarmach struchtúrach.<sup>4</sup>

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<sup>4</sup> Mar shampla, féach Bosca F maidir leis na himpleachtaí ionchasacha a bhíonn ag bealaí nua oibre ar na meánuaireanta a oibrítear. Féach freisin [Madouros \(2023\)](#).

Tá ról suntasach ag beartas intíre maidir leis an gcaoi ina dtéann an geilleagar in oiriúint don turraing dhiúltach atá ann ó thaobh an tsoláthair de mar gheall ar an gcogadh, agus na hiarmhairtí a bhíonn aige sin ar an ioncam náisiúnta agus ar chumas táirgthe an gheilleagair sa mheántearma. Tá dúshlán ar leith ann ó thosaigh an cogadh, tráth a bhí coigeartuithe suntasacha ag tarlú cheana féin don éileamh domhanada agus intíre agus do dhálaí soláthair de bharr na freagartha ar phaindéim COVID-19. Ba bhearta suntasacha iad bearta costais mhaireachtála chun iarmhairt ghearrtéarmach an bhoilscithe níos airde a mhaolú, agus bhíodar spriocdhírthe go páirteach ar na daoine sin is mó a ndéanann costais na turrainge láithrí difear dóibh. Trína chinntiú go ndéanfar na bearta sealadacha beartais seo lena dtacaítear le dálaí éilimh a scaoileadh ar mhodh tráthúil, laghdófar an fhéidearthacht go méadófar brúnna boilscitheacha sa mheántearma agus go gcruthófar leochaileacht níos fadtéarmaí san airgeadas poiblí. Ag an am céanna, baineann ríthábhacht le bearta a thacaíonn le hathrú chuig geilleagar níos athléimní inar lú an dóchúlacht go dtiocfaidh turraingí den sórt sin chun cinn nó inar lú an costas a bheadh ag baint leo dá dtiocfaidís chun cinn. Sa cháil seo, cuirtear fáilte roimh an tionscamh chun leas a bhaint as an ngné amhantair d'fháltais ó cháin chorparáide chun cur leis an gCúlchiste Náisiúnta. Tá gá le tréan-iarrachtaí maidir le beartas eacnamaíoch intíre chun dul i ngleic ar bhonn inmharthana le dúshlán láithreacha amhail tithíocht agus an t-aistriú chuig glan-nialasach, mar aon le daonra atá ag dul in aois, trí bhíthin leibhéil agus cineálacha infheistíochta iomchuí. Cuideoidh sé seo le fás inbhuanaithe ar chaighdeán mhaireachtála na dteaghlach agus le staid iomaíoch na ngnóthaí in Éirinn san fhadtéarma.

# The Irish Economy

## Overview

**Domestic economic activity slowed in the latter half of 2022, but a fall in wholesale energy prices and associated lower inflation will see the economy recover gradually this year.** Since the last *Bulletin* in October, the price of oil and gas on international markets has fallen significantly, reflecting a reduction in uncertainty about supplies in recent months. As a result, the forecast for 2023 inflation in this *Bulletin* has been revised down by 1.3 percentage points. The improvement in real incomes relative to the previous *Bulletin* forecast leads to relatively stronger demand over the forecast horizon than previously expected. Tighter monetary policy seeking to bring euro area inflation back to the 2 per cent medium target, as well as an assumed normalisation of fiscal policy, will still provide some headwinds.

**Modified investment grew by 19.8 per cent in 2022, as the MNE sectors expanded operations in Ireland.** The large jump in investment coincided with a sharp rise in the imports of electrical and specialised machinery, which is assumed to be a once off in terms of scale. However, leading indicators suggest that continued expansion in the multinational sectors of the economy, particularly pharmaceuticals, mean that modified investment growth will remain positive this year, albeit significantly slower than in 2022.

**Irish Exports increased by 15 per cent in volume terms in 2022, dominated by the activities of MNEs in ICT services and pharmaceuticals.** Approximately 60 per cent of the value of Irish goods exports during the year were shipped out of Ireland. As in previous years, trade in these fast-growing sectors is expected to provide a continuing boost to Irish economic activity over the forecast period. Exports are forecast to grow by 8.2 per cent in 2023, 6.2 per cent in 2024, and 7.9 per cent in 2025.

**The labour market is forecast to remain tight over the projection horizon.** The unemployment rate is expected to average 4.4 per cent over the forecast horizon. Slower employment growth and a pick-up in wage rate growth is expected as capacity constraints become more binding.

**Uncertainty remains high, but risks to the domestic growth outlook are now less tilted to the downside than previously forecast.** The central forecasts are contingent on geopolitical tensions not escalating and energy prices continuing on their downward trajectory.

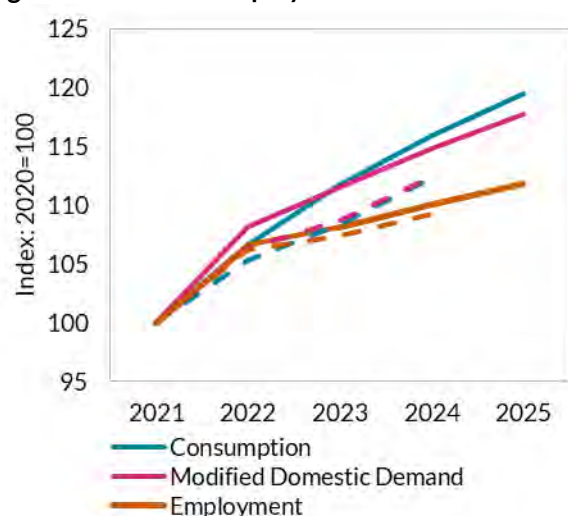
**Table 1: Macroeconomic Projections for the Irish Economy**

(annual percentage changes unless stated)

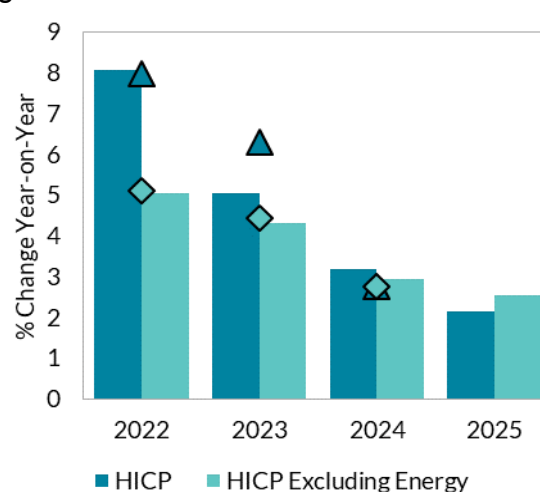
	2022	2023f	2024f	2025f	
Modified Domestic Demand	8.2	3.1	2.9	2.6	
Gross Domestic Product	12.0	5.6	4.8	5.6	
Constant prices	Personal Consumer Expenditure	6.6	4.8	3.7	3.1
	Public Consumption	0.7	0.4	2.0	2.1
	Gross Fixed Capital Formation	25.9	3.7	3.5	3.5
	Modified Gross Fixed Capital Formation	19.8	1.8	1.8	1.7
	Exports of Goods and Services	15.0	8.2	6.2	7.9
	Imports of Goods and Services	19.0	7.9	5.8	7.3
	Total Employment (% change)	6.6	1.4	1.7	1.6
Unemployment Rate	4.5	4.4	4.4	4.3	
Harmonised Index of Consumer Prices (HICP)	8.1	5.0	3.2	2.2	
HICP Excluding Energy	5.1	4.3	2.9	2.6	
Compensation per Employee	4.2	6.4	5.2	3.3	
General Government Balance (% GNI* - level)	2.3	2.7	4.8	4.8	
General Government Gross Debt (%GNI* - level)	82.6	75.3	70.3	65.3	

GDP is reported here, as it is the standard measure used in international comparison and forms Ireland's contribution to the Eurosystem staff projections. Caution should be used in interpreting GDP developments for Ireland, as it is heavily influenced by globalisation and the activities of multinational enterprises. A more detailed set of forecasts are available on our website.

**A better than previously expected outlook for growth, employment and inflation**

**Figure 1: MDD and Employment**

Source: CSO and Central Bank of Ireland  
Note: Dashed lines indicate forecast from QB4 (Oct 2022)

**Figure 2: HICP Inflation**

Source: CSO and Central Bank of Ireland  
Note: Markers indicate forecast from QB4 (Oct 2022)

## Box A: The International Economic Outlook

*By the Monetary Policy Division*

Inflation has dominated developments in the global economy in recent months, arising from a surge in energy prices as a result of the Russian war in Ukraine, as well as post-pandemic reopening of major economies. The strong responses of central banks to the steep rises in inflation, as well as the recent reopening of China's economy, are set to be the main drivers of developments in the global economy in 2023. Inflation appears to have peaked in most major advanced economies, having fallen significantly from its peak notably in the United States, as well as the euro area and UK in more recent months. Nevertheless, it still remains well above the targets of these economies' respective central banks, with the high levels of core inflation and stronger-than-expected economic activity and labour markets in particular eliciting a continued strong response of monetary policy.

In its January 2023 update to the World Economic Outlook, the IMF predicts growth in the global economy to slow in 2023, albeit less markedly than previously anticipated. It forecast global GDP growth to have been 3.4 per cent in 2022, falling to 2.9 per cent in 2023 (an upward revision compared with the previous forecast). Growth in 2023 according to the IMF will be driven by emerging markets (+4.0 per cent, with the reopening of China driving a significant part of this) rather than advanced economies (+1.2 per cent, with 0.7 per cent for the euro area). Global inflation is projected to fall through 2024 to a level of 4.3 per cent, which however remains higher than pre-2020.

For the euro area, the Eurosystem staff projections of December 2022 forecast GDP growth of 3.4 per cent in 2022, followed by 0.5 per cent in 2023 (lower than the 0.9 per cent forecast in September), recovering to 1.9 per cent in 2024. Employment is expected to grow throughout the forecast horizon, with the unemployment rate rising only marginally to 6.9 per cent in 2023, declining again afterwards. HICP inflation, reaching 8.4 per cent in 2022 overall, was predicted to remain high, but on a declining trend, in 2023 (6.3 per cent) and 2024 (3.4 per cent; both were strong upward revisions from 5.5 per cent and 2.3 per cent, respectively, in the September projection exercise). By 2025 inflation was forecast to be approaching the ECB target, at 2.3 per cent.

Since the Eurosystem staff projections in December 2022, incoming data has shown that the euro area economy has so far weathered the energy price shock better than previously expected. Economic activity expanded marginally in the last quarter of 2022, as opposed to a previously forecasted slight contraction. GDP grew by 0.1 per cent in Q4 2022 (+1.9 per cent in year-on-year terms) after 0.3 per cent in Q3 (+2.3 per cent YoY). Over the whole of 2022, euro area GDP grew by 3.5 per cent compared with 2021. The

continued growth was in part due to the effects of fiscal stimulus to shield households from higher energy prices. Wholesale prices for oil and gas have subsequently fallen, and a relatively mild winter contributed to lower demand in Europe. Meanwhile, the effects of more restrictive monetary policy by the ECB, while showing strongly in the tightening of financing conditions and rises in retail interest rates, have yet to filter through to economic activity and employment fully, as the transmission of monetary policy to the real economy operates with a significant lag.

The euro area labour market remained very strong in spite of inflation, a slowdown in growth, and more restrictive monetary policy. The euro area seasonally-adjusted unemployment rate stood at 6.6 per cent in December, stable at that level (the lowest recorded for the euro area) since October. In Q4 2022, the annual growth rate of employment for the euro area was 1.5 per cent (down from 1.8 per cent in Q3), following a quarterly growth in employed persons of 0.4 per cent compared with Q3 2022.

Euro area annual HICP inflation, after reaching a peak of 10.6 per cent in October 2022, was estimated to have fallen to 8.5 per cent in February 2023. Food has become the largest contributor to overall inflation, replacing energy. Energy inflation, which drove the rise in HICP in 2022, declined the most strongly, falling from 25.5 per cent in December to 13.7 per cent in February 2023; it had reached over 40 per cent in September and October 2022. Core inflation (i.e. HICP excluding energy, food, alcohol and tobacco) was at 5.6 per cent, or more than twice the ECB's medium term inflation target. Services inflation, the largest component of the HICP basket, rose from 4.4 per cent to 4.8 per cent between January and February.

As a result of its assessment that inflation in the euro area remains excessively high, the ECB Governing Council decided to raise all three key ECB interest rates by 50 basis points at its February 2023 meeting. This brought the consecutive rate rises since July 2022 to 300 basis points, with the deposit facility rate, the main refinancing operations rate and the rate on the marginal lending facility now at a level of 2.50, 3.00 and 3.25 per cent, respectively. The Governing Council also expressed its intention to raise interest rates by a further 50 basis points at its March meeting, and to continue following a meeting-by-meeting approach for future decisions, in order to ensure the return of inflation towards the ECB's 2 per cent target in the medium term. The Governing Council further decided on the modalities for reducing the ESCB's holdings of assets under the APP programme. These holdings will decline by an average of €15bn per month from March to the end of June 2023, after which the pace of reductions will be reassessed. The reduction in the stock of holdings will be done by only partially reinvesting maturing securities under the APP.



In the United States, quarterly GDP increased by 0.7 per cent in the fourth quarter of 2022, after another 0.8 per cent increase in the third quarter. In annual terms, GDP growth slowed down to +1.0 per cent in Q4 from +1.9 per cent in Q3. The labour market remains particularly strong, with the unemployment rate standing at 3.5 per cent. US inflation marginally declined to 6.4 per cent in January 2023 from 6.5 the previous month, having fallen consistently from its recent peak of 9.1 per cent in June 2022. However, the month-on-month increase in prices was 0.5 per cent, and core inflation remained significantly high at 5.6 per cent. After a number of consecutive and large interest rate rises at previous meetings, in February the Federal Open Market Committee (FOMC) of the US Federal Reserve further increased the target range for the Federal Funds Rate by 25 basis points to 4.5 to 4.75 per cent and anticipates further increases will be needed to ensure the inflation target of 2 per cent is reached. The FOMC is continuing to reduce the size of the Federal Reserve balance sheet as previously announced.

In the United Kingdom, quarterly GDP remained unchanged in the last quarter of 2022, after a decline of 0.2 per cent in Q3. Over the whole of 2022, GDP grew by 4.0 per cent. Between October and December 2022, unemployment stood at 3.7 per cent. Inflation in January 2023 declined to 10.1 per cent from 11.1 per cent in December 2022. At its February meeting, the Bank of England's Monetary Policy Committee voted to increase the Bank Rate by a further 50 basis points, to 4.0 per cent.

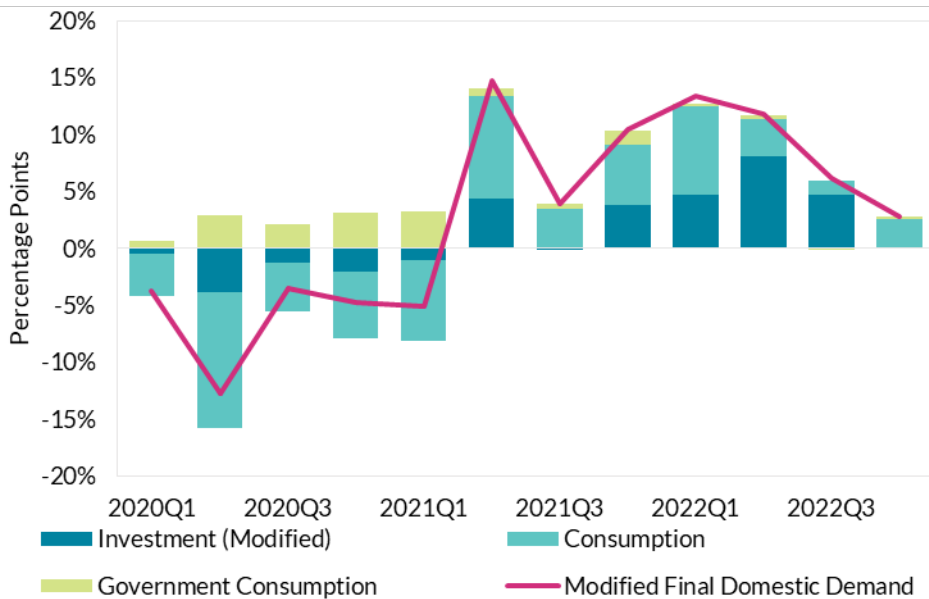
In December 2023, the Policy board of the Bank of Japan, one of the few central banks that have so far refrained from raising interest rates (also on account of lower inflation rates in Japan, and particularly so for core inflation), increased the range around which it allows yields on the 10-year JGBs to fluctuate, from a range of -0.25 to 0.25 per cent, to a range of -0.5 to 0.5 per cent.

## Recent Developments

**While the domestic economy rebounded strongly from the pandemic, growth began to slow somewhat in the second half of 2022, with the real effects of inflation taking hold.** Modified Final Domestic Demand increased by 4.7 per cent on quarterly basis in Q4 2022, owing mostly to an increase in consumption. Modified investment growth slowed through the quarter. On an annual basis, Modified Domestic Demand rose by 2.8 per cent in Q4 2022 (Figure 3), although annual comparisons should be caveated as Q4 2021 contained pandemic related effects in which consumer spending was considerably limited.

## Private and Government Consumption growth slows

Figure 3: Contributions to Growth in Modified Final Domestic Demand



Source: CSO

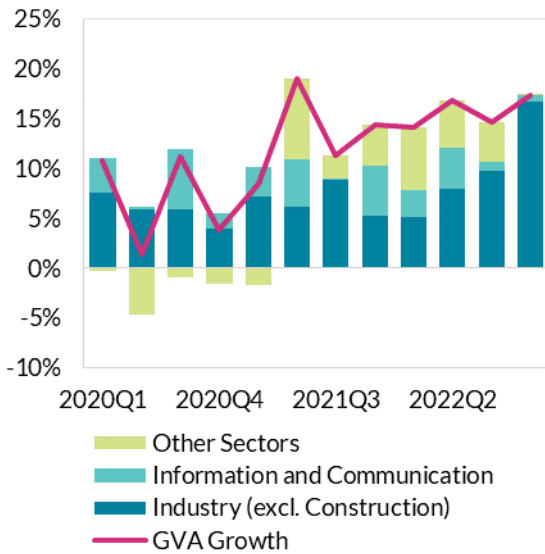
Note: Percentage change compared to same period of the previous year

**Total economic activity as measured by GDP increased by 12 per cent annually in Q4 2022.** Exports, driven by ICT services and pharmaceutical sectors, continued to grow strongly albeit at a slower rate, despite slower global growth, global inflationary pressures, higher interest rates and fears of declining trade integration. Quarter-on-quarter, GDP increased by just over 0.3 per cent on seasonally-adjusted terms.

**Growth in Q4 2022 was driven by the multinational-dominated sectors, while domestically-orientated sectors showed some signs of growth.** Gross Value Added increased by 17.3 per cent annually with export-oriented sectors continuing to drive growth (Figure 4). Industry excluding construction grew by 45 per cent in the quarter to Q4 2022, with the ICT sector growing at just over 3 per cent, although still remaining very relevant in value added terms. Foreign-owned MNE dominated sectors continued to exhibit the higher growth rates (Figure 5) and accounted for just over 58 per cent of total GVA in the economy in Q4 2022. There was a notable rise in the agriculture sector (14.3 per cent) also. Overall, Distribution, Transport, Hotels and Restaurants and Professional, Admin and Support Services and Public Admin, Education and Health sectors added the most to domestic sector growth.

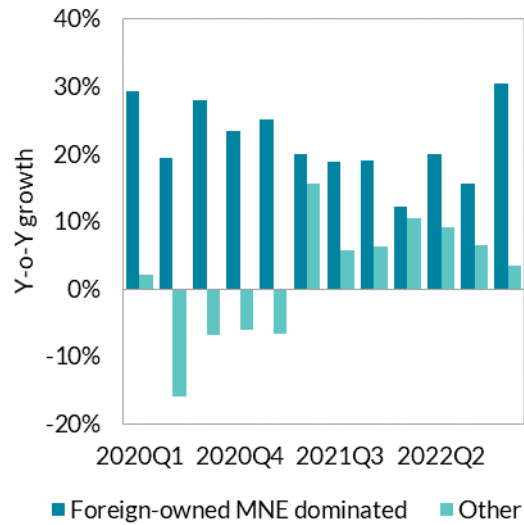
**Domestically-focused sectors remain sluggish, with MNE-dominated sectors remaining relatively stronger.**

**Figure 4: Contributions to GVA Growth**



Source: CSO

**Figure 5: GVA Growth in MNEs and Domestic Sectors**



Source: CSO

**The Credit Union Consumer Sentiment Index has risen in the last few months, after sentiment reached its nadir in the latter half of 2022.<sup>5</sup>**

Consumer sentiment increased to 55.6 in February, up from September’s low of 42.1 (Figure 6). The latest figures exhibit some signs of rising confidence as inflation has moderated in Ireland (see Box E). The latest index reading is the highest since June of 2022. The volume of total retail sales increased by 0.1 per cent in January and increased by 3.0 per cent on an annual basis, while a 10.5 per cent increase was recorded in value terms.

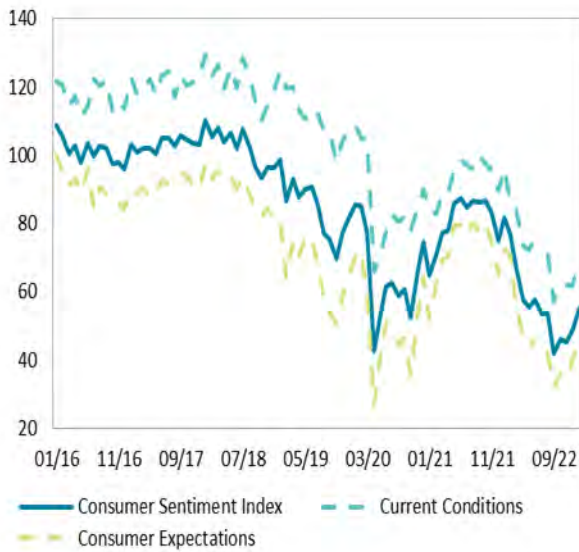
**Despite slowing in recent months, PMI indices exhibit signs of expansion in both the services and manufacturing sectors, with higher prices weighing on demand levels for manufactured goods.**

The manufacturing PMI increased from 48.7 in December to 50.1 in January, reversing the trend of the previous two months (Figure 7). Services activity continued to grow at a strong pace, with the PMI measuring 54.1, up slightly from 52.7 in the previous month. While inflationary pressures remain, the pace of growth of both manufacturing input and output prices fell to 24-month and 22-month lows respectively, with services input and output price growth falling to 19-month and 16-month lows.

<sup>5</sup> The KBC sentiment series migrated to Credit Union Ireland as part of KBC’s exit from the Irish market.

Consumer and business sentiment picked up in early 2023 after a more positive final quarter of 2022.

**Figure 6: Consumer Sentiment Index**



Source: KBC/Credit Union Ireland

**Figure 7: Purchasing Managers Indices**

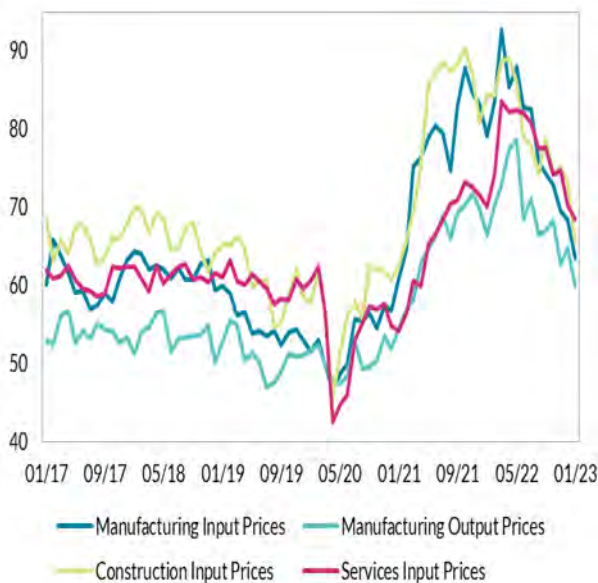


Source: Allied Irish Banks

**The rate of inflation has begun to ease in recent months, with headline prices up by 8 per cent (HICP) in the year to February.** The most notable changes in the year to January, for which there is a full set of data at the time of writing, were increases in Housing, Water, Electricity, Gas & Other Fuels (+27.2%), and Food & Non-Alcoholic Beverages (+12.8%), while Education decreased by (-7.2%).

Consumer price inflation pressures have started to ease

**Figure 8: PMI Input and Output Prices**



Source: Allied Irish Banks

**Figure 9: Consumer Price Inflation**



Source: CSO

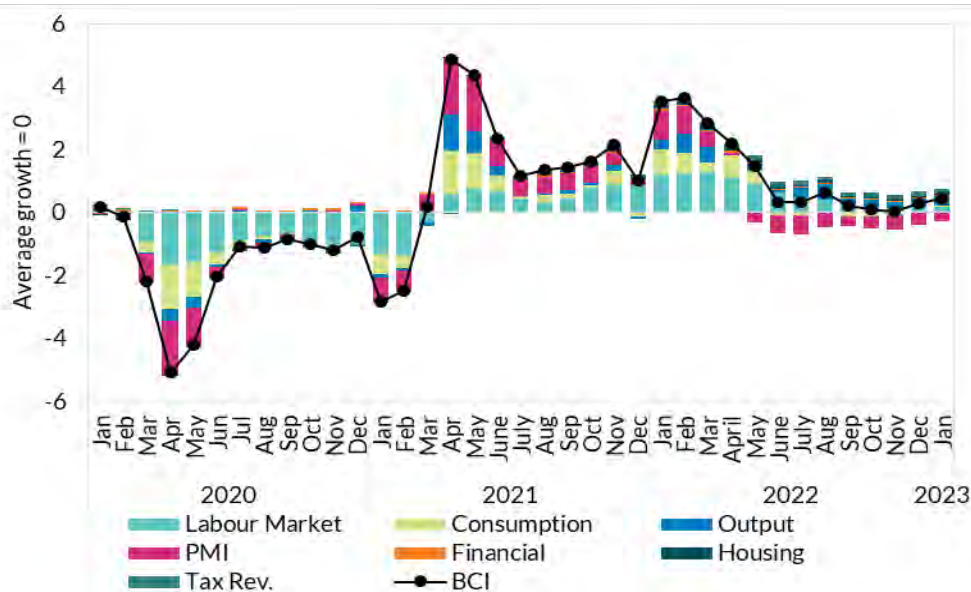
**Unemployment has remained at historical lows in recent months, with the latest monthly observation for February 2023 being 4.3 per cent.** This has accompanied continued growth in employment, albeit that the pace of employment growth has eased in the final quarter of 2022 to 2.7 per cent year-on-year.

**Tax receipts continued to perform strongly in the first months of 2023.**

Having increased by 22 per cent in 2022, tax revenue recorded annual growth of 12.6 per cent in the year to February, with the increase relatively broad based. Expenditure growth was more modest, at 4.9 per cent, and as a result the Exchequer balance recorded a small surplus when transactions with no general government impact are excluded (€0.5bn).

**The Central Bank’s Business Cycle Indicator (BCI) remained positive in January and signals a positive start to 2023.** After showing signs of much weaker growth in the latter part of 2022, the BCI suggests that there has been a slight pick-up in economic activity in recent months (Figure 10). In January, the BCI remained above zero, indicating that annual growth in economic activity was moving above its historic average. Hard data on labour market conditions, personal consumption, indigenous sector output, and the public finances, continue to make positive contributions to the BCI; however, PMIs continue to weigh on the indicator, reflecting the uncertain outlook faced by households and firms.

**BCI remains positive supported by a tight labour market and improving sentiment**  
**Figure 10: Contributions to the BCI**



Source: authors’ calculations.  
 Note: Industrial production data missing for January estimate.  
 Updated: 28/02/2023.

## Box B: Transmission of monetary policy: the Bank Lending Channel

By *Sorcha Foster*<sup>6</sup> and *Niall McInerney*<sup>7</sup>

To tackle high inflation, the ECB has increased its policy rate by 300 basis points (bps) since July 2022 to reach 2.5%. At its most recent monetary policy meeting in February, the ECB Governing Council<sup>8</sup> increased interest rates by 50bps and signalled its intention to increase rates by a further 50 bps in March.

Monetary policy is the primary policy tool for controlling inflation. It does so by influencing financing conditions across the economy and, through that, steering aggregate demand. By adjusting its interest rates, the ECB influences the cost of market borrowing for banks and other financial institutions. This in turn influences the lending rates consumers and business face, as well as the interest received on deposits, influencing their spending and investment decisions. This affects overall demand and inflation. Estimates for the euro area suggest that it can take between one and three years for the full effects of monetary policy to be transmitted to the real economy ([Havarnek and Rusnak 2013](#), [Lane 2022](#)).

One of the first and most direct ways to assess transmission of monetary policy to the economy is by examining interest rates on bank lending and the associated volumes.

### Euro Area

Evidence to date shows that pass through of monetary policy to new lending rates in the euro area has, so far, been broadly similar to the last hiking cycle (November 2005 and March 2008), albeit the pace of tightening has been much faster (see Figure 1).

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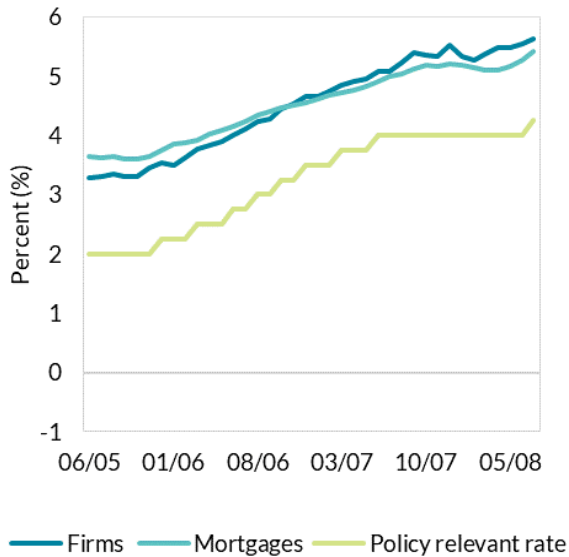
<sup>6</sup> Monetary Policy Division

<sup>7</sup> Irish Economic Analysis Division

<sup>8</sup> The [Governing Council](#) is the main decision-making body of the ECB. It consists of the six members of the Executive Board, plus the governors of the national central banks of the euro area countries.

**Figure 1: Evolution of policy relevant and new lending rates: current hiking cycle versus 2005-2008 hiking cycle, euro area.**

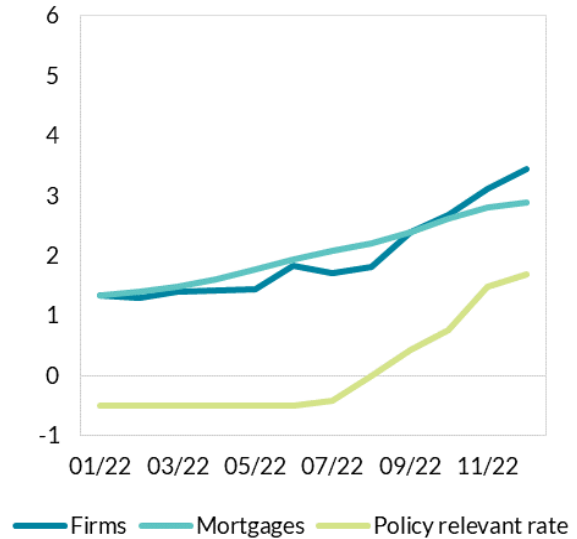
**Figure 1a: Hiking cycle 2005-2008**



Source: MIR SDW.

Note: Policy relevant rate is the MRO.

**Figure 1b: Current hiking cycle**



Source: MIR SDW.

