Rialtas na hÉireann
Government of Ireland

Budget 2023
Economic & Fiscal Outlook

Prepared by the Department of Finance
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Budget 2023

Economic and Fiscal Outlook

(Incorporating the Department of Finance's Autumn Forecasts)

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1. endorsement

The macroeconomic forecasts were endorsed by the *Irish Fiscal Advisory Council (*the Council*)* on 19th September 2022 (**annex 1**), a requirement under European Union law (set out in the so-called 'two-pack').

To operationalise this legal requirement, staff in the Economics Division of the Department provided an initial set of projections to the Council on 9th September. Following an iterative process, a formal presentation was made by Departmental staff to the Council on 16th September.

The presentation provided to the Council is available at:
https://www.gov.ie/en/publication/dea0c-budget-2023-irish-fiscal-advisory-council-documents/

A Memorandum of Understanding between the two institutions governs the process, and is available at:
https://www.gov.ie/en/publication/ff7f9-memorandum-of-understanding-between-the-irish-fiscal-advisory-council-and-the-department-of-finance-relating-to-the-endorsement-function-of-the-council-under-the-fiscal-responsibility-acts-2012-and-2013-march-2021/

2. draft budgetary plan

A summary of the main tables set out in this document – known as the *Draft Budgetary Plan* – will be transmitted to the European Commission and Council by the 15th October, in line with Ireland's legal obligations as a euro area Member State.

3. date stamp

The macroeconomic analysis and forecasts contained in this document are based on economic and fiscal data available to 16th September 2022.

For comparison purposes, the main macro-economic variables from each set of forecasts that has been subject to the endorsement process (which began in 2013) is available at:
https://www.gov.ie/en/publication/d1bc6-database-of-past-forecasts

4. availability of chart data

In line with the Government's *Open Data Initiative,* the data underpinning charts in this document are available at:
https://www.gov.ie/en/publication/e3a91-budget-2023-chartpack/

5. rounding

Rounding can affect totals in all tables in this document.

6. boxes

The document contains several boxes. These are short, self-contained pieces of analysis, the objective of which is to delve a little deeper into some topical economic and fiscal issues.

7. corrections policy

The data and analysis set out in this document are compiled by Department of Finance staff; every effort is made to ensure accuracy and completeness.

If errors are discovered, subsequent corrections and revisions are incorporated into the digital version available on the Department's website. Any substantive change is detailed in the online version.

8. presentation before parliament

The document was laid before (formally presented to) the Oireachtas on 27th September 2022.

Chapter 1
Overview and General Policy Strategy

1.1 Policy strategy

Available evidence supports the conclusion that the Irish economy weathered the pandemic very well. The phasing-out of temporary budgetary supports during the spring of this year, for instance, did not result in any negative fall-out in the labour market – employment in the second quarter reached its highest level ever, while the unemployment rate fell to just over 4 per cent over the summer, an extraordinary rebound in such a short timeframe. Data also confirm no major uptick in the rate of corporate insolvency while, importantly, the domestic banking system emerged relatively unscathed from the pandemic. Overall, therefore, the macro-data suggest little evidence of any permanent (‘scarring’) damage to the productive capacity of the economy, with domestic economic activity in the second quarter of this year nearly 10 per cent higher than its level immediately before the pandemic.

Budget 2023 is framed against the backdrop of an economy that is currently operating at close to full employment, but where near-term prospects have deteriorated. Like elsewhere, stagflationary pressures – weaker growth alongside higher inflation – are building, with the Irish economy now subject to its third supply-side shock[1] since the turn of the decade.

The weaponisation of Russian natural gas supplies has triggered an exceptionally large energy price shock and undermined global economic prospects. For Europe – the epicentre of the energy crisis[2] – the eight-fold jump in gas prices relative to historical norms has resulted in the highest rate of inflation in nearly half a century, prompting an aggressive pace of monetary policy tightening in the euro area (as well as in other advanced economies).

Wholesale gas prices increased further over the summer, as countries attempted to replenish their stores – a ‘dash-for-gas’ – in advance of the European winter. Prices were also impacted by the reduction in supplies through the *Nord Steam* pipeline,[3] with flows reduced to one-fifth of normal at end-July, and fully withdrawn from early-September.

While Ireland does not source natural gas directly from Russia,[4] end-users nevertheless pay global prices. As a result, domestic inflationary pressures have intensified in recent months, further eroding the purchasing power of Irish household incomes.

At the same time, the rapid pace of monetary policy normalisation has resulted in higher borrowing costs for domestic households and firms, with market participants pricing in additional policy rate increases in the months ahead. This is an additional drag on the Irish economy.

Against this very difficult background, and alongside a deterioration in sentiment, the Department’s projection for domestic economic activity in 2023 has been downgraded significantly. Modified domestic

[1] Following on from the UK’s formal exit from the European Union (January 2020) and the Covid-19 pandemic.
[2] In 2021 (latest data), natural gas generated nearly one-fifth of the European Union’s electricity supply.
[3] More specifically, the *Nord Stream 1* pipeline, which has piped natural gas from Russia to Germany since end-2011. A second pipeline, *Nord Stream 2*, was completed at the end of last year but has not been operationalised due to the war; both pipelines are now at risk of becoming stranded assets. At present, a small amount of natural gas continues to flow from Russia to the European Union via Turkey (*Turk Stream* pipeline) and Ukraine.
[4] Ireland sources about a quarter of its natural gas domestically (the Corrib field), with the remainder sourced – via the inter-connector – from Scotland. Gas is used to generate around half of the Irish electricity supply.

demand (MDD) is now expected to increase by just 1.2 per cent next year, a 2.7 percentage point reduction relative to the spring forecasts.

Downside risks dominate, with the potential to make a difficult situation even worse. For instance, the projections are calibrated on the assumption that the economic fall-out from the withdrawal of piped gas supplies to continental Europe is relatively contained *inter alia* via mandated reductions in demand and the shift to alternative energy sources. However, a particularly severe European winter could exacerbate the demand-supply imbalance, triggering more prolonged 'outages' across the continent and necessitating cuts to production. By further reducing activity in key external markets, this would be an additional headwind for the Irish economy.

In addition, discussions are resuming on arrangements for implementing the Protocol on Ireland and Northern Ireland within the EU-UK *Withdrawal Agreement*. It is also the case that the UK authorities have again postponed the date at which regulatory and other checks will be applied to imports. Notwithstanding current tensions, these forecasts assume no major disruption to bilateral trade with the UK.[5]

In response to falling real disposable incomes, the Government has mobilised substantial fiscal resources to support households. The key objective of *Budget 2023* is to build on this approach.

An overall budgetary package of nearly €7 billion has been provided for next year, including adjustments to income tax bands and increases in transfer payments, such as social welfare and pension rates. Complementing this is a set of one-off measures amounting to just over €4 billion, which take effect from the final quarter of this year. This approach balances the need to provide necessary fiscal support to households and firms while, at the same time, avoiding a situation in which the Government's fiscal response becomes part of the inflation problem.

The *National Development Plan 2021-2030* and *Housing for All* are also integral parts of the Government's overall fiscal strategy. The objective is to boost the economy's stock of infrastructure and of housing, eliminating bottlenecks and laying the foundations for future improvements in living standards.

Government is also providing for €2 billion to be transferred to the *National Reserve Fund* this year, with €4 billion transferred next year. The purpose is to ensure that windfall corporate tax receipts are not used to finance permanent increases in public expenditure. This transfer is in line with the advice of almost all agencies – domestic and international – that provide economic advice to the Government.[6]

In designing its budgetary policy response, Government is conscious that there is a limit to what it can do to offset the impact of higher external energy prices; Ireland is a net energy importer and the upward shift in prices means that the country as a whole is worse-off than it would otherwise have been. The most important economic lesson from the energy price shocks of the 1970s / 1980s is that trying to use the public sector balance sheet to fully shield the household and corporate sectors from higher imported energy prices is doomed to failure.

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[5] The Protocol on Ireland and Northern Ireland is part of the *Withdrawal Agreement* between the UK and the European Union. A central shared objective of the Protocol is to ensure no hard border on the island of Ireland.
[6] See Box 3 'Windfall corporate tax receipts – who says what?' in De-risking the public finances – assessing corporate tax receipts, Department of Finance, September 2022, available at:
https://www.gov.ie/en/publication/b838d-de-risking-the-public-finances-assessing-corporation-tax-receipts/

Beyond the short-term, Government is conscious of possible longer-term structural shifts, ushered in by a combination of a global pandemic and war on European soil. For instance, higher inflation in Ireland and elsewhere may be symptomatic of a wider regime-shift, particularly if some of the factors that kept a lid on inflation in recent decades[7] were to go into reverse. This would mean *inter alia* permanently higher borrowing costs.

In addition, the apparent structural change in energy markets has highlighted the risks associated with reliance on fossil fuel imports to meet Ireland's energy needs. Higher prices for gas and oil will undoubtedly act as a catalyst to accelerate the transition to cleaner energy sources, but the transition will clearly be difficult in the short-term. The shift to greener technologies over the medium and longer-term will have implications for production and consumption and, hence, for the allocation of resources (workers and firms within the economy). It will also affect the State's revenue stream, for instance through a reduction in excise duty receipts.

1.2 Short-term economic and budgetary outlook

The near-term outlook for the economy has deteriorated relative to expectations in the spring. Inflationary pressures have intensified, squeezing household income, while heightened uncertainty has prompted higher savings from disposable income than was initially assumed. For firms, earnings in parts of the small- and medium-sized enterprise (SME) sector are coming under pressure, especially those operating in energy-intensive sectors. Perhaps most exposed are those SMEs operating in sectors relying on discretionary household spending, given the likely prioritisation of essential expenditure in the period ahead.

Incoming economic data suggest some loss of momentum over the summer, and most forward-looking indicators are pointing to a softening of economic activity in the second half of the year. Higher fuel bills over the winter, partly offset by Government supports, will likely tip consumer spending into negative territory in the third and fourth quarters of the year (**table 1**) and in the early part of next year. Discretionary consumer spending appears most exposed, as households prioritise essential spending.

Table 1: Key macroeconomic variables – quarter-on-quarter, per cent change (unless stated)

	2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Consumer spending	-0.1	1.8	-0.5	-0.5	0.1	1.4	1.0	0.9
Modified domestic demand	-0.1	4.3	-2.4	1.3	-0.6	0.8	0.5	1.0
Inflation rate (annual per cent)	5.9	8.4	9.3	10.4	10.3	7.8	6.3	4.0
Unemployment rate (per cent)	7.1	4.4	4.6	4.9	5.1	5.2	5.2	5.1

Notes: Data for the first and second quarters are outturns. Seasonally adjusted data (except for inflation rate).
Source: CSO and Department of Finance.

Against this backdrop, the Department's projection for MDD growth next year incorporates a significant downward revision relative to its spring forecasts. For next year, MDD growth is projected at 1.2 per cent (2.7 pp lower than in the spring). This follows an assumed expansion of 7.7 per cent this year (**table 2**); this is an upward revision (3.4 percentage points (pp) higher than in the spring) and mainly reflects 'carry-over' effects. For exporting SMEs, weaker external conditions will likely weigh on demand; however, demand for higher-technology goods and services produced in Ireland by the multinational sector is assumed to remain strong, supporting GDP growth in both years.

[7] The low level of inflation over the past four decades is sometimes referred to as the 'Great Moderation'.

The rapid rebound in the labour market is undoubtedly the most positive post-pandemic economic development. The level of employment reached 2.55 million in the second quarter, its highest ever, with unemployment falling to just 4.4 per cent in the same period. That said, higher frequency data suggest some moderation in labour demand in more recent months.

The baseline scenario set out in this document is one in which the labour market fall-out from a slower pace of output growth is relatively contained. This rests on the assumption that some of the labour market adjustment to more modest levels of economic activity takes place via a reduction in the number of hours worked. As a result, the projections assume the unemployment rate remains relatively low next year, albeit rising moderately relative to this year. A deeper, or more prolonged, downturn would clearly have serious additional consequences for the labour market.

Inflationary pressures have intensified in recent months, with energy prices the key driver. While other commodity prices also increased in the immediate aftermath of the Russian invasion of Ukraine, these have subsequently retreated somewhat. The acceleration in inflation, however, is far from being solely an energy price shock: the more generalised mismatch between demand and supply means that inflationary pressures have broadened. For instance, the latest data show that annual price increases for 80 per cent of the goods and services in the inflation basket[8] are in excess of 5 per cent. On foot of this, consumer price inflation in Ireland, and elsewhere, has reached its highest level in almost half a century.

For this year, inflation is now projected to average 8.5 per cent. The Department's current assumption is that inflation will peak at 10.4 per cent in the final quarter of this year, but will ease only gradually over the course of next year. This projection is conditioned on the assumption of a modest easing in natural gas prices from the spring next year (as currently envisaged in futures markets) as well as a better balance between demand and supply in the wider economy. An average inflation rate of 7.1 per cent is anticipated for next year.

The key question is whether the economy is in line for a period of weaker growth or whether an outright recession is in prospect. While this is difficult to answer, it is important to recognise that the domestic economy is in reasonable shape, with few of the imbalances that characterised the situation in the mid-2000s. For instance, household and SME balance sheets are in a fairly solid position, at least in aggregate terms.[9] If short-lived, therefore, the energy shock can probably be absorbed without excessive economic fall-out.

That said, the presumption of a short-lived economic shock is far from assured. For instance, the tightening of monetary policy could be more aggressive than assumed, reducing household and SME incomes by increasing debt-servicing costs. Moreover, there are reasonable grounds to believe that a structural change in energy markets is underway – the era of cheap fossil fuels may have ended. So, while the inflation *rate* is assumed to ease gradually over the course of next year, the price *level* will likely remain higher than households and firms have been accustomed to. Permanently higher fossil fuel prices could render the business model of some firms unviable, prompting higher rates of firm exit in the period ahead.

Turning to the public finances, tax revenue performance in the year to date has surprised on the upside. In the year to end-August, total tax receipts amounted to €49.8 billion, an increase of 26 per cent over the same period last year. Annual comparisons are, however, distorted by the timing of 'lockdowns'

[8] The basket of goods and services used to measure the Harmonised Index of Consumer Prices includes 626 items.
[9] As always, the aggregate can hide a multitude of differences.

and the tax policy responses (such as tax warehousing) over the course of last year. Corporate tax receipts have been especially strong this year; that said, the maintenance of corporate tax revenue at current levels cannot be guaranteed into the future.

Table 2: Summary – main economic and fiscal variables					
	2021	**2022**	**2023**	**2024**	**2025**
Economic activity			***per cent change***		
Real GDP	13.6	10.0	4.7	3.3	3.8
Real GNP	14.7	8.9	4.2	2.8	3.3
Modified domestic demand	5.8	7.7	1.2	3.3	3.6
Real GNI*	15.4	5.1	0.4	2.7	3.1
Prices			***per cent change***		
HICP	2.5	8.5	7.1	2.4	1.8
Core HICP^	1.7	5.3	4.6	3.0	2.6
GDP deflator	0.7	6.5	4.4	2.1	1.9
External trade			***per cent GNI****		
Modified current account	11.1	8.4	7.7	7.0	6.3
Labour market			***per cent change (unless stated)***		
Total Employment, '000	2,140	2,531	2,563	2,603	2,650
Employment	11.0	18.3	1.2	1.6	1.8
Unemployment, per cent	15.9	5.2	5.1	5.0	4.7
Public finances			***per cent GNI* (unless stated)***		
: flow position					
General government balance, € bn	-7.0	1.0	6.2	10.7	13.7
General government balance	-3.0	0.4	2.2	3.7	4.5
Underlying general government balance,€ bn~	-12.0	-8.0	-3.8	1.7	4.2
Structural budget balance^^	-0.5	0.2	0.9	0.8	1.4
: stock position					
General government debt (€bn)	235.6	225.3	224.1	226.7	223.8
General Government debt ratio	100.8	86.3	81.5	78.3	73.3
Net general government debt (€bn)^^^	192.3	190.4	189.6	183.6	176.5
Net general government debt ratio	82.2	72.9	68.9	63.4	57.8

Notes:
^ core inflation is the headline figure excluding unprocessed food and energy
^^ estimates of the structural balance exclude estimates of windfall corporation tax receipts.
^^^ net debt from 2022 onwards estimated by mechanical extrapolation of financial assets.
~ underlying fiscal balance excludes the Department's estimate of corporation tax receipts that may be 'windfall' in nature.
Source: CSO for 2021; Department of Finance for 2022-2025.

For this year, tax revenue is now projected at €81.6 billion, with corporate tax receipts accounting for around a quarter of this, an exceptionally high level. For next year, taking into account the discretionary measures announced by the Minister for Finance as part of *Budget 2023*, as well as the baseline economic scenario set out in this document, tax receipts are projected at €87 billion.

Total (voted) spending is projected at €90.1 billion this year, composed of €80.8 billion of 'core' (or permanent) measures alongside €9.3 billion of temporary (Covid, Ukraine and cost of living) measures. For next year, the *Government Expenditure Ceiling* is set at €90.4 billion (€85.9 billion permanent, €4.5 billion temporary).

A general government surplus of €1 billion (0.4 per cent GNI*) is projected for this year. This headline surplus flatters the picture: excluding estimated windfall corporate tax receipts, the deficit would be €8 billion (3.1 per cent of GNI*). For next year, the general government surplus is projected at €6.2 billion next year (2.2 per cent of GNI*). Excluding estimated windfall corporate tax receipts, the deficit would be €3.8 billion (1.4 per cent of GNI*).

Public indebtedness next year is projected at €224 billion; pre-pandemic this figure was closer to €204 billion. Sovereign borrowing costs have risen as the cycle of monetary policy tightening has gained pace; while the cost of borrowing is still relatively low, it is also the case that the quantum of public debt has never been higher. While Government does not need to finance a deficit – at least under the baseline scenario – a large volume of existing debt falls due in the coming years and this will need to be re-financed.

Finally, Government is conscious that, beyond the short-term, the public sector balance sheet is vulnerable on a number of fronts.

Firstly, the aggressive pace of monetary tightening – involving higher policy rates and the exit from 'quantitative easing' – has raised sovereign borrowing costs. There are solid reasons to believe this is a structural, or permanent, shift, rather than a temporary, or cyclical one.

Secondly, exceptionally high corporate tax receipts flatter the headline fiscal balance and mean that the budgetary accounts are exposed to changes in firm-specific conditions. The continuation of corporate tax receipts at current levels is not a one-way bet, and recent history demonstrates how rapidly the public finances can change when confronted with the loss of a key revenue stream. This is why the Government is transferring money to the National Reserve Fund.

Thirdly, an ageing population will involve significant fiscal costs simply to 'stand-still' – by the end of this decade, changes in the population structure will necessitate an additional €8 billion in public expenditure each year simply to maintain existing levels of service.

Finally, the need to finance the transition to carbon (net-) neutrality will involve significant public outlays as well as lower public receipts in the years ahead.

Chapter 2
Economic Outlook

2.1 Summary

The intersection of energy price spikes with a post-pandemic rebound in demand running up against supply constraints has resulted in the highest inflation rates in Ireland for nearly half a century. The impact has been to reduce household income in inflation-adjusted terms and, in doing so, to dampen consumer spending.

What initially appeared to be a narrow-based increase in prices, driven by a post-pandemic imbalance between demand and supply, has become an increasingly broad-based phenomenon. Higher input costs for almost all sectors of the economy have triggered second-round effects, as firms pass on higher costs to consumers in order to maintain profit margins; 'core' inflation, which excludes energy prices, has accelerated sharply. This external inflationary impulse is being aggravated by the imbalance between demand and supply in parts of the labour market, which has pushed up wages.

Energy price inflation intensified over the summer, as concerns regarding a complete shut-down of Russian supply to continental Europe triggered a 'dash-for-gas'. The wholesale price of natural gas in early September traded at around eight times its norm.[10] As a result, consumer price inflation in advanced economies is running at its highest rate in nearly half a century. In response, central banks in almost all advanced economies – including in the euro area – have frontloaded monetary policy normalisation, an additional economic headwind.

In a nutshell, therefore, the economic silver linings in Ireland's key export markets are few and far between.

The Irish experience mirrors that elsewhere and, against this very difficult backdrop, the short-term outlook for the Irish economy has changed markedly since the spring. The third quarter looks like a turning point, with several high-frequency indicators moving into negative territory.

