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Central Bank of Ireland

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Notes

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2. Unless otherwise stated, statistics refer to the State, i.e., Ireland exclusive of Northern Ireland.
3. In some cases, owing to the rounding of figures, components do not add to the totals shown.
4. The method of seasonal adjustment used in the Bank is that of the US Bureau of the Census X-11 variant.
5. Annual rates of change are annual extrapolations of specific period-to-period percentage changes.
6. The following symbols are used:

e	estimated
n.a.	not available
p	provisional
..	no figure to be expected
r	revised
-	nil or negligible
q	quarter
f	forecast
7. Data on euro exchange rates are available on our website at www.centralbank.ie and by telephone at 353 1 2246380.

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Comment

The outlook for domestic growth over the coming quarters is more challenging than previously expected, against a background of energy-driven inflation remaining prominent. While the labour market remains tight following the post-pandemic recovery, significantly higher consumer prices and business costs are creating a drag on household spending and business investment in the near-term. Inflationary pressures are forecast to ease through 2023, allowing domestic growth to pick up again in the second half of next year. Inflation is expected to moderate to below 3 per cent over 2024, albeit that fossil fuel prices may stay elevated over the medium term. However, the economic outlook remains highly uncertain, with the baseline forecast predicated on current market expectations for energy prices, which have been volatile.

With the supply-side already experiencing constraints during the transition out of the pandemic, the economic implication of the Russian invasion of Ukraine is one of a large supply-side shock to the Irish and European economies. As the disruption to energy, food and commodities markets has materialised, the knock-on, upward effects on consumer prices and consequent reduction in domestic purchasing power has become more substantial through 2022. Average household real disposable income is expected to decline by 3.3 per cent this year. Developments in the price of natural gas in particular since July underline both the volatility in near-term economic conditions and the uncertainty around the outlook (Box B). While inflation has become more broadly-based, the main impulse to final goods prices continues to come from energy, and only as that abates will headline inflation begin to decline. Based on current market expectations, the forecast foresees headline inflation easing from Q4 2022 onwards. However risks to the inflation outlook are to the upside. Consequently, a period of below trend economic growth, extending into 2024 remains a possibility.

The economy's adjustment to this supply-side shock will be shaped by policy choices and the ability of businesses and households to manage higher costs. While affecting everyone, energy and food price inflation is more acutely felt by some households than others. The large increase in aggregate household

savings during the pandemic has, and can, provide a buffer to withstand the impact of inflation and help households maintain their consumption expenditure in real terms. Looking ahead, the successive wave of shocks faced by households in recent years may lead to more precautionary saving behaviour arising in general, which would limit the extent to which household spending would rebound when such shocks subside. However, like the effects of inflation, the distribution of such savings buffers is not uniform across the economy. In a *Signed Article* accompanying this *Bulletin*, research by Central Bank staff highlight the case of approximately 15 per cent of all households with relatively lower income, larger expenditure on essentials of food and energy, and limited savings buffers, that are particularly vulnerable to the current inflationary environment.¹

Businesses are also being faced with challenging conditions, in light of rising prices for energy and other inputs. Understanding how businesses are responding to this situation is important to the outlook for consumer price inflation, employment and economic growth. In some sectors, retained earnings, profit margins and the potential for productivity growth to arise are such that firms have some capacity to absorb higher input costs without having to increase prices to their customers or cut back on production.² Given the rising costs businesses are facing, and the tight labour market conditions still present in many sectors (Box F), inflation, however, is likely to remain higher than what arose before the pandemic. While the more challenging domestic growth outlook is expected to lead to some easing in employment growth, the extent of underlying demand for labour is such that wage growth is expected to outstrip inflation towards end-2023, as unemployment remains relatively low.

As a net energy importer, the immediate costs of the negative external shock to the Irish economy, which is damaging the medium-term productive capacity of the economy, are largely unavoidable. Fiscal and monetary policy measures can play a role in minimising the extent of these costs over the medium term, distributing them across the economy and society, and supporting the necessary transition to a more resilient position where such shocks are less likely to emerge and be less costly in the future.

Ensuring the benefits of price stability for households and businesses over the medium term is a key contributor to macroeconomic stability and sustainable growth. Accordingly, the ECB's Governing Council continues to normalise

¹ Arrigoni, S., Boyd, L., & McIndoe Calder, T. Household Economic Resilience. Quarterly Bulletin Signed Article, 2022.4.

² [Byrne, McLaughlin and O'Brien \(2022\)](#).

policy, and move from the accommodative stance that prevailed for much of the last decade. Policy rates reverting to levels aimed at damping the inflationary pressures currently evident in the euro area and to achieve the target of 2 per cent inflation over the medium term. This monetary policy response is important to guard against the risk of a de-anchoring of inflation expectations, and to contain the extent to which excessively high core inflation persists.

Domestically, significant fiscal policy intervention has been introduced to mitigate the near-term impact of higher inflation, most recently in *Budget 2023*. Funded primarily by windfall corporation tax receipts, €4.1 billion of temporary measures were announced to support households and businesses. Just over half of the measures in Budget 2023 would appear to be untargeted and may run the risk of adding to medium-term inflation. However, any such impact is likely be negligible in comparison to the other potential drivers of inflation such as energy and its pass-through to other parts of the consumer basket.

However, the over-reliance on corporation tax receipts from a small number of multinationals is an ongoing source of vulnerability to the public finances. In addition, while energy price inflation is expected to ease significantly over the forecast horizon, it is not expected that energy price levels will fall to any great extent. The temporary nature of supports is important in terms of not adding unnecessarily to medium-term inflationary pressures and avoiding a further structural vulnerability in the public finances. Sustainably funding ongoing supports from own resources is especially important in a period when government borrowing costs are rising. In this context, the decision to transfer €2 billion to the National Reserve Fund in 2022 and a planned €4 billion in 2023 is a positive development.

Moving beyond the immediate challenges, policy should clearly focus on enhancing the resilience of the economy to future shocks. For example, temporary supports could be aligned with measures that underpin the transition to net-zero. Similarly, a maintained commitment to a coherent rules-based fiscal strategy should support sustainability in the public finances over the longer-term. It remains important to maintain a domestic policy stance that sustainably and credibly supports both near and medium-term objectives in the areas of housing, as well as the green and demographic transitions.

An Timpeallacht Gheilleagrach

Tá dúshlán níos mó i gceist leis an bhfás intíre atá tuartha sna ráithí amach romhainn ná mar a measadh roimhe seo, i bhfianaise go bhfuil boilsciú atá bunaithe ar fhuinneamh fós i réim. Le praghsanna tomhaltóirí agus costais gnó atá i bhfad níos airde, tá bac á chur ar chaiteachas teaghlach agus ar infheistíocht ghnó sa ghearrthéarma, cé go bhfuil ganntanas fós sa mhargadh fostaíochta i ndiaidh an téarnaimh tar éis na paidéime. Tá sé tuartha go mbeidh maolú ar na brúnna boilscitheacha i rith 2023, sa chaoi go bhfeabhsóidh fás intíre sa dara leath den bhliain seo chugainn. Meastar go maolóidh an boilsciú go dtí faoi bhun 3 faoin gcéad le linn 2024, cé go bhféadfaidh go mbeidh praghsanna breoslaí iontaise ardaithe sa mheántéarma. Mar sin féin, tá éiginnteacht ag baint leis an ionchas eacnamaíoch i gcónaí, agus tá an réamhaisnéis bunlíne bunaithe ar ionchais an mhargaidh reatha do phraghsanna fuinnimh atá luaineach.

Ó tharla go raibh srianta ann cheana féin ó thaobh an tsoláthair de nuair a bhíothas ag téarnamh ón bpaindéim, tá impleacht eacnamaíoch ionradh na Rúise ar an Úcráin ina shuaitheadh ó thaobh an tsoláthair de do gheilleagar na hÉireann agus do gheilleagair na dtíortha Eorpacha. De bharr gur cuireadh isteach ar mhargaí fuinnimh, bia agus tráchtarraí, tá na hiarmhairtí aníos ar phraghsanna tomhaltóirí, mar aon leis an laghdú dá bharr sin ar chumhacht ceannaigh intíre, tar éis éirí níos suntasaí i rith 2022. Meastar go mbeidh laghdú 3.8 faoin gcéad ar an meán ar fhíor-ioncam indiúscartha teaghlach i mbliana. Le forbairtí i bpraghas an gháis nádúrtha go háirithe ó mhí Iúil, leagtar béim ar an luaineacht sna dálaí eacnamaíocha gearrthéarmacha agus ar an neamhchinnteacht i dtaobh na réamhaisnéise (Bosca B). Cé go bhfuil bonn níos leithne faoin mboilsciú anois, tá an spreagadh is mó maidir le praghsanna earraí deiridh ag teacht go fóill ó fhuinneamh, agus ní thiocfaidh laghdú ar an mboilsciú príomha go dtí go maolóidh sé sin. Bunaithe ar ionchais an mhargaidh reatha, tá sé tuartha sa réamhaisnéis go maolóidh an boilsciú príomha ó R4 2022 ar aghaidh. Mar sin féin, is rioscaí ar an taobh thuas iad na rioscaí do réamhaisnéis an bhoilscithe. Dá bharr sin, tá féidearthacht ann go

mbeidh tréimhse faoi bhun an ráta fáis eacnamaíoch ag leanúint ar aghaidh in 2024.

Beidh cumas an gheilleagair chun dul in oiriúint don suaitheadh seo ó thaobh an tsoláthair de faoi thionchar ag roghanna beartais agus cumas gnólachtaí agus teaghlach costais níos airde a bhainistiú. Cé go mbíonn tionchar ag an mboilsciú fuinnimh agus praghsanna bia ar gach duine, bíonn tionchar níos mó aige ar roinnt teaghlach ná teaghlaigh eile. Leis an méadú mór ar choigilteas teaghlach comhiomlán i rith na paindéime, cuireadh maolán ar fáil chun tionchar an bhoilscithe a sheasamh agus chun cuidiú le teaghlaigh a gcaiteachais ar thomhaltas a chothabháil i dtéarmaí réadacha. Ag breathnú chun cinn, d'fhéadfadh go mbeadh daoine ag coigilt airgid ar bhealach réamhchúramach ar an iomlán mar thoradh ar an ráig suaite a bhí roimh theaghlaigh le blianta beaga anuas, rud a chuirfeadh srian leis an méid a thioctadh caiteachas teaghlach ar ais chuige féin nuair a mhaolódh na cineálacha suaite sin. Mar sin féin, mar aon le héifeachtaí an bhoilscithe, níl dáileadh maolán coigiltis den sórt sin aonfhoirmeach ar fud an gheilleagair. I dtaighde a rinne foireann an Bhainc Ceannais agus a chuirtear i láthair in *Alt Sínithe* a ghabhann leis an *bhFaisnéis Ráithiúil* seo, léirítear caiteachas níos mó ar bhunriachtanais bia agus fuinnimh, agus maoláin theoranta coigilteas, atá leochaileach don timpeallacht bhoilscithe reatha, i gcás thart ar 15 faoin gcéad de gach teaghlach a bhfuil ioncam níos ísle acu.³

Tá dálaí dúshlánacha fós roimh ghnólachtaí, i bhfianaise praghsanna fuinnimh agus ionchuir eile atá ag méadú. Tá sé tábhachtach i gcomhthéacs an ionchais maidir le boilsciú praghsanna do thomhaltóirí, maidir le fostaíocht agus maidir le fás eacnamaíoch, go mbeadh tuiscint ar an gcaoi a bhfuil gnólachtaí ag freagairt don chás seo. I roinnt earnálacha, ciallaíonn tuilleamh coinnithe, corrlaigh bhrabúis agus cumas chun cur le fás táirgiúlachta, go bhfuil acmhainn de shaghas éigin ag gnólachtaí chun costais ionchuir níos mó a iompar gan praghsanna a ardú dá gcustaiméirí nó gan gearradh siar ar tháirgeacht.⁴ I bhfianaise na gcostas ardaitheach atá roimh ghnólachtaí, agus i bhfianaise choinníollacha an mhargaidh fostaíochta ina bhfuil ganntanas fós in go leor earnálacha (Bosca F), is dócha, áfach, go mbeidh an boilsciú níos airde fós ná mar a bhí ann roimh an bpaindéim. Cé go meastar go mbeidh roinnt laghdaithe i bhfás fostaíochta mar thoradh ar ionchas fáis intíre atá níos dúshlánaí,

³ Arrigoni, S., Boyd, L., & McIndoe Calder, T. Household Economic Resilience. *Alt Sínithe, Faisnéis Ráithiúil* 2022.4.

⁴ [Byrne, McLaughlin agus O'Brien \(2022\)](#).

ciallaíonn méid an bhunéilimh ar lucht saothair go meastar go sáróidh fás pá an boilsciú i dtreo dheireadh 2023, mar tá an dífhostaíocht fós sách íseal.

Mar ghlánallmhaireoir fuinnimh, ní féidir costais an tsuaite sheachtraigh dhiúltaigh do gheilleagar na hÉireann a sheachaint ar an iomlán, ar suaitheadh é atá ag déanamh dochar do chumas táirgthe an gheilleagair sa mheántearma. Féadfaidh ról a bheith ag bearta fioscacha agus beartais airgeadais maidir le méid na gcostas seo a íoslaghdú sa mheántearma, lena ndéantar iad a dháileadh ar fud an gheilleagair agus na sochaí, agus lena dtacaítear leis an aistriú riachtanach chuig staid níos athléimní inar lú an dóchúlacht go dtiocfaidh suaitheadh mar sin chun cinn agus inar dócha go mbeidh siad níos saoire amach anseo.

Tá sé ríthábhachtach tairbhí na cobhsaíochta praghsanna do theaghlaigh agus do ghnólachtaí a áirithiú sa mheántearma chun go gcuirfear le cobhsaíocht mhaicreacnamaíoch agus le fás inbhuanaithe. Dá réir sin, leanann Comhairle Rialaithe BCE den bheartas a normalú, agus den aistriú ón seasamh in-chomhfhoirmeach a bhí i réim d'fhormhór na ndeich mbliana seo caite, rud a chiallaíonn go bhfuil rátaí beartais ag filleadh ar leibhéil a dhíríonn ar na brúnna boilscithe atá le feiceáil faoi láthair sa limistéar euro a mhaolú agus chun sprioc 2 faoin gcéad maidir le boilsciú sa mheántearma a bhaint amach. Tá an fhreagairt beartais airgeadaíochta seo tábhachtach chun cosaint i gcoinne an riosca go ndéanfar ionchais bhoilscithe a dhí-dhaingniú, agus chun srian a choimeád ar a mhéid a leanfaidh croibhoilsciú an-ard ar aghaidh.

In Éirinn, tá idirghabháil beartais fhioscaigh shuntasaigh tugtha isteach chun tionchar gearrthéarmach an bhoilscithe níos airde a mhaolú, mar a bhí i *mBuiséad 2023* le déanaí. Fógraíodh bearta sealadacha dar luach €4.1 billiún chun tacú le teaghlaigh agus le gnólachtaí, bearta a bhí maoinithe go príomha ag fáltais cánach corparáide amhantair. Is cosúil go bhfuil os cionn leath de na bearta i *mBuiséad 2023* neamhdhírithé agus, dá bhrí sin, tá an baol ann go gcuirfidh siad le boilsciú sa mheántearma. Is dócha go mbeidh an tionchar fánach, má tharlaíonn sé, i gcomparáid le cúiseanna eile boilscithe a d'fhéadfadh a bheith ann amhail fuinneamh agus an tionchar a bheadh aige sin ar chodanna eile de chiseán an tomhaltóra.

Mar sin féin, is foinse leanúnach leochaileachta d'airgeadas poiblí é an róspleáchas ar fháltais cánach corparáide ó líon beag cuideachtaí ilnáisiúnta. Ina theannta sin, cé go meastar go maolóidh oilsciú ar phraghsanna fuinnimh go suntasach thar thréimhse na réamhaisnéise, ní mheastar go dtitfidh leibhéil na bpraghsanna fuinnimh chomh mór sin. Tá cineál sealadach na dtacaíochtaí

tábhachtach chun nach gcuirfear le brúnna boilscitheacha meántéarmacha gan ghá agus chun leochaileacht bhreise struchtúrach san airgeadas poiblí a sheachaint. Tá sé tábhachtach ach go háirithe go bhféadfar tacaíochtaí leanúnacha a mhaoiniú ar bhonn inbhuanaithe ó fhoinsí dílse. Sa chomhthéacs seo, is dul chun cinn dearfach é an cinneadh €2 billiún a aistriú chuig an gCúlchiste Náisiúnta in 2022 agus go mbeartaítear €4 billiún a aistriú in 2023.

Ag bogadh ar aghaidh ó na dúshláin atá ann faoi láthair, ba cheart don bheartas díriú go soiléir ar stóinseacht an gheilleagair a fheabhsú i leith suaití amach anseo. Mar shampla, d'fhéadfaí tacaíochtaí sealadacha a ailíniú le bearta atá mar bhonn faoin aistriú chuig glan-astaíochtaí nialasacha. Ar an gcaoi chéanna, ba cheart go tacófaí le hinbhuanaitheacht san airgeadas poiblí san fhadtárma trí bhíthin gealltanais seasmhach do straitéis fhioscach chomhleanúnach atá bunaithe ar rialacha. Tá sé tábhachtach i gcónaí go gcloífear le seasamh foriomlán cánach agus caiteachais a thacóidh, ar bhealach inbhuanaithe inchreidte, le cuspóirí gearrthéarmacha agus meántéarmacha araon, i réimse na tithíochta agus i réimse na n-athruithe glasa agus déimeagrafacha.

The Irish Economy

Overview

The economy grew strongly in the first half of the year, but domestic economic activity is expected to slow sharply for the remainder of 2022. The economic effects of the war in Ukraine, chiefly rising energy prices and uncertainty about energy supplies, are leading to lower consumption and investment than would otherwise be the case. A large increase in investment in Q2, most likely once-off in nature, means that the forecast for modified domestic demand (MDD) for the full year 2022 is revised up compared to our July forecast. However, the projection for activity in the second half of the year is revised down compared with the July *Bulletin*. MDD is forecast to grow by 6.4 per cent in 2022, 2.3 per cent in 2023, and 3.3 per cent in 2024.

Consumer price inflation forecasts have been revised up to 8 per cent in 2022 and 6.3 per cent in 2023. These revisions predominantly reflect sharp increases in the assumptions for the future price of gas (See Box B). Natural gas accounts for about half of electricity generation in Ireland, and increases in the price of gas, accordingly, will pass through to the retail price of electricity as well as gas for home heating. Higher electricity prices also affect prices in the wider economy as firms' production costs increase. Concerns about supply this winter have caused the wholesale price of gas to rise closer to levels consistent with the downside economic scenario contained in the July *Bulletin*.

Real (inflation-adjusted) household income is forecast to fall by 1.5 per cent this year (3.3 per cent on a per household basis), and to rise by 1.1 per cent next year. This expectation, coupled with more precautionary savings, means that consumer spending is projected to grow at a slower pace than forecast in the July *Bulletin*, particularly in 2023. High frequency indicators already point to a slowdown in the third quarter of 2022, but with energy price increases set to accelerate in the autumn, the slowdown in consumption in the fourth quarter is forecast to be more substantial.

Modified investment grew by 33 per cent year-on-year in the second quarter, a large upside surprise relative to the forecast in the July *Bulletin*. This large jump in investment coincided with a sharp rise in the imports of electrical machinery, mostly relating to the production of semiconductors, which is assumed to be a once off in terms of scale. Forward-looking indicators suggest that growth in modified investment will slow in the second half of the year, reflecting heightened uncertainty and a tightening of financial conditions.

Modified investment is forecast to grow by 14.3 per cent this year, 3.4 per cent in 2023 and 4 per cent in 2024.

Exports produced in Ireland in MNE-dominated sectors have increased sharply in 2022. The value of exports of pharmaceutical products and medical devices rose by 39.9 per cent in the first half of 2022 compared with the same period in 2021, while ICT services exports have also been buoyant. As in previous years, trade in these fast-growing sectors is expected to provide a continuing boost to economic activity in Ireland over the forecast period, even in the presence of a more subdued international growth outlook. Exports are forecast to grow by 14.2 per cent in 2022, 8.2 per cent in 2023, and 6.2 per cent in 2024.

Tax revenue has grown strongly in the first nine months of the year. The general government balance (GGB) is now forecast to move from a deficit of €7bn in 2021 to a surplus of €1.5bn this year (or from -3 per cent to +0.6 per cent of GNI*). This improvement reflects the positive impact of economic recovery on revenue growth and a surge in corporation tax receipts, factors that more than offset further increases in expenditure - including the large package of cost of living supports introduced in last month's Budget. Excluding estimates of 'windfall' corporation tax receipts the budget balance would remain in deficit this year, highlighting the key role the tax head has played in driving the budgetary improvement. The general government debt ratio is projected to record a large decline in the coming years, but to remain at an elevated level.

There remains upside risks to the inflation forecast and downside risks to the growth outlook. The central forecasts are contingent on currently high energy prices stabilising, alongside a smooth transition to more sustainable energy supply. However, a more intense and protracted war in Ukraine or a further deterioration in energy or food supplies would result in lower growth and higher inflation than outlined in the baseline forecast. Given recent developments in the UK, a less favourable growth path there would have slightly negative implications for the growth forecast, while a larger appreciation of the euro vis-a-vis Sterling would imply weaker inflation.

Table 1: Macroeconomic Projections for the Irish Economy

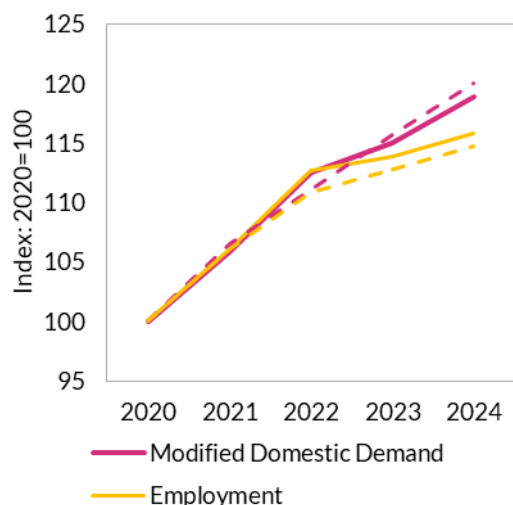
(annual percentage changes unless stated)

	2021	2022f	2023f	2024f	
Modified Domestic Demand	5.8	6.4	2.3	3.3	
Gross Domestic Product	13.6	12.2	5.3	5.1	
Constant prices	Personal Consumer Expenditure	4.6	5.3	2.9	3.7
	Public Consumption	6.5	1.6	-0.5	1.7
	Gross Fixed Capital Formation	-39	8.0	4.1	4.4
	Modified Gross Fixed Capital Formation	8.1	14.3	3.4	4.0
	Exports of Goods and Services	14.1	14.2	8.2	6.2
	Imports of Goods and Services	-8.4	11.9	8.0	5.8
Total Employment (% change)	6.1	6.2	1.1	1.7	
Unemployment Rate	6.3	4.7	5.1	4.8	
Harmonised Index of Consumer Prices (HICP)	2.4	8.0	6.3	2.8	
HICP Excluding Energy	1.5	5.1	4.4	2.8	
Compensation per Employee	2.7	3.8	5.8	4.9	
General Government Balance (% GNI* - level)	-3.0	0.6	2.4	3.2	
General Government Gross Debt (%GNI* - level)	100.8	84.6	78.0	74.5	

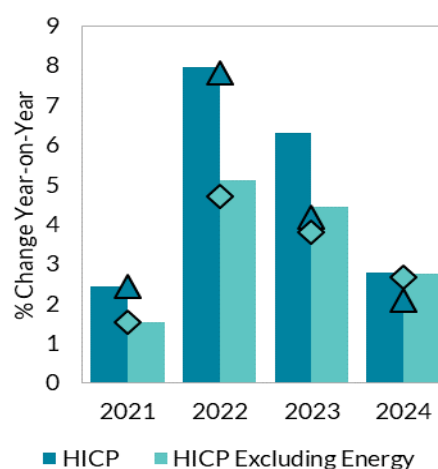
1. GDP is reported here, as it is the standard measure used in international comparison and forms Ireland's contribution to the Eurosystem staff projections. Caution should be used in interpreting GDP developments for Ireland, as it is heavily influenced by globalisation and the activities of multinational enterprises.

2. A more detailed set of forecasts are available on our website.

Growth rate in the domestic economy to moderate as inflation increases

Figure 1: MDD and Employment

Source: CSO and Central Bank of Ireland
Note: Dashed lines indicate forecast from QB3 (July 2022)

Figure 2: HICP Inflation

Source: CSO and Central Bank of Ireland
Note: Markers indicate forecast from QB3 (July 2022)

Box A: The International Economic Outlook

By the Monetary Policy Division

The Russian war in Ukraine continues to take its toll on global economic activity, with high energy and food prices weighing on households' disposable incomes and on their and business confidence, while supply bottlenecks arising after the pandemic, although slowly fading, are still present. The monetary policy measures taken in most major economies to counter the rise in inflation are also starting to tighten financing conditions and point to further slowdowns in investment and economic activity in the coming years.

The OECD September economic outlook predicts the world economy to significantly slow down in 2022 and 2023 (seeing global GDP growth rates of 3.0% and 2.2%, respectively), and attributes a large part of this slowdown to the Russian war in Ukraine and its effects on world energy and food markets, and the tightening of monetary policy worldwide to counter the global rise in inflation. Compared to forecasts made before the Russian aggression, the OECD sees global GDP to be 2.8 trillion US dollars lower in 2023. The Chinese economy is also experiencing a significant slowdown due to its zero-Covid policy and weaknesses in the property market, weighing down on global activity.

In its July World Economic Outlook, the IMF forecast global GDP growth of 3.2% in 2022 and 2.9%, a significant reduction compared to its previous forecast, mentioning weaker growth in China due to successive lockdowns and the crisis in the property market, lower growth in the US due to deteriorating household purchasing power and tight monetary policy, and the effects of energy price rises particularly in Europe. The further slowdown in 2023 compared to 2022 partly also reflects the dampening effects of tighter monetary policy in a number of economies.

For the euro area, the ECB forecasts GDP growth to reach 3.1% this year, and then to fall to 0.9% in 2023, recovering to 2.3% in 2024. The forecast for 2022 is slightly higher than in the July exercise as growth in the first two quarters of the year surprised upwards, however in 2023 it falls strongly from 2.1% predicted in June. In a downside scenario with a complete cut-off of Russian gas as well as seaborne oil flows into the euro area, with little scope for accessing alternative gas supply sources, and higher commodity

prices and uncertainty, the ECB predicts growth rates of 2.8%, -0.9% and 1.9% in 2022, 2023 and 2024 respectively, thus envisaging the possibility of a recession next year. The inflation forecast for the euro area has been further revised upwards, with ECB staff now expecting inflation to average at 8.1% in 2022, 5.5% in 2023 and 2.3% in 2024. The decline in inflation is seen as a result of energy and food inflation gradually declining over the next two years, while core inflation remains elevated into 2023 and start declining thereafter.

Euro area quarterly GDP rose robustly in the second quarter of 2022 as euro area economies continued to recover from the pandemic shock and entered the quarter with strong growth momentum. GDP rose by a further 0.8 per cent on a quarterly basis, after a 0.7 per cent rise in Q1; compared to the same quarter of 2021, euro area GDP grew by 4.1 per cent in Q2 2022, by which time GDP levels in the euro area were 1.8 per cent higher (in volume terms) than in the fourth quarter of 2019, before the pandemic. After this robust rebound in the first half of the year, the effects of the energy crisis on euro area inflation, terms of trade, and consumer and business confidence are predicted to lead to a substantial slowdown in the second half. The euro area manufacturing Purchasing Managers' Index fell again in August to 49.6 (from 49.8 the previous month), indicating a contraction. The services index also further declined to 48.9 in the same month, while the European Commission indicator of Eurozone consumer confidence fell to -28.8 in September, one of its lowest ever readings.

The labour market remains very strong in the euro area, despite inflationary pressures and the slowing global and euro area economy. The euro area seasonally-adjusted unemployment rate stood at 6.6 per cent in July 2022, down from 6.7 per cent in June and 7.7 per cent in July 2021. It represented a new record low level for the euro area. In Q2 2022, the annual growth rate of employment in persons for the euro area was 2.7 per cent, with a quarterly growth in employed persons of 0.4 per cent compared to Q1 2022. Employment in hours worked increased by 0.6 per cent quarterly and 3.7 per cent annually in Q2 2022.. Job vacancy rates stood at 3.2 per cent in the euro area in Q2 2022, significantly up from 2.3 per cent a year before.

Euro area annual HICP inflation continued to rise in August. It increased to 9.1 per cent, up further from 8.9 per cent in July and 3.0 per cent only a year earlier. The monthly increase in prices stood at 0.6 per cent. While inflation has been driven primarily by energy and food prices, the relative

contribution of energy prices to inflation has declined (from 4.19 percentage points in June and 4.02 in July to 3.95 in August), while the contributions of non-energy industrial goods, and services have increased. Underlying inflation (HICP excluding energy, food, alcohol and tobacco) accelerated further to 4.3 per cent (from 4.0 per cent), with monthly inflation at 0.5 per cent. Services inflation rose to 3.8 per cent from per cent in July, with a monthly rate of 0.4 per cent.

In light of developments in inflation in the euro area, at its September 2022 meeting, the ECB Governing Council decided to raise all three key ECB interest rates by 75 basis points; this followed a previous 50 basis point increase in all three rates at the July Governing Council meeting, which had represented the first rate rise in over a decade. This brought the deposit facility rate, the main refinancing operations rate and the rate on the marginal lending facility at a level of, respectively, 0.75, 1.25, and 1.50 per cent. To ensure the return of inflation towards the ECB's 2 per cent target in the medium term, the Governing Council expects to continue rising rates in the near future but has confirmed it will follow a meeting-by-meeting approach to policy decisions. Principal payments from assets purchased under the PEPP and APP programmes continue to be reinvested in full, with PEPP reinvestments being made flexibly to counter risks to monetary policy transmission related to the pandemic.

In the United States, quarterly GDP decreased by 0.1 per cent in the second quarter of 2022, after another 0.4 per cent fall in the first quarter. In annual terms, GDP growth slowed down to +1.7 per cent in Q2 from +3.5 per cent in Q1. The labour market, however, remains strong, with the unemployment rate falling to 3.5 per cent in July from 5.4 per cent a year earlier. US inflation declined to 8.3 per cent in August from 8.5 in July and 9.1 in June. After a number of consecutive and large interest rate rises at previous meetings, in September the Federal Open Market Committee (FOMC) of the US Federal Reserve further increased the target range for the Federal Funds Rate to 3 to 3.25 per cent, an increase of 75 basis points. The FOMC also expects that ongoing increases will be appropriate at future meetings, and is continuing to reduce the size of the Federal Reserve balance sheet.

In the United Kingdom, quarterly GDP declined by 0.1 per cent in the second quarter of 2022 (+2.9 per cent relative to Q2 2021), a significant slowdown from the first quarter, when it had grown by 0.8 per cent in quarterly terms. Between May and July 2022, unemployment stood at 3.6 per cent. Inflation

in August declined slightly to 9.9 per cent from 10.1 per cent in July. At its September meeting, the Bank of England's Monetary Policy Committee voted to increase the Bank Rate by a further 50 basis points, to 2.25 per cent, after a similar sized increase at the previous meeting. The Committee decided to reduce the stock of UK Government bonds in its balance sheet by £80bn in the next twelve months. Although the strong monetary policy tightening in the United States by the Federal Reserve relative to other central banks has led to a significant appreciation of the US dollar against most major currencies (including the euro, which is now below parity to the dollar), recent fiscal developments in the United Kingdom have put additional strong downward pressure on the pound sterling, which recently fell to record lows against the dollar. In light of risks to financial stability arising from disorderly conditions in the UK gilt market, on 28th September the Bank of England announced a temporary programme of purchases of long-dated UK government bonds, of up to £5bn per week day from 28th September to 14th October, with a total envelope of £65bn.

Box B: The Impact of Gas Prices on the Forecast

By Stephen Byrne and Neil Lawton⁵

One of the key assumptions underpinning the forecasts contained in this *Bulletin* is the future wholesale price of natural gas. The Bank's forecasts derive technical assumptions for all commodity prices used in the forecasts. We use a ten-day average of the futures price up to the forecast cut-off, typically five days before the publication of the forecast. One of the most significant commodity movers in recent months has been natural gas⁶.

Since the Russian invasion of Ukraine, concerns about supplies to Europe have seen wholesale gas prices increase by as much as 296 per cent (on 26 August), and are now around 137 per cent higher since close on 23 February. The peak in prices reached on 26 August came ahead of a three day halting of natural gas supplies from Gazprom to Europe via the Nord Stream 1 pipeline

⁵ Irish Economic Analysis Division and Monetary Policy Division. Thanks to Sean Furlong (Financial Markets Division) for help with data collection.