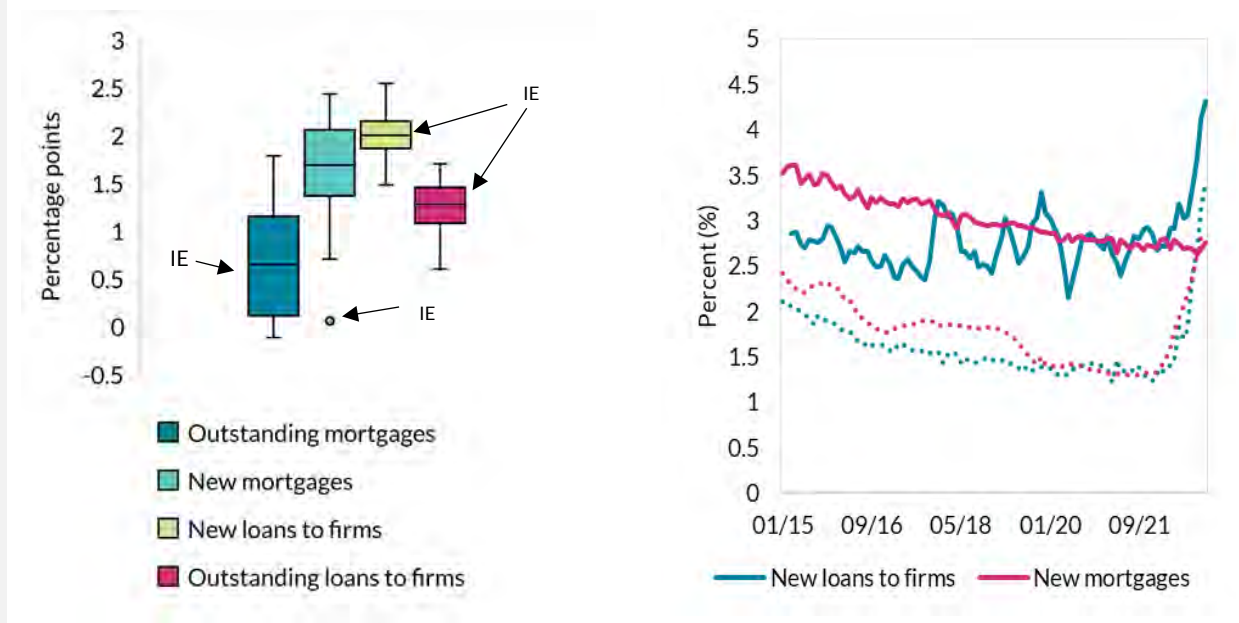
Note: Policy relevant rate is the DFR.

While interest rates have, on average, moved closely with the changes in the policy rate, there has been some variation in pass through across countries, particularly for mortgage rates (Figure 2). A key feature which drives these differences is the product mix across countries. For example in Germany, fixed rate mortgages of greater than 10 years are common, while in Finland variable rate mortgages are standard. This leads to differences in pass through. In countries with more variable rate mortgages, increases in ECB rates are shared across existing and new mortgages. In countries with a large share of fixed mortgages, changes in the monetary policy rate affect the interest rate on new mortgages only.

**Figure 2: LHS: Change in lending rates across products since January 2022, euro area countries. RHS: Level of interest rates since January 2015, euro area and Ireland.**

Figure 2: Change in lending rates since January 2022 across the euro area. Median and interquartile range across products

Figure 2b: Level of rates over time in Ireland (solid line) and euro area weighted average (dotted line).



Source: MIR SDW

Source: MIR SDW

There are some tentative signs that increases in lending rates has started to transmit to volumes of new lending in the euro area. For firms, new lending plateaued in December 2022, while new mortgages have been declining steadily, particularly in countries where house prices rose sharply post-pandemic, such as Germany.

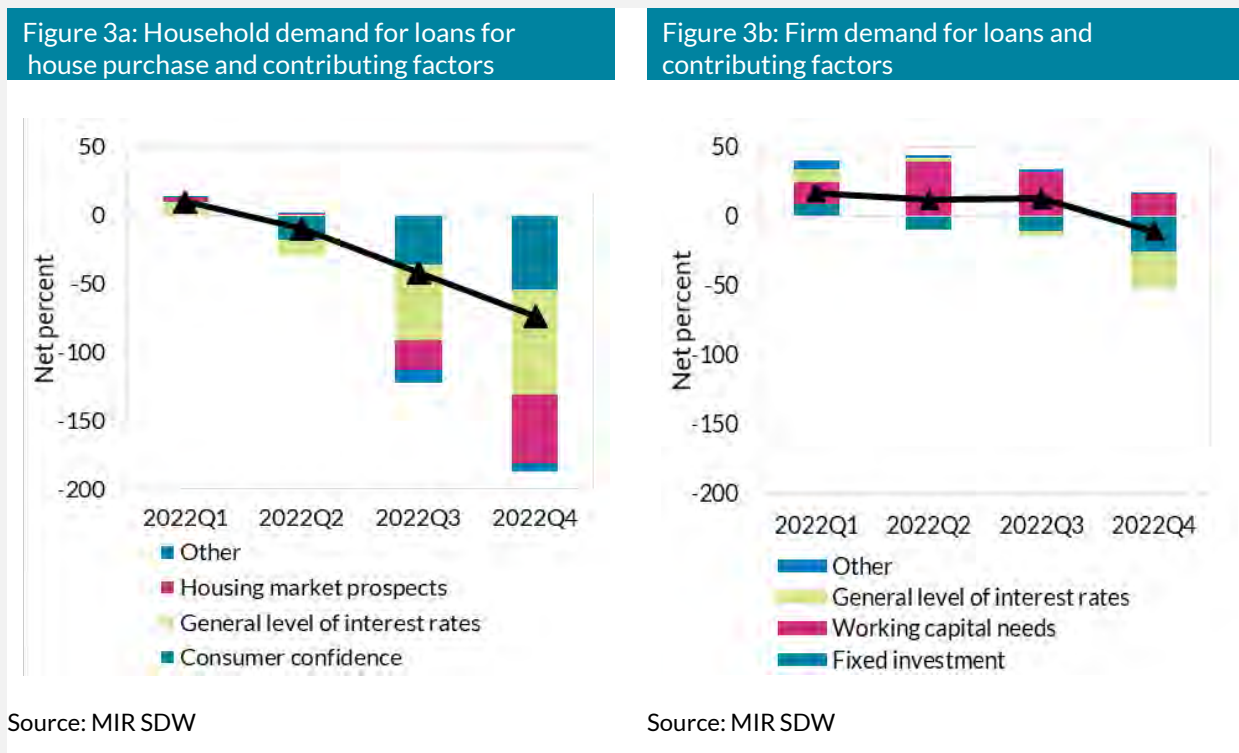
Results from the Bank Lending Survey<sup>9</sup> indicated that in Q4 2022 credit standards on loans to firms and households in the euro area tightened while demand fell. The Survey also indicates that these trends are likely to continue in Q1 2023.<sup>10</sup> The results of the Q4 2022 BLS also highlight the reasons for declining demand. For firms, these were the level of interest rates and lower fixed investment needs, while households cited consumer confidence, housing market prospects as well as the level of interest rates (see Figure 3).

<sup>9</sup> The Bank Lending Survey is a quarterly survey which asks banks about the supply of (via questions on credit standards) and demand for loans in the last quarter and their expectations for the next quarter.

<sup>10</sup> Previous research has shown that the BLS has forward looking indicator properties for firms' loan growth, particularly pointing to further declines in lending volumes going forward (Hunnekes and Kohler-Ulbrich, 2022).



**Figure 3: Demand for loans to firms and households and contributing factors.**



**Ireland**

In Ireland, interest rates on loans to firms have increased in line with other euro area countries, while interest rates on new mortgages have been slower to react (Figure 2). Advertised mortgage rates are beginning to rise, but this is taking time to feed through the system due to time lags between approval and draw down. At a first glance, it appears that monetary policy is, for now at least, passing through more slowly relative to other euro area countries in terms of new mortgage lending rates.

Simulations from the Central Bank’s structural macroeconomic model indicate that the short-run pass-through of policy rate changes to lending rates tends to be higher for interest rates on corporate loans than for mortgage rates. In particular, the estimates suggest that a one percentage point increase in policy rates raises corporate lending rates by close to 80 basis points within one year, while mortgage rates rise by around 60 basis points over the same period. These results are, directionally if not in terms of magnitude, broadly consistent with the differential rates of pass-through that have been observed thus far in this tightening cycle. The model simulations also suggest, however, that rates of pass-through tend to be similar across both types of lending in the long run.

The results of the Irish Bank Lending survey are also suggestive of slower pass through. In Q4 2022, credit standards for firms tightened, but were reported to be unchanged for mortgages. Meanwhile, demand for loans amongst firms was largely unchanged in Q4,

but increased for mortgages. Ireland was the only country where such an increase was observed.

This should be viewed in the context of many years of higher interest rates on new mortgages relative to the euro area (Figure 2). In addition, the structure of the market, which has a high share of tracker and variable rate mortgages (61%), means that interest rates on outstanding mortgages in Ireland have risen by more than the euro area weighted mean. Finally, the exit of two banks from the market means that remaining banks may be competing to increase market share.<sup>11</sup>

Overall, it is clear that monetary policy is starting to work its way through the financial system, but it will take time to assess the impact it will have on economic activity and inflation. In Ireland, monetary policy is passing through to firm lending rates, but has been slower to affect new mortgage rates.

## Box C: Spending, credit, and deposits: An update on Irish household and business activity

By Statistics Division

This Box provides a review of the latest developments in Irish household and non-financial corporations' credit, spending and deposit activity. Consumer activity picked up strongly in the lead up to Christmas with a marked decline in household deposits and increase in card spending. Developments in credit aggregates remained broadly robust through 2022, albeit the most recent movements suggesting a slight moderation in lending growth, reflecting the normalisation of monetary policy seen last year. These monetary policy changes have slowly begun to be transmitted via the domestic banking system and will continue to further influence domestic credit conditions over the coming period (see Box B).

### Household Spending

Total card spending, including ATM withdrawals, rose to a series high of €9.3 billion in December 2022, recording an annual increase of 10 per cent, following single digit growth in October and November. A combination of higher levels of consumer confidence in the pre-Christmas period, against a backdrop of higher prices, likely

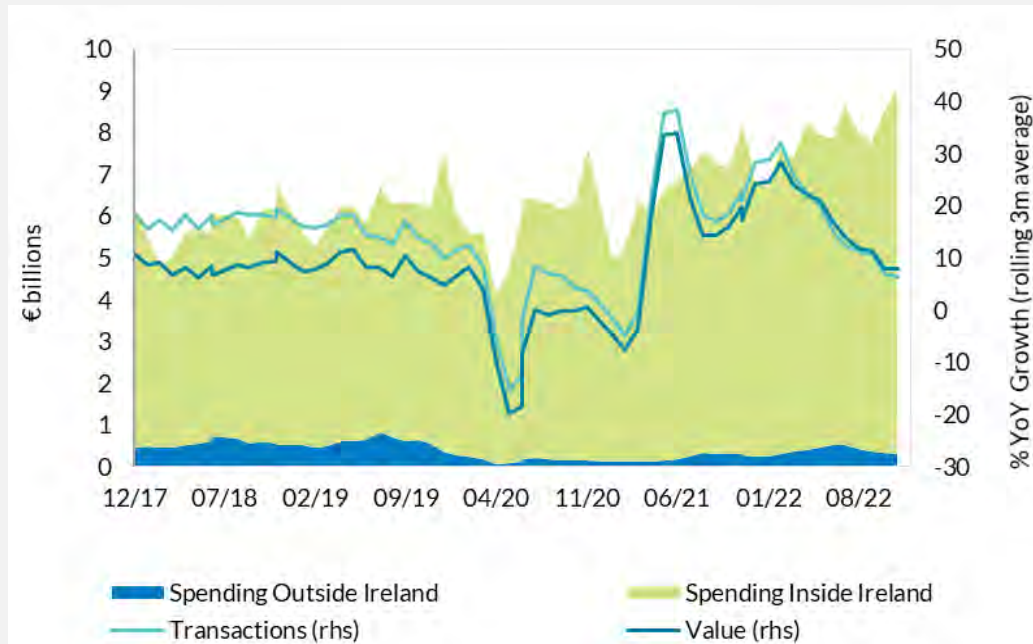
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<sup>11</sup> Non-banks also play a role in Ireland, but these have been more affected by rising interest rates due to their use of wholesale funding which is more sensitive to changes in the monetary policy rate. We would therefore, expect their lending rates to rise faster than comparable lending rates in the banking sector.

influenced spending trends in recent months. Since mid-2022, the growth in the level of card spending began to outpace the growth in the number of card transactions, which, in a period of heightened inflation, implies higher spend per transaction than in previous years (Figure 1).<sup>12</sup>

Card spending levels peaking reflecting sustained high levels of spending and inflationary pressures

Figure 1: Monthly personal card spending and cash withdrawals



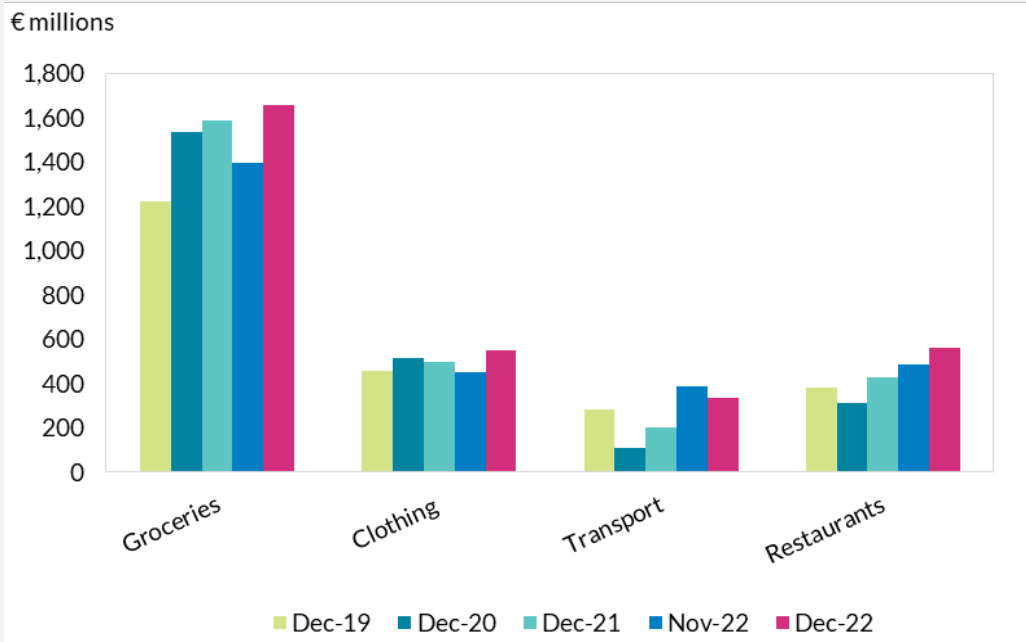
Source: Central Bank of Ireland

In 2022Q4, spending on clothing and electrical goods registered the largest increase in quarter-on-quarter terms (respectively 38% and 24%), likely reflecting seasonal factors, whereas the most sizable year-on-year increases were recorded in clothing and groceries (respectively 7% and 4%) likely in part reflecting inflationary pressures. Spending on transport, accommodation and restaurants also exhibited significant increases in year-on-year terms (respectively 45%, 19% and 22%) in 2022Q4, however they declined on a quarter-on-quarter basis (-15%, -24% and -4%). While yet to return to pre-pandemic spending levels, card spending outside of Ireland increased by 17 per cent in the three-months to end-December when compared to the same period of 2021.

<sup>12</sup> Cronin and McInerney (2022) also find that the rise in the average amount of cash withdrawn from ATMs during 2022 is in part a response to higher consumer price inflation.

## Boost in spending across sectors

Figure 2: Card spending



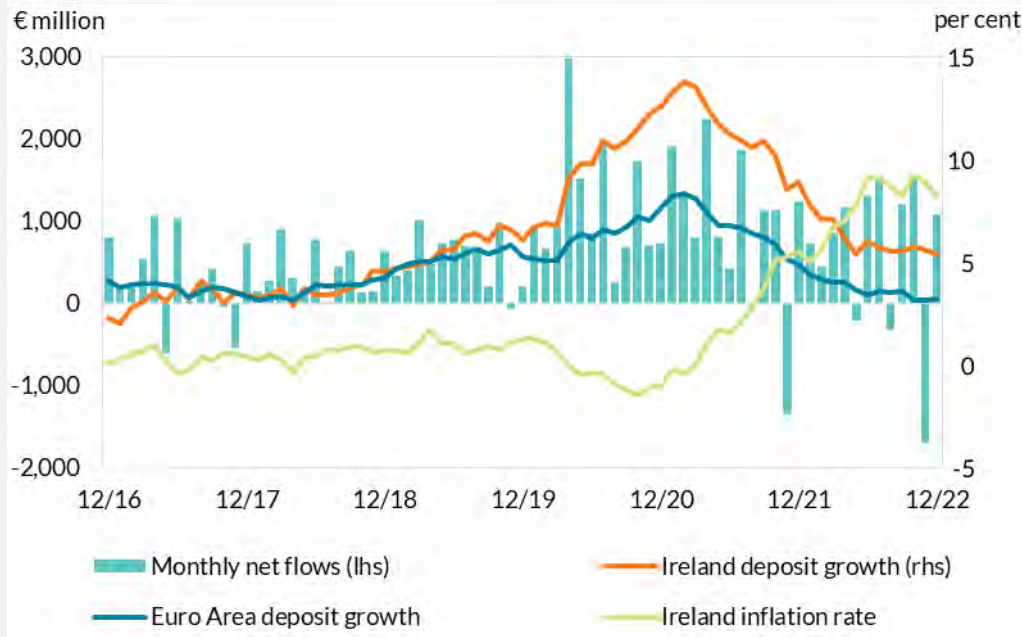
Source: Central Bank of Ireland

### Household Deposits

Against a backdrop of record high spending levels, household savings have continued to normalise. Over 2022, the net flow of [Irish household deposits](#) into Irish banks was €3.8 billion lower than was recorded in 2021. The outstanding stock of household deposits stood at €148.6 billion at end-December 2022. While continuing to outpace euro area developments, the annual growth of Irish household deposits moderated to 2019 Q2 levels, reaching 5.4 per cent in December 2022 (Figure 3). Slower growth in deposits from the peak of 2020 is to be expected, with a portion of the extra precautionary savings accrued during the pandemic being released owing to pent-up demand and as a means of smoothing consumption in real terms in light of higher consumer prices and the related reduction in households' real spending power. The gradual transmission of monetary policy passing through to higher deposit rates may also influence savings and consumption decisions of some households in the future.

Irish Household deposit growth declines from pandemic peak, while still outpacing euro area average

Figure 3: Deposits from Households; net flows, and annual rate of change



Source: Central Bank of Ireland, Central Statistics Office and European Central Bank.

## Household Lending

[Household lending](#) continues to recover from the pandemic and experienced a positive net flow of €387 million over the last quarter of 2022. The outstanding stock of household credit was €100.6 billion at end-2022, with the majority relating to mortgage credit (€83.4 billion).

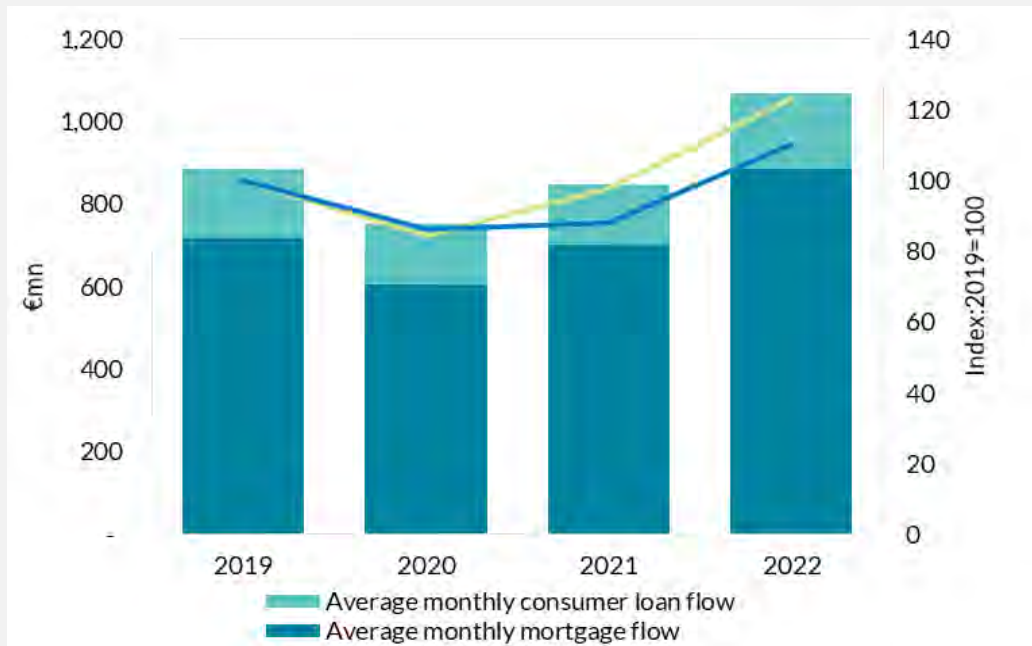
Both mortgage and consumer loans recorded higher new agreements over 2022 compared with the previous year (Figure 4). New mortgage lending increased by 26 per cent over 2022, totalling €10.6 billion, while non-mortgage household lending amounted to €3.5 billion, representing a 27 per cent increase on 2021.

Recent years have seen a shift away from variable interest rates towards fixed rate mortgages in Ireland, with the proportion of fixed-rate mortgages accounting for 93 per cent of the total stock of new mortgages in December 2022 (84 per cent in December 2021). The Banking & Payments Federation of Ireland recently highlighted that [mortgage approvals](#), which typically occur earlier than mortgage agreements, declined 1 per cent in year-on-year value terms in December 2022. First time buyer approvals declined 12 per cent, however, re-mortgage activity showed a 57 per cent increase.

New consumer lending totalled €143 million in December, equating to an increase of 38 per cent in annual terms, albeit a slight deceleration on a monthly basis.

## New Household Bank Lending recovering from pandemic lows and remaining strong through 2022

Figure 4: New Household Lending by purpose



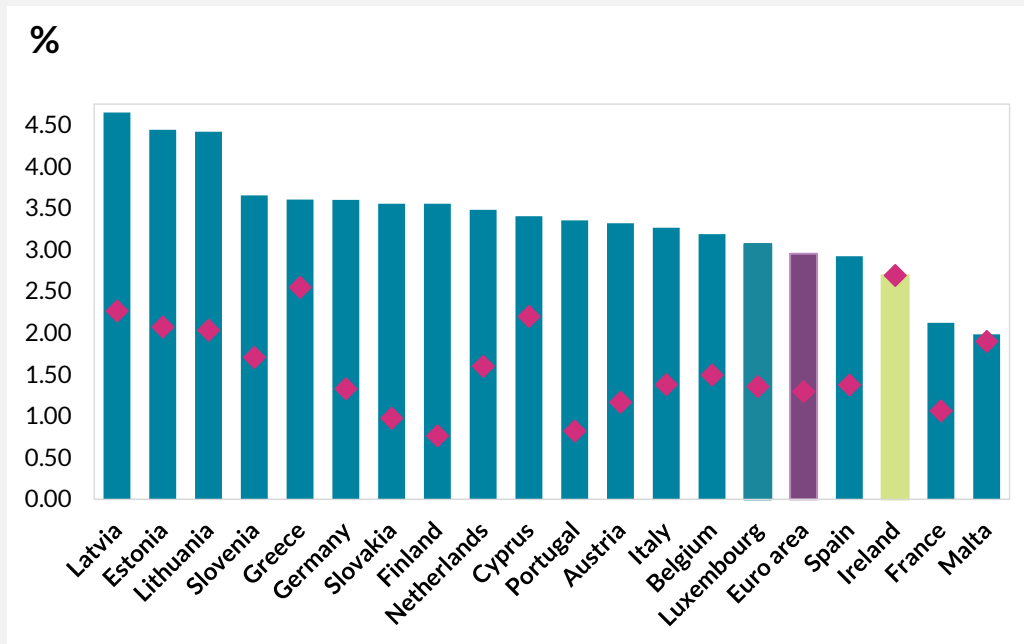
Source: Central Bank of Ireland

Bank interest rates for new mortgage loans (excluding renegotiations) rose to 2.69 per cent in December 2022; up 12 basis points from November and unchanged from end-2021. Corresponding euro area mortgage rates were 166 basis points higher than end-2021. Interest rate movements across the euro area, which followed the ECB's sequence of rates hikes since July, have led to a significant change in the position of Irish rates relative to other euro area countries, as the interest rate on new mortgages (excluding renegotiations) in Ireland fell below the euro area average in October 2022 for the first time since the series began in August 2017 (Figure 5).

The different pass through dynamics among the wider euro area versus the Irish experience may be partly explained by the [structure of the Irish banking sector](#), and may be seen in 'the decade long context of mortgage rates falling by less than in the euro area countries over the period of very accommodative monetary policy' ([Madouros, 2023](#)).

## Changing Pass-through dynamics of Euro Area New mortgage lending rates

Figure 5: Mortgage Rates Cross-Country comparison



Source: Central Bank of Ireland

Latest observations: December 2022.

Note: pink diamonds represent the corresponding rate (%) on December 2021 for the respective country

## Business Credit

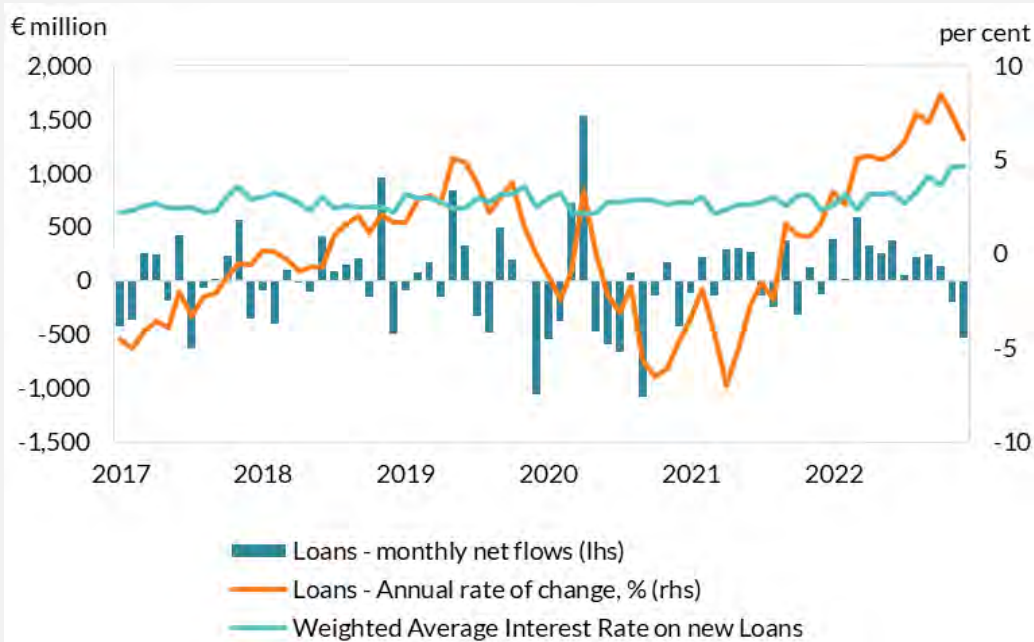
Bank lending to [non-financial corporates](#) (NFCs) continued to grow in year-on-year terms December (6.1 per cent), albeit that the pace of growth slowed relative to the preceding months. Despite repayments exceeding drawdowns in both November and December 2022, for the year as a whole drawdowns exceeded repayments by €1.9 billion, marking the largest positive net flow since 2008 (Figure 6).

[New NFC loan agreements](#) were €1.5 billion in December 2022, 37 per cent lower than December 2021 and 13 per cent higher than November. Breaking this figure down by loan size shows that overall new lending to NFCs is driven by loans in the over €1 million category (€1.4 billion), typically considered as lending to larger enterprises.

Following recent monetary policy announcements and tracking a similar path to the rest of the euro area, the interest rate on bank's new lending to firms increased broadly across all loan size categories. Since the end of 2021, the weighted average interest rate on loans of under €1 million increased by a cumulative 123 basis points, and by 244 basis points for loans of over €1 million.

## Reversal of recent Bank NFC net lending during the last quarter of 2022

Figure 6: Net flows of loans to Non-financial Corporations



Source: Central Bank of Ireland

Looking at [Small and Medium sized enterprises](#) (SMEs), the amount of gross new lending advanced by Irish banks grew to €4.4 billion over the year to end-September 2022. In annual terms, drawdowns exceeded repayments by €355 million, representing the first positive annual net lending to SMEs since the series began in 2010. Despite this, gross new lending flows to SMEs have not yet recovered fully to pre-pandemic levels.

The weighted average interest rate on outstanding SME loans rose to 3.76 per cent at end September 2022, while the interest rate on new SME loan drawdowns increased by 42 basis points to stand at 4.11 per cent. The increase in the interest rates on new lending was seen on lending to all SME sectors over the quarter, and the majority of sectors over the year.

The results from the latest SME Credit [Demand](#) Survey (conducted between October and December 2022 and covering from April to September 2022) suggest that credit demand by SMEs remained stable in the six months to September 2022 in terms of size and composition and is expected to increase further.

According to the results of the [Bank Lending Survey](#) for Ireland, credit demand was slightly down for SMEs averaged across the corresponding period (2022Q2 and 2022Q3) relative to the average of the previous six-months and was expected to continue contracting.



## Domestic Demand

### Overview

The outlook for domestic demand has improved slightly, as inflationary pressures are now expected to be less severe than at the time of the last *Bulletin*. The ongoing energy crisis and associated high inflation, elevated uncertainty, as well as the tightening stance of monetary policy will continue to generate economic headwinds, albeit to a lesser extent than forecast at the time of the last *Bulletin* (see Box E).

While consumption will remain slow during the first half of the year, investment is likely to remain strong owing to the activities of the multinational sector of the economy. Modified Investment, which removes the distortionary effect of intellectual property as well as the purchase of aircraft by leasing firms, grew by 28 per cent in 2022 compared with 2021, primarily driven by investment in Machinery and Equipment. This growth rate was significantly higher than the euro area average and more than likely represents large investments by multinational firms. Looking ahead, the growth rate of investment is projected to moderate to more normal, albeit strong levels.

Modified domestic demand is forecast to grow by 8.2 per cent in 2022, 3.1 per cent in 2023 and 2.9 per cent in 2024, a slightly stronger pace than forecast in the October *Bulletin* (Figure 11).

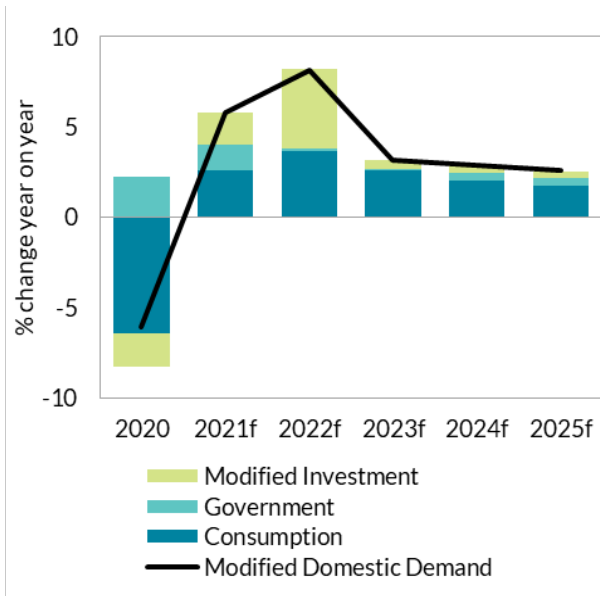
**Table 2: Key assumptions**

	2010-2020 Average	2023*	2024	2025
Oil (\$ Per Barrel)	76.30	82.4	77.8	73.9
Natural Gas (€ per MWh)	19.10	58.3	61.4	50.8
Pound Sterling	0.84	0.89	0.89	0.89
US Dollar	1.22	1.08	1.08	1.08

\*2023 figures refer to assumptions about the remainder of 2023 following the forecast cut-off (3<sup>rd</sup> March). Oil and gas price assumptions are derived from futures prices.

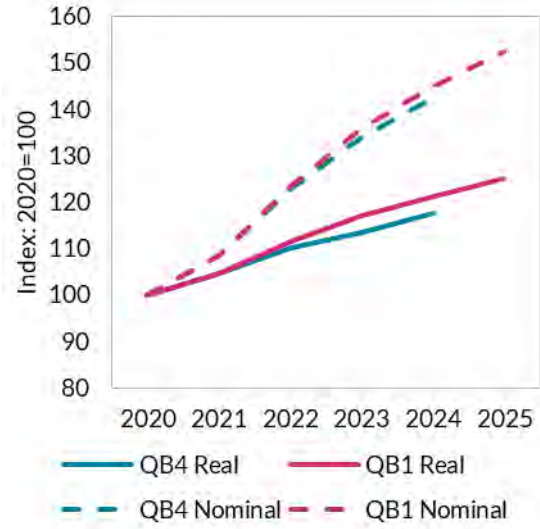
MDD and Consumption are projected to rise at a stronger pace than previously forecast

Figure 11: Contributions to MDD Growth



Source: CSO and Central Bank of Ireland

Figure 12: Nominal vs Real Consumption Revisions.



Source: CSO and Central Bank of Ireland

### Consumption

Consumption was unexpectedly buoyant in the 4<sup>th</sup> quarter of 2022, and is expected to grow strongly this year. High inflation alongside relatively muted wage growth has reduced household real incomes, but fiscal supports, accumulated savings and a slight weakening of the inflation rate are supporting consumption in the near term. These forces are expected to continue to dominate the outlook for consumption in the first half of the year. Consumption growth is expected to continue to be concentrated in the services sector, with retail sales and inflation adjusted card-payment data showing levels in the beginning of the year to be flat or slightly below the same period in 2022 (Figures 13 & 14).

