Rialtas na hÉireann
Government of Ireland

Budget 2022
Economic & Fiscal Outlook

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Budget 2022

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 30th September 2021 (**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 17th September. Following an iterative process, a formal presentation was made by Departmental staff to the Council on 24th September.

The presentation provided to the Council is available on the Department's website at:
https://www.gov.ie/en/press-release/4b5e5-minister-donohoe-publishes-economic-forecasts-that-will-underpin-budget-2021/

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 on 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 data – economic, fiscal and epidemiological – available to 24th September 2021.

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 set out on the Department's website, and available at:
https://www.gov.ie/en/publication/b1caa-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 on the Department's website, available at:
https://www.gov.ie/en/publication/af2d2-budget-2022-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 12th October 2021.

Chapter 1
Overview and General Policy Strategy

1.1 Policy strategy

It is just over a year-and-a-half since the emergence of the Covid-19 pandemic triggered massive upheaval in the global economy. Since then, the pandemic has taken a heavy toll on societies everywhere with, across the world, over 4½ million lives lost due to the virus.

Around this time last year, the results of several clinical trials regarding potential vaccines were published. These results pointed to high efficacy for a number of vaccines, offering the clearest pathway out of the pandemic. The regulatory authorisation for use of these vaccines, and their subsequent mobilisation for mass immunisation, has been a game-changer. By weakening the link between infection rates on the one hand and hospitalisation and mortality rates on the other, vaccines shift the optimal strategy for dealing with the pandemic, from one of flattening the infection curve via restriction and lockdown to one of co-existence with the virus.

Accordingly, high rates of vaccination have paved the way for the gradual re-opening of most sectors in advanced economies, with some countries having already eliminated all public health restrictions. That said, vaccination roll-out in lower income jurisdictions has progressed at a much lower pace; from an Irish perspective, the Government is committed to playing its part in making vaccines available to the vulnerable around the world.

With around 90 per cent of the domestic population (aged>12 years) now fully inoculated, Ireland's vaccine wall is now amongst the highest in the world. This has allowed Government to progressively dismantle the lockdown infrastructure, the sequencing of which began in the second quarter of this year. An important milestone was reached in mid-September with the relaxation of many restrictions and, from end-October, almost all of the remaining public health measures will be phased out.

Economic conditions have improved *in tandem* with the easing of restrictions, though incoming data confirm the impact of 'lockdown' on economic activity has weakened over time, *inter alia* due to the shift to e-commerce and remote working.[1] *Budget 2022* is prepared against this backdrop of a rapid economic rebound, albeit one that is not uniform across all sectors. For this year, Modified Domestic Demand (MDD) is projected to increase by 5.2 per cent, followed by 6.5 per cent next year. Over the medium-term, it is estimated that the economy can sustain an average annual MDD growth rate of 4 per cent. These projections are conditioned on several building blocks, most notably the assumption that the virus remains contained at levels that do not jeopardise the capacity of the healthcare system.

While the pandemic itself is beginning to fade, both domestically and in other advanced economies, several economic aftershocks are now being felt. Disruption to supply chains, higher energy prices, labour market shortages in some sectors and a pick-up in inflation have become a feature of many economies. If sustained, these side-effects of the pandemic could potentially slow the global recovery, an outcome to which the Irish economy would not be immune.

As is normally the case, the recovery in the labour market is assumed to lag the recovery in activity. Nonetheless, incoming data confirm that falling employment has now reversed course, and the number

[1] See *Economic Insights,* Department of Finance, July 2021, available at: https://assets.gov.ie/162746/a72c1492-c6c8-4cc1-a68c-29bed991877c.pdf

in receipt of the *Pandemic Unemployment Payment* has fallen sharply since the spring. In common with other jurisdictions, however, frictions have emerged in parts of the labour market, with evidence of mismatch between the demand for labour and its effective supply.