⁶ In this box, we discuss prices from the Title Transfer Facility, more commonly known as TTF, which is a virtual trading point for natural gas in the Netherlands. It stands as benchmark for gas prices in Europe.

due to maintenance amid concerns the pipeline would not be switched back on. Gas prices have remained elevated since due to uncertainty over the supply and inventories of natural gas, and as leaks were discovered in both the Nord Stream 1 and 2 pipelines.

In Ireland, natural gas is a primary input in electricity generation, as well as a method for home heating. As such, increases in the wholesale price of gas pass directly to energy products in the HICP. There are also strong indirect effects, as non-energy firms facing significant energy price increases pass these costs on to consumers. High levels of uncertainty in this key assumption therefore imply high levels of uncertainty about the inflation forecast overall.

One way to quantify the range of uncertainty in the gas price assumption is derive information about investor's beliefs from financial market information. One way to do this is to use option prices. Options are financial instruments that give the buyer the right, but not the obligation, to purchase an asset at some time in the future. They are used to insure against uncertainty about the future price of financial assets and commodities. Using certain assumptions, the information in option prices can be expressed in terms of the risk neutral market-implied probability that the price of the asset will fall within a particular range on a given date in the future.⁷

These probabilities can be expressed in the form of a probability density function (PDF). The PDF is a visual representation of the likelihood of a given outcome, in this case the price of natural gas on a given date. Figure 1 represents a PDF constructed from options on natural gas prices (Dutch TTF) with a maturity of December 2023. The area under the curve is skewed to the right reflecting the high probability that prices will remain well above their typical range of €10-30 per MWh seen between 2010 and mid-2021.

⁷ A full outline of the methodology is available in [O'Donnell, S. and O'Keeffe, M., 2016. Option Implied Probability Density Functions: Methodology and Use in Understanding Investor Sentiment. Quarterly Bulletin Signed Articles.](#)

Expectations for gas prices have declined since August

Figure 1: Risk-Neutral Distributions for options settling Dec-2023



Source: Bloomberg and Central Bank calculations

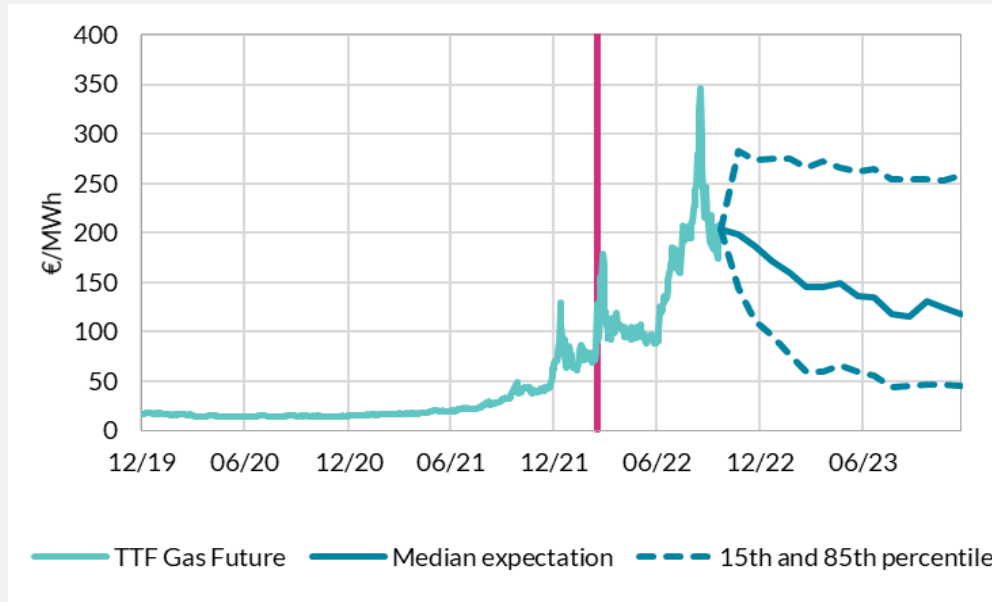
Notes: This figure shows the risk-neutral distributions for options expiring in December 2023. The distributions shown are taken on 26 August, the date at which gas prices reached their record peak and at 28 September, the most recent data available. The dotted vertical lines represent the mode for each distribution.

Figure 2 displays historical gas price futures and a range derived from option-implied market expectations of the price from now until the end of next year. The figure shows that the median market expectation is for gas prices to fall in 2023, but that the market-implied distribution suggests that the risk is tilted strongly to the upside, with the 85th percentile of the distribution suggesting a price in mid-2023 of €250 per MWh relative to the median price of just above €100.

These figures show the unprecedented level of uncertainty inherent in the projections for HICP energy in this Bulletin. For example, if gas prices were to reach levels consistent with the 70th percentile of the probability density function in Figure 2, this would increase the HICP energy forecast from 26.1 per cent in 2023 in this Bulletin to 31.3 per cent. Holding the other HICP components equal this would imply an overall HICP forecast in 2023 of 6.7 per cent relative to the forecast of 6.3 in this Bulletin.

High uncertainty remains for the path of gas prices

Figure 2: Historical and expected Dutch TTF gas futures price



Source: Bloomberg and Central Bank calculations

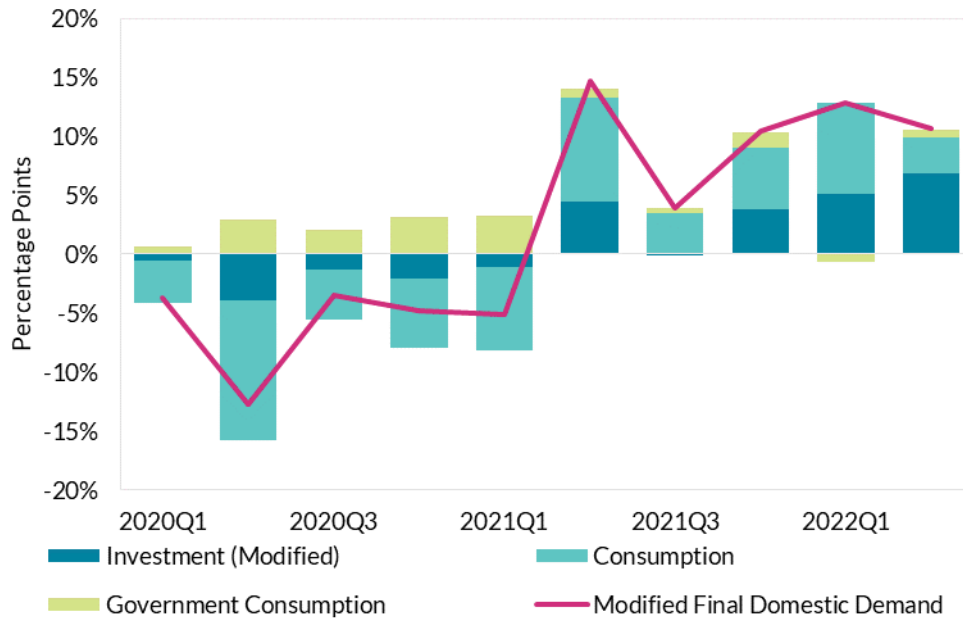
Notes: Historical prices (green) show the futures prices for next month delivery. Expected prices, derived from risk neutral probabilities (dark blue), show the path for gas futures prices for each month until end-2023. The expected path is based on options prices at close on 28 September.

Recent Developments

Total economic activity as measured by GDP increased by 11 per cent year-on-year in Q2 2022. Exports, driven by ICT services and pharmaceutical sectors, continued to grow strongly despite slower global growth, global inflationary pressures, higher interest rates, delayed delivery times and fears of declining trade integration. Quarter-on-quarter, GDP increased by just under 2 per cent on seasonally-adjusted terms, while modified domestic demand (MDD) grew by 4.3 per cent in the quarter.

Consumption growth slows as precautionary savings increase

Figure 3: Contributions to Growth in Modified Final Domestic Demand



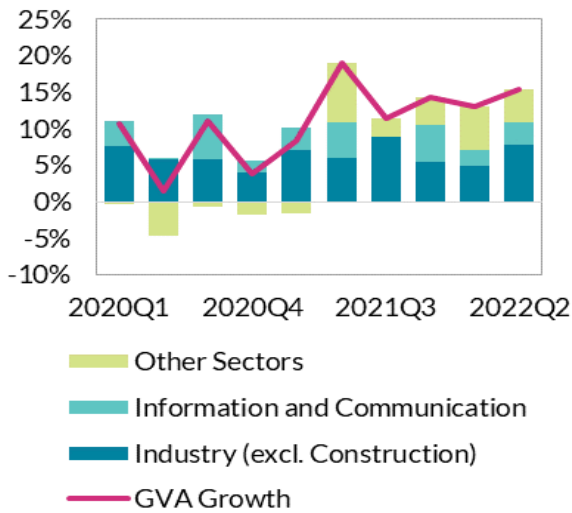
Source: CSO and Central Bank of Ireland

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

Growth in Q2 2022 was driven by the multinational-dominated sectors, while domestically-orientated sectors show signs of waning growth. Gross Value Added (GVA) increased by 15.5 per cent annually with export-oriented sectors continuing to drive growth (Figure 4). Industry excluding construction grew by 20.7 per cent in the quarter to Q2 2022 with the ICT sector growing at 17.7 per cent. Foreign-owned MNE dominated sectors continued to exhibit higher growth rates (Figure 5) and accounted for just under 55 per cent of total GVA in the economy in Q2 2022. There were notable rises in the construction (30.9 per cent) and arts sectors (24.5 per cent) as pandemic restrictions in place in Q2 2022 did not impede economic activity. Overall, Distribution, Transport, Hotels and Restaurants and Professional, Admin and Support Services sectors added the most to domestic sector growth.

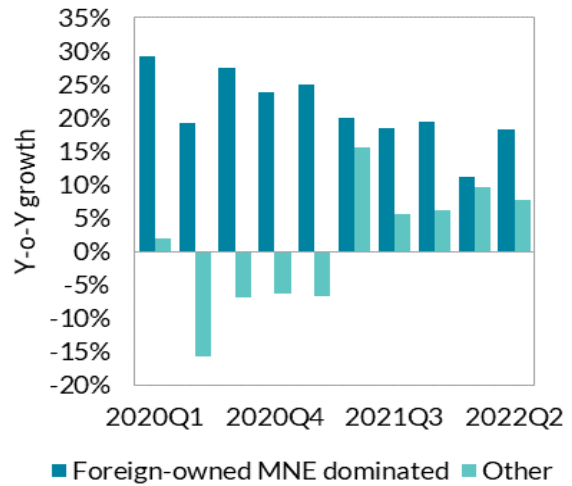
As domestically-focused sectors recovery begins to wane, MNE-dominated sectors continue to exhibit strong growth rates driven by export demand.

Figure 4: Contributions to GVA Growth



Source: CSO

Figure 5: GVA Growth in MNEs and Domestic Sectors

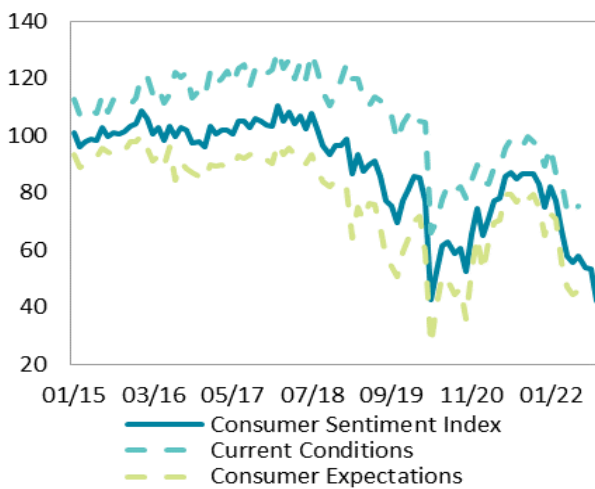


Source: CSO

The KBC consumer sentiment index continued to decline, with the index reaching its lowest level in over 14 years. Despite a slight uptick in June, the consumer sentiment index fell to 42.1 in September, down from 53.4 in August, and down further still from January’s high of 81.9 (Figure 6). The latest figures are lower than those recorded at the onset of the pandemic when the most severe Covid restrictions were first introduced, and reflects the cost-of living and energy crisis impinging on consumer’s ability to spend, as well as precautionary saving behaviour. The volume of total retail sales also decreased by 8.1 per cent on an annual basis in July 2022, while a 0.4 per cent decrease was recorded in value terms. The volume of retail sales however, was at the pre-Covid level of February 2020.

Consumer and business sentiment falls further, amid energy, price level and interest rate concerns resulting from an increasingly prolonged war in Ukraine.

Figure 6: Consumer Sentiment Index



Source: Refinitiv Eikon

Note: Data for current conditions and consumer expectations discontinued after July 2022.

Figure 7: Purchasing Managers Indices



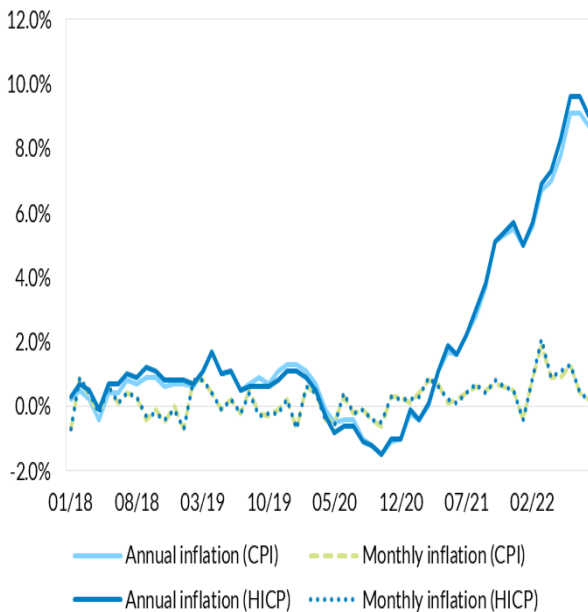
Source: Refinitiv Eikon

Despite moderating in recent months, Purchasing Managers Indices (PMIs) exhibit signs of expansion in the face of higher prices weighing on demand levels. The manufacturing PMI declined from 51.8 in July to 51.1 in August, showing its lowest reading since October 2020 (Figure 7).⁸ Services activity continued to grow at a strong, albeit much reduced pace with the PMI measuring 54.7, down slightly from 56.3 in the previous month. Slower growth in new orders and manufacturing output were the primary drivers of the easing in expansion of the manufacturing PMI. The Services PMI slowed for the fourth time in five months as new business inflows continued to lose momentum. Although new export demand is softening, increased backlogs indicate that services demand remains strong. The CSO's August services index showed values increasing by 3.4 per cent year-on-year and volumes decreasing by 5.6 per cent, reflecting higher prices.

⁸ PMI values above 50 indicate expansion while values below 50 indicate a decline in activity.

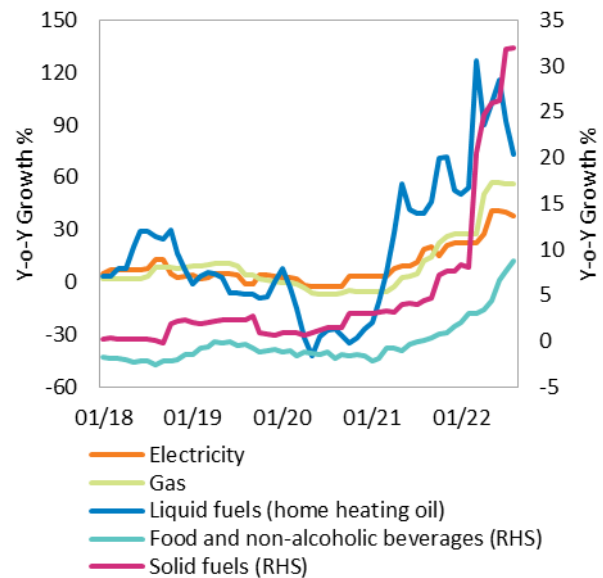
Consumer price inflation has continued to accelerate in 2022

Figure 8: Consumer Price Inflation



Source: CSO

Figure 9: Consumer Price Components



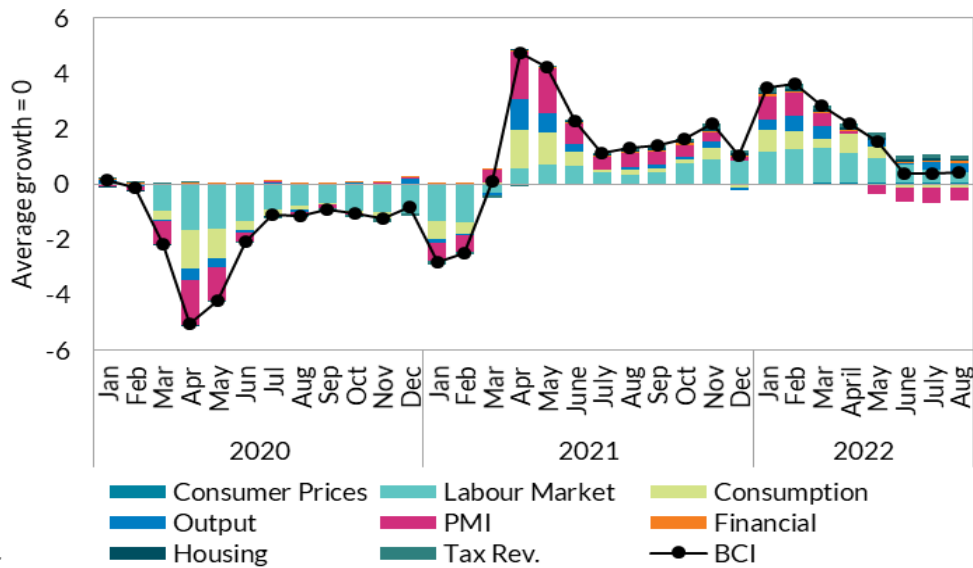
Source: CSO

Inflation has continued to accelerate in recent months led by higher energy and fuel costs because of the war in Ukraine, as well as legacy supply and demand side pressures resulting from the pandemic, with prices up by 9.0 per cent (HICP) and 8.7 per cent (CPI) in the year to August (Figure 8). Consumer electricity prices were 38.1 per cent higher year-on-year in August, with gas (56.1 per cent), home heating oil (72.9 per cent) and solid fuels (31.9 per cent) increasing in the year to August (Figure 9). There was some moderation in the flash figure for September 2022, with an estimated year-on-year increase in the HICP of 8.6 per cent per cent.

The Central Bank's Business Cycle Indicator (BCI) remained positive in August but signals a weakening in economic activity over recent months. The BCI showed particularly strong growth in the first three months of the year before losing momentum in the second quarter. It has remained positive but flat for the past three months, suggesting that the pace of growth in the domestic economy has slowed down over recent months (Figure 10). In August, the BCI remained positive but close to zero, indicating that annual growth in economic activity was marginally 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, soft data such as consumer sentiment and PMIs have weighed on the indicator, reflecting the uncertain outlook faced by households and firms.

BCI remains positive supported by a tight labour market in an uncertain environment

Figure 10: Contributions to the BCI



Source: authors' calculations.

Note: Industrial production data are missing for August estimate.

Updated: 29/09/2022

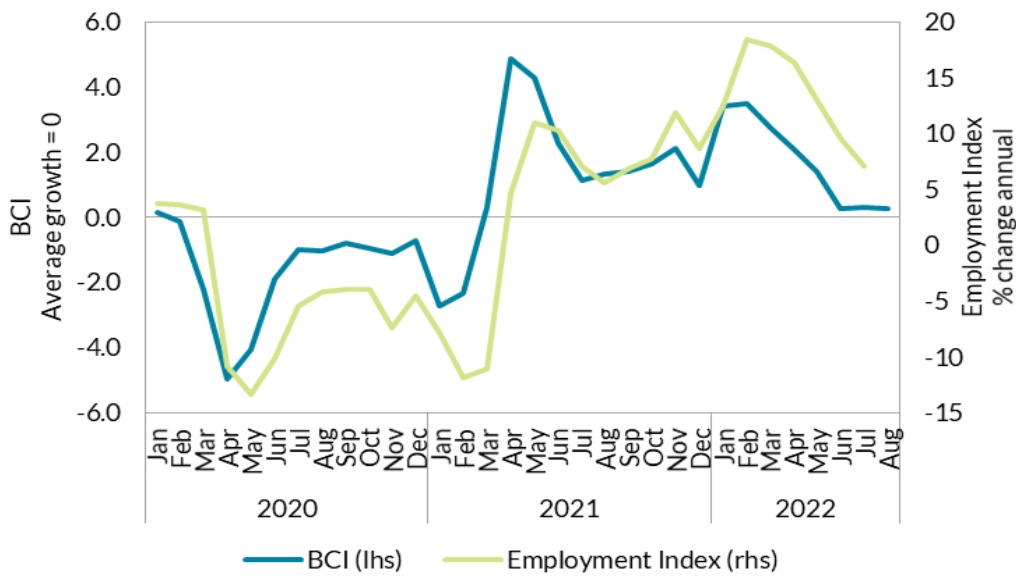
In June 2022, the CSO issued the first release of a new monthly employee index using administrative data, developments in which correspond with the BCI. This new employment index is strongly correlated with the BCI. The new employee index is estimated using administrative data on employment from the Revenue Commissioners and the index is available from January 2019.⁹ The BCI and the new employment index generally track each other quite closely, with the employee index lagging the BCI by about one month on average (Figure 11).¹⁰ The BCI suggests that there was a turning point in economic activity in February/March this year, with the pace of expansion in the economy moderating for consecutive months until June. The new employee index is consistent with this. The pace of growth in the employment index peaked in during Spring 2022 but has declined continuously since then, mirroring the trend in the BCI.

⁹ The new release provides estimates of the number of employees by age, sex, and NACE sector. While providing a more timely estimate of employment dynamics, the estimates from the new release do not align exactly with the official employment series published quarterly in the Labour Force Survey.

¹⁰ Due to the short time sample, we abstract from a formal analysis of the series until more information is available.

Employee Index (yoy) and BCI are highly correlated

Figure 11: Employee Index and BCI comparison



Source: authors' calculations and CSO.

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

By Statistics Division

This Box presents recent spending and financing activity for Irish households and firms. Household spending, borrowing and deposit growth continued over summer 2022, although future financing developments are uncertain as the economic and financial environment proceeds through a period of higher inflation and increased economic and geopolitical uncertainty. For firms, while non-financial corporate credit rose, new SME lending remained subdued. Unlike in some euro area countries Irish borrowing costs have not yet responded to tighter monetary policy and higher market-based financing costs. The combination of sustained inflationary pressures, weaker sentiment and potentially higher borrowing costs could however, affect financing conditions in the coming months.

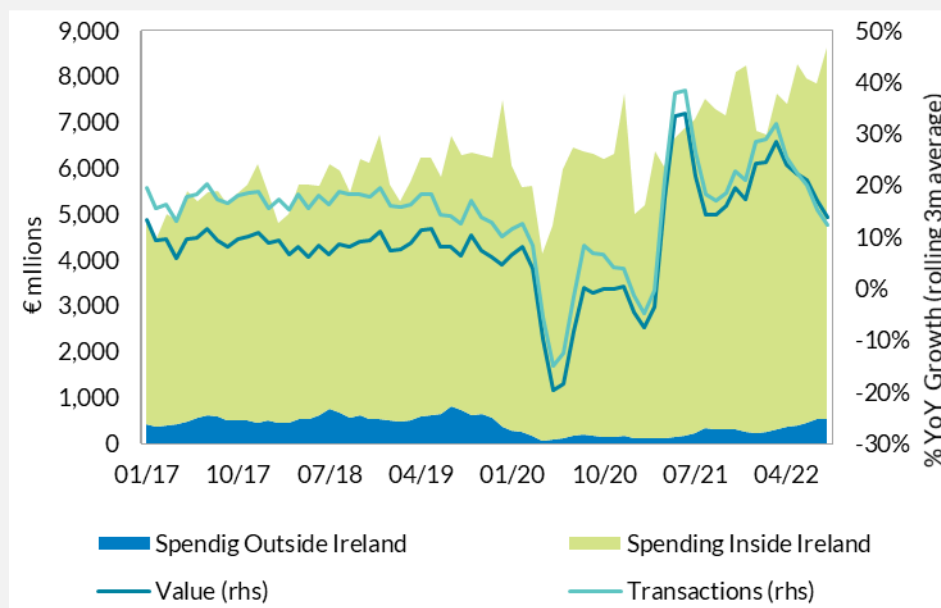
Household Spending and Deposits

Credit and Debit Card data show the value of total personal card spending (including ATM withdrawals) rose to a series high of €8.6 billion for the month of August 2022, potentially reflecting both the realisation of pent-up summer spending plans and higher prices (Figure 1). Consequently, on a 3-month average basis, card spending was 13.9 per cent higher compared with the equivalent period in the previous year.

While not recovering fully to 2019 levels, the proportion of total personal spending outside Ireland grew significantly at 55 per cent over the year. Social spending (including restaurants and entertainment) was up 22 per cent (Figure 2).

Continued high personal card spending over summer 2022

Figure 1: Monthly personal card spending and cash withdrawals



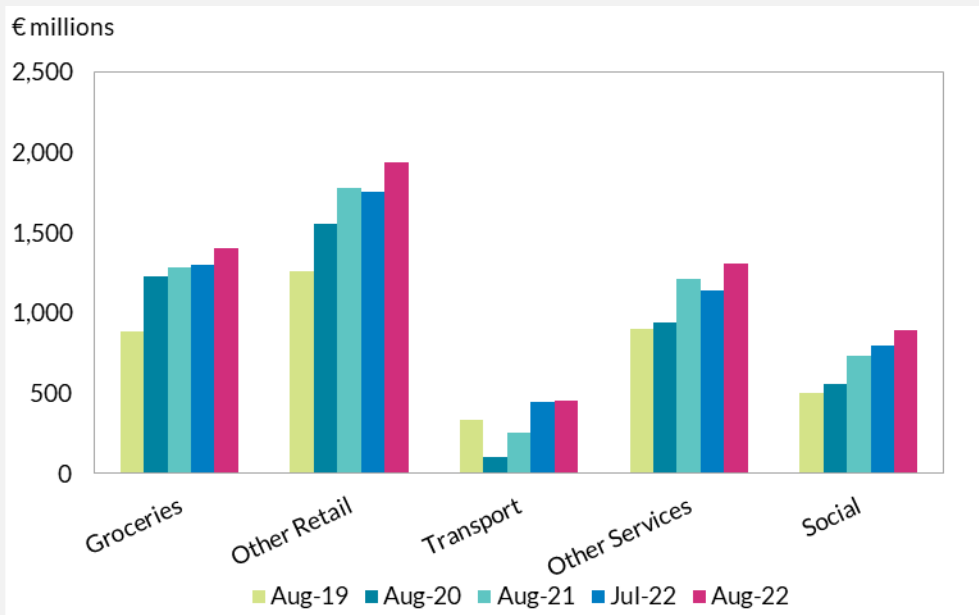
Source: Central Bank of Ireland

Focusing on specific spending categories, transport had the most significant annual growth in August 2022 growing by 77 per cent (Figure 2). This may be indicative of an increasing workplace presence, summer travel and higher fuel costs. Other spending categories have also risen as a result of increased spending and price inflation, with spending on groceries, for example, growing by 9 per cent, year-on-year. A rebalancing between spending categories following the loosening pandemic related restrictions alongside

changing consumption patterns and behaviours given higher inflation likely underpin the diverse experience across spending categories. Within other retail, for example, spending on electrical goods has fallen 10.5 per cent.

Strong growth in transport and social spending

Figure 2: Card spending and cash withdrawals



Source: Central Bank of Ireland

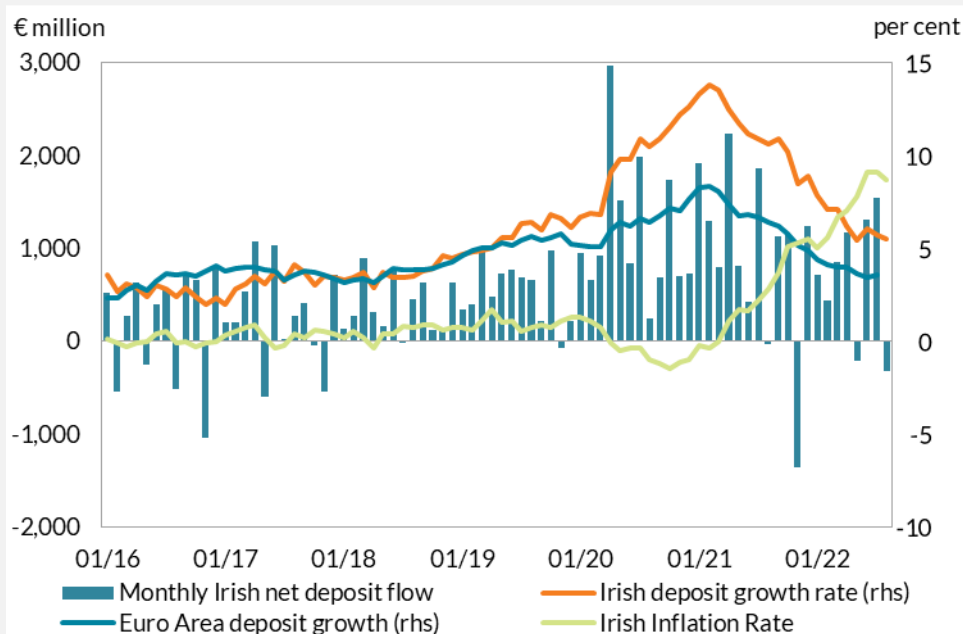
While at a relatively slower pace, household deposits continued to grow over the summer with annual figures averaging almost 6 per cent per annum over June, July and August 2022 (Figure 3). Such growth rates were above Euro Area averages to July. The total year-to-date inflow of household deposits was €5.5 billion in August 2022, which, while less than the equivalent 2020 and 2021 figures, is comparable to the same period in 2019.

The [Irish personal savings rate](#) remained elevated at 19 per cent in 2022Q2 according to the CSO, exceeding pre-pandemic rates. Savings continue to flow into bank deposits and new housing investment, with smaller contributions from paying down debt and other financial assets. The balance between real income resilience and sentiment will be important for future household deposit demand ([Saupe and Woods \(2022\)](#)). While real incomes declined in aggregate over the year to 2022Q2, certain households likely had the capacity to continue to save for precautionary reasons, given the uncertain economic environment and despite lower real rates of return.

Aggregate income growth figures are also likely to mask the different experiences in income and consumption patterns across the distribution of households.

Annual deposit growth continues to outpace euro area despite volatility in monthly flows, continued spending and inflation

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



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

Note: Last observation August 2022 except for euro area figures which are at July 2022

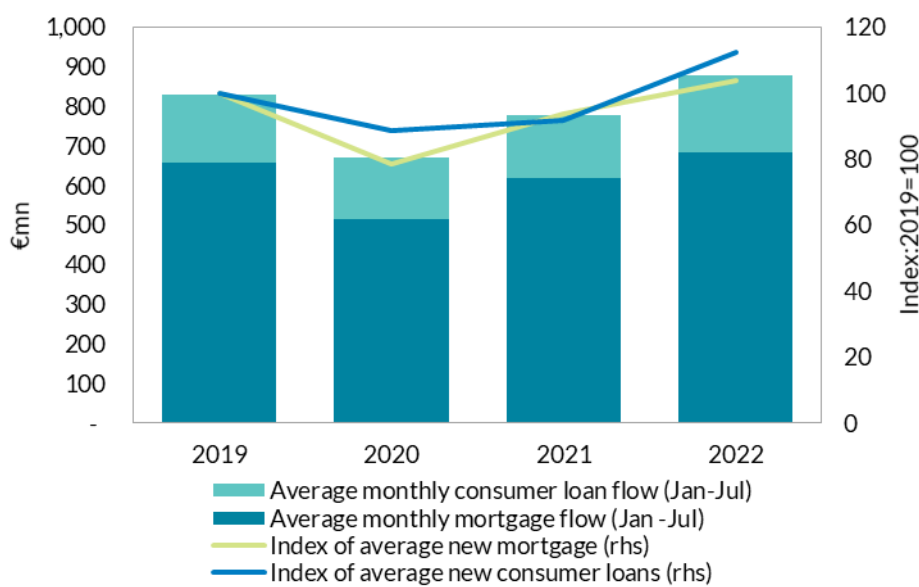
Household Lending and Rates

Household lending continued to recover from pandemic lows over the summer, although higher annual repayments relative to new lending resulted in net household lending falling marginally in the 12 months to August 2022. Outstanding mortgages declined 1.3 per cent relative to August 2021 while consumer credit rose by 2.4 per cent per annum. For the year to July 2022, average new lending across both mortgages and consumer categories were just above the equivalent figures for 2019 (Figure 4). In July, new mortgages agreements (excluding renegotiations) at €840 million, were only marginally down (-1.3 per cent) on July 2019.