## High frequency indicators point to consumption weakness in Q4 2022 and Q1 2023

Figure 13: Retail Sales



Source: CSO

Figure 14: Year on year change in card payments adjusted for inflation



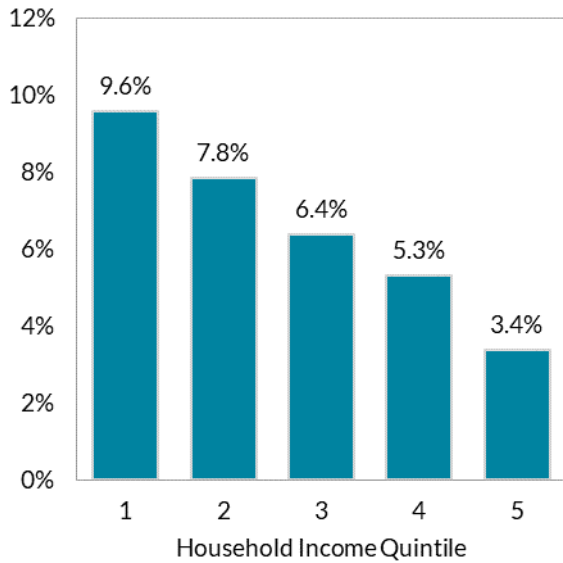
Source: Central Bank of Ireland, CSO and internal calculations

Note: Series adjusted for inflation using monthly HICP.

**As price pressures moderate and incomes pick up, consumption should pick up more strongly in the second half of the year supported by stronger purchases of goods.** Moderating inflation (see Box E) as well as the lagged effect of last year's price increases on wages will see households real incomes improve from Q3 onwards. Consumption in Ireland has been slower to recover from the Covid-19 pandemic than other euro-area countries (Figure 17), while the household savings ratio remains high at 19 per cent in 2022Q3. Taken together, these factors point to scope for stronger than average consumption growth over the forecast horizon. As such, consumption is forecast to grow by 4.8 per cent in 2023. With the underlying dynamics of stronger real income growth through the forecast horizon, consumption is forecast to grow by 3.7 per cent in 2024 and 2.9 per cent in 2025. These are indicative of stronger than historical average rates of consumption growth.

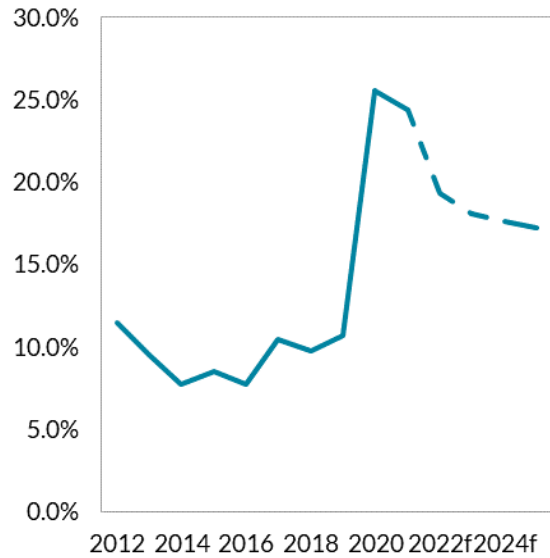
The increase in energy prices will affect lower income households disproportionately

**Figure 15: Share of income expenditure on energy by quartile**



Source: Household Finance and Consumption Survey

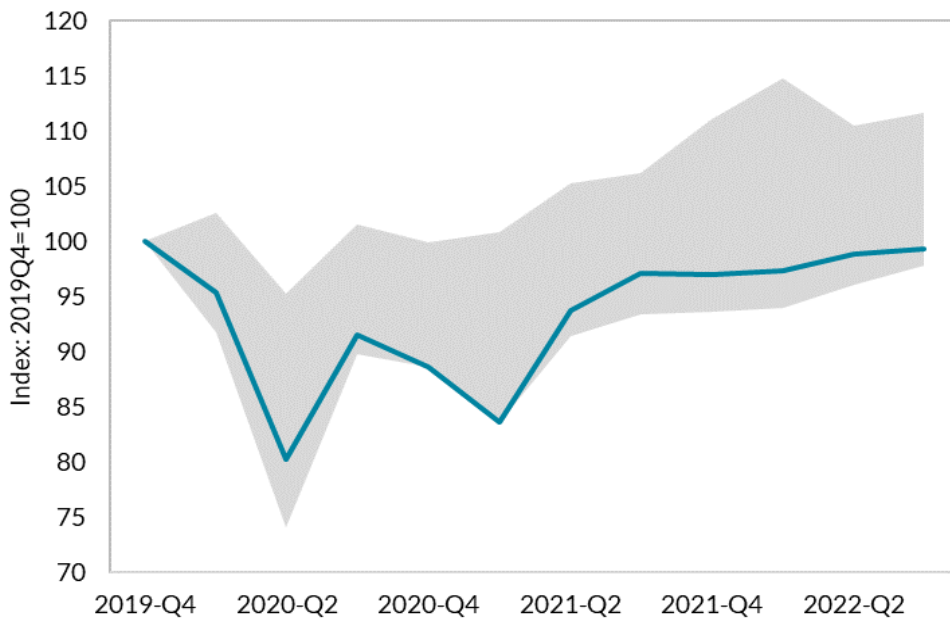
**Figure 16: Savings Ratio**



Source: CSO

The consumption recovery after the Covid-19 pandemic has been weaker in Ireland than the Eurozone average

**Figure 17: Final consumption expenditure of households (Ireland and Euro-area range)**



Source: Eurostat and CBI calculations

Note: The shaded bands represent the maximum and minimum values for euro-area countries over the period.

## Investment

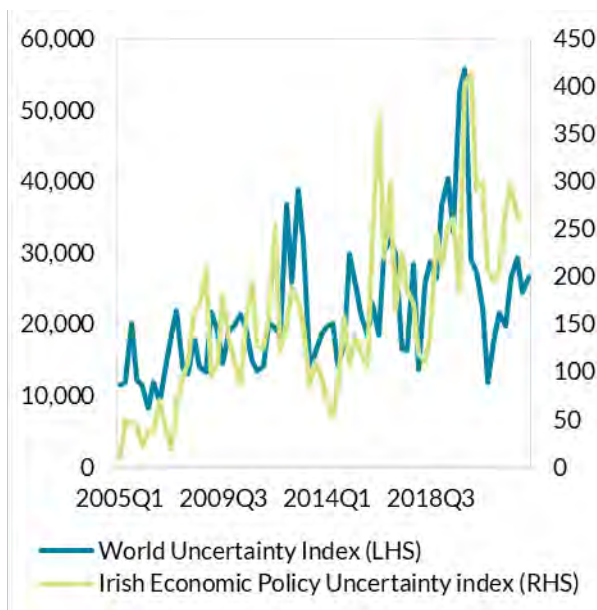
**Headline and modified investment continued its strong recovery after the pandemic, but more modest growth is expected over the forecast horizon.**

The outlook, however, is subject to considerable uncertainty. Global and domestic measures of uncertainty remain high (Figures 18 & 19) as the war in Ukraine continues, interest rates increase and high profile job losses in the ICT sector made headlines. On a positive note, the global macro environment is more favourable than the previous *Bulletin* as China reopened following a change in its pandemic policy, risks of global recession seem to be fading, and wholesale energy prices and inflation are declining.

**The exceptional performance of modified investment in 2022 is likely related to large plant-specific investments in the MNE sector.** The high concentration of large high-value added multinationals can result in large swings in Ireland’s investment figures. Some momentum from last year is expected to continue into the forecast horizon with investment forecast to grow by 3.7 in 2023 and 3.5 per cent in 2024 and 2025.

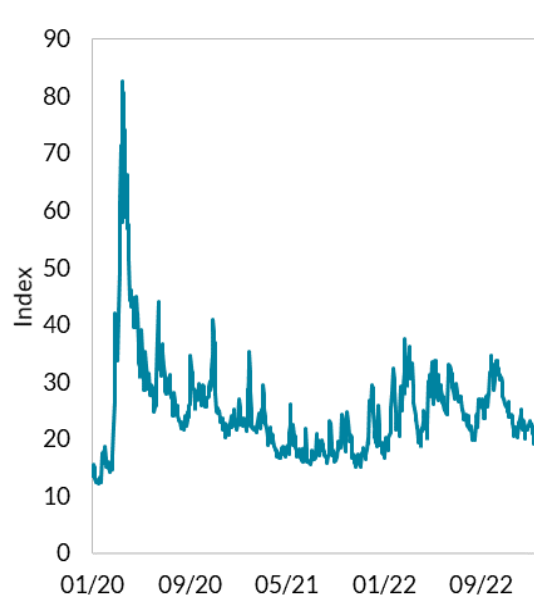
### Uncertainty remains high

**Figure 18: World Uncertainty Index**



Source: IMF

**Figure 19: VIX Volatility Index**



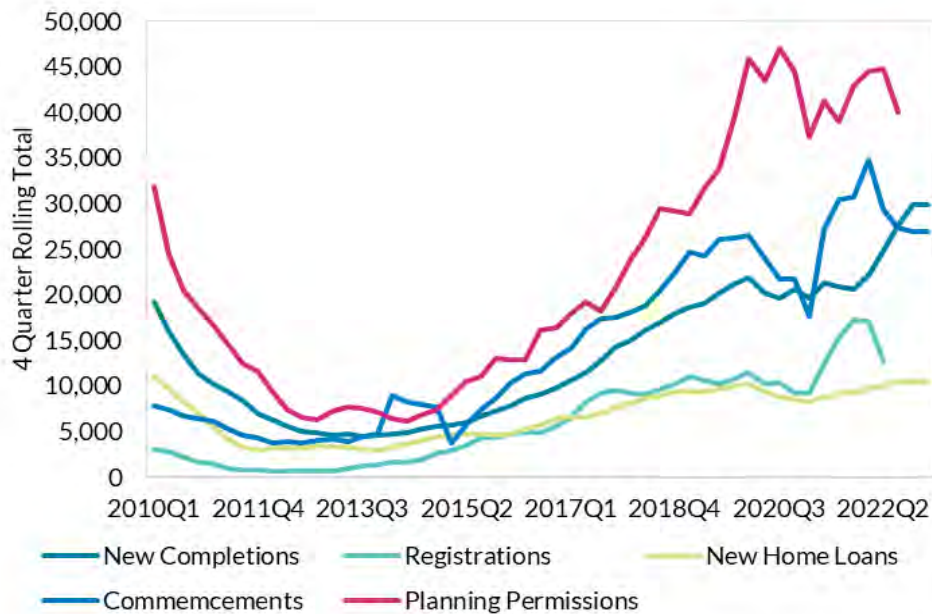
Source: CBOE

**On the housing front, there was a stronger than anticipated Q4 2022 outturn, with completions for the year totalling almost 29,000.** Forward looking indicators would suggest, however, that completions this year will be lower. Figure 20 illustrates that there has been some weakness in planning

permission and commencements figures throughout the course of 2022. Commencements were running at about 27,000 on an annual basis in the final quarter of 2022. New completions are forecast to be constrained by labour and material shortages, as well as continued increases in construction input costs. House completions are forecast to number approximately 27,000 this year, increasing to 29,500 and 32,500 in 2024 and 2025, respectively.

Strong completions in Q4 2022 but commencement weakness for 2023

Figure 20: Housing Supply Indicators

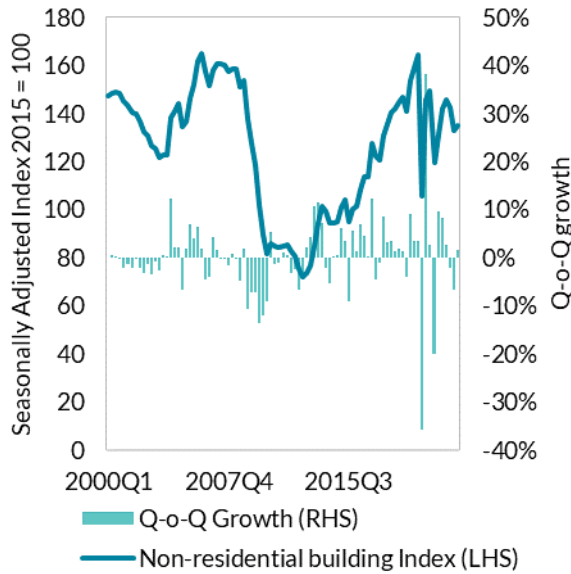


Source: CSO, DoHLGH, BPF, Central Bank of Ireland

**On the non-residential side, construction levels have not returned to pre-pandemic levels (Figure 21).** The available National Accounts points to reasonably strong growth in the first three quarters of 2022, with volumes up approximately 6 per cent year-on-year. The soft data (Figure 22) is pointing to some improvement in the commercial sector but the civil engineering sector remains in contraction. The forecast for non-residential building and construction is for 3 per cent growth per annum over the forecast horizon. This is an upward revision compared to the previous *Bulletin*. These are contingent on a pick-up in civil infrastructure and no more major shocks to the domestic or international economy.

**Non-Res Building sees positive momentum while Soft data still contracting but improving**

**Figure 21: Non-residential building index**



Source: CSO Building and Construction Index

**Figure 22: PMI - Construction sector new orders**

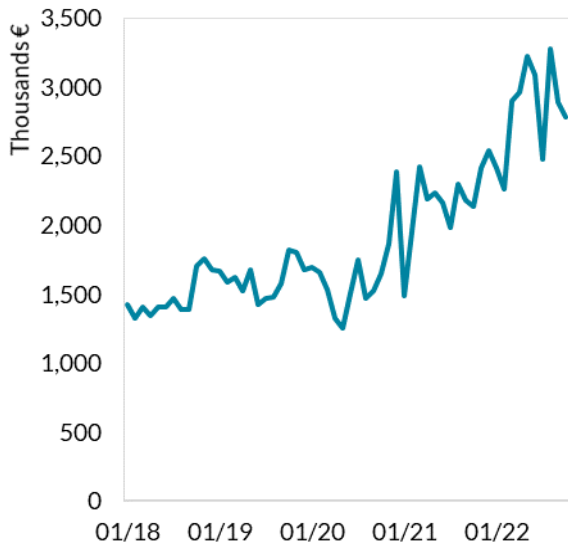


Source: IR BNP PARIBAS Purchasing Managers Index

**The outlook for machinery and equipment (M&E) investment is more uncertain.** The high levels of modified machinery and equipment investment in 2022, which is forecast to reach approximately €20 billion, is forecast to continue in the base of 2023, with growth of 5 per cent forecast. These high levels of equipment expenditures likely relate to the fit-out of large machinery intensive MNE plants, which are expected to continue for this year. In addition to these large firm specific expenditures, investment in data centres, increased digitalisation and WFH investment, coupled with increases spending on decarbonisation mean that machinery and equipment investment could remain at current high levels. This is supported by available import data (Figure 23 and Figure 24) which suggest that the upward trend will continue into 2023. M&E investment (excluding other transport) is forecast to increase by 5 per cent in 2023, before declining by 2 per cent in 2024 and by 3 per cent in 2025.

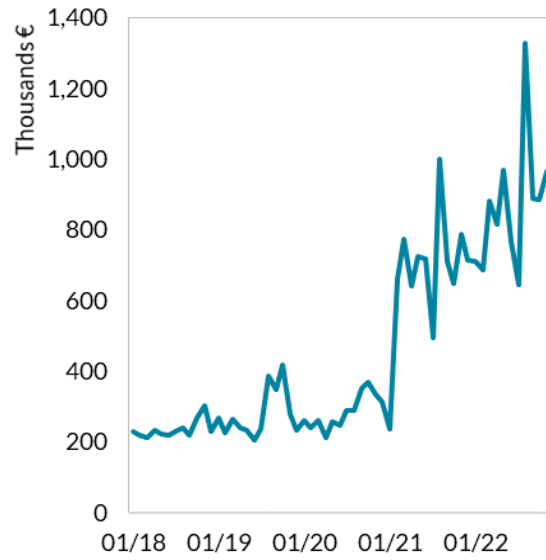
Imports of machinery and equipment continued on an upward trend in 2022

Figure 23: M&E excluding Planes Imports



Source: CSO

Figure 24: Electrical Machinery Imports

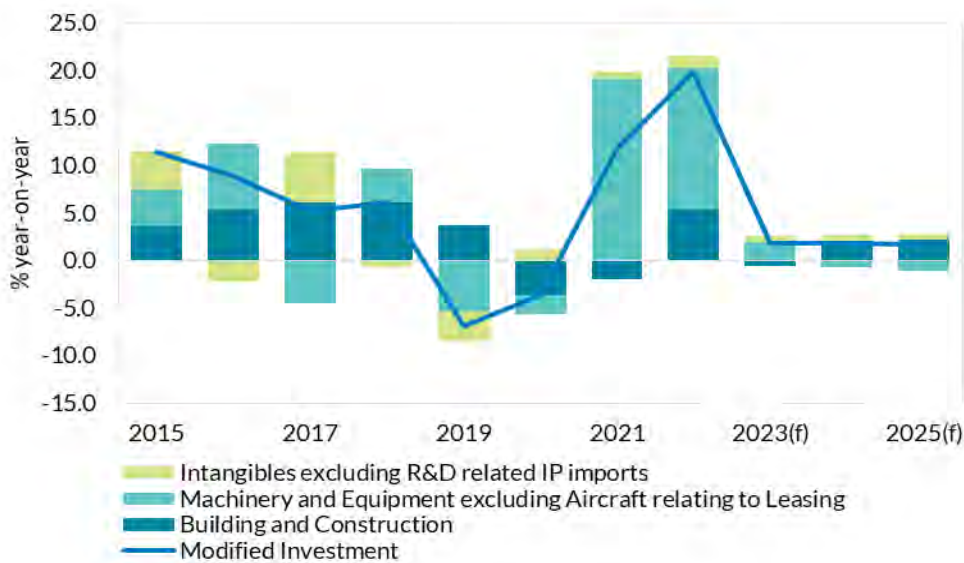


Source: CSO

Overall, modified investment is forecast to grow by 1.8 per cent in 2023 and 2024 and 1.7 per cent in 2025. The growth in 2023 will feature some momentum from the sheer scale of M&E investment last year, and there remains a positive pipeline of investment activity in certain MNE-dominated sectors. A combination of tighter financing conditions, continued uncertainty, and base effects then temper growth to more moderate growth rates.

Strong M&E has carried investment growth

Figure 25: Gross Fixed Capital Formation



Source: CSO and Central Bank of Ireland



## Exports, Imports and the Balance of Payments

**Trade components of the national accounts continued to drive output growth during 2022.** With net exports accounting for €188.1 billion (40 per cent) of GDP, Irish firms continued to play an important role in European and global value chains. Increased trade integration in organic chemicals, medical and pharmaceutical products, and ICT services (coupled with increased R&D and royalties/licencing imports) contributed to real annual growth rates of 15.2 per cent and 18.9 per cent for exports and imports, respectively. Overall, real net trade growth of 6.8% in 2022 continues to reflect the strong value-added contribution of Irish industry to global goods and services trade.

### Merchandise Trade

**Small net changes masked large real growth in merchandise exports and imports.** Despite large changes in the components of both gross exports and imports, net merchandise exports for 2022 were broadly similar to 2021, declining by 3.9 per cent (-€2.2 billion) in real terms. While real merchandise exports increased by 25.7 per cent to €201 billion, real imports grew at a more substantial pace, rising 44.7 per cent to €146 billion. Again, these figures are reflective of the extent to which Ireland is integrated in the global value chain: a substantial component of our merchandise imports are used as intermediate products for merchandise exports (this is particularly true in the chemicals sector).

Irish merchandise imports and exports continue to expand, despite trade and globalization headwinds in 2022

**Figure 26: Gross and Net Irish Merchandise Trade, 2019-2022**



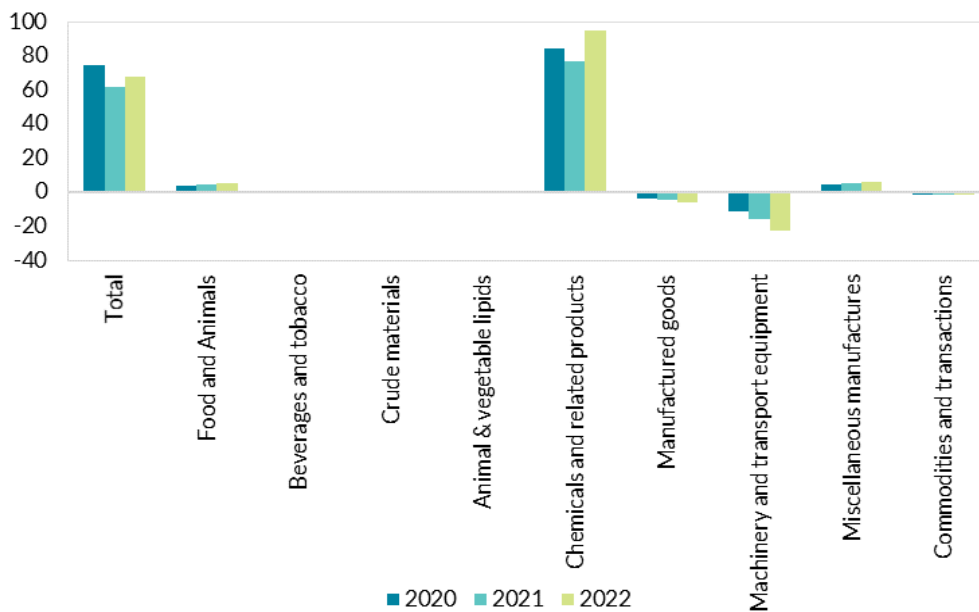
Source: CSO and Central Bank of Ireland

### Irish trade remains heavily concentrated in a small number of key sectors.

From the disaggregated sectoral trade data, it is apparent that there a number of sectors where Ireland adds considerable value to foreign households and firms, and specific industries where Irish households and firms are heavily dependent on imported products. Chemical and Pharmaceutical Products remains the dominant export category, up 30.4per cent from 2021, accounting for 64per cent of total Irish goods exports. A substantial component of these exports represent intermediate products in GVCs, feeding into the production of output in related sectors abroad (e.g. British and German organic chemicals and pharmaceutical sectoral production). Similarly, machinery and transport equipment and mineral fuels (primarily energy) have become the most import-dependent sectors in the Irish economy, representing -€33.4 billion of the 2022 merchandise trade balance.

Irish chemicals and pharmaceutical exports the primary driver of positive merchandise trade balances.

Figure 27: Sectoral Composition of Net Merchandise Trade, 2020-2022



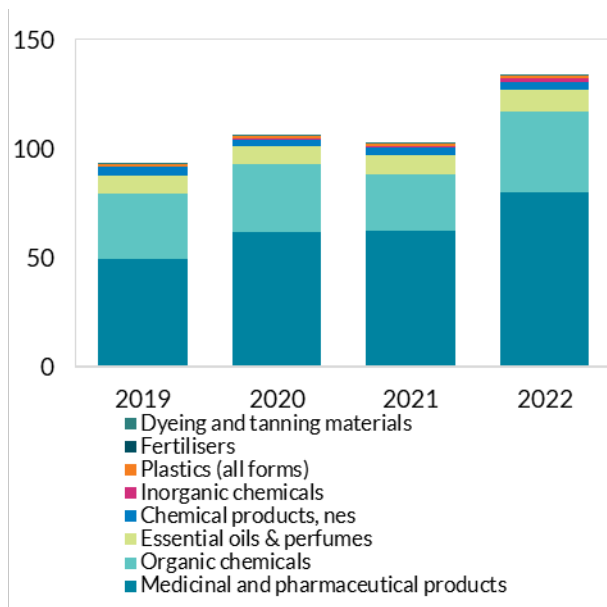
Source: CSO and Central Bank of Ireland

**Concentration extends to sub-sectors, highlighting the specialisation of Irish industry.** From the NACE sub-sectoral data, the majority of the growth in chemicals exports in 2022 came from the organic chemicals and medical and pharmaceutical industries. Combined, they accounted for 87 per cent of the value and 91 per cent of the growth of chemicals exports in 2022. Similarly,

electrical machinery and other transport equipment (primarily purchases of airplanes used in the aircraft-leasing sector) accounted for over 50per cent of the value of machinery imports in 2022, although sectoral growth was slightly more diversified across product categories. Notably, specialized machinery imports accounted for €5 billion (10 per cent) of total machinery imports; a larger amount than the cumulative import values for the same category between 2019 and 2021. A significant component of these expenditures relate to the major capital investments that are ongoing in the pharmaceutical and semiconductor manufacturing sectors. While these effects are unlikely to be permanent additions to import or investment flows, the nature of these projects means that similar dynamics can be expected across the forecast horizon.

**Medical and pharma industry a core driver of future export growth**

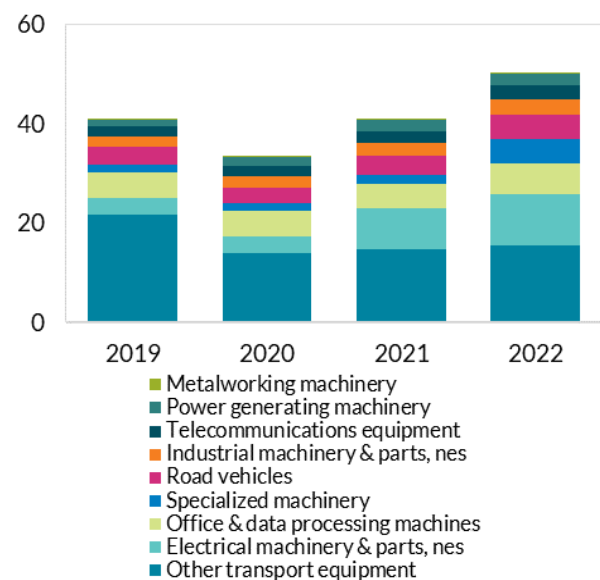
**Figure 28: Composition of Chemicals Exports, 2019-2022**



Source: CSO, author's calculations.

**Domestic growth remains dependent on key import categories**

**Figure 29: Composition of Machinery Imports, 2019-2022**

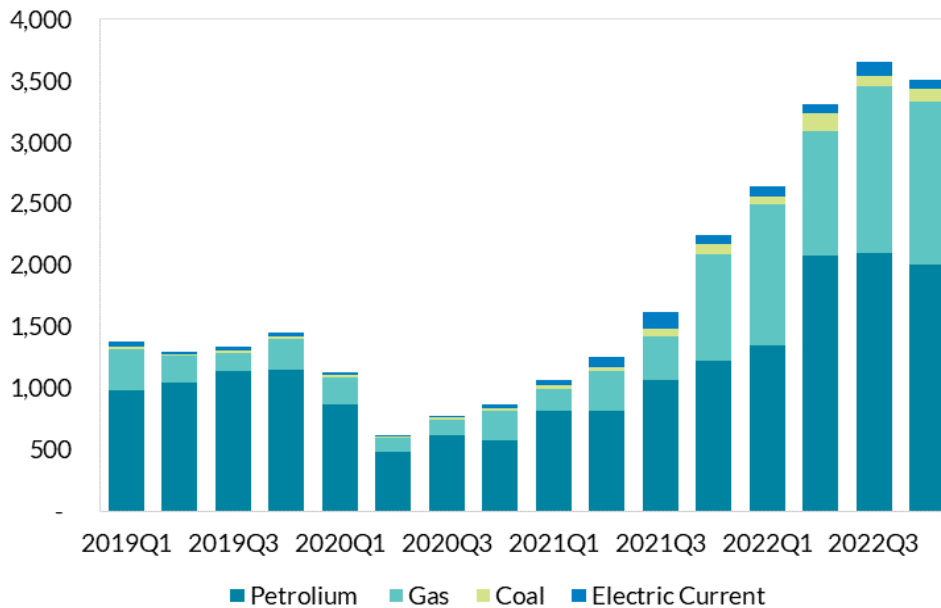


Source: CSO, author's calculations.

**Wholesale energy cost increases continue to affect Irish imports of coal, oil and gas.** The value of energy import expenditure has grown by nearly 100per cent year-on-year since 2020. Declines in the price of oil and gas across European energy markets, combined with a reduction in the degree of supply uncertainty, contributed to a stabilization of import costs across Q3 and Q4 of 2022. While the nominal value of energy imports reached a historical peak in 2022, costs as a share of total merchandise imports were only 9.4 per cent, well below the double-digit values observed between 2008 and 2014.

Energy import costs have stabilized, but remain elevated due to global conditions and market prices.

Figure 30: Irish energy import values by commodity group, 2019-2022

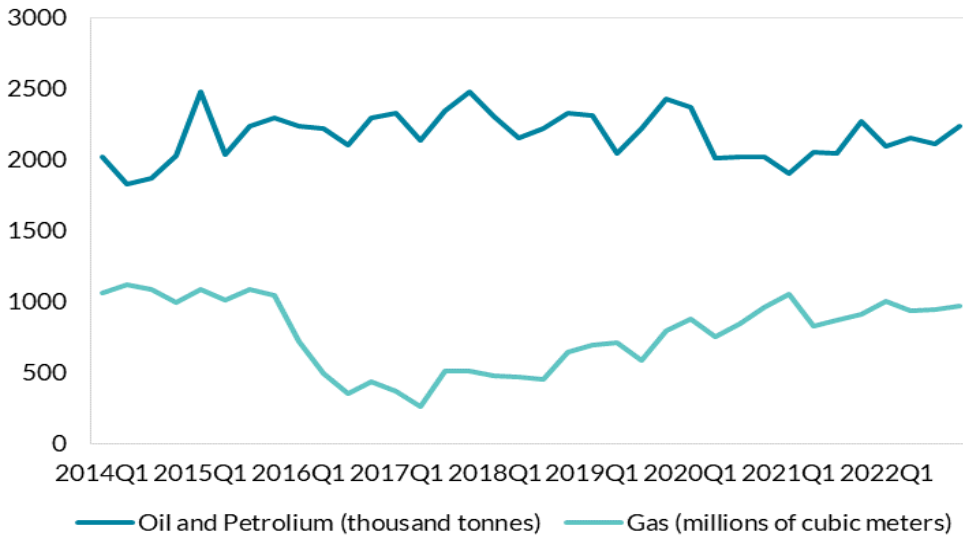


Source: CSO and Central Bank of Ireland

**In volume terms, the dynamics of oil and gas imports in 2022 do not appear inconsistent with previous trends.** While growth in the volume of gas imports declined between 2021 (6.5 per cent) and 2022 (5.1 per cent), oil imports were positive (up 3.9 per cent, equivalent to 325,000 tonnes) for the first time since 2017. With respect to gas supplies, almost all of Irish imports (>90per cent) come from the UK, who in turn primarily import gas from Norway, Qatar, the U.S. and the Netherlands. The lack of primary or secondary trade channels with either Russia or the Ukraine may have limited supply disruptions in Ireland, relative to other European countries. However, wholesale market price developments have of course been heavily influenced by the war.

Gas and oil import volumes have remained stable, with no discernible changes in import trends from the 2022 energy market disruptions.

**Figure 31: Irish energy import volumes by commodity group, 2014-2022**



Source: Eurostat

**With the turbulence of energy supply in the wake of the Russia – Ukraine conflict, Ireland has become increasingly reliant on the UK for energy imports.** In 2021, Irish energy imports from the UK accounted for 15.4 per cent of total energy imports: in 2022, this dependence increased to 63.2 per cent of imports. A high dependence on a single source poses a supply risk in general, which could affect the capacity to meet the domestic energy demands of Irish households and businesses.

Irish dependence on UK energy imports has increased substantially.

**Figure 32: Irish-UK Trade composition, 2010-2022**

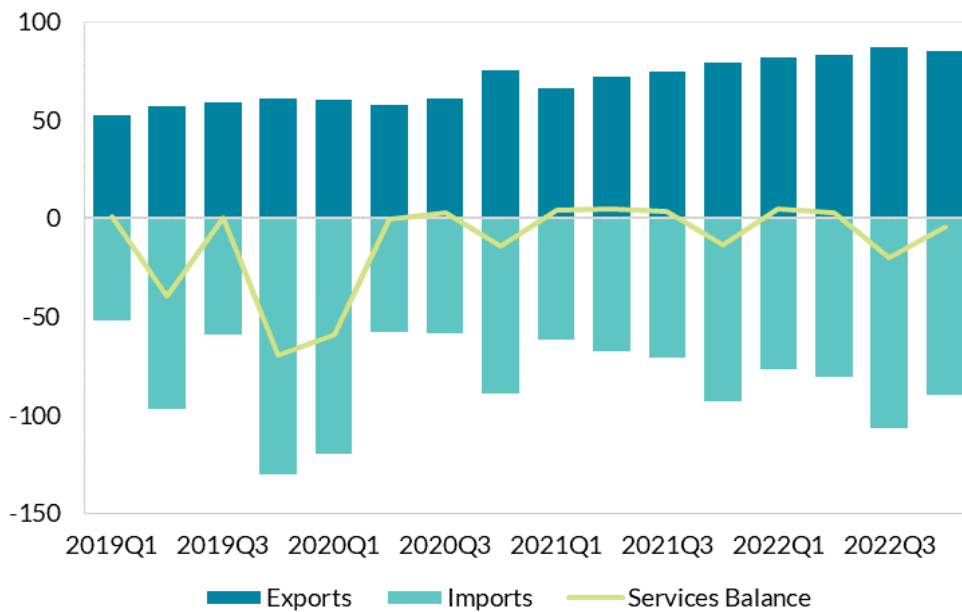


Source: CSO and Central Bank of Ireland

## Services Trade

**Net services trade declined further in 2022, decreasing to -€16.6 billion from a balance of -€0.25 billion in 2021.** The services trade balance declined in the final two quarters of 2022, after back-to-back quarters of positive net growth to begin the year. Growth in services exports was 14.8% in 2022, continuing the double-digit growth trend observed in the recent data. In contrast, services imports recovered strongly in 2022, following two years of declining values in 2020 and 2021, recording annual growth of 20.8 per cent.