Over the course of the pandemic, the Government has mobilised substantial fiscal resources to shore-up household incomes, to extend lifelines to firms, and to boost the capacity of the healthcare system. While this has come at great cost, the cost of inaction would have been even higher. The Government's timely and forceful policy response has helped to limit the economic fall-out in the private sector. An additional policy objective was to minimise longer-term 'scarring' effects; for instance, keeping workers engaged in production in order to avoid skills-erosion, and preventing the unnecessary exit of solvent but illiquid firms. Emerging evidence, including the relatively short duration of the recession, suggests that 'scarring' effects – permanent losses in the productive capacity of the economy – may indeed be lower than previously considered; however, a more definitive assessment can only be undertaken with the passage of time.

As Ireland enters the next phase – the normalisation phase – of the pandemic, the economy is increasingly able to stand on its own two feet. Budgetary policy must adapt accordingly. While appropriate during a temporary collapse in private demand, deficit-financed current expenditure is neither appropriate nor sustainable beyond the short-term.

The *Summer Economic Statement*, published in July this year, set out the Government's revamped fiscal architecture. Budgetary policy will have a medium-term orientation, with fixed annual ('core', i.e. non-Covid) expenditure ceilings. These ceilings are based on the estimated trend growth rate of the economy, taking into account likely price developments. The objective is to de-couple expenditure policy from cyclical variations in the economy and from windfall tax revenue. *Budget 2022* operationalises this strategy.

The *National Development Plan 2021-2030* also forms part of the Government's overall fiscal strategy. The objective is to boost the economy's stock of infrastructure and, in doing so, to support private investment. Elimination of supply bottlenecks – including in the housing market – will lay the foundations for future improvements in living standards.

The need for a medium-term orientation for budgetary policy is further reinforced by the ageing of the population, which will involve significant fiscal costs. Financing the 'two transitions' – the transition to carbon (net-) neutrality and the transition to a digitised economy – will also absorb much of the resources generated by the economy in the years ahead. These resources are currently flattered by exceptionally strong corporation tax receipts which are unlikely to persist. The revenue-at-risk from international corporation tax changes is tentatively estimated at around €2 billion per annum (c.1 per cent of modified national income) from the mid-part of this decade, and budgetary policy must be formulated on the basis of this permanent revenue loss.

Last week, the Government decided to join the international consensus on a suite of far-reaching reforms to the global corporation tax architecture. This decision was guided by the need to provide long-term certainty for the enterprise sector and to avoid the reputational costs of remaining outside these reforms. While there will be a direct revenue impact, the more important channel is the impact on investment and employment; in this regard, greater certainty and predictability will help underpin Ireland as a location for mobile investment. But Government also recognises the need to re-focus on Ireland's other competitive advantages, such as a dynamic and flexible business environment as well as a highly-skilled workforce.

Finally, Government is planning for a post-pandemic economy. With shifting behaviour, shifting preferences and shifting production, at least some reallocation of resources is inevitable. Put simply, capital and labour will need to transition from declining to expanding sectors. Government cannot impede this change; instead, policy will ensure that the transition is as seamless as possible. This means investment in skills and active labour market programmes to equip workers with the tools to move between sectors. It means maintaining and enhancing the framework conditions for entrepreneurship and firm dynamism. Crucially, it also means ensuring fiscal sustainability and the prudent management of the public finances.

1.2 Short-term economic and budgetary outlook

After a number of false dawns, mass vaccination has paved the way for a durable economic recovery. Consumer spending is leading the way, as households begin to normalise their savings habits, and this is projected to continue over the course of next year. Greater certainty regarding future prospects, alongside relatively favourable financing conditions, should also support a firming of business investment in the near-term.

Against this backdrop, growth in MDD – the Department's preferred measure of economic activity – is projected at 6.5 per cent for next year, following an expansion of 5.2 per cent this year (**table 1**). These annual average projections incorporate quarterly profiles for each of the individual components of MDD, and are set out in Chapter 2.

Incoming data show that recovery has gained traction in the labour market. Hours worked rather than headcount is the more meaningful metric in the current environment, given that lockdown resulted in reduced hours for many workers; labour force survey data show that hours worked increased significantly in the second quarter in line with the initial easing of public health restrictions. Higher frequency data – from both official and unofficial sources – point to continued robust recovery over the summer, with the unemployment rate now projected at just above 9¼ per cent at end-year. A further reduction in the numbers unemployed is anticipated over next year.