Modified domestic demand (MDD) growth of 7.7 per cent is now expected for this year; much of this growth is a 'carry-over' from the strong bounce-back seen in the second quarter, following the end of the pandemic. For next year, MDD growth of just 1.2 per cent is assumed, a downward revision of 2.7 percentage points relative to the Department's spring projections.

Employment reached an all-time high in the second quarter of this year, helped in part by the various supports put in place by the Government during the pandemic. In keeping with the outlook for demand, however, employment growth is expected to slow in the near-term; that said, the unemployment rate is expected to remain at relatively low levels throughout the forecast horizon.

On the prices side, an average inflation rate of 8.5 per cent is in prospect for this year, with the rate peaking at 10.4 per cent in the fourth quarter. This would be the highest rate since the HICP series began in 1997. For next year, inflation of just over 7 per cent is projected, reflecting the 'higher-for-longer' assumption for gas prices.

[10] Prices based on British National Balancing Point; the price averaged around stg£0.50 per therm in the decade leading up to the war in Ukraine.

2.2 Macroeconomic developments in 2022

Economic activity rebounded in the second quarter of this year (**figure 1A**), as mobility restrictions, in place during the opening months of the year to limit person-to-person transmission of the *Omicron* variant were lifted. As expected, the ending of the pandemic boosted consumer spending and triggered a rapid rebound in employment. At the same time, private sector investment in plants by parts of the multinational sector, as well as spending on machinery and office equipment to facilitate remote-working, led to very high investment rates.

Price pressures had been building up from the second half of last year (**figure 1B**), reflecting rising geopolitical tensions and pandemic-related supply-chain problems. These price pressures intensified following the outbreak of war in Ukraine, which triggered very large price increases for many commodity prices, especially fossil fuels. As a result, consumer price inflation is now running at its highest rate since the 1980s, a situation mirrored elsewhere. As Ireland is a net importer of energy products, higher prices mean a transfer of purchasing power abroad.

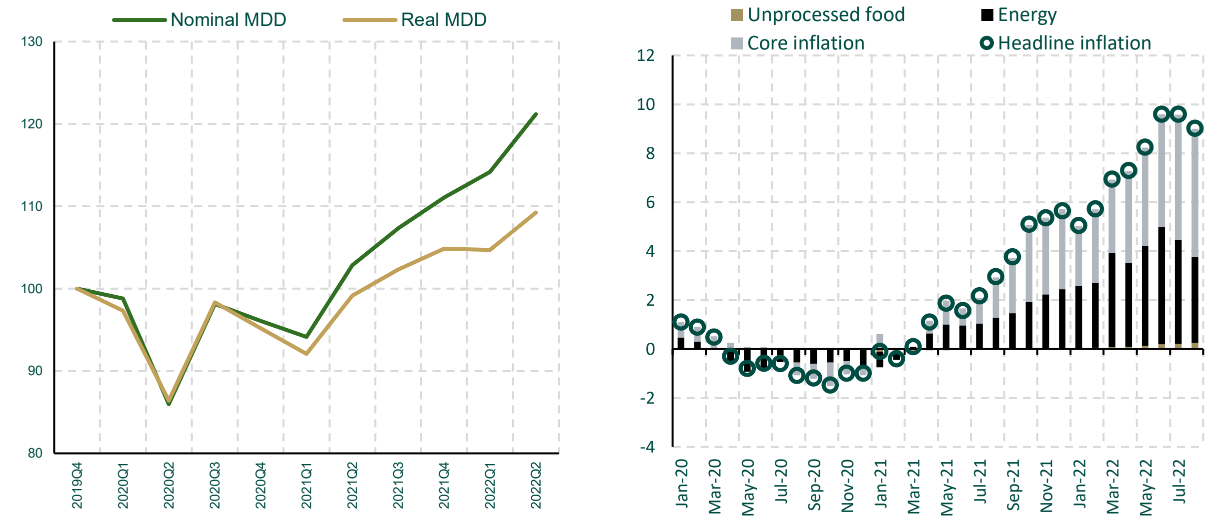
This shock to real incomes is taking its toll on the economy, and is the main channel through which the war in Ukraine is impacting domestically. Monetary policy has tightened, external demand is weakening and uncertainty remains elevated. These factors will likely act as a brake on investment.

Against these mounting headwinds, real-time and forward-looking indicators point to a reduction in economic activity over the remainder of the year and the early part of next. Higher price inflation is eroding real incomes, though Government measures – including those announced in *Budget 2023* – will provide some support to households, firms and domestic demand.

Figure 1: Recent developments in MDD and Inflation

A: MDD – real and nominal (q4 2019 = 100)

B: Inflation, pp contribution to annual per cent change



Source: CSO

Source: CSO

Consumer spending is the largest component of MDD and, as such, a key driver of overall developments. Despite the very strong recovery in employment since the mid-part of last year, as well as the accumulation of around €18 billion of 'excess' household savings built up during the pandemic, the evidence suggests that the rebound in consumer spending post-pandemic has been somewhat weaker than initially assumed. This mostly reflects the energy-induced price squeeze, with higher-than-anticipated inflation eroding household disposable income. It may also reflect households prioritising savings over spending, with greater risk aversion stemming from the outbreak of war on the European Union's border.

Following the full relaxation of pandemic-related restrictions, consumer spending recovered in the second quarter, increasing by 1.8 per cent relative to the previous quarter, and resulting from the rotation of spending from goods towards contact-intensive services. Notwithstanding this rebound, real consumer spending levels remain marginally below the pre-pandemic level, although nominal spending is 10 per cent higher than immediately before the pandemic.

Higher frequency data (**figure 2A**) – such as retail sales and card payments data – suggest a weakening of consumer goods purchases from around April / May, a trend which has continued into the third quarter. The Department's '*nowcast'* model suggests a quarterly decline in consumer spending (and MDD) in the third quarter (**figure 2B**). The decline in purchasing power associated with higher winter fuel bills is assumed to continue to weigh on consumer spending in the final quarter.

On this basis, consumer spending is expected to expand by 5.5 per cent this year, with much of this coming from a 'carryover-effect' from the post-lockdown bounce-back last year. Indeed, comparing the expected level of spending at the end of this year with that in the fourth quarter last year – thereby stripping these 'carryover' effects – shows a much more modest increase of just 0.7 per cent.

Following the stop-start nature of construction activity during the pandemic, new house building picked-up strongly over the past year, with an annualised level of commencements of nearly 30,000 units in the second quarter of this year; the equivalent level of completions was 25,000 units in the same period. However, with mounting headwinds – in the form of higher input costs and shortages of labour – momentum in the house building market appears to be slowing.

Beyond the housing market, business spending more generally has remained robust, driven by strong investment in 'core' machinery and equipment.[11] This appears to reflect the continued expansion by the multinational sector of its Irish operations, as well as broad-based investment in office and computer equipment by businesses, including to accommodate 'hybrid' working. That said, the pace of investment spending is expected to slow as inflationary pressures become more pronounced, financing conditions tighten and the global economic outlook becomes increasingly uncertain. Against this unfavourable backdrop, businesses are expected to delay or even postpone large investment outlays.

Bringing all of this together, MDD is expected to grow by 7.7 per cent this year. This is an upward revision relative to the spring forecasts of over 3.4 percentage points, mainly driven by a small number of large investments by the multinational sector, the increase in public expenditure due to the arrival of Ukrainian migrants, and the various cost-of-living supports introduced by Government.

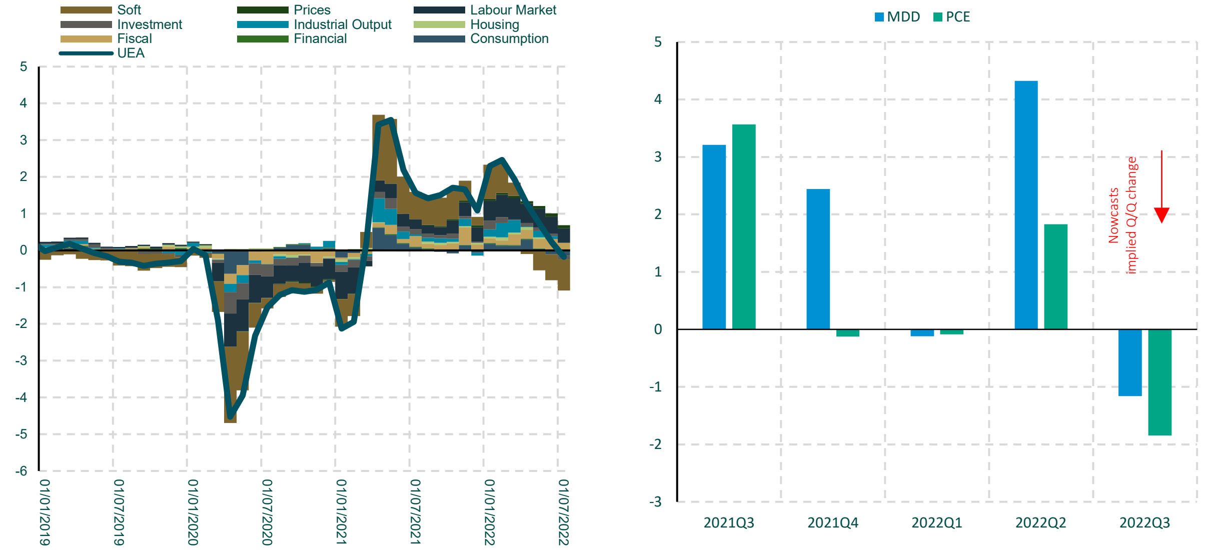
Parts of the multinational sector continue to perform very strongly, notably the pharmaceutical, med-tech and information and communication technology (ICT) sectors. In the first half of the year, the volume of goods exports originating in Ireland increased by a quarter over the same period last year (**figure 3A**).[12] Services exports remained strong, led by ICT exports, with Ireland now one of the major exporters globally in this sector. As a result, the foreign-owned sector contributed around 8 percentage points to the growth of gross value added in the first half of the year in annual terms, compared with 4 percentage points in the domestic sector (**figure 3B**).

[11] Core investment excludes investment in aircraft for leasing purposes.
[12] In other words, excluding the production (and subsequent export) of goods through outsourcing to third-country 'contact manufacturers'.

Figure 2: Underlying indicators and nowcast

A: Underlying economic activity indicator 2019-2022

B: Q3 nowcast – q/q per cent change



Source: Department of Finance.

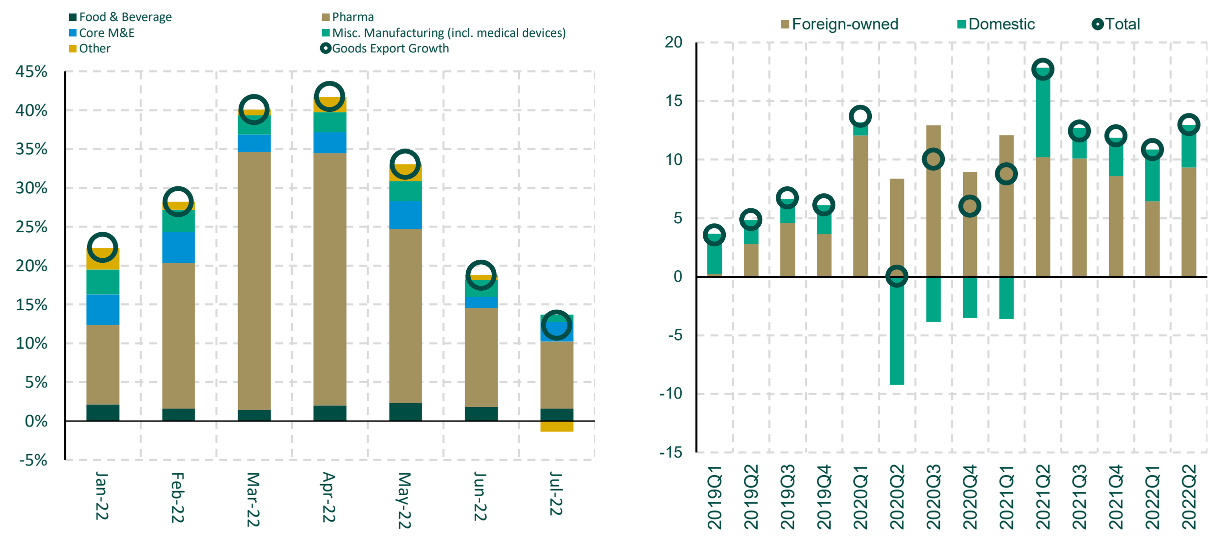
Source: CSO and Department of Finance.

While much of the profit arising from these activities is repatriated to non-resident shareholders, a significant slice remains in the domestic economy, in the form of corporate tax receipts, wages and income taxes. Indeed, total wages in the foreign-dominated manufacturing and ICT sectors grew at an annual rate of 15 per cent in the first half of the year, with a combined pay-bill of around €13.8 billion in these sectors over the same period. Indigenous exports also recorded relatively strong growth, with food exports up by a fifth (in value terms) in the first half of the year.

Figure 3: Exports and value-added

A: Goods exports in H1 2022

B: Gross value added by sector (foreign and domestic)



Source: CSO

Source: CSO

Overall, exports are projected to grow by 12.5 per cent this year, with imports expected to grow by just over 7 per cent. The net effect would result in GDP growth of 10 per cent (GNI* of 5 per cent) this year.

The Government's economic policies during the pandemic have yielded a positive return in the labour market. By the second quarter this year, during which the *Pandemic Unemployment Payment* and

Employment Wage Subsidy Scheme were fully phased out, the level of employment stood at over 2.55 million, an all-time high. Much of the additional labour has come from increased participation rates, particularly by females and younger workers. The entry of Ukrainian migrants under the *Temporary Protection Directive* has also had a positive impact on labour supply, with almost 8,500 of those arrived now in employment. Overall, the labour market remains exceptionally tight, with the unemployment rate at 4.3 per cent in August.

In the face of moderating demand, employment growth is expected to soften in the third quarter, and ultimately dip in the fourth quarter. A modest up-tick in unemployment is anticipated, with the unemployment rate projected at just under 5 per cent at year-end.

2.3 Macroeconomic projections for 2023

2.3.1 External assumptions

Economic prospects in Ireland's main export markets have weakened, as real incomes fall on foot of higher inflation. A front-loading of monetary policy normalisation, tighter financial conditions and heightened geopolitical tensions – including, but not limited to, those related to the Russian invasion of Ukraine – are additional headwinds that will likely tip some of Ireland's key export markets into recession.

Table 3: External assumptions, per cent change (unless stated)

	2021	2022	2023	2024	2025
External GDP growth					
United States	5.7	1.5	0.5		
Euro area	5.2	3.1	0.3		
United Kingdom	7.4	3.4	0.0		
Technical assumptions					
Euro-sterling exchange rate (€1=)	0.86	0.85	0.86	0.86	0.86
Euro-dollar exchange rate (€1=)	1.18	1.05	1.00	1.00	1.00
Brent crude ($ per barrel)	70.7	100.8	89.0	82.6	78.1
Natural gas prices (stg£ per therm)	1.1	3.5	5.5	3.7	2.4

Notes:
Oil and gas prices (futures) in 2022 – 2025 are calculated on the basis of futures markets as of mid-September 2022.
Exchange rate outturns as of mid-September 2022 and unchanged thereafter.
Source: External growth forecasts are sourced from the OECD *Interim Economic Outlook*, September 2022 update.

The weaponisation of Russian gas supplies means that Europe is the epicentre of the global energy shock. Activity in the euro area has softened and is projected to move into negative territory in the second half of the year, as the squeeze on real incomes takes its toll. For next year, activity is projected to increase by just 0.3 per cent (**table 3**). In the UK, the energy shock is being aggravated by the additional supply-side shock associated with exiting the European Union, although the September fiscal measures (e.g. energy 'price cap') may, temporarily, limit the scale of the slowdown. While the US economy is less exposed to the energy price shock, the aggressive pace of monetary tightening is weighing on activity, especially in residential investment. In China, the unravelling of the property bubble continues to depress activity, with potential spill-overs to other parts of the world.[13]

[13] While not a major export destination, as the second largest economy in the world, developments in the Chinese economy have a major bearing on global prospects.

Box 1: Global supply chain developments – an update

The Covid-19 pandemic delivered a major shock to global supply chains, exposing some of the limitations associated with elongated supply chains.

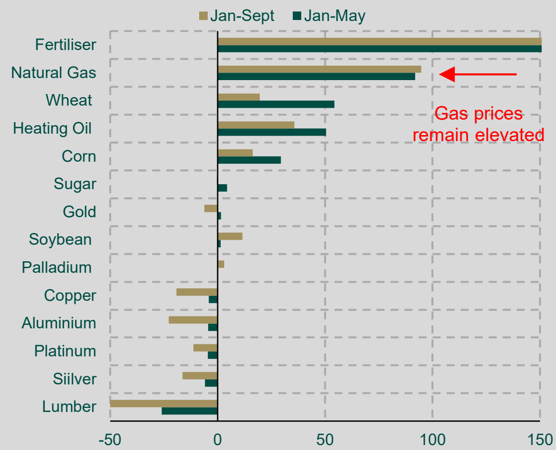
While global demand rebounded sharply as public health restrictions were progressively lifted, the capacity of the global economy to meet this demand was constrained by several factors. These included factory closures (due to 'zero-Covid' policies in some jurisdictions), transport bottlenecks (shortages of shipping capacity and closure of ports), labour supply shortages, as well as reduced availability of key inputs (e.g. semi-conductors).

This emerging imbalance between demand and supply this time last year, as much (though not all) of the world was exiting the pandemic, constrained economic activity and triggered an increase in both producer and consumer prices.

At the beginning of this year, evidence was mounting that some of these supply bottlenecks were beginning to ease. The Russian invasion of Ukraine, however, temporarily reversed this: both countries are leading global suppliers of a number of key inputs into production (oil, gas, wheat, corn, fertilisers as well as certain metals). Disruptions to these supply chains following Russia's invasion of Ukraine resulted in sharp increases in the price of these commodities (**figure 4A**).

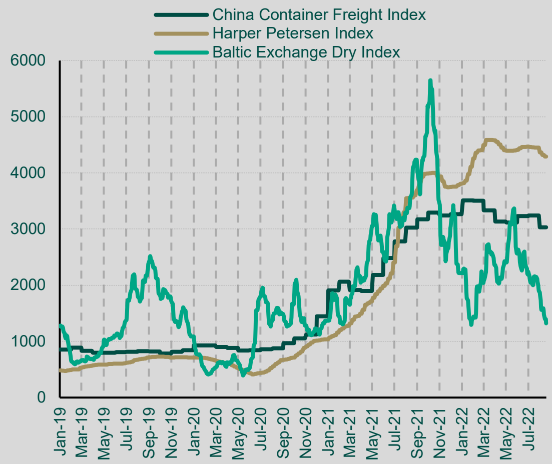
Figure 4: Some easing of global supply chain pressures of late

A: Commodity prices, per cent change



Source: Macrobond, Yahoo Finance

B: Shipping costs



Source: Macrobond

While supply chain disruptions continue to weigh on economic activity and add to inflationary pressures, some signs of easing have emerged in recent months. Global shipping costs have declined of late (**figure 4B**), though this trend may in part reflect a slowdown in global demand and a rotation of spending away from goods toward services as economies have re-opened.

While several commodity prices have retreated from their March/April highs, wholesale gas prices (and indeed fertilisers, a by-product of natural gas) remain elevated, with spot prices currently at around £4.00 per therm – about eight times the long-term average. This reflects continued supply concerns as well as the strength of demand, as many countries try to build up their stores in advance of the northern hemisphere winter.

Looking ahead, global supply chain disruptions are expected to continue to ease, helped by the continued rotation away from goods to services spending and a slowdown in global demand as energy prices continue to weigh on economic activity.

More fundamentally, both the pandemic and the war in Ukraine have highlighted the fragilities of global supply chains, in particular the risks associated with over-reliance of supply chains in certain regions and products. Reflecting this, it remains possible that multinational firms re-evaluate their strategies, putting greater emphasis on a 'just-in-case' rather than the 'just-in-time' approach. This could potentially involve *inter alia* 'friend-shoring' (favouring strategic allies in production location decisions) with implications for efficiency and cost.

While it is still to be definitive, from an Irish perspective it will be important to monitor and evaluate Ireland's ongoing competitiveness and attractiveness as a location for mobile foreign direct investment flows in a world where the nature of globalisation may be changing.