**Gross Services Exports and Imports expanded strongly in 2022, but net trade declined**  
**Figure 33: Gross and Net Irish Services Trade, 2019-2022**



Source: CSO and Central Bank of Ireland

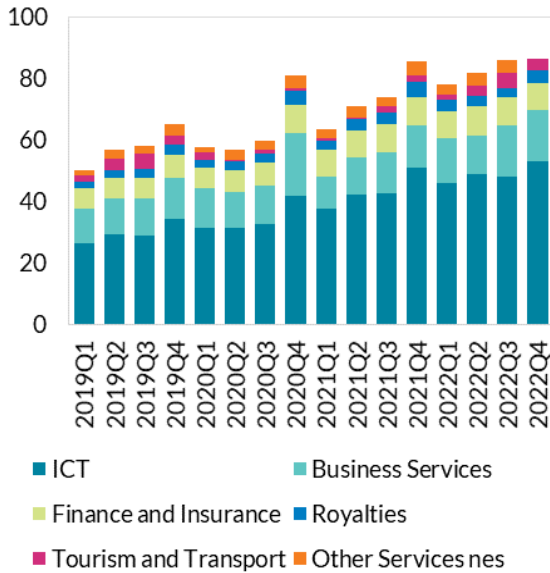
**Services exports continue to be driven by growth in the ICT sector.** ICT services exports accounted for 56-60 per cent of gross exports in each quarter of 2022, contributing €23 billion (53 per cent) of the €43.7 billion growth in services exports between 2021 and 2022. With the potential economic slowdown in the ICT sector forcing global firms to trim costs, increase efficiency, and grow revenues, the risks to sectoral contraction relate more to employment than output. Thus, we expect the ICT sector to continue to drive exports in the Irish services sector in 2023 and beyond, with positive growth in turnover, profitability and tax contributions.

**Services imports remain heavily skewed by large R&D and IP flows.** Services imports increased by €61 billion in 2022, equivalent to growth of 20.8 per cent on values for 2021. A key contributory factor was the €34 million inflow in

research and development (R&D) imports in Q3 2022, and the €41.4 billion of royalties and licencing imports in Q4 2022. Almost two-thirds of the growth in imports in 2022 derived from the R&D and Royalties/Licencing sectors. All six import sectors shown in Figure 35 recorded positive growth across 2022.

ICT services driving export growth, but face risks from sectoral slowdown.

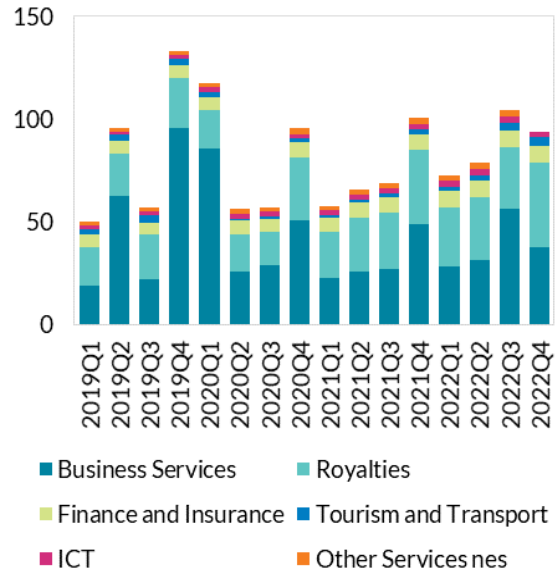
Figure 34: Composition of Services Exports, 2019-2022



Source: CSO, author's calculations.

Royalties, R&D and IP payments continue to dominate services imports.

Figure 35: Composition of Services Imports, 2019-2022

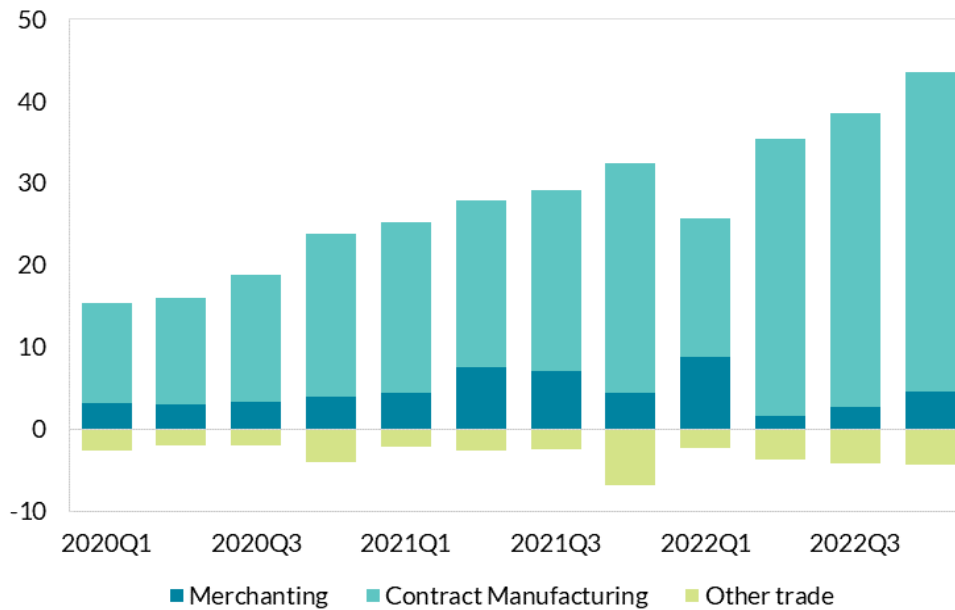


Source: CSO, author's calculations.

**Contract manufacturing accelerated strongly in the second half of 2022, despite China’s limited business reopening and the increased level of onshoring by MNEs.** With the global index of supply chain pressures falling in every month of Q3, the offshore activities of Irish-domiciled businesses surged dramatically in response to improved globalization and trade conditions. This is reflected in contract manufacturing growth of 37.6 per cent (nominal) and 31.8 per cent (real) over the full year for 2022. In real terms, the volume of contract manufacturing in 2022Q3 was more than double that of any period prior to 2020Q4, and greater than the total volume of contract manufacturing recorded in 2015. Real contract manufacturing volumes for Q4 were 10.4 per cent higher than in Q3 2022, and 46 per cent higher than Q4 2021.

Contract manufacturing remains an important element of MNE exporters business models, despite on-shoring and supply chain concerns.

Figure 36: Non-merchandise components of international goods trade, 2020-2022



Source: CSO and Central Bank of Ireland

## Trade forecasts

**Global trade conditions have improved since 2022Q4, with stronger output forecasts across a number of Irish trade partners.** With upward revisions to the 2023 global output projections of most international organisations (including the IMF, World Bank and OCED) we have similarly revised our import demand projections for Ireland’s main trading partners in 2023 and 2024, relative to Q4 of last year, which should positively contribute to Irish import and export volumes. Based on these revisions, plus the strong growth observed in data across goods and services trade in the last quarter, we project real export growth of 8.2per cent in 2023, 6.2per cent in 2024 and 7.9per cent in 2025. With increased MNE investment projected into 2023, import growth is estimated to be 7.9per cent in 2023. Further import growth rates of 5.8per cent and 7.3per cent are forecast for 2024 and 2025.

## Current Account

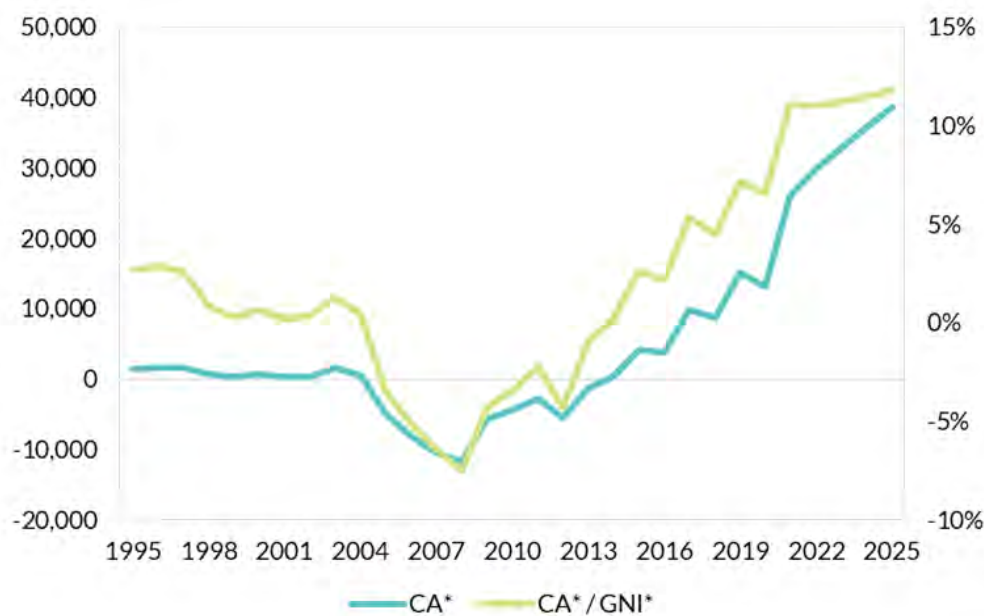
**Estimates of the modified Current Account suggest that the surplus has expanded over 2022, albeit at a declining rate of growth.** With substantial global uncertainty surrounding globalization, trade and import demand, we expect the rate of increase in the current account surplus to decline further



across 2023-2025, but for those increases to remain positive in each year. As a ratio of GNI\*, we project the series to increase moderately over the forecast period, from a value of 11.1 per cent in 2022 to 11.8 per cent by 2025. In contrast, the conventional measure of the current account declined from its historic peak of €60.7 billion in 2021, to €44.2 billion in 2022. While large IP flows and global income repatriation by MNEs makes the conventional measure of the current account difficult to forecast, data suggests that the 2023 current account balance should decline relative to the 2022 value, but remain strongly positive in the €30-35 billion range.

Modified current account balance to stabilize over 2022-2025 period.

Figure 37: Modified Current Account indicators (level and ratio to GNI\*), 1995-2025



Source: CSO and Central Bank of Ireland

## Box D: Implications of Weaker UK Economic Growth for the Irish Economy

By Thomas Conefrey and Graeme Walsh<sup>13</sup>

UK economic growth has been weak in recent years relative to Ireland's other main trading partners, even allowing for common shocks such as the pandemic and the Russia-Ukraine war. According to the latest IMF projections, the UK is at risk of falling into recession in 2023, the only major G7 economy where this is projected to occur.<sup>14</sup> Looking

<sup>13</sup> Irish Economic Analysis Division.

<sup>14</sup> <https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023>

beyond 2023, the UK is expected to grow at a lower rate when compared to both historical standards and the latest growth projections for other developed economies. This Box looks at the implication of this lower UK growth outlook for the Irish economy as well as the relative importance of the underlying drivers behind the UK outlook.

Despite a long-run downward trend in the UK share of Irish trade, the UK remains one of Ireland's key trading partners along with the US and euro area (Table A). Consequently, developments in the UK economy remain relatively important for Ireland.<sup>15</sup>

**Table A: Ireland's main trading partners**

R A N K	Goods				Services			
	Top 10 importing partners 2021	% of total imports	Top 10 exporting partners 2021	% of total exports	Top 10 importing partners 2021	% of total imports	Top 10 exporting partners 2021	% of total exports
1	UK	19	US	32	US	14	US	49
2	US	17	UK	11	UK	13.7	UK	8
3	France	10	Germany	11	Germany	7	Netherlands	4
4	China	8	Belgium	8	Netherlands	4	Singapore	3
5	Germany	7	China	7	Japan	4	Switzerland	2
6	Switzerland	5	Netherlands	6	France	4	Germany	2
7	Netherlands	4	France	3	China	3	Belgium	2
8	Israel	2	Italy	3	Italy	3	China	2
9	Belgium	2	Switzerland	2	Australia	3	France	2
10	Italy	2	Japan	2	Switzerland	2	Italy	1

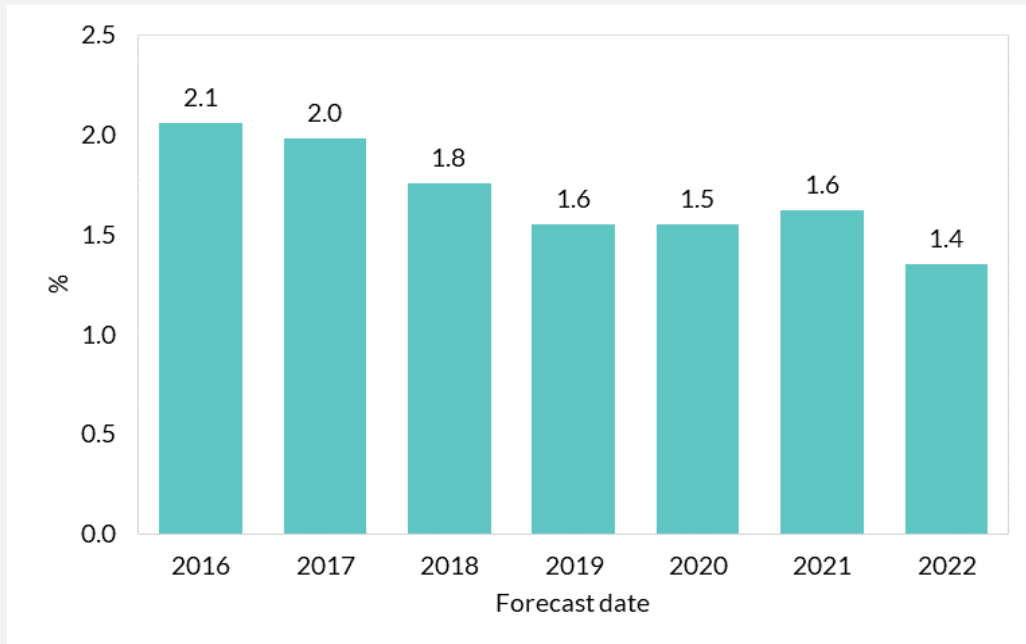
Source: CSO TSA02, BPA05.

The longer-term outlook for UK GDP growth has been on a downward trend since 2016, with the latest projections from the National Institute of Economic and Social Research (NIESR) suggesting that the UK economy will grow by less than 1.4 per cent per annum on average until the end of the decade (Figure 1). This compares to earlier projections from 2016 and 2017 in which the UK economy was expected to grow by around 2 per cent over the long term.

<sup>15</sup> [Box A](#) of the Financial Stability Review II 2022 discusses the main spillover channels from the UK to the Irish economy and financial system.

### UK GDP growth projections for 2023-2029 have been revised downwards over time

Figure 1: Average GDP growth projection for 2023-2029



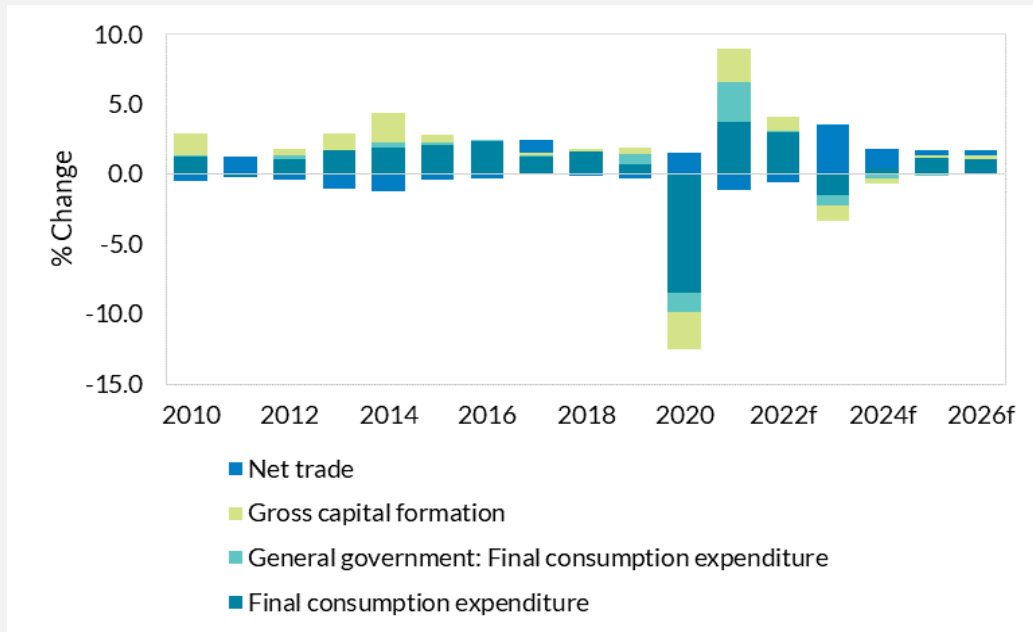
Source: ONS and NIESR.

Figure 2 shows the historical and projected contributions to UK GDP growth over the period 2010-2026.<sup>16</sup> Domestic demand has been a key driver of growth for the UK economy over the period 2010 to 2019, however, the near term projection by NIESR suggests that domestic demand will provide a negative contribution out to 2025 before returning to growth thereafter, albeit at a historically lower rate.

<sup>16</sup> The projected data is taken from the latest NIESR [UK Economic Outlook](#) (January 2023), Series A. No. 9.

Contributions to UK GDP growth and long-run projections

Figure 2: Historical and projected contributions to UK GDP growth



Source: ONS and NIESR.

Table B shows that the downward revisions to the longer-term forecasts for the UK are driven by weaker contributions to growth from domestic demand. For example, in the latest NIESR forecast, private consumption, investment, and government consumption, are expected to contribute 0.6, 0.03 and 0.3 percentage points to UK growth over the long-run. This compares to earlier forecasts in which these components of domestic demand made significantly higher contributions to growth of 2.2, 1.3 and 2.7 percentage points, respectively (see Table B).

Table B: Decomposition of UK GDP forecasts (averages for 2023-2029 period)

	NIESR April 2016 Forecast	NIESR February 2023 Forecast	Deviation
Private consumption	2.2	0.6	-1.6
Gov. consumption	2.7	0.3	-2.4
Investment	1.3	0	-1.3
Exports	2.4	2.6	0.2
Imports	2.4	-0.5	-2.9
GDP	2.1	1.3	-0.8

Source: NIESR and NIGEM model databases.

The impact of this slower annual growth means that by the end of the decade the level of UK GDP is expected to be around 5.4 per cent lower than anticipated in the projections made in 2016. The implication of this lower UK GDP growth for the Irish economy is an estimated reduced level of output of close to 2 per cent by 2029, relative to what would

have been expected based on the 2016 forecasts. In the next section, we show that the Irish output response to a range of UK domestic and external shocks is greatest when the source of the shock is UK private consumption. As shown in Table B, the outlook for UK consumption has already been revised down over recent years and it is currently one of the main risks to the UK growth outlook.<sup>17</sup>

### Risks to the UK outlook

The UK economy is facing several headwinds. Negative real disposable income in 2022 has eroded households' purchasing power and reduced consumption. Since 2016, business investment growth has been flat leading to a reduction in the productive capacity of the UK economy. The Bank of England has calculated that the drop in UK business investment has resulted in a productivity gap to the tune of £29 billion (1.3 per cent of GDP) since 2016.<sup>18</sup> In their most recent assessment of the UK economy, NIESR stated that the main threats to the UK outlook are the tightening of households' disposable income bearing down further on consumption and increasing borrowing costs for business leading to sustained weak business investment.

Trade has also been adversely affected with challenges importing capital and intermediate goods adding further reducing the productive capacity of the economy. As noted by the OBR, the UK appears to have become a less trade intensive economy, with trade as a share of GDP falling 12 per cent since 2019, two and a half times more than in any other G7 country.

The monetary and fiscal outlook is also challenging. To bring down high inflation, the Bank of England increased interest rates for the 10th consecutive time in February 2023, bringing the policy rate to 4 per cent. The MPC noted how the intensification of domestic price and wage pressures, alongside the reduction in the productive capacity of the UK economy, have increased risks of inflationary persistence. The Bank also stated that there is a possibility of further tightening which will weigh on economic growth.

Although conditions have stabilised following the turmoil in the aftermath of the autumn 2022 mini budget, in their November 2022 assessment, the OBR stated the UK's medium-

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<sup>17</sup> A standard BVAR analysis of external shocks to the Irish economy suggests that a 1 standard deviation shock to UK GDP growth translates into a 0.7 per cent reduction in Irish GDP growth. Similar results of 0.8 and 0.5 per cent are found in [Bermingham and Conefrey \(2011\)](#) and [O'Grady, Rice, and Walsh \(2017\)](#), respectively.

<sup>18</sup> See interview with Bank of England MPC member Johnathan Haskell: [theovershoot.co/p/the-bank-of-englands-jonathan-haskell](https://theovershoot.co/p/the-bank-of-englands-jonathan-haskell) (13 February 2023).

term fiscal outlook has materially worsened since March 2022 due to a weaker economy, higher interest rates and higher inflation.<sup>19</sup>

The current forecasts for the UK economy incorporate the estimated likely effects of these headwinds, however, there is a risk of further downgrades to the UK growth outlook as a result of these significant challenges. To help understand the implication of these risks to the UK's growth outlook for the Irish economy, we simulate a number of shocks to the UK economy using the NiGEM model.<sup>20</sup> We then investigate the spillovers from the UK to the Irish economy using the Central Bank's structural macroeconomic model.<sup>21</sup> The set of shocks that we examine are standardised to produce a 1 per cent reduction in UK GDP and are chosen to be consistent with the UK risk narrative outlined above. The five UK shocked variables that we consider are: government consumption, private consumption, business investment, equity prices, and foreign demand.

Each of these adverse shocks to the UK economy would lead to a reduction in economic activity in Ireland. The decline in economic activity would also have fiscal implications in terms of reduced tax revenues and higher spending due to automatic stabilisers.

Figures 3 and 4 show the impact of the shocks on output and employment in the Irish economy. The relative magnitude of the impact of the UK shocks on the Irish economy is dependent on a number of factors (i) the import content of each of the shocked variables, (ii) the subsequent impact on the foreign demand for Irish exports, and (iii) the endogenous response of the UK economy to each of the shocks. The shock to UK private consumption (red) has the largest long-run impact on the Irish economy, owing to its relatively high import content and long-run impact on the demand for Irish exports, reducing Irish output and employment by 0.7 and 0.5 per cent, respectively, by 2030. In the simulations, the other UK domestic shocks to equity prices (green), business investment (blue), and government consumption (purple), would each reduce Irish output and employment in the long-run by about 0.4 and 0.3 per cent, respectively. The UK foreign demand shock (light blue) reduces Irish output and employment by 0.2 per cent in the long-run, which is roughly in line with the share of UK demand for Irish exports.

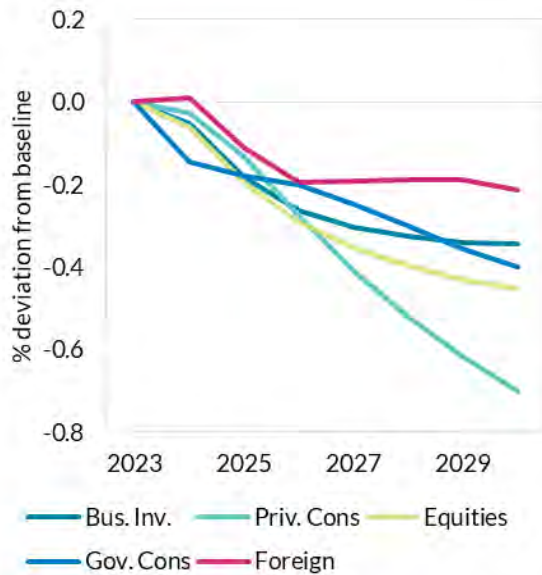
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<sup>19</sup> OBR [Economic and fiscal outlook](#) – November 2022.

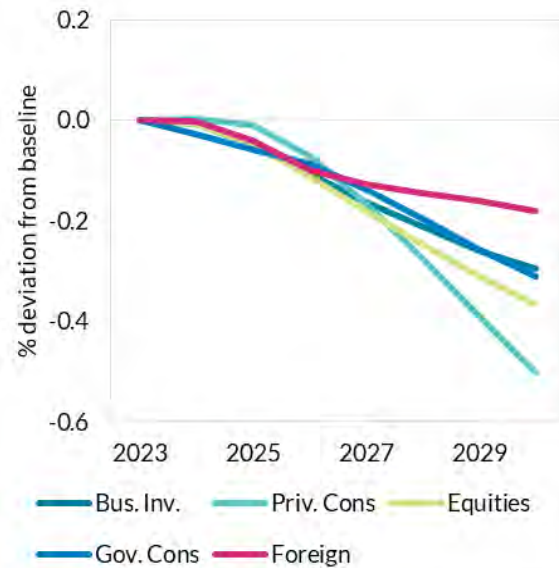
<sup>20</sup> NiGEM is a global economic model developed by the National Institute of Economic and Social Research in the UK.

<sup>21</sup> We use the Bank's own version of the COSMO model of the Irish economy (see [Bergin et al \(2017\)](#) and [Conefrey, O'Reilly and Walsh \(2018\)](#)).

## UK shocks impact on Irish economy

**Figure 3: Irish output response to UK shocks**  
(% deviation from baseline)

Source: author's calculations.

**Figure 4: Irish employment response to UK shocks**  
(% deviation from baseline)

Source: author's calculations

Despite the decline in Ireland-UK trade linkages over time and the structural change that has occurred with the UK leaving the European Union, the UK economy remains a key trading partner for Ireland. Projections for the UK economy out to the end of the decade have been revised down consistently over recent years and point to more subdued growth than has been observed historically over the last 50 years. This Box has outlined how the weaker UK growth outlook will reduce activity in the Irish economy. Moreover, there is the potential for further negative spillovers to the Irish economy if the outlook for UK growth was to deteriorate further. The magnitude of the effect on the Irish economy would depend on the source of the shock, or combination of shocks, to UK growth with negative shocks to UK domestic demand having the largest impact on the Irish economy.

## Prices and Costs

### Consumer Prices

**Consumer price inflation remains high but is showing signs of slowing.**

Annual headline inflation has fallen from a high of 9.6 cent in Jul 2022 to 7.5 per cent in January 2023. Core inflation has been declining too, falling from 5.8 per cent in July 2022 to 3.9 per cent in January 2022. This is partly driven by government measures through the reduction in public transport fares and third level education fees, and not, for now, indicative of a broader

disinflationary trend in core inflation (Box E). Energy price developments remain the most prominent driver of inflation, feeding through to food prices and a broader range of goods and services. There are signs of a turnaround in other measures of underlying inflation; the trimmed mean measured 4.6 per cent in January 2023 (Figure 38). The proportion of goods and services experiencing a high rate of increase, while high in comparison with pre-pandemic norms, is also declining (Figure 39).

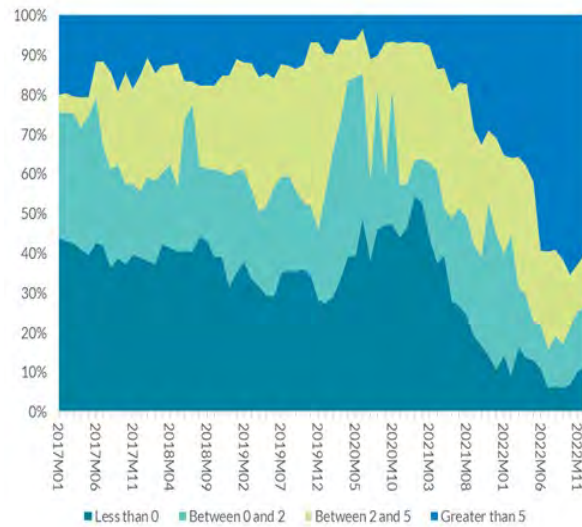
Price increases are broad-based but momentum of inflation appears to have turned

Figure 38: Trimmed mean and HICP



Source: author's calculations.

Figure 39: Weighted share of prices



Source: author's calculations.

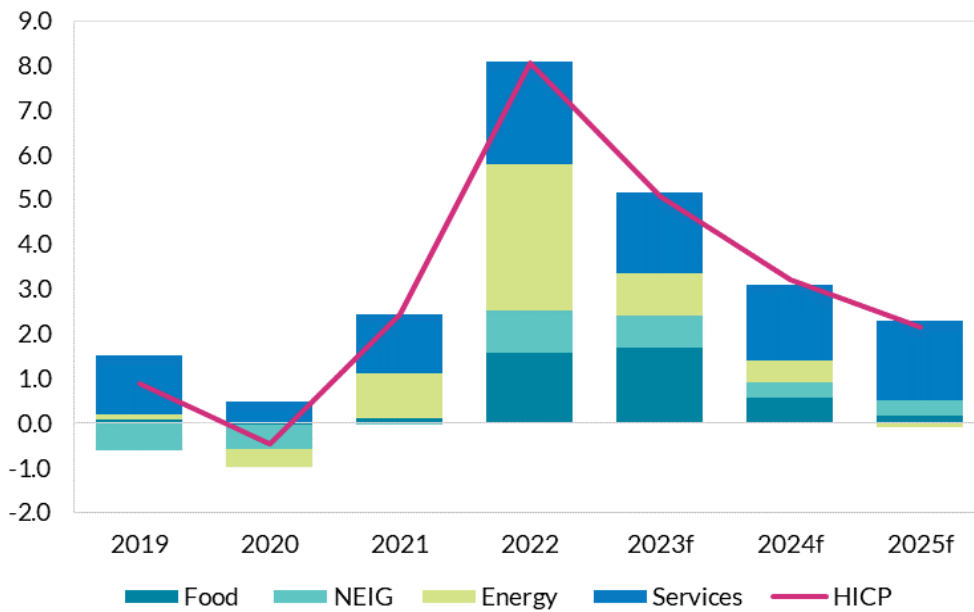
**Conditional on current macro assumptions<sup>22</sup> and no further energy shocks, inflation is expected to average 5 per cent in 2023.** Consumer energy prices are likely to remain elevated in 2023 as the effects of wholesale energy prices developments pass-through to consumer prices with a lag. In addition, energy is a vital component of all goods and services and the indirect pass-through from higher energy prices into other goods and services is likely to continue over several months. However, the rate of increase of energy prices is forecast to decline rapidly as the year progresses. HICP inflation is forecast to moderate to 3.2 and 2.2 per cent in 2024 and 2025, respectively, as energy price increases drop out of the base, and energy prices themselves begin to decline. (Figure 40).

<sup>22</sup> Forecasts are conditioned on commodity futures, including energy, food and industrial goods, exchange rates, interest rates, the output gap, wages, unemployment and modified domestic demand.



## Energy, food and services driving inflation

Figure 40: HICP Forecast



Source: CSO and Central Bank of Ireland

**The downward revisions compared to QB4 2022 come from a number of sources and are examined more detail in Box E.** In addition to the significantly lower gas (Figure 3 Box E) and electricity market-based assumptions, the rise in the euro exchange rate means that the euro price of oil (and other dollar denominated imports) is lower. The euro appreciated by approximately 7 per cent against the dollar since the last *Bulletin*. Actual outturns for the October 2022 to January period were lower than forecast in aggregate, due mainly to lower than expected energy and services prices, the latter in part due to government measures.

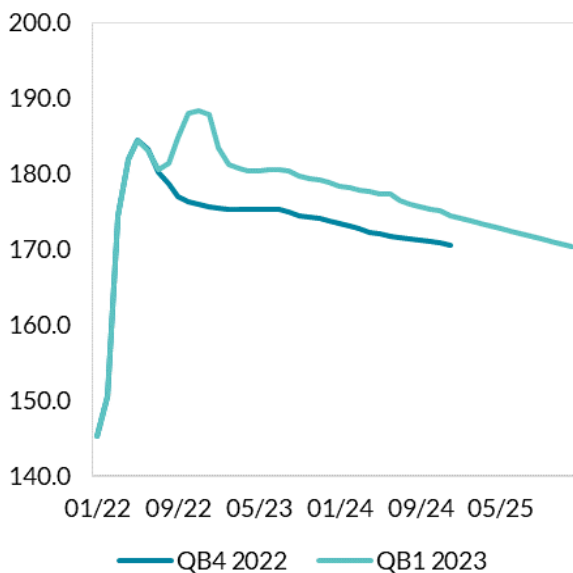
**The outlook for energy prices has improved relative to the October *Bulletin*.** Wholesale gas prices fell to approximately €50 per megawatt-hour as warmer than usual temperatures, record liquid natural gas imports, and a rise in power generation from alternative energy sources eased market conditions. European stocks of gas storage is approximately 65 per cent full approaching the end of the winter season, above the 10 year average of 54 per cent for this time of year. Europe continues to diversify away from Russian gas supplies. Figures 2 and 3 in Box E illustrates that oil and gas prices are 10 per cent and 75 per cent below prices at the time of the last *Bulletin*.