A perfect storm has given rise to a pick-up in both headline and core inflation since the spring, a feature of almost all advanced economies at this point. Amid tight supplies and growing demand on foot of economic recovery, higher energy prices have pushed the headline inflation rate higher. More fundamentally, a mismatch between demand and supply in some markets has been behind the increase in 'core' (i.e. excluding energy and food prices) inflation. The origin of this demand-supply imbalance in advanced economies is essentially four-fold:

- strong demand for durable goods in the spring, financed in part by accumulated savings;
- the shift in demand for contact-intensive services over the summer, as these re-opened;
- supply chain disruption *inter alia* due to transport bottlenecks;
- labour supply shortages in many contact-intensive sectors.

The Department's projection of a 2.2 per cent inflation rate next year assumes that the spike in price inflation is a temporary phenomenon; consumer price inflation is projected to peak in the final quarter of this year. This trajectory – with an inflection point later this year – rests on the assumption that the factors driving demand-supply imbalances are resolved and that global supply chain disruption is short-lived. Simulations set out later in this document suggest that prolonged supply chain bottlenecks and persistently higher energy prices could result in an average inflation rate closer to 3½ per cent for next year.

Table 1: Summary – main economic and fiscal variables						
	2020	2021	2022	2023	2024	2025
Economic Activity			***per cent change***			
Real GDP	5.9	15.6	5.0	4.1	3.7	3.6
Real GNP	3.4	9.1	4.5	3.6	3.3	3.1
Modified domestic demand	-4.9	5.2	6.5	4.2	4.0	3.8
Real modified GNI^	-3.5	4.7	5.2	3.5	3.3	3.2
Prices			***per cent change***			
HICP	-0.5	2.3	2.2	1.9	2.1	2.2
Core HICP^^	-0.1	1.7	2.1	1.9	2.1	2.2
GDP deflator	-1.2	-0.6	2.2	1.7	1.7	1.7
External trade			***per cent GNI****			
Modified current account	11.5	10.6	9.2	8.5	7.6	6.9
Labour Market			***per cent change (unless stated)***			
Total Employment ('000)	1,932	2,082	2,357	2,421	2,482	2,536
Employment	-16.7	7.8	13.2	2.7	2.6	2.2
Unemployment (per cent)	19.2	16.8	7.2	6.0	5.3	5.0
Public Finances			***per cent of GNI* (unless stated)***			
General government balance (€ million)	-18,415	-13,255	-8,260	-1,080	-270	875
General government balance	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
General government debt (€ billion)	217.9	236.7	238.7	246.0	250.0	252.2
Net debt position (€ billion)~	185.9	201.4	212.3	212.3	220.4	223.1
Debt ratio^	104.7	106.2	99.2	96.7	93.3	89.5
Net debt ratio^	89.3	90.4	88.2	85.9	82.3	79.2

Notes:
*per cent of GDP; estimates of the structural budget balance are subject to even greater uncertainty than normal.
^ GNI* is based on Gross National Income 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.
^^ excluding energy and unprocessed foods
~ net debt figures from 2021 estimated by mechanical extrapolation of assets.
Source: CSO for 2020 and Department of Finance 2021-2025. 2020 GNI* also estimated by Department of Finance.

Turning to the public finances, the Department's spring forecasts – set out in the April *Stability Programme Update* – projected a deficit of €18 billion this year. This was the equivalent of 8.4 per cent of GNI*, a figure which was forecast to decline to 5.0 per cent of GNI* next year. Since then, the Government has introduced its *Economic Recovery Plan*, with measures designed to support the economy during the re-opening phase. This policy initiative was following by the *Summer Economic Statement* which, as well as providing for reforms of the fiscal infrastructure, set out a budgetary package of €4.7 billion for next year.

On the other side of the equation, taxation revenue has exceeded expectations, and now looks set to reach €66.1 billion for this year. In conjunction with some underspending, a general government deficit of €13.3 billion (5.9 per cent of GNI*) is now in prospect for this year. A deficit of €8.3 billion (3.4 per cent of GNI*) is projected for next year, as most of the emergency temporary supports will have been withdrawn.