The [Banking and Payment Federation Ireland](#) highlighted the recent increased role of non-purchase activity such as switching in the Irish housing market. Excluding re-mortgage and top-up activity, mortgage approvals over the year to August 2022 were higher than the same period in the previous four years. Latest house price figures also reflected such buoyant market conditions with [CSO figures](#) showing a year-on-year increase of 13 per cent for July 2022, which while down from the February peak of 15 per cent per annum, was higher than the 8.5 per cent recorded a year earlier.

Recovery in new household lending in the year to July 2022 from pandemic lows

Figure 4: New household lending (monthly average January to July)



Source: Central Bank of Ireland

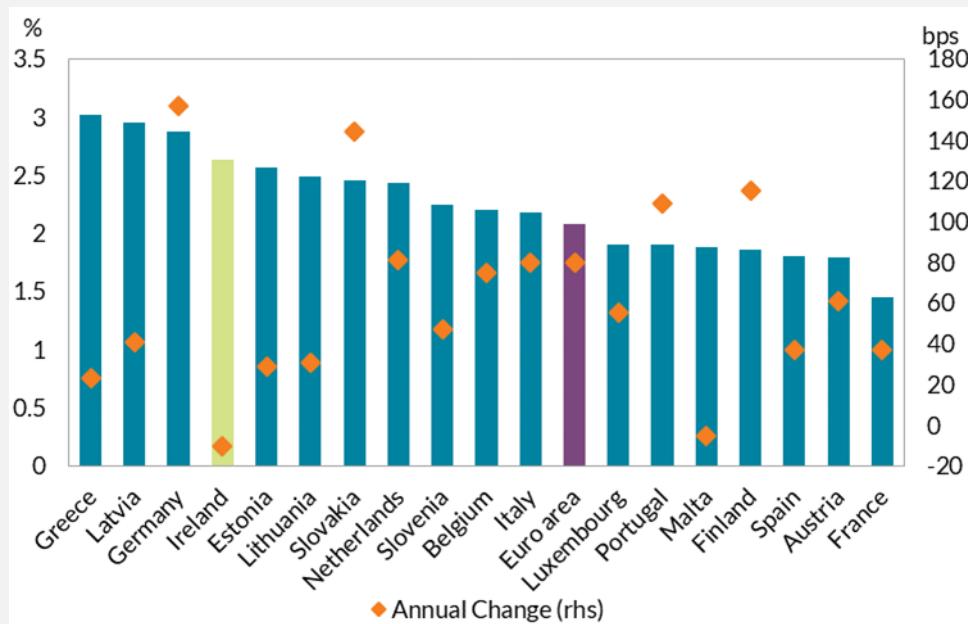
Many credit figures, particularly for housing may reflect pre-summer borrowing decisions. An early indicator of new lending, namely the number of credit enquiries by lenders for mortgages and non-mortgage household loans over July and August surpassed equivalent figures in 2021 and remained close to the weekly average since February 2022. However, not all of these enquires may translate into new loans and will depend on both credit demand and lending standards. The combined impact of a smaller retail banking sector, strategies by active non-bank entities and borrowing costs will also influence future household borrowing.

The ECB has raised key policy rates twice since July 2022. Euro area household mortgage rates did rise in July in certain countries in line with

tighter financing conditions for banks and reported tighter credit standards by lenders in the [July 2022 Euro Area Bank Lending Survey](#). By contrast, average mortgage rates on new mortgage lending in Ireland decreased by 10bps over the year to July 2022 (Figure 5). Irish banks' relatively lower reliance on market-based finance, given higher deposit buffers may partly explain this difference, along with relatively favourable domestic economic conditions to mid-2022.

Irish mortgage rates remain high in July but fall relative to previous year, unlike many euro area countries

Figure 5: Weighted average interest rates on new lending for house purchase (excluding renegotiations) across the euro area, July 2022



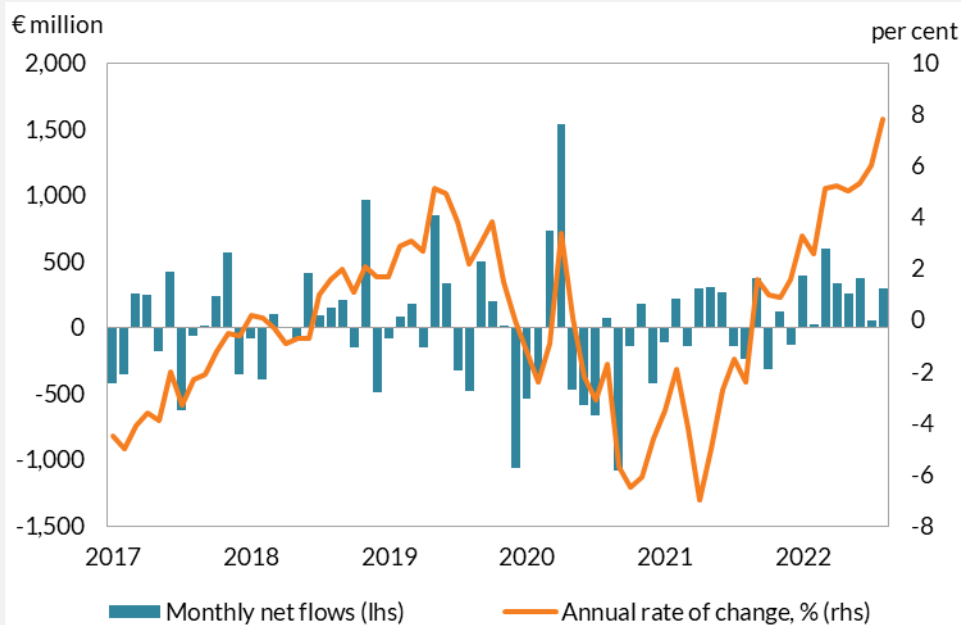
Source: Central Bank of Ireland and European Central Bank

Business Credit

Net lending to Irish non-financial corporates (NFC) increased further in August 2022, leading to an annual increase of 7.8 per cent (Figure 6). Since September 2021, annual growth rates for NFC loans have been positive and have averaged almost 6 per cent per annum since April 2022.

NFC banks loans growing again following pandemic period contraction

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



Source: Central Bank of Ireland
Note: Last observation August 2022.

Focusing on SMEs, lending for non-financial, non-property firms fell marginally by 0.5 per cent in the second quarter relative to 2021. This category of SME credit has remained muted for a number of years, averaging -4.6 percent per annum since 2011Q1. Business supports, creditor forbearance and internal reserves likely alleviated liquidity pressures over 2020 and 2021 reducing potential credit demand to meet financial commitments while economic uncertainty may have stalled investment plans (See [Durante and McGeever, 2022](#)). The latest [SME Credit Demand Survey](#) (conducted between April and June 2022) shows a decrease in bank credit applications in March 2022 compared with the March 2021 wave. Micro and small enterprises led the decline with demand unchanged for medium sized entities. Sufficient internal funds was the most cited reason. The Survey also covered the changing financing landscape, with 5 per cent of respondents reporting non-bank finance applications compared with 16 per cent for bank credit to March 2022. [Heffernan et al., 2021](#), show how non-bank lending to

Irish SMEs can be specialised in certain sectors and loan products (i.e., real estate and leasing/asset finance).

Similar to household lending, aggregate SME borrowing costs have not yet increased although the latest available data reference Q2. Interest rates on new loans drawn down by non-financial, non-property SMEs remained almost unchanged over the quarter at 3.74 per cent in June 2022, although the sectoral distribution ranges from 3.3 to 4.2 per cent per annum.

Future SME credit will depend on both credit demand and lending standards. The scale of production cost increases, particularly for energy-intensive sectors, combined with future economic activity will be relevant factors. Lending strategies by non-banks will also be important for certain sectors.

In summary, the impact of a more subdued economic outlook is not yet fully evident in the latest-available financing data for Irish household and firms as pent-up spending plans and the benefits of strong labour market performance appear to dominate.

Domestic Demand

Overview

After a strong outturn in the first half of 2022, domestic demand growth is expected to slow markedly in the second half of the year, with activity during 2022 H2 being lower than forecast at the time of the last *Bulletin*. The economic consequences of the Russian invasion of Ukraine, in particular its impact on the price of energy inputs, continue to generate inflationary pressures. Higher energy price inflation than previously forecast will reduce real incomes further. Related uncertainty and lower consumer sentiment are forecast to affect domestic demand growth significantly in the second half of 2022 and in the first half of 2023. The baseline projections contained in this *Bulletin* assume exceptionally high prices for natural gas and that precautionary energy saving measures agreed at EU level will avoid the need for a rationing of energy supplies.

Supply chain conditions have improved somewhat compared with those assumed in the July *Bulletin*, and the reduction in global growth has reduced the price of oil and other non-energy commodities. However, the improvement in these prices is not enough to offset the inflationary impact of the extraordinary increase in gas prices in recent months. While wage growth

is forecast to pick up in nominal terms, it is forecast to be outpaced by consumer price inflation – meaning that household disposable income is projected to decline 1.5 per cent this year in real terms. These developments will dampen the expected pace of economic growth over this winter and into next year as households and firms delay less-essential spending and investments in light of uncertainty and more constrained real incomes. The savings rate is projected to decline over the forecast horizon (Figure 15) but to remain elevated relative to its long-run average, in part reflecting an assumed increase in precautionary savings behaviour by households

MDD is forecast to grow by 6.3 per cent in 2022, 2.3 per cent in 2023 and 3.3 per cent in 2024, a slower pace than forecast in the July *Bulletin* (Figure 12)

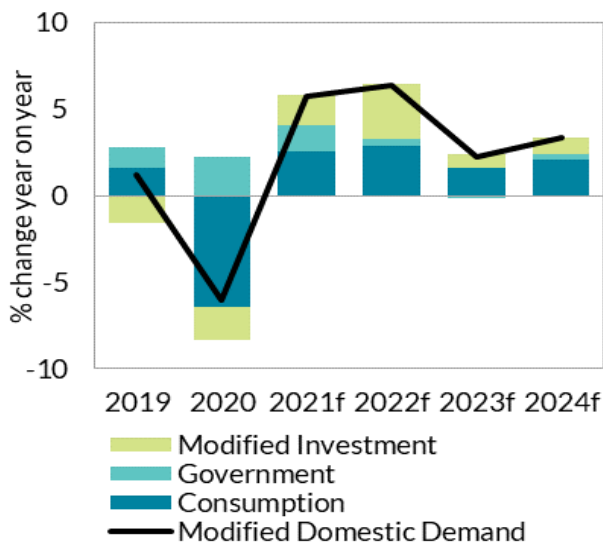
Table 2: Key assumptions

	2010-2020 Average	2021	2022*	2023	2024
Oil (\$ Per Barrel)	76.30	71.09	103.62	84.89	78.66
Natural Gas (€ per MWh)	19.10	46.58	148.35	188.27	116.92
Pound Sterling	0.84	0.86	0.88	0.88	0.88
US Dollar	1.22	1.18	0.98	0.98	0.98

*2022 figures refer to assumptions about the remainder of 2022 following the forecast cut-off (30th September). Oil and gas price assumptions are derived from futures prices.

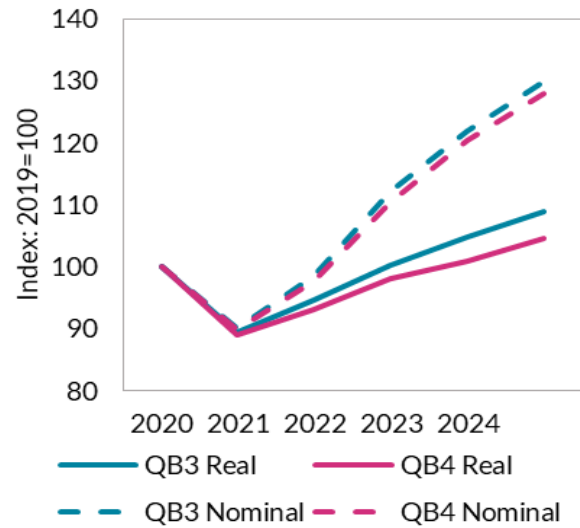
Consumption is expected to slow in the second half of this year in real terms

Figure 12: Contributions to MDD Growth



Source: CSO and Central Bank of Ireland

Figure 13: Nominal vs Real Consumption Revisions.



Source: CSO and Central Bank of Ireland

Consumption

The strong growth in private consumption seen in the first half of the year is forecast to slow sharply in the second half. Higher prices will reduce household's purchasing power, while contemporaneous and forward looking indicators point to households reducing consumption in the face of significant uncertainty about the prospects for energy supplies and prices over the coming months.

High-frequency data for the third quarter already point to a slowdown.

Inflation adjusted retail sales excluding motor trades fell 3 per cent year-on-year, while when cars are included, sales decreased by 8 per cent. New and used private car purchases fell by 17 per cent in July and August compared with the same period in 2021, suggesting a deferral of big-ticket purchases. Consumer sentiment has also declined, with a notable divergence between a sharp fall in households expectations for the economy overall and a more moderate decline in their view of their personal financial situation. This divergence may explain the significant increase in deposits seen in recent months as households increase precautionary savings (see Box C).

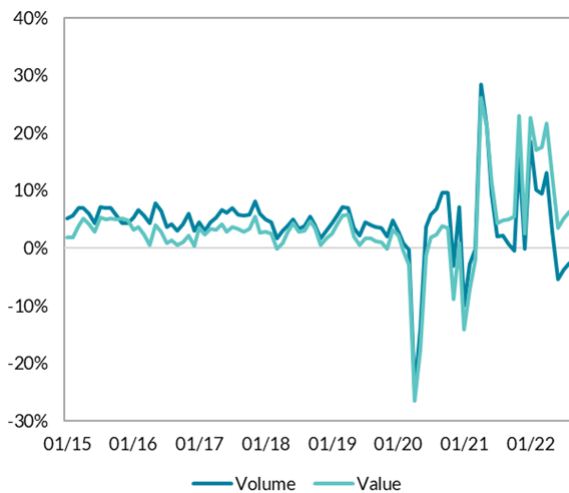
As such, consumption is forecast to grow by 1.5 per cent year on year in the second half of the year, bringing the forecast for 2022 real consumption growth to 5.3 per cent. Consumption growth in the fourth quarter is expected to be particularly weak because of the significant shock to household finances

from a sharp increase in the share of household expenditure devoted to energy because of higher prices.

The impact of the energy crisis is forecast to constrain household expenditure in the first months of 2023, but a more pronounced pickup in wages is expected to begin to mitigate the impact somewhat. Moreover, fiscal supports to the households worst affected by the energy crisis will begin to materialise which will cushion the impact – although some of this is forecast to end up in precautionary savings (Figure 15). The forecasts contained in this *Bulletin* assume that a combination of alternative sources of gas and an increase in other sources of energy will allow for a stabilisation of gas prices, albeit at high levels in 2023. As such, our projection is for spending to pick up in the second half of 2023 as income growth picks up relative to inflation. This is expected to accelerate into 2024, with consumption reaching its trend by the end of the forecast horizon. Accordingly, consumption is forecast to grow by 2.9 per cent in 2023 and 3.7 per cent in 2024.

The volume of retail sales has fallen much more sharply than the value, showing initial impact of inflation.

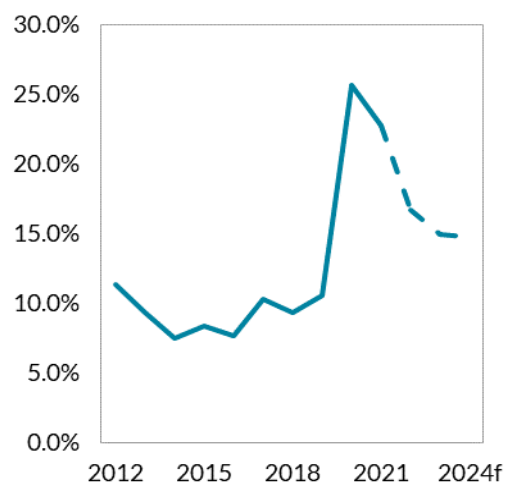
Figure 14: Retail sales



Source: CSO

Savings rates are forecast to remain elevated throughout the forecast horizon

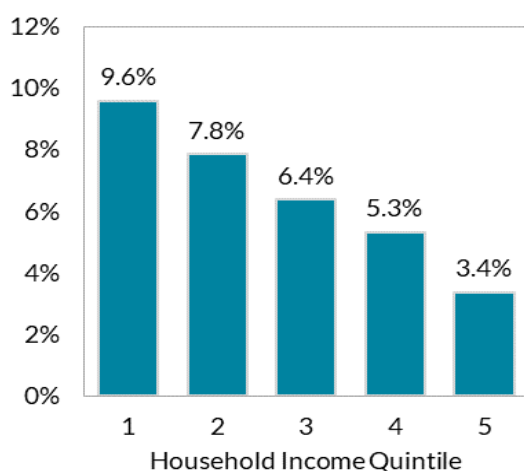
Figure 15: Savings Ratio



Source: CSO

The increase in energy prices will affect lower income households disproportionately

Figure 16 : Share of income expenditure on energy by quartile



Source: Household Finance and Consumption Survey & Central Bank calculations

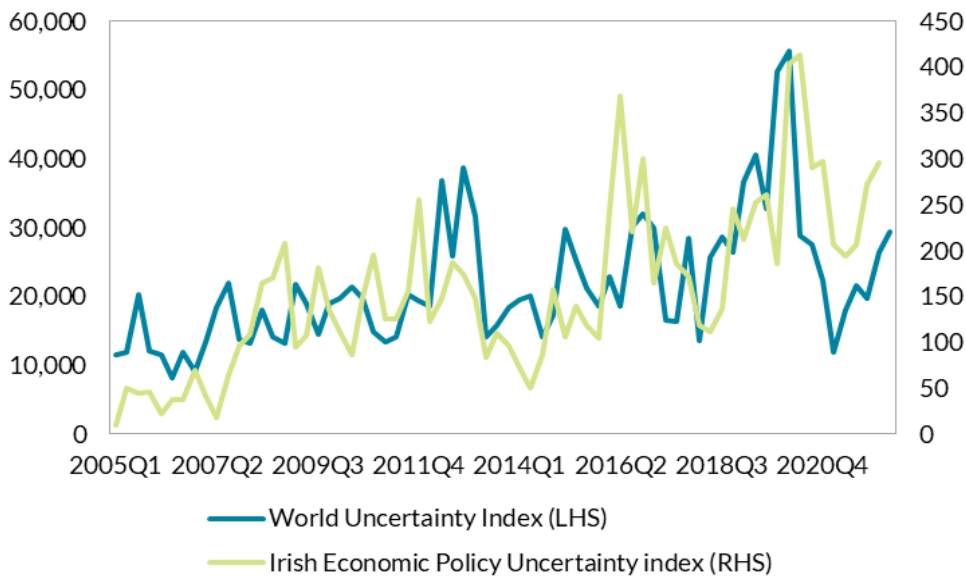
Investment

Both headline and modified investment continued a strong recovery after the pandemic but the outlook is less favourable. The latest Quarterly National Accounts pointed to a stronger investment performance in the first half of the year than was anticipated. This contrasts to the weakened international outlook for investment in the medium term, with a poorer global growth environment, the economic consequences of the Russian invasion of Ukraine, high inflation, rising interest rates and increased uncertainty on global equity markets. Market-based measures of uncertainty remain high (Figure 17).

Modified investment is forecast to grow by approximately 14.3 per cent in 2022, 3.4 and 4.0 per cent in 2023 and 2024, respectively. Ireland's headline investment, however, can often be insulated from global economic trends due to the concentration of large high value added multinationals in sectors which can perform well even in the face of less favourable global conditions. Notwithstanding this, the outlook is for a less favourable investment forecast as the horizon extends beyond this year.

Uncertainty remains high

Figure 17: World Uncertainty Index ¹¹ and Irish Economic Policy Uncertainty Index



Source: Rice, J. (2020) and Ahir, H., N Bloom, and D Furceri (2018)

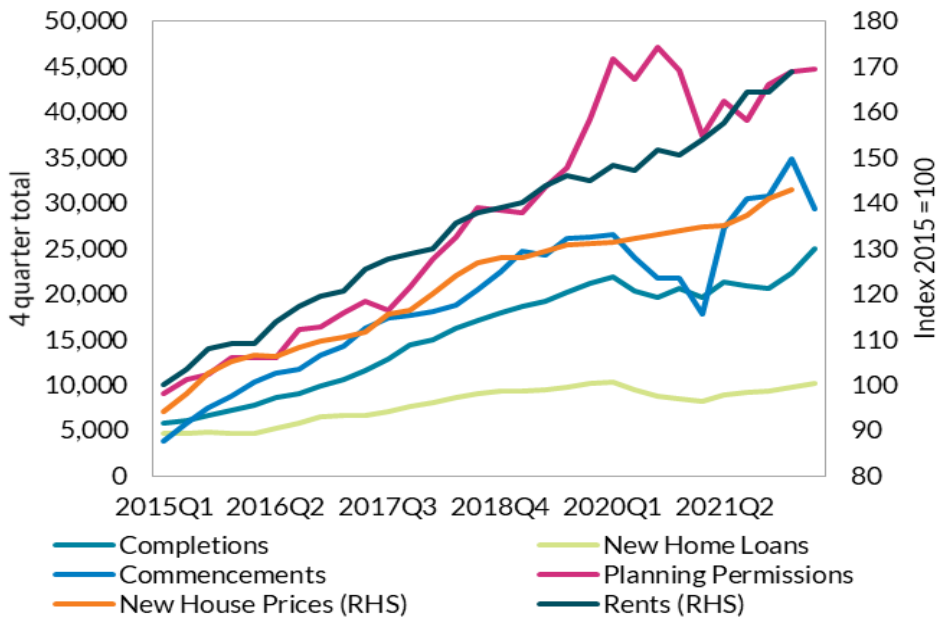
On the housing front, the time lag between planning permissions, commencements and new house completions has increased. New completions are forecast to continue to be constrained by labour and material shortages, as well as substantial increases in construction input costs.¹² While commencement figures are running at approximately 30,000 on an annual basis, planning and procurement delays, material and labour supply constraints and delays in connecting to public infrastructure mean that it is unlikely all of these will be converted into completions in 2022. Uncertainty around costs, resource availability and prices mean that new developments may not commence as previously anticipated. Reflecting this, there has been a drop in commencements in Q2 2022 (Figure 18). House completions are forecast to be approximately 25,000 this year, increasing to 27,000 and 30,000 in 2023 and 2024, respectively.

¹¹ The WUI is computed by counting the percentage of the word “uncertain” (or its variant) in the Economist Intelligence Unit country reports. The WUI is then rescaled by multiplying by 1,000,000. A higher number means higher uncertainty and vice versa. For example, an index of 200 corresponds to the word uncertainty accounting for 0.02 percent of all words, which—given the EIU reports are on average about 10,000 words long—means about 2 words per report

¹² Respondents to the European Commission’s Business Survey revealed that the main factors limiting their activity was shortages of labour and shortages of material and equipment

Commencements have dipped in recent months

Figure 18: Housing Supply Indicators



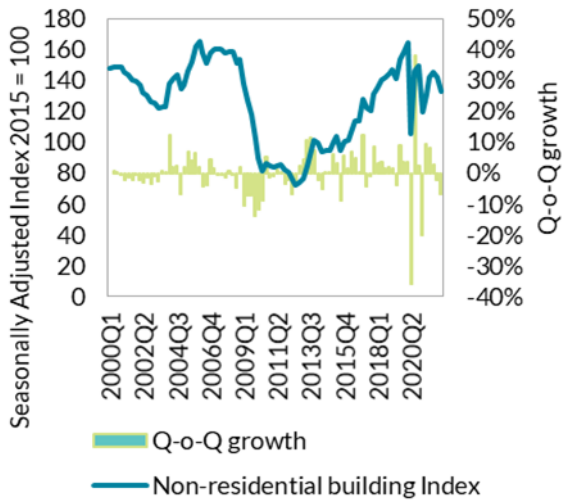
Source: CSO, DoHLGH, BPFI, Central Bank of Ireland

On the non-residential side, construction levels have not returned to pre-pandemic levels (Figure 19). Available hard data point to reasonably strong growth in the first half of 2022, although there are base effects in the year-on-year increases due to a relatively weak pandemic-related 2021. The soft data (Figure 20) are pointing to some weakness in the sector but this is more likely to impact projects that have yet to commence. The limited availability and substantial increase in costs of building materials and construction labour are likely to limit growth in the sector. The current forecast for non-residential building and construction foresees a 1 per cent increase in 2022.

It will be difficult to achieve all the targets regarding new housing output, residential retrofitting, national infrastructure, commercial real estate and other projects (e.g. Mica redress) without scaling up the level of persons employed in the sector significantly. Forecasts for 2023 and 2024 are for moderate growth of 2 per cent. These are contingent on a pick-up in civil infrastructure and no more major shocks to the domestic or international economy.

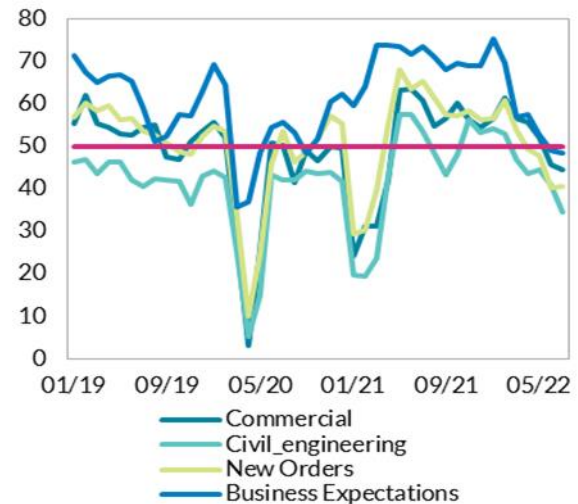
The construction sector's outlook continues to weaken

Figure 19: Non-residential building index



Source: CSO Building and Construction Index

Figure 20: PMI - Construction sector new orders

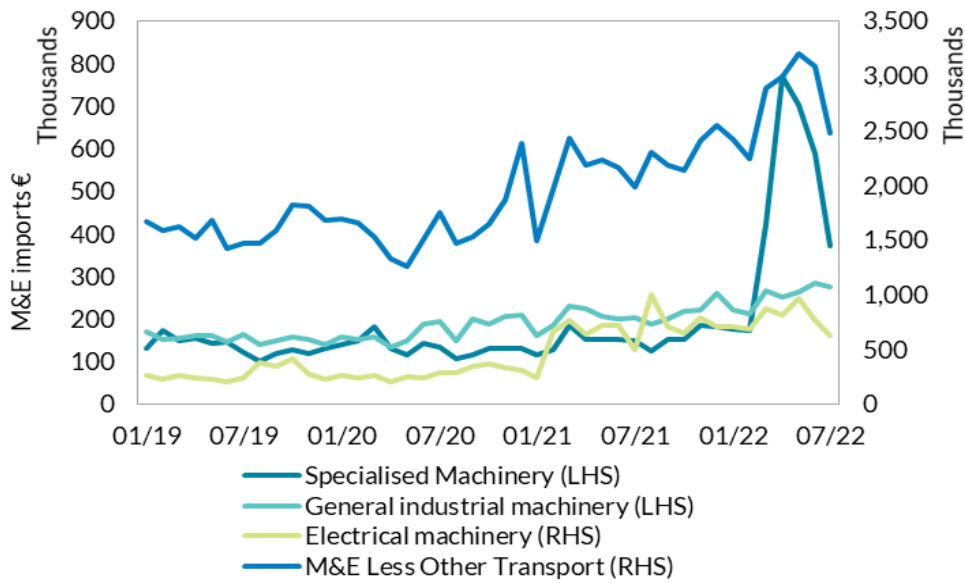


Source: IR BNP PARIBAS Purchasing Managers Index
Note: Levels below 50 indicate a contraction and levels above 50 indicate expansion

The outlook for modified machinery and equipment (M&E) investment is more positive for this year and next. There were substantial upward revisions to machinery and equipment expenditures in the latest National Accounts. Machinery and equipment investment excluding other transport (mainly relating to the aircraft sector) increased by approximately 50 per cent in the first half of 2022, following a very strong performance in 2021 (Figure 21). This is reflected on the import side with large increases in imports of both specialised and more general electrical machinery. This is likely related to large plant-specific fit outs in IT and data centres, in addition to a more generalised increase in digitalisation investment arising from the pandemic and the move to hybrid working models. The stronger momentum from 2022, where M&E investment is forecast to increase by 35 per cent, is not expected to continue at high rates but firms may continue to spend on digitalisation and green investments as energy costs increase. In addition, some large plant fit-outs are likely to continue into next year. M&E investment (excluding other transport) is forecast to increase by 3 per cent in 2023 and 2024.

Imports of specialised machinery and equipment increased substantially

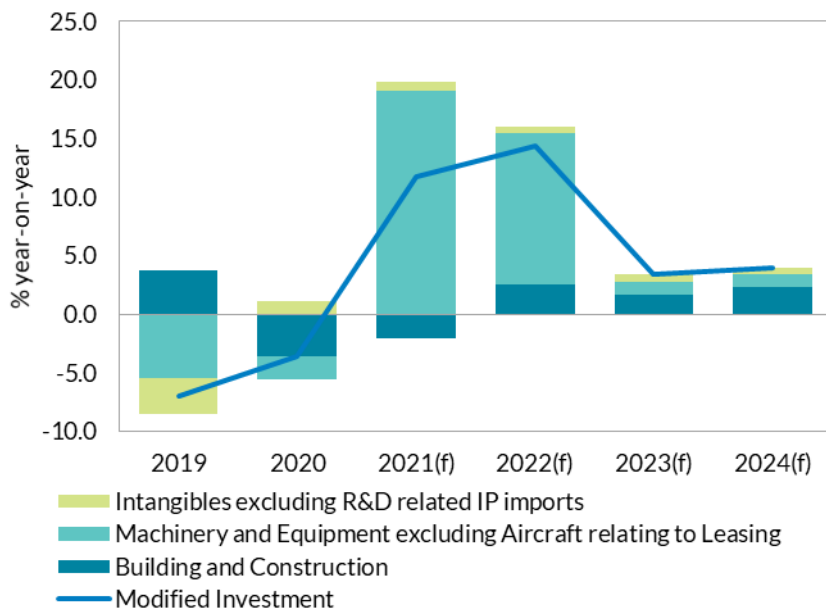
Figure 21: M&E imports



Source: CSO

Strong M&E is carrying investment

Figure 22: Contributions to Modified Investment Growth



Source: CSO and Central Bank of Ireland

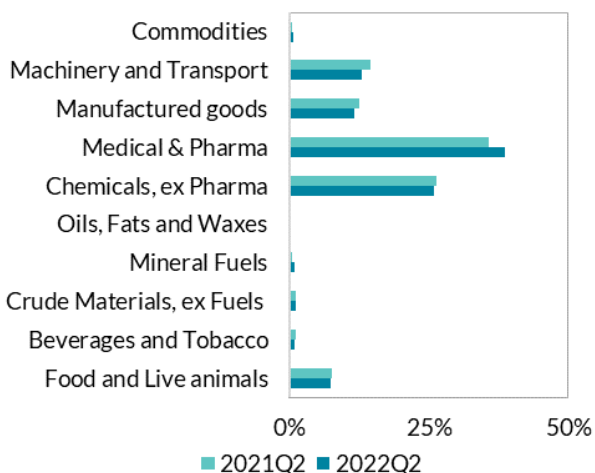
Exports, Imports and Balance of Payments

Despite global concerns over rising interest rates and a slowdown of economic activity, external trade remained a key contributor to output growth in the second quarter of the year. Real exports of goods and services rose by 3 per cent on the previous quarter, and 12.8 per cent over the year to 2022Q2. Similarly, real import volumes also recorded strong growth. Combined, this growth resulted in an overall quarterly decline of -1.8 per cent in net exports, relative to the first quarter of the year, but positive growth of 2.7 per cent over 2021Q2 values.

Pharmaceutical goods and ICT services drove much of the growth in exports. With rising global demand for medical and pharmaceutical products, Irish firms in this sector increased exports by €5.9 billion from 2021Q2 to 2022Q2. With this growth, medical and pharmaceutical products accounted for just under 40% of all goods exports in the most recent data, and more than 15% of total goods and services exports. Similarly, ICT services expanded by €6.8 billion, raising their share of quarterly services exports to 60 per cent. Over the first half of the year, the value of goods exports increased by 30% (relative to 2021H1), with medical and pharmaceutical products up 39.9%, and non-pharma chemical products up 23.4%.