**Other international commodity prices have also moderated recently.** Global food prices have moderated, driven by improved prospects including the Black

Sea grain deal, which led to the resumption of exports from Russia and the Black Sea ports in Ukraine. Russia remains one of the largest producers of wheat and barley and many of their crops are exempt from the sanctions imposed by Ukraine’s allies. The UN Food and Agricultural Organisation’s food price index has declined for 10 consecutive months partly due to increased supplies from Russia. The Black Sea Grain Initiative also allowed other countries, who feared supply shortages, to free up exports. Fertiliser prices have also fallen related to the decline in wholesale gas prices. Despite these recent declines, food price assumption levels<sup>32 3</sup> for agri-food products remain higher compared to the previous Bulletin and together with higher outturns for food prices result in a higher outlook for food prices. The outlook for industrial goods prices is also higher than the last *Bulletin* due to higher realised data and higher future assumptions.

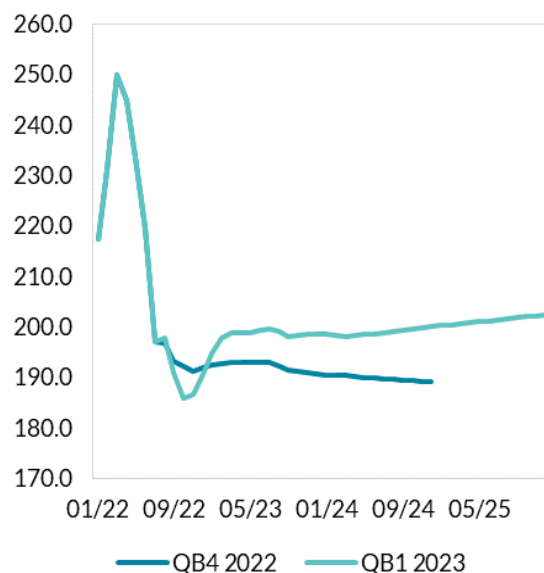
Food futures and industrial goods future prices are up.

Figure 41: Agri Food Futures



Source: ECB internal calculations

Figure 42: Aggregate Industrial Futures

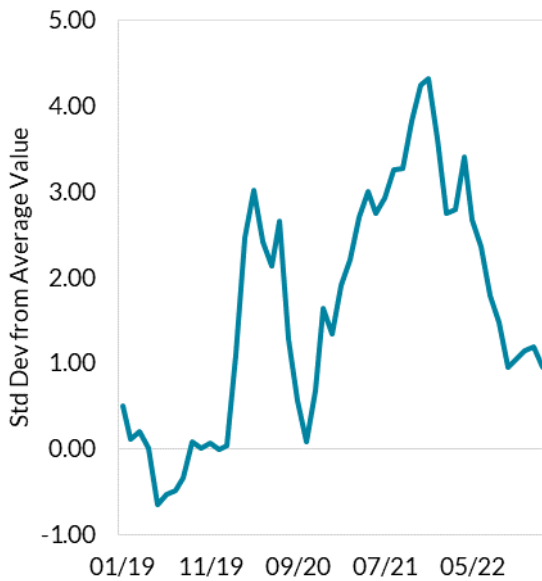


Source: ECB internal calculations

**Supply chain issues continue to moderate but have still not returned to pre-pandemic levels.** The Global Supply Chain Pressure Index (Figure 43), which combines data on global transportation costs with delivery times, backlogs and purchased stock data in global PMIs, suggest that supply chain pressures eased in January. The largest contributing factors to supply chain pressures were declines in Korean delivery times, Chinese delivery times, and euro area backlogs. Manufacturing delivery times (Figure 44) as measured by the AIB manufacturing PMI also improved, continuing the return to more normal levels.

## Supply chains improving

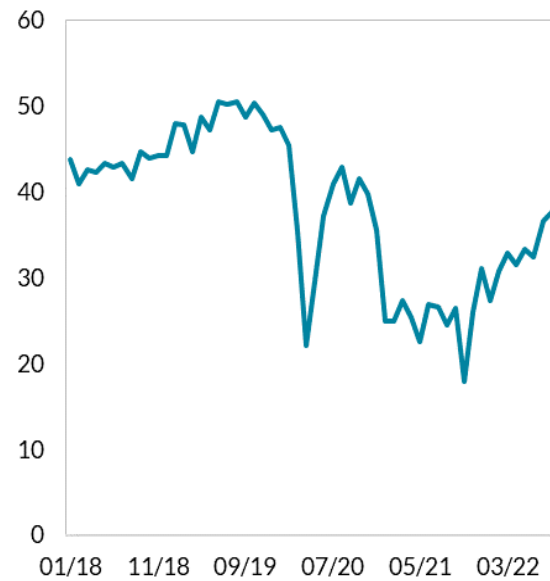
Figures 43: Global Supply Chain Pressure Index



Source: Federal Reserve Bank of New York

## Delivery times improving

Figure 44: Manufacturing Delivery Times



Source: IR AIB PMI Manufacturing

**The inflation forecasts contained within this *Bulletin* are subject to both upside and downside risks, with downside risks dominating in the short run.**

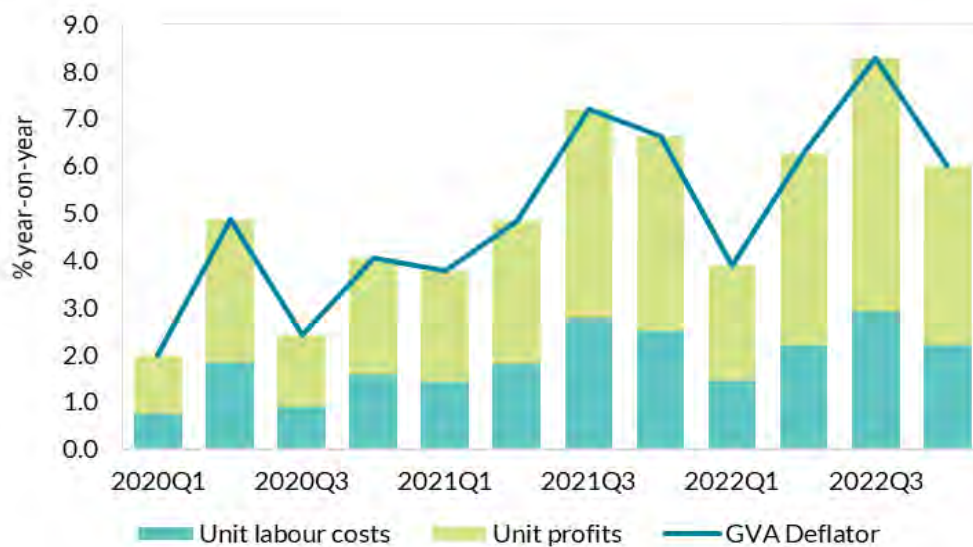
European energy markets look to have weathered the Russian Ukraine war well. How quickly the decline in wholesale energy prices pass-through to consumer energy products and then indirectly to broader goods and services are also the subject of considerable uncertainty. The use of forward contracts and hedging strategies by energy suppliers is crucial in this regard. Some energy suppliers may have avoided the peak in wholesale prices in 2022, with little sign of pressure on margins and substantial profits in the European energy sector. The tactical use of these financial instruments could mean that consumer energy prices could start declining faster than anticipated.

**Other upside risks remain: environmental disasters, an escalation of geopolitical tensions or a re-emergence of the pandemic pose upside risks to inflation.** The re-opening of China's economy is seeing additional demand for energy, which in turn could influence global prices. Some internalising of fossil fuel externalities is likely to result in upward pressures on global energy prices in the years ahead in any case. The substantial investments necessary for the transition to a green economy coupled with the necessary decline in fossil fuel subsidies could result in considerable volatility in energy prices in the years ahead.

## Broader Costs in the Economy

Domestically, PMI survey data point to a downward trend in input and output price pressures in the manufacturing, services and construction sectors, albeit still growing but the pace of growth easing from historical highs (Figure 47). Inflation is also evident in other price non-consumer measures, including domestic wholesale prices (Figure 46). The decline in wholesale energy prices is evident, albeit volatile, down from triple digit highs in 2022 to an increase of 11 percent in December 2022. Domestic manufacturing costs measured by the domestic sales component of the Wholesale Price Index have not declined to the same extent yet, moderating only slightly in year-on-year terms, increasing by 9 per cent in December 2022. Domestic building and construction wholesale costs also registered year-on-year increases of 10 per cent in December 2022. Figure 45 illustrates the Gross Value Added deflator for domestic sectors, i.e. those sectors not dominated by foreign-owned MNEs. Output prices for the domestic sectors moderated slightly in Q4 2022, up 6 per cent year-on-year. The rise in output prices has been driven by both rising labour costs and higher profit margins.

Price developments for domestic firms reflecting rising labour costs and profit margins  
Figure 45: GVA Deflator for domestic sectors



Source: CSO, Central Bank of Ireland calculations

Note: Unit labour cost refers to compensation of employees divided by the volume of output. Unit profits refer to returns to capital (before tax and depreciation) divided by the volume of output.

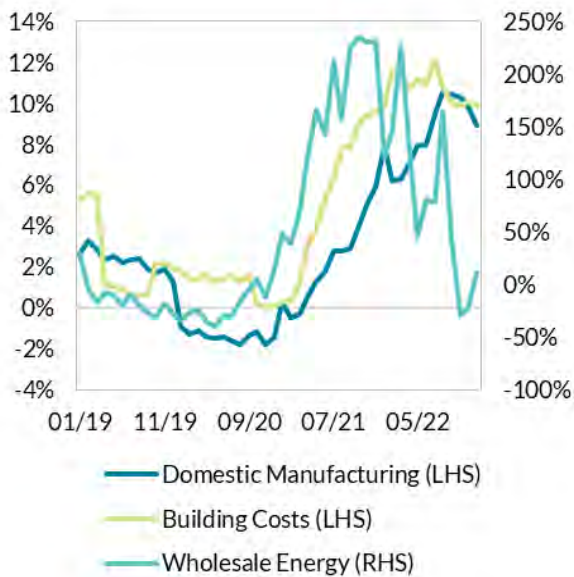
**Table 3: Inflation Projections**

	2022	2023	2024	2025
HICP	8.1	5.0	3.2	2.2
Goods	11.4	6.4	3.0	0.8
Energy	41.2	11.0	5.3	-1.2
Food	7.3	7.8	3.3	1.0
Non-Energy Industrial Goods	4.2	3.2	1.6	1.5
Services	4.7	3.6	3.4	3.5
HICP ex Energy	5.0	4.3	2.9	2.6
HICP ex Food & Energy (Core)	4.6	3.5	2.8	2.9
Modified Domestic Demand Deflator	7.0	4.7	3.1	2.6
Private Consumption Deflator	6.6	5.0	3.0	2.0
Modified Investment Deflator	8.2	5.8	3.7	3.9

Source: CSO, Central Bank of Ireland

Wholesale prices declining led by energy

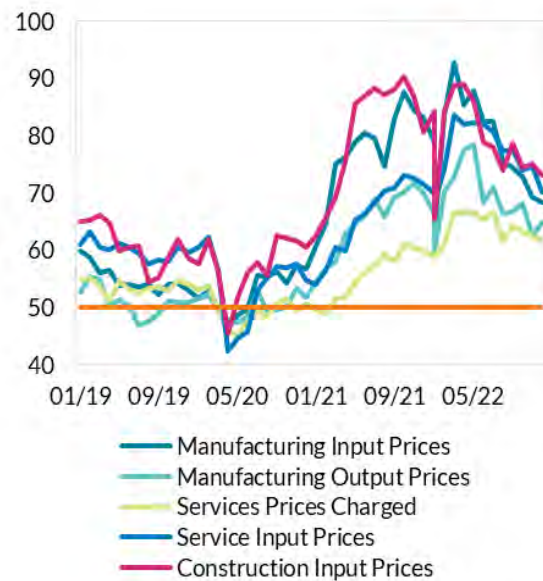
**Figure 46: Wholesale Price Index**



Source: CSO

Input and output prices high but improving

**Figure 47: PMI Input and Output Prices**



Source: Refinitiv Eikon

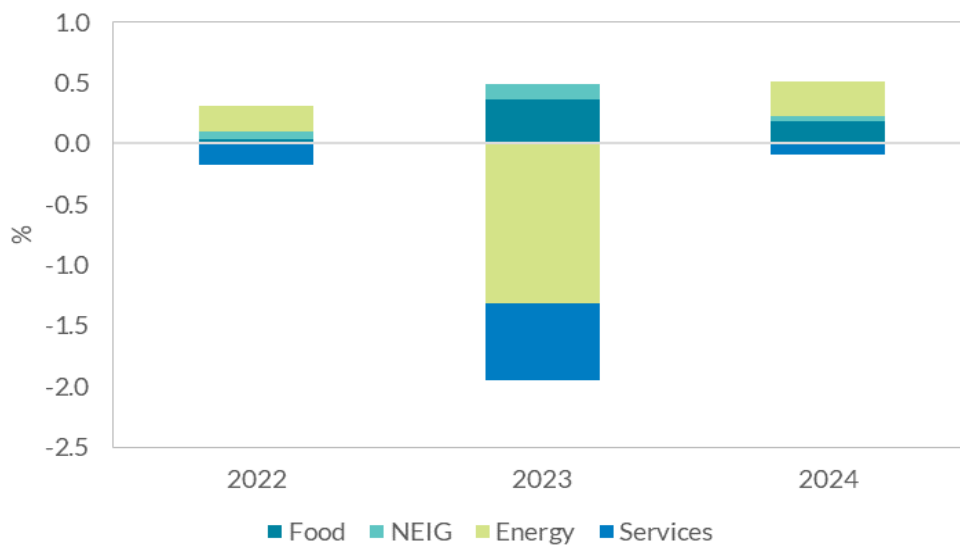
## Box E: Inflation forecast revisions in this Bulletin

By Stephen Byrne, Darragh McLaughlin and John Scally

In this *Bulletin*, the forecast for HICP inflation in 2023 has been revised down by 1.3 percentage points compared with our previous projection in October. The largest contribution to this downward revision came from the energy component of inflation, and specifically the fall in futures prices for wholesale gas and oil which influence the energy component of the HICP forecast. In addition to the developments in futures prices it is also noteworthy that domestic inflationary pressures – particularly in services – have also been weaker in recent months than previously forecast. This has been evident in the deceleration of core inflation (HICP excluding energy and food) in Ireland since Autumn 2022, a development which is in contrast to trends in the wider euro area.

### Contributions to Inflation revisions.

Figure 1: Inflation forecast errors & Revisions to inflation forecasts



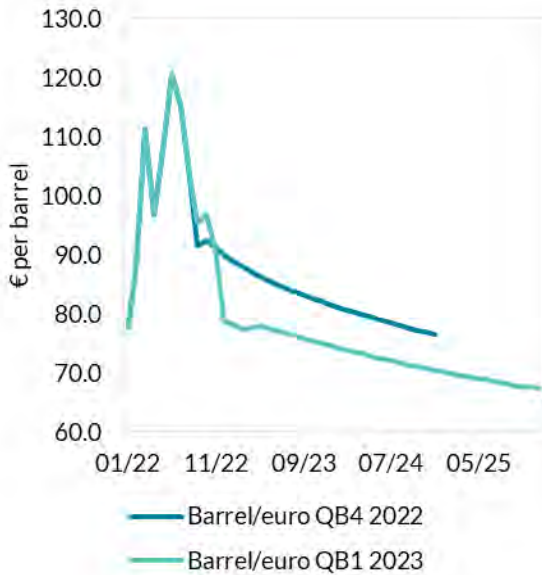
Source: Central Bank of Ireland calculations

Since the previous projection in October, wholesale energy prices have fallen significantly (Figures 2 and 3). Forecasts of energy prices are generated using assumptions about the future price of oil and gas derived from financial markets. At the time, the *Bulletin* highlighted that the projection was subject to considerable uncertainty, but the market-implied probability of such a sharp fall in gas prices was low. In October, the future price of natural gas and oil on wholesale markets for delivery in March 2023 was €221 per megawatt hour and \$87 per barrel. As of the forecast cut-off for this *Bulletin*, gas for next

day delivery averaged €55 per megawatt hour, while oil prices averaged \$83 per barrel over the previous 10 days.

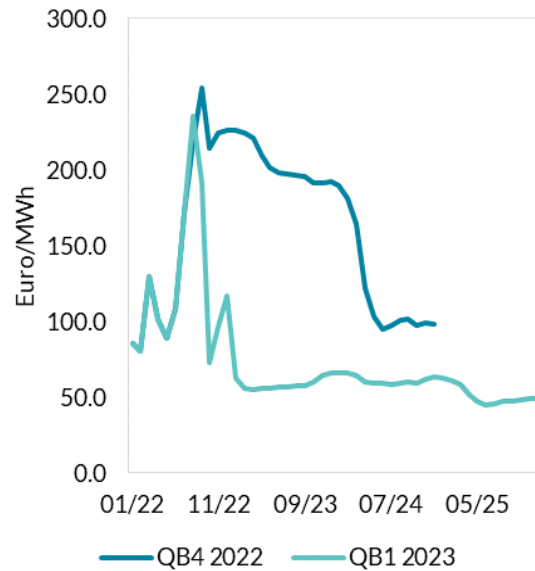
Oil Prices are lower with gas prices significantly lower.

Figure 2: Brent Crude Futures



Source: Refinitiv Eikon

Figure 3: TTR Gas Futures



Source: Refinitiv Eikon

The rapid falls represent a number of factors, chiefly the confidence of markets that the supply of gas in Europe will be sufficient to meet demand both during winter 2022/2023 and winter 2023/2024. It also reflects weaker implied global demand assumptions from markets. Lower energy prices have a direct effect on the forecast through the energy component, but second round effects on food prices, industrial goods and services inflation will also be lower as a result.

The second largest contribution to the downward revision, however, is to the services component. Services inflation, which is typically more domestically generated,<sup>23</sup> has fallen since the beginning of Autumn 2022, in contrast to dynamics in the euro area. This is also unexpected, given developments in the variables that typically drive services inflation. Figure 4 shows the results of a pseudo out-of-sample<sup>24</sup> forecast where the forecast is conditioned on the actual realisations of the unemployment rate, the unemployment gap<sup>25</sup>, and a measure of energy prices. The black line shows the outturn

<sup>23</sup> See [Bermingham et al 2012](#), [Gerlach et al 2015](#) and [Byrne & Shayan Zakipour-Saber 2020](#).

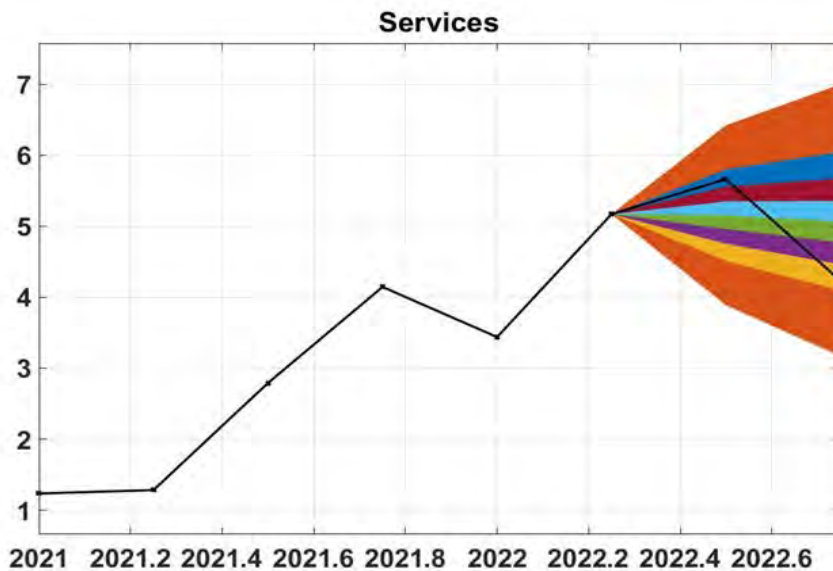
<sup>24</sup> A pseudo out-of-sample forecasting procedure simulates the performance of a model by estimating the model using data up until a cut-off date  $t$ , and a making  $h$ -step forecast for time  $t+h$  periods. It then compares the forecast with the actual realised data.

<sup>25</sup> The unemployment gap is defined as the difference between actual unemployment and the non-accelerating inflation rate of unemployment (NAIRU) as per a Philips curve type relationship linking unemployment and inflation.

for services inflation was approximately 1 percentage point lower in Q4 than implied by the median conditional forecast of the model (shaded green area). Taken together, these suggest that factors outside of the model, and specific to Ireland, are behind the decline. We suggest three possible explanations: government measures, base effects, and a more pronounced return to normal consumption patterns and seasonal effects.

#### Services inflation in H2 2022 has been lower than implied by domestic developments

Figure 4:



Source: Central Bank of Ireland calculations

Firstly, Figure 5 shows the contributions to services inflation for Ireland in 2022. Most of the downward trend in the second half of the year can be explained by the decline in transport inflation. The government introduced a range of cuts to public rail, tram and bus transport charges<sup>26</sup> as part of the cost of living measures. Other non-transport discretionary measures affecting inflation were the cut to third level university fees<sup>27</sup> in Budget 2023. Car insurance premiums also declined (Figure 6). There has been no announcement regarding the temporary or permanent nature of these cuts, and so in level terms these prices are assumed to persist over the forecast horizon and the effect of the change eventually drops out of the inflation projection. In addition, there was a

<sup>26</sup> A 20 per cent fare reduction on Dublin Bus, [Luas](#), Go Ahead Ireland and Iarnrod Eireann commuter and DART services was introduced in May 2022, in addition to a 50 per cent cut to those under 25. The 50 per cent cut was extended to private operators in September.

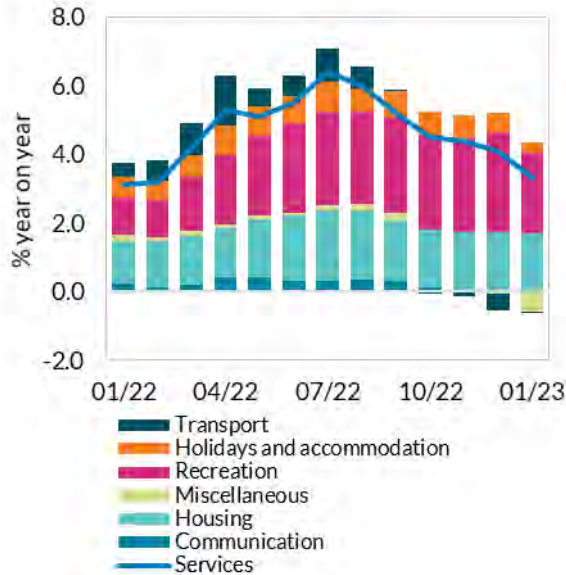
<sup>27</sup> The government introduced a €1,000 euro contribution to third level university fee in Budget 2023.



methodological change to the measurement of package holidays which resulted in a large negative year-on-year figure in January 2023<sup>28</sup>.

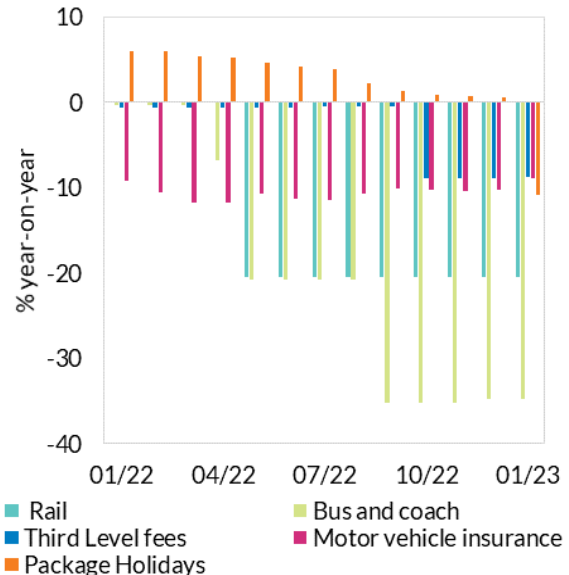
Services Inflation Contributions & Measures taken reduced services inflation

Figure 5: Contributions to Services Inflation



Source: Eurostat

Figure 6: Discretionary Measures



Source: Eurostat

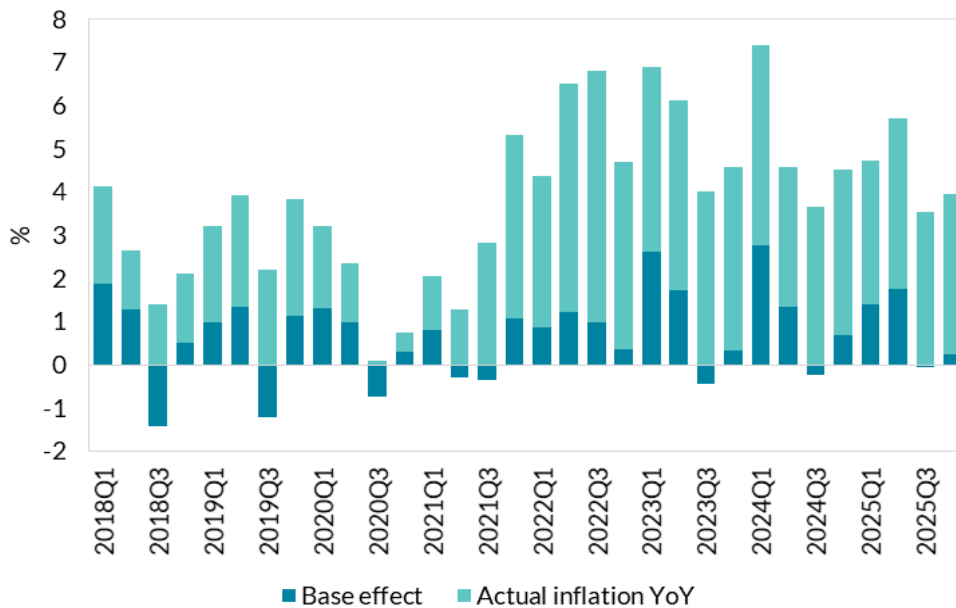
Secondly, some of the decline in Irish services inflation in the latter part of 2022 can be attributed to base effects. Because the inflation rate each month is the increase in the price level compared with the same month in the previous year, unusual factors in the base period (i.e. one year ago) affect the inflation rate in the current year. This was particularly evident in the price of off-licence alcohol in January 2023, when the impact of the large increase in January 2022 fell out of the year-on-year comparison. The large month-on-month increase in 2022 related to the introduction of minimum unit pricing. Thirdly, the effects of the Covid-19 restrictions in early 2021 have had a large impact on some services in 2022, particularly in the hospitality sector. The switch to services consumption following the reopening of the economy in 2021 resulted in a pick-up in month-on-month inflation in a time when services prices would normally be declining. When the seasonal patterns returned to more normal conditions (negative inflation in the second half of 2022), this mechanically resulted in a decline in the year-on-year rate of inflation in 2022. Over the forecast horizon, as Irish consumers normalise their spending habits post-covid, base effects will remain a feature of services inflation in Ireland (Figure 7).

<sup>28</sup> The change in methodology introduces seasonality into the price of package holidays where none existed before. The negative swings recorded in January should be offset by positive swings in later months.

The downward revision to the 2023 forecast for HICP services inflation in part reflects the effect of the reasons which led to services inflation being weaker than expected in late 2022. In addition, the significantly lower path for energy prices also reduces the prospects for services inflation in the current forecast, as the ultimate pass-through from energy is reduced.

Base effects will remain a prominent feature of services inflation over the forecast horizon

Figure 7: Base effects in Services Inflation



Source: Central Bank of Ireland calculations

To conclude, the forecast for HICP inflation in 2023 has been revised down by 1.3 percentage points compared with our previous projection in October. Technical assumptions underpinning the energy forecast have contributed the bulk of the revision. However, domestic inflationary pressures – particularly in services – have been weaker than forecast primarily because of fiscal policy measures in areas such as transport prices and third-level fees. However, the effect of government measures are not indicative of any wider disinflationary trend.

## Labour Market

**Labour market conditions remain tight with employment levels continuing to expand but at a slower pace.** Employment grew by 2.7 per cent annually in Q4 2022 with the pace of growth beginning to moderate following a several quarters of notable expansion throughout the pandemic recovery period,

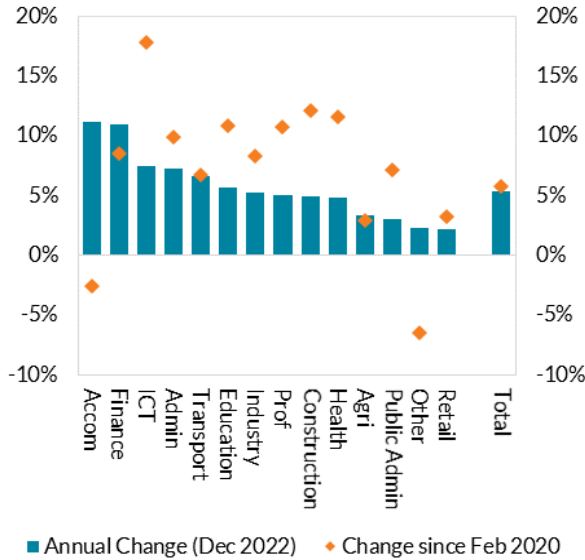
which continued into 2022. Employment growth for 2022 as a whole was 6.6 per cent. However, growth in employment is expected to ease substantially in 2023 to 1.4 per cent due to base effects and capacity constraints. A slight dissipation of these effects underpin an average projected expansion of 1.7 per cent over 2024 and 2025. The limited availability of domestic labour slack and elevated levels of labour demand implies an increased reliance on net inward migration to achieve further growth as the labour market is expected to remain relatively tight over the coming years.

**Female employee levels are at a record high as the CSO monthly payroll estimate picked up at the end of the year following negative month-on-month growth in the summer months.** Seasonally-adjusted aggregate levels increased by 5.4 per cent year-on-year in December 2022 following a peak growth rate of 18.3 per cent in February 2022. Employee levels across all sectors recorded positive annual growth, however, the Accommodation and Other services sectors remain 2.6 per cent and 6.5 per cent below their pre-pandemic levels, respectively (Figure 48). The ICT sector has exhibited 25 months of consecutive monthly growth, despite recent job loss announcements across a range of firms beginning in the latter half of 2022 ([Conefrey et al, 2023](#)).

**While employment in Q4 2022 is 11 per cent higher relative to 2019 levels, total actual hours worked has only risen by 3.7 per cent indicating that average hours worked per person has fallen in recent years.** Average actual hours worked per employment has declined by 6.6 per cent relative to 2019 levels, with decreases evident across the majority of sectors despite only a marginal increase in the part-time composition of employment (Box F).