Public indebtedness next year is projected at €239 billion, the equivalent of 99.2 per cent of GNI*. Allowing public debt to temporarily increase was the most appropriate way of cushioning the impact of the pandemic, particularly in an environment in which financing costs were exceptionally favourable due to large-scale central bank purchases of sovereign debt (sometimes referred to as 'quantitative easing'). This means that, notwithstanding the increase in public debt, its burden has actually fallen; this is true in Ireland as in other advanced economies.

With the fog now beginning to lift on the pandemic, an exit from the extraordinary monetary support is in the pipeline, although timing and pace remain unclear. In a nutshell, this means that pricing will be on less favourable terms, highlighting the importance of slowing the pace at which public debt is accumulated. On this basis, the Government's medium-term budgetary strategy is based on the full removal of temporary pandemic-related fiscal transfers by end-2022 in order to begin the process of better aligning revenue and spending.

Chapter 2
Economic Outlook

2.1 Summary

The mass mobilisation of vaccines means that the pendulum has finally swung on the pandemic and, in the absence of any vaccine-evading strain of the virus or decline in the potency of vaccines, the emergency phase of the pandemic in Ireland has now passed. The gradual easing of public health restrictions began in April and, unsurprisingly, coincided with a bouncing-back of economic activity. The recovery in the second quarter means that the level of Modified Domestic Demand (MDD) had returned to its level immediately prior to the pandemic (although still slightly below its peak recorded in the third quarter of 2019).

Higher frequency data, both official (e.g. retail sales) and unofficial (e.g. card payments), point to a continued improvement in economic activity in the third quarter, with the resumption of contact-intensive services activity at the beginning of the summer an important tailwind for the domestic economy. The phasing out of most remaining public health restrictions in October should underpin further economic momentum in the fourth quarter and into next year, though at a more moderate pace as the initial release of pent-up demand fades.

Economic recovery has paid dividends in the labour market, where the number in receipt of the *Pandemic Unemployment Payment* (PUP) fell sharply over the summer. A further decline is expected in the fourth quarter of this year and early next year, as the scheme is phased-out and recipients return to work or to re-activation programmes.

MDD is projected to increase by 5¼ per cent this year (GNI* by 4¾ per cent), accelerating to 6½ per cent next year (GNI* by 5¼ per cent).[2] Over the medium term (2023-2025), MDD is expected to grow at an annual average rate of just under 4 per cent on average (GNI* by 3 per cent). The level of employment is projected to exceed the fourth quarter of 2019 pre-pandemic peak of 2.34 million over the course of next year, with the labour market to approach full-employment towards the end of the forecast horizon. The Covid-adjusted unemployment rate, which includes all PUP recipients, is projected to fall to just over 9¼ per cent in the fourth quarter, and to 6½ per cent by the end of next year.

2.2 Macroeconomic developments in 2021

Domestically-focused, contact-intensive sectors recorded a sharp decline in activity in the first quarter of this year, due to stringent public health restrictions associated with the *alpha* variant. A rapid recovery took hold as restrictions were eased in subsequent quarters. Notably, however, the initial contraction and subsequent rebound were considerably less than recorded during the first wave of the virus, confirming that firms and households have adapted, *inter alia* by shifting to e-commerce.[3]

At the same time, available data confirm that large parts of the foreign-owned, multinational sector continued to perform strongly during the third wave with, in some cases, pandemic-related demand boosting production.

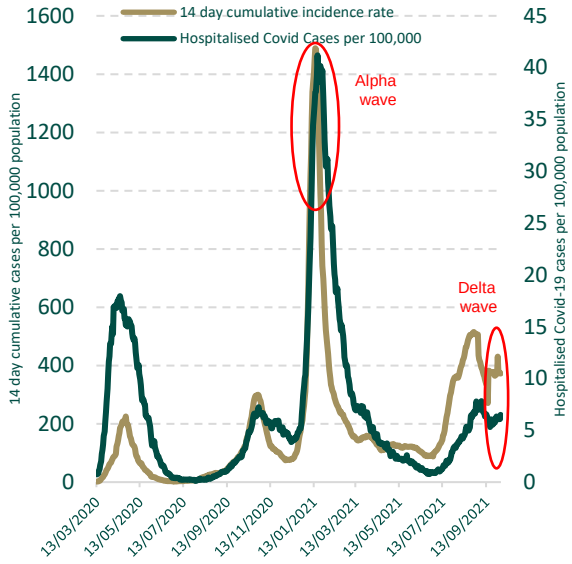
[2] While GNI* is generally accepted as a more appropriate indicator to GDP, it is only published on an annual basis and with a significant lag. MDD, which accounts for the vast majority of GNI*, and is published on a quarterly basis is the Department's preferred economic metric. In reality due to their close relationship, they tend to tell a broadly consistent economic story.
[3] See '**Box 2** - Improvise, Adapt, Overcome – the relationship between restrictions and output', *Summer Economic Statement*, Department of Finance, July 2021.