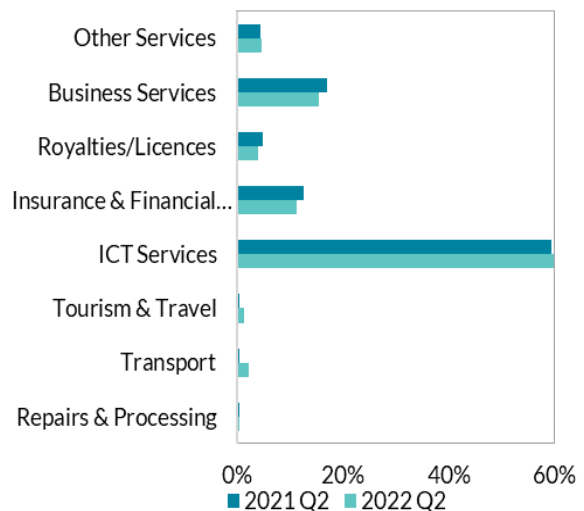
ICT and Pharma continue to dominate exports

Figure 23: Irish Goods Exports (% total), 2021q2 vs 2022q2



Source: Author's calculations using CSO Merchandise Trade data.

Figure 24: Irish Services Exports (% total), 2021q2 vs 2022q2



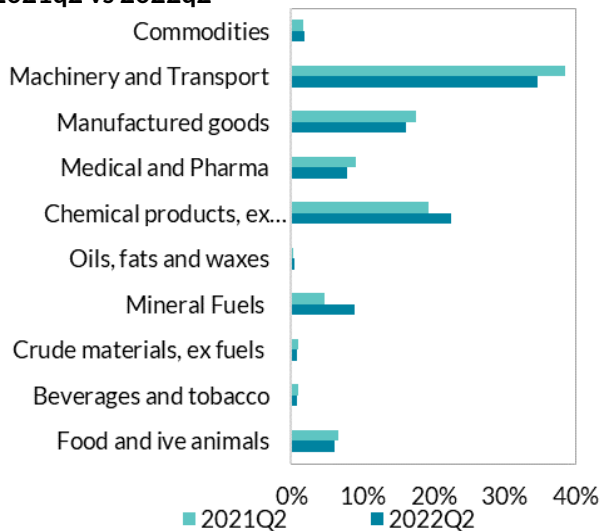
Source: Author's calculations using CSO BOP data.

On the import side of international trade, there was a marked difference in the growth of goods and services imports. Partly due to rising global rates of inflation, all goods and services sectors saw an increase in import values

between 2021Q2 and 2022Q2. Unsurprisingly, the largest increases in goods imports occurred in the chemicals (€3.2 billion) and energy (€2.1 billion) sectors, while business services (€5.2 billion) and royalties (€4.2 billion) recorded the largest nominal increases in services imports values. As a share of imports, energy expenditure almost doubled between 2021Q2 and 2022Q2, rising from 4.7 per cent to 9 per cent of goods imports, and from 1.4 per cent to 2.9 per cent of total imports.

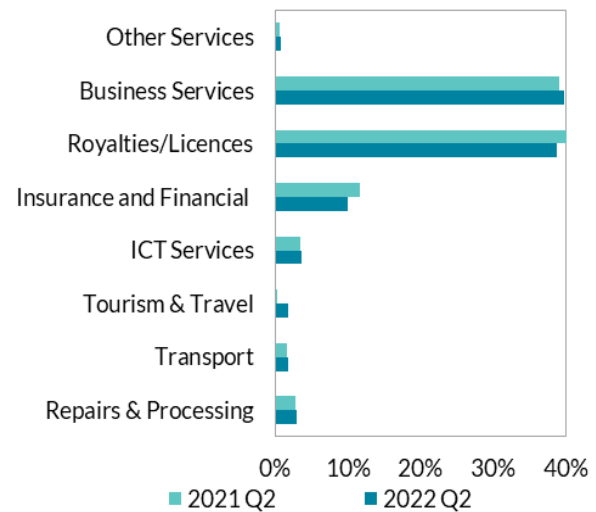
Chemicals and Energy products increasing as a share of total imports

Figure 25: Irish Goods Imports (% total), 2021q2 vs 2022q2



Source: Author's calculations using CSO Merchandise Trade data.

Figure 26: Irish Services Imports (% total), 2021q2 vs 2022q2



Source: Author's calculations using CSO BOP data.

Export and import growth is forecast to continue at a strong pace over the forecast horizon. Given the improved terms-of-trade conditions, forecast growth in world demand for Irish exports and reduced risk of supply bottlenecks, exports are expected to continue to grow at pace out to 2024.¹³ Real exports are projected to increase by 14.2 per cent in 2022, 8.2 per cent in 2023, and 6.2 per cent in 2024, anchored by the sustained global demand for pharmaceutical goods and ICT services, and Ireland's continuing role in the global supply chain.¹⁴ At the same time, real imports are also projected to

¹³ The real effective exchange rate (a measure of the value of a currency against a weighted average of trade partners' currencies) has depreciated by 3.3% in the 12 months to August 2022. This has improved headline trade competitiveness, as exports have become cheaper when denominated in the currency of our trade partners, and is particularly relevant for MNE exports.

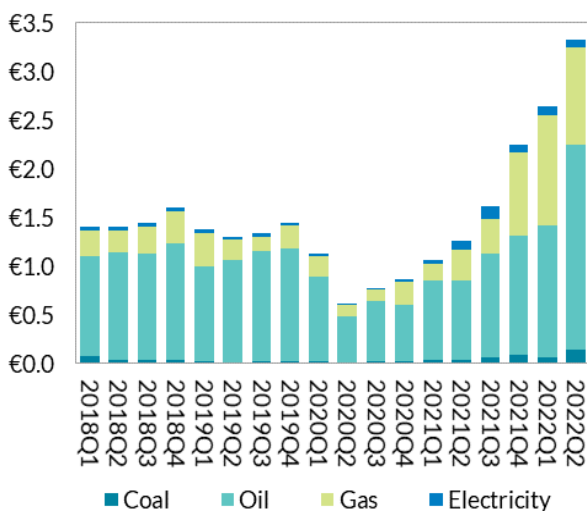
¹⁴ Globally, there are some signs of a potential slowdown in the IT sector. However, a large component of this relates to the changing interest rate environment and the cost of capital for new IT investment projects, which typically require substantial capital

increase across the forecast horizon, with growth of 11.9 per cent, 8.0 per cent and 5.8 per cent in 2022, 2034 and 2024, respectively.

Since the start of the Russia-Ukraine conflict, the scale and composition of Irish energy imports has changed substantially. Prior to the invasion of Ukraine, the largest annual change in Irish energy import costs (189 per cent) occurred during the Oil Crisis of 1973-1974. In the first half of 2022, the value of Irish energy imports was up 157 per cent year-on-year. Similarly, between 1972 and 2021, gas imports never accounted for more than 23 per cent of annual Irish energy import costs. Over the first two quarters of 2022, this figure was 36 per cent, reflecting both an increased dependence on gas-based fuels and the increased cost of gas imports due to constrained supplies. Energy import expenditures in the first half of 2022 have already exceeded the full-year figures for 2019 and 2020.

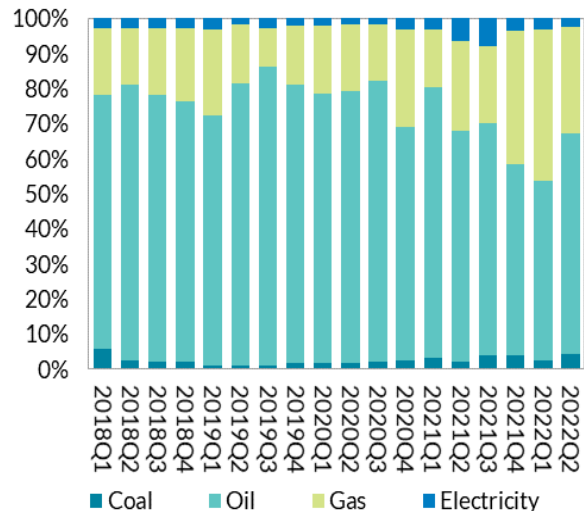
Both the scale and composition of energy imports have changed dramatically since 2020

Figure 27: Energy Imports (€bil), 2019–2022



Source: Author's calculations using CSO External Trade Data.

Figure 28: Energy Imports composition, 2019–2022



Source: Author's calculations using CSO External Trade Data.

Global economic conditions appear to be deteriorating, with concerns over the prevailing economic environment in the US, China and many European economies. The combination of the Russia-Ukraine conflict, persistent inflationary pressures and rising interest rates has sparked concerns of a global economic slowdown. Led by a decline in household purchasing power and tighter monetary policy, the IMF has reduced US growth rate projections for

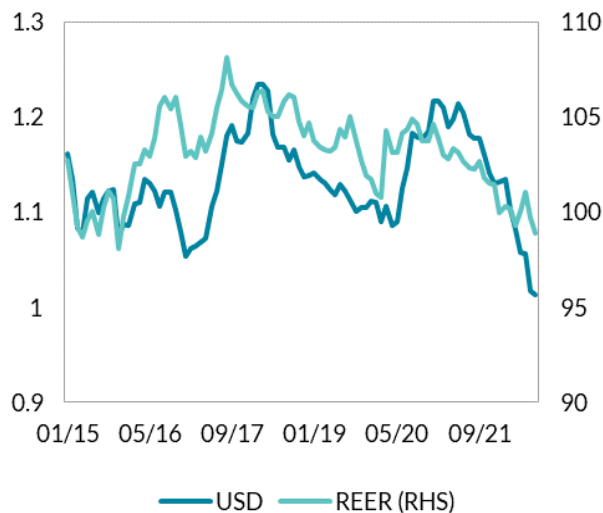
investment. While the Irish IT sector is primarily services-based, and less exposed to these investment costs, strong inter-relationships and spillovers between the IT goods and services sectors does increase the potential risk of reduced IT services growth over the short-to-medium term.

2022 and 2023, and scaled back estimates of global growth in 2022 to 3.2 per cent. Uncertainty, as measured by the World Uncertainty Index, has been elevated above its long-run average level since the second quarter of 2021 due to Covid-19 lockdown concerns and the war in Ukraine.

Despite these headwinds, there are some factors that should help mitigate the effects of a downturn in external conditions. With the Federal Reserve raising target interest rates from 0-0.25 per cent at the beginning of 2022Q1 to 3-3.25 per cent by end 2022Q3, there has been a marked appreciation of the US dollar against most currencies. Versus the euro, the dollar has strengthened almost 11 per cent through the last three quarters. This has benefitted Irish firms exporting goods and services to the US, and should support export growth in the short to medium term. Similarly, while there has been a slight drop in the index of trade-weighted world demand for Irish exports, these effects are expected to be reversed by the end of 2022, with growth in demand projected to be consistent with pre-pandemic rates. Finally, the bottlenecks that have beset the global transportation and logistics industry appear to have receded, with supplier delivery times (SDT) for global manufacturing at their lowest level since October 2020. With lockdown and other supply chain risks diminishing in most global manufacturing centres, global trade uncertainty has receded to pre-2020 levels. This easing of supply chain issues should reduce import costs in key Irish trading partner countries, supporting the forecast increase in external demand for Irish exports.

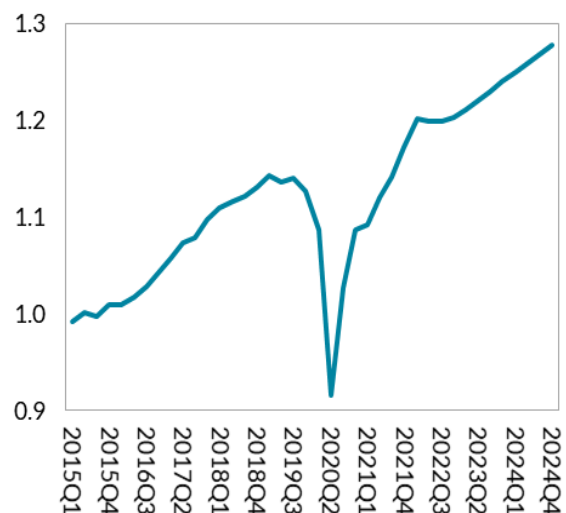
US dollar appreciation and import demand growth beneficial for Irish exporters

Figure 29: US Dollar and Real Effective Exchange Rates vs Euro, 2015-2022



Source: ECB Statistical Data Warehouse and OECD

Figure 30: Irish Trade-weighted index of World Import Demand, 2015-2024



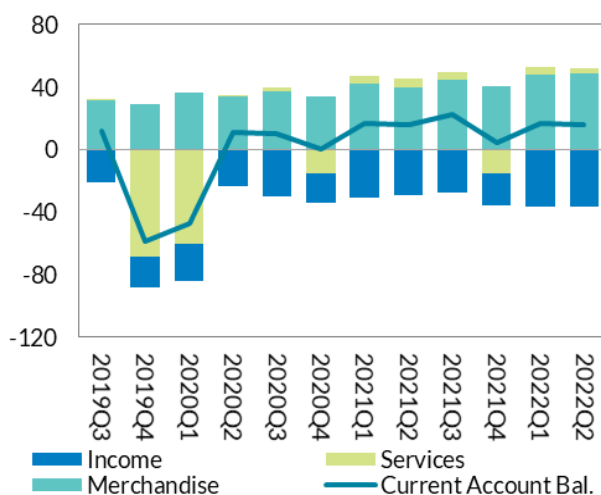
Source: ECB Trade Consistency Exercise data

Headline Current Account surpluses and Financial Account lending remain modest, but underlying imbalances remain in both components of the Balance of Payments.

For the fourth straight quarter, the net position of the financial account declined (but remained positive) in 2022Q2, with an overall net lending position of €6.6 billion. However, this decline conceals a continuing build-up of direct investment assets and portfolio investment liabilities in both Q1 and Q2 of 2022 (Figure 32). Similarly, there was a decline in the surplus on the current account in 2022Q1 and 2022Q2 relative to the corresponding quarters in 2021 (Figure 31). This reduction in the headline surplus masks increasing imbalances in the trade and income component of the current account. The trade surplus increased to €52.1 billion in 2022Q2, up from €45.3 billion in 2021Q1, while the income deficit was -€36.2 billion in 2022Q2, relative to -€29.0 billion in 2021Q2.

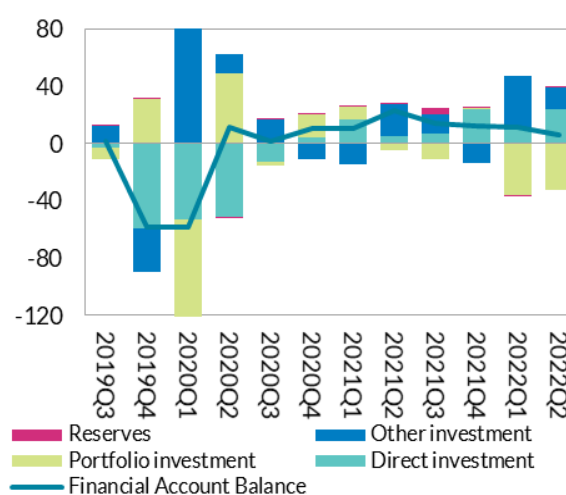
Headline Current Account Surplus declines slightly in H1 2022

Figure 31: Current Account balance and components, 2019-2022



Source: CSO Balance of Payments data.

Figure 32: Financial Account balance and components, 2019-2022

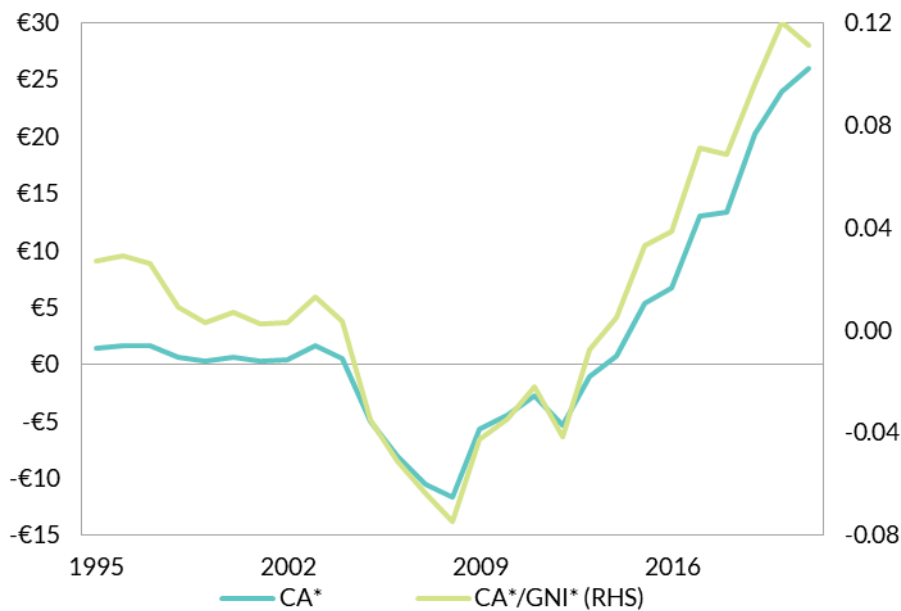


Source: CSO Balance of Payments data.

The modified current account balance recorded a strong surplus in 2021, with further surpluses projected for 2022 and 2023. Data for the modified current account (CA*) show a surplus of almost €26 billion in 2021 (Figure 33). This figure represents a net adjustment of €34.7 billion from the headline current account, relating to: IP and aircraft leasing depreciation, redomiciled PLC income, aircraft leasing imports and R&D related IP imports. The CA* surplus is projected to increase to €31 billion in 2022, €33 billion in 2023 and €34.9 billion in 2024 (see Box D). This suggests a continuing gap between domestic savings and investment rates over the forecast horizon, the implications of which warrants further analysis.

Large surpluses in the modified current account (CA*) projected over forecast horizon

Figure 33: CA* balance (€bil) and CA*/GNI* ratio



Source: CSO National and International Accounts data and Central Bank of Ireland calculations

Box D: A Direct Forecasting Approach to GNI* and CA*

By Michael O'Grady¹⁵

As has been documented for several years, the advanced internationalisation of the Irish Economy since 2014 has caused a significant disconnect between conventional measures of macroeconomic and trade metrics, and the underlying position of the domestic Irish economy.¹⁶ In an attempt to derive more appropriate measures of Irish economic output and income, the CSO established an Economic Statistics Review Group in 2015. With the publication of their final report in December 2016, two additional statistics were suggested as being suitable for monitoring the Irish economy:

- A supplementary GNI indicator (GNI*) that subtracts the retained earnings of re-domiciled firms and adjusts for the depreciation of categories of foreign-owned domestic capital assets (e.g. IP capital assets). The derivation of GNI* from GDP is shown below in Figure 1.

¹⁵ Irish Economic Analysis Division

¹⁶ See [Fitzgerald \(2020\)](#) and [Byrne, Conefrey and O'Grady \(2021\)](#) for more on this topic.

- A corresponding adjusted current account measure (CA*) that records the retained earnings of re-domiciled firms as functionally equivalent to foreign factor income outflows and a corresponding adjusted stock of foreign portfolio equity liabilities.

Additionally, the CSO developed a complementary indicator, Modified Domestic Demand (MDD) that eliminates net exports and large transactions of foreign corporations from GDP, neither of which have a strong statistical association with the underlying domestic economy. MDD is a less volatile measure of domestic activity and available at quarterly frequency. GNI* is a broader measure of national income, incorporating the underlying growth attributable to trade, but is only available at an annual frequency.

Figure 1: Transition from GDP to GNI*, 2021 values (€bil)



Source: CBI calculations using CSO National Accounts data

Since the introduction of these supplementary indicators, a number of domestic and international organisations have incorporated them into their regular forecasting exercises, including the Department of Finance, the ESRI and the Central Bank of Ireland.¹⁷ However, a number of difficulties in the GNI* estimation process has complicated the forecasting process for GNI* and CA*.

¹⁷ See Department of Finance (2021).

The initial approach to estimation of GNI* used what was described as a “top-down” methodology.¹⁸ To remain consistent with CSO calculations, forecasts for two separate series would be derived: the headline GNI series and globalisation effects related to highly mobile economic activities of MNEs. The projections of globalisation effects would then be removed from the GNI series to create a forecast of GNI*.

As an alternative approach, the ESRI, Department of Finance and IFAC adopted a “bottom-up” methodology in 2020. The process uses MDD as a starting point, and estimates changes in the difference between GNI* and MDD (referred to as the “residual”) as being a function of changes in net domestic exports, such that:

$$\Delta Residual_t = \Delta Domestic_Exports_t - \Delta Domestic_Imports_t$$

As with the top-down approach, there are a number of assumptions embedded in this framework:

- As domestic exports and imports are not an available statistical measure, they must be approximated. The standard approach is to take gross exports (imports) and eliminate all exports (imports) from any sector where MNE activity is believed to account for more than 50% of GVA.
- Net factor income is forecast to remain constant year-to-year, i.e. $\Delta NFI=0$. This is based on the assumption that profit outflows is the largest component of NFIs, and MNEs are the primary driver of profit outflows.
- The statistical discrepancy in the modified current account (CA*) is constant year-to-year, over the forecast horizon.
- Net current transfers follow an identical growth rate to GNI*, over the forecast horizon.
- Changes in value added components of all MNE activities are captured indirectly in MDD projections, with no other direct contributions to growth from the MNE sector.

Forecasts for the residual in the GNI* calculation are obtained by adding the projected change in net domestic exports to residual outturns for the previous year. This is then added to MDD to reach GNI*. While this approach

¹⁸ This was the approach taken by the ESRI and the Department of Finance prior to 2020.

addresses some of the issues with the top-down forecasting approach, and remains consistent with the underlying concept of GNI*, there are still a number of complications attached to the methodology.¹⁹

These difficulties include short sample problems, issues with data granularity, and the need for additional forecasts of some exogenous variables.^{20 21} Furthermore, the in-sample forecast performance suggests that efficiency gains from this method may be limited, with more naïve approaches producing better forecast performance.

Forecasting GNI*: An Alternative Statistical Approach

There is a high degree of correlation between MDD and GNI*; unsurprising given that MDD accounts for between 88% and 102% of GNI* over the 1995-2021 period.²² Fitting a basic statistical relationship between MDD and GNI* growth rates produces an estimate of GNI* growth that is surprisingly efficient. Figure 2 presents the results from this method, against a bottom-up approach, to the actual realised growth rate of GNI* over the 2004-2021 period.

As can be seen from the chart, the estimate of GNI* that relies solely on the relationship with MDD performs relatively well in tracking GNI* growth rate over the sample period. In comparison to the estimate derived from the bottom-up approach, the sum of squared errors (SSE) is reduced by 36 per cent, while the average absolute error declines from 3.5 per cent to 2.3 per cent.²³

¹⁹ These include the restrictive assumptions failing to hold in practice, the difficulty in only excluding MNE trade activities in the merchandise and services trade data, and the considerable lag in obtaining disaggregated services import and export figures at the sectoral level.

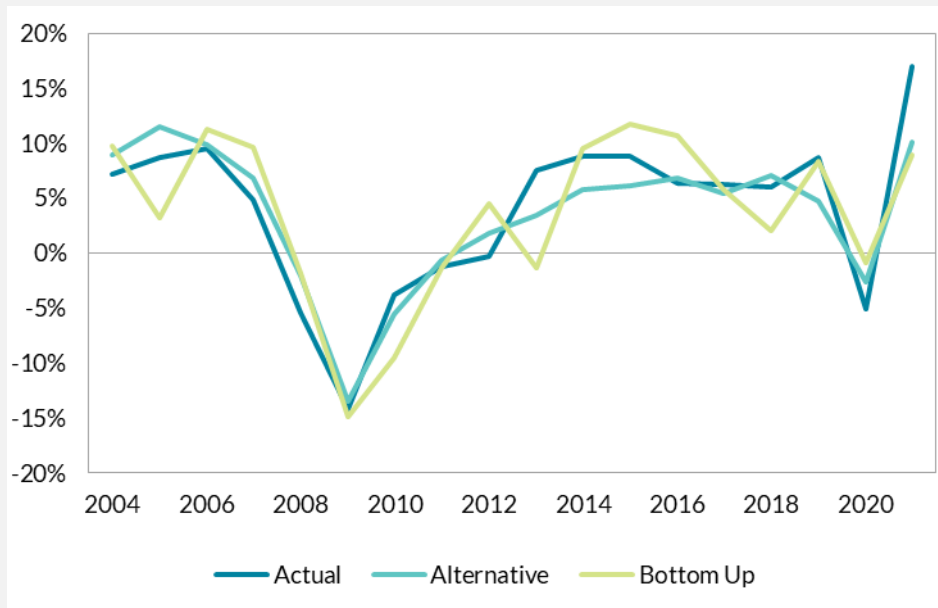
²⁰ As data is only available for domestic imports and exports back to 2003 on an annual basis, regression methods using these series will be underpowered, with an additional decade of data required before sampling distribution of the estimators starts to be well-approximated by a normal distribution.

²¹ Services imports and exports data is only available with a 9-18 month lag. Given this issue, it is likely that estimates will need to be used for both the current and previous year when generating forecasts of net exports.

²² The correlation between both variables is 98.2% in levels, 94.8% in first differences, and 93.4% in growth rates.

²³ SSE is defined as the sum of the squared deviation between actual values and the predictions of the model.

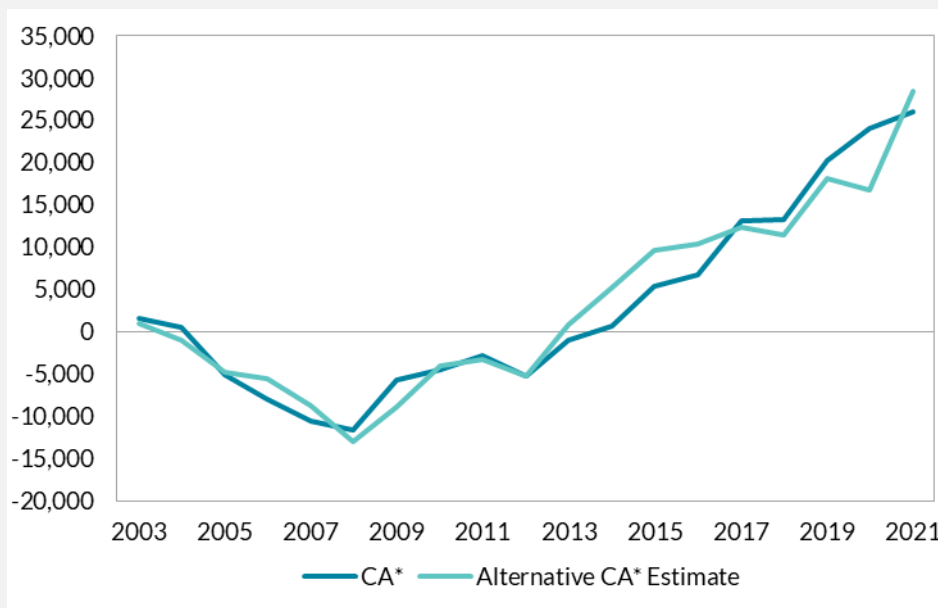
Figure 2: Forecast estimates of GNI* Growth, 2004-2021



Source: Author’s calculations using the CSO National Accounts database and the ECB Trade Consistency Exercise.

Similarly, when forecasting the modified current account (CA*), the difference between GNI* and MDD is a good predictor of CA*. Again, simple statistical correlations show a 97 per cent correlation in levels, and a 78 per cent correlation in first differences, between both series.

Figure 3: Forecast estimates of CA*, 2004-2021



Source: Author’s calculations using from CSO National Accounts data.

While the estimate of CA* (Figure 3) does not perfectly match the actual data, it does track movements and directional trends in the series with a strong degree of accuracy.

The approaches presented in this Box are by no means considered to be optimal methods for forecasting GNI* or CA*. Rather, they present an alternative technique to the current top-down and bottom-up approaches that are used, and give an improved level of forecast accuracy, despite the reduced degree of complexity and data requirements. A drawback of the statistical approach relative to the bottom-up method is that it does not identify the changes in the components of GNI* that are behind the forecast for the aggregate measure.

While there is still ongoing work across most Irish economic organisations to better understand dynamics in GNI* and CA*, simple statistical methods can provide a useful benchmark forecast for both variables. This approach can then be complemented with the bottom-up method or top-down method, in addition to expert judgement regarding the prevailing state of MNE activity or domestic exports and imports. Table 1 shows the forecasts for nominal GNI* and the modified current account based on the statistical approach. Nominal GNI* is projected to grow by 13.6 per cent in 2022 before moderating to average growth of around 7 per cent in 2023 and 2024. A modified current account surplus of over 11 per cent of GNI* is projected out to 2024.

Table 1: Forecast estimates of for MDD growth, GNI* growth and the CA*-to-GNI* ratio, 2022-2024

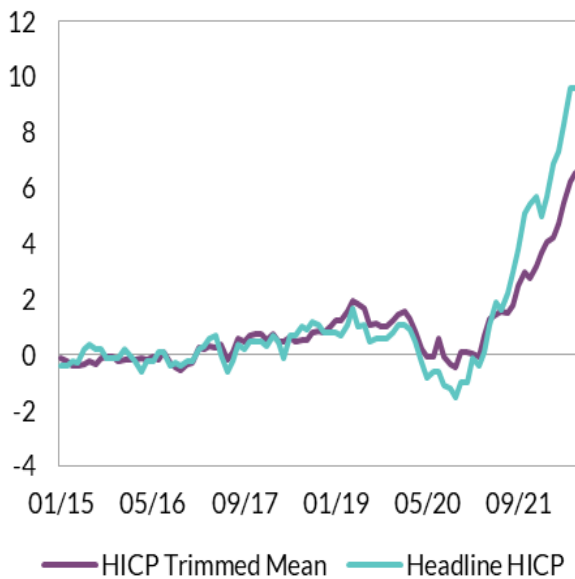
	2020	2021	2022(F)	2023(F)	2024(F)
MDD growth (nominal)	-4.90%	9.90%	13.60%	7.20%	6.20%
GNI* growth (nominal)	-5.10%	16.90%	13.70%	7.50%	6.60%
CA* / GNI*	12.00%	11.10%	11.70%	11.50%	11.40%

Prices and Costs

Consumer price increases, while still driven by energy, have become more broadly-based. Measures of core inflation are increasing. HICPX (excluding food and energy) and the trimmed mean measure of inflation (Figure 34) increased by 5.8 and 6.6 per cent year-on-year in August, respectively. Figure 35 also illustrates that the share of goods in the HICP basket recording price increase of over five per cent has increased to almost 60 per cent.

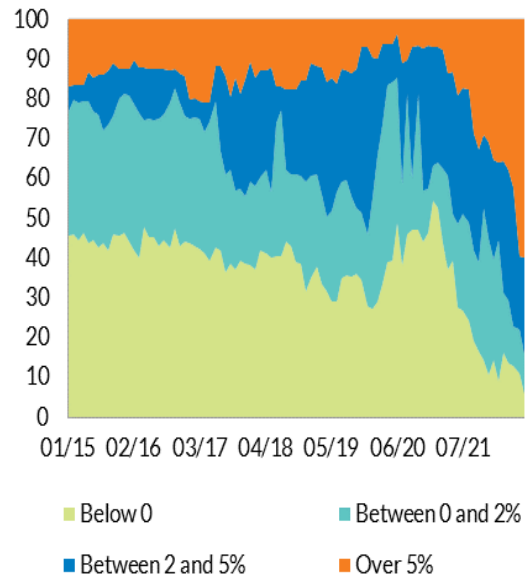
Price increases are broadening

Figure 34: Trimmed mean



Source: author's calculations.