Annual employment growth across all sectors yet some remain below pre-pandemic levels

Figure 48: Change in CSO Monthly Employee Indicator



Source: CSO

Average actual hours worked are lower than pre-pandemic levels

Figure 49: Indexation of growth in employment and total actual hours worked



Source: CSO

The labour force has increased markedly above its pre-pandemic linear trend since 2019 as a result of female cohort effects and higher participation rates amongst younger cohorts (Figure 50). The labour force expanded by 53,000 persons (2 per cent) annually in Q4 2022 with offsetting growth factors as the demographic effect increased by 83,000 persons while the participation effect exhibited a second consecutive quarter of negative growth (-30,000 persons). The working age population experienced an annual increase of 2.9 per cent in Q4 2022, the highest since Q4 2007, as elevated labour demand contributed to continued high levels of employment permits issued in the second half of the year.<sup>29</sup> Net migration accounted for 40 per cent of the annual growth in the labour force in 2022 and is projected to be dominant driver over the forecast horizon as measures of domestic labour slack continue to diminish and the contribution of the participation effect begins to moderate following notable expansion throughout the pandemic period (Figure 51).<sup>30</sup> The labour force participation rate fell by 0.5 percentage points annually in Q4 2022 to 64.6 per

<sup>29</sup> See Conefrey and Keenan (2022) "[Population Change and Migration in Ireland – Recent Evidence](#)" Quarterly Bulletin Q4 2022 Box E

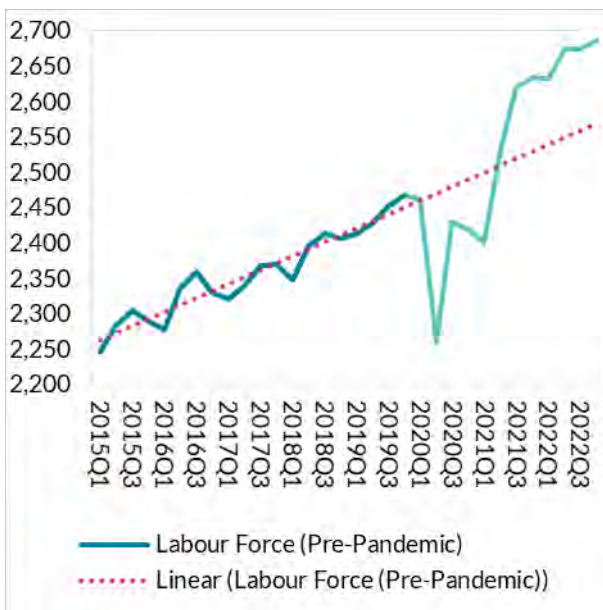
<sup>30</sup> The participation effect is the change in the labour force participation of the working age population. The demographic effect is the change in the size of the working age population.

cent. The decline is attributable to a lower participation rates in the under 25 years and over 55 years age cohorts, which may be indicative of some of the cyclical pandemic effects in relation to younger workers beginning to normalise.<sup>31</sup>

**The labour force is projected to increase by 1.4 per cent this year as a result of similar base effects outlined in relation to employment before growing by 1.7 per cent in 2024.** There is an element of uncertainty in the forecast as refugees from Ukraine are not fully reflected in the Labour Force Survey due to the data collection methods, while they are recorded in other administrative data sources.<sup>32</sup> There were a cumulative 74,458 arrivals from Ukraine in Ireland in February 2023, of which, 16,774 were registered as in employment. Over time, the gradual inflow of this cohort to the labour force could result in upward revisions to labour force and employment forecasts.

Labour force levels have far exceeded pre-pandemic trends

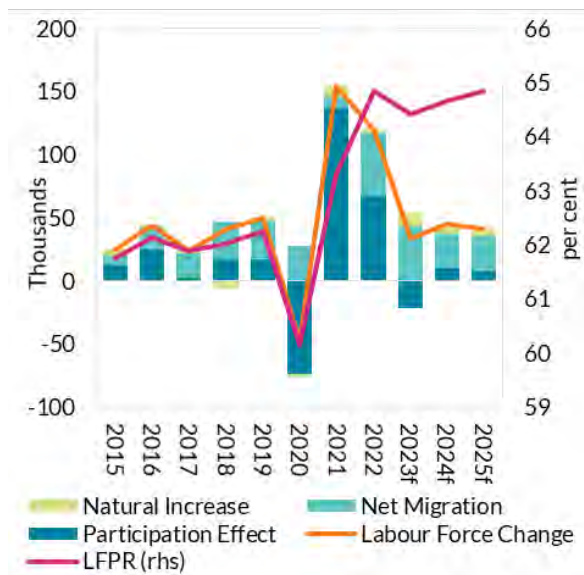
Figure 50: Linear trend of labour force profile



Source: CSO  
 Note: Linear trend is forecast using data up to Q4 2019 (pre-pandemic)

Recent labour force growth driven by net inward migration

Figure 51: Breakdown of labour force growth



Source: CSO

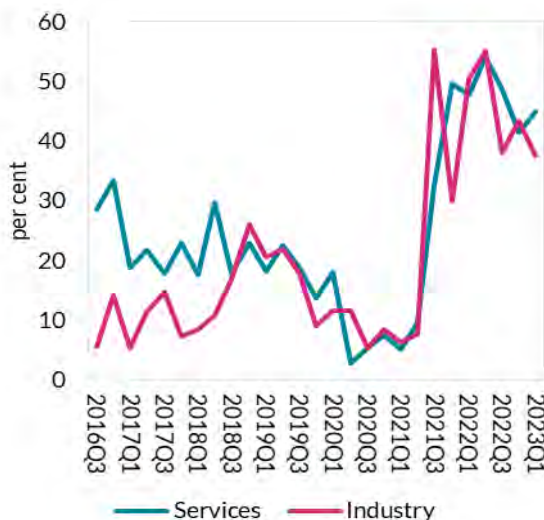
<sup>31</sup> See Boyd et al (2022) "[Labour market recovery after a pandemic](#)" Central Bank of Ireland Quarterly Bulletin Signed Article. Q3 July 2022

<sup>32</sup> Labour Force Survey data is administered to persons living in private households only. Persons residing in emergency accommodation or other non-private household locations are not included in the working age population. 'Other European' citizens comprise 0.7 per cent of the working age population in the Q3 2022 LFS compared to 1.8 per cent using administrative data sources. See [CSO Arrivals from Ukraine in Ireland](#) for further details.

Given the elevated levels of labour demand across all sectors, the average annual unemployment rate is projected to remain below 5 per cent over the forecast horizon. The unemployment rate for Q4 2022 measured 4.2 per cent, the lowest rate recorded in the post financial crisis era. The seasonally-adjusted monthly unemployment rate for February 2023 was 4.3 per cent, while the potential additional labour force (PALF) has declined to its lowest level on record at 59,900 persons.<sup>33</sup> The continued reduction in measures of available labour slack is evident in firms experiencing difficulties in recruiting and place a constraint on future employment growth. European Commission Business and Consumer survey results for Ireland show that shortages of labour remains the main factor inhibiting activity levels across both the industrial and services sectors (Figure 52). Redundancies announced in the ICT sector represent a relatively small share of total employment in the sector, although it remains to be seen if there are to be negative spillover effects to other sectors through reduced activity in sub-supply firms. Total figures in the redundancy payment scheme are at historical lows with annual figures for 2022 down 11.8 per cent on the previous year and constitute only 2.3 per cent of 2010 levels (Figure 53). The average unemployment rate for 2023 has been revised down to 4.4 per cent relative to the previous *Quarterly Bulletin*, with an average projection of 4.3 per cent over 2024 and 2025.

Labour shortages remain the main factor limiting business activity across sectors

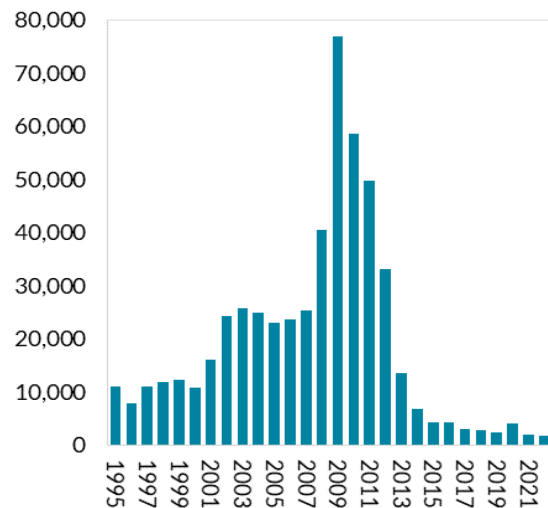
Figure 52: Share of firms citing labour as primary constraint to activity levels



Source: EC Business and Consumer Survey

Annual redundancy levels for 2022 are lowest on record

Figure 53: Redundancy Payment Scheme Statistics



Source: Dept. of Social Protection

<sup>33</sup> The Potential Additional Labour Force (PALF) is a supplementary measure of labour market slack and consists of two groups classified as outside of the labour force: ‘Available for work but not seeking’ and ‘Seeking but not immediately available’. These groups have a historically higher transition rate to employment compared to other cohorts outside of the labour force.

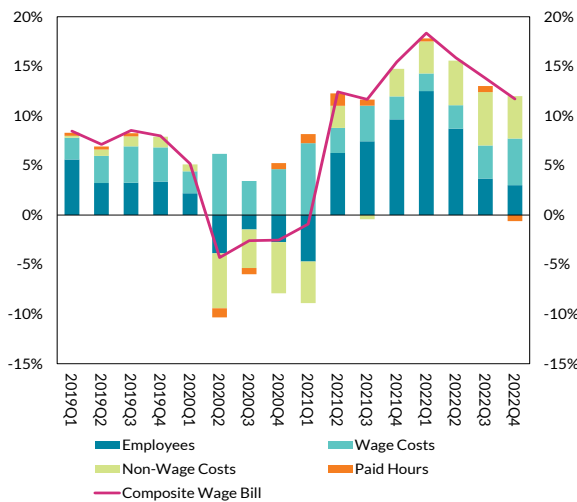
## Earnings and Income

Annual growth in average hourly earnings increased nominally by 5.3 per cent in Q4 2022, up from 3.7 per cent in the previous quarter. While tight labour market conditions may lead to increased wage pressures in the future, much of the recent increase can be attributed to the lump sum payment of salary arrears as part of with the public sector pay agreement. Public sector hourly earnings increased by 10.6 per cent relative to 3.7 per cent growth in the private sector. Aggregate developments are yet to exhibit signs of wage pressures as an annual average growth of 3.4 per cent over 2022 is broadly comparable to 3.5 per cent growth in 2019, at a point when the unemployment rate was higher.

The total economy wage bill or the composite EHECS indicator is driven by two main components: total labour costs (wage and non-wage costs) and employee levels. Aggregate levels increased by 11.7 per cent annually in Q4 2022, with total labour costs accounting for 9.1 per cent of this increase. Annual comparisons are still partly distorted arising from the Employment Wage Subsidy Scheme (EWSS), in particular with respect to developments in non-wage costs (Figure 54).<sup>34</sup> However, wage costs were the biggest driver of growth in Q4 2022 as employee growth rate moderated following significant expansion in the pandemic recovery period.

Pandemic related distortions beginning to wash out of annual earnings trends

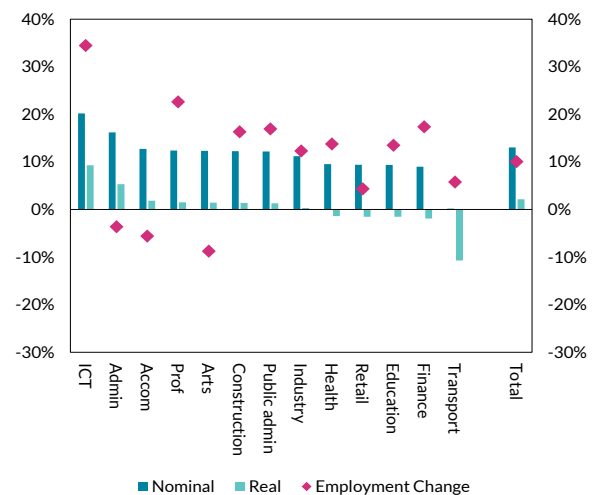
Figure 54: Decomposition of total economy wage bill



Source: CSO; EHECS and author’s calculations

Positive real growth in average hourly earnings over previous 3 years

Figure 55: Change in average hourly earnings by economic sector (2019 – 2022)



Source: CSO; EHECS

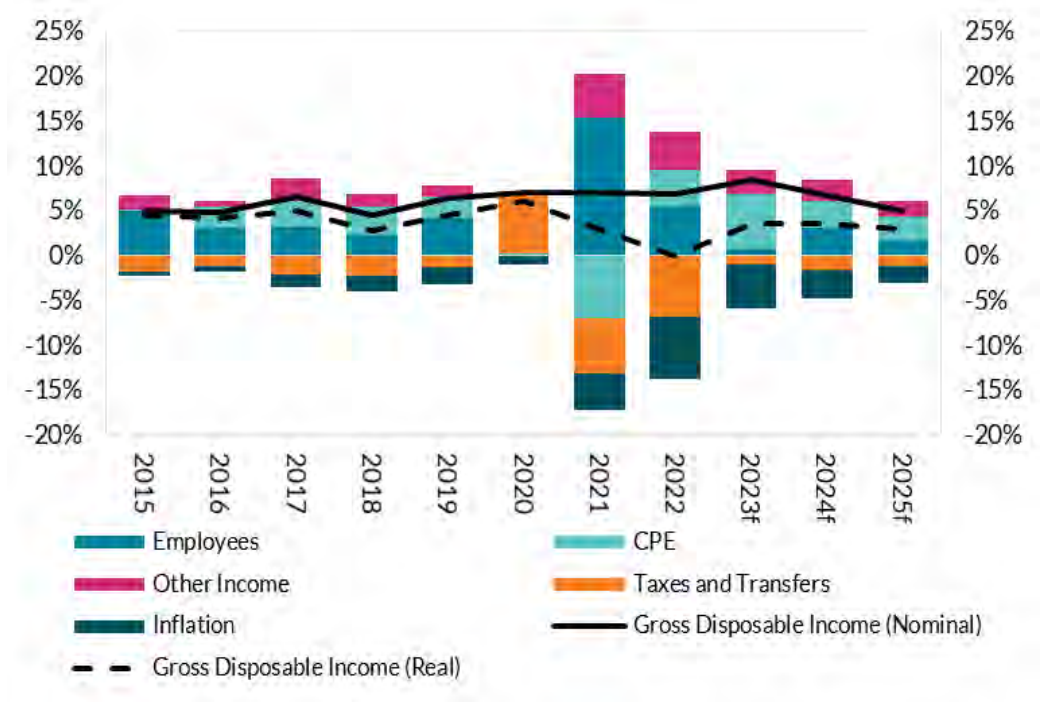
<sup>34</sup> Non-wage costs refers to employer costs such as refunds and subsidies received from the government and employer social contributions. The EWSS scheme saw firms record negative Other Hourly Labour Costs as wages were paid by the government via the employer payroll as well as a reduction in employer PRSI to 0.5 per cent.

A comparison of average hourly earnings relative to the pre-pandemic period, shows that average levels increased by 13 per cent over the three-year period from 2019 to 2022, although in real terms this translates to a 2.1 per cent increase given inflation developments over the same period (Figure 55). ICT exhibited the highest real earnings growth of 9.3 per cent as the sector also recorded 34.4 per cent employment growth. A number of sectors such as Administration and Accommodation also recorded positive real earnings growth but this is more reflective of structural employment change over the course of the pandemic as annual average employment levels remain below 2019.

Total household gross disposable income remained positive in 2022 growing by 7.7 per in nominal terms or 1 per cent in real terms as a result of strong compensation growth in the final quarter (Figure 56). Real gross disposable income levels are projected to increase by an average of 3.4 per cent over 2023 and 2024 buoyed by continued tight labour market conditions. These income developments are expected to contribute to an improved consumer expenditure profile over the forecast horizon.

Household Gross Disposable Income expected to recover in real terms

Figure 56: Decomposition of Gross Disposable Income



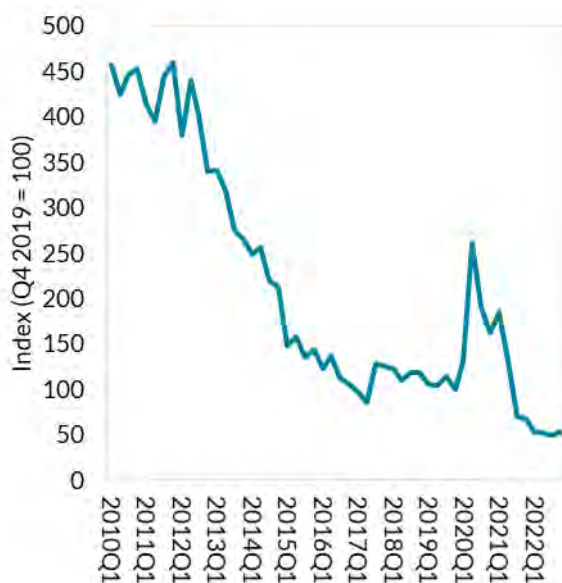
Source: CSO; National Accounts

The EHECS job vacancy rate slowed to 1.3 per cent in Q4 2022 as the level of vacancies declined across a number of sectors. The highest vacancy rates



remain evident in relatively higher-earnings sectors such as Professional (3.1 per cent) and Financial services (2.6 per cent). The ICT vacancy rate (1.1) was below the economy average for the first time since data collection began, potentially reflecting the effect of recent job cuts in the sector. While vacancies in the sector are down by 1,000 annually, there remain 1,200 job openings. Recent developments have seen the labour slack to job vacancy ratio increase slightly, although levels are 46 per cent below Q4 2019 reflecting the current tightness in the labour market (Figure 57). Data from Indeed job postings shows that following months of plateaued levels, labour demand reached a new peak in November 2022 (70 per cent above February 2020 levels) likely due to seasonal effects. The most recent data for end-February 2023 shows a slight moderation to 59 per cent above February 2020 but labour demand is 1.3 per cent higher than the 2022 annual average.

**Labour market remains tight despite moderation in job vacancies**  
**Figure 57: Labour slack to job vacancy ratio**



Source: CSO  
 Note: Labour Slack is defined as the sum of unemployed persons and the potential additional labour force

**Posted wages appears to track core inflation trends in recent months**  
**Figure 58: Indeed Post Wages and Inflation Trends**



Source: Indeed and CSO

**A new wage tracker from Indeed that calculates the annual change in posted wages for new jobs has exhibited signs of slowdown in recent months.** Data for Ireland shows a moderation from 5.2 per cent in July 2022 to 4.4 per cent in December. While not directly comparable to wage developments for existing workers, it is a useful forward-looking indicator of how economic uncertainty might weigh

on the labour market. A slowdown in posted wage growth appears to be broad-based across much of the euro area with current developments well below headline inflation, although trends appear to match core inflation perhaps as the more pronounced movements in food and energy prices are perceived as temporary in nature (Figure 58).

**Table 4: Labour Market Projections**

	2021	2022	2023f	2024f	2025f
Employment (000s)	2389	2547	2584	2629	2671
% change	6.1%	6.6%	1.4%	1.7%	1.6%
Labour Force (000s)	2547	2667	2703	2749	2791
% change	6.5%	4.7%	1.4%	1.7%	1.5%
Participation Rate (% of Working Age Population)	63.3%	64.8%	64.4%	64.7%	64.8%
Unemployment (000s)	158	119	120	120	119
Unemployment Rate (% of Labour Force)	6.2%	4.5%	4.4%	4.4%	4.3%

## Box F: Changes in Average Actual Hours Worked since the Pandemic

By Enda Keenan and Tara McIndoe-Calder<sup>35</sup>

The average number of hours worked by those in jobs, combined with the number of people employed, measures the quantity of labour used to produce goods and services in the economy. This a key indicator of domestic economic activity. Since the pandemic, average actual hours worked in the euro area remain below pre-pandemic levels, despite tight labour markets and broadly positive productivity growth.<sup>36</sup> This box explores recent trends in average actual hours worked in Ireland using granular data. The wide spread fall in average actual hours worked across sectors, occupations and euro area countries underscores the need for more detailed analysis of the underlying causes and implications of these trends.

During the pandemic, the introduction of income-support schemes such as the EWSS and PUP meant that changes in employment did not fully reflect the decline in labour market activity.<sup>37</sup> Trends in total actual hours worked aligned more closely with developments in

<sup>35</sup> Irish Economic Analysis Division.

<sup>36</sup> EUROSTAT data shows declines for all euro area countries between Q3 2019 and Q3 2022 in average actual hours worked using comparable data. The euro area average fall is 2.5 per cent ranging from 6.8 per cent in Belgium to 0.2 per cent in Latvia.

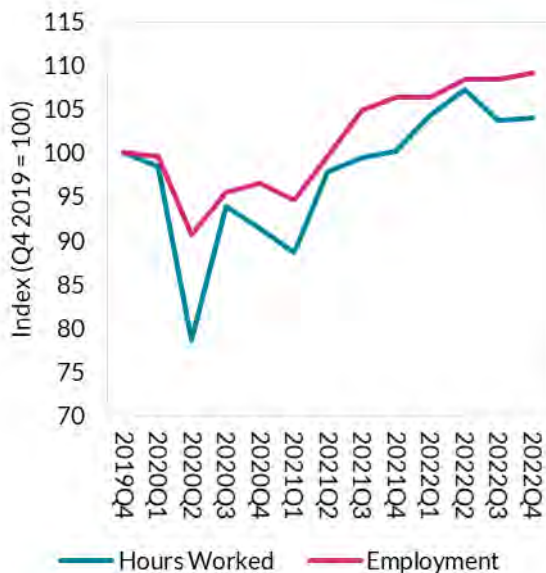
<sup>37</sup> Byrne and Keenan (2020) "[Measuring and Forecasting the Unemployment Rate during COVID-19](#)" Central Bank of Ireland Quarterly Bulletin QB4 2020 Box D

consumption and other indicators of domestic activity. For example, hours worked declined by 21.3 per cent between Q4 2019 and Q2 2020 while employment levels fell by 9.3 per cent (Figure 1). As restrictions eased and the economy re-opened, employment expanded rapidly. Total actual hours worked however, have grown less strongly. As a result, average hours per employment have not returned to pre-pandemic levels, despite low unemployment and continued high demand for labour across the economy.

In Ireland, average actual hours worked per employment saw a gradual decline from the 1990s to the aftermath of the financial crisis. This was due to long-term structural changes in the labour market and increases in the part-time share of employment. The position changed in the years before the pandemic. As the labour market approached full employment and the share of full-time work in total employment grew, average hours worked began to increase (Figure 2). The onset of the pandemic led to a sudden reversal of this trend with average actual hours worked declining from 33.5 per week to 30.8 in Q2 2022.<sup>38</sup> Data for Q4 2022 show that average actual hours worked remains 4.9 per cent below pre-pandemic levels. This does not appear to be driven by an increase in the incidence of part-time work as the share of part-time employment has broadly returned to its pre-pandemic value of 21 per cent.

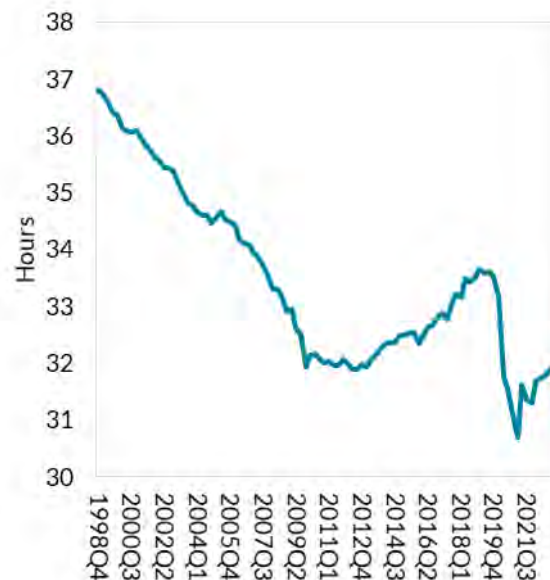
Long term decline of average actual hours worked has continued in post-pandemic period

**Figure 1: Growth of Total Actual Hours Worked and Employment**



Source: CSO

**Figure 2: Average Actual Hours Worked per week by persons in employment**



Source: CSO

Note: Data includes both employees and self-employed. Data calculated on four-quarter rolling average basis

<sup>38</sup> This is due to a number of PUP recipients classed as employed but working zero hours in the reference week. The PUP scheme was phased out entirely in Q1 2022 with the conventional ILO employment level no longer affected by these compositional issues from Q2 2022 onwards.

Using Labour Force Survey (LFS) microdata, we can assess the decline in average actual hours worked in more detail. We include only workers classified as employees, as self-employed persons typically work substantially longer hours. Additionally, we only include workers who were present at work during the survey reference week.<sup>39</sup>

The decline in average actual hours worked has been driven by full-time workers. By Q3 2022, average actual hours worked by full-time employees had declined by 2.7 per cent (1.1 hours) compared to 2019. In contrast, part-time workers have seen average actual hours worked increase by 7 per cent (1.3 hours) over this period. The data allows us to examine whether trends in actual hours worked differ depending on the employees' working arrangements (Remote, Hybrid or Fully On-Site). 'Remote' workers or those who work greater than half the week from home recorded the highest level of pre-pandemic hours (41.5) with levels declining to 38.5 hours (Figure 3) by Q3 2022. A similar decline is seen for 'Hybrid' workers, those who work from home less than half of the week. 'Fully On-Site' workers, or those reporting no remote working, have also seen a decline, albeit from a lower initial starting point. Across all three types of working arrangements, hours worked declined during the pandemic and remain well below their pre-pandemic level.

We decompose these falls in average actual hours worked into the components driven by economy-wide and other factors. Economy-wide factors may include a return to the trend decline in actual hours worked, seen across the euro area over many years. Other factors include changes in the characteristics of those working across the three groups in 2022 compared to the pre-pandemic period. For *Remote* and *Hybrid* workers, economy-wide factors account for approximately half of the fall in average actual hours worked (46 per cent and 51 per cent, respectively). The remainder of the fall, 54 per cent and 49 per cent respectively, is due to factors specific to the types of employees with *Remote* and *Hybrid* working arrangements and the large increases in the number of employees with these arrangements since the start of the pandemic. For *Fully On-Site* workers, the vast majority of the fall in average actual hours over the three years from Q3 2019 can be accounted for by economy-wide factors (94 per cent) i.e. those factors affecting workers independent of their work location.

On a sectoral basis, there is no evidence of the decline in average actual hours worked being concentrated in a particular sector. Average actual hours worked have declined across all sectors (by an average of 1.3 per cent), with the exceptions of Agriculture (up 1.9 per cent), Construction (up 0.4 per cent) and Other Services (up 3.7 per cent). The reduction is also wide spread across medium- and high- skilled occupations (3 per cent

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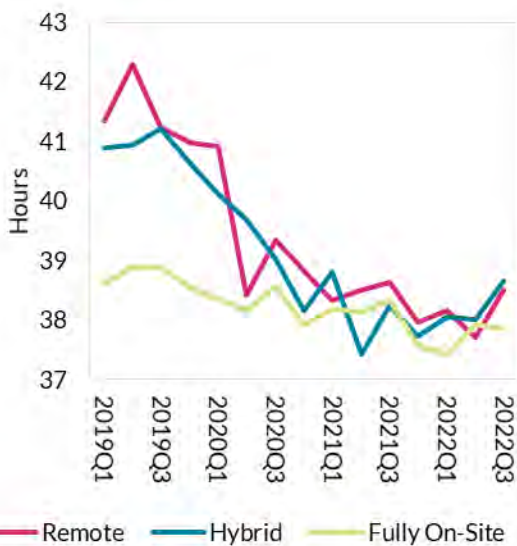
<sup>39</sup> This is in order to avoid the potential inclusion of PUP recipients that may be classified as employed but have worked zero hours during the reference week as well as persons away for annual leave, illness or other reasons.

and 4.6 per cent, respectively) with relatively smaller falls for those in lower skilled occupations (0.6 per cent).<sup>40</sup> Those in lower-skilled occupations are also less likely to work remotely either before or after the pandemic.

However, the sectoral shares across the three work types have changed substantially between 2019 and Q3 2022. For example by Q3 2022, ICT and Finance together account for 41 per cent of all those working on a Remote basis, up from just over a quarter in 2019. Education and Health account for one in ten Remote workers, down from a quarter in 2019. Industry and Public Administration have also seen increased shares between 2019 and Q3 2022, with Retail's share in total Remote working falling from almost one in ten workers to less than 5 per cent. This is mirrored in the changes seen for Hybrid and Fully-On-Site. The relative share of either Hybrid or Fully-On-Site workers in Finance and ICT has more than halved. Whilst Health and Industry have seen their shares increase, together these two sector account for almost 36 per cent of Fully-On-Site workers, up from 31 per cent in 2019. These changes have resulted in a convergence of the average actual hours worked between the three work types. The economy wide factors, driving the reduction in average actual hours across all three work types, will require further investigation.

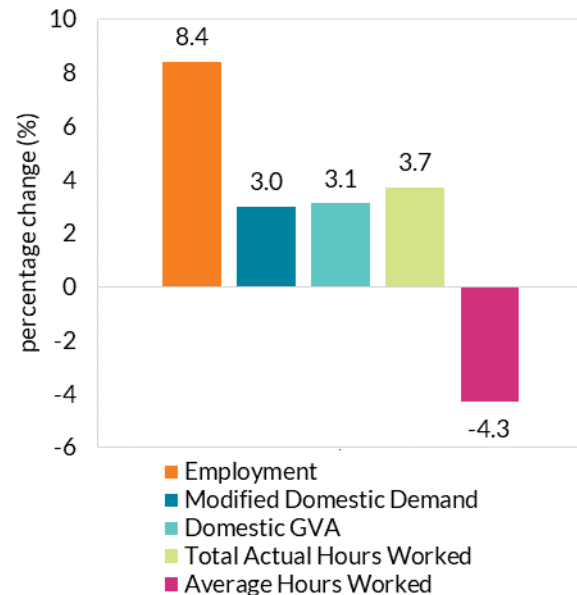
Average actual hours worked down across all work location types as productivity growth remains positive

**Figure 3: Average Actual Hours Worked by level of Remote Working**



Source: CSO and author's calculations  
Note: Data are for full-time employees only

**Figure 4: Change in Labour Market and Economic Activity (Q4 2019 - Q3 2022)**



Source: CSO

<sup>40</sup> As classified by Standard Occupational Classification System (SOC) 2010 categories

Since Q4 2019, measures of domestic economic activity such as Domestic GVA (3.1 per cent) and Modified Domestic Demand (3 per cent) have risen in real terms, reflecting rising total employment. In contrast, average actual hours worked on a per employee basis have declined (Figure 4). At an international level, there is evidence of declines in average actual hours worked across all euro area economies. Since the pandemic, average actual hours in the euro area remain below pre-pandemic levels, despite tight labour markets and broadly positive productivity growth. These trends raise a number of questions, including whether the reduction in average hours worked per employee is contributing to the continued strong labour demand in the Irish economy; and whether the decline in average actual hours worked per employee since the pandemic represents a structural change or a trend which may reverse in subsequent quarters. These questions will require further analysis to determine the implications for future productivity growth and potential output in the Irish economy.

## Fiscal Outlook

### Overview

**The public finances improved significantly last year against the backdrop of very strong revenue growth.** The General Government Balance (GGB) is now estimated to have moved from a deficit of 3 per cent of GNI\* in 2021 to a surplus of 2.3 per cent last year (or from -€7.1bn to +€6.2bn in nominal terms). This improvement was driven by exceptionally strong growth in tax revenue, which increased by 22 per cent on an annual basis. While income tax, VAT and corporation taxes all increased strongly, the latter drove 80 per cent of the over performance in tax relative to its profile. Corporation taxes have now almost doubled in just two years and have overtaken VAT as the State's second largest tax head. Government expenditure is estimated to have increased by a lower than expected 3.7 per cent last year. This increase appears to have been driven by developments in capital spending, reflecting both higher government investment – which Government Finance Statistics (GFS) data shows was up 17 per cent in the first three quarters of the year – and once-off capital transfers linked to the Defective Concrete Blocks Grants Scheme.<sup>41</sup> Growth in current spending appears to have been more subdued, against the backdrop of

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<sup>41</sup> As noted by the CSO, the anticipated cost of the Defective Concrete Blocks Grant Scheme (€2.7bn) was recorded in full in Q2 2022. Under the European System of Accounts methodology, such a commitment is recorded at the time of the decision for the full amount.

declines in subsidies and social payments as pandemic related expenditure started to unwind.

**Further improvements in the GGB are projected over the medium term.**

While economic growth is expected to moderate somewhat this year, the GGB is forecast to strengthen once again to 2.7 per cent of GNI\* (€7.8bn) as continued revenue growth and the net withdrawal of some government support measures more than offset higher core spending. A more significant improvement in the GGB is expected over the medium term, but this is dependent on the remaining temporary spending – linked to cost of living measures, humanitarian supports and building redress schemes – dissipating, with a surplus of 4.8 per cent of GNI\* (€15.8bn) projected in 2025.

**The General Government Debt (GGD) ratio is projected to record a large decline in the coming years, but to remain at an elevated level.** Having increased to just under 110 per cent of GNI\* during the pandemic, the debt ratio is estimated to have declined to 82.6 per cent last year and is projected to stand at 65 per cent in 2025. Despite the increase in sovereign borrowing rates over the past year, debt dynamics are expected to remain favourable supported by robust nominal medium term growth and the emergence of large primary surpluses. From a funding perspective, the relatively low level of bonds maturing in the coming years, coupled with the large cash balances held by the National Treasury Management Agency (NTMA) provide the sovereign with some flexibility over the short-to-medium term.

**The fiscal outlook has improved from the last *Quarterly Bulletin* but a number of challenges and risks persist.** The outlook for the public finances is now more favourable, primarily reflecting the stronger than expected inflow of direct tax receipts in the final months of last year. Total tax revenues were €3.6bn (1.4 per cent of GNI\*) above profile in the four months to December. At the same time, the strength of corporation tax revenue – which is now the State's second largest source of tax receipts - highlights the public finances continued reliance on a very narrow tax base. Excluding estimates of 'excessive' corporation tax, the GGB would have remained in deficit last year. In terms of spending, there remains uncertainties over the cost of temporary (or non core) spending measures linked to Covid-19, humanitarian supports, cost-of-living measures and building redress schemes. More generally the current high inflationary environment raises risks to core government spending - as delivering a set level of real expenditure will require a higher nominal spend - while structural uncertainties related to government spending pressures such as climate action and ageing will intensify over time.