Figure 1: Epidemiological developments

A: Cross-country vaccine rates, per cent of adult pop

Source: European Centre for Disease Control.

B: Pass-through from cases numbers to hospitalisation



Source: European Centre for Disease Control.

On foot of these developments, and on the back of surging global demand for pharmaceuticals, digital services and goods produced by contract manufacturers in the far-east, GDP in the second quarter of this year was actually one-fifth higher than its level immediately pre-pandemic (the final quarter of 2019). On the other hand, MDD only just surpassed its pre-pandemic level in the second quarter this year, with household consumption still lagging slightly at that point. This divergence between GDP and domestic economic conditions is even more stark when looked at on a broad sectoral basis, with gross value-added (GVA) in foreign-MNC sectors more than 40 per cent *higher* than pre-pandemic levels, while GVA in domestically-orientated sectors was 6 per cent *lower*. For this and other reasons, GDP as a measure of economic trends has become even more divorced from domestic economic conditions during the pandemic (**box 1**).

Developments in domestic economic conditions over the pandemic period, and the related ebb-and-flow of relatively stringent public health restrictions, are best viewed through the prism of consumer spending (**figure 3A**). While the relationship between spending by households and the stringency of public health restrictions has weakened over time, the two variables remain strongly correlated. Indeed, this pattern of large contractions followed by rapid bounce-backs in consumer spending in parallel with public health restrictions has resulted in one of the most volatile consumption patterns in the euro area (**figure 3B**). Overall, consumer spending remained 3 per cent below pre-pandemic levels in the second quarter this year.

With the re-opening of parts of the economy from the second quarter, households have begun to normalise their flow of savings and, are beginning to dip into stocks of accumulated 'excess' deposits – estimated at around €15 billion (or 15 per cent of nominal household spending in 2019) – in order to finance higher levels of spending. While initially concentrated in the purchase of goods, 'social consumption' – which relies on face-to-face contact – appears to have taken on the baton in more recent months. As a result, pre-pandemic levels of consumption should be reached in the third quarter, with a further increase in the final quarter as the remaining restrictions are eliminated. Overall consumer spending is projected to increase by 6¾ per cent this year.

Box 1: Limitations of GDP/GNI and alternative measures of underlying activity

As has been well documented, the information content of conventional measures of aggregate economic activity is limited in an Irish context. While compiled in line with international standards, the internationalisation of the Irish economy has given rise to a significant disconnect between many of the standard economic metrics on the one hand – such as GDP, GNI, balance of payments – and developments in consumer spending and employment on the other hand (**figure 2A**).

GDP, for instance, has overstated Irish living standards since at least the late-1990s; for this reason, GNP (or GNI) was previously seen as a better macro-economic indicator, as it excluded the profit streams that flow to the foreign owners of Irish-resident multinational corporations. Over the past decade, however, even GNP/GNI measures have become disconnected from underlying measures.

To better capture the underlying dynamics of the Irish economy, the Irish Central Statistics Office publishes a number of alternative metrics. The most useful are modified domestic demand (MDD), modified gross national income (GNI*) and the modified current account of the balance of payments (CA*), all of which have broadly similar modifications.