Against the backdrop of a broadening of price pressures and persistently higher inflation, the stance of monetary policy across all advanced economies is shifting. Policy rates are being increased alongside a scaling-back of quantitative easing. The objective is to prevent inflation becoming entrenched, an outcome that would require an even more aggressive policy response at a later date. In some regions, central banks have gone a step further, announcing 'quantitative tightening' (reduction in the size of central bank balance sheets) in the coming months. Taken together these measures are intended to curtail price pressures albeit at the cost of lower levels of aggregate demand in the months and quarters ahead. A key risk is that inflation becomes more persistent and inflationary expectations become de-anchored; this could require an even more aggressive monetary policy response in the relevant jurisdictions. On a more positive note, there is some evidence that global supply chain difficulties are beginning to unwind (**Box 1**).

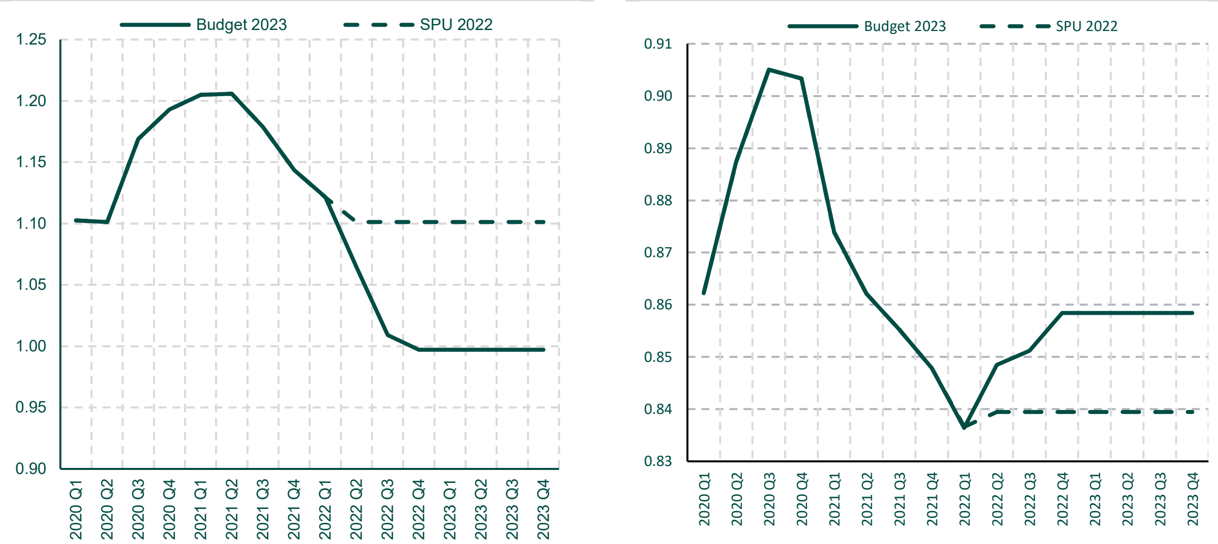
Differences in the stance of monetary policy are a key factor behind recent exchange rate re-alignments. The stand-out development has been the appreciation of the US dollar against a range of currencies, with 'safe haven' flows possibly an additional explanatory factor (**Box 2**). By raising the domestic cost of servicing dollar-denominated debt, dollar appreciation is the source of considerable market distress in several Emerging Market Economies (including some in Europe).

From an Irish perspective, the euro-dollar bilateral rate breached parity in mid-August, the first time since 2002 and this will add to inflation (by raising the euro price of oil, for instance). In terms of constructing the Department's economic projections, the rate averaged around €1 = $1 in the first half of September and, on the basis of the purely technical assumption of no further change over the remainder of the forecast horizon, this would imply a euro-dollar depreciation of around 11 per cent this year and 5 per cent next year (**figure 5A**). The euro-sterling rate has been more stable; a similar, purely technical approach of no further change would imply a euro-sterling depreciation of around 1 per cent this year and appreciation of 1 per cent next year (**figure 5B**).

Figure 5: Change in key bilateral exchange rates relative to spring 2022 forecast

A: Euro-dollar bilateral exchange rate

B: Euro-sterling bilateral exchange rate



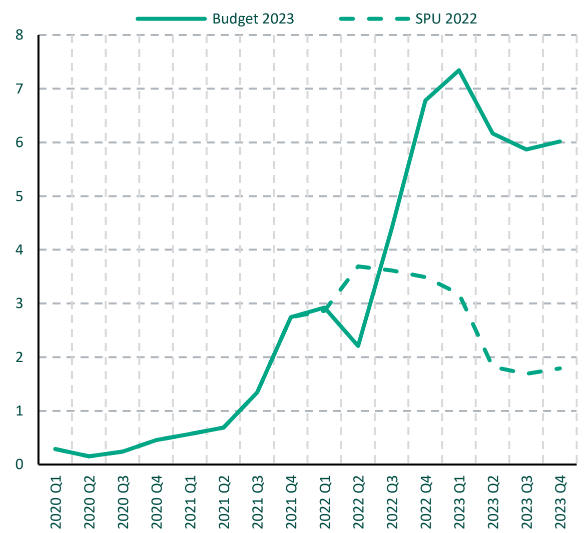
Note: held constant at rates prevailing at mid-September.
Source: Central Bank of Ireland.

Note: held constant at rates prevailing at mid-September.
Source: Central Bank of Ireland.

The prospect of a near-cessation of Russian natural gas exports triggered a further jump in wholesale gas prices over the summer, as many EU countries scrambled to secure gas supplies. Prices in the first half of September traded at around stg£4.20 per therm,[14] over 3 times higher than this time last year (**figure 6A**). Because prices at this level will likely usher in a recession in many jurisdictions, wholesale prices for oil (and some other commodities) have fallen, given the likelihood of lower demand (**figure 6B**). That said, prices remain materially higher than this time a year ago, especially in the euro area where the depreciation of the euro-dollar bilateral exchange rate have pushed up domestic prices.[15]

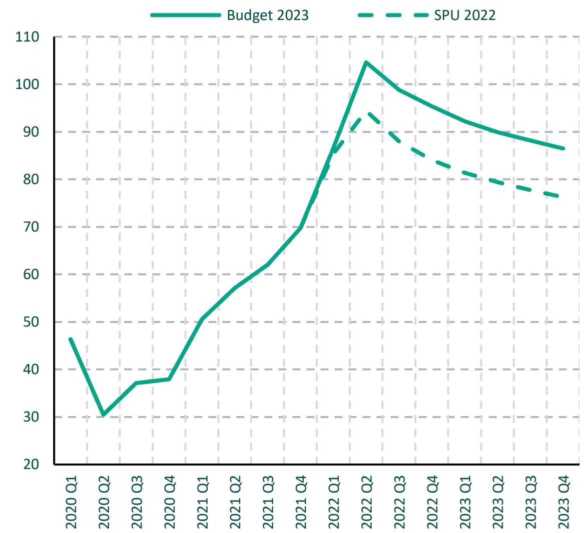
Figure 6: Change in energy price assumptions relative to spring 2022 forecast

A: Gas prices, stg£ per therm



Source: Macrobond.

B: Oil prices, $ per barrel



Source: Macrobond

On the basis of futures markets in mid-September, oil prices are expected to average around $101 (€96) per barrel this year, and around $89 (€89) per barrel next year. UK gas futures currently stand at stg£6.10 per therm on average over the winter (final quarter of this year, first quarter of next year) and stg£5.50 per therm on average for next year (the long-run average cost per therm which held to the middle of 2021 was around 50 pence).

2.3.2 Domestic prospects

The Department's macroeconomic projections for next year are conditioned on the assumption of no major economic disruption arising from the reduction in Russian gas supplies to continental Europe. In other words, while there may be a cessation of Russian natural gas supplies, it is assumed that alternative energy sources and demand-management measures can plug most (though maybe not all) of the gap in larger continental countries. On this basis, the sharp jump in prices remains the main channel through which war in Ukraine is impacting on the domestic economy (an alternative more disruptive scenario is detailed in **chapter 6**).

The key determinants of the outlook for the domestic economy next year are the decline in domestic purchasing power and the deterioration in the external environment. While wages will offset some of the increase in the price level, real income growth is expected to be negative again next year, and this will act as a drag on consumer spending. Similar dynamics are at work in Ireland's key export markets and so the external outlook is much weaker than assumed in the Department's spring forecasts.

[14] Mid-August to mid-September average.
[15] Oil is traded in US dollars; the depreciation of the euro relative to the dollar means that those in the euro area have to pay more to purchase oil.

The inflation rate is expected to ease only gradually next year and this will continue to erode household purchasing power. In real terms, household disposable income is projected to decline next year. While some households may choose to tap into their savings – including the windfall savings that accumulated during the pandemic – to support spending, this option is not available to all households. Moreover, heightened uncertainty and weak consumer sentiment mean that some households will place a premium on accumulating savings rather than spending.

Against this general backdrop, real consumer spending growth of 1.8 per cent is projected for next year, with nominal growth significantly higher at just over 8 per cent in the face of ongoing inflationary pressures. This projection assumes that real spending moves sideways in the first quarter of the year, before picking-up moderately thereafter (**figure 7A**).

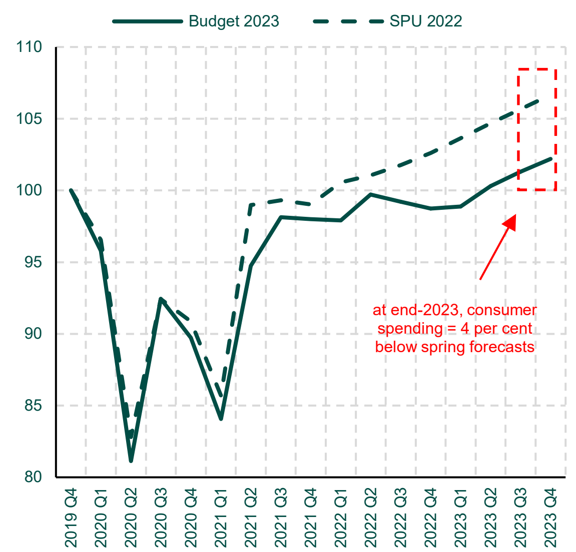
Two factors will influence public consumption (which is the purchase of goods and services by the general government sector). First is the winding down of temporary, pandemic-related services such as 'test-and-trace'. Second, and working in the opposite direction, is the purchase of goods and services to support Ukrainian migrants.

The investment environment has deteriorated, amid tighter financing conditions and heightened economic uncertainty. Businesses will likely hold back on committing to new capital spending while price pressures and uncertainty remain elevated, and this will likely weigh on core machinery and equipment spending. In the housing market, higher input costs will likely continue to weigh on supply, though the Government's *National Development Plan 2021-2030* will support activity elsewhere in the construction sector. In overall terms, modified investment is projected to increase by 2.2 per cent next year.

Against this backdrop, MDD growth of 1.2 per cent is projected for next year. The assumed quarterly profile (**figure 7B**) largely follows that of consumer spending.

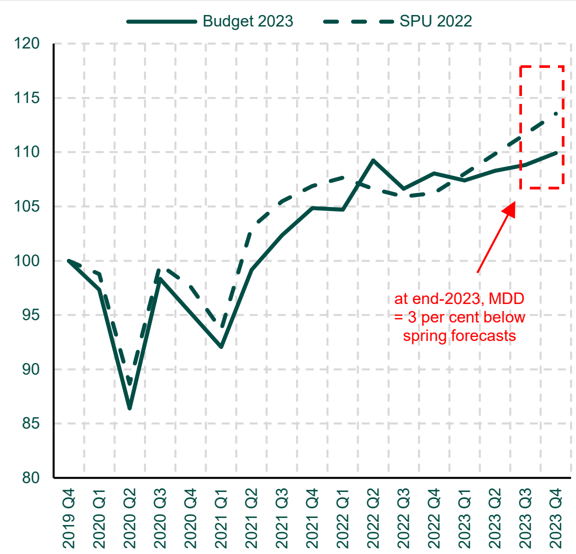
Figure 7: Quarterly projections for household consumption and MDD

A: Quarterly profile for consumption, 2019q4 = 100



Note: Level immediately pre-pandemic set=100
Source: CSO and Department of Finance

B: Modified Domestic Demand, 2019q4 = 100



Note: Level immediately pre-pandemic set=100
Source: CSO and Department of Finance

Box 2: Re-alignment of the euro-dollar exchange rate – drivers and consequences

Since the beginning of this year, the euro has depreciated by close to 15 per cent against the US dollar.^ In July, the euro-dollar bilateral exchange rate dropped below parity for the first time in two decades (**figure 8A**). The question arises as to the driving forces behind these developments as well as the consequences for the economy.

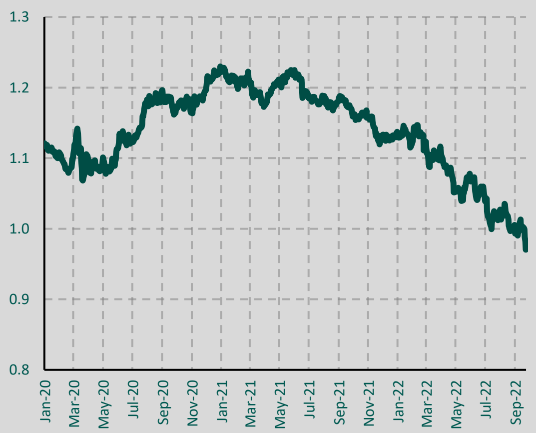
Three key factors appear to be behind these exchange rate dynamics. First is the relative performance of, and outlook for, the US economy. The euro area was harder hit by the Covid-19 pandemic while the war in Ukraine, and associated sanctions, have dealt a further asymmetric blow (euro area economies are much more reliant on Russian fossil fuel imports to meet their energy needs). Moreover, different structural features mean that the US economy tends to be more resilience than most – its capacity to absorb shocks being enhanced by flexible product and factor markets. These more favourable prospects for the US economy offer the potential for greater returns on investment, incentivising capital flows into US assets and an appreciation of the US dollar.

Second, and not unrelated, is that interest rate tightening cycle in the US has been more aggressive than in the euro area (and elsewhere). Going forward, market expectations of relatively higher interest rates in the US, and the associated higher rates of return on investment, have attracted global capital flows.

The final factor behind dollar appreciation is the effect of 'safe haven' flows. In times of economic uncertainty, capital flows shift towards low-risk assets (known as 'safe havens') as investors try to limit exposure to losses – where return of capital is more important than return on capital. The US dollar is the world's reserve currency and the most widely used currency for international trade, making it a default 'safe haven' for investors. The current climate of economic and geopolitical instability has encouraged capital flight to 'safe haven' assets.

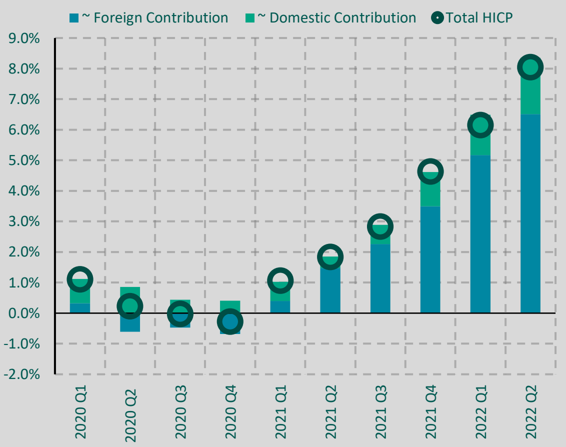
Figure 8: Exchange rate and inflation in the euro area

A: Euro-dollar bilateral exchange rate



Source: Macrobond

B: Import content of euro area inflation



Source: Eurostat

In theory, the appreciation of the dollar should aid in the adjustment of the global economy, with the strength of the dollar increasing the relative competitiveness of US trading partners and thereby supporting the exports of less cyclically-advanced economies (including the euro area). In this way, exchange rate movements are (at least on paper) part of the equilibrium process and a means by which economies absorb and adjust to economic shocks. In practice, this process is seldom without frictions, and a disorderly adjustment process has the potential to damage an economy. For example, both the 'taper tantrum' in US bond markets in 2013 and the US stock market crash in 2018 were due in part to a deterioration in financial conditions resulting from monetary policy tightening.

While the US is in a position to recover from such volatility, emerging market economies are particularly at risk from exchange rate dynamics. Capital outflows have led to a tightening of financial conditions in many emerging market economies (EMEs), stifling activity and exposing financial and macroeconomic vulnerabilities. Many EMEs have large dollar-denominated liabilities, and appreciation of the dollar drives up the cost of debt financing. This is a catch-22 for EMEs, which often cannot borrow in their own currencies, and is one reason why some EMEs are in (or at risk of) debt distress.

From a euro-area perspective, euro depreciation pushes up the price of imports (**figure 8B**), particularly of commodities such as oil that are denominated in dollars. At a time of high inflation, this effect is contributing further to price pressures and the erosion of the real incomes of euro area residents.

^ In effective (or trade-weighted) terms, the depreciation of the euro exchange rate has been considerably less.

Export growth is projected to moderate next year to 5.5 per cent, reflecting the weakening in the external environment, though supported by the high-growth sectoral portfolio of Irish exports. The goods export forecast is also based on the purely technical assumption that exports related to 'contract manufacturing' do not make a significant contribution to growth next year. Importantly, the projection for the exports of goods is conditioned on the assumption that the introduction of full customs procedures by the UK authorities under the *Trade and Cooperation Agreement* does not take place between now and the end of next year.

Table 4: Macroeconomic prospects

	2021	2022	2023	2024	2025
Economic activity			*per cent change*		
Real GDP	13.6	10.0	4.7	3.3	3.8
Nominal GDP	14.3	17.1	9.3	5.5	5.7
Real GNI*	15.4	5.1	0.4	2.7	3.1
Real MDD	5.8	7.7	1.2	3.3	3.6
Components of GDP			*per cent change*		
personal consumption	4.6	5.5	1.8	4.6	4.2
government consumption	6.5	2.9	-1.5	-1.1	1.5
modified-investment	8.2	17.7	2.2	3.8	4.1
stock changes^	0.3	0.0	0.0	0.0	0.0
exports	14.1	12.5	5.5	3.9	4.4
modified imports	9.7	12.5	3.9	4.1	4.7
Contributions to GDP growth			*percentage points*		
modified domestic demand	2.8	3.4	0.5	1.4	1.6
modified net exports	10.9	6.6	4.3	1.9	2.3
stock changes	0.3	0.0	0.0	0.0	0.0
statistical discrepancy	-0.4	0.0	0.0	0.0	0.0
Nominal amounts			*€ millions*		
GDP (nearest €25m)	426,275	499,150	545,775	575,700	608,750
GNI* (nearest €25m)^^	233,875	261,050	274,925	289,700	305,550

Notes:
^ contribution to GDP growth.
^^ based on GNI less depreciation of R&D-related service imports and trade in IP, depreciation of aircraft for leasing, and net factor income of re-domiciled PLCs
Modified investment is a measure of investment that excludes investment in aircraft for leasing and investment in R&D from abroad, likewise for modified imports.
Source: 2021 = CSO; 2022-25 = Department of Finance.

On the basis of these assumptions, GDP is projected to increase by 4.7 per cent next year. GNI* growth is expected to increase by just 0.4 per cent, reflecting the modest growth in MDD and a negative contribution of net (domestic) trade in the face of external headwinds.

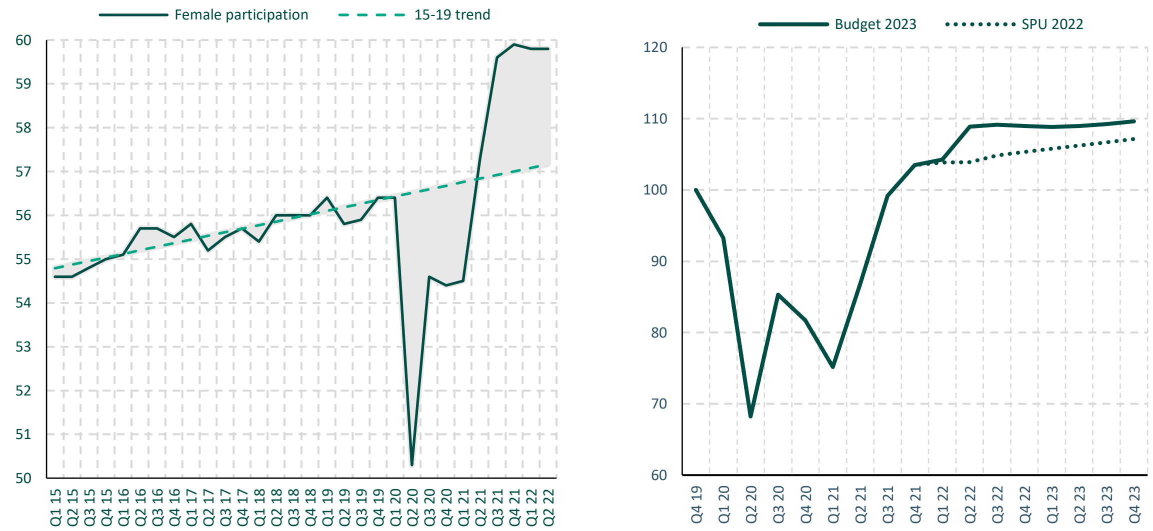
2.4 Labour market developments

The Government's policy response to Covid – maintaining the employer-employee link during the different waves of the virus – has underpinned the post-pandemic rapid recovery in employment. The level of employment reached over 2.55 million people in the second quarter of this year, the highest level ever. Increased labour force participation, mainly among female (**figure 9A**) and youth workers, has been a key factor behind the strong employment recovery. Structural changes, such as greater flexibility afforded by remote-working opportunities, may be a significant factor behind this development.