**Table 5: Fiscal outlook (per cent of GNI\* unless otherwise stated)<sup>42</sup>**

	2021	2022e	2023f	2024f	2025f
GG Balance (€bn)	-7.1	6.2	7.8	14.9	15.8
GG Balance (% GNI*)	-3.0	2.3	2.7	4.8	4.8
GG Balance (% GDP)	-1.7	1.2	1.4	2.6	2.6
GG Balance ex CT windfalls (% GNI*)	-5.2	-1.0	-0.8	1.9	1.9
GG Debt (€bn)	236.1	223.5	220.3	219.3	215.0
GG Debt (% GNI*)	100.9	82.6	75.3	70.3	65.3
GG Debt (% GDP)	55.4	44.5	40.5	38.1	34.9

Source: CSO, Department of Finance, and Central Bank of Ireland Projections

### Fiscal Outlook, 2023 to 2025

**The GGB is projected to continue to improve this year, albeit at a slower pace than occurred in previous years.** The general government surplus is projected to increase to 2.7 per cent of GNI\* (€7.8bn in nominal terms), with the more measured improvement reflecting a moderation in revenue growth from recent exceptional rates coupled with an acceleration in spending. Despite slower domestic activity and employment growth, revenue is still projected to increase by around 6.5 per cent – broadly consistent with average growth in the three years prior to the pandemic – supported by strong nominal personal consumption and compensation growth. On the expenditure side we assume that, while net temporary (or non-core) spending declines, it remains relatively elevated, reflecting humanitarian support, Covid-19 expenditure, the planned defect scheme for apartments and duplexes, and cost of living measures. With core spending also remaining strong – underpinned by the 6.2 per cent permanent increase in current spending outlined in Budget 2023 and the impact of National Development Plan on capital spending – total expenditure growth is projected to increase to 5.5 per cent. Excluding what are estimated to be ‘excessive’ or ‘windfall’ corporation tax receipts, the budget balance would remain in deficit this year. This highlights the significant role that corporation tax receipts have played in supporting the fiscal recovery, and highlights the public finances continued reliance on a very narrow tax base.

**The Government introduced additional cost of living supports in February, although only a quarter of these appear to be targeted.** It is estimated that

<sup>42</sup> Estimate of ‘excessive’ corporation tax receipts is taken from Budget 2023 documentation. The amounts are €5bn in 2021, €9bn in 2022, €10bn in 2023, €9bn in 2024 and €9.5bn in 2025. Given the performance of the tax head in the final months of 2022 it is likely that these figures underestimate the level of excessive corporation tax somewhat.



these measures will cost €1.3bn (0.4 per cent of GNI\*). Around 40 per cent represented additional expenditure on social protection payments, most notably a lump sum payment in April to all long-term social welfare recipients and a lump sum child benefit payment in June. The reduced VAT rates for the tourism and hospitality sectors and on gas and electricity were extended to the second half of the year, while there will now be a phased restoration of excise rates on petrol, diesel and marked gas oil. The Temporary Business Energy Support Scheme was also extended to end May, although this cost is expected to be met from the allocation already provided for the Scheme in Budget 2023. It is now estimated that cost of living supports introduced since the start of 2022 will cost approximately €7bn (2.4 per cent of GNI\*). These measures are designed to be temporary - expiring before the end of this year - with around one-third estimated to be fully targeted.

**Table 6: Cost of Living measures announced in February 2023**

Measures	€mn
<b>CoL measures Jan-October 2022</b>	<b>1,326</b>
<i>Estimated percentage targeted</i>	11%
<b>CoL measures in Budget 2023</b>	<b>4,452</b>
<i>Estimated percentage targeted</i>	40%
<b>CoL measures announced in February 2023</b>	<b>1,268</b>
- Additional social protection spending	470
- Extension of reduced VAT rate for tourism and hospitality sectors	300
- Extension of reduced VAT rate on gas and electricity	115
- Phased restoration of rates of excise on petrol, diesel and marked gas oil	383
- Extension of Temporary Business Energy Support Scheme	-
<i>Estimated percentage targeted Feb 2023</i>	28%

Source: Budget 2023, Government of Ireland, Central Bank of Ireland calculations

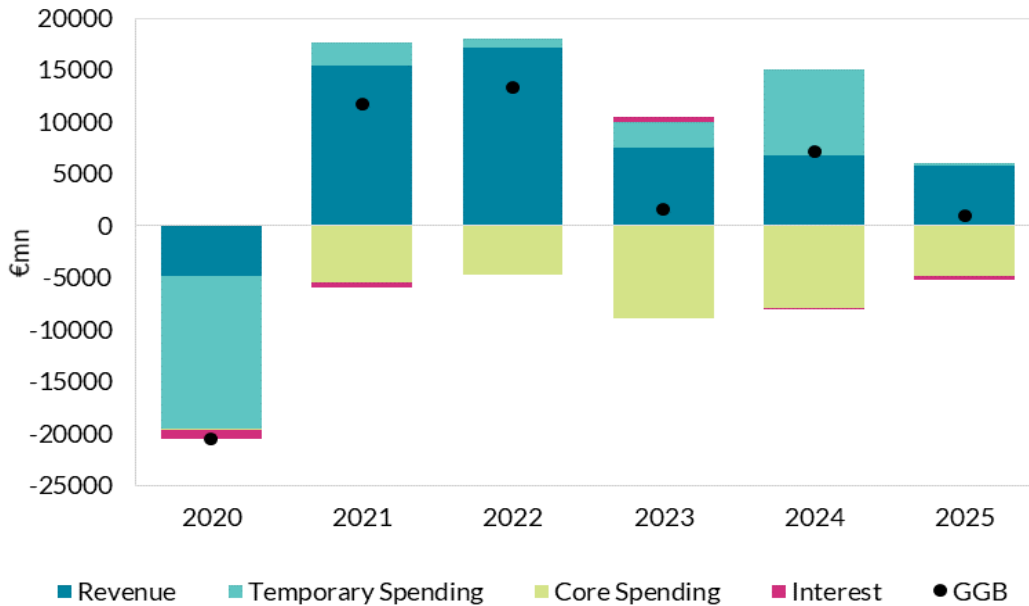
Note: Measures are defined as targeted if they are directed towards those most exposed to increases in the cost of energy. For individuals, this generally relates to having low income, while for firms, it relates to the extent to which the firm's energy costs increased.

**On the assumption that most of the remaining temporary measures expire over the course of this year as planned, the budgetary position should continue to strengthen over the medium term.** As outlined in the documentation supporting Budget 2023, almost all of the remaining temporary or 'non core' spending - which has played a key role in driving the evolution of the public finances in recent years - is due to be withdrawn before the start of next year. It is anticipated that this will partly offset increases in core spending, which can grow by 5 per cent per annum under the Government's Medium Term Expenditure Framework, limiting the overall growth rate in government

spending somewhat. Revenue growth is expected to moderate to 4.5 per cent by the end of the projection horizon, reflecting weaker nominal economic growth, slower employment and compensation growth and the negative impact of international tax reforms on corporation tax receipts. A surplus of 4.8 per cent of GNI\* (€15.8bn) is currently anticipated at the end of the projection horizon.

**Deficit improves over medium term as temporary spending declines**

**Figure 59: Change in GGB by component**



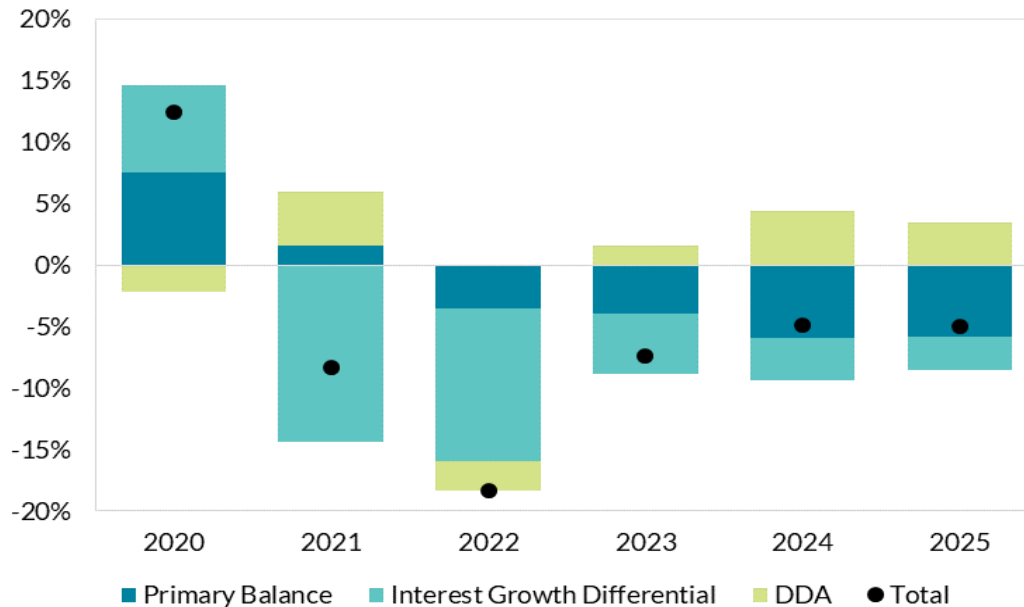
Source: CSO, Department of Finance, Central Bank of Ireland Projections

**Having fallen significantly last year, a further large improvement in the general government debt (GGD) ratio is anticipated over the medium term.** The public debt ratio is projected to decline to 75 per cent of GNI\* this year before falling further to 65 per cent by the end of the projection horizon. The emergence of large primary surpluses are expected to become the leading factor driving the improvement in the coming years. The interest-growth differential, which has played the dominant role in driving the improvement in recent years, is projected to moderate but remain favourable. Although market interest rates are rising, the effective – or average - interest rate on the stock of Irish government debt is expected to remain relatively low. The low degree of sensitivity to rising rates is partly the result of the NTMA having issued a significant amount of long dated debt during a period of exceptionally low interest rates. Since only a small portion of the total stock of debt is refinanced at market rates each year, Irish borrowing costs are expected remain low over the medium term. In particular, the effective interest rate is

forecast to remain below the growth rate of nominal GNI\*, supporting favourable debt dynamics.

#### Debt ratio declines over medium term but remains at elevated level

Figure 60: Change in debt ratio by component



Source: CSO, Department of Finance, Central Bank of Ireland Projections

**While Irish sovereign borrowing rates have recorded a notable increase over the past year, the relatively low number of bonds maturing in the coming years, coupled with the large cash balances provide some funding flexibility.**

Three government bonds are set to mature over of the projection horizon, each of which pays a rate that is currently higher than the 10-year government bond yield.<sup>43</sup> The National Treasury Management Agency (NTMA) ended 2022 with very high cash balances of €23.3bn (8.8 per cent of GNI\*). This figure was higher than expected at the beginning of the year, reflecting the much stronger fiscal outturn, and funding plans currently anticipate a very marginal run down in 2023. The NTMA plans to issue between €7bn and €11bn for the year as a whole, with €3.5bn of this raised in early January through the sale of a new 20-year bond.

**Since the publication of the last *Quarterly Bulletin*, the Government has transferred €6bn (2.1 per cent of GNI\*) to the National Reserve Fund (NRF).** The NRF was established in October 2019, seeded with a €1.5bn transfer, with

<sup>43</sup> The next three years see bonds maturing that pay 3.9 per cent (2023), 3.4 per cent (2024) and 5.4 per cent (2025). These rates are all higher than the 3.0 per cent 10-year government bond rate at the time of writing.

these resources only available to be drawn upon in exceptional circumstances. Plans to transfer an additional €500m per annum in subsequent years were postponed following the emergence of Covid-19. Given the magnitude of the crisis, the NRF's existing assets were instead called on to support the government's response to pandemic. Reflecting the improved fiscal position, a transfer of €2bn to the NRF in November 2022 was followed up with an additional €4bn in February of this year. These resources will provide some buffer to respond to future negative shocks, although the legislated asset ceiling of €8bn could be reviewed.

# 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.

# The Role of the ICT Services Sector in the Irish Economy

Thomas Conefrey, Enda Keenan, Michael O’Grady and David Staunton<sup>44</sup>

## Abstract

The ICT services sector has expanded rapidly in Ireland with employment almost doubling since 2010. From mid-2022, the sector globally has experienced a correction with announcements of significant job losses, raising concerns over the impact on Ireland. Against this background, this *Article* describes the contribution of the ICT sector to economic activity, employment and tax revenue in Ireland. The sector’s footprint is significant – accounting for 6.4 per cent of employment and one fifth of corporation tax revenue in 2021 – the latter a 10-fold increase in revenue on 2012. To date, the scale of the downturn affects a small proportion of overall ICT employment in Ireland. Nevertheless, the dependency of the sector on a small number of large firms illustrates the wider structural vulnerability of the Irish economy to firm or sector-specific downturns.

## 1. Introduction

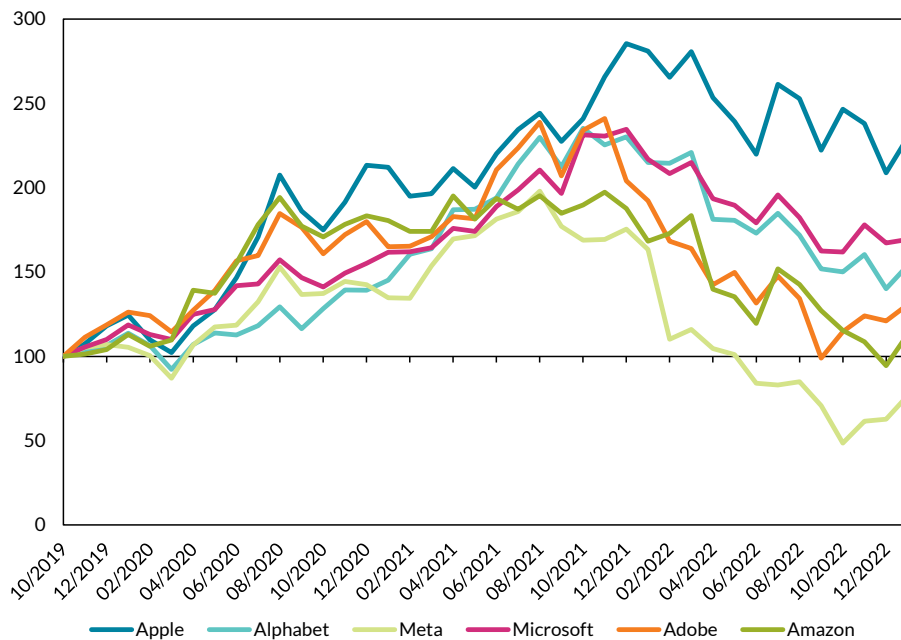
Several large multi-national firms in the Information and Communication Technology (ICT) services sector have announced reductions to their global workforces during 2022 and early 2023. The majority of these global firms have a significant presence in Ireland, and in some instances their European headquarters are located here. The announcements of redundancies follow significant declines in the share prices and valuations of many of these firms during the first three quarters of 2022, with the worst affected firms losing as much as half of their market value over a 12-month period (Figure 1). These

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<sup>44</sup>We would like to thank the following for comments: David Cronin, Robert Kelly, Vasileios Madouros, Martin O’Brien, seminar participants at the CBI, colleagues from the Central Statistics Office and David Purdue (NTMA). The views expressed in this Article are those of the authors and do not necessarily reflect those of the Central Bank of Ireland or the European System of Central Banks.

losses come after a period of rapid growth during the pandemic. From end-2019 to end-2021, the stock prices of the largest tech firms more than doubled.<sup>45</sup>

**Figure 1: Stock Prices of key ICT firms, Index Q4 2019= 100**



Source: Refinitiv

Note: Alphabet is the name of the parent company of Google.

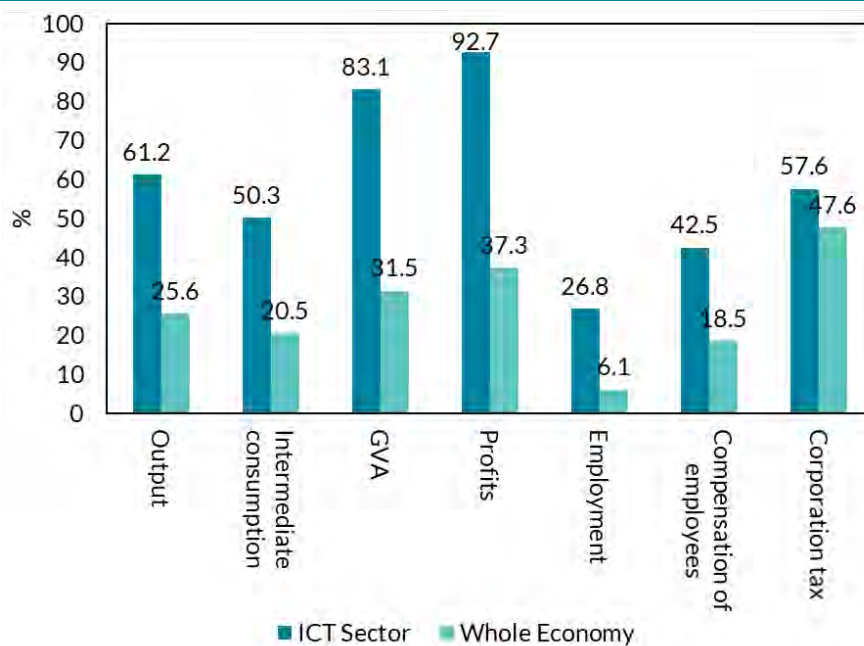
There are several factors behind the slowdown in the global ICT sector during 2022. These include weaker demand due to high inflation and the resulting squeeze on households' consumer spending, an element of normalisation of demand following unusually strong growth for digital and online services during the pandemic, and relatedly, a correction in the sector following an overestimation of future growth potential. In recent months, share prices have recovered somewhat and, despite the declines in 2022, remain close to levels recorded in 2020. Nevertheless, there is uncertainty over the future growth prospects for the sector and there remains a risk that the downturn that emerged in 2022 could become more severe. This could arise in the event of a prolonged period of weakness in global consumer spending or business expenditure on ICT services.

This *Article* describes the role of the ICT services sector in the Irish economy, focussing on its contribution to output, employment and earnings, and tax revenue. The key findings of this analysis are as follows:

<sup>45</sup> Based on the NYSE FANG+ index.

- The importance of the ICT sector to the Irish economy has increased steadily over time and today it accounts for just under one-fifth of Gross Value Added (GVA), 9.6 per cent of the economy-wide wage bill, 6.4 per cent of employment and just under one-quarter of corporation tax revenue. Across a range of performance measures, the pace of growth in the ICT sector between 2018 and 2021 was between two and three times higher than for the economy as a whole (Figure 2). Foreign-owned multi-national enterprises (MNEs) account for the majority of the overall contribution of the ICT sector to the economy. The increase in sectoral employment between 2018 and 2021 was much smaller than the rise in GVA. The latter was driven by a large increase in MNE profits, the majority of which accrues abroad. Some of this increase in profits is likely to have resulted in higher corporation tax receipts for the Exchequer.

Figure 2: Measure of Performance of the ICT Sector, % change 2018-2021



Source: CSO

- In addition, the ICT services sector contributes to activity in other parts of the economy. The sector's main linkages with the rest of the economy are with the Administrative and Support Service sector, the Manufacturing sector and the Wholesale and Retail Trade sector. These sectors in turn account for around 30 per cent of overall employment. Backward linkages (i.e. purchases of inputs by the ICT sector from other sectors) are more important than forward linkages (use of ICT output in



other sector's production), with approximately 15 per cent of turnover in Wholesale and Retail trade, and approximately 40 per cent of turnover in Admin and Support services, coming from sales to the ICT sector.

- Employment in the ICT sector increased to 164,600 in Q4 2022, a rise of 29.2 per cent compared to Q4 2019. This was the fastest pace of employment growth across all sectors over this period. Detailed CSO data show that much of this increase in employment has been in the high-skilled computer programming sub sector, with growth in occupations such as software developers and system analysts. On average, ICT employees are younger and have higher levels of educational attainment compared to the typical worker. One-third of employees in the ICT sector are non-Irish nationals, the highest such proportion across all sectors.
- Based on public announcements, there has been an estimated 2,307 layoffs in the ICT sector in Ireland in the year to February 2023. For firms who have announced cuts to their global workforces but have not publically stated the impact on their Irish operations, this figure assumes the number of layoffs in Ireland is proportionate to the share of the firms' overall worldwide employment that is based in Ireland. The estimated job losses to date amount to 1.4 per cent of overall ICT employment, or just 6.2 per cent of the increase in employment since Q4 2019. The vacancy rate in the ICT sector dropped below the economy-wide average in Q4 2022, having been consistently higher than the overall average back to 2008.
- Although ICT makes up 6.4 per cent of employment, it accounts for almost 12 per cent of all income tax revenue and 21.3 per cent of corporation tax. Overall profits earned in the sector appear to be highly concentrated, with a small number of firms accounting for a large share of the sectoral total. This implies that corporation tax revenue is sensitive to developments affecting specific firms, or a small number of firms, in the sector.

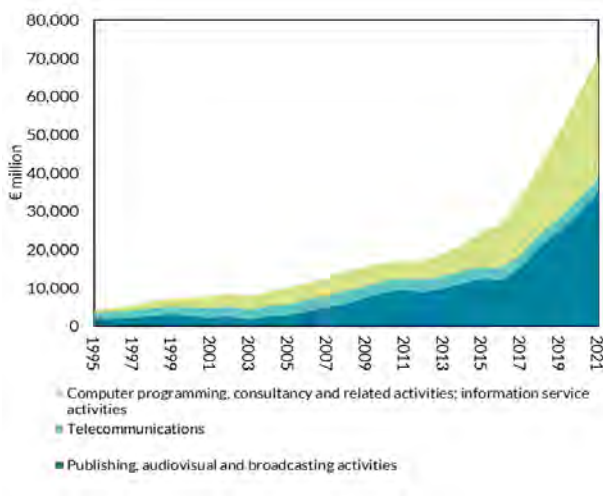
The remainder of this *Article* is structured as follows. Section 2 describes the contribution of the ICT sector to economic activity and exports, including the sector's linkages with the rest of the economy. Section 3 examines employment and earnings in the ICT sector in detail. Section 4 considers the fiscal impact of the sector and Section 5 concludes.

## 2. The contribution of the ICT services sector to output and exports

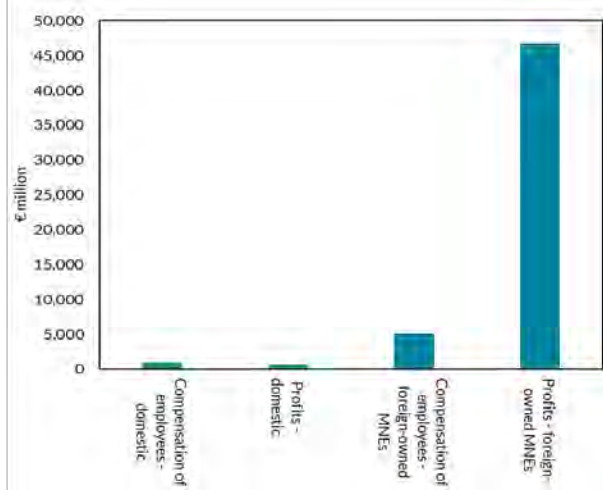
The ICT services sector in Ireland has grown significantly in size and importance over time.<sup>46</sup> The sector accounted for just under 18 per cent of total gross value added (GVA) in 2021, up from 9 per cent in 2010.<sup>47</sup> The ICT sector’s share of GVA in Ireland is around three times that of the euro area.

Figure 3 shows the level of real GVA in the ICT sector since 1995, broken down into three main sub-sectors. Two sub-sectors (publishing, audio-visual and broadcasting activities; computer programming, consultancy and information services activities) account for 95 per cent of output in 2021. While the sector increased gradually in size from the early 2000s up to 2014, the past decade has seen exceptional growth driven by increased activity in these two subsectors.

**Figure 3: ICT Gross Value Added by Sub Sector**      **Figure 4: Decomposition of change in ICT Sector GVA by Foreign and Domestic Firms, 2014-2021**



Source: CSO



Source: CSO

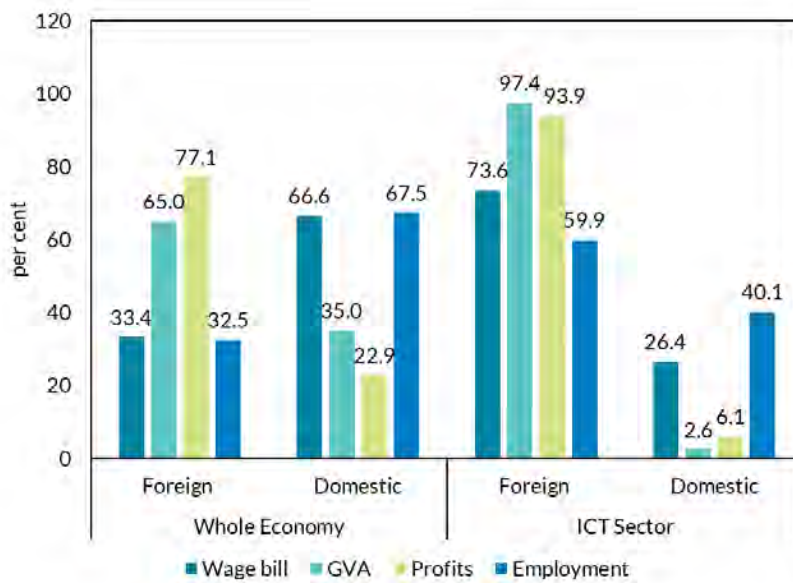
Between 2014 and 2021, overall ICT GVA increased by €55.6 billion consisting of a €47.4 billion rise in profits and a €6 billion increase in compensation of employees. Figure 4 shows a breakdown of this change in GVA into compensation of employees (wages) and gross operating surplus (profits)

<sup>46</sup> A CSO Frontier Series published in May 2022 provides a description of some of the key characteristics of the ICT sector based on data up to 2019. See [Information and Communications Technology: a Value Chain Analysis](#).

<sup>47</sup> Gross value added is the sum of the value of goods and services produced in an economy before depreciation. It can be calculated by subtracting intermediate consumption from gross output or alternatively as the sum of gross operating surplus plus compensation of employees.

attributable to both domestic and foreign-owned firms. The chart illustrates that the increase in overall GVA has been driven predominantly by an increase in profits from foreign-owned MNEs. The majority of these profits ultimately accrue to the owners of the MNEs abroad. The Exchequer in Ireland benefits by the amount of any additional corporation tax linked to the rise in ICT profits, as discussed further in Section 4. In contrast to the foreign-owned part of the sector, Figure 5 shows the much more modest growth in the domestically oriented ICT sector: the increase in GVA from domestic firms from 2014 to 2018 was just €1.6 billion, 3 per cent of the overall rise for the aggregate sector.

**Figure 5: Proportion of the wage bill, profits, overall GVA and employment accounted for by foreign and domestic firms, ICT sector and whole economy, 2021**



Source: CSO and Revenue

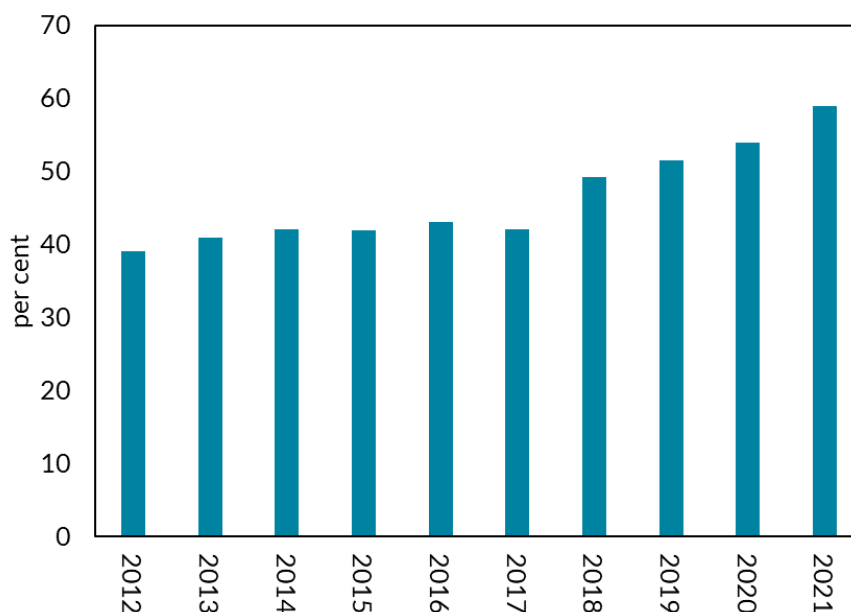
Note: Data for wage bill, profits and GVA are for 2021 from the CSO Institutional Sector Accounts Employment breakdown based on Revenue analysis for 2020 available [here](#)

The Irish economy is unusual internationally in having a very high proportion of overall GVA accounted for by foreign-owned MNEs, but the dominance of foreign firms in the ICT sector is particularly striking. Figure 5 shows the proportion of the overall wage bill, profits, GVA and employment accounted for by foreign and domestic firms, for both the ICT sector and for the aggregate economy, in 2021. Economy wide, foreign firms make up around 33 per cent of the overall wage bill, 65 per cent of profits and around 26 per cent of employment. The equivalent figures for the ICT sector are 74 per cent, 97 per cent and 60 per cent, respectively. This highlights the dominant role played by

foreign-owned firms in the ICT sector and the much smaller contribution of domestic firms to the overall GVA of the sector. It also highlights the exposure of the sector in Ireland to developments globally, given the vast majority of the sector's activity arises from foreign-owned firms and the majority of these firms' revenue is generated internationally.

As of 2021, ICT services accounted for just under 60 per cent of all services exports (Figure 6) and around 30 per cent of total (goods and services) exports. Of the output generated by the sector, 89.5 per cent was exported abroad.<sup>48</sup> The foreign-owned MNEs that dominate the sector are globally active, using Ireland as a centralised location for overseeing multiple elements of their value chain, including import and export activities. Estimates indicate that foreign firms account for 94.2 per cent of all ICT-related imports and 97.8 per cent of all ICT-related exports.<sup>49</sup>

**Figure 6: Computer services exports as a proportion of overall services exports**



Source: CSO

Geographically, Irish ICT services trade is relatively concentrated among a small number of countries. For exports, Europe is the primary destination, accounting for more than half (51.7 per cent) of all exports in 2021. Within Europe, the UK (10.2 per cent) and Germany (8.5 per cent) have the largest

<sup>48</sup> Based on latest available data from CSO Supply and Use Tables 2019.

<sup>49</sup> These figures are consistent with data from the CSO's release "[Information and Communications Technology: A Value Chain Analysis 2019.](#)"

share of total Irish ICT services exports. Asia has the next largest share of exports (27.5 per cent), with North America accounting for 6.7 per cent of total ICT exports.

Irish ICT services imports are similarly concentrated: North America (principally the US) is now the primary market, with a 56.7 per cent share of total ICT services imports. Europe accounts for just over 20 per cent of sectoral imports, with less than 6 per cent of ICT services imports coming from Asia. The remaining regions of the world constitute the residual 17 per cent of ICT services imports to Ireland.

## 2.1 ICT Sector's linkages with the rest of the economy

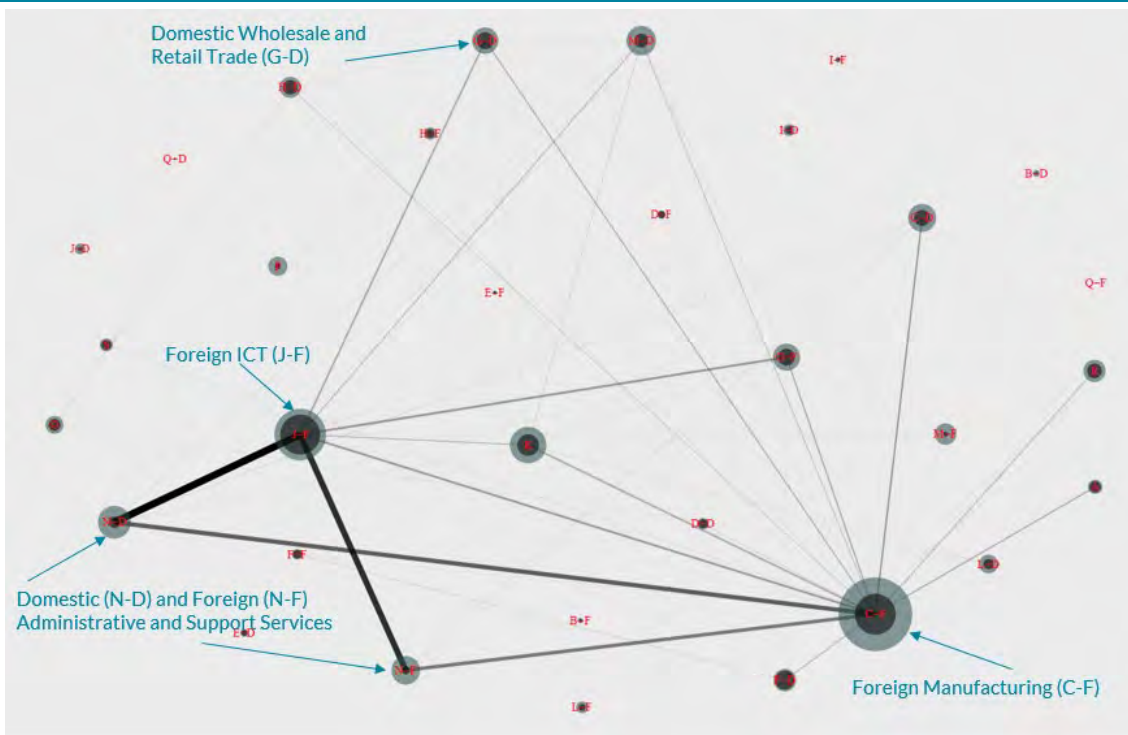
While foreign-owned MNEs dominate the ICT sector and the majority of the sector's output is exported, it still has important linkages with a number of other sectors of the Irish economy: both foreign-dominated sectors and more domestically oriented sectors. These linkages can be measured by the volume of output from other sectors used in the production of the GVA of the ICT sector (backward linkages) as well as the use of ICT services in the production processes of other sectors (forward linkages).