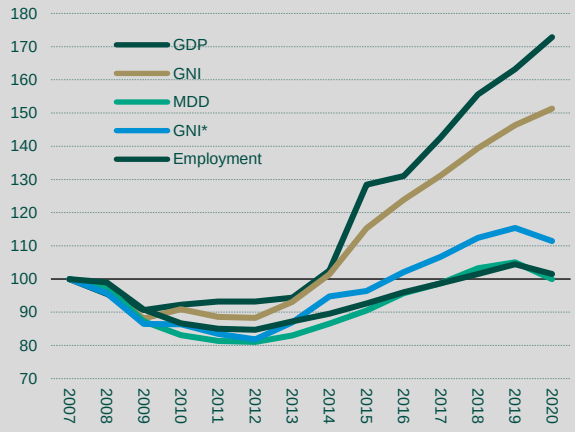
MDD essentially measures domestic demand but excludes volatile components of investment spending; it is available on a quarterly basis and with considerable granularity. GNI* is a more comprehensive measure – it includes 'domestic' net exports – but is less timely and is unavailable on a quarterly basis. Accordingly, the Department's preferred measure of economic activity, for short-term conjunctural analysis, is MDD. GNI* is an important complementary indicator and, in the Department, is used for both 'ratio analysis' (debt-GNI*, etc.) and for assessing the underlying drivers of growth.

An important question arises as to the impact of the pandemic on these measures. To answer this, developments in the various metrics are set out below (**figure 2B**), which clearly show that the pandemic has widened the disconnect. Standard headline indicators actually increased last year; GDP, for instance, increased by almost 6 per cent despite a very large contraction in MDD, mainly due to strong exports in a small number of foreign-owned sectors.

Preliminary data for this year indicate that GDP and GNI continue to significantly overstate underlying growth, with annual increases of 16 and 9 per cent recorded in the first half of this year. This was driven *inter alia* by a strong rebound in 'contract manufacturing'. While this activity inflates Ireland's exports, it has almost no impact on Irish living standards as it generates little or no domestic activity/employment.

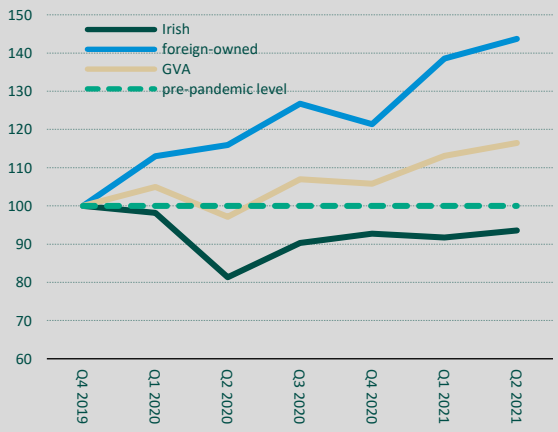
Figure 2: Divergence between GDP/GNI and modified metrics

A: Headline vs underlying activity, 2007=100



Source: CSO.

B: Irish vs. foreign-owned GVA, Q4 2019=100



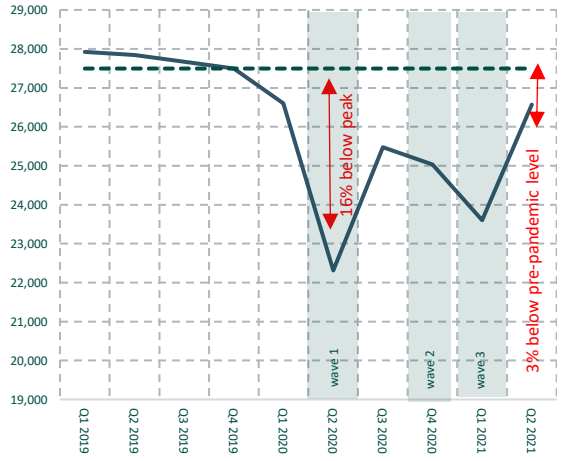
Note: 2019q4 is the level immediately before the pandemic.
Source: CSO

It is important to stress that the CSO is legally required to produce macroeconomic statistics (GDP, GNI, etc.) in accordance with internationally-agreed methodologies. Similarly, Ireland's international obligations are assessed on these bases (e.g. Ireland's EU budget contribution is still based on GNI, compliance with the *Stability and Growth Pact* is assessed on the basis of GDP). Accordingly, the Department will continue to produce forecasts of GDP/GNI. However, given the significant shortcomings with these measures from a macroeconomic analysis perspective, modified metrics are the only game in town.