Figure 35: Weighted share of prices



Source: author's calculations

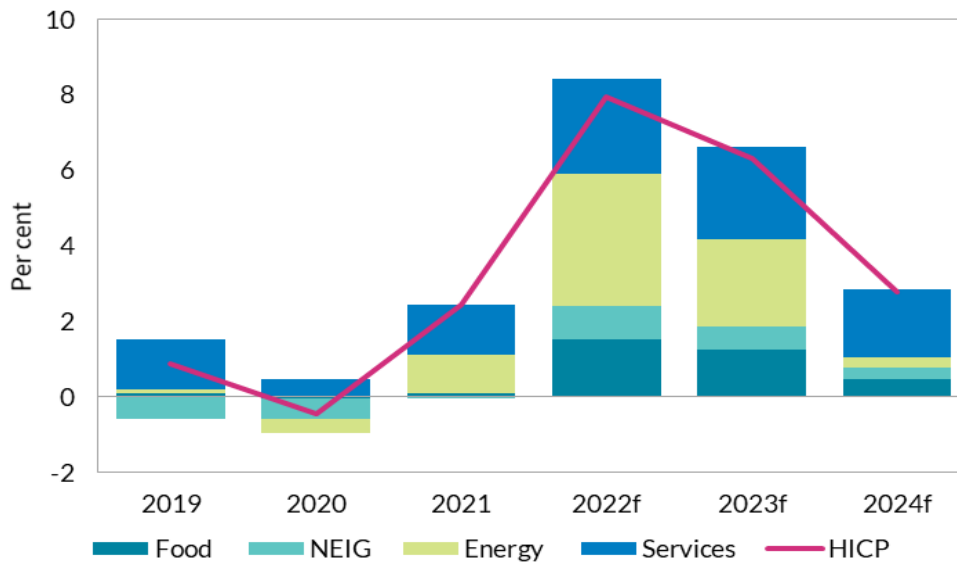
Conditional on current macro assumptions and no further energy shocks, headline HICP inflation is expected to average 8.0 per cent in 2022. Market intelligence and consultation with energy market participants indicated that the forward purchasing strategies of energy providers mean that the lag between price changes in wholesale gas and electricity markets and consumer prices could be 12 months or more.²⁴ Consumer price developments in 2023 are likely to in-part reflect developments in wholesale energy markets in the previous twelve months. In addition, energy is a vital component of all goods and services. Some goods have a heavier energy input than others do and may experience a faster pass-through to consumer prices, especially in periods of high demand. The indirect pass-through from higher energy prices into other

²⁴ The assumption in QB2 was a pass-through of six months from wholesale energy prices to consumer energy prices.

goods and services is likely to continue over several months. HICP inflation is forecast to increase by 6.3 per cent in 2023, before moderating to 2.8 per cent in 2024 (Figure 36).

Energy, food and services driving inflation

Figure 36: HICP Forecast



Source: CSO and Central Bank of Ireland

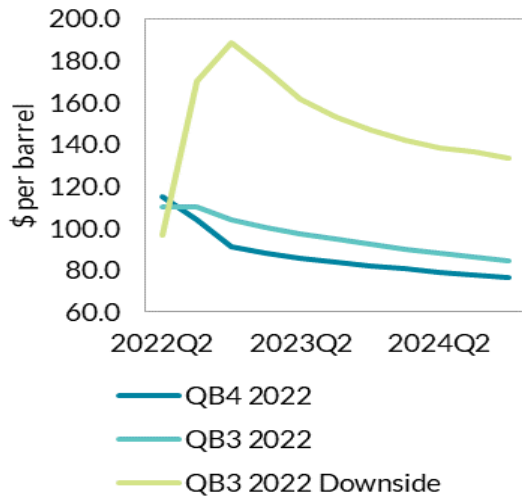
The upward revisions to the forecasts compared to the previous *Bulletin* come from a number of sources, with the higher market-based assumption for wholesale gas prices being the main driver. In addition to the higher gas (Figure 37) and electricity futures, a somewhat longer pass-through from wholesale to consumer energy prices is assumed. The fall in the euro exchange rate means that the euro price of oil (and other dollar denominated imports) is higher over the forecast horizon. The euro has depreciated by 4.6 per cent against the dollar since the last *Bulletin*. In contrast, the appreciation of the euro against Sterling over the period provides a damping influence on consumer price inflation in Ireland. Actual outturns for the June to August period saw energy price inflation coming in below what was expected in the previous *Bulletin*, whereas food and services prices were marginally stronger than expected.

There is some positive news regarding the prospect for consumer prices. Wholesale gas and oil prices have moderated recently as the build-up of the European stock of energy for the winter has progressed well and the EU resolve to reduce reliance on Russian gas strengthens. Figure 37 and 38 illustrates that gas and oil prices are somewhat below their peak in August.

Gas futures remain above the levels of the previous *Bulletin* and increases in gas and electricity futures have more than offset the fall in oil prices.

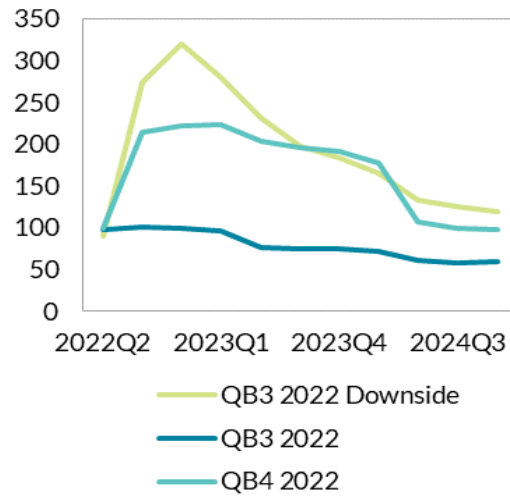
Oil Futures are lower than before, while gas futures are higher but decreasing.

Figure 37: Brent Crude Futures



Source: Refinitiv Eikon and Central Bank of Ireland

Figure 38: TTR Gas Futures

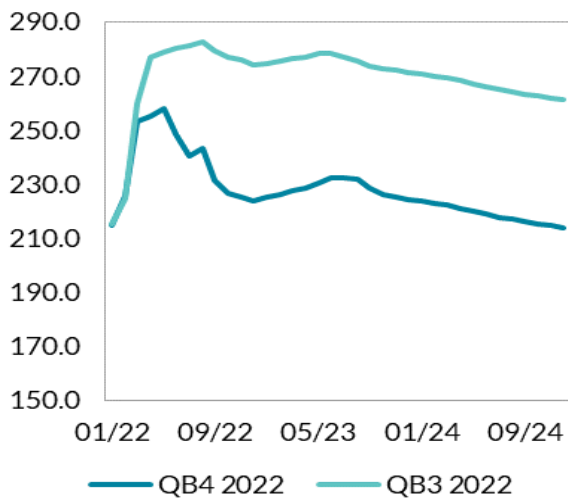


Source: Refinitiv Eikon and Central Bank of Ireland

Other international commodity prices have also moderated. Food prices have moderated, driven by improved production prospects, especially in Canada, the USA, and higher seasonal availability as harvests continued in the northern hemisphere and the resumption of exports from the Black Sea ports in Ukraine after five months of interruption.

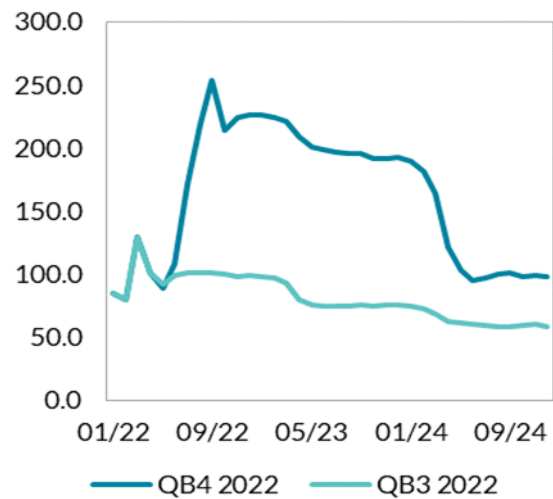
Food and NEIG future prices are down relative to QB3 assumptions.²⁵

Figure 39: Aggregate Food Futures



Source: ECB internal calculations

Figure 40: Aggregate Industrial Futures

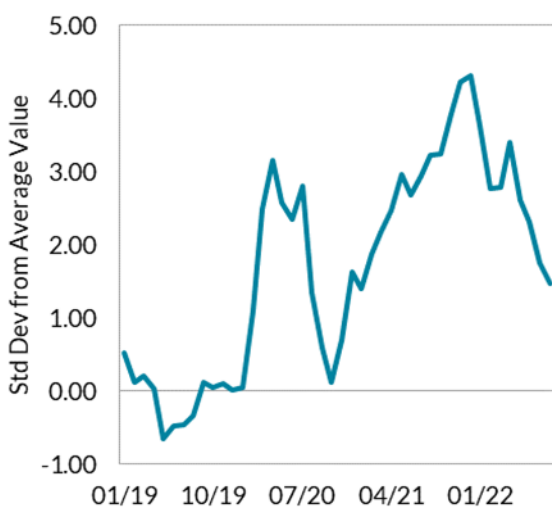


Source: ECB internal calculations

There are signs that supply chain issues are moderating. The Global Supply Chain Pressure Index (Figure 41), which combines data on global transportation costs with delivery times, backlogs and purchased stock data in global PMIs, suggests that while still at historically high levels, supply chain pressures eased in August for the fifth consecutive month. Domestically, manufacturing delivery times as measured by the AIB manufacturing PMI also improved, continuing the return to more normal levels.

Supply chain pressures are decreasing while delivery times are improving

Figure 41: Global Supply Chain Pressure Index



Source: Federal Reserve Bank of New York

Figure 42: Manufacturing Delivery Times



Source: IR AIB PMI Manufacturing

²⁵ These are an aggregate index of EU farm-gate food prices which are comprised as a weighted index of food futures.

Subject to no further deterioration in global energy markets, inflation on a quarterly average basis is expected to begin to decline during Q4 2022. Even if commodity prices return to pre-crisis levels, inflation would remain elevated throughout much of 2023 as wholesale energy and food prices pass-through more fully to consumer prices. While international wholesale prices for energy, food and some commodities have moderated from the highs of August 2022, markets remain volatile. The ongoing war in Ukraine and the prospect of potential energy shortages in Europe over the winter pose substantial upside risks to the forecasts. An escalation of the war and further retaliatory energy blockades would result in a more prolonged inflationary period. Shortages in the supply of energy may materialise next year, as there will be more limited supply options to restock inventories without Russian energy. The missed planting of crops in 2022 in Ukraine may also result in shortages of certain foods with ramifications for food prices in 2023.

Other risks remain to the inflation outlook. A harsh European winter, supply chain bottlenecks, the zero tolerance policy towards COVID in China and a pick-up in wages would also pose upside risks to the forecasts. Some internalising of fossil fuel externalities is likely to result in upward pressures on global prices in the years ahead. While welcome and necessary, the impact of the emergency EU measures to mitigate the effects of increased energy prices are also uncertain and it remains to be seen how a decoupling of the gas and electricity markets would impact consumer prices in the short to medium term.

Broader Costs in the Economy

Further up the supply chain, producer price data also point to high domestic price pressures. Figure 43 indicates that the domestic component of wholesale or producer prices is on a steeply increasing path, increasing by 10.5 per cent year-on-year in August 2022. The preceding extremely high rates of wholesale energy prices, up 165 per cent in August 2022, is driving much of the increase in producer prices. The Gross Value Added deflator for domestic firms (excluding the multinational sector) also exhibits an upward trend, increasing by 7.7 year-on-year in Q2 2022 (Figure 44).

Domestically, PMI survey data suggest a possible turning point in input and output prices in the manufacturing, services and construction sectors. While the index levels remain high they look (Figure 45) to be on a downward trajectory – this may, however, only point to a deceleration of price growth and not to a decline in the price level.

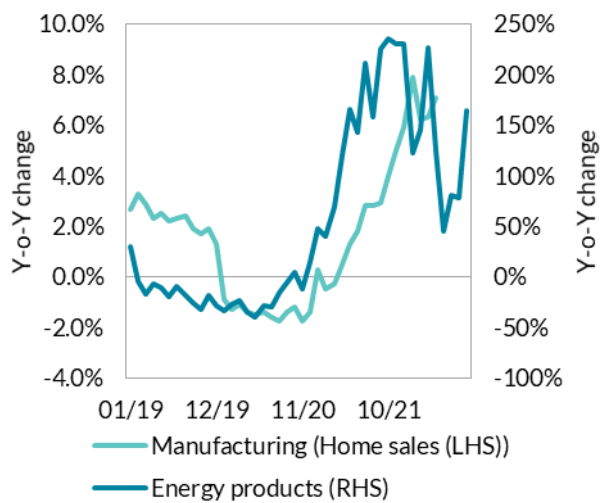
Table 3: Inflation Projections

	2021	2022	2023	2024
HICP	2.4	8.0	6.3	2.8
Goods	2.0	10.9	7.8	1.9
Energy	12.3	39.3	25.8	2.6
Food	0.5	7.1	5.8	2.2
Non-Energy Industrial Goods	0	3.9	2.7	1.4
Services	2.4	5.1	4.9	3.6
HICP ex Energy	1.5	5.1	4.4	2.7
HICP ex Food & Energy (Core)	1.7	4.7	4.3	3.0
Modified Domestic Demand Deflator	3.8	7.2	5.1	2.8
Private Consumption Deflator	3.7	7.4	6.0	2.5
Modified Investment Deflator	5.5	9.5	4.9	3.5

Source: CSO, Central Bank of Ireland

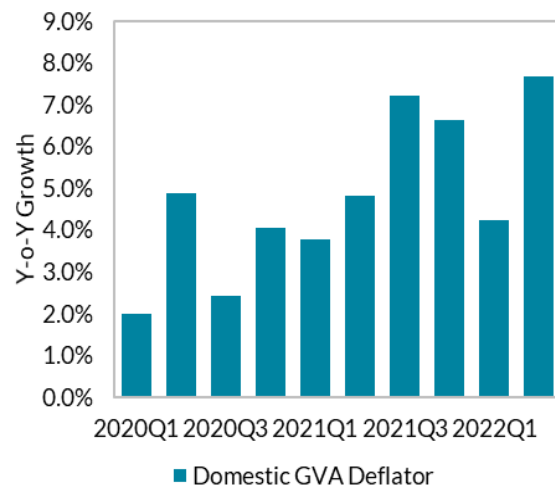
Non-consumer price data also increasing

Figure 43: Manufacturing Prices (Home sales)



Source: CSO

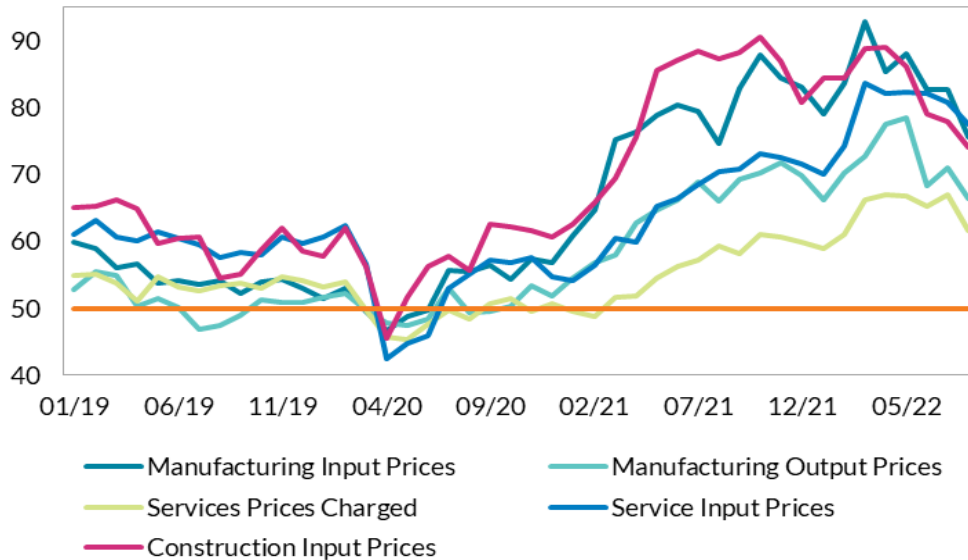
Figure 44: Domestic GVA Deflator Growth



Source: CSO

Survey data point to a possible weakening of price pressures

Figure 45: PMI²⁶ Input and Output Prices



Source: Allied Irish Banks, Refinitiv

Labour Market

Employment has continued to grow strongly despite economic headwinds and high inflation, as employment levels grew by 8.8 per cent annually in Q2 2022 to reach a new peak of 2.55 million persons. The seasonally-adjusted monthly employment estimate rose by 7.1 per cent in the year to July 2022, with the pace of growth beginning to moderate in recent months. The strength of the increase has led to a significant upward revision in the annual projection for employment growth for 2022 to 6.2 per cent. Employment is forecast to grow by 1.1 per cent in 2023 due in part to base level effects and a slowdown in the rate of expansion, as firms contend with rising energy costs. While there is heightened uncertainty regarding the outlook, downside risks exist in the labour market with potential for a greater slowdown in total hours worked, particularly in contact-intensive sectors, as firms may seek to operate on reduced hours to balance rising input costs and lower consumer expenditure. Prospective growth in unemployment may be limited by elevated levels of labour demand. However this is conditional on transferability of skills across sectors and occupations with capacity to absorb any job losses in those sectors more affected by the current rise in energy costs. The relative attachment to the labour force amongst those whose jobs are more adversely affected by the

²⁶ PMI values above 50 indicate expansion while values below 50 indicate a decline in activity.

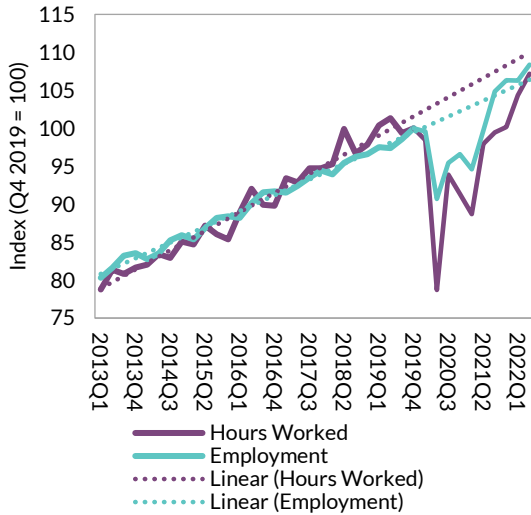
energy crisis is also a relevant factor to consider when judging the ultimate effect on unemployment.

Total actual hours worked is close to resuming its pre-pandemic trend and match employment growth. The 2022 Q2 Labour Force Survey is the final quarterly release to feature distortions from pandemic incomes-support schemes. Hours worked grew by 9.4 per cent annually to reach a new peak of 83 million (See Figure 46), although average hours worked remains marginally below pre-pandemic levels due to the higher part-time composition of total employment. The Employment Wage Subsidy scheme (EWSS), which was highly effective in maintaining employment levels throughout the pandemic, was phased out for all remaining sectors in May with 20,000 persons supported in the final week of payment.²⁷ On a sectoral basis, employment in the Accommodation sector has increased by 39 per cent annually from a relatively low base but remains 6 per cent below pre-pandemic levels (See Figure 47). This trend is similar for both the Administrative Services and Other sectors, down 5.3 per cent 8.2 per cent respectively on Q4 2019 employment levels. As these sectors are yet to fully recover at a time of record employment growth, it may be reflective of changes in worker preferences to alternative roles. Construction is 13.7 per cent above pre-pandemic employment levels following significant annual growth in Q2 2022 of 39 per cent, while remote-working sectors such as ICT and Professional services have continued to expand notably on Q4 2019 levels.

²⁷ The Pandemic Unemployment Payment (PUP) scheme was closed at end-March with Q4 2021 being the last LFS release to reflect any potential distortions arising from this scheme.

Distortions have lessened as income-support schemes are wound down

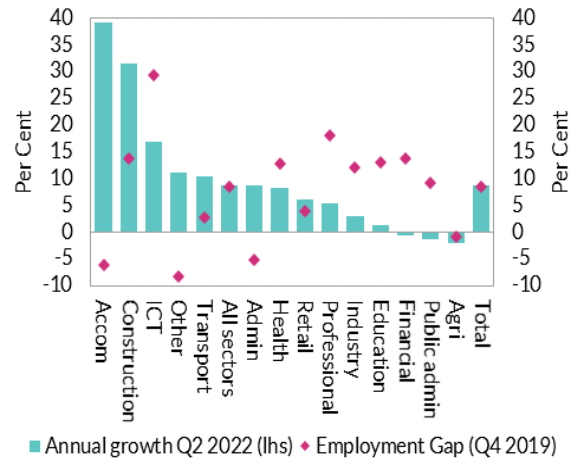
Figure 46: Indexed growth in employment and total actual hours worked



Source: CSO

Contact-intensive sectors remain below pre-pandemic levels despite recent aggregate employment recovery

Figure 47: Change in employment by sector (Q2 2022)

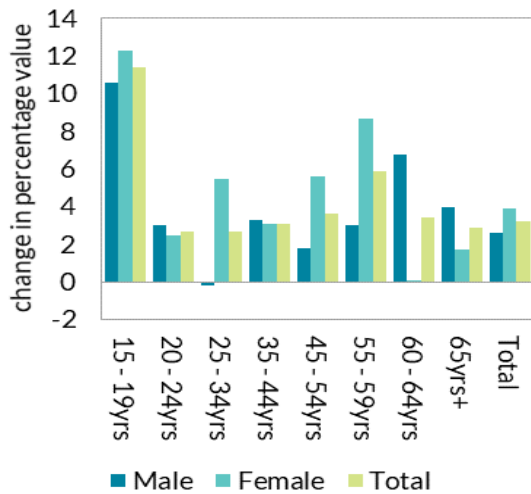


Source: CSO

The labour force increased by 5.6 per cent annually in Q2 2022 bringing the participation rate (LFPR) to 65.2 per cent, the highest level since Q3 2008. This increase in the LFPR has been broad based across the age distribution when compared to Q2 2019 levels (See Figure 48). The uptick in the most recent quarter was driven mainly by increased activity of persons aged 15-19 years in the Accommodation sector during the busy seasonal period alongside an additional 26,500 non-Irish nationals entering the labour force bringing the LFPR of this cohort to 78.5 per cent. It remains to be seen if this younger cohort continue to contribute their labour as on-site education resumes in the third quarter and potentially reduces their availability for work. Female labour force participation (59.8 per cent) remains close to peak levels as cohort age effects discussed by [Boyd et al \(2022\)](#) remain evident in the underlying data. The labour force is projected to increase by 4.6 per cent this year as a result of base effects from the previous year and higher than anticipated levels of net inward migration. The growth rate is forecast to then moderate to 1.6 per cent in 2023 and 1.4 per cent in 2024.

Participation rates remain high for younger and female cohorts

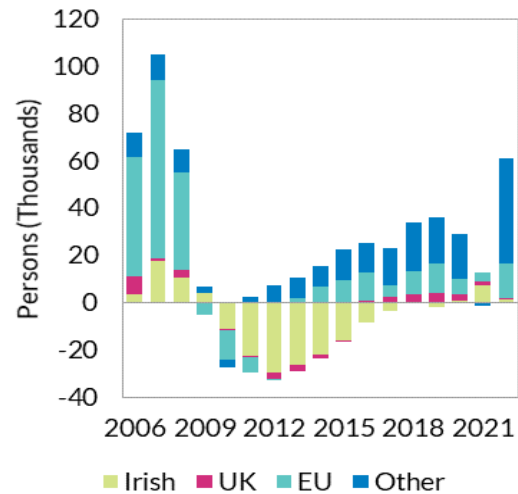
Figure 48: Change in LFPR across age and gender (Q2 2019 – Q2 2022)



Source: CSO

Net migration at highest level since 2008

Figure 49: Net migration by nationality



Source: CSO

CSO Population and Migration Estimates data for the year to April 2022 show that the overall population increased by 88,800 persons to over 5.1 million. There was a notable increase in net inward migration from 11,200 in 2021 to 61,100 caused by pandemic effects limiting international travel in the previous year and the recent inflow of Ukrainian migrants beginning in Q1 2022 (See Figure 49). PPSN data indicate 25,600 Ukrainian persons had arrived up to end-April, with a subsequent 21,400 arriving to end-August not counted in annual population figures. The labour market status of this cohort may contribute to upward or downward revisions to projection figures as currently 6,500 are listed as in employment.²⁸ As the period of displacement for these cohorts is unknown, a partial reversal of this inflow would contribute to sizeable downward revisions in net migration projections in future years. When returning Irish nationals and Ukrainian nationals are omitted, there was a net inflow of approximately 34,200 persons, which is similar to the years immediately prior to the pandemic. This increase in net migration corresponds to a recent uptick in employment permits for non-EEA nationals, as figures for January to June 2022 (20,158) are more than double any previous corresponding period (See Figure 50).²⁹ This increase may be attributed to a clearing of backlogs throughout the pandemic, however, continued labour

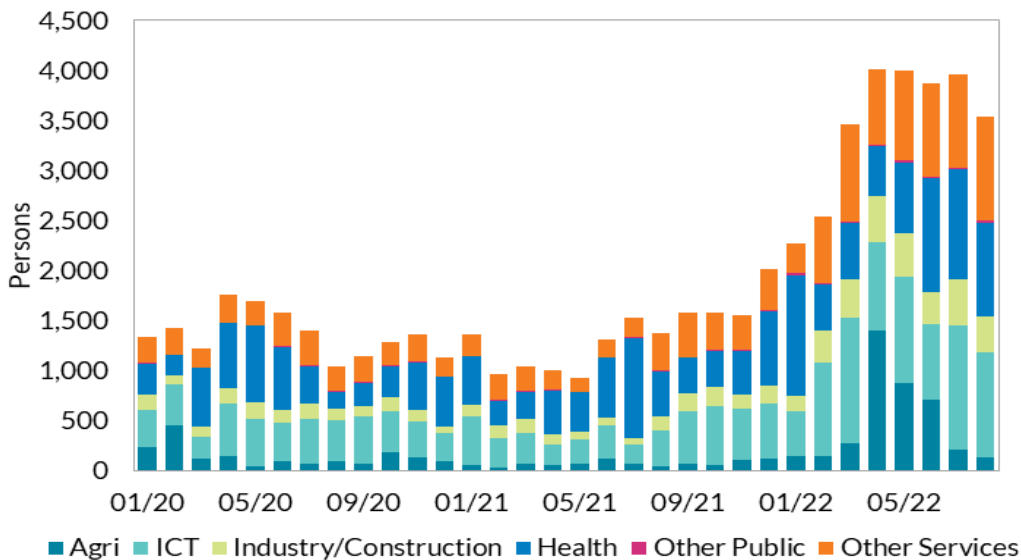
²⁸ CSO - [Arrivals from Ukraine in Ireland Series 5](#)

²⁹ Persons wishing to work in Ireland a non-EEA national, unless they are exempted, must hold a valid Employment Permit. Data by nationality are available [here](#).

demand for key skills may see higher numbers of employment permits granted across a number of sectors (See Box E).

Agriculture, ICT and Health account for the majority of employment permits granted in 2022

Figure 50: Monthly employment permits by broad sector



Source: Department of Enterprise, Trade and Employment

Unemployment projections have been revised downwards to 4.7 per cent for 2022 due to strong economic performance and tight labour market conditions in the first half of the year. The latest quarterly unemployment rate for Q2 2022 measured 4.5 per cent with labour demand expected to remain high in the latter half year. Labour market dashboard analysis points to currently low levels of labour slack alongside heightened job switching and hiring rates, suggesting elevated labour demand may limit a rise in unemployment levels (See Box F). The seasonally-adjusted monthly unemployment rate for August was 4.3 per cent. While the outlook remains uncertain for firms in the face of rising costs, the unemployment rate is projected to increase slightly at the start of 2023 in line with reduced consumer expenditure and overall economic activity. The profile is expected to then moderate downward for the remainder of the year, with the annual profile averaging 5.1 per cent. Sectors such as Accommodation and Retail are among those most affected by increasing energy costs and exhibit a higher share of younger workers, particularly after employment developments throughout the pandemic. As this cohort typically displays a relatively higher transition rate into and out of the labour force, a negative employment shock

may result in a more moderate increase in the unemployment rate when compared to a similar shock to older workers. Since it may prove costly for firms to adjust staff levels at a time of elevated labour demand, there may be a more pronounced slowdown in total hours worked instead of a substantial rise in unemployment, as consumption activity moderates and firms try to maintain employment levels.

Earnings and Incomes

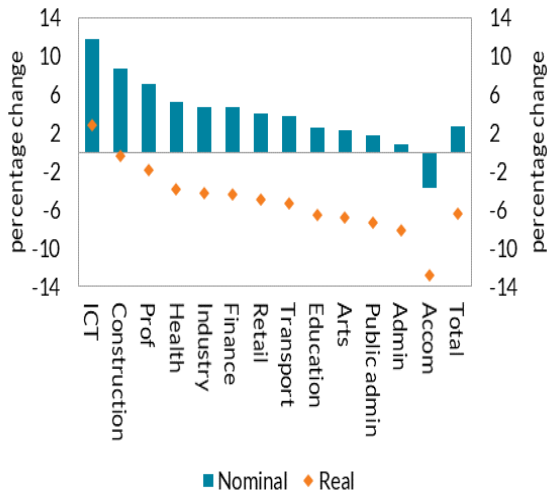
Hourly wages grew by 2.7 per cent year on year in the second quarter, with significant differences across sectors. ICT recorded 11.8 per cent annual growth. Excluding those quarters affected by pandemic-related compositional issues, this represents the largest annual growth rate recorded across all sectors since data on hourly earnings began in 2008.³⁰ Wages in the accommodation sector fell by 3.7 per cent year-on-year in the second quarter. This partly reflects a compositional effect, with lower-earning workers return to the sector after the pandemic reducing overall average wage growth. An alternative measure for wage growth that may be less distorted by compositional issues has been provided by the CSO based on administrative data.³¹ For employments that were active in both Q1 2021 and Q2 2022, earnings rose by 9.3 per cent over the year according to CSO data. Given the current inflationary environment, ICT was the only sector to record a real annual earnings increase in Q2 2022 (See Figure 51). This sector has exhibited relatively high vacancy rates over several years as demand for highly-skilled professionals remains elevated. While there exist lags in official data, wage pressures as reported in the EHECS remain contained across a number of sectors. Data releases in forthcoming quarters may provide further insights following the proposed public sector pay deal of 6.5 per cent to end-2023 and an 80 cent increase in the national minimum wage to €11.30 from January 2023.

³⁰ Worker composition shifts occurred during the pandemic period, where greater employment losses among low-wage workers pushed average wages upwards when compared annually. The ICT sector was one of the least affected sectors by pandemic-related compositional issues as activities were able to continue on a mainly remote basis and employment levels are now 33 per cent above Q4 2019 levels.

³¹ CSO Labour Insights Bulletin Q2 2022.

All sectors but ICT recorded negative earnings growth in Q2 2022

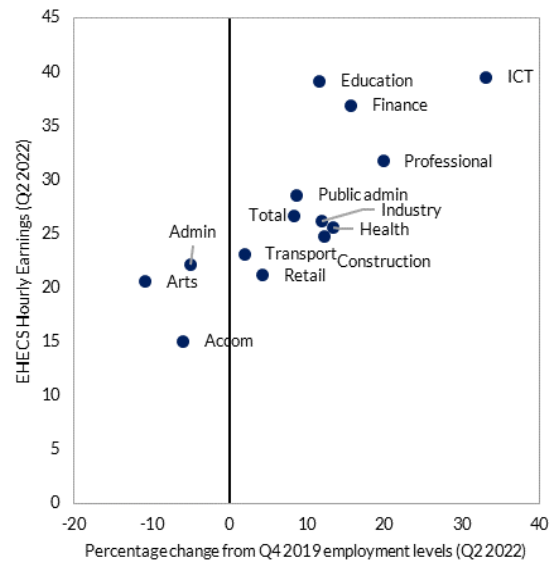
Figure 51: Nominal and real annual hourly earnings growth by sector (Q2 2022)



Source: CSO; EHECS

Sectors yet to return to pre-pandemic employment levels pay among the lowest hourly rates

Figure 52: Employment and earnings growth by sector (Q4 2019 – Q2 2022)



Source: CSO; EHECS

As employment growth across the economy has increased substantially in recent quarters, wages in a number of sectors remain below their pre-pandemic levels, namely Accommodation, Administration and Arts. Figure 52 shows that these sectors are at the lower-end of the hourly earnings distribution, potentially suggesting the movement of workers to roles with greater earnings to compensate for higher inflation or seeking greater security of employment. Analysis of PUP recipients formerly employed in these sectors, which accounted for 38 per cent of total claims, shows that they have a higher transition rate to other economic sectors in the months after exiting the scheme.³²

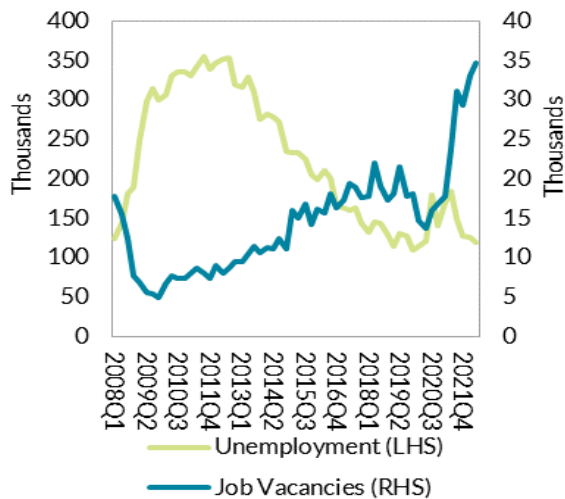
The job vacancy rate measured 1.6 per cent in Q2 2022 representing a new peak within the series as labour demand remains high across all economic sectors. The highest vacancy rates were recorded in the Professional (4.4 per cent), Finance (3.2 per cent) and Public Admin (2.4 per cent) sectors. This development alongside the decrease in unemployment (Figure 53) has led to a further decline in the vacancy-unemployment ratio as an indicator of labour market tightness to 3.4 unemployed persons per current vacancy in the economy. Data from [Indeed job posting](#) shows that there has been a plateauing

³² IGEES (2021) [Employment Transitions of People Closing PUP Claims](#)

in levels in recent months, which is mirrored across international labour markets. While levels for mid-August were 57 per cent higher than pre-pandemic levels there has been little movement since May. This trend may signal a potential slowdown in hiring in the coming months as firms reassess costs with forward-looking sentiment indicators being less positive.