Looking ahead, higher frequency data indicate some softening in employment growth in the second half of the year. This is consistent with more modest MDD growth, and would result in an average unemployment rate of 5.2 per cent this year.[16] For next year, employment growth is expected to remain relatively subdued, in keeping with the general economic outlook (**figure 9B**). Growth of 1.2 per cent (32,000 jobs) is assumed,[17] consistent with an unemployment rate of just over 5 per cent for the year.

Figure 9: Labour market developments

A: Female participation vs 2015-2019 trend | B: Quarterly employment projections, 000



Source: CSO, analysis Department of Finance. | Source: CSO, Department of Finance.

Despite some expected softening in the labour market over the next year or so, relatively tight conditions and skills shortages for some sectors are likely to persist in the labour market. This, alongside price increases in the economy more generally, is likely to contribute to upward pressures on wages in the near-term.

Table 5: Labour market developments, per cent change (unless stated)

	2021	2022	2023	2024	2025
Employment	11.0	18.3	1.2	1.6	1.8
Unemployment rate (per cent)	15.9	5.2	5.1	5.0	4.7
Labour productivity^	2.4	-7.0	3.4	1.7	1.9
Compensation of employees*	9.8	12.3	7.2	6.6	6.7

^GDP per person employed.
*Non-agricultural sector.
Source: 2021 = CSO: 2022-25 = Department of Finance.

[16] The unemployment rates for the first quarter and part of the second quarter of the year incorporate *Pandemic Unemployment Payment* recipients (PUP) as unemployed.
[17] The annual comparison is affected the continuation of the PUP in the first two quarters of 2022.

Compensation of employees (the economy-wide pay-bill) increased by just under 10 per cent last year, with new distributional data from the CSO showing that the bulk of pay growth was for higher earners (consistent with the 16¼ per cent growth in income taxes last year).[18] Data for the first half of 2022 indicate that the wage bill is set to increase substantially this year, and the strength of income taxes in the year-to-date supporting this conclusion. Overall, compensation of employees is projected to grow by around 12.3 per cent this year, and by 7.2 per cent next year.

2.5 Price developments

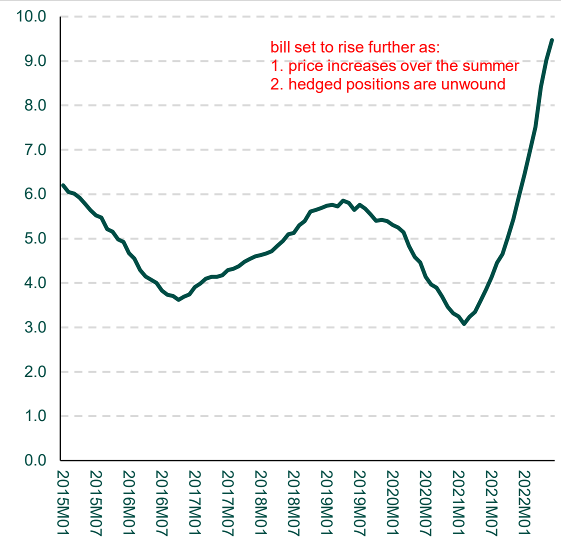
Consumer price inflation has accelerated sharply across advanced economies since the spring, with multi-decade high inflation rates of 9 per cent, 9.9 per cent, and 9.1 per cent recorded in Ireland, the UK and the euro area respectively in August.

In Ireland, the key driver of inflation has been the increase in wholesale energy (particularly gas) prices following Russia's invasion of Ukraine. As a result, Ireland's energy import bill (**figure 10A**) was around €10 billion (annualised) in July this year, double the 2015-2020 average. Moreover, as hedged positions are unwound and prices inter alia reflect gas price developments over the summer, the direction of travel for the import bill is clear.

Other commodity prices, such as those for wheat, fertilisers and metals, also increased sharply in the immediate aftermath of the invasion, but have subsequently retreated somewhat. These external inflationary pressures have been further exacerbated by persistent global supply chain disruptions. On the domestic front, the ongoing mismatch between demand and supply in parts of the labour market is also contributing to higher prices.

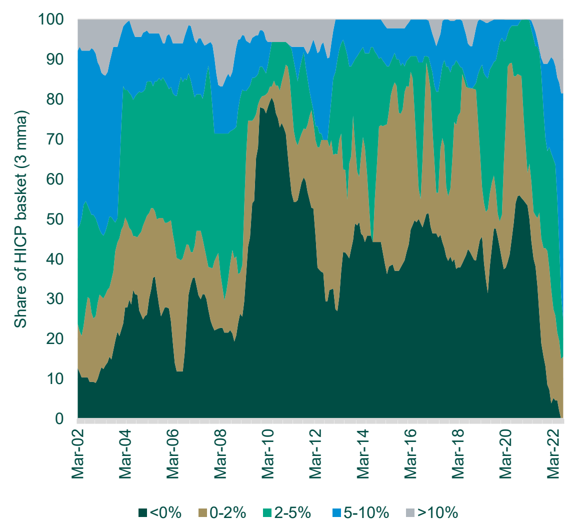
Figure 10: Inflation developments and drivers

A: Ireland's energy import bill, € billion



Note: figures are annualised (12-month rolling sum).
Source: Department of Finance.

B: Inflation rates across the HICP basket



Source: Department of Finance.

Detailed price data confirm that inflationary pressures have broadened beyond energy and food prices: over the summer, annual inflation was in excess of 5 per cent for 80 per cent of goods and services in

[18] Source for distributional data = annual national accounts

the basket (**figure 10B**). Core inflation – which excludes these components – has picked-up sharply, as ‘second-round’ effects take hold (higher input costs leading to higher output prices).

Looking ahead, headline (HICP) inflation is expected to increase further over the second half of this year. As detailed earlier, natural gas prices have increased further over the summer and, as wholesale prices pass-through to retail prices, this will add to inflation. Core inflation is also expected to continue to pick up over the course of this year as the indirect effects of higher energy prices continue to pass through to other sectors, in particular food, transport and non-energy goods. While there is evidence that bottlenecks in global supply chains may be gradually unwinding (**figure 4**), relatively strong wage growth will keep services inflation elevated. For this year as a whole, headline inflation is projected to average 8.5 per cent, with core inflation of 5.3 per cent in prospect.

Table 6: Price developments, per cent change

	2021	2022	2023	2024	2025
GDP deflator	0.7	6.5	4.4	2.1	1.9
Personal consumption deflator^	3.8	7.5	6.2	3.2	2.5
Harmonised index of consumer prices	2.5	8.5	7.1	2.4	1.8
Core HICP inflation^^	1.7	5.3	4.6	3.0	2.6
Export price deflator	1.0	5.6	3.0	1.4	1.4
Import price deflator	3.6	5.1	2.4	1.5	1.6
Terms-of-Trade	-2.5	0.4	0.6	-0.1	-0.1

Notes:
^ Both the personal consumption deflator and the HICP measure the change in the average price of a fixed basket of goods and services. However, the two measures differ in terms of the goods and services covered and the weights assigned to each item.
^^ core inflation is HICP inflation excluding the most volatile components, namely energy and unprocessed food.
Source: 2021 = CSO; 2022-25 = Department of Finance.

Some easing of the annual rate is anticipated next year as energy price base effects drop out of the annual rate, supply chain disruptions further unwind and employment growth slows. Despite this easing, the price level will remain elevated, with headline and core inflation of close to 7 and 4.6 per cent respectively forecast for next year. As a result, the price level in the fourth quarter next year is expected to be 13 per cent up on the level in the first quarter this year, with the largest increases for essentials such as rents, food and energy.

The GDP deflator, a wider measure of price changes in the economy, is forecast to grow by 6.5 per cent this year. Given the size of the traded sector in Ireland, the so-called ‘terms-of-trade’ (the price of exports relative to the price of imports) is an important driver of the GDP deflator in Ireland. Rising export prices (partly related to exchange rate developments) alongside rising import prices (mainly due to higher imported energy prices), have led to a small increase in Ireland’s overall terms of trade this year, though a fall in the terms-of-trade is projected on the goods side. For next year, the GDP deflator is projected to increase by 4.4 per cent.

2.6 Balance of payments and flow-of-funds

The modified current account (CA*) removes a number of globalisation-related distortions, and is a more meaningful measure of the balance of international payments than the headline current account figure.[19] For this year, the increase in the nation's imported energy bill – arising from a deterioration in the terms on which Irish residents trade with non-residents (terms-of-trade shock) – will result in some narrowing of the modified current account surplus, which is projected at 8.4 per cent of GNI*. A further narrowing is in prospect next year, with a surplus of 7.7 per cent of GNI* projected.[20]

Table 7: Savings, investment and the balance of payments, per cent of GDP (unless stated)

	2021	2022	2023	2024	2025
Gross savings	38.9	40.0	41.0	40.7	40.4
Modified gross savings (per cent GNI*)	32.7	32.4	31.7	31.5	31.2
of which:					
- households	13.9	10.0	8.6	7.0	6.2
Investment^	24.7	20.8	20.2	20.6	20.9
Modified investment (per cent GNI*)	21.6	24.0	24.1	24.5	24.9
of which:					
- households	2.9	3.6	3.8	4.3	4.7
Current account	14.2	19.3	20.8	20.0	19.5
of which:					
- trade balance	39.4	44.9	46.3	45.8	45.4
- income balance	25.2	25.6	25.6	25.7	26.0
Modified current account (per cent GNI*)	11.1	8.4	7.7	7.0	6.3

Notes:
^ More specifically, gross capital formation which is the sum of gross domestic fixed capital formation, changes in stocks and the statistical discrepancy.
Source: 2021 = CSO; 2022-25 = Department of Finance.

The counterpart to the modified current account surplus is an excess of domestic savings over domestic investment. This means that the savings of the household, domestic corporate and government sectors are more than sufficient to finance the investment in these sectors and there is, accordingly, a flow of funds from these sectors to the rest of the world – in other words Ireland is, on aggregate, a net-lender to the rest of the world. The Department's economic projections imply an excess of saving over investment over the course of this year and into next (**table 7**).[21]

These financial positions are expected to unwind over the medium term, in particular as the financial surplus of the household sector is reduced through higher investment housing assets and a more 'normal' level of savings.

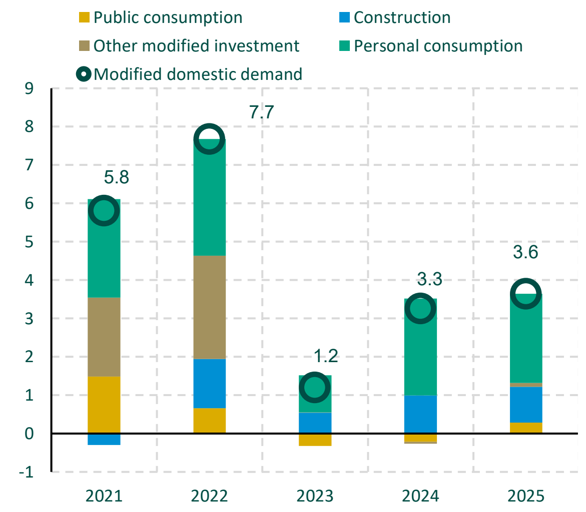
2.7 Medium-term economic prospects

Medium-term prospects will be determined, as always, by the availability of capital and labour in the economy, together with the efficiency (productivity) with which these are combined to produce output. The Department's projections beyond next year take into account estimates of this supply capacity.

[19] For more detail on Ireland's modified current account and the distortions to the Balance of Payments, see *The Balance of Payments in Ireland: Two Decades in EMU,* Department of Finance (2019), available at: https://assets.gov.ie/27044/76703b33310041eaa98fa0c6052f3d1f.pdf
[20] https://assets.gov.ie/207391/ac156029-76b6-4ce5-a21c-b75d9d75a735.pdf
[21] The annual institutional sector accounts will be published in November and will help provide further insight on the role of the corporate sector in driving Ireland's current account position.

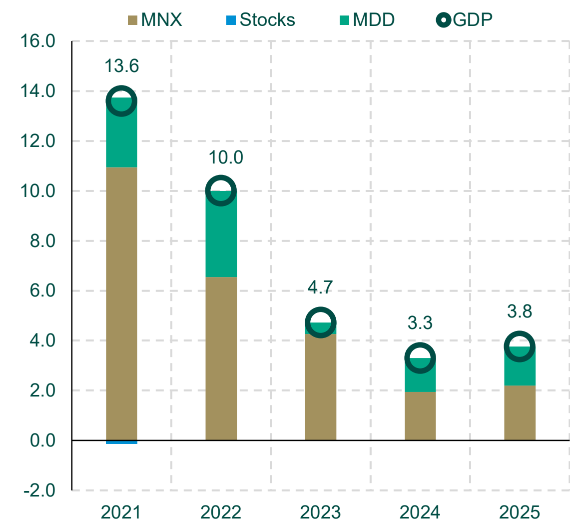
Figure 11: Contributions to modified domestic demand and to GDP

A: Contributions to change in MDD



Notes: Other modified investment is machinery and equipment excluding investments in aircraft by the leasing sector, plus domestic R&D.
Source: CSO and Department of Finance

B: Contributions to change in GDP

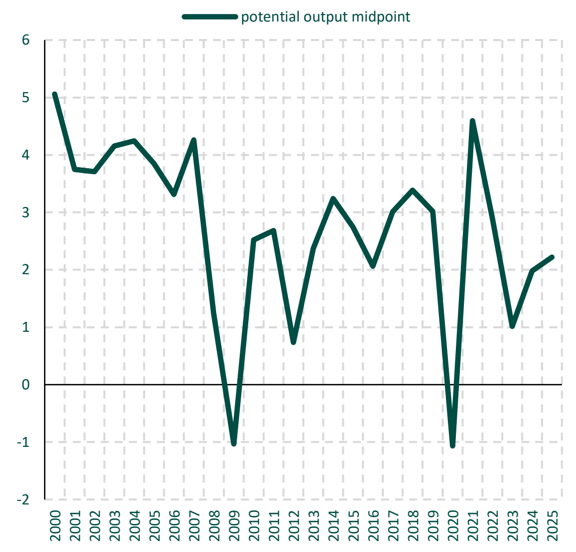


Notes Modified net exports is net exports (exports less imports) excluding investments in aircraft by the leasing sector and net R&D imports.
Source: CSO and Department of Finance

Beyond the mid-part of this decade, the potential growth rate of the economy is set to slow, as labour supply eases and the scope for further increases in labour productivity (output per worker) is limited as the convergence process is completed.

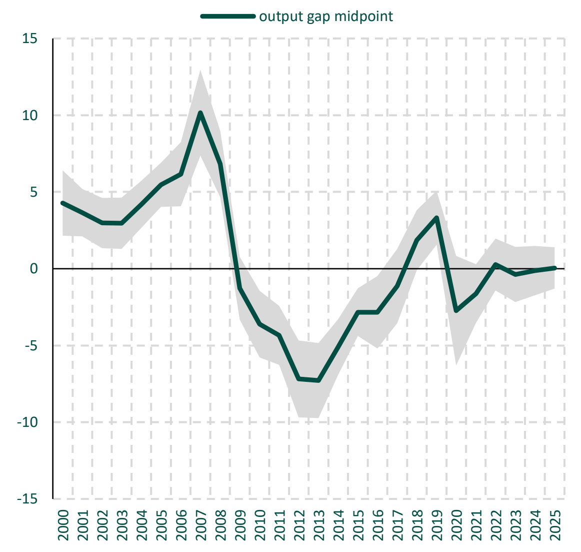
Figure 12: Potential output and output gap

A: Potential output, y/y per cent change



Source: Department of Finance.

B: Output gap, share of domestic GVA



Source: Department of Finance.

Box 3: Macroeconomic scenarios from the war in Ukraine

The war in Ukraine has triggered a large supply-side shock to the global economy – the price and availability of key inputs to global production (oil and natural gas) have been adversely affected. The immediate, or near-term, impact of higher fossil fuel prices is playing out by way of lower real household incomes in energy-importing countries as well as lower profitability in the corporate sector.

An important question relates to the medium-term impact of this energy price shock – in other words, when the dust has finally settled, what is the economic fall-out from higher energy prices? To try to answer this question, this box draws on forthcoming joint work by the Department of Finance and the ESRI.^

This work involves generating model-based estimates of the medium-term economic impact of the war on the Irish economy using the COSMO structural model of the Irish economy,^^ together with the NiGEM global model.^^^ Scenarios for energy prices are passed through to the COSMO model to estimate the direct impact on the Irish economy of an energy price shock. These scenarios are also fed into NiGEM, which in turn provides COSMO with projections of key external variables thereby simulating the indirect implications for the Irish economy.

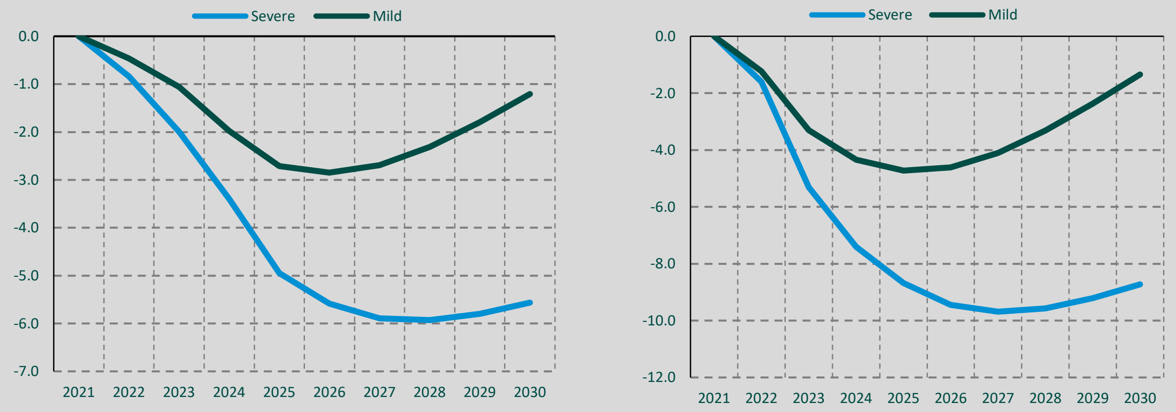
To calibrate the global energy price shock, the analysis is informed by the European Central Bank's September staff projections, which provide baseline and downside scenarios for energy prices out to 2024.^^^^ These projections are used to make two alternative scenarios in COSMO. The mild scenario uses the ECB's baseline assumptions for energy prices up to 2024 while the severe scenario uses the ECB's downside assumptions. Beyond 2024, assumptions are made surrounding how the two scenarios could diverge over the medium-term. In the mild scenario applied in COSMO, commodity prices gradually return to their pre-war levels, resulting in a smaller economic impact of the conflict. In the severe scenario, however, oil and gas prices remain elevated at their 2024 levels. Both the mild and severe scenarios are compared to COSMO's counterfactual pre-war baseline which assumes commodity prices and the global economy follow pre-war trends

In the medium-term, these two sets of assumptions can be thought of as upper and lower bound estimates of the economic impact of the conflict on Ireland.

Figure 13: Modelling results

A: Modified Domestic Demand, pp deviation vs baseline

B: Consumer spending, pp deviation vs baseline



Source: ESRI, Department of Finance workings.

The shocks result in a substantial decline in MDD in 2023 relative to a counterfactual pre-war baseline of just over -1 per cent in the mild scenario and around -2 per cent in the severe scenario.