Backward linkages indicate the relative reliance on inputs from other sectors to the sector under analysis, acting as a measure of how other products produced in the economy have contributed in the production of sectoral output. Forward linkages show the use of goods and services from a sector in the production of other sectors' output. Overall, backward linkages account for around three-quarters of the trade between the ICT sector and the rest of the economy. In 2019, the ICT sector purchased an estimated €83 billion of intermediate products for use in the generation of ICT-related output, while it provided just €16 billion of intermediate products for use in non-ICT production. The majority of intermediate consumption consists of rental and leasing services. The combined ICT-related intermediate consumption (backward linkages, forward linkages and own-use) amounted to just over 30 per cent of economy-wide intermediate consumption.

Figure 7 presents an analysis of the sectoral network of the Irish economy, using the latest available data for 2019. The network map shows the strength of linkages between each sector and all other parts of the economy, represented by edges (lines) between the nodes, with each node corresponding to a sector. The darker, inner portion of the node represents the amount of intermediate consumption used by a sector in its production process, while the light-grey outer portion of the node represents the total output of the sector.

Within the chart, sectors are disaggregated across domestic and foreign-controlled enterprises. The edges of the network measure the cumulative total of intermediate product trade between two sectors (e.g.  $A \rightarrow B$  and  $B \rightarrow A$ ), with the thickness of the lines representing the relative magnitude of the cross-sectoral linkages. For legibility purposes, only the largest 5 per cent of sectoral linkages are shown.

**Figure 7: Sectoral network map of the Irish economy, disaggregated between domestic and foreign-controlled sectors, 2019**



Source: Author's calculations, using CSO and Eurostat data

Note: This network map is generated using CSO Supply and Use Tables for Ireland, Eurostat Annual Enterprise Statistics, and Enterprises Statistics. All values are based on 2019 data. Supply and Use tables are used to generate the initial map structure the aggregate sectors into domestic and foreign-controlled components.

Figure 7 shows that the foreign-controlled ICT sector (node J – F) has significant linkages primarily with the Administrative and Support Service sector (both the foreign-owned and domestic parts of that sector, N-F and N-D), the foreign manufacturing sector (C-F) and the domestic Wholesale and Retail Trade sector (G-D). The linkages between the ICT sector and these three sectors are all primarily backwards in nature, especially for Wholesale and Retail trade and Admin and Support Services.<sup>50</sup> For these sectors, sales to the

<sup>50</sup> A number of these sectors appear to be heavily dependent on the ICT services sectors. Over 50 per cent of intermediate consumption purchased from the Rental and Leasing sector is used

ICT sector account for approximately 15 and 40 per cent of turnover, respectively. Given the dependencies of these non-ICT sectors on the activity of the ICT sector, a reduction in output of the ICT sector would have negative spillovers primarily for these other sectors of the economy.

In turn, Table 1 below shows the proportion of overall GVA and employment accounted for by these three sectors with the most significant linkages to the ICT sector. Together the sectors represent just under 50 per cent of economy-wide GVA and around 30 per cent of employment. These linkages demonstrate the potential for weaker activity in the ICT sector to spill over to other parts of the economy and conversely for growth in ICT to increase output in other sectors.

**Table 1: GVA and Employment Shares of top 3 Sectors linked to ICT Sector**

	% of GVA	% of Employment
Manufacturing	36.8	12.9
Admin and support services	5.3	4.3
Wholesale and retail	6.6	12.3
<b>Total</b>	<b>48.7</b>	<b>29.6</b>
Source: CSO, own Calculations.		

### 3. Employment and earnings in detail

#### 3.1 ICT employment growth and demographics

The ICT share of total employment has increased from 4.1 per cent (65,000) in 1998 to 6.4 per cent (163,000) in 2022.<sup>51</sup> Despite the impact of the pandemic, there has been continuous growth in sectoral employment over recent years (Figure 8). Employment grew by 29.2 per cent between Q4 2019 and Q4 2022, relative to a 9.2 per cent increase in overall employment levels over the same period. Employment in the sector was less negatively impacted by pandemic-related health restrictions, given the feasibility of remote working arrangements, meaning a relatively lower take-up of income support schemes compared to more consumer-facing sectors.

Using the CSO monthly estimate of payroll employees for the ICT sector, employment levels in December 2022 reached a new peak of 124,700 persons

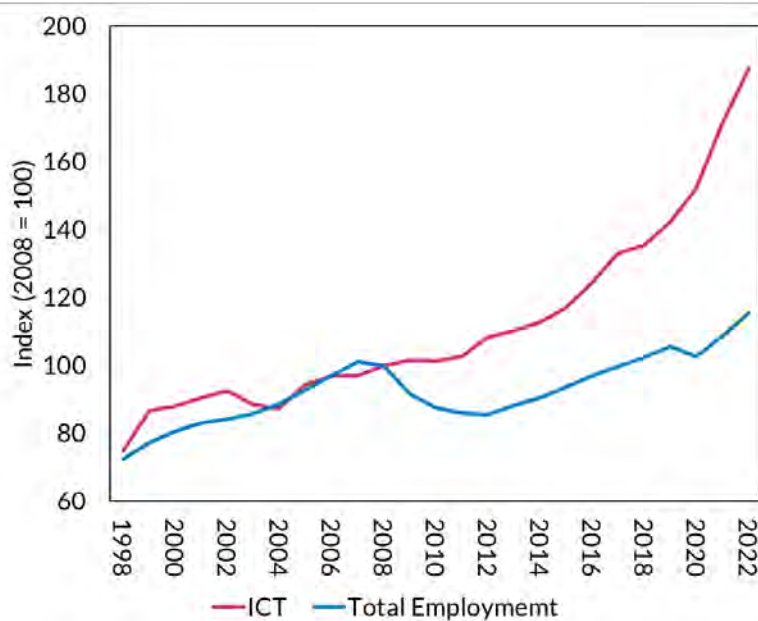
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by the ICT services industry. Similarly, almost 30 per cent of intermediate consumption from the Security, Office and Business Support sector is used as inputs in the production of ICT services output.

<sup>51</sup> Employment in the ICT sector in Ireland increased by 85 per cent between 2008 and 2022, compared to 42 per cent in the euro area. The ICT share of total euro area employment was 3.8 per cent in Q3 2022.

(on a seasonally-adjusted basis) and marked 25 months of consecutive growth. There is a concentration of ICT workers in the greater Dublin area, given the clustering of MNE firms in the city, including Facebook/Meta, Google/Alphabet and Twitter. The sector accounts for 11.8 per cent of total employment in Dublin, compared with 6.5 per cent nationally.

**Figure 8: ICT employment growth**



Source: CSO

In recent years, there has been a notable increase in the proportion of non-Irish workers in the sector (Figure 9). Non-Irish nationals comprised 33 per cent of ICT employment in 2022, compared to 18 per cent of employment across all sectors. The increasing flow of net inward migration to the sector is also evident from the rise in employment permits granted for ICT workers. Between 2020 and 2022, ICT accounted for 28 per cent of total (72,650) employment permits issued across all sectors.<sup>52</sup> Combined, Apple, Google/Alphabet and Facebook/Meta made up 6 per cent (4,240) of total employment permits issued.<sup>53</sup>

In terms of demographic breakdown, 70 per cent of the 164,000 ICT workers in Q3 2022 are male, compared with 53 per cent in the wider economy. On average, ICT workers are younger with 32 per cent aged between 25-34 years, compared with 20 per cent in this age group in the wider economy. Workers in the ICT sector typically have higher levels of educational attainment: 83 per

<sup>52</sup> See [Quarterly Bulletin QB4 October 2022](#)

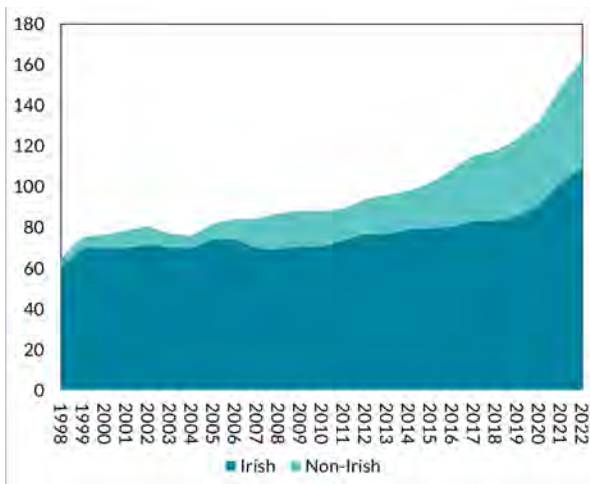
<sup>53</sup> [Dept. of Business, Trade and Employment Permit Statistics](#)



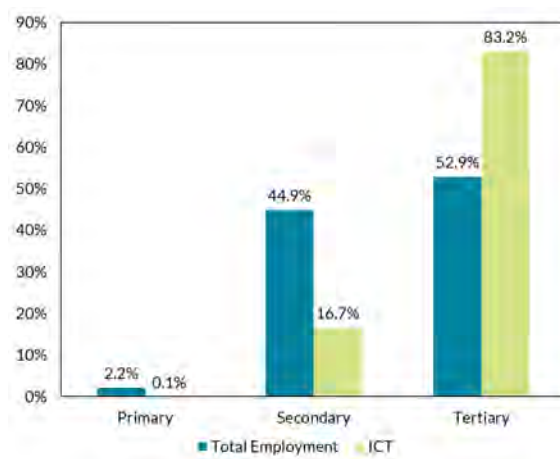
cent of workers in the ICT sector have third-level qualifications or above, in contrast to 53 per cent of those employed across all sectors (Figure 10). Those with higher levels of education are typically more likely to be attached to the labour force and less likely to spend extended periods in unemployment or outside of the labour force.<sup>54</sup>

The ICT sector is markedly different from the aggregate labour market in terms of the share of overall employment in MNEs. Foreign-owned MNEs account for 60 per cent of employment in the ICT sector, compared with 33 per cent of aggregate employment.<sup>55</sup> Given the predominance of MNEs in the Irish ICT sector, employment dynamics are far more exposed to international business and investment decisions than in other sectors.

**Figure 9: ICT employment by nationality**      **Figure 10: Employment by level of educational attainment (Q3 2022)**



Source: CSO



Source: CSO

### 3.2 ICT employment by firm characteristic and occupation

EU membership, a skilled labour force and the corporation tax regime are important determinants of the decision of ICT MNEs to locate in Ireland. Figure 11 provides a breakdown of ICT employment by NACE 2-digit subsector. The data show that the increase in overall ICT employment since 2010 has been driven by a steep rise in the computer programming area. This is also reflected in the occupational breakdown using the international standard

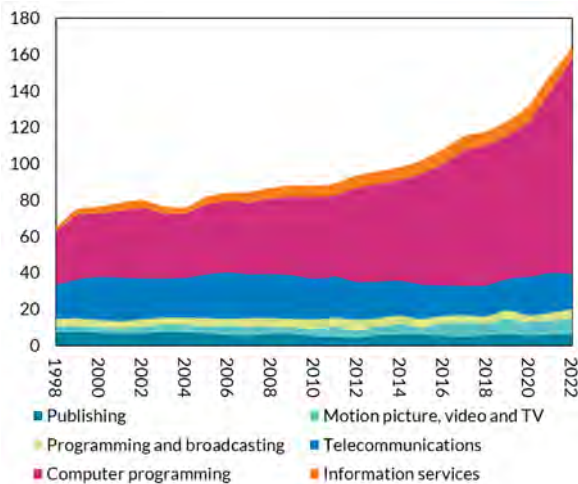
<sup>54</sup> See Boyd et al (2022) "[Labour Market Recovery after a Pandemic](#)" Central Bank of Ireland Quarterly Bulletin Signed Article QB3 2022. There is some evidence for the US that those with higher levels of educational attainment are also more likely to migrate. See Wozniak (2010). "[Are College Graduates More Responsive to Distant Labor Market Opportunities?](#)" Journal of Human Resources.

<sup>55</sup> Revenue (2022) [Corporation Tax – 2021 Payments and 2020 Returns](#)

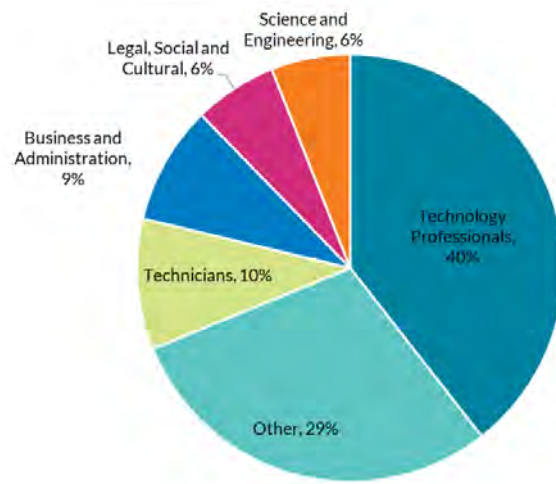
classification of occupations at 2-digit level (Figure 12).<sup>56</sup> Data for Q3 2022 show that Technology Professionals account for 40 per cent of employment in the sector, with this group containing software and applications developers and analysts. Technology Operations and User Support Technicians are the next largest standalone group at 10 per cent. There is an extensive range of occupations across the sector that includes legal and accounting activities among several others reflecting the diverse nature of business activities.

Since Q4 2015, employment in the the ICT sector has expanded by over 55,000, with software developer and systems analyst jobs accounting for approximately 72 per cent of the overall gain in employment. The pandemic period saw an expansion in employment by many ICT firms, partly due to increased demand for ICT services. Focussing on the change in employment between 2019 and 2021, while there was an increase in employment in the sector in roles such as customer service and business and administration, the overall composition of employment growth remained similar to previous years with software developers and systems analysts accounting for the majority of the additional employment gain over the pandemic years.

**Figure 11: ICT Employment by NACE 2-digit sector**      **Figure 12: ICT Occupational Breakdown (Q3 2022)<sup>57</sup>**



Source: CSO



Source: CSO

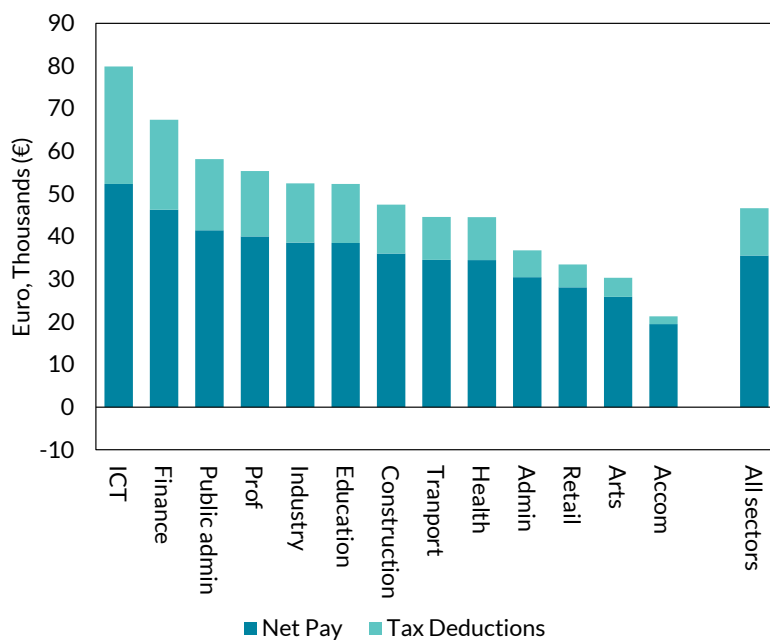
<sup>56</sup> See [International Standard Classification of Occupations 2008 \(ISCO-08\): Structure, group definitions and correspondence tables](#)

<sup>57</sup> Under [ISCO-08 two-digit occupational codes](#), Technology Professionals are grouped under Information and Communications Technology Professionals (25). The remaining categories are Technicians (35), Business and Administration (24), Legal, Social and Cultural (26), Science and Engineering (31).

### 3.3 Average earnings in ICT

In terms of remuneration, average weekly gross earnings in the ICT services sector are the highest across all sectors (€1,536 in Q4 2022, compared to an aggregate average of €897). When scaled to annual earnings, the average employee in the ICT sector has a gross income of €79,800 (€52,300 of which is net income, with €27,500 going to the Exchequer in the form of income tax) (Figure 13).<sup>58</sup> Reflecting the progressivity of the income tax system, employment in the ICT sector generates the largest amount of income tax revenue per average employee. This equates to around 2.5 times the income tax of an average employee across all sectors. The relatively resilient performance of overall income tax throughout the pandemic is due in part to strong employment growth in ICT that offset reductions in tax receipts from consumer-facing sectors.

**Figure 13: Net earnings and income tax contributions by sector (Q4 2022)**



Source: CSO (EHECS) and author's calculations

ICT had one of the lowest take-up levels of government income-support schemes during the pandemic, with earnings developments less affected by compositional workforce changes as a result.<sup>59</sup> Over the course of 2022,

<sup>58</sup> This figure is estimated using average EHECS weekly earnings values, based on a single person with no dependents, paying no pension contributions. Figures are calculated using a 40 per cent taxation rate on earnings of €36,800, as earnings data are for Q3 2022, prior to Budget 2023 tax changes introduction in January 2023.

<sup>59</sup> For further information see Box B: Data Challenges to Understanding Wage Developments in [Boyd et al \(2022\)](#)

hourly earnings growth in the ICT sector increased by an average of 9.4 per cent in nominal terms (1.4 per cent in real terms) – the only NACE sector to experience positive real earnings growth over this period. The strong wage growth is likely to reflect the high level of labour demand in ICT over recent years as evidenced by the vacancy rate in the sector which has typically exceeded the economy-wide average up to late 2022. In Q4 2022, the position changed as the ICT vacancy rate fell to 1.1 per cent – the first time it has dropped below the economy average (1.3 per cent) in the recorded data (beginning in Q1 2008). This could reflect reduced labour demand in occupational areas linked to recent layoff announcements. There remains over 1,200 vacancies in the sector, which is broadly consistent with the long-term average number of ICT job vacancies.

### 3.4 Redundancies and labour demand in the ICT sector

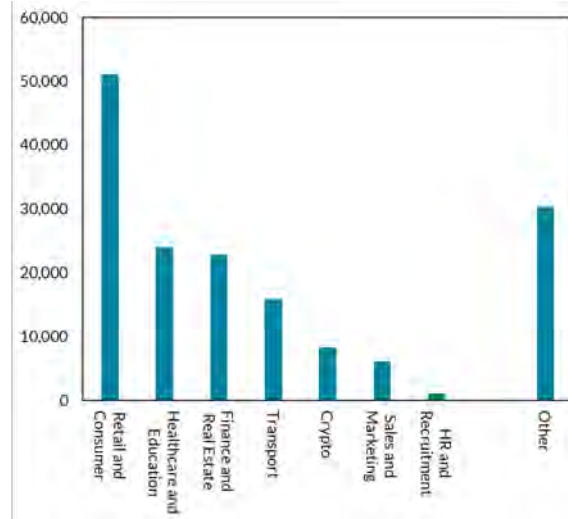
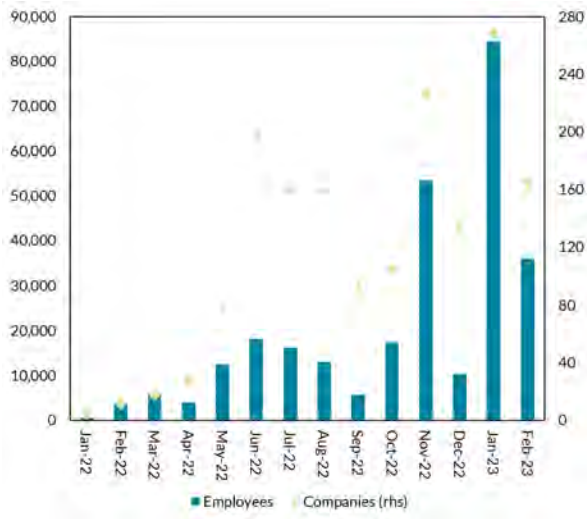
Throughout 2022 and into 2023, there has been a substantial increase in the number of job cuts announced in the global ICT sector. Estimated global redundancies compiled by the layoffs.fyi website are 160,847 in 2022 and 120,342 in the first two months of 2023 (Figure 14). While the majority of announced redundancies to date have occurred in the US, many other countries are either directly affected, or will likely experience reduced economic activity indirectly.

Using the data on global redundancies, it is possible to identify the broad areas within the ICT sector where job cuts have occurred. To date, layoff announcements appear to be in ICT retail and consumer activities (Figure 15). Firms operating in this area include Amazon, Meta (Facebook) and Twitter, for whom the sale of consumer goods and advertising revenue is an important element of their activities. Within these firms, there is some evidence that the areas most affected are business and recruitment teams.<sup>60</sup>

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<sup>60</sup> [FT: Meta cuts 11,000 staff in largest cull in company's history](#)

**Figure 14: Global layoffs announced in ICT sector**      **Figure 15: Global redundancies in ICT by broad sector of activity (2022)**



Source: layoffs.fyi

Source: layoffs.fyi

The largest number of announced global layoffs has been in Amazon (18,000) Alphabet/Google (12,000), Meta (11,000) and Microsoft (10,000), all of which have business operations in Ireland. Table 2 lists the number of job cuts publicly announced by firms in the ICT sector that operate in Ireland over recent months. To date, the number of confirmed layoffs in Ireland is relatively small at 1,474, representing just over 0.9 per cent of the current ICT services workforce. This figure is almost certain to represent an underestimate of total job losses, for several reasons. It counts only publicly announced layoffs that have been reported in the media, and therefore job cuts by firms that have not been made public are omitted. Secondly, it does not include firms that announced reductions in their global workforces, but did not confirm the number of redundancies in Ireland. To adjust for this, estimates are made by assuming the number of layoffs in the Irish firm is proportional to their share of the firm’s overall global workforce. This would bring total estimated layoffs to 2,307 (1.4 per cent of ICT employment), or 6.2 per cent of the increase in employment in the sector since Q4 2019.

**Table 2: Publicly announced layoffs by ICT firms with bases in Ireland (February 2022 – February 2023)**

Company Name	Global Redundancies	% of Global Staff	Irish Redundancies
Amazon	18,000	1.2%	0
Alphabet/Google	12,000	6%	240
Meta/Facebook	11,000	13%	350
Microsoft	10,000	5%	120
Salesforce	7,900	10%	200
Dell	6,500	5%	250*
Hewlett Packard	6,000	12%	480*
IBM	4,000	1.5%	45*
Twitter	3,500	50%	140
SAP	3,000	2.5%	58*
PayPal	2,000	7%	62
Yahoo	1,600	20%	60
Stripe	1,000	14%	90
Hubspot	500	7%	80
Wayflyer	200	40%	70
Intercom	130	13%	62
<b>Total***</b>	<b>87,330</b>		<b>2,307***</b>

\*\*\* Figures are estimated by assuming the proportional share of global firm layoffs to the Irish firm.

Source: Company announcements and author's calculations.

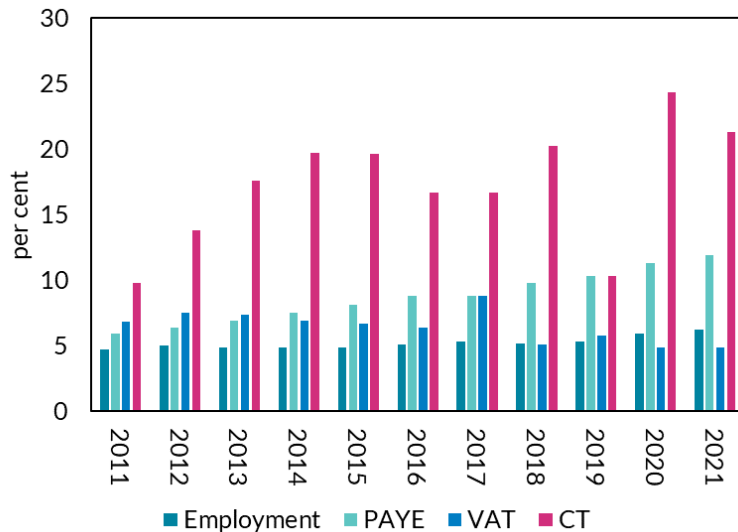
A number of factors could potentially mitigate the impact of the global ICT downturn on the labour market in Ireland. The combination of low overall unemployment and elevated labour demand across all sectors implies the existence of alternative employment opportunities for ICT workers who may be affected by the recent redundancies. Given the large proportion of the ICT workforce who are highly educated (third-level or above), previous evidence suggests that the transition rate back to employment even in the event of becoming unemployed should be high. The large proportion of workers in ICT who are non-Irish nationals may also indicate a higher degree of labour mobility in the sector, relative to other parts of the labour force.

#### 4. Fiscal impact of the ICT sector

Figure 16 shows the contribution of the ICT sector to the main tax headings, using detailed data from Revenue. While ICT accounted for 6.2 per cent of total employment in 2021, the sector has consistently made a proportionately greater contribution to tax revenue across all the main headings. Reflecting the high rate of average pay in the sector, ICT services accounted for 12 per

cent of all PAYE tax revenue (including USC). Firms in the ICT sector paid €3.3 billion (or 21.3 per cent) of all corporation tax in 2021.

**Figure 16: Share of MNE Employment, ICT and aggregate non-ICT sectors**

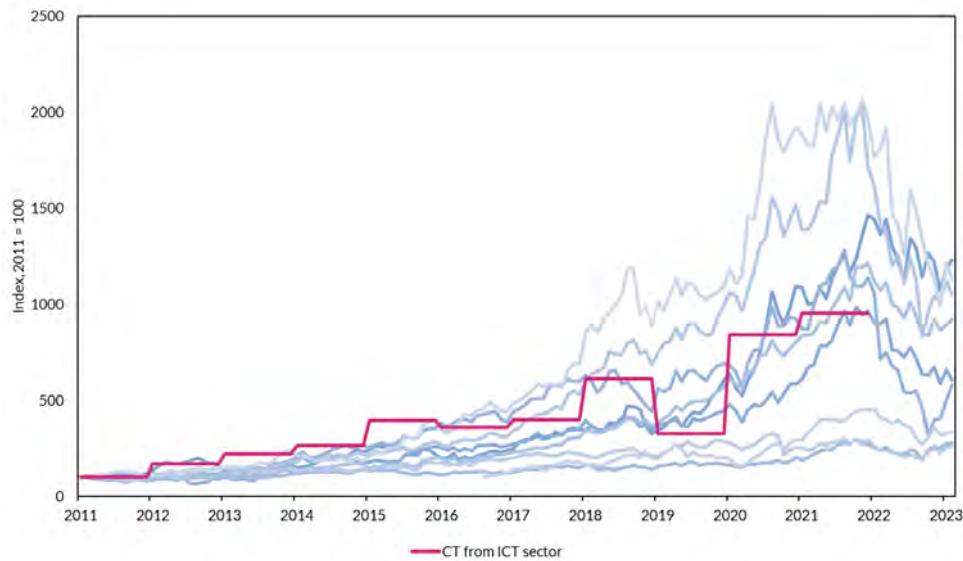


Source: Revenue, CSO

Across corporation tax, VAT, and PAYE/USC receipts, €6.6bn was generated by the ICT services sector in 2021. This amounts to 13 per cent of total net receipts across these tax categories.<sup>61</sup> If profitability were to decline in large ICT firms, it is possible that tax revenue would be negatively affected through a reduction in corporation tax, while PAYE and USC would be lower if weaker ICT performance passes through to staffing levels and salaries. In addition, the overall fiscal impact of the ICT sector is likely to be larger than this tax data implies, given its connection to other sectors of the economy as set out in Section 2.

Over the last decade, Ireland has experienced rapid growth in corporation tax receipts, particularly from ICT firms. Figure 17 shows that this increased revenue coincided with sustained increases in the stock prices of the largest ICT firms, indicative of their rapidly growing turnover and profits over the period.

<sup>61</sup> Revenue's sectoral breakdown of tax data excludes some of the smaller tax heads, so when summed together the total will not match the actual tax received in that year.

**Figure 17: Stock Prices of key ICT firms and overall CT paid by ICT sector**

Source: Refinitiv, Revenue

Note: ICT firms are Apple, Google, Meta, Oracle, Microsoft, Adobe, SAP, Dell, Amazon. Latest data on CT revenue from the ICT sector (pink line) are available up to 2021.

Overall corporation tax revenue is concentrated in a small number of firms, with 10 firms paying 53 per cent of the total in 2021. It is likely that there is also significant concentration within corporation tax paid by ICT firms. Data from the Irish Times Top 1000 lists profits earned by the top ICT firms in Ireland according to company filings, and shows substantial concentration in the largest firms including Apple, Microsoft, Alphabet, Adobe and Meta.<sup>62</sup> The share of corporation tax paid by ICT firms has doubled over the last decade (Figure 16), with receipts increasing from €300m in 2011 to €3.3bn in 2021. Given the likely concentration of profits, it is plausible that a small number of extremely profitable ICT firms have driven this growth, implying firm-specific risks to the Irish public finances.<sup>63</sup>

As an alternative approach to estimating sectoral profitability, CSO Institutional Sector Accounts data can be used to compare aggregate ICT services gross operating surplus to corporation tax in each year. From 2017 to 2021, ICT services' gross operating surplus rose by 150 per cent while CT

<sup>62</sup> See [Irish Times Top 1000](#).

<sup>63</sup> Firm profits do not directly translate to corporation tax receipts for a number of reasons, including the effect of capital allowances, under which certain expenditures can be set against taxable profits. Revenue data shows more than half of CT comes from firms using capital allowances for intangible assets, and that the CT payment from these firms has more than doubled since 2018. See for example, [2021 Corporation Tax Payments](#). An alternative measure of profits in the sector, is gross operating surplus from the CSO Institutional Sector Accounts. There is a reasonably close relationship between the CT paid by ICT and GOS in the sector, but changes in gross operating surplus do not fully account for changes in corporation tax paid.



payments from the sector rose by 140 per cent. From year to year, there is a reasonably close relationship between growth in the two series but, as with firm level profits, changes in gross operating surplus do not fully account for changes in corporation tax paid in Ireland. At the same time, given the risk of potentially weaker profitability in the ICT sector over the coming years, a reduction in gross operating surplus could negatively affect corporation tax revenues if this translates into a reduction in profit taxable in Ireland.

## 5. Conclusion

The ICT sector makes a significant contribution to output, employment and tax revenue in Ireland. Given the size of the sector, any prolonged slowdown would have a negative effect on the economy and labour market. To date, the number of job losses is small, relative to the existing workforce.

Despite this, characteristics of the ICT services sector in Ireland indicate important risks to growth, employment and tax revenues if a more severe or prolonged downturn were to materialise. The sector is dominated by a small number of foreign-owned MNEs that account for the majority of output, employment and tax revenue. In contrast, the domestic part of the sector has expanded more slowly and accounts for less than 10 per cent of overall ICT output. This suggests that the capacity for the domestic part of the sector to absorb any loss of activity from foreign-owned firms may be reduced, should a more serious contraction in MNE-based ICT activity occur.

More generally, the developments over recent months provide a clear example of the overall structural vulnerability of the Irish economy, labour market and public finances to negative, sector-specific shocks. This vulnerability arises due to the large proportion of overall output and tax revenue that is concentrated in a small number of foreign-dominated sectors. This implies that a downturn affecting a specific sector, or a handful of large firms in a sector, has the potential to adversely affect overall economic activity, employment and, in particular, corporation tax revenue. Policies that contribute to improving the resilience of the economy, such as increasing investment and productivity in indigenous firms and saving unexpected corporation tax revenues in the National Reserve Fund, would lessen the negative effects of any future sectoral downturn.

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