Job vacancy levels continue to rise as unemployment remains relatively low

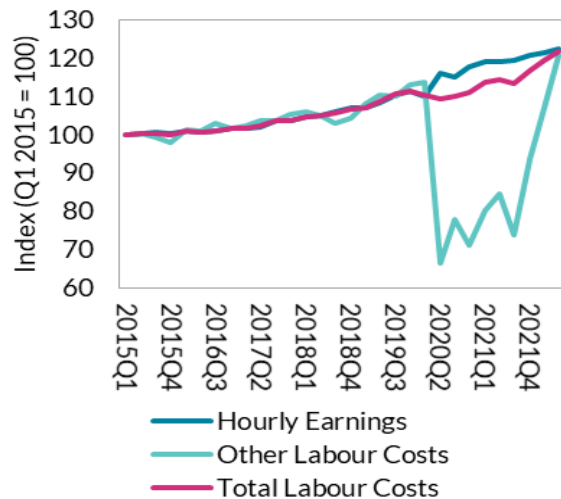
Figure 53: Job Vacancies and Unemployment



Source: CSO; EHECS

Ending of income-support schemes has led to a normalisation in hourly earnings data

Figure 54: Hourly Earnings and Labour Costs



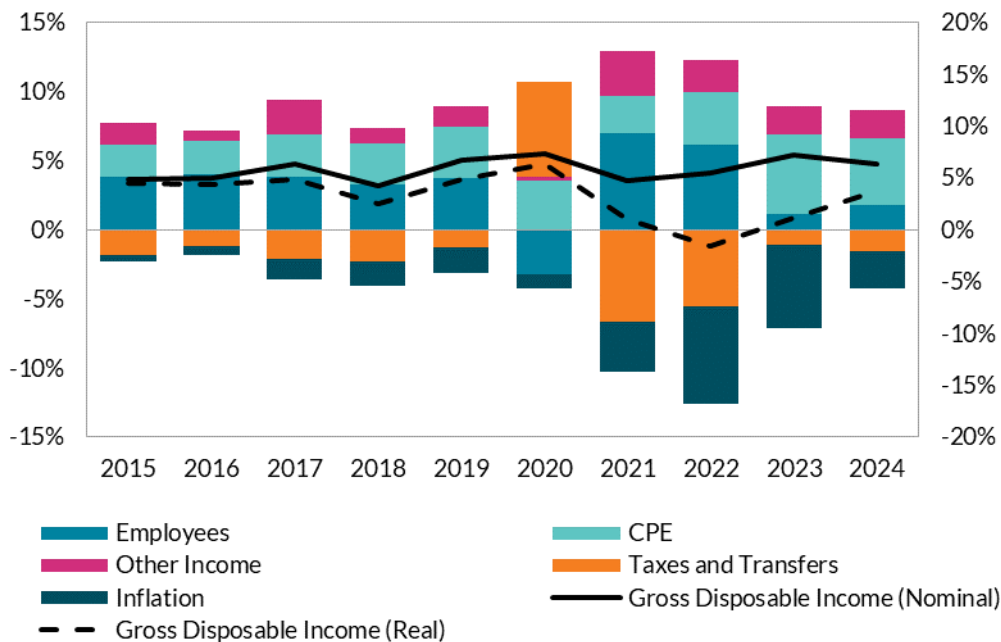
Source: CSO; EHECS

Gross household disposable income (GDI), which measures incomes net of taxes and social transfers, is forecast to fall by 1.5 per cent this year in real terms. One of the main components of GDI is compensation, which is made up of wages (received by workers) plus employers’ social insurance payments. In a typical year, the growth rate of these would be the same. However, the impact of the Employers Wage Subsidy Scheme (which did include social insurance contributions) during 2021 means that the growth rate of compensation is artificially boosted by more firms paying social insurance contributions in 2022. For example, wages grew by 2.7 per cent, while compensation grew by 6.6 per cent in the second quarter. The wage component is the relevant measure at present when considering the outlook for consumption. Hence, the relatively weaker growth in the portion of real gross disposable income available to households for expenditure implies an even weaker outlook for consumption this year.

Fiscal supports will support household incomes in late 2022 and throughout 2023 to a greater extent than expected at the time of the last Bulletin. This, combined with a stronger pickup in compensation (including wages), will bring real disposable income growth to 1.1 per cent in 2023. Figure 55 illustrates the impact of the fiscal supports. If net taxes and transfers remained the same in 2023 as in 2022, the forecast for real gross disposable income would be flat or slightly negative. On a per household basis, gross disposable income is forecast to fall by 3.3 per cent this year, while remaining flat for 2023 and rising by 2.5 per cent in 2024. The support of taxes and transfers contrasts with the global financial crisis period where average household disposable incomes fell significantly despite negative inflation (Figure 55).

Gross Disposable Income is expected to exhibit negative growth this year

Figure 55: Decomposition of Gross Disposable Income



Source: CSO; National Accounts

Table 4: Labour Market Projections

	2021	2022f	2023f	2024f
Employment (000s)	2,389	2,538	2,566	2,610
% change	6.1%	6.2%	1.1%	1.7%
Labour Force (000s)	2,547	2,663	2,705	2,743
% change	6.5%	4.6%	1.6%	1.4%
Participation Rate (% of Working Age Population)	63.3%	64.8%	64.7%	64.8%
Unemployment (000s)	158	125	139	132
Unemployment Rate (% of Labour Force)	6.3%	4.7%	5.1%	4.8%

Box E: Population Change and Migration in Ireland – Recent Evidence

By Thomas Conefrey and Enda Keenan³³

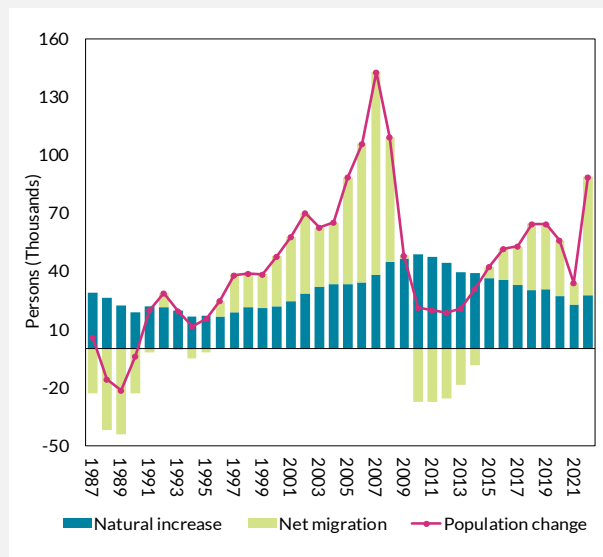
Preliminary results from Census 2022 showed that the population of Ireland stood at 5.12 million in April 2022, the first time in 170 years that the population exceeded 5 million.³⁴ Annual population and migration estimates published in August indicate that immigration in the year to April 2022 increased to its highest level since 2008 at over 120,000. This Box examines recent demographic changes in Ireland with a focus on the role of migration and considers the implications for the labour market and economic growth both in the immediate future and over the longer term.

Drivers of Overall Population Change

Figure 1 shows the estimated annual change in the population by natural increase (births minus deaths) and net migration (immigration minus emigration). Driven largely by changes in the number of births, the natural increase peaked in 2010 at just under 50,000 and has declined gradually thereafter. As evident in Figure 1, net migration has been an important driver of overall population change over time and especially over the last decade as the natural increase has slowed.

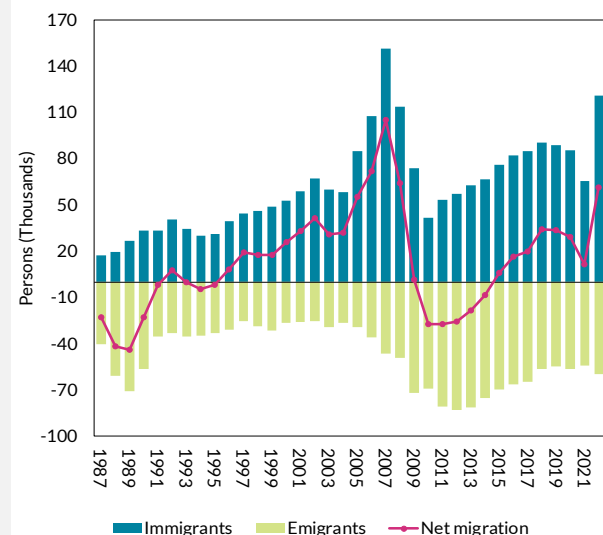
Sharp rise in net inward migration to above pre-pandemic levels

Figure 1: Decomposition of Changes in Population



Source: CSO

Figure 2: Decomposition of Changes in Net Migration



Source: CSO

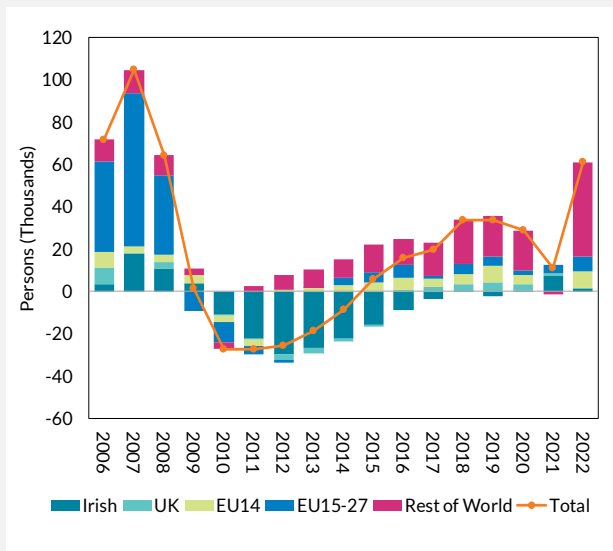
³³ Irish Economic Analysis Division

³⁴ Census 2022 was conducted on the night of April 3rd 2022. The Census was originally scheduled to be carried out in 2021, as part of a standard five-year cycle; however, data collection was delayed due to the onset of the pandemic.

Figure 2 decomposes the change in net migration into immigration and emigration. Following five consecutive years of negative net migration from 2010 to 2014 (emigration exceeding immigration), net migration turned positive again in 2015, averaging 23,000 per annum from 2015-2020. Net migration dipped to 11,000 in 2021 as a result of the pandemic travel restrictions reducing immigration, with emigration broadly unchanged. Although emigration increased slightly in 2022, net inward migration rebounded strongly to just over 61,000 in the year to April, the highest net inflow since before the 2008 financial crisis.

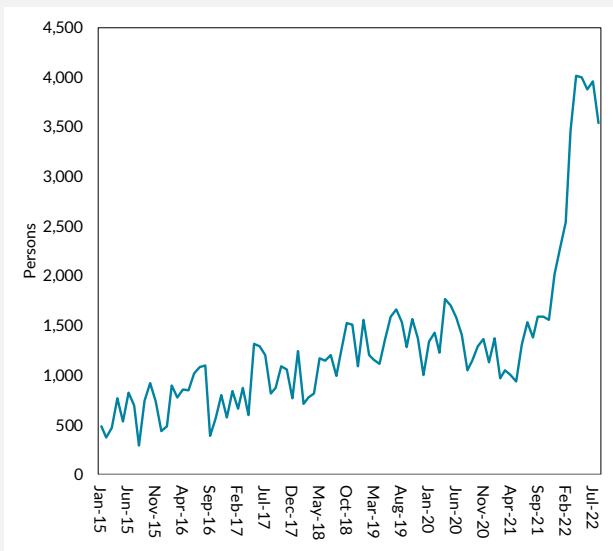
Non-EU countries have become increasingly important for migration to Ireland

Figure 3: Net Migration by nationality



Source: CSO

Figure 4: Monthly employment permits



Source: Dept. of Enterprise, Trade and Employment

Migration by Characteristic

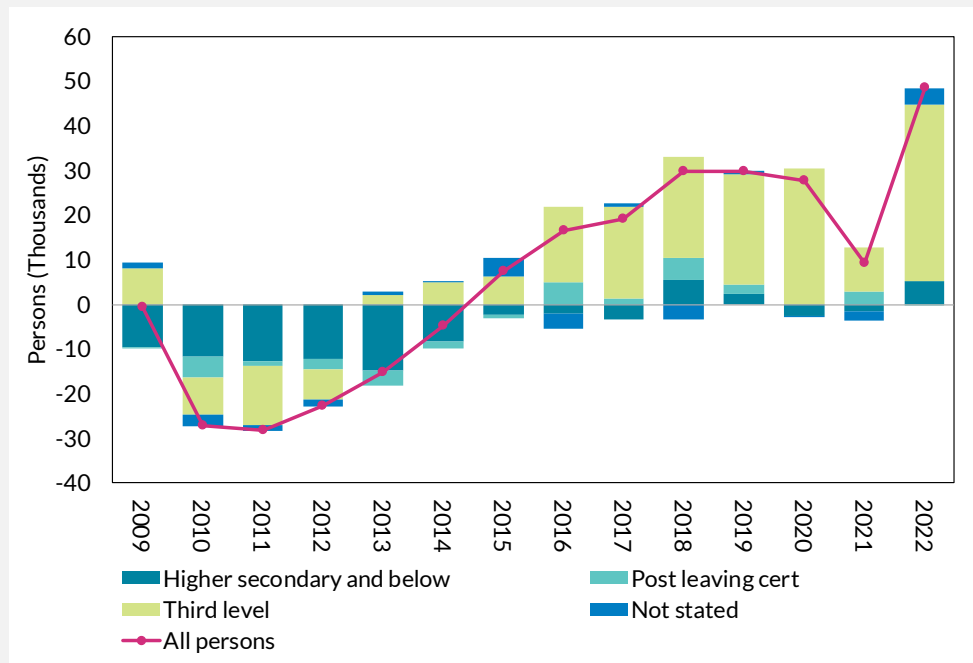
Turning first to nationality, Figure 3 shows that there was a sharp increase in net inward migration by “Rest of World” nationals in the year to April 2022.³⁵ The net inflow of this group increased to just under 45,000 in 2022, up from 19,000 in both 2019 and 2020. In terms of age, just under two thirds of the net inflow was made up of those aged between 25 and 65. The 2022 figures for net migration includes a proportion of the inflow of Ukrainian nationals since the start of the war (those who had arrived before the end of April 2022). Separate CSO administrative data on PPSN allocations indicate that

³⁵ Previous migration analysis by [Staunton and Smyth \(2019\)](#) identified that the nationality of immigrants has changed in recent years away from EU 27 accession countries towards ‘Rest of World’ countries such as Brazil.

approximately 26,304 Ukrainians had arrived in Ireland by the end of April.³⁶ This implies that excluding Ukrainian nationals, the net inflow of ‘Rest of World’ nationals has broadly returned to pre-pandemic levels. This is consistent with data on work permits issued by the Department of Enterprise, Trade and Employment (Figure 4).³⁷ These data show that a total of 27,000 permits have been issued to non-EU citizens in the year to August, up from 11,000 in 2019, the most recent comparable period when international travel was not restricted by the pandemic.

Net inward migration of highly educated workers is adding to the skills base of the labour force

Figure 5: Net Migration by educational attainment



Source: CSO

Figure 5 shows net migration by educational attainment. The proportion of all immigrants with third level qualifications has increased from 47 per cent in 2009 to just under 70 per cent in 2022. Although the proportion of emigrants with third level has also increased, overall net inward migration continues to be dominated by those with the highest level of educational attainment. In contrast, with the exception of 2022, in all previous years back to 2009 there was net outward migration of those with secondary level qualifications and below – the number of emigrants in this group exceeded the number of immigrants. These

³⁶ [CSO: Arrivals from Ukraine in Ireland](#). Over 20,000 Ukrainians have since arrived in Ireland in the period from May to August that may be counted in the next population estimate for the year to April 2023. Approximately 27 per cent of the latest cumulative figures for August are children aged under 15 years

³⁷ [Dept. of Enterprise, Trade and Employment: Employment Permits](#). There were increases to employment permits quotas in 2021 to address key labour shortages in addition to clearing any backlogs that existed throughout the pandemic.

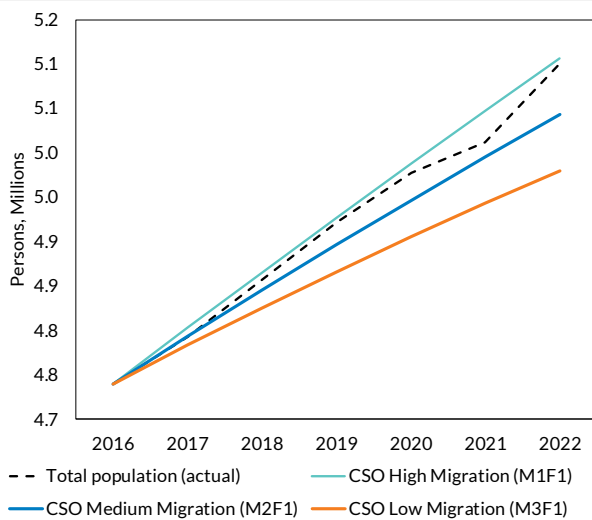
developments are consistent with brain gain with net migration boosting the skills base of the labour force over time.

Implications for the labour market and economy

Census 2022 combined with recent data on migration points to strong population growth in line with highest CSO projection scenario from 2017.³⁸ As shown in Figure 6, the actual population has tracked the highest of the most recent population scenarios published by the CSO in 2017 (M1F1). Additionally, the actual labour force exceeded the highest CSO projection – in 2021 the labour force was approximately 40,000 larger than the highest M1 scenario (Figure 7). This reflects a combination of the overall population being close to the most optimistic projection and the outturn for labour force participation being stronger than assumed.³⁹

Population Outturn Tracks Highest CSO Projection while labour force exceeds projections

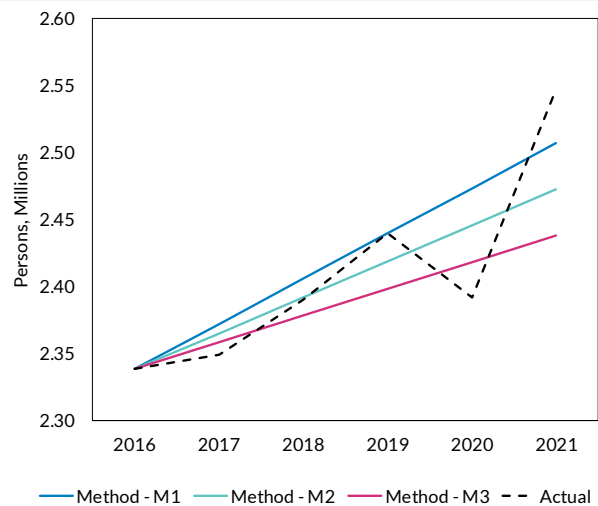
Figure 6: Population change compared to 2017 CSO Projections



Source: CSO and author’s calculations

Notes: M1: High net inward migration 30,000 per annum from 2017 to 2051. M2: Net inward migration continuing at more moderate levels of 20,000 per annum until 2051. M3: Low net inward migration 10,000 per annum until 2051. F1: Total Fertility Rate (TFR) to remain at its 2016 level of 1.8 for the lifetime of the projections.

Figure 7: Labour Force change compared to 2017 CSO Projections



Source: CSO and author’s calculations

With those of working age consistently making up the majority of net inflows, migration is continuing to play an important role in boosting labour supply in Ireland, helping to relieve shortages and enhancing the skills base of the workforce. By boosting labour supply and human capital, continued labour force growth will increase the economy’s overall potential growth rate over the medium to longer term. There is also evidence that high-

³⁸ See <https://www.cso.ie/en/releasesandpublications/ep/p-plfp/populationandlabourforceprojections2017-2051/>

³⁹ See [Boyd et al \(2022\)](#) for a detailed analysis on recent growth in the labour force following the onset of the pandemic

skilled immigration can enhance innovation, entrepreneurship and productivity levels.⁴⁰ Increases in the working age population benefit the public finances by raising tax revenue from those in employment. By lowering the old-age dependency ratio (the ratio of the population aged over 65 to the working-age population), continued net inward migration can reduce the burden of age-related public expenditure relative to an outcome with lower migration and a smaller working age population. There is some evidence that returning migrants earn a wage premium above similar workers who remained in Ireland – indicating that migration can boost wage growth.⁴¹

Table 1: Actual Population and Department of Environment HNDA Demographic Assumptions

Projections	2022 Population
Actual (Census 2022)	5,123,536
HNDA Baseline	5,081,523
HNDA High Migration	5,089,154
<i>Difference (actual less HNDA/NPF Baseline)</i>	42,013
<i>Difference (actual less HNDA/NPF High Migration)</i>	34,382

Source: CSO, Dept. of Housing, Local Government and Heritage.

At the same time, population growth and high levels of net inward migration pose challenges for infrastructure and public services, in particular housing. The increase in the population since 2006 has exceeded the growth in the housing stock. Taking the period from 2006 to 2022, the population increased by just over 883,000 while the housing stock rose by just under 355,000. Moreover, the population at Census 2022 was around 42,000 higher than the most recent assumptions used by the Department of Housing, Local Government and Heritage to guide Housing Need Demand Assessments (HNDA) at local authority level.⁴² These demographic scenarios are used as inputs to support the objectives under the National Planning Framework.⁴³ As shown in Table 1, the actual population in Census 2022 was 42,000 higher than the baseline demographic scenario and 34,000 higher than the high migration scenario. It is important to note that there is unavoidable uncertainty around long-term projections for the population and deviations of the actual population from projection scenarios in individual years are to be expected. Moreover there is particular uncertainty in the current circumstances around the outlook for Ukrainian immigration – both the scale of future inflows and whether those who arrive in Ireland are likely to stay for an extended period.

⁴⁰ See <https://www.gsb.stanford.edu/faculty-research/working-papers/contribution-high-skilled-immigrants-innovation-united-states>

⁴¹ See Barrett and Goggin (2010). “[Returning to the Question of a Wage Premium for Returning Migrants.](#)”

⁴² See <https://data.gov.ie/dataset/esri-population-projections-by-local-authority>

⁴³ See <https://npf.ie/>

Nevertheless, the recent increase in population and rise in net inward migration points to the importance of achieving further progress in relieving existing bottlenecks in housing and other infrastructure. This is necessary to ensure that further increases in population and inward migration are facilitated in a sustainable manner and that the long-run benefits to the labour market and economy are fully realised.

Box F: Labour Market Indicator Dashboard

By Enda Keenan⁴⁴

The unemployment rate is one of the headline economic indicators used to assess the state of an economy. Since the onset of the pandemic, there have been a number of difficulties in interpreting unemployment data and other labour market indicators given that the measurement methodologies were not designed to reflect distortions introduced by the pandemic, which remain ongoing ([Byrne and Keenan, 2020](#)). Aside from the pandemic-related distortions, a potential drawback in only using the unemployment rate to assess the labour market is that it does not capture movements of workers outside of the labour force, which has driven the recent expansion in employment levels ([Boyd et al, 2022](#)). This employment growth was not mirrored by a proportionate fall in the unemployment rate, but rather it occurred in tandem with large changes in the labour force participation rate. As the labour market is multifaceted with various measures gauging specific dimensions of activity, it is not uncommon for different indicators to exhibit conflicting signals. This *Box* presents a dashboard of 27 indicators covering several dimensions of the labour market including employment, unemployment, participation, vacancies and earnings, and their current deviation relative to an estimated long-run trend to provide a wider assessment of the current labour market.

⁴⁴ Irish Economic Analysis Division

A Hodrick-Prescott (HP) filter⁴⁵ is applied to the log form of each seasonally-adjusted labour market indicator series from Q1 1998 to Q2 2022, where available, to extract the trend of each series.⁴⁶ A Z-score is then calculated for each variable to assess how many standard deviations the latest observation is below or above the respective estimated trend to potentially signal a tighter or looser labour market. For instance, if the unemployment rate indicator shows a negative value, then the current actual rate is below the estimated trend. If measures of labour market activity such as total hours worked or labour force participation rates (LFPR) return positive values then they are indicating values above the estimated trend. As positive and negative values within the dashboard can be suggestive of a well-functioning labour market, indicators in blue are those where the deviation from trend indicates a tighter labour market, while those in orange suggest weaker conditions.

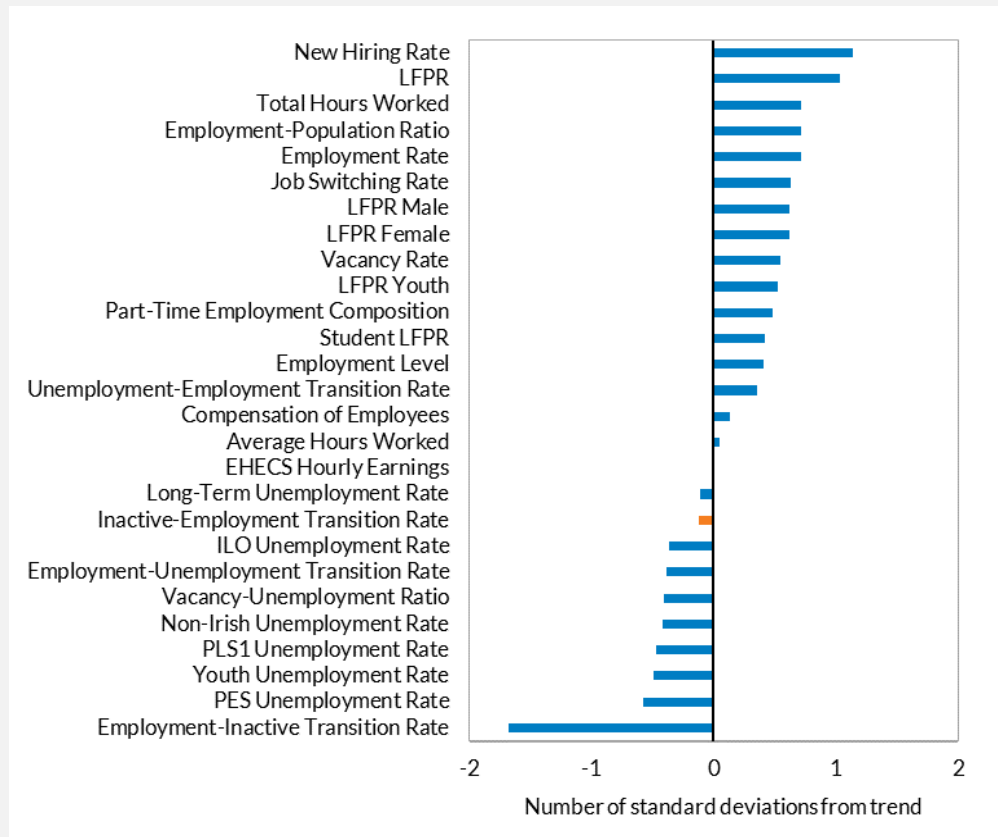
The dashboard results for Q2 2022 shows the new hiring rate and the job-switching rate above trend. Activity measures such as LFPR for each gender and demographic group all display positive values (Figure 1). A complementary narrative is evident from the negative values shown in the various measures of labour slack such as the unemployment rate and the long-term unemployment rate. The vacancy-unemployment rate, which indicates the number of unemployed persons available per current job vacancy in the economy, displays a negative value reflecting the elevated degree of labour demand as the pandemic recovery continues across sectors. Measures of income such as EHECS Hourly Earnings and Compensation of Employees appear relatively close to their trend values with little evidence yet of stronger than expected wage developments. Earnings and wages may be a lagging indicator with respect to ongoing inflationary developments and mismatches in labour supply and demand so it is imperative to continue monitoring these developments. The inactivity to employment transition ratio was the only indicator to record a value that would suggest weaker than estimated labour market conditions; however, this may reflect a normalisation of the series following several quarters of large movements into employment by inactive persons.

⁴⁵ This is a two-sided test using standard lambda value of 1,600. There has been marked criticism of the HP filter by [Hamilton \(2017\)](#) related to fitting of trends despite the existence of possible structural breaks that may occur in long-run data. An alternative Hamilton filter technique uses linear projections to derive deviations from trends. A number of studies compare the two techniques with the endpoint stability favouring the HP process ([Astofli et al. 2019](#)).⁴⁵ Both techniques were originally estimated for this analysis with the HP filter selected as the optimal.

⁴⁶ Where data are available, Q1 1998 is the starting point. Vacancy rate series derived from EHECS data begin in Q1 2008.

Majority of indicators point to the labour market performing above trend

Figure 1: Labour Market Indicator Dashboard (Q2 2022)



Source: CSO and author’s calculations

Note: Blue bars indicate tight labour market conditions while orange bars signal weakness in an indicator

The HP filter approach is repeated for two contrasting recent periods, one just prior to the pandemic and the other at the height of the health restrictions, in order to highlight how the dashboard can change depending on the state of the labour market at different points in time. During the pandemic period, the majority of the variables indicated weakening conditions (Figure 2). Labour activity measures such as total hours worked and youth LFPR were notably below the calculated trend. This is expected due to the impact of health restrictions on various sectors of the economy while younger workers experienced a disproportionately greater separation from employment than other age groups (Coates et al, 2020). Average hours worked appears above trend due to the large compositional effects that occurred during this period where many part-time workers transitioned out of employment altering the breakdown of the sample. Measures of labour slack and transition rates from employment towards both unemployment and inactivity appear expectedly above the calculated trend. The period

prior to the pandemic was consistent with an economy approaching levels of full employment as the unemployment rate had then declined to below 4.5 per cent. The labour market was on a steady recovery from the aftermath of the global financial crisis and, as such, the standard deviation measures are notably lower than the pandemic period. (Figure 3). The job-switching rate was notably above trend, while the transition rate of workers towards unemployment was below estimated values.

Initial pandemic shock reduced labour activity substantially

Figure 2: Labour Market Indicator Dashboard (Q2 2020)

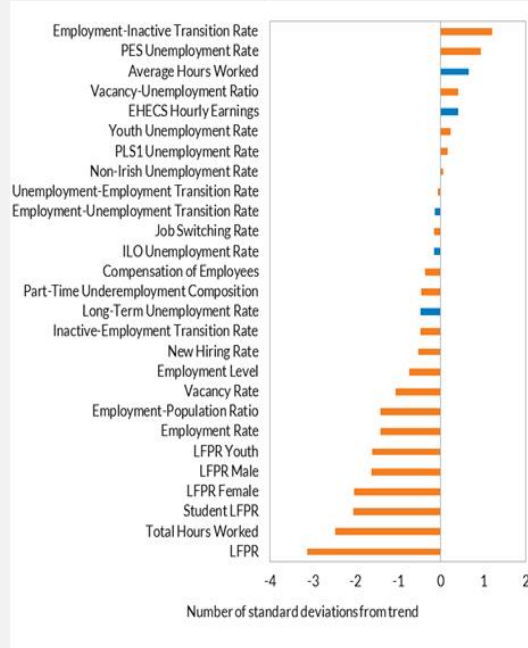
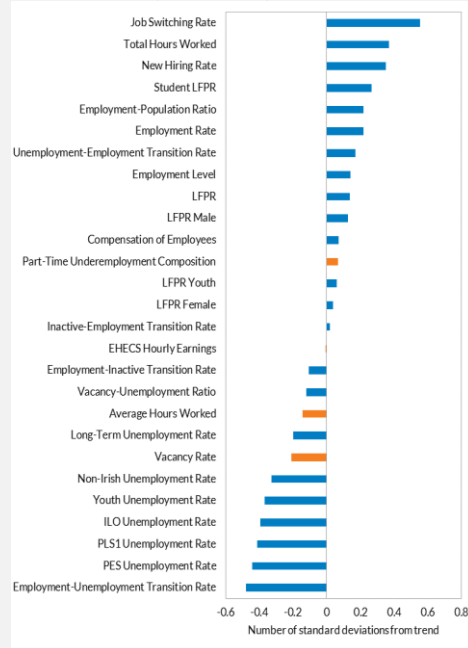


Figure 3: Labour Market Indicator Dashboard (Q4 2019)



Source: CSO and author’s calculations

Source: CSO and author’s calculations

Note: Blue bars indicate tight labour market conditions while orange bars signal weakness in an indicator

As many labour market variables begin to normalise in the coming quarters following pandemic-related distortions and the effect of support schemes, the magnitude of the deviations from trend would be expected to reduce with the overall dashboard returning closer to the position in Q4 2019. A number of labour market indicators such as the female LFPR have exceeded their long-term trend following the disruption during the pandemic period (Boyd et al, 2022), though it may be too early to state the existence of structural breaks in labour market indicators caused by changing working practices post-pandemic. While headline or individual indicators may be limiting in the level of detail provided, observing a wider set of variables on labour activity and measures of slack can be important for many purposes.