Over the medium-term (by 2025), the deviation in MDD relative to the counterfactual pre-war baseline is around 2¾ per cent in the mild scenario, and about 5 per cent in the severe scenario. This result arises in part from the sharp fall in real incomes and purchasing power experienced by households from the elevated energy prices, which have strong impacts on the domestic economy. The impact of the shock to world demand for Irish exports is also evident in the results for output in the traded sector, which are between 0.9 and 3.4 per cent lower in 2025.

These reported results are intended to capture the potential impact of higher energy prices and a weaker external environment compared to a situation where a more typical path is followed. As such, they are not comparable to the Department of Finance's central forecasts and only capture the potential medium term impacts of the conflict under a certain set of conditioning assumptions. Further detail is provided in chapter 6

^ A. Bergin, Egan P., O'Toole C. and Sweeney, E., 2022 (forthcoming). *Exploring the impact of Russia's invasion of Ukraine on the Irish economy*
^^ Bergin, A., Conroy, N., Rodriguez, A.G., Holland, D., McInerney, N., Morgenroth, E.L. and Smith, D., 2017. COSMO: A new COre Structural MOdel for Ireland (No. 553). ESRI Working Paper.
^^^ National Institute Global Econometric Model.
^^^^ see: ECB Projections, Sept 2022, at:
https://www.ecb.europa.eu/pub/pdf/other/ecb.projections202209_ecbstaff~3eafaaee1a.en.pdf

Chapter 3
Exchequer Developments and Outlook

3.1 Summary

The Exchequer is set to record a modest surplus this year of €0.3 billion. This compares with a deficit of €7.4 billion in 2021, and reflects strong growth in tax revenue alongside the phasing out of pandemic-related fiscal supports in the spring. The budgetary surplus takes into account one-off measures introduced to help alleviate the increase in energy prices, as well as the transfer of €2 billion to the *National Reserve Fund* this year.[22] For next year, an Exchequer surplus of €1.7 billion is currently projected, with a transfer of €4 billion to the *National Reserve Fund*.

3.2 Exchequer developments in 2022

3.2.1 Tax revenue

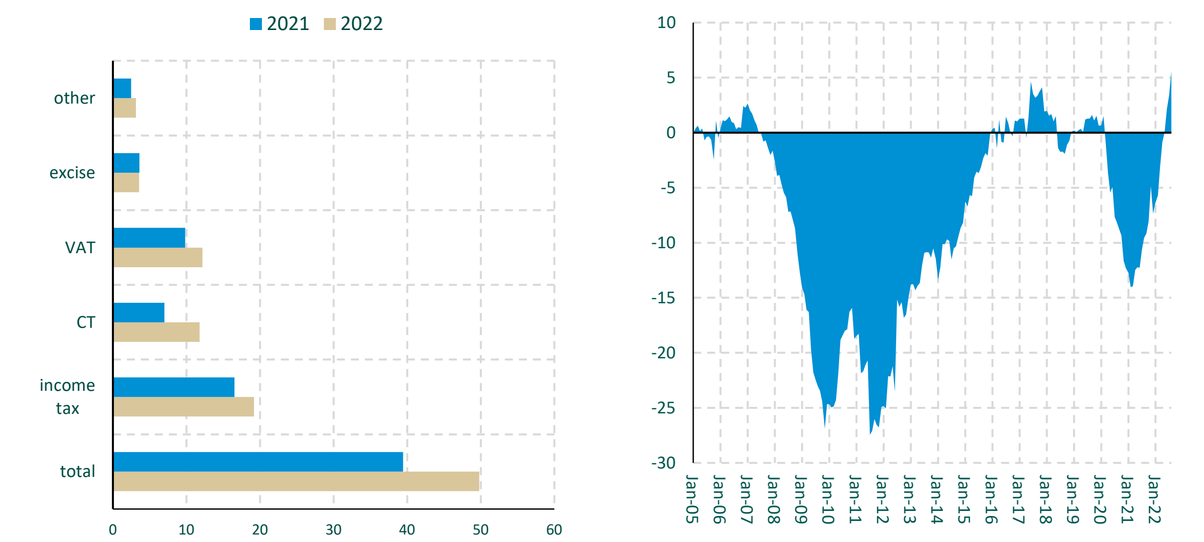
Growth in tax receipts in 2022 has been robust across almost all tax headings, the one notable exception being excise duties. Income tax, VAT and corporate tax receipts performed strongly (**figure 14A**), although in the case of VAT, the growth rate has been affected by pandemic-related 'base effects'.

Tax receipts to end-August were €49.8 billion, €10.4 billion (26 per cent) ahead of the same period last year. The strength of the labour market is confirmed by income tax receipts, which were up by €2.6 billion (16 per cent). The post-pandemic rebound in consumer spending has boosted VAT receipts, which are up €2.3 billion (24 per cent) year-on-year in the first eight months. The strongest gain has again been recorded in corporate tax receipts, reflecting the strength of output and sales (exports) in the multinational sector; the tax-take from the corporate sector amounted to €11.8 billion in the first eight months of this year, €4.8 billion (69 per cent) higher than the same period last year. As previously documented, over half of corporate tax receipts are paid by a handful of firms.

Figure 14: Exchequer developments

A: Cumulative tax receipts, to end-August, € bn

B: Exchequer deficit, rolling 12-month sum, € billions



Source: Department of Finance

Source: Department of Finance

[22] As purely financial transactions, these transfers do not benefit the general government balance.

Excise receipts are broadly unchanged relative to last year. This is mainly the result of Government policy, with reductions in rates of excise duty on petrol and diesel, designed to alleviate the burden on households of rising wholesale energy prices.

As outlined earlier, economic activity is projected to ease over the remainder of this year and this will weigh on taxation receipts. Against this backdrop, the aggregate tax yield is projected at €81.6 billion this year; this would constitute an annual increase of €13.2 billion (19.2 per cent).

In terms of direct tax receipts, income tax receipts are projected at €30.3 billion, €3.6 billion (13.5 per cent) higher than last year. Corporate tax receipts are estimated at €21 billion, €5.7 billion (37.4 per cent) ahead of last year; this would mean that corporate tax receipts would account for just over one in every four euro of tax revenue collected.

In terms of indirect taxes, VAT receipts are estimated to reach €18.3 billion, €2.8 billion (18.4 per cent) ahead of last year. *Budget 2023* provides for the extension of reductions in excise duties on petrol and diesel until end-February 2023. Taking this into account, excise receipts are projected to end the year at €5.7 billion, down €0.1 billion (2 per cent) on last year.

3.2.2 Other revenue

Non-tax revenue this year is projected at €2.5 billion. Capital resources – which include EU funding under the *Brexit Adjustment Reserve* and the *European Regional Development Fund* – are estimated at €4.8 billion.[23]

3.2.3 Expenditure developments

Total voted expenditure is projected at €90.1 billion for this year. Current spending accounts for €78.5 billion of this, with capital spending accounting for the remaining €11.6 billion, and is the equivalent of 4½ per cent of GNI*.

The headline figure for total voted expenditure is composed of €80.8 billion of core (or permanent) spending (**table 9**) with the remaining €9.3 billion being temporary.

3.2.4 Summary

An Exchequer surplus of €5.6 billion (12-month, rolling sum) was recorded in August (**figure 14B**), although this must be seen in the context of significant deficits stretching back a decade-and-a-half. Taking into account likely developments in the final months of the year would imply an Exchequer surplus of €0.3 billion for this year. The projected surplus takes into account the transfer from the Exchequer of €2 billion to the *National Reserve Fund* and one-off measures to alleviate the increase in the cost of living.

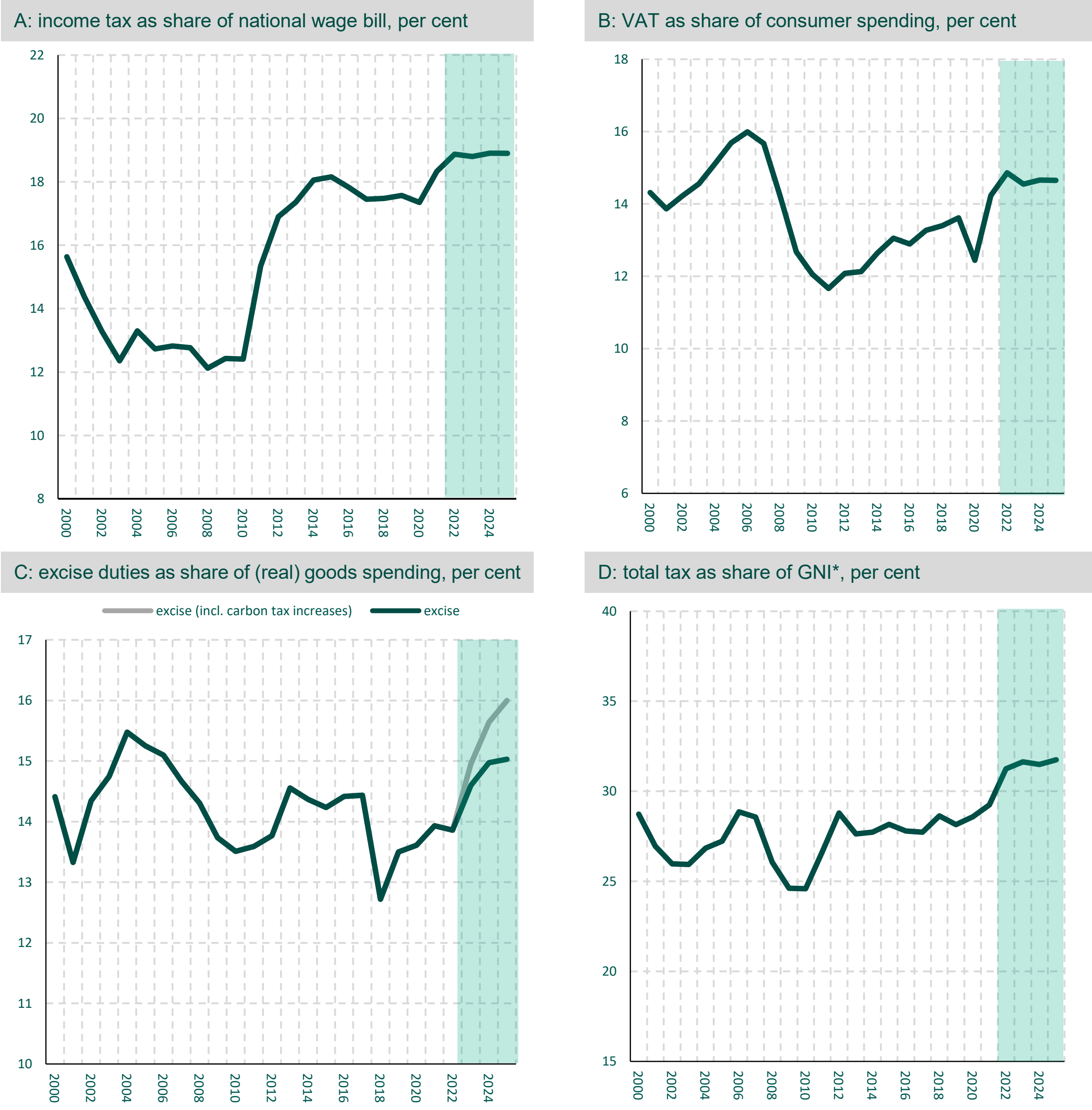
[23] The large decrease in non-voted capital expenditure and capital resources in 2022 is due to a decline in monthly Exchequer cash flow loans, which ceased from end-June, to the *Social Insurance Fund* reflecting the recovery in the labour market and, hence, PRSI income. These transactions have no impact on the Exchequer balance.

3.3 Exchequer outlook for 2023

3.3.1 Tax forecasts

More modest economic growth next year is assumed to weigh on the overall tax yield. Overall tax revenue is projected at €87 billion, an annual increase of €5.4 billion (6.6 per cent); this projection incorporates the impact of the €1.1 billion in tax policy measures announced as part of *Budget 2023*.

Figure 15: Tax revenue relative to their bases



Source: Department of Finance calculations.

Source: Department of Finance calculations.

The direct taxation yield is projected to increase at a more subdued rate next year. Income tax is expected to grow by €1.8 billion (6.0 per cent), broadly in line with the projected growth rate of the wage bill (**figure 15A**). Corporate tax revenue is expected to grow by €1.7 billion (7.9 per cent), reflecting the assumed increase in profitability. As previously documented, this revenue stream is highly concentrated among a small number of large companies and is, accordingly, extremely volatile.

In relation to indirect taxes, VAT receipts are projected to increase by €1.1 billion (5.9 per cent) next year, taking into account the projection for (nominal) consumer spending (**figure 15B**). The equivalent growth (**figure 15C**) for excise duty receipts is €0.6 billion (9.6 per cent). The projections for these tax headings take into account the continuation of the reduction in excise on petrol and diesel (to end-February), reduction of VAT on electricity and gas (end-February), as well as the reversal to the 13½ per cent rate for the tourism sector (end-February). As a result of these developments, overall tax as a share of GNI* amounts to 31½ per cent next year (**figure 15D**).

3.3.2 Other revenue

Non-tax revenue will continue to benefit from dividend payments to the Exchequer next year. The Exchequer will benefit from continued payments by the *Central Bank of Ireland* and from the distribution of the *National Asset Management Agency* surplus, with a further €1.0 billion and €0.35 billion, respectively, currently expected to be paid to the Exchequer in 2023.[24] These payments are, as always, dependent upon market conditions.

On the capital side, the decline in capital resources is primarily due to the end of monthly Exchequer cash flow loans to the *Social Insurance Fund* reflecting the recovery in the labour market.[25] A further €282 million is also set to be received under the *Brexit Adjustment Reserve* next year.

3.3.3 Expenditure

Budget 2023 provides for total voted expenditure of €90.4 billion next year (**table 9**). Core expenditure of €85.9 billion is provided for, an increase of €5.1 billion (6.3 per cent) on last year and broadly consistent with the parameters set out in the *Summer Economic Statement*. Temporary funding of €4.5 billion is also provided for *inter alia* Covid-related spending and assistance to refugees from Ukraine.

[24] As purely financial transactions, these transfers do not benefit the general government balance.
[25] This has no impact on the exchequer balance as it is fully offset by an equivalent decline in non-voted capital expenditure.

Box 4: Total budgetary package

The energy price shock triggered by the war in Ukraine has had a significant impact on both firms and households in Ireland.

In response to rising business costs and falling real disposable incomes, the Government in *Budget 2023* has introduced significant support for households and firms.

For next year, the overall budgetary package amounts to €6.9 billion, composed of net taxation reductions of €1.1 billion and additional public spending of €5.8 billion.

This is being complemented by a Cost of Living package for households and businesses of one-off supports amounting to €4.1 billion, which will take effect from the final quarter of this year (**table 8**).

This approach balances the need to provide fiscal supports to households and firms while, at the same time, avoiding adding to inflationary pressures in the economy.

Table 8: One-off cost of living measures

€, billions

Core package	**6.9**
Spending	5.8
Taxation	1.1
Cost of Living package	**4.1**
Net spending^^	2.2
D/ETE grants	0.2
Total cost-of-living expenditure measures	**2.4**
One-off tax measures	0.5
Temporary business energy support scheme^	1.2
Total cost-of-living tax measures	**1.7**
Total *Budget 2023* package	**11.0**

^ It is anticipated that a revenue stream will be available to meet at least part of the cost of the Business Energy Support Scheme. This is because of the potential for windfall taxes in the energy sector. This will be decided at EU level or, potentially, at national level.
^^Expenditure savings for 2022 were estimated at approximately €1 billion in the White Paper. Part of this is being used to fund the Christmas bonus (€0.3 billion) and other measures for public and community services (€0.3 billion). If these were included the total cost-of-living expenditure measures would amount to €4.8 billion.
Source: Department of Finance.

Included as part of the one-off tax supports is the newly created *Temporary Business Energy Support Scheme* (TBESS). The objective of the TBESS is to provide financial assistance to firms that have seen a large increase in their energy bills.

In terms of operational details, for an individual firm, its energy costs must have increased by more than 50 per cent relative to the same period last year. TBESS will provide impacted firms with funding of up to 40 per cent of the increase in a firm’s energy bill relative to the same period in the previous year, up to a ceiling of €10,000 per month. The scheme will run for six months.

It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.

Table 9: Expenditure breakdown, € millions

	2021	2022	2023	2024	2025
Voted Expenditure	**87,540**	**90,105**	**90,415**	**90,915**	**95,130**
Ukraine Contingency			2,000		
incl. Covid*	13,490	7,010	1,715	705	410
of which: National Recovery and Resilience Fund		210	215	195	160
Other**		2,285	785		
Core Expenditure	**74,050**	**80,805**	**85,915**	**90,210**	**94,720**
core – year-on-year increase		6,755	5,110	4,295	4,510
core – year-on-year increase, per cent		9.1	6.3	5.0	5.0

* Covid-related expenditure in 2022 relates to the initial allocation of funding.
** In 2022, this includes non-core spending on one-off cost of living measures, humanitarian assistance for refugees from Ukraine, as well as spending under the Brexit Adjustment Reserve. In 2023, it primarily relates to spending under the Brexit Adjustment Reserve.
Source: Department of Public Expenditure and Reform.

3.3.4 Summary

Putting all of this together, an Exchequer surplus of €1.7 billion is in prospect for next year. The projected surplus also takes into account the transfer of €4 billion to the *National Reserve Fund* next year.

3.4 Medium-term outlook for the Exchequer

This document sets out the projected fiscal position up to the mid-part of this decade. Medium-term fiscal projections are typically grounded in two inputs: firstly, the outlook for the economy which, by-and-large, drives the revenue projections, and secondly, Government spending decisions that largely determine forecasts of public expenditure.

Based on the economic outlook outlined earlier, tax revenue is projected to increase by an average of 5.6 per cent per annum from over the medium-term, broadly in line with nominal GDP.

The projections for corporate tax receipts over the medium-term are impacted by reforms to be introduced under the OECD's Base Erosion and Profit Shifting (BEPS) process. Current indications are that these reforms will not be implemented until 2024. The projections for future years assume a loss in corporate tax revenues as a result of the BEPS changes: the Department's current estimate of the ultimate impact of BEPS on the public finances is that €2 billion could be lost relative to baseline.

On the spending side, Government has introduced medium-term expenditure ceilings and annual expenditure is fixed over the 2024-2025 period. These ceilings imply 'core' expenditure growth of 5 per cent per annum over the period. This 'expenditure rule' allows for steady improvements in public services while, at the same time, keeping the debt-income ratio on a downward trajectory.

On this basis, the Exchequer surplus is projected to increase over the forecast horizon, reaching almost €11 billion by 2025.

Table 10: Budgetary projections 2021-2025, € million	2021	2022	2023	2024	2025
CURRENT BUDGET					
Expenditure					
Gross voted current expenditure	77,595	78,535	78,035	78,090	81,530
Non-voted current expenditure*	7,615	7,970	8,310	8,430	8,675
Gross current expenditure	**85,210**	**86,505**	**86,345**	**86,520**	**90,205**
less expenditure receipts and balances	15,905	15,550	15,270	15,600	15,850
Net current expenditure	**69,305**	**70,955**	**71,075**	**70,920**	**74,355**
Receipts					
Tax revenue	68,410	81,565	86,985	91,235	97,010
: income tax	26,665	30,255	32,065	34,180	36,245
: VAT	15,440	18,280	19,350	21,055	22,480
: corporation tax	15,325	21,050	22,715	22,240	23,715
: excise duties	5,840	5,720	6,270	6,895	7,370
: stamp duties	1,485	2,095	2,195	2,300	2,455
: motor tax	905	900	905	915	920
: customs	525	625	645	660	680
: capital gains tax	1,640	2,025	2,165	2,280	2,400
: capital acquisitions tax	580	615	675	710	745
Non-tax revenue	2,530	2,485	2,115	2,270	1,185
Net current revenue	**70,940**	**84,050**	**89,100**	**93,505**	**98,195**
CURRENT BUDGET BALANCE	**1,635**	**13,095**	**18,025**	**22,585**	**23,840**
CAPITAL BUDGET					
Expenditure					
Gross voted capital expenditure**	9,945	11,570	12,380	12,825	13,600
Non-voted capital expenditure*	10,420	5,455	5,280	1,195	990
Gross capital expenditure	**20,365**	**17,025**	**17,660**	**14,020**	**14,590**
Less capital receipts	60	45	50	50	50
Net capital expenditure	**20,305**	**16,980**	**17,610**	**13,970**	**14,540**
Capital resources	**11,300**	**4,830**	**1,905**	**1,595**	**1,480**
CAPITAL BUDGET BALANCE	**-9,005**	**-12,150**	**-15,705**	**-12,375**	**-13,060**
Business supports (TBESS)**		**-600**	**-600**		
Exchequer Balance	**-7,370**	**345**	**1,720**	**10,210**	**10,780**
Government Expenditure Ceiling***		**90,105**	**90,415**	**90,915**	**95,130**

Notes: *Central Fund.
**Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the exchequer via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
*** Projected GEC.
Figures are rounded to the nearest €5 million and may affect totals.
Source: Department of Finance.