These include potentially recognising the need for targeted labour market programmes for particular cohorts if they consistently show a divergent trend from other groups and identifying the potential for upward wage pressures arising from a disequilibrium between labour demand and supply indicators.

The Public Finances

Overview

While the outlook remains surrounded by considerable uncertainty, the public finances are expected to improve significantly this year and to continue to strengthen over the medium term. The general government balance (GGB) is now forecast to move from a deficit of €7.0bn in 2021 to a surplus of €1.5bn this year (or -3.0 per cent to 0.6 per cent of GNI*). This improvement is driven by the positive impact of economic recovery on revenue growth and a surge in corporation tax receipts, factors that more than offset further increases in expenditure - including the large package of cost of living supports introduced in last month's Budget. Under the assumption that economic activity remains resilient, and the growing number of temporary spending measures are withdrawn as planned, the GGB is forecast to increase to €9.8bn (or 3.2 per cent of GNI*) by 2024. These supportive factors are partly offset by ongoing strong growth in core expenditure. Excluding the favourable impact of windfall corporation tax receipts, it is estimated the budget balance would remain in deficit this year and next, but would run a small surplus in 2024.

Alongside the budgetary plans that had previously been outlined in July's Summer Economic Statement, the Government introduced significant cost of living supports in Budget 2023 that affect the fiscal position this year. A total Budget package of €11bn was introduced, €6.9bn of which represented new permanent (or core) fiscal measures (€5.8bn of additional expenditure and €1.1bn of new revenue measures). Cost of living supports, which are temporary and expected to drop out of the expenditure base, are expected to cost €4.4bn in gross terms in 2022 and early 2023.

The temporary cost of living measures announced in Budget 2023 are more targeted than those introduced earlier this year (Table 5). The majority of the temporary cost of living package in Budget 2023 is comprised of expenditure measures (€2.7bn) with tax measures of €1.7bn (including the Business Energy Support Scheme) making up the remainder. Targeted measures include additional welfare and fuel allowance payments to households, while measures such as the three electricity credits (costing €1.2 billion) and additional child benefit payments are untargeted. Overall, we estimate that approximately 40 per cent of the cost of living package in Budget 2023 is targeted with the remainder available more generally to all relevant households and businesses. The proportion of targeted measures in the cost of living package in Budget 2023 is higher than for the measures announced earlier in 2022, for which we estimate around 11 per cent was targeted. Effective targeting of supports improves the efficiency of spending by ensuring it reaches households and businesses most affected by high inflation. The temporary, once-off nature of the cost of living package mitigates the risk of the fiscal measures adding excessively to medium-term inflation.

Table 5: The Cost of Living package in Budget 2023 is more targeted than previous measures

Measures	€mn
Electricity credits	1,200
Weekly Welfare Schemes double week	316
Fuel allowance lump sum	149
Carers/Disability lump sum	175
Living alone lump sum	46
Working family lump sum	23
Double child benefit payment	170
3rd level fee reduction	106
Double SUSI student payments	19
Student assistance fund	8
Department of Enterprise grants	200
Support for other sectors/services	340
Business energy support	1,200
One off tax measures	500
Total	4,452
<i>Estimated percentage targeted</i>	40%
CoL measures Jan-October 2022	1,326
<i>Estimated percentage targeted</i>	11%

Source: Budget 2023, Central Bank of Ireland calculations

Note: This table reflects measures announced during 2022 and excludes measures included in Budget 2022.

The general government debt 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 forecast to decline to 84.6 per cent this year before falling further to around 75 per cent in 2024. The favourable debt dynamics reflect both the very strong anticipated growth rate of the economy and the primary budget balance's return to surplus. While Irish sovereign borrowing rates have followed a broad upward trend this year, 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 funding flexibility. This was evident in the NTMA's decision to reduce planned debt issuance in the second half of the year.

The fiscal outlook has improved significantly 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 a much stronger than expected inflow of tax receipts in recent months. These receipts more than offset the additional expenditure outlined in Budget 2023. At the same time, the strength of corporation tax revenue highlights the exchequer's continued reliance on a very narrow tax base. The current high inflationary environment raises risks to government spending as delivering a set level of real expenditure will require higher nominal spending. Furthermore, more general medium term structural uncertainties related to government spending pressures such as climate action and ageing will intensify over time.

Table 6: Fiscal outlook under a baseline scenario (per cent of GNI* unless otherwise stated)⁴⁷

	2021f	2022f	2023f	2024f
GG Balance (€bn)	-7.0	1.5	6.9	9.8
GG Balance (% GNI*)	-3.0	0.6	2.4	3.2
GG Balance (% GDP)	-1.7	0.3	1.3	1.7
GG Balance ex CT windfalls (% GNI*)	-5.1	-2.8	-1.1	0.3
GG Debt (€bn)	235.9	224.8	223.1	227
GG Debt (% GNI*)	100.8	84.6	78.0	74.5
GG Debt (% GDP)	55.3	45.2	41.4	39.4

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

⁴⁷ Estimate of windfall corporation tax receipts is taken from Budget 2023 documentation. The amounts are €5bn in 2021, €9bn in 2022, €10bn in 2023 and €9bn in 2024.

Fiscal Outlook, 2022 to 2024

Against the backdrop of rapid revenue growth, the general government balance (GGB) is expected to improve significantly once again in 2022 (see Table 6). The GGB is forecast to strengthen from a deficit of €7.0bn last year to a surplus of €1.5bn (or -3.0 per cent to 0.6 per cent of GNI*).⁴⁸ Such an outturn would represent a strong recovery from the pandemic driven deterioration that the public finances experienced in 2020.

The economic recovery is having a significant impact on revenue growth, which is also supported by a surge in corporation tax receipts. Revenue growth of just under 15 per cent is expected this year, led by developments in direct taxes. Corporation tax receipts have surged this year, increasing by 68 per cent (€4.8bn) on an annual basis in the year to August. This appears to reflect increased profitability in the multinational sector and it now seems likely that corporation tax receipts will surpass €20bn for the first time in 2022. To put this figure in context it would be almost double the level of receipts experienced in 2019. Income tax and VAT receipts - while broadly in line with expectations - also recorded high annual growth in the year to August (16 and 24 per cent respectively) reflecting the strong performance of the labour market and nominal consumption respectively. Excise receipts have declined modestly due to the reduction in fuel duty. The pace of tax revenue growth may moderate in the second half of the year as economic activity slows, while Exchequer receipts have also been boosted by the impact of tax warehousing.⁴⁹

Developments in government expenditure are driven by diverging trends in permanent and temporary spending measures. Total government spending is now projected to grow by 5.7 per cent this year. Despite the introduction of additional temporary cost of living measures in Budget 2023, total 'temporary' spending is expected to decline this year - from €12.4bn to €9.3bn - as the cost of providing pandemic related support declines. In gross terms, Budget 2023 introduced €2.7bn of new cost of living expenditure measures, including electricity credits, a range of social welfare supports and enterprise grants.⁵⁰

⁴⁸ The outturn in the general government balance last year was revised down to a deficit of €7.0bn in the Budget 2023 documentation, from a previous estimate of -€8.1bn.

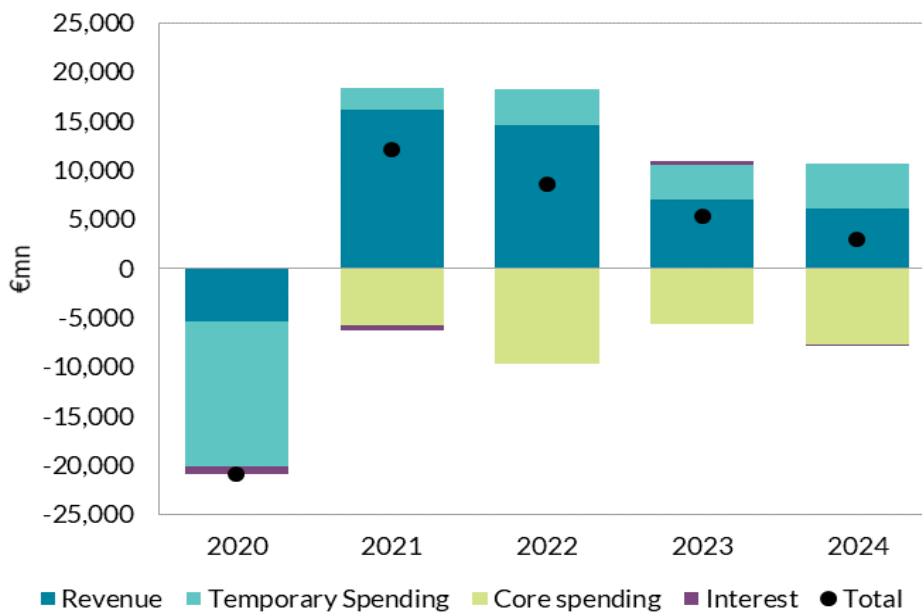
⁴⁹ In general government terms, these warehoused receipts are accrued back to the year in which they were due to be paid, reducing revenue for the year.

⁵⁰ It remains unclear whether the Temporary Business Energy Support Scheme introduced in Budget 2023 will be treated as a revenue or expenditure measure.

When revenue measures are also included this brings total cost of living supports introduced this year to €5.8bn (see Table 5). Core – or permanent – primary government spending, by comparison, is expected to grow strongly this year, underpinned by measures introduced in last year’s Budget.⁵¹ Gross voted spending was broadly on target in the year to August, with weaker than expected capital expenditure offset by above profile current spending.

Deficit improves over medium term as temporary spending declines

Figure 56: Change in general Government balance by component



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

The improvement in the budget balance is projected to continue over the medium term, underpinned by strong economic growth and the withdrawal of most of the remaining temporary supports. The general government surplus is projected to increase to €6.9bn (or 2.4 per cent of GNI*) next year, before strengthening further to €9.8bn (3.2 per cent of GNI*) in 2024. Total government spending growth is projected to moderate over the medium term – to just 2.8 per cent in 2024 – as a decline in temporary spending partly offsets growth in core expenditure. Almost all of the remaining Covid-19, humanitarian and cost of living related supports are expected to be withdrawn by the end of the projection horizon, directly reducing spending by €8.6bn (2.8 per cent of GNI*) compared to 2022. The government has some flexibility with

⁵¹ Budget 2022 introduced €4.2bn in new expenditure measures for this year, €3.1bn of additional current spending and €1.1bn of new capital spending.

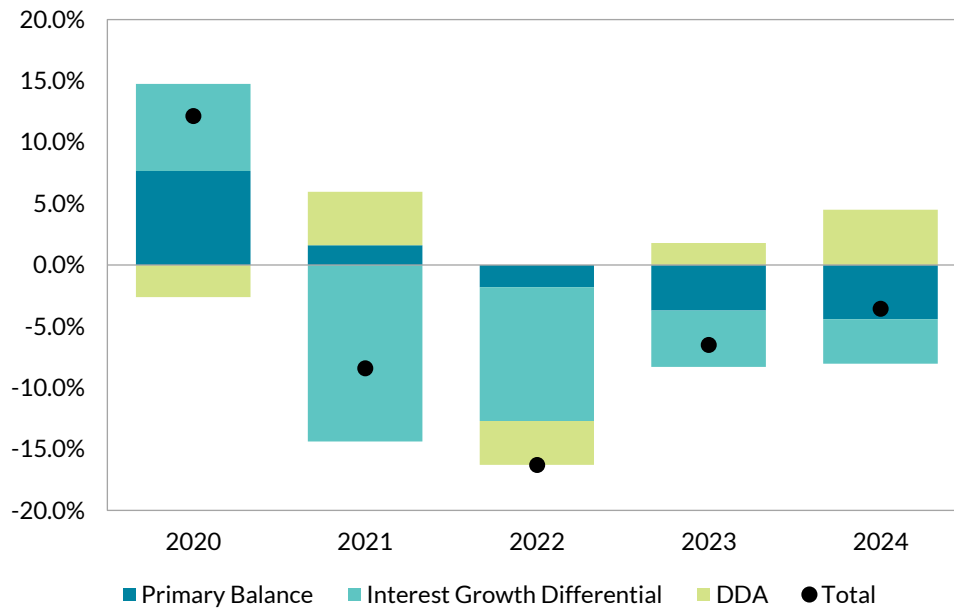
regards to ‘non core’ spending next year, with around 60 per cent of the amount budgeted yet to be allocated to Departments. Core spending remains strong, underpinned by the permanent measures introduced in Budget 2023 and the Government’s Medium Term Expenditure Strategy thereafter. Budget 2023 increased core spending by €5.8bn (2.0 per cent of GNI*).⁵² Revenue growth moderates to 6.2 and 5.1 per cent in 2023 and 2024 respectively, with the anticipated negative impact of international tax reforms on corporation tax receipts weighing somewhat on total receipts. Despite this, both direct and indirect tax receipts are expected to continue to perform strongly against the backdrop of robust consumption and employment growth. Excluding what are estimated to be ‘windfall’ corporation tax receipts, the budget balance would record a deficit next year, before moving to a modest surplus in 2024. This highlights the significant role that the tax head has played in supporting the fiscal recovery.

The withdrawal of measures that are designed to be temporary in nature plays a key role in driving the evolution of the budget balance over the projection horizon. With the size and number of these measures increasing in Budget 2023, ensuring that elements of what are planned to be temporary measures do not become permanent will be a challenge for Government over the medium term. The provision of more timely information on temporary spending as it occurs during the year would also facilitate a more accurate assessment of fiscal developments. Similarly, more timely information on the amount of spending undertaken from unallocated contingencies contained in the budget would allow for an improved assessment of the public finances.

⁵² This €5.8bn in additional spending is broken down in to (i) €1.9bn to maintain the existing level of services, (ii) €1.4bn for the new public sector pay deal, (iii) €0.8bn for additional capital spending and (iv) €1.8bn for new measures.

Debt ratio declines over medium term but remains at elevated level

Figure 57: Change in debt to GNI* ratio by component



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

Favourable debt dynamics are expected to lead to a significant decline in the public debt ratio, which nevertheless is expected to remain at an elevated level. Reflecting a stronger than expected outturn in GNI* the gross debt ratio entered this year at just over 100 per cent. This is projected to fall to 74.5 per cent of GNI* by 2024, well below its pre pandemic ratio, although in nominal terms it will still be €23bn above its 2019 level. While market interest rates are rising, they remain lower than the rates paid on the majority of the government bonds that will mature in the coming years.⁵³ Furthermore, the effective interest rate – which is the average rate on the entire debt stock – is expected to remain considerably lower than GNI* growth maintaining the very favourable interest growth differential of last year (see Figure 57). The return to primary surplus also means the primary balance has a favourable impact on the debt ratio from this year onwards.

The NTMA set a funding plan last December to issue between €10bn and €14bn of bonds this year, of which €7bn was raised by early September. This funding plan was put in place when the Exchequer was expected to run a large

⁵³ Three government bonds are set to mature over the projection horizon, with yields of 0.0 per cent (2022), 3.9 per cent (2023) and 3.4 per cent (2024). There is also a bond maturing in 2025 paying a yield of 5.4 per cent. As these yields remain above current interest rates, rolling them over could actually reduce the effective (average) interest rate.

deficit in 2022. With a more favourable budgetary outturn now expected, the NTMA has reduced its planned debt issuance in the second half of the year. The most recent bond issuance - €1.25bn raised in September - occurred at a notably higher rate than a year earlier.⁵⁴ The NTMA, nevertheless, has very significant cash and other liquid assets to hand (€35.5bn or 14 per cent of GNI* at the end of August) and coupled with Ireland's relatively long maturity profile - €20bn of government bonds are set to mature between now and end-2024 - provides funding flexibility over a less certain medium term environment.

⁵⁴ The NTMA issued a 0.35 per cent bond maturing in 2032 and a 1.5 per cent bond maturing in 2050 at yields of 2.2 and 2.6 per cent respectively in September. By comparison they issued a 0 per cent bond maturing in 2031 and a 0.55 per cent bond maturing in 2041 at yields of 0.02 and 0.55 per cent respectively in September 2021.

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.



Household Economic Resilience

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Abstract

How are households coping with high inflation in 2022? We show that, while many households remain resilient, fragilities exist. Increases in food and energy prices alongside rising rents have a much greater impact on household finances than interest rate increases on variable rate mortgages. This reflects the smaller share of mortgage interest in household expenditure relative to food and energy, among other factors. In a ‘severe’ scenario involving further price increases for essentials, our analysis shows that households in a more precarious financial position with limited savings buffers (around 15 per cent of all households) would see 44 per cent of their disposable income used for spending on *just* this limited set of items. Targeted, temporary supports for more exposed households will support consumption of essential goods and services until price rises abate and/or real incomes rise.

⁵⁵ Irish Economic Analysis. With thanks to Rob Kelly, Martin O’Brien, Thomas Conefrey, Rea Lydon, Daragh Clancy and Barra Roantree for comments and to the ICW team in the CSO for granular data access. Remaining errors are our own. The views expressed here do not necessarily reflect the views of the Central Bank of Ireland nor the European System of Central Banks. Corresponding author: tara.mcindocalder@centralbank.ie

Introduction

Irish households have faced two unexpected economic shocks in recent years: first the pandemic and now high inflation. Inflation is expected to remain high throughout 2022. Given the scale of the price increases, nominal incomes will likely only adjust gradually. This raises questions surrounding the economic resilience of households and the associated macroeconomic implications, which we answer in this *Article*. From the perspective of central banks, resilience is important for a number of reasons. Financial resilience, related to household indebtedness, is important for financial stability. Economic resilience, related to household income, spending and wealth alongside indebtedness, influences aggregate consumption, saving and investment.

We begin by establishing the economic position of Irish households in 2020 – that is prior to the high inflation shock – and show how this varies at different points in the *joint* income, consumption and wealth (YCW) distribution. We then describe the likely impact of price driven increases in expenditure. We do this in three steps. First, we use the YCW framework to categorise households into four groups based on their ability to meet expenses, their assets and their ability to save. Second, we identify three measures of economic resilience, which include a measure of households' spending on “essentials” (limited here to food, energy and rent or mortgage interest) out of disposable income, indebtedness and savings buffers. Third, we simulate household spending and income forward to 2022 and run two cost of living scenarios to assess the impact on economic resilience.

We show that the economic resilience of Irish households improved on average and across the YCW distribution, both up to and during the pandemic, as a result of incomes growing faster than spending between 2018 and 2020. However, our analysis shows that households are not equally exposed to consumer price increases. While the most economically precarious households spend roughly two fifths of their disposable income on essentials, the most affluent spend around a quarter. We also find that increases in food, energy and rent prices have a much greater impact on household finances than interest rate increases on variable rate mortgages, reflecting the smaller share of household expenditure spent on mortgage interest. Ultimately, whilst many households (over 85 per cent) are fairly resilient to cost of living increases, fragilities remain. This is especially true for those who simultaneously report that they spend all

their income on regular basics, including large portions of their income on food and energy and have low levels of liquid savings (approximately 15 per cent of households). These households are dissavers, more indebted and have lower incomes. They are also more likely to be younger, female-led, unemployed or working within the home, and less likely to be owner-occupiers than more affluent households.

The remainder of this *Article* is structured as follows. Section 2 describes the key stylised facts on the distribution of net wealth (defined as gross wealth minus debt) in 2020. Section 3 considers household spending and how exposed Irish households are to price increases on items that are not easy to substitute or defer spending on, such as food, energy and housing. In Section 4, we categorise households according to their *joint* YCW distribution economic resilience. We also describe three measures of economic resilience. Section 5 presents the results of our cost of living simulations. Finally, Section 6 concludes.

Household Net Wealth

The median net wealth of Irish households in 2020 was €193,100 (CSO-HFCS, 2020).⁵⁶ However, net wealth differs across age, home-ownership and education (Appendix Table A1). Households where the responding adult is over 45, owns their home, is employed (or receiving private retirement income) or has tertiary education have net wealth above the median.

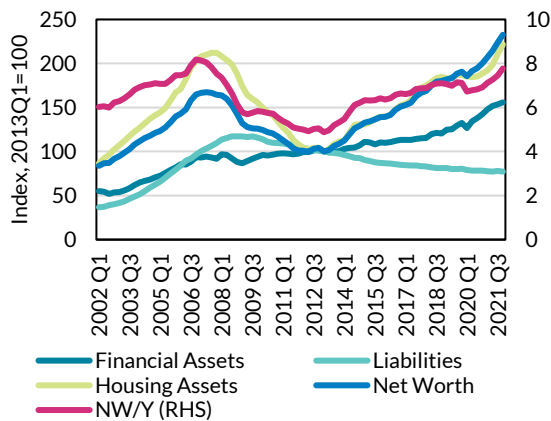
In aggregate, household net wealth in Ireland has increased substantially since the first wealth survey in 1987 ([Callan, Nolan and Whelan, 1993](#)) and since the first HFCS was conducted in 2013 ([CSO, 2015](#)). Looking at developments over the different waves of the HFCS, 2013 was a net wealth low point for households. This nadir followed the financial crisis in 2008 and associated falls in the price of real assets (namely housing) which dwarfed the deleveraging households undertook after 2008 and that continues to the present (shown by the falling liabilities in Figure 1). Since then, net wealth has increased steadily. The same is true for the ratio of net wealth to income (NW/Y), which can be interpreted as a price-to-earnings ratio calculated for households. As asset

⁵⁶ For more information on the survey, see the CSO's [2022 publication on the HFCS 2020](#). HFCS 2020 marks the first time that data was supplemented with administrative data from the Central Bank's Central Credit Register (CCR). The 2020 data therefore represents a break in some HFCS time series, particularly those related to household debt. Other HFCS metrics on household income and consumption are less affected.

prices vary more than liabilities, they are the main driver of fluctuations in the NW/Y ratio ([Diwan, Duzhak and Mertens, 2021](#)).

Both real and financial asset prices drive changes in the net wealth profile of Irish households, in aggregate

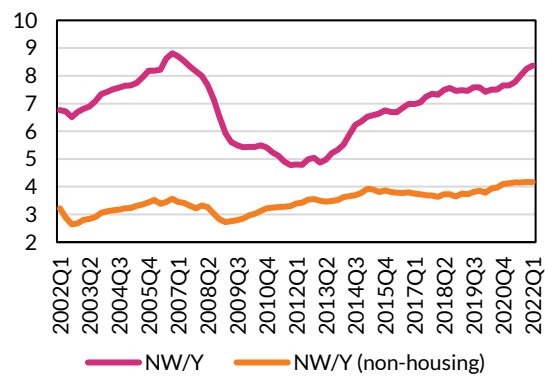
Figure 1: Household net wealth to gross disposable income and indices of components



Source: CSO, Central Bank of Ireland and authors' calculations.

Aggregate net wealth dominated by property price changes

Figure 2: Aggregate and non-housing net wealth as a share of disposable income



Source: CSO, Central Bank of Ireland and authors' calculations.

In Ireland, both real and financial asset price changes play a role in determining the net wealth of households relative to their income level, and it is the increase in the prices of both which has driven the growth in net wealth in recent years. In aggregate, house prices (representing the large majority of real assets) dominate (Figure 2) but the value of the financial assets held by Irish households has also increased fairly steadily from 2009 (orange line in Figure 2). This has continued throughout most of the recent period.

While increases in both real and financial asset prices have contributed to the growth in aggregate net wealth, individual households differ substantially in their choice of assets and in how these assets are financed. For example, households at the top of the net wealth distribution hold relatively more financial than real assets and are substantially less leveraged than households in the middle and bottom of the wealth distribution. Nevertheless, real estate dominates, comprising over two thirds of total assets for all net wealth groups.

The growth in aggregate net wealth observed since 2013 has been accompanied by changes in the share of wealth owned across the wealth distribution. As shown by Table 1, all but the top 20 per cent of households have experienced an increase in their share of net wealth between 2013 and 2020. This has resulted in a reduction in the overall Gini coefficient on net wealth.

Table 1: Net wealth shares across the wealth distribution (%) and Gini coefficient, 2013-2020

	2013	2018	2020
1 st and 2 nd quintiles	-2.1	2.7	3.1
3 rd quintile	9.2	9.9	11.1
4 th quintile	20.1	19.4	20.8
5 th quintile	72.7	67.8	65.2
Gini (net wealth)	0.75	0.67	0.65

Source: CSO and authors' calculations.

The underlying mechanisms of this change relate to differences in portfolio composition and the reduction of property negative equity, which is of particular importance for the bottom two quintiles ([Lydon, Horan and McIndoe-Calder, 2020](#)). Financial asset price changes for wealthier households and borrowing to facilitating asset acquisition for middle wealth households have also played a role.⁵⁷

Household Spending

A key factor typically influencing the level of spending by households on goods and services is prices. Economists refer to this as the price elasticity of demand for a good or service: the change in the quantity demanded due to a unit change in the price level. However, for some goods and services, the price elasticity of demand is low due to households being unable to easily substitute or defer this spending ([Anderson et al., 1997](#)). For example, food, energy and housing services (interest payments on mortgages and rent payments) fall into this category.⁵⁸ In this *Article*, we group and define these four items as “essential goods and services”.⁵⁹ This is a narrow definition of essential consumption, excluding much spending that households may – rightly – view as similarly necessary. Table 2 shows median spending on a wider set of goods and services, including the principle portion of mortgage repayments and a catch-all category for other regular spending, which includes childcare costs,

⁵⁷ Arrigoni, Boyd and McIndoe-Calder (forthcoming) discuss and explore these mechanisms in more detail.

⁵⁸ HFCS includes a question on household spending on utilities (such as electricity, water, gas, telephone, internet and television). HBS 2015 shows that across the income distribution households spend between 48 and 52 per cent of their total utilities spending on gas and electricity. We assume 51 per cent of utilities spending relates to gas and electricity in HFCS 2020.

⁵⁹ While the HFCS contains less detailed and less accurate spending information than the Household Budget Survey (HBS), it provides a reasonable benchmark for the relative spending of households across the YCW distribution. This is primarily due to its timeliness. HFCS data are available for 2020 whereas the last HBS was carried out during 2015 and 2016. See also [Le Blanc and Lydon \(2019\)](#) which shows that the HFCS estimates of spending on individual items is a close match for HBS.

non-energy utilities, etc. In our definition of essentials, we exclude the principle paid off against a mortgaged property, as this represents a household accumulating an asset or saving (rather than consuming). In addition increases in interest rates do not affect the principle payment but rather the cost to service the debt. Rental costs on the other hand are included as household consumption. We focus on this narrow definition of spending in the scenario analysis in Section 5, acknowledging that this does not include other important household spending.

We use non-equivalised disposable income in examining how household spending relates to available household income. Income equivalisation accounts for differences in household size and composition. It is useful when data on spending is unavailable ([EUROSTAT](#), 2020). However, in our case, the HFCS provides total household spending data.

Table 2: Median nominal spending on regular and essential goods and services, 2013-2020 (monthly)

	Food	Energy	Rent (for those paying rent)	Mortgage payments (for those with mortgages)			Other regular consumption
				Interest	Principle	Interest and Principle	
2013	€650	€102	€500	€298	€480	€874	€264
2018	€652	€137	€583	€281	€533	€844	€469
2020	€652	€138	€628	€235	€627	€895	€481
Change: 2018 to 2020	0%	0.7%	8%	-17%	18%	6%	3%

Source: CSO - HFCS, SILC; and authors' calculations.

Note: Food includes food consumed at home and outside of the home. The latter accounts for under a fifth of food spending for the median household, consistent with its share in food spending in 2018 and up from 13 per cent in 2013.

Household spending on essentials

The HFCS 2020 fieldwork occurred between July 2020 and January 2021. Pandemic restrictions during this time may have impacted household spending, as Table 3 shows. Monthly consumer spending on regular items (which includes food and energy as well as other non-durable consumption such as childcare, health, and travel) across households was down 4.1 per cent in 2020 compared with 2018.

In contrast, the data shows that monthly spending on all essentials – using our narrow definition – was up only marginally, by around 3 per cent in 2020 compared to 2018. For example, there was little difference in the nominal level of spending on food and energy in 2020 compared with 2018, a change of 0 and

0.7 per cent at the median, respectively. This is consistent with the assumption that these goods can be considered *essential*. Households continued to spend on these items during the pandemic – at pre-pandemic levels – despite total regular spending falling.

Table 3: Median nominal spending (on regular and essential goods and services) and average income, 2013-2020 (monthly)

	Regular consumption ¹	Food, energy, rent and total mortgage payments ²	Essentials (food, energy, rent, mortgage interest) ²	Disposable income ³
2013	€1,200	€1,172	€1,026	€3,586
2018	€1,400	€1,137	€1,042	€4,423
2020	€1,343	€1,232	€1,071	€4,900
Change: 2018 to 2020	-4%	8%	3%	11%

Source: CSO – HFCS, SILC (income only); and authors' calculations.

Note: ¹ Regular consumption is defined as: recurrent household spending on all non-durable consumer goods and services. It includes all household expenses (food, utilities, etc.) but excludes consumer durables (e.g. cars, household appliances, etc.), rent and housing payments, loan repayments, insurance policies, renovation, etc.

² Food includes food consumed at home and outside of the home. The latter accounts for under a fifth of food spending for the median household, consistent with its share in food spending in 2018 and up from 13 per cent in 2013.

³ SILC disposable income, mean. SILC disposable income used here as comparable disposable income figures unavailable for 2018 and 2013 HFCS. HFCS 2020 disposable income (which compares well to SILC income) used for all other income metrics in the *Article*.

For households with mortgage debt, median debt interest payments were 17 per cent lower in 2020 than in 2018, reflecting the deleveraging households underwent over this time period as well as falling mortgage interest rates (Table 2). The principle component of mortgage repayments increased in value between 2013 and 2020 by an offsetting amount (18 per cent). This reflects a number of factors including higher values of house purchases for new buyers over the period and existing borrowers increasing the relative size of their principle repayments as they move towards the end of their loan term (a mechanical characteristic of the amortisation process). Rents were up around 8 per cent at the median, reflecting strong rental increases between 2018 and the start of the pandemic. However, household incomes (in nominal terms) were up substantially (11 per cent on average) over the same period to reach €4,900 (CSO, 2022).⁶⁰

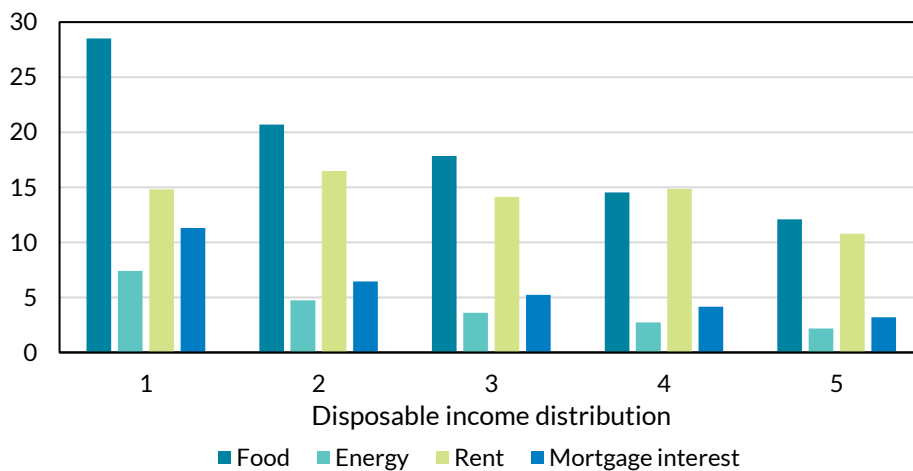
⁶⁰ The Survey of Income & Living Conditions' (SILC) is the official income source in Ireland, but the income reference periods between SILC and HFCS are not the same. The SILC reference period is the 12 months preceding the survey year, while the HFCS reference period is the 12 months immediately preceding the date of interview.

Essentials spending across the income distribution

The share of disposable household income spent on essential goods and services (as defined in this *Article*) differs across the income distribution.⁶¹ This means that households' ability to meet price increases for essentials out of current income depends on their position in the income distribution. Figure 3 shows spending on essentials is falling, as a share of disposable income, across the distribution for three of the four spending categories (food, utilities and mortgage interest).⁶² Considering renting households, Figure 3 also indicates that the share of income spent paying rent is increasing between the first and second quintiles, flat in the middle, and still close to one tenth of disposable income for higher income households. Meanwhile, for those with mortgages, mortgage interest payments as a share of income generally falls across the income distribution.

Households at the bottom of the income distribution spend a larger share of their income on essentials than households at the top of the distribution

Figure 3: Share of disposable income spent on essentials by income group in 2020, % (median)



Source: CSO and authors' calculations.

Note: Disposable income used to calculate spending shares and income quintiles. Rent and mortgage interest payments share in income is conditional on households either paying rent or having a mortgage on their home, respectively.

Households at the bottom of the income distribution spend over 44 per cent of disposable income on essentials, while households at the top of the distribution

⁶¹ HFCS provides information on household income (market income plus transfers) gross of taxes and other social contributions. We use a tax-benefit model ([Lydon and McIndoe-Calder, 2017](#)) to calculate household disposable income. Across the income distribution our calculated disposable income matches the CSO's SILC data well.

⁶² Absolute values of spending in these categories are rising in income (Arrigoni, Boyd, McIndoe-Calder 2022).

spend less than one fifth. Given that consumer price increases in 2021 and 2022 have been particularly large for energy and food items, this implies that lower income households are more exposed to the ongoing inflationary pressures.⁶³

Whilst all households spend on food and energy, spending on housing services depends on whether a household pays rent, services a mortgage or owns their home outright. It is therefore, important to be mindful of differences in tenure across the income distribution. The HFCS shows that over half of households in the lowest quintile own their own home outright whereas in the fifth quintile, only 36 per cent do (Table 4). Just under 8 per cent of households in the lowest income quintile have a mortgage compared to 51 per cent of households in the fifth quintile. This highlights that, households at the lower end of the income distribution are more exposed to increases in the price of food, energy and rents than to changes mortgage servicing costs.

Table 4: Home-ownership, share of renting and mortgaged households across the income distribution, %

	Renting households	Owner occupier households - no mortgage	Owner occupier households - mortgage
1st	42.0	50.1	7.9
2nd	37.5	46.8	15.7
3rd	30.2	38.3	31.5
4th	20.2	34.0	45.8
5th	13.0	36.1	50.9
All	28.6	41.1	30.4

Source: CSO and authors' calculations.

Note: Disposable income used to calculate income quintiles.

Economic Resilience

Currently, real disposable income is being eroded by inflation (Figure 4). Falling real incomes mean that households must rely on other strategies to meet unexpected changes to their spending or income. In the first instance, households will typically spend more income (save less) or use their stock of available savings.⁶⁴ While Irish households are saving at a high rate (Figure 5 and [Saupe and Woods, 2022](#)), savings built up during the pandemic are falling. These aggregate trends are consistent with previous work by [Arrigoni, Boyd and McIndoe-Calder \(2022\)](#) which examined the financial buffers, in the form

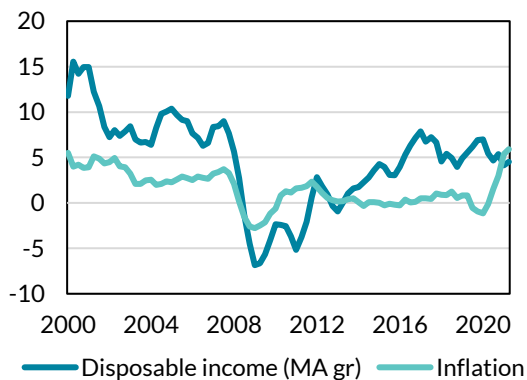
⁶³ This is consistent with [Lydon \(2022\)](#) which uses HBS spending data.

⁶⁴ HFCS shows that the most common strategy employed by households (43 per cent) in order to meet income shortfalls is to spend out of savings (Appendix Table A2).

of both savings and net liquid assets, accumulated by households during the pandemic. Their findings show that while many households were able to save substantially more than pre-pandemic, the buffers of some households (particularly those at the lower end of the income distribution) are more limited and may have already been drawn upon.

Real income is falling, whilst savings rate remains elevated

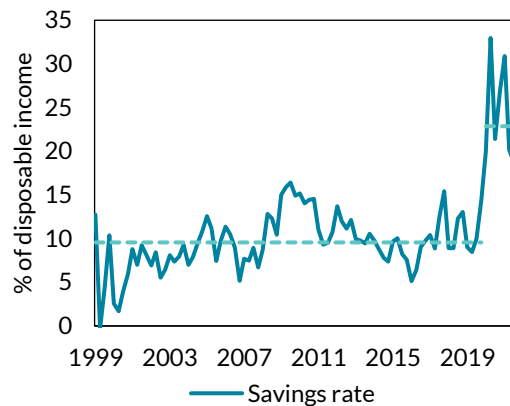
Figure 4: Nominal disposable and inflation, growth rates



Source: CSO

Note: Disposable income subtracts taxes, payments for interest, social and pension contributions and transfers. Growth rate for disposable income (4-quarters moving average).

Figure 5: Households savings rates and pre-pandemic average



Source: CSO Institutional Sector Accounts.

Note: Dashed lines are pre-pandemic (1999 Q1-2019 Q4) and post-pandemic (2020 Q1-2022 Q1) averages.

Joint Income Consumption and Wealth Distribution

We categorise households into four groups according to their *joint* income, consumption and wealth distribution, using HFCS 2020. This categorisation allows us to examine the economic resilience of households against shocks taking all available resources into account. This is important for understanding the effects of shocks for different groups of households and in turn, how the shocks affect aggregate outcomes of interest such as consumption, investment, financial stability, monetary policy transmission and the distribution of income and wealth. For example, differences between households have been shown to have implications for policy effectiveness ([Ahn et al., 2017](#), [Kaplan et al., 2018](#); [Auclert, 2019](#); [Kopiec, 2019](#)).⁶⁵

The measure of wealth used in our categorisation divides gross wealth into money held in savings accounts ('savings') and all other wealth. The distinction

⁶⁵ Evidence on this includes the role of financial buffers on the marginal propensity to consume out of additional income ([Jappelli and Pistaferri, 2014](#)) as well as the sensitivity of household exposure to interest rate changes and labour income fluctuations on the transmission of monetary policy ([Slacalek, Tristani and Violante, 2020](#)).

between liquid and illiquid wealth is important because the liquidity of net wealth affects the ability of households to finance expenditure out of accumulated assets ([Bayer et al., 2019](#)). For example, housing assets are illiquid in the short term, meaning that households are less able to use housing wealth than more liquid savings account balances to finance spending needs in the event of an unexpected real income shock. The HFCS confirms this. Using a measure describing how likely households are to adjust their spending if they were to experience an income shock, those with less liquid wealth adjust their spending more than those with more liquid wealth, all else equal.

The measure of consumption used is regular consumer spending on non-durables. As defined above, this includes expenditure on essentials (food, energy and housing) as well as other non-durable consumption such as childcare, health, and travel.

To implement the YCW framework we define four groups of households, based on the approach of [Kaplan and Violante \(2014\)](#).

1. *“Precarious, limited buffers”*: Households who cannot meet regular spending out of income (self-reported), savings or other wealth
2. *“Precarious, illiquid assets”*: Households who cannot meet regular spending out of income or savings, but do have other wealth
3. *“Affluent, not savers”*: Households who may not meet regular spending with income, but have savings of at least one month of regular spending
4. *“Affluent, savers”*: Households who can meet regular spending with income and can also save

The application of the YCW through the four groups of households described here is the first time the YCW framework has been applied to Ireland. The approach is beneficial as it allows us to harness the richness of the HFCS data in a more comprehensive manner than if the income, consumption and wealth distributions are assessed in isolation.

Reflecting the improvement in the economic environment between the 2013 and 2018, Table 5 shows the share of economically precarious households (both those with limited buffers and illiquid buffers) fell dramatically from 43 per cent of households in 2013 to one in four in 2018. This share fell further between 2018 and 2020 to just one in seven households. Fully 85 per cent of Irish households were able to meet regular spending out of income or liquid savings by 2020, indicating a significant improvement between 2013 and 2020.

On the other hand, over 14 per cent of households in 2020, equating to approximately 180,000 families, report that they already spend all their income on a regular basis, and have no savings.

Table 5: Share of households across the joint income, wealth and consumption distribution over waves of the HFCS, %

	2013	2018	2020
Precarious, limited buffers	26.6	6.7	5.7
Precarious, illiquid buffers	16.0	17.4	8.5
Affluent, not savers	24.6	34.5	32.5
Affluent, savers	32.7	40.0	53.1
All	100.0	100.0	100.0

Source: CSO and authors' calculations.

Between 2013 and 2018, a higher level of liquid buffers is the main factor behind the fall in the share of economically precarious households. During this period, the share of households with adequate liquid buffers to cover regular spending exceeded, by 2.5 times, growth in the share of households able to meet these expenses with income. However, between 2018 and 2020 this trend is reversed, with income growth driving the further decline in the share of economically precarious households.⁶⁶ Average annual income growth for HFCS households was over 5 per cent between 2018 and 2020, up from 4 per cent in the preceding five years and outstripping increases in regular expenditure since 2013.⁶⁷ As a result, fewer households are categorised as economically precarious in 2020 than 2018. In contrast, between 2018 and 2020 growth in illiquid assets has contributed little to the decline in the number of economically precarious households.

⁶⁶ Between 2018 and 2020, the share of households able to meet regular spending with income increased at double the rate of the increase in the share of households able to do the same with savings.

⁶⁷ It is worth noting that pandemic restrictions impacted spending patterns in 2020. For example, HFCS data shows that in 2020 less than one quarter of households reported overall expenses as above normal, compared with three fifths of households in 2013.

Table 6: Economic characteristics of households across the joint income wealth consumption distribution in 2020, average (unless otherwise stated)

	Precarious, limited buffers	Precarious, illiquid buffers	Affluent, not saving	Affluent, saving	Total
Age	45.1	50.3	54.4	50.8	51.6
Female (%)	57.0	44.7	42.5	37.7	41.0
Single headed households (%)	37.8	33.3	32.5	29.1	31.1
Principle Economic Status* (%)					
Employed	27.0	44.2	50.5	62.8	55.2
Unemployed	19.1	12.4	6.2	4.1	6.4
Retired	7.7	17.0	29.6	23.1	23.8
Home duties	20.8	13.0	7.5	5.5	7.7
Other inactive	25.4	13.4	6.1	4.4	6.9
Owns own home (%)	5.7	67.0	75.5	76.7	71.4
Mortgage on own home (%)	3.7	34.1	28.3	33.9	30.4
Number of incomes per adult in the household	0.64	0.84	1.11	1.11	1.06
Marginal propensity to spend (%)	51.6	47.9	46.7	43.1	45.1
Disposable income (€ median)	€32,682	€40,632	€41,924	€55,724	€47,102
Median net wealth (€)	-€1,016	€106,186	€201,876	€244,246	€193,320
Debt to asset ratio (median)	2.61	0.23	0.20	0.21	0.24
Debt service to disposable income > 30% (%)	4.96	13.69	14.09	12.67	12.67

Source: CSO and authors' calculations.

* Principle economic status achieved by household reference person.

Table 6 shows the characteristics of each household group. Compared to affluent households, economically precarious households are younger, more likely to be headed by women and more likely to be single headed. Compared to affluent households, the head of the household is also more likely to be unemployed, working solely within the home or otherwise outside the labour force. They are less likely to be retired or own their homes, and if they do, economically precarious households are more likely to have mortgages on their homes. In addition, economically precarious households are more likely to have fewer incomes per adult household member, lower disposable household income levels, a higher propensity to spend out of additional income and lower levels of net wealth. Indebtedness (measured as debt service greater than 30 per cent of disposable income), however is lowest for economically precarious households, and flat across the remainder of the YCW distribution, according to the HFCS in 2020.

Economic resilience in 2020

Economic resilience can be characterised in several ways. For example, indebtedness is a common approach with debt ratios and measures such as number of loans commonly used. Alternatively, economic resilience can be viewed through the lens of financial buffers such as the amount of savings or extent a household is credit constrained. A further approach is to focus on the strategies households use to meet non-durable consumer expenses when income is insufficient. For example, the share of households asking family and friends for financial help.

In this *Article*, we characterise economic resilience using three measures. These are:

1. *“Essentials share in income, %”*: Share of monthly disposable income spent on essential expenditure (food, energy, rent or mortgage interest payments)
2. *“Highly indebted, %”*: Share of households with mortgage debt service greater than 30 per cent of disposable income
3. *“Saving buffers, months”*: Months of savings to cover essential expenditure (food, energy, rent or mortgage interest payments)

These measures combine elements of the different possible approaches in the literature and in doing so, provide a holistic indicator of economic resilience. Table 7 presents 2020 figures for the three economic resilience measures for each of the four household groups, prior to the start of the cost of living shock (yet well into the pandemic shock).

Table 7: Economic resilience of households across the joint distribution of income, consumption and wealth in 2020, median

	Precarious, limited buffers	Precarious, illiquid buffers	Affluent, not saving	Affluent, saving	Total
Essentials share in income, %	38.9	33.8	28.5	25.3	27.5
Highly indebted ¹ , %		19.3	14.7	10.0	12.5
Savings buffers ² , months	0.27	0.70	8.77	12.18	7.53

Source: CSO and authors' calculations.

Note: Empty cells mean that cell sizes are too small to report. Disposable income used to calculate spending shares.

¹ Share of households with mortgage debt service greater than 30 per cent of disposable income, mean.

² Months of spending on essentials that can be met with saving, median.

Compared to affluent households, economically precarious households in 2020 spent a higher share of income on essentials. For example, the median economically precarious household with limited buffers spends almost two-

fifths of their income on essentials in 2020, compared to around a quarter for a median affluent, saving household. Economically precarious households with mortgages were more likely to be highly indebted than affluent households. Table 7 also shows that economically precarious households had more limited savings than affluent households, to cover expenses during periods of income shortfalls.⁶⁸ While the median affluent, saving household in 2020 could cover its essential expenditure for over 12 months, a median economically precarious household had less than one month's coverage.

Cost of Living Scenario Analysis

In this Section, we combine the 2020 HFCS with more recent macroeconomic data to simulate the impact of price increases on the household economic resilience measures outlined in Section 4. In doing so we are able to outline how different households across the *joint* distribution of income, consumption and wealth may have been affected by the rise in inflation and reduction in real incomes over recent quarters. To further understand the underlying mechanisms and potential policy implications, we generate a 'baseline' scenario derived from realised data up to June 2022 and a further 'severe' scenario with more significant price increases and reductions in real incomes.

Baseline scenario

For the baseline scenario we apply realised food, energy and rent price increases between October 2020 and June 2022 of 7.3 per cent, 74.3 per cent and 13.7 per cent, respectively from the CSO's Consumer Price Index (CPI). No changes are applied to mortgage interest rates.⁶⁹ We increase disposable incomes by 7.8 per cent, based on the observed outturn from the quarterly National Accounts.⁷⁰ House prices and the value of other assets are held constant. This is because it is participation in savings and other assets that impact the categorisation of households according to the YCW framework, not the value of the non-savings assets. Therefore, rises in the value of housing or

⁶⁸ Note that the aggregate value of savings in 2020, as measured by the HFCS (€50.2bn) is less than the value obtained from aggregate data such as the bi-annual Conduct of Business Return (€58.7bn) or the Quarterly Financial Accounts (€62.1bn). However, while there may be level differences, the distribution of these savings is consistent across the sources.

⁶⁹ Mortgage interest rates were essentially flat between 2020 and mid-2022. Between 2020Q3 and 2022Q2 retail interest rates on lending for HMR mortgages increased by between 0.04 percentage points (new lending) and 0.05 percentage points (existing lending) ([Central Bank of Ireland](#)).

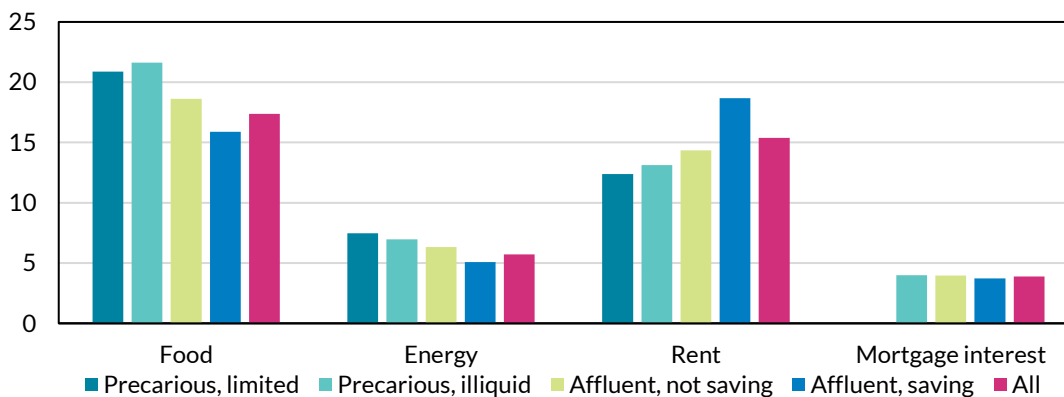
⁷⁰ Allowing income growth to vary across the distribution of income in 2020 and/or sector of employment will see affluent households income rising relatively more than precarious households, on average.

other assets does not affect either the categorisation or the economic resilience measures used here.

According to our simulation, the median household in mid-2022 spent 17.4 per cent of their disposable income on food and 5.7 per cent on energy, with substantial differences across the YCW distribution (Figure 6). Housing costs depend on tenure, with renters paying over 15 per cent of their income on rent and those who have mortgages paying less than 4 per cent of their income on servicing this debt (mid-2022 median).

The median share of monthly income spent on servicing debt is lower – across the YCW distribution – than the share spent on other essentials

Figure 6: Disposable income spent on essential goods and services across the YCW distribution, share (per cent), mid-2022



Source: CSO and authors' calculations.

Note: Disposable income used to calculate spending shares. Rent and mortgage interest payments shares are conditional on households either paying rent or having outstanding mortgage debt. Mortgage interest rates assumed not to change, based on [observed](#) retail lending rates over 2020 to mid-2022.

Examining the economic resilience measures, Table 8 below shows that collectively, spending on food, energy, interest payments and rent account for 30 per cent of disposable income across all households when price and income increases between October 2020 and June 2022 are applied to HFCS households. This varies significantly across the YCW distribution. Economically precarious households spend roughly two-fifths of their income on these essentials, while more affluent households spend a lower share (closer to 30 per cent) of their income on these essentials, even whilst spending more in absolute terms.

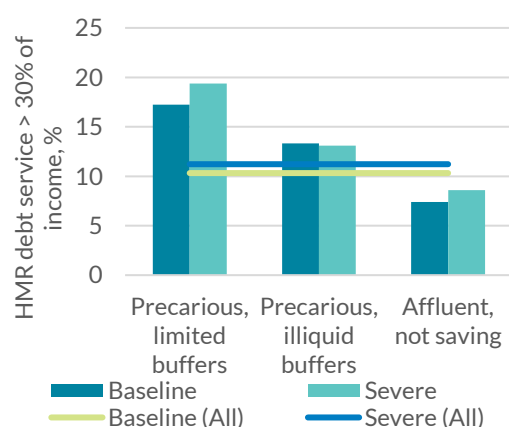
Table 8: Economic resilience, severe scenario across the YCW distribution

	Scenario	Precarious, limited buffers	Precarious, illiquid buffers	Affluent, not saving	Affluent, saving	Total
Essentials share in income, %	Baseline	42.7	37.4	30.9	27.2	30.0
	Severe	46.3	41.3	34.7	30.7	33.7
Change (pp)		3.60	3.90	3.78	3.47	3.65

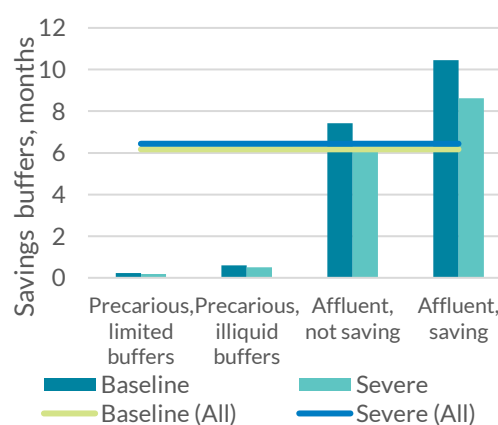
Source: CSO and authors' calculations.

Note: Empty cells mean that cell sizes are too small to report. Disposable income used to calculate spending shares.

Examining the other two measures of economic resilience (Figures 7 and 8), it is clear that resilience increases at the upper end of the YCW distribution. In the baseline scenario, over one in six economically precarious households with mortgages use at least 30 per cent of their disposable income repaying this debt, higher than the 10.3 per cent of highly indebted households across all YCW groups. Likewise, Figure 7 indicates that savings buffers (number of months' worth of spending on essentials that households can finance out of savings account balances) vary substantially across the distribution. Economically precarious households have less than a week's worth of spending on essentials as liquid savings, with this rising to between 7 and 10 months' worth for affluent households, under the baseline scenario.

Figure 7: Highly indebted households, baseline and severe scenarios (%)

Source: CSO and authors' calculations

Figure 8: Savings buffers: month's coverage of essentials spending (months)

Source: CSO and authors' calculations.

Severe scenario

Examining the effect on households of additional shocks to the prices of essential goods and services in the absence of real income growth illustrates further how resilient households are to rising prices. The severe scenario we implement is as follows. In addition to the price increases seen to June 2022,

we apply further price increases to food (10 per cent), energy (25 per cent) and rents (5 per cent). We also increase the interest rate for variable rate borrowers by 200 basis points and disposable incomes in line with the Quarterly Bulletin.⁷¹ We utilise the latest market expectations on interest rates with judgement to inform the food and energy price growth used.

Table 8 shows the increase in spending out of income on essentials across the YCW distribution relative to the baseline. The increase for all households is close to 4 percentage points. Economically precarious households with limited buffers see fully 46 per cent of their disposable income used for spending on a limited set of essential goods and services, under the severe simulation compared to just under 43 per cent in the baseline. This corresponds to additional monthly expenditure on essentials of €150 (€160) for economically precarious households (all households), that is the change between the baseline and severe scenarios. Even affluent households who do not save regularly see their spending on essentials increase to over one-third of disposable income.

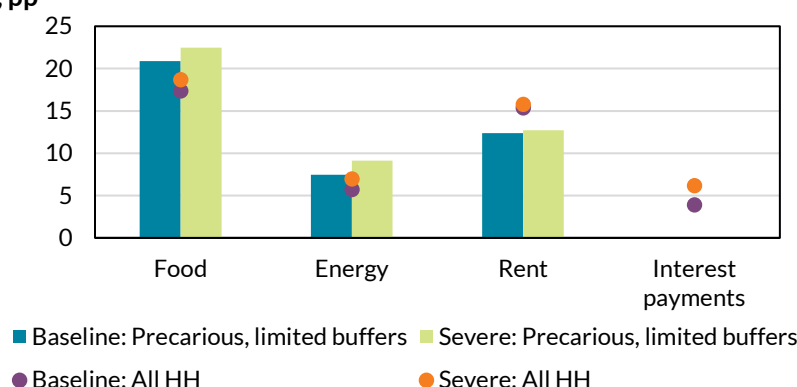
With the exception of housing costs, economically precarious households spend a substantially larger share of gross income on food and energy than the median for all households (Figure 9). Under the severe scenario, the relative share of spending on these two essential items increases further. Therefore, if prices were to rise further (as under this scenario), this group would have a greater need for additional income to maintain the quantity of essentials consumed.⁷²

⁷¹ Interest rate increases apply to existing mortgage borrowers on variable rate (tracker and SVR) contracts. No change is made to the interest rates for fixed rates mortgages or any other debt held.

⁷² The relative size of each essential in overall spending, as well as the size of the price increases across the total basket of essentials determines the additional income needed to maintain the quantity of essentials consumed, given potential price rises.

The severe scenario has a greater impact on economically precarious households

Figure 9: Share of income spent on essentials by economically precarious, limited buffer households, pp



Source: HFCS and authors' calculations.

Note: Disposable income used to calculate spending shares. Rent and mortgage interest payments share in income are conditional on households either paying rent or having outstanding mortgage debt.

Figure 9 also shows that for households with mortgage debt, the share of income spent on interest payments increases from 3.9 per cent in 2020 to 6.2 per cent under the severe scenario. This still leaves interest payments accounting for a smaller share of household income than any of the other essential items – food, energy or rent. This reflects the low level of interest rates on (mortgage) debt by households in Ireland and the relative sizes of consumer price increases, in particular for food, energy and rents, that households are already facing.⁷³ Indebtedness does not deteriorate markedly, rising just 0.9 percentage points at the median for all mortgaged households (Figure 7). This is due to the relatively low level of mortgage interest payments in total essentials spending.

In terms of economic resilience in the severe scenario – as measured by savings buffers – the median household can cover its spending on essentials using savings for over 6 months (Figure 8). This rises to between 6 and almost 9 months in the severe scenario for affluent households and falls dramatically to less than a fortnight's worth of savings to meet higher prices for economically precarious households.⁷⁴

⁷³ Median interest rate on variable mortgage rates in HFCS 2020 is 2.3 per cent.

⁷⁴ Whilst financial buffers were expanded up by majority of households to HFCS 2020 (due to high saving rates prior to and during the pandemic), households may have had to use these buffers already to meet price increases in the absence of real wage growth in 2022.

Discussion

These findings highlight the disparities in economic resilience of households depending on their position in the YCW distribution. Some households, particularly those which are more affluent, are in a better position to weather further price rises. In contrast, economically precarious households with limited buffers or illiquid assets (just under 15 per cent of all households) are more exposed to higher prices. In 2020 and before the period of high inflation these households report spending all their income on regular basics and almost no savings. In 2020 48 per cent of economically precarious households had less than €500 worth of cash savings (20 per cent had less than €50).⁷⁵ Under the severe simulation implemented in this *Article*, it is likely that this group has reduced economic resilience. The results are consistent with previous Central Bank research for Ireland by [Adhikari \(2022\)](#).

However it is important to bear in mind that the results presented in Table 8 do not account for the full complexity of household financial decision making. For example, households may expect additional negative shocks in the future and thus exhibit ‘buffer stock saving behaviour’ where they are cautious about drawing down assets too much in the face of uncertainty, particularly if a target saving level exists ([Carroll, 1992](#)). Moreover, spending on items such as energy display low price elasticities of demand ([Labandeira et al., 2017](#)) due to their essential nature.⁷⁶ This suggests that households are likely to continue to consume such goods irrespective of how many months of essentials spending coverage they have.

The YCW framework used in this *Article* is based on data collected during the Pandemic. This may affect the generalisability of the results. In aggregate, whilst the household savings rate remain elevated compared to pre-pandemic levels, the level of household deposits has started to moderate recently. This suggests that although income growth in 2021 is likely to have compensated many households for higher inflation, this may not be the case in 2022 and 2023, in which case the share of precarious households may increase. Affluent, non-saving households reported holding €8,700 in savings in 2020. In addition, allowing income growth to vary across the distribution of income and/or sector

⁷⁵ Affluent households reported over €11,000 in median cash savings in 2020.

⁷⁶ The meta-analysis carried out in [Labandeira \(2017\)](#) finds an average short-term price elasticity of demand for household energy consumption of between -0.20 and -0.26 across energy types. This finding of price inelastic demand for household energy indicates limited sensitivity of the findings in this *Article* – which assumes price elasticity of demand for all essentials of zero – to the responsiveness of households to energy price increases in the short-term.

of employment for the baseline and severe scenarios would see affluent households' income rising relatively more than precarious households, on average. This means that the share of essentials out of income and the share of highly indebted households reported in Table 8 are lower bounds for the proportion of economically precarious households.

Finally, the severe scenario assumes mortgage interest rates for fixed rate borrowers remain unchanged. Fixed rate mortgages accounted for just over two-fifths of all mortgages in the second half of 2020, of which two-thirds had less than two years left of their fixed rate term ([Central Bank of Ireland, 2022](#)). If we relax this assumption and increase the interest rate of all fixed rate mortgages (as well as variable rates) in our severe scenario, we find the largest sensitivities are for economically precarious households with mortgages. The median share of income spent on servicing their mortgage increases from 6.2 per cent in the baseline scenario to 8.1 per cent in the severe scenario. For these households, this brings the share of income spent on mortgage interest in line with the share of income spent on energy. However, in aggregate, relaxing the assumption on the treatment of fixed rate mortgages in the severe scenario sees an increase in spending on essentials across all groups by roughly one half of a percentage point to 34.2 per cent of disposable income (up from 33.7 per cent using the more restrictive interest rate assumption). On the whole, the sensitivity of our results to changes in assumptions on mortgage servicing costs is small relative to the impacts of the food, energy and rental price increases.

Conclusion

In this *Article*, we draw on data from the latest wave of the HFCS to first describe the economic position of Irish households in 2020 and then, to examine the impact of a cost of living increase on the *joint* distribution of income, consumption and wealth (YCW). In 2020, over 85 per cent of households were able to meet regular spending out of income or cash savings, up from 76 per cent in 2018. Across the YCW distribution, almost one quarter of Irish households were considered to be in an 'economically precarious' financial situation in 2018, falling to under 15 per cent by 2020. This improvement has been driven largely by incomes growing faster than spending - up to and during the pandemic.

From the beginning of 2022, economic conditions have changed again with high inflation putting pressure on household real incomes. Scenario analysis in this *Article* reveals three key findings. First, expected increases in food, energy

and rent prices have a much greater impact on household finances than expected increases to the interest rate on mortgages. This reflects the relative share of spending across the basket of essential goods and services, the size of the relative price changes and the share of Irish households with mortgages. Second, we find that households are differentially exposed to consumer price increases. HFCS 2020 shows that while the most economically precarious households spend roughly two-fifths of their disposable income on essentials (defined as food, energy, rent and mortgage interest payments), the most affluent spend one quarter.

Third, whilst many households (over 85 per cent) are fairly resilient to cost of living increases, fragilities remain. This is particularly true for economically precarious households, who we show are dissavers, and more likely to be younger, female-led, unemployed or economically inactive, and renting than affluent households. These economically precarious households account for approximately 15 per cent of all households in 2020, or roughly 180,000 families. The simulation analysis indicates their economic resilience is likely to deteriorate further if prices continue to rise because essentials make up a high share of their consumption. Combined with their available income and low level of savings, a further deterioration in resilience is expected if prices of essentials increase further. These already marginal households have limited financial means to meet additional price increases.

Our results show that there are groups of households much more exposed than others to price rises in essential goods and services. Temporary policies which target support to those households who spend large proportions of their income on essentials may be more effective than universal supports, or indeed more permanent supports. Not only are a temporary and targeted set of policy measures more fiscally sustainable, they will limit the knock-on inflationary effects. Further, given the low price elasticity of demand for essentials compared with non-essential spending, supporting the level of household consumption of essential goods and services may indirectly support consumption of non-essentials, by allowing the most affected households more room for regular spending. Finally, policies to reduce energy consumption in the medium to long term are more likely to successfully reduce energy usage by households, a policy priority in terms of overall transition to net zero.

The analysis in this *Article* does not take into account the impact of measures introduced in Budget 2023. These include additional once-off payments for those in receipt of social protection benefits, credits to households for energy and supports to renters and students. Together these provide substantial

additional support to household finances.⁷⁷ In particular, those supports that are effectively targeted should help to alleviate the impact of high inflation on the most financially precarious households.

⁷⁷ See: <https://www.esri.ie/news/one-off-budget-measures-will-insulate-most-households-from-inflation-this-winter>

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Appendix

Table A1: Net wealth in 2020, by demographic characteristics

	Median net wealth	Mean net wealth	Share of total net wealth
	€	€	%
State	193,100	353,600	100
Age of Reference Person			
Under 35	23,000	98,800	3.4
35-44	88,900	203,600	12.8
45-54	228,400	393,400	23.3
55-64	318,700	528,500	27.7
65+	291,600	442,900	32.8
Tenure Status			
Owner-occupied	303,900	493,900	97.2
Rented or rent free	5,300	32,500	2.8
Principle Economic Status¹			
Employed	194,283	371,982	56.5
Unemployed	4,685	97,171	1.8
Retired	309,000	454,718	30.9
Other inactive	97,854	232,629	10.9
Education¹			
Primary or below	140,083	213,169	7.8
Less than Tertiary	184,167	312,311	42.6
Tertiary	238,444	444,501	49.5

Source: CSO and authors' calculations.

Note: ¹ Principle economic status and highest education achieved by household reference person.

Table A2: Economic resilience – Strategies used to meet non-durable consumption expenses when income insufficient, 2020

		Precarious, limited buffers	Precarious, illiquid buffers	Affluent, not saving	Affluent, saving	Total
Sold assets	Mean	1.0	2.4	1.2		1.4
Took out loan/credit card/overdraft	Mean	23.8	40.8	16.0		23.0
Spent out of savings	Mean	27.2	21.7	55.1		42.5
Asked for help	Mean	21.6	27.1	8.8		15.3
Left bills unpaid	Mean	48.0	20.8	20.6		25.6

Source: CSO and authors' calculations.

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