Chapter 4
General Government Developments and Outlook

4.1 Summary

A general government balance of just under €1 billion (0.4 per cent of GNI*) is anticipated for this year. The improvement relative to last year reflects the growth of general government revenue which, in turn, partly reflects the strength of corporate tax receipts. Excluding the impact of estimated windfall corporate tax receipts, a general government deficit of €8 billion (3.1 per cent of GNI*) is in prospect for this year.

Taking account of the economic situation, as well as the policy measures set out in *Budget 2023*, a general government surplus amounting to €6.2 billion (2.2 per cent of GNI*) is projected for next year. Excluding the impact of estimated windfall corporate tax receipts, the projected deficit is €3.8 billion (1.4 per cent of GNI*).

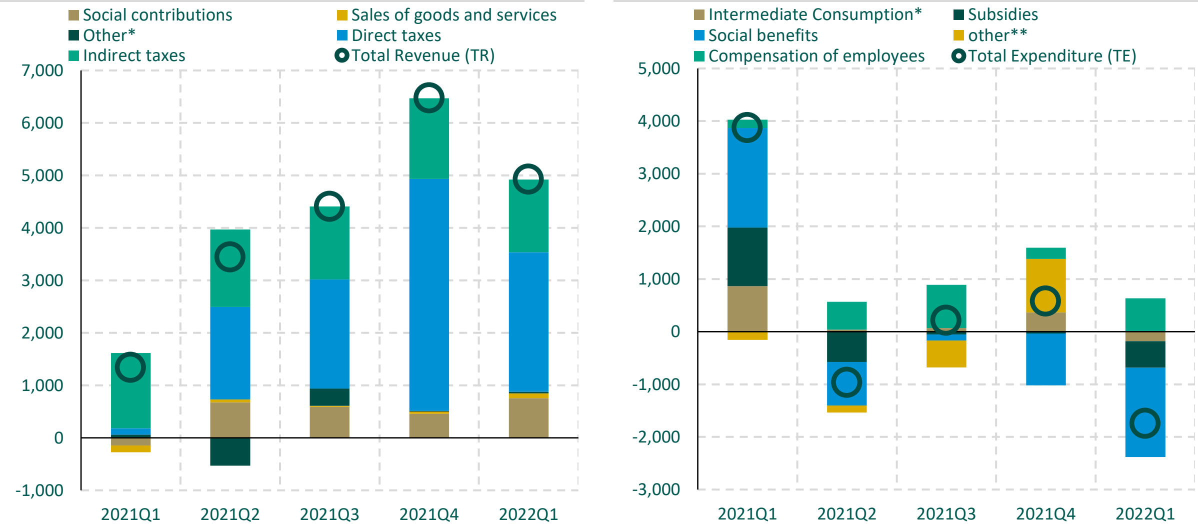
4.2 General government balance: developments in 2022

Government finance statistics show general government revenue of €24.2 billion in the first quarter of this year. This represents an annual increase of 25.6 per cent, and was largely driven by annual gains in tax revenue (**figure 16A**). On the other side of the equation, general government expenditure was €23.9 billion in the first quarter; nearly €1.7 billion lower than a year earlier. This was driven by a reduction in expenditure on social benefits, in particular the *Pandemic Unemployment Payment* (**figure 16B**).

Figure 16: Annual change in general government revenue and expenditure

A: General government revenue, € millions

B: General government expenditure, € millions



Note: * Other includes current and capital transfers, capital taxes and investment income;
Source: CSO

Note: *includes use of goods and services plus taxes payable.
** includes depreciation, interest, other current transfers, capital transfers and net acquisition of non-financial assets.
Source: CSO

On foot of these developments, a general government surplus of €0.3 billion was recorded in the first quarter (**figure 16A**). General government revenue is likely to continue to benefit from the strength of (cash-based) tax receipts over the remainder of the year. While expenditure will benefit from the winding-down of the pandemic-related fiscal supports, one-off measures introduced to help alleviate the increase in energy prices and the accrual of the cost of the *Defective Concrete Blocks Grant Scheme* (Mica Redress) will add to expenditure this year.[26]

For the year as a whole, general government revenue is estimated at €112.5 billion, the equivalent of 43 per cent of GNI*. In compositional terms, taxes on income and wealth – mainly income and corporation taxes – are estimated at €55 billion, an increase of 20.5 per cent relative to last year. Taxes on production and imports (mainly indirect taxes such as VAT, excise and customs duties) are estimated at around €31.7 billion, an annual increase of 7.3 per cent. Social security receipts are projected at €18.4 billion, an annual increase of 8.5 per cent, reflecting the recovery in the labour market.

General government expenditure is estimated at almost €111 billion this year, or 42.5 per cent of GNI*. Primary expenditure – total expenditure excluding debt interest payments – is estimated at €107.6 billion. Interest expenditure is estimated at €3.3 billion this year. The interest bill has benefited in recent years from the decline in borrowing costs, as central banks across most advanced economies (including in the euro area) increased their purchases of sovereign debt instruments. This process is now slowing and, as a result, borrowing costs are now on a rising trajectory.

As a result of these developments, the general government surplus for this year is estimated at just under €1 billion, or 0.4 per cent of GNI*. Windfall corporate tax receipts are estimated at €9 billion; this means that a significant underlying deficit is in prospect for this year.

4.3 General government balance: outlook for 2023

Next year, taxes on income and wealth are projected at €58.7 billion, an increase of 6.6 per cent reflecting the assumed recovery in the labour market as well as further profitability gains. Taxes on production and imports are projected at €33.6 billion, an increase of 6 per cent. Other general government revenue, including social security receipts, is projected at just over €27 billion. As a result, total general government revenue is projected at €119.5 billion next year resulting in a revenue-GNI* ratio of 43.5 per cent.

On the expenditure side, the largest components relate to the public sector pay-bill (compensation of employees) and current transfers from the general government sector (social payments). The former is projected at €29.5 billion for next year, while the latter is projected at €39.4 billion. Government investment is projected at €11.4 billion, the equivalent of 4 per cent of GNI*. This takes into account the increased funding for capital projects as part of the *National Development Plan 2021-2030* and the Next Generation EU's *Recovery and Resilience Facility*. Other expenditure is projected at €32.5 billion so that, in aggregate terms, general government spending is projected at €112.7 billion. This results in an expenditure-GNI* ratio of 41 per cent

Accordingly, a general government surplus of €6.2 billion, or 2.2 per cent of GNI* is currently in prospect for 2023. Excluding the impact of windfall corporate tax receipts, the underlying deficit is €3.8 billion (1.4 per cent of GNI*).

[26] In line with European statistical methodology (ESA 2010), the cost of the Defective Concrete Blocks Grant Scheme is accrued to 2022 in the calculation of the General Government Balance

Table 11: Exchequer balance to GGB 2021-2025, € million (unless stated)	2021	2022	2023	2024	2025
Exchequer balance	-7,370	345	1,720	10,210	10,780
Walk	325	620	4,450	495	2,885
General government balance	**-7,040**	**965**	**6,170**	**10,710**	**13,655**
of which:					
General government revenue	**98,765**	**112,475**	**119,490**	**124,040**	**130,875**
Taxes on production and imports	29,565	31,735	33,615	36,055	38,145
Current taxes on income, wealth	45,675	55,050	58,705	60,490	64,175
Capital taxes	580	615	675	710	745
Social contributions	16,925	18,365	19,600	20,530	21,535
Property Income	480	530	790	655	685
Other	5,540	6,175	6,105	5,600	5,590
General government expenditure	**105,805**	**110,910**	**112,715**	**113,330**	**117,220**
Compensation of employees	26,550	28,325	29,475	30,790	32,025
Intermediate consumption	16,245	17,930	16,555	17,255	18,030
Social payments	37,555	38,575	39,420	38,820	39,385
Interest expenditure	3,290	3,290	3,615	3,535	3,195
Subsidies	6,875	2,715	2,045	1,595	1,600
Gross fixed capital formation	8,595	10,105	11,365	13,280	14,725
Capital transfers	1,835	4,530	1,905	2,260	2,220
Other	4,860	5,435	5,650	5,795	6,040
Resources not allocated	-	-	2,675	-	-
Business supports (TBESS)**	-	- 600	- 600	-	-
memo items					
GGB per cent GNI*	-3.0	0.4	2.2	3.7	4.5
Total revenue, per cent GNI*	42.2	43.1	43.5	42.8	42.8
Total expenditure, per cent GNI*	45.2	42.5	41.0	39.1	38.4
Estimated windfall corporation tax^	5,000	9,000	10,000	9,000	9,500
Underlying GGB~	-12,040	-8,035	-3,830	1,710	4,155

Notes: the 'walk' from the exchequer balance to the general government balance is set out in the appendix.
The CSO will publish revised values for 2021 as part of the Government Finance Statistics annual publication in mid-October. Revised data will be incorporated into the *Draft Budgetary Plan*, which will be submitted to the European authorities and published on 15th October.
**Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the GGB via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
^ Figures are rounded to the nearest €100 million.
~ Underlying general government balance is the fiscal position excluding estimated windfall corporation tax receipts.
Source: Department of Finance, Department of Public Expenditure and Reform, CSO.

4.4 Medium-term outlook for the general government sector

On the basis of the economic forecasts set out earlier, general government revenue is projected to continue to increase over the medium-term (**table 11**), while general government expenditure moves in line with the expenditure rule set out in the *Summer Economic Statement*. On this basis, general government surpluses of 3.7 and 4.5 per cent of GNI* are assumed for 2024 and 2025.

4.5 Structural budget balance

The fiscal balance, adjusted for the impact of the economic cycle and for temporary factors, is known as the structural (or cyclically-adjusted) budget balance. Estimates are presented below (**table 12**), which treat windfall corporate tax receipts as one-offs (in line with standard practice). On this basis, a small structural surplus is expected this year. Over the medium-term, the structural position is expected to improve, with a structural surplus of 1.4 per cent projected in 2025.

Table 12: Structural budget balance, per cent of GNI* (unless stated)

	2021	2022	2023	2024	2025
Headline fiscal developments					
General government balance	-3.0	0.4	2.2	3.7	4.5
One-off / temporary measures	-1.7	0.0	1.6	2.9	3.0
Interest expenditure	1.4	1.3	1.3	1.2	1.0
General government primary balance	-1.6	1.6	3.6	4.9	5.5
Economic cycle					
GNI* growth rate	15.4	5.1	0.4	2.7	3.1
Potential growth rate	4.6	2.9	1.0	2.0	2.2
Output gap	-1.6	0.3	-0.4	-0.1	0.1
Structural fiscal developments					
Cyclical budgetary component	-0.8	0.1	-0.2	-0.1	0.0
Cyclically adjusted balance	-2.2	0.2	2.4	3.8	4.4
Structural budget balance	-0.5	0.2	0.9	0.8	1.4
Structural primary balance	0.9	1.5	2.2	2.0	2.5

Notes: estimates of the output gap are based on the Department's preferred methodology for calculating potential output using domestic gross value added (GVA), see Murphy *et.al* (2018) available at: https://www.gov.ie/en/publication/65c119-estimating-irelands-output-gap/. Treatment of one-off/temporary measures in line with approach described in Box 6 of the 2021 Stability Programme Update, available at: https://www.gov.ie/en/publication/d3e2f-stability-programme-update-2021/. One-off/temporary measures include estimates of CT windfall revenues.
Source: Department of Finance.

Chapter 5
General Government Debt

5.1 Summary

The level of public indebtedness remains elevated – at the end of this year, gross government debt is estimated at €225 billion, the equivalent of 86.3 per cent of modified gross national income. For next year, gross public debt is projected at €224 billion, 81.5 per cent of GNI*.

Notwithstanding its relatively high level, several structural factors have helped to limit the burden of this debt. These include relatively low (average) interest rates and an elongated maturity profile. Additionally, the State has accumulated significant liquid assets, so that net debt is considerably lower.

On the other hand, the monetary policy landscape is changing and sovereign borrowing costs are rising; maturing debt will, therefore, need to be re-financed at higher rates than Ireland and other countries have become accustomed to over recent years. Moreover, demands on the public finances are set to increase in the years ahead, with the need to finance an ageing population, climate change mitigation, the digital transition and improved healthcare via *Sláintecare*. Ageing costs alone will necessitate an additional €8 billion per annum by the end of this decade, simply to maintain existing levels of service.

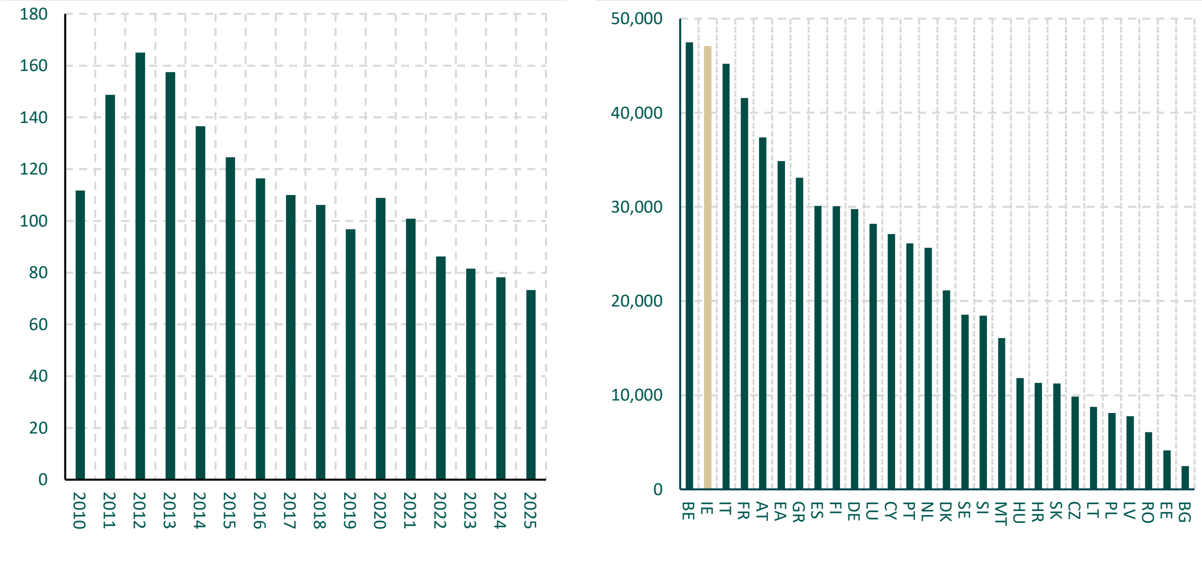
5.2 Debt Developments

The mobilisation of large fiscal support to protect households during the pandemic was both necessary and appropriate. In common with elsewhere, however, this has come at the cost of higher public debt: general government debt at the end of this year is projected at €225.3 billion, the equivalent of 86.3 per cent of GNI* this year. Relative to pre-pandemic levels, this represents an increase of €21 billion.

Figure 17: General government debt developments

A: Debt ratio, per cent GNI*

B: Debt per capita – Ireland vs EU Member States



Source: CSO, Department of Finance

Source: CSO, AMECO, Department of Finance.

Taking into account expected economic and budgetary developments, the stock of outstanding public indebtedness is projected to decrease to €224 billion by the end of next year; this would be the equivalent of 81.5 per cent of GNI*.

The debt interest burden – debt interest payments as a percentage of total revenue – is an important indicator of repayment capacity, as it sets out the share of revenue absorbed by debt interest payments (**figure 18A**). As a result of lower borrowing costs during the pandemic, the burden of servicing public debt has not yet deteriorated on foot of increased liabilities.

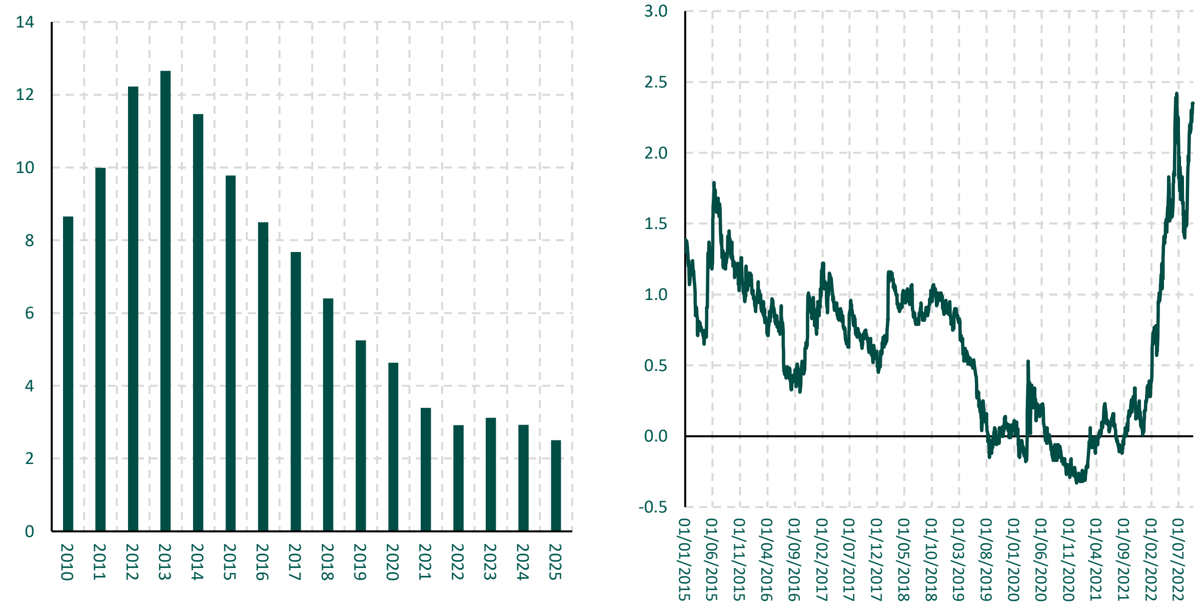
In line with other advanced economies, the exceptional monetary policy support in the euro area that prevailed during the pandemic is now being withdrawn. The European Central Bank raised its policy rate by 50 basis points (bps) in July and by a further 75 bps in September;[27] and money markets are pricing in further increases in the final quarter of this year. At the same time, net asset purchases have ended. All of this means that the cost of financing sovereign debt has risen (**figure 18B**) and looks likely to rise further in the near term.

While the State will not need to finance deficits in the coming years (at least on the basis of current projections), the State will need to re-finance a quantum of maturing debt (roll-over needs). The cost of this new debt issuance is rising – in mid-September, sovereign borrowing for 10 years carried an interest rate of 2½ per cent, its highest since mid-2014. While it is the case that this is still a low rate in historical terms, it is also true that the quantum of public debt has never been higher, at €236 billion last year.

Figure 18: General government debt developments

A: Debt interest payments to revenue ratio, per cent

B: 10-year sovereign borrowing costs, per cent



Source: CSO, Department of Finance.

Source: Macrobond.

[27] The increase in policy rates in July moved the main policy rate in the euro area out of negative territory for the first time since 2014. In mid-September, the Swiss central bank moved its policy rate out of negative territory; as a result, Japan is now the only country with negative policy rates.

Table 13: General government debt developments, per cent of GNI* (unless stated)	2021	2022	2023	2024	2025
Gross debt (€ billions)	235.8	225.3	224.1	226.7	223.8
Gross debt ratio	100.8	86.3	81.5	78.3	73.3
Change in gross debt ratio(=1+2+3)	-8.1	-14.5	-4.8	-3.3	-5.0
Contributions to change in debt ratio^:					
General Government deficit (1=1a+1b)	3.0	-0.4	-2.2	-3.7	-4.5
: interest expenditure (1a)	1.4	1.3	1.3	1.2	1.0
: primary deficit (1b)	1.6	-1.6	-3.6	-4.9	-5.5
SFA (2=2a+2b+2c+2d+2e+2f+2g)	4.7	-3.6	1.8	4.6	3.5
: change in liquid assets (2a)	4.2	-2.8	0.2	3.2	1.6
: interest adjustments (2b)	0.1	0.1	0.1	0.1	0.2
: equity transactions (2c)	-0.3	-0.8	-0.3	-0.3	0.0
: accrual adjustments (2d)	0.8	-0.1	0.1	0.1	0.1
: impact of ISIF (2e)	0.0	0.1	0.0	0.0	0.0
: collateral held (2f)	0.0	0.0	0.0	0.0	0.0
: other (2g)	-0.2	-0.1	1.8	1.5	1.7
Nominal GNI* contribution (3)	-15.8	-10.5	-4.4	-4.2	-4.1
Memorandum items:					
: average interest rate	1.5	1.4	1.6	1.6	1.4

Notes:
^ A positive sign indicates that a component is increasing the debt ratio and *vice versa.*
SFA = stock-flow adjustment.
Source: CSO, Department of Finance and NTMA.

5.3 Structural aspects of Irish public debt

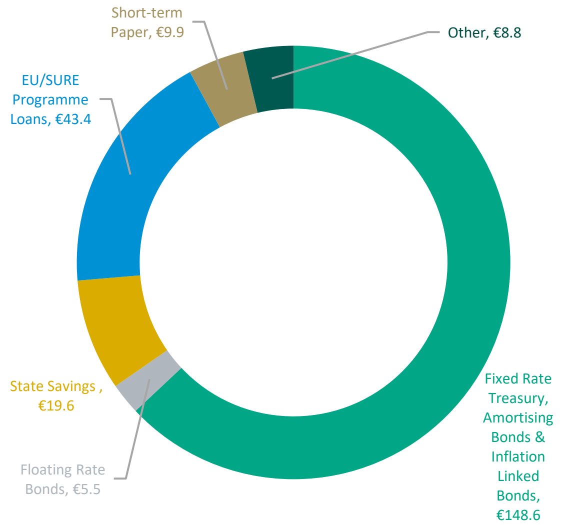
5.3.1 Composition of debt

The composition of public debt is an important structural dimension that must be considered in any assessment. At end-2021 (latest available data), total gross liabilities amounted to €236 billion (**figure 19A**). Almost 63 per cent of these were fixed rate treasury, amortising and inflation linked bonds. Obligations to the official sector – the European Financial Stability Mechanism (EFSM), European Financial Stability Facility (EFSF) and the EU SURE Programme Loans – were the next most important, accounting for just under a fifth of liabilities.

Of particular note has been the steady decline in recent years of the Floating Rate Notes (FRNs) issued in 2013 (to replace the IBRC promissory notes held by the Central Bank). The NTMA purchased from the Central Bank, and subsequently cancelled, a further €2 billion of FRNs in the first nine months of this year. Accordingly, there is just one FRN – the 2053 maturity – outstanding, with a balance of €3.5 billion.

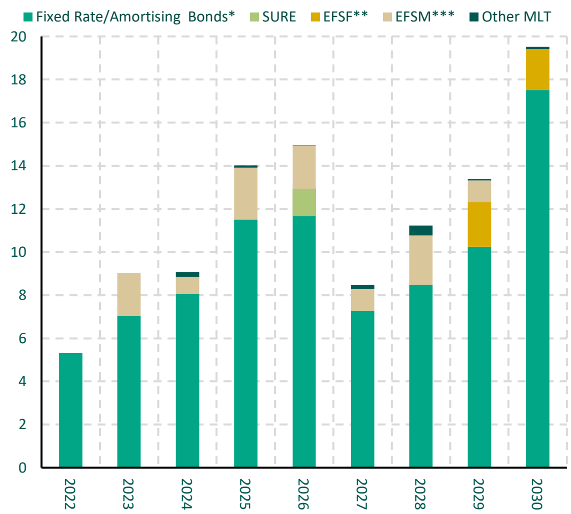
Figure 19: Structural aspects of Irish general government debt

A: Composition of debt at end-2021, € billion



Note: the "other" category includes POSB deposits and consolidation adjustments in respect of debt, including government bonds held by general government entities.
Source: CSO, NTMA.

B: MLT debt maturity profile 2022-2030, € billions^



Note: ^ as at end-August 2022.
*Includes NTMA repo activity.
**EFSF loans reflect the maturity extensions agreed in 2013.
***EFSM loans are also subject to extension, such that their original aggregated weighted average maturity will be a maximum of 19.5 years. The graph reflect both original and revised maturity dates of individual EFSM loans.
Source: NTMA.

5.3.2 Funding and maturity profile

The NTMA has issued €7 billion[28] of Government bonds so far this year (**table 14**), with a weighted average yield of just under 1.1 per cent and a weighted average maturity of close to 15 years. This issuance included a new 10-year benchmark bond, with a coupon of 0.35 per cent (due to mature in October 2032); €3.5bn was issued at a yield of 0.39 per cent by way of a syndicated transaction in January.

Table 14: Bond issuance 2022

date	**type**	**bond**	**yield,** per cent	**sold,** € mn
January	S	0.35% Treasury Bond 2032	0.39	3,500
March	A	0.35% Treasury Bond 2032	0.78	400
March	A	1.7% Treasury Bond 2037	0.98	600
May	A	0.35% Treasury Bond 2032	1.50	400
May	A	2.0% Treasury Bond 2045	1.79	850
September	A	0.35% Treasury Bond 2032	2.22	350
September	A	1.5% Treasury Bond 2050	2.65	900

Notes: S = syndicated; A = auction.
Source: NTMA.

In addition, there were three dual bond auctions, which raised a total of €3.5 billion. As well as the new 10-year benchmark, which was issued in all three auctions, long-dated bonds maturing in 2037, 2045 and 2050 were sold. The most recent of these auctions – in September – saw €350 million of the new

[28] €7.1 billion including the proceeds of non-competitive bond auctions.

10-year bond sold at a yield of 2.22 per cent and €900 million of the 2050 bond sold at a yield of 2.65 per cent. Sovereign bond yields have been on an upward trajectory for much of 2022, reflecting the tightening of monetary policy and inflation developments.

On the redemptions front, the €6.8 billion 0.8 per cent 2022 bond matured in March. This was the first bond maturity since October 2020; the next €5 billion 0 per cent 2022 bond is in October this year. Next year (**figure 19B**), there is one bond maturing in March – the 3.9 per cent 2023 bond – which has an outstanding balance of €7 billion. The first of the loans from the *European Financial Stabilisation Mechanism* is also set to mature next year (€2 billion in the final quarter of the year).

Cash balances were €27.5 billion at the start of the year and increased to €35.5 billion at end-August. These are expected to decline, but to remain in a healthy position, by year-end.

5.3.3 Net debt

General government debt, as defined under the *Excessive Deficit Procedure* regulation, is a gross measure of government liabilities. In Ireland, financial assets corresponding to the categories of financial liabilities, which comprise gross debt, include liquid assets held by the Exchequer, *Ireland Strategic Investment Fund* cash and non-equity investments and other cash and liquid assets held by the general government sector. Subtracting these gives a measure of net debt (**table 15**).

Table 15: Gross and net general government debt, per cent of GNI* at end-year

	2021	2022	2023	2024	2025
General government debt (gross)	100.8	86.3	81.5	78.3	73.3
EDP debt instrument assets	18.6	13.4	12.6	14.9	15.5
Net debt position	82.2	72.9	68.9	63.4	57.8

Source: CSO, Department of Finance and NTMA.

At end-2022, net public indebtedness is projected at just under 73 per cent of GNI* while, for the end of next year, the figure is forecast at 69 per cent of GNI*.

5.3.4 Credit rating

Ireland's long-term credit rating is now firmly in the "A" category with all the main rating agencies (**table 16**).

Table 16: Irish sovereign credit rating

	Long-term rating	Short-term rating	Outlook
Standard & Poor's	AA-	A-1+	Stable Outlook
Moody's	A1	P-1	Positive Outlook
Fitch Ratings	AA-	F1+	Stable Outlook

Notes: as per September 2022.
Source: NTMA.

Chapter 6
Risk and Sensitivity Analysis

6.1 Summary

The economic outlook is highly uncertain with, highly unusually, the severity of the European winter likely to have a key bearing on the outcome.

Risks are elevated and, if realised, would depress Irish economic activity further. A complicating factor is that many of the risks facing the economy are inter-related, potentially creating amplifying effects.

Against this backdrop, the purpose of the analysis set out below is to survey the universe of risks facing the economy and 'stress test' the assumptions underpinning central economic projections set out earlier in this document. The impact of several 'shocks' to the baseline is quantified. The Department's assessment of the main short- and medium-term macroeconomic and fiscal risks (the 'risk matrix') is also documented.

Risks to economic activity are two-sided but judged to be firmly tilted to the downside; risks to the central inflation projection are also two-side and assessed to be skewed to the upside.

6.2 Scenario analysis

6.2.1 Partial equilibrium analysis

The Department's inflation projections set out in this document are based on energy prices as per the 'futures curve' (wholesale oil and gas futures) in early September. With elevated geopolitical uncertainty, however, commodity markets remain highly volatile, and the question arises as to the impact on inflation of a different trajectory for fossil fuel prices.

The analysis below simulates the impact of higher or lower energy prices on the Department's inflation projections. This is a partial equilibrium analysis, i.e. it only takes into account the direct impact of alternative energy prices (a general equilibrium analysis, which takes into account second round effects through higher or lower domestic demand using structural macroeconomic models is set out later).

To calibrate a higher inflation shock, a scenario is considered in which the inflationary impact of a complete cut-off of Russian gas supplies and oil flows to the euro area is estimated. This scenario uses the oil and gas price assumptions in the downside scenario set out in the European Central Bank's (ECB) latest forecasts.[29] In this scenario, oil prices are around 14 per cent higher this year and over 50 per cent higher next year, with wholesale gas prices around 20 per cent above the baseline level this year and over 50 per cent higher in 2023 (**figure 20A**).

In these circumstances, the increase in wholesale energy prices would add around 0.5 percentage points to headline inflation this year and almost 2.5 percentage points next year (**figure 20B**). As a result, headline inflation would average 9 per cent this year and 9.5 per cent next year. Inflation in this scenario would peak at just under 13 per cent in the first quarter of 2023, with a very gradual easing of the inflation rate over the course of next year.

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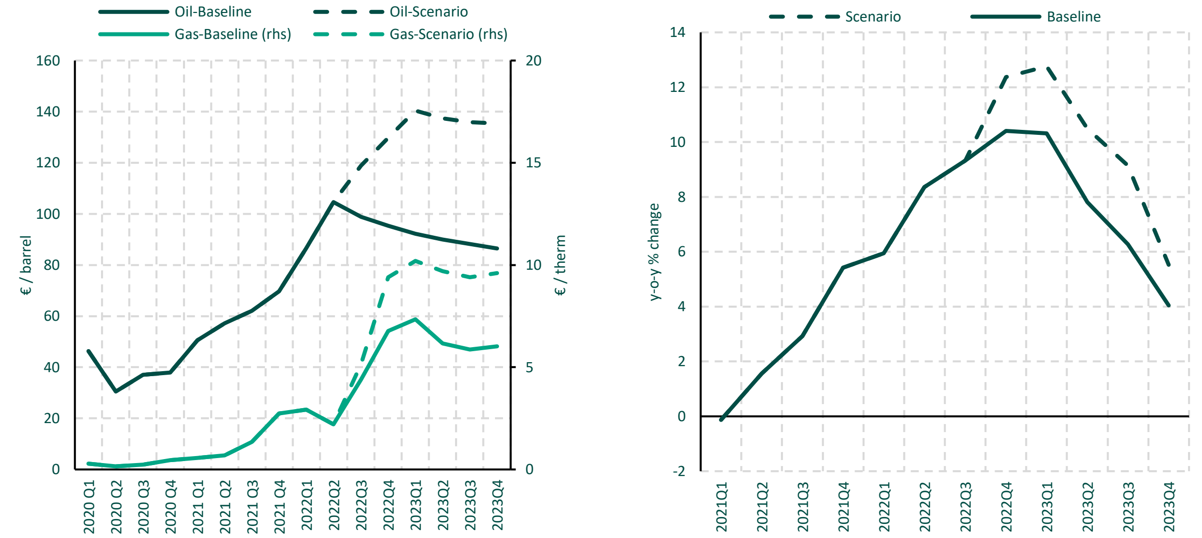
[29] The ECB's 'staff projections'. Available at:
https://www.ecb.europa.eu/pub/pdf/other/ecb.projections202209_ecbstaff~3eafaaee1a.en.pdf

Figure 20: Inflation scenario – adverse energy supply shock

A: Oil and gas futures

B: Headline HICP inflation, y/y per cent change



Source: Macrobond, Department of Finance.

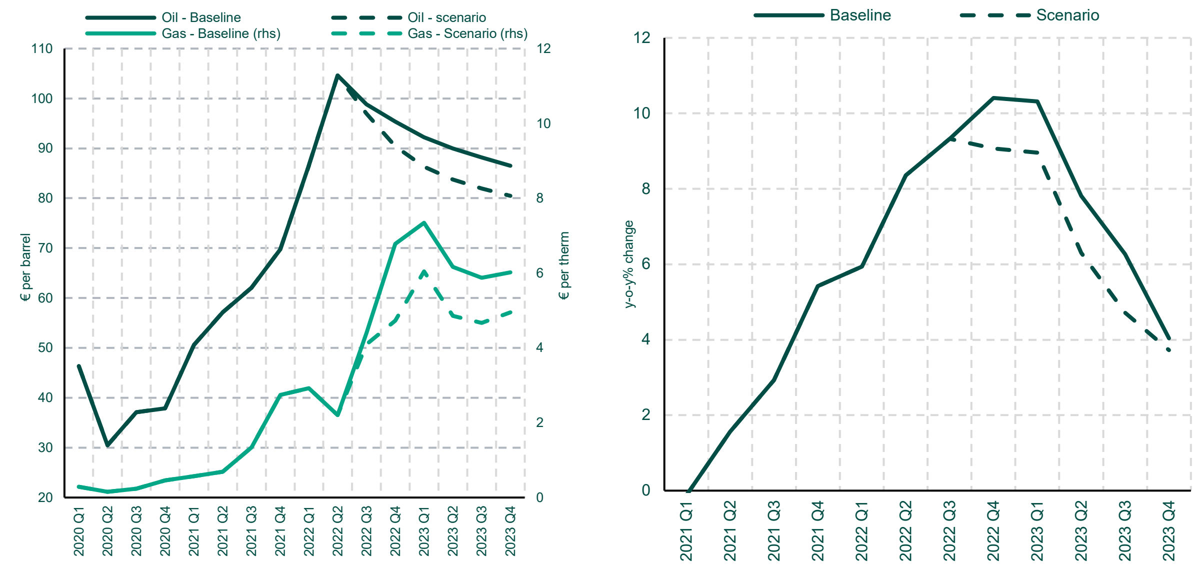
Source: Eurostat, Department of Finance.

A scenario in which wholesale energy prices move lower than assumed in the baseline projections is also possible. For instance, it's possible that a mild and windy European winter, sufficient European gas storage, successful energy demand management policies or an earlier than anticipated re-start of the Texas Freeport LNG terminal could ease pressure on gas supply and lower market prices. Equally, a continued slowdown in global economic activity could lower oil prices.

Figure 21: Inflation scenario – favourable energy shock

A: Oil and gas futures

B: Headline HICP inflation, y/y per cent change



Source: Macrobond, Department of Finance.

Source: Eurostat, Department of Finance.

To calibrate a lower inflation shock, a scenario is modelled based on wholesale energy futures as of 20 September (when prices had fallen relative to earlier expectations). In this scenario, oil prices are expected to be around 6 per cent lower in 2023, with wholesale gas prices around 18 per cent below the baseline level next year (**figure 21A**).

In these circumstances, the decline in energy prices would reduce headline inflation by around 0.3 percentage points this year and 1.2 percentage points next year. As a result, headline inflation would average around 8.2 per cent this year and just under 6 per cent in 2023 (**figure 21B**). About two-thirds of the reduction in headline inflation reflects the direct impacts on consumer energy prices, with the remainder accounted for by reduced spill-overs from energy to other sectors such as food (via lower energy and transport costs), consumer goods and services (via lower energy inputs).

Finally, it is important to stress that the higher and lower scenarios outlined above do not represent upper and lower bounds for inflation. Instead, the purpose of the analysis is to highlight the sensitivity of consumer prices to movements in wholesale energy prices.

6.2.2 General equilibrium analysis

In the current environment, it is also important to understand the economic disruption that might arise from energy shortages in mainland Europe. From an Irish economic perspective, this would involve higher prices for energy products but would also have broader macroeconomic implications, for instance consumption and production would be expected to be lower.

To capture these wider effects, a general-equilibrium / 'whole-of-economy' approach using structural macroeconomic models is employed. The analysis below builds on forthcoming joint work by the Department of Finance and the ESRI using the COSMO structural model of the Irish Economy as well as drawing on the NiGEM global macroeconometric model.

This work builds on the set of assumptions used in the downside scenario of the ECB's staff projections (September 2022), which entails a complete cut-off of Russian gas supplies as well as seaborne oil flows to the euro area. The ECB's September downside scenario also assumes an unusually cold winter in Europe that would trigger higher demand for energy, and a running-down of storage reserves much faster than expected, leading to some rationing of energy used as an input in production in mainland Europe.

Table 17: Results of scenario analysis, percentage deviation from mild scenario

	2022	2023	2024
Inflation (pp)	0.3	2.0	0.4
MDD	-0.4	-1.0	-1.4
GDP	-0.4	-1.2	-1.8
Consumption	-0.4	-2.1	-3.2
Employment	-0.1	-0.5	-1.0

Notes:
Inflation is proxied by the personal consumption deflator.
Source: Department of Finance and ESRI.

Taken together, this implies substantially higher energy price conditions in the near-term. The commodity price shock outlined in this scenario are fed into the NiGEM global macroeconomic model. The global outputs from NiGEM are then fed into the ESRI COSMO model to produce results for the Irish economy. The results from NiGEM which are used in COSMO include the impacts on monetary policy rates as well as economic indicators for the US, UK and euro area, which are used to proxy the shock to world demand for Irish exports. The results of this severe scenario are compared against a mild scenario which uses the ECB's September baseline assumptions for commodity prices. As these assumptions around commodity prices are similar to the Department's Budget forecast assumptions, they provide a useful reference point against which to compare the potential effects of an adverse scenario.

At the same time, the energy price assumptions are fed directly into COSMO to also capture the direct impacts on the Irish economy through the price channel. The results of this severe scenario are compared against a mild scenario (**Box 3**) which uses the ECB's September baseline assumptions for commodity prices. As these assumptions around commodity prices are similar to the Department's Budget forecast assumptions, they provide a useful reference point against which to compare the potential effects of an adverse scenario.

Domestically, the commodity price shock transmits through the model as a reduction in real disposable income, caused by an increase in import prices and in-turn the price level generally. This reduces real consumption and consequently production in the domestic sector. Lower demand for Irish exports together with higher import prices, reduces output in the export oriented traded sector. These mechanisms together reduce the demand for labour, leading to a fall in the level of employment.

The results are set out above (**table 17**). The scenario results in a decline in MDD relative to the mild scenario of 0.4 per cent in 2022 and -1 per cent in 2023. This arises, in part, from the abrupt fall in real consumer spending due to the increased price of goods and services linked to the rise in world oil prices, with the resulting decline in output impacting the domestic-oriented economy.

Given the size of the commodity price shock to Ireland's trading partners, the export-oriented traded sector suffers as a result of lower demand for Irish exports, although this impact is smaller than the shock to consumption, cushioning the total impact on GDP.

The rate of inflation is 0.3 per cent higher in 2022 and 2 per cent higher in 2023, driven by the rise in energy prices.

These factors affecting demand in the Irish economy, lead to lower labour demand and leave levels of employment 1 per cent lower in 2024.

Overall, the impact of such a severe scenario on the Irish economy is large but there remains considerable uncertainty surrounding economic developments in such a scenario, with such a modelling exercise unable to take into account the potential responses of government and businesses under such extreme conditions.

6.3 Risk matrix and conclusion

The Department's assessment of the main short- and medium-term macroeconomic (**table 18**) and fiscal (**table 19**) risks is set out below.

Table 18: risk assessment matrix – economic			
Risk	**Likelihood**	**Origin**	**Impact and main transmission channel**
Downside			
Weaker external demand	**Medium**	**External**	**Medium / High** – a sharper decline in the economies of our main trading partners would result in a deterioration of the external environment and lower demand for Irish exports**.**
Escalation of geopolitical tensions	**Medium**	**External**	**High** – geopolitical tensions (e.g. Ukraine, Taiwan) remain high and could escalate further, triggering spill-overs to economic activity (over 90 per cent of the world's semi-conductors are produced in Taiwan).
Further energy shocks	**High**	**External**	**High** – as well as higher prices, it remains possible that demands on the electricity grid could exceed supplies to the grid, triggering 'outages' which would weigh on economic activity.
More rapid interest rate 'normalisation'	**Medium**	**External**	**Medium** – inflation could prove more entrenched in advanced economies (including the euro area) necessitating a more aggressive response of monetary policy.
Brexit	**Low**	**External**	**Medium** – the full introduction of customs checks by the UK could have a significant impact on Irish (indigenous) exports. While unlikely, an EU-UK 'trade war' would be very disruptive for Ireland.
Rise in corporate insolvencies	**Medium**	**Domestic**	**Medium** – energy shocks, price shocks, and tighter financing conditions in the SME sector could cause corporate insolvency rates to rise, with possible financial market spill-overs.
Disorderly adjustment in China	**Medium**	**External**	**Low / Medium** – the imbalances in the Chinese economy that have built up in recent years are now being corrected, and the side-effects could trigger economic difficulties elsewhere.
Loss of competitiveness	**Medium**	**Domestic**	**Medium** – entrenched domestically determined inflation or a wage-price spiral would damage cost competitiveness and hamper the economy's ability to compete in the global marketplace.
Sector-specific shock	**Low**	**External**	**Medium / High** – shocks to systemically important large firms or sectors in Ireland would have a negative impact on output and incomes.
Public health restrictions	**Low**	**Domestic**	**Medium / High** – the Covid and flu strains may circulate in parallel this winter; if this was to overwhelm the healthcare system, some form of mobility restrictions could be necessary.
Upside			
MNCs	**High**	**External**	**Medium** – stronger value-added from MNCs (ICT, pharma, etc.) would boost investment, wages, corporate sector output, and GDP.
Unwinding of 'excess' savings	**Medium**	**Domestic**	**High** – greater than assumed use of 'excess' savings built up during the pandemic by households would boost spending and increase domestic demand.
Energy	**Low**	**External**	**High** – favourable demand or supply shocks would lead to a softening in energy prices, reducing inflation, boosting consumer confidence and private investment.

Source: Department of Finance

Table 19: risk assessment matrix – fiscal

Risk	Likelihood	Impact and main transmission channel
Domestic		
Escalation of war in Ukraine	**Not quantifiable**	**High** – disruptions to energy supply could impact on industrial production, with implications *inter alia* for corporation tax receipts.
Refugee-related measures	**Low**	**Medium** – Higher-than-anticipated number of refugees would significantly increase public expenditure.
Cost of living measures	**Medium**	**Medium** – If inflationary pressures were to accelerate, additional measures to address the cost of living would negatively affect the public finances.
Pandemic-related budgetary measures	**Low**	**High** – another set of restrictions that weigh on economic growth would have significant fiscal cost.
Ageing population	**Medium**	**Medium** – unfunded reversals to the retirement age would adversely affect the public finances.
Corporation tax: policy change	**High**	**High** – revenue from this source is expected to be affected as international tax policy changes take effect; the actual cost could be higher than the €2 billion by 2025 currently assumed.
Corporation tax: concentration risk	**Low**	**High** – over 50 per cent of corporation tax revenue arises from the 10 largest payers; a shock to this revenue stream would have severe implications for the public finances.
Dividend payments	**Low**	**Medium** – lower-than-expected dividend payments arising from the State's shareholdings in banks or commercial semi-state companies.
Contingent liabilities	**Low**	**Medium** – government guarantees increased in 2020 as a result of counter guarantees for the European Commission to provide financial support during the pandemic.
External		
Borrowing costs	**Medium**	**Medium** – Tightening of monetary policy could be more aggressive than expected which would result in higher debt service costs.
Climate change and renewable energy targets	**High**	**High** – climate policy and the corresponding actions needed to reduce emissions by 50 per cent by 2030 and transition to net-zero by 2050 will have macroeconomic and fiscal implications.
Litigation or one-off measures	**Medium**	**Medium** – an adverse or unexpected outcome of litigation against the State or other one-off fiscal costs which resulted in additional expenditure could pose a risk to the achievement of budgetary targets.

Source: Department of Finance

Annexes

Irish Fiscal Advisory Council

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19 September 2022

Dear Secretary General Hogan,

The Council has a statutory obligation to endorse, as appropriate, the macroeconomic forecasts prepared by the Department of Finance on which *Budget 2023* will be based.[1]

The Council's endorsement approach has three elements:

1) comparing the Department's macroeconomic forecasts with the Council's Benchmark projections and with forecasts from other bodies;
2) considering the methodologies used to produce the forecasts; and
3) reviewing the Department's past forecast errors for evidence of systematic bias.

The Council discussed the Department's forecasts at its endorsement meeting on 16th September 2022.

The Irish Fiscal Advisory Council endorses as within the range of appropriate forecasts the set of macroeconomic projections prepared by the Department of Finance for *Budget 2023* covering the years 2022 and 2023.

This endorsement comes amid continued high uncertainty about the path of inflation related to the consequences of Russia's war on Ukraine, with significant downside risks to activity.

The Department's forecasts only cover a three-year-ahead forecast horizon (to 2025). This is shorter than the five-year-ahead forecast horizon adopted by the Department in past years. In order to inform policy decisions with a medium-term orientation and to ensure the consistency of short-term forecasts, it would be preferable to use a longer, five-year-ahead forecast horizon for all forecast exercises. This would be in line with past commitments.[2]

The Council will discuss the endorsement process and assess the macroeconomic projections in its forthcoming Fiscal Assessment Report, due in November 2022.

Yours sincerely,

Sebastian Barnes, Chairperson.

[1] The Fiscal Responsibility Act 2012, as amended by the Ministers and Secretaries (Amendment) Act 2013, states that: "The Fiscal Council shall— (a) endorse, as it considers appropriate, the macroeconomic forecasts prepared by the Department of Finance on which the Budget and stability programme will be based".

[2] In Stability Programme Update 2019, the Department committed to publishing five-year-ahead forecasts.

Annex 2
Comparison of forecasts: vs other bodies and vs spring forecasts

Table A1: Comparison of 2022 forecasts with other public sector institutions

	GDP	employment	inflation	gg balance	gg debt
Department of Finance	10.0	18.3	8.5	0.2	45.1
Central Bank of Ireland	9.1	4.5	7.8	-0.3	48.8
ESRI	6.8	15.4	7.1	0.3	50.4
IMF	5.2		5.7	-0.2	49.1
European Commission	5.3	2.8	7.3	-0.5	50.3

Notes: economic variables in per cent change; fiscal variables as a per cent of GDP.
Source: latest forecasts from the institutions cited.

Table A2: Comparison of 2023 forecasts with other public sector institutions

	GDP	employment	inflation	gg balance	gg debt
Department of Finance	4.7	1.2	7.1	1.1	41.1
Central Bank of Ireland	4.8	1.8	4.2	0.4	45.1
ESRI	4.8	2.1	4.0	0.6	47.0
IMF	5.0		2.7	0.4	44.8
European Commission	4.0	0.8	3.3	0.4	45.5

Notes: economic variables in per cent change; fiscal variables as a per cent of GDP.
Source: latest forecasts from the institutions cited.

Table A3: Comparison of autumn economic forecasts vs spring economic forecast, per cent

	2022 forecast		change pp	2023 forecast		change pp
	spring	autumn		spring	autumn	
Economic activity						
Real GDP	6.3	10.0	+3.7	4.4	4.7	0.3
Real GNI*	3.7	5.1	+1.5	3.1	0.4	-2.7
MDD	4.2	7.7	+3.4	3.9	1.2	-2.7
Prices						
HICP	6.2	8.5	+2.3	3.0	7.1	+4.1
Core HICP	3.9	5.3	+1.4	3.3	4.6	+1.3
GDP deflator	4.2	6.5	+2.3	2.3	4.4	+2.2
Labour market						
Employment (per cent)	14.9	18.3	+3.4	2.1	1.2	-0.9
Unemployment rate (per cent)	6.2	5.2	-1.0	5.4	5.1	-0.3

Source: Department of Finance.

Table A4: Comparison of autumn fiscal forecasts vs spring fiscal forecast, per cent of GNI*	2022 forecast		change pp	2023 forecast		change pp
	spring	autumn		spring	autumn	
General government balance	-0.8	0.4	1.2	0.5	2.2	1.7
of which:						
: General government revenue						
Taxes on production and imports	12.7	12.2	-0.5	12.8	12.2	-0.6
Current taxes on income, wealth etc.	20.6	21.1	0.5	20.4	21.4	1.0
Capital taxes	0.3	0.2	-0.1	0.3	0.2	-0.1
Social contributions	7.1	7.0	-0.1	7.1	7.1	0.0
Property Income	0.3	0.2	-0.1	0.2	0.3	0.1
Other	2.6	2.4	-0.2	2.4	2.2	-0.2
Total revenue	43.6	43.1	-0.5	43.2	43.5	0.3
: General government expenditure						
Compensation of employees	11.2	10.9	-0.3	11.0	10.7	-0.3
Intermediate consumption	6.8	6.9	0.1	6.6	6.0	-0.6
Social payments	15.0	14.8	-0.2	14.3	14.3	0.0
Interest expenditure	1.4	1.3	-0.1	1.4	1.3	-0.1
Subsidies	1.0	1.0	0.0	0.6	0.7	0.1
Gross fixed capital formation	4.4	3.9	-0.5	4.6	4.1	-0.5
Capital Transfers	0.9	1.7	0.8	0.9	0.7	-0.2
Other	2.2	2.1	-0.1	2.1	2.1	-0.0
Unallocated	1.5	-	-1.5	1.2	1.0	-0.2
Total expenditure	44.4	42.5	-1.9	42.7	41.0	-1.7
Business supports (TBESS)**	-	- 0.2	- 0.2		- 0.2	- 0.2
General government debt	-9.1	-14.5	-5.4	-6.6	-4.8	1.8
of which:						
: headline balance	0.8	-0.4	-1.1	-0.5	-2.2	-1.8
: SFA	-1.6	-3.6	-2.0	-0.7	1.8	2.5
: other (including denominator effect)	-8.3	-10.5	-2.2	-5.4	-4.4	1.1

Notes: The Exchequer balance includes a provision for the temporary business energy support scheme (TBESS). Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the general government balance via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
Source: Department of Finance.

Annex 3
Additional fiscal data

Table A5: 'walk' from exchequer to general government balance, € millions	2021	2022	2023	2024	2025
Exchequer balance	-7,370	345	1,720	10,210	10,780
Exclude equity and loan transactions	-	-2,090	-835	-945	-80
Adjust for interest accrual	-	240	210	310	620
Adjust for tax accruals	-	255	415	360	380
Adjust for other accruals	-	-575	-260	5	-195
Net lending of NCSSBs^	-	-935	-1,355	-2,120	-1,945
Impact of ISIF	-	130	65	65	70
Net lending of Social Insurance Fund	-	2,090	3,230	3,980	4,795
Net lending of other EBFs^^	-	195	80	25	20
Net lending of Local Government	-	-690	-1,100	-1,185	-780
National Reserve Fund	-	2,000	4,000	0	0
General government balance (GGB)	-7,040	965	6,170	10,710	13,655
GGB, per cent of GNI*	-3.0	0.4	2.2	3.7	4.5
Nominal GNI*	233,880	261,045	274,935	289,700	305,550

Notes:
^ NCSSBs = Non-commercial semi-state bodies.
^^ EBFs = Extra-budgetary funds.
This presentation of the 2021 outturn is not currently available. The CSO will published revised data for 2021 in mid-October, which will be included in the *Draft Budgetary Plan* to be submitted to the European Commission (and published) on 15th October 2022.
The Exchequer balance includes a provision for the temporary business energy support scheme (TBESS). Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the general government balance via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
Source: Department of Finance, CSO and NTMA.

Table A6: General government balance, per cent of GNI*	2021	2022	2023	2024	2025
Net lending by sub-sector					
General government balance	-3.0	0.4	2.2	3.7	4.5
Central government	-3.0	0.6	2.6	4.1	4.7
Local government	0.0	-0.3	-0.4	-0.4	-0.3
General government					
Total Revenue	42.2	43.1	43.5	42.8	42.8
Total Expenditure	45.2	42.5	41.0	39.1	38.4
Business supports (TBESS)**	-	- 0.2	- 0.2		
Net lending/borrowing	-3.0	0.6	2.5	3.7	4.5
Interest expenditure	1.4	1.3	1.3	1.2	1.0
Primary balance	-1.6	1.6	3.6	4.9	5.5
One-off / other temporary measures	-1.7	0.0	1.6	2.9	3.0
Total revenue					
Total taxes	32.4	33.5	33.8	33.6	33.7
Taxes on production and imports	*12.6*	*12.2*	*12.2*	*12.4*	*12.5*
Current taxes on income, wealth etc.	*19.5*	*21.1*	*21.4*	*20.9*	*21.0*
Capital taxes	0.2	0.2	0.2	0.2	0.2
Social contributions	7.2	7.0	7.1	7.1	7.0
Property Income	0.2	0.2	0.3	0.2	0.2
Other	2.4	2.4	2.2	1.9	1.8
Total revenue	42.2	43.1	43.5	42.8	42.8
p.m.: Tax burden	40.0	40.9	41.4	41.1	41.2
Total expenditure					
Compensation of employees	11.4	10.9	10.7	10.6	10.5
Intermediate consumption	6.9	6.9	6.0	6.0	5.9
Social payments	16.1	14.8	14.3	13.4	12.9
Social transfers in kind via mkt producers	*3.3*	*3.7*	*3.5*	*3.0*	*2.9*
Social transfers other than in kind	*12.8*	*11.1*	*10.9*	*10.4*	*10.0*
Subsidies	2.9	1.0	0.7	0.6	0.5
Interest expenditure	1.4	1.3	1.3	1.2	1.0
Gross fixed capital formation	3.7	3.9	4.1	4.6	4.8
Capital Transfers	0.8	1.7	0.7	0.8	0.7
Other	2.1	2.1	2.1	2.0	2.0
Resources to be allocated	0.0	0.0	1.0	0.0	0.0
Total expenditure	45.2	42.5	41.0	39.1	38.4
p.m. : Government consumption	21.0	20.7	19.7	19.1	18.9
Business supports (TBESS)**		-0.2	-0.2		

Notes: The CSO will published revised data for 2021 in mid-October, which will be included in the *Draft Budgetary Plan* published on 15th October 2022.
**Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the general government balance via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
Source: Department of Finance, CSO and NTMA.

Table A7: General interest expenditure, € millions

	2021	2022	2023	2024	2025
National Debt Cash Interest	3,595	3,745	3,755	3,780	3,745
per cent tax revenue	5.3	4.6	4.3	4.1	3.9
per cent of GNI*	1.5	1.4	1.4	1.3	1.2
National Debt Cash Interest Accruals	-265	-235	-210	-310	-620
Consolidation and Grossing Adjustments	-75	-235	15	-70	-50
Accrued promissory note interest	-	-	-	-	-
Other	35	15	60	135	125
Total Interest on ESA2010 basis	3,290	3,290	3,620	3,535	3,200
per cent of total gg revenue	3.3	2.9	3.0	2.8	2.4
per cent of GNI*	1.4	1.3	1.3	1.2	1.0

Notes: The CSO will published revised data for 2021 in mid-October, which will be included in the *Draft Budgetary Plan* published on 15th October 2022.
Source: Department of Finance, CSO and NTMA.

Table A8: Projected movement in general government debt, € billions

	2021	2022	2023	2024	2025
GG DEBT: OPENING POSITION	217.8	235.8	225.3	224.1	226.7
IN-YEAR FLOWS:					
Exchequer borrowing requirement	7.4	-0.3	-1.7	-10.2	-10.8
Change in Exchequer deposits	9.9	-7.2	0.5	9.1	4.8
Net lending of NCSSBs	0.0	0.2	0.9	1.7	1.9
Net lending of local government	0.1	0.7	1.1	1.2	0.8
Other flows	0.5	-3.7	-2.0	0.7	0.5
GG DEBT: CLOSING POSITION	235.8	225.3	224.1	226.7	223.8

Notes: NCSSBs = Non-commercial semi-state bodies
The CSO will published revised data for 2021 in mid-October, which will be included in the *Draft Budgetary Plan* published on 15th October 2022.
Source: Department of Finance, CSO and NTMA.

Annex 4
Summary: macroeconomic and fiscal aggregates

Table A9: Summary – macroeconomic aggregates

	2021	2022	2023	2024	2025
Economic activity	***year-on-year per cent change (unless stated)***				
Real GNI*	15.4	5.1	0.4	2.7	3.1
Real GDP	13.6	10.0	4.7	3.3	3.8
Nominal GDP (nearest €25m)	426,275	499,150	545,775	575,700	608,750
Nominal GNP (nearest €25m)	322,700	375,250	410,000	431,475	454,925
Nominal GNI* (nearest €25m)	233,875	261,050	274,925	289,700	305,550
Components of GDP	***year-on-year per cent change***				
Personal consumption	4.6	5.5	1.8	4.6	4.2
Government consumption	6.5	2.9	-1.5	-1.1	1.5
Investment	-39.0	-6.6	3.8	5.3	4.8
Modified investment	8.2	17.7	2.2	3.8	4.1
Modified domestic demand	5.8	7.7	1.2	3.3	3.6
Exports	14.1	12.5	5.5	3.9	4.4
Contributions to real GDP growth	***percentage points***				
modified domestic demand	2.8	3.4	0.5	1.4	1.6
modified net exports	10.9	6.6	4.3	1.9	2.2
stock changes	0.3	0.0	0.0	0.0	0.0
statistical discrepancy	-0.4	0.0	0.0	0.0	0.0
Price developments	***year-on-year per cent change***				
HICP	2.5	8.5	7.1	2.4	1.8
GDP deflator	0.7	6.5	4.4	2.1	1.9
Personal Consumption Deflator	3.8	7.5	6.2	3.2	2.5
Labour market	***year-on-year per cent change (unless stated)***				
Employment	11.0	18.3	1.2	1.6	1.8
Unemployment (per cent of labour force)	15.9	5.2	5.1	5.0	4.7
Labour Productivity	2.4	-7.0	3.4	1.7	1.9
Compensation of Employees*	9.8	12.3	7.2	6.6	6.7
Compensation per Employee*	-1.6	-5.2	5.7	4.8	4.6
External trade	***per cent of GDP***				
Trade balance	39.4	44.9	46.3	45.8	45.4
Modified current account (per cent GNI*)	11.1	8.4	7.7	7.0	6.3
Cyclical developments					
Output Gap	-1.6	0.3	-0.4	-0.1	0.1

Notes: * non-agricultural sector
** per worker, non-agricultural sector.
Source: 2021 = CSO, 2022-2025 = Department of Finance.

Table A10: Summary – fiscal aggregates					
	2021	2022	2023	2024	2025
Exchequer			*€ millions*		
Exchequer Balance	-7,370	345	1,720	10,210	10,780
Tax Revenue	68,410	81,565	86,985	91,235	97,010
General government			*€ millions*		
Total Revenue	98,765	112,475	119,490	124,040	130,875
Total Expenditure	105,805	110,910	112,715	113,330	117,220
General government balance^	-7,040	965	6,170	10,710	13,655
General government			*per cent GNI**		
Total Revenue	42.2	43.1	43.5	42.8	42.8
Total Expenditure	45.2	42.5	41.0	39.1	38.4
General government balance^	-3.0	0.4	2.2	3.7	4.5
Interest expenditure	1.4	1.3	1.3	1.2	1.0
Primary balance	-1.6	1.6	3.6	4.9	5.5
Gross fixed capital formation	3.7	3.9	4.1	4.6	4.8
Gross debt	100.8	86.3	81.5	78.3	73.3
Net debt	82.2	72.9	68.9	63.4	57.8

Notes: ^ includes the cost of the temporary business energy support scheme (TBESS). Work is ongoing on the operational details of the temporary business energy support scheme (TBESS) including whether it will impact the general government balance via increased expenditure or tax forgone. It is anticipated that this scheme will be, at least in part, funded by windfall energy revenues collected from either domestic or international sources.
Source: Department of Finance, CSO and NTMA.

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