^ See, for instance, Department of Finance's explanatory note GDP and 'Modified GNI', (2018), available at: https://assets.gov.ie/4910/181218123252-71a2c297f26b419fa3696d7349e3e788.pdf

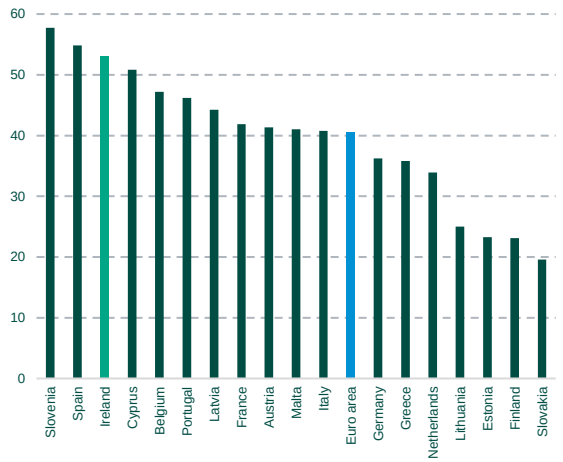
Figure 3: Household consumption

A: Consumer spending vs pre-pandemic level, €mn



Note: Dotted line shows the level of consumer spending in the final quarter before the pandemic hit (2019Q4).
Shaded area shows the different waves of the virus.
Source: CSO

B: Volatility of household consumption, q/q per cent



Note: Volatility is calculated as the sum of the absolute value of the quarterly changes in household consumption expenditure between 2020 Q1 and 2021Q2. The higher the q/q reading, the more volatile the series.
Source: Eurostat

Despite a near-shutdown of activity in the first quarter, housebuilding has proven to be relatively resilient this year. Almost 9,000 units were completed over the first half of the year, while data for housing starts suggest a pick-up in completions over the second half of the year. Growing optimism that the worst of the pandemic has passed, alongside relatively favourable financing conditions, is supporting non-housing investment spending by the corporate sector. The need to rebuild productive capacity, including enhancing information and communications technology infrastructure, is another factor that may be underpinning investment spending. That said, the impact of the pandemic has been uneven across the corporate sector and it may be the case that some firms are prioritising debt reduction over investment in new fixed assets.

Against this backdrop, modified investment (i.e. excluding investment in on-shored intellectual property and aircraft for leasing) is expected to grow by 4 per cent this year. Alongside very strong growth in consumer spending and more modest growth in public spending on goods and services, MDD is projected to increase by 5¼ per cent this year.

On the external front, headline exports have increased substantially in the first half of this year, primarily due to a very strong expansion in exports related to 'contract manufacturing' and other globalisation-related factors. At the same time, goods exports from outside of the multinational sector also performed solidly this year, reflecting *inter alia* the rebound in external demand and, possibly, the delayed implementation of full customs checks by the UK authorities. On the services side, double-digit export growth is expected, largely on foot of a robust performance of ICT exports. In overall terms, export growth of around 16 per cent is projected this year.

The exceptionally strong growth in exports is the key factor behind the GDP projection of 15½ per cent for this year, though caution is warranted in interpreting this figure. In contrast, GNI* – a more relevant measure of domestic living standards – is forecast to grow by 4¾ per cent this year, driven by the performance of MDD (including stocks) and underlying net exports.[4]

[4] In simple terms, growth in GNI* is modelled as a function of growth in modified total domestic demand (which includes stocks) plus growth in underlying net exports; see '*Forecasting modified GNI*', Department of Finance (forthcoming).

Measurement challenges complicated the assessment of labour market trends.[5] However, real-time data on PUP numbers confirm that economic recovery is paying dividends in the jobs market. For instance, by end-September, the total number of PUP recipients had fallen to just under 100,000, an 80 per cent decline from the *alpha* wave peak in early-February, when almost half a million people were in receipt of the payment. At end-year, total employment is expected at 2.3 million and the Covid-adjusted unemployment rate, which included PUP recipients, is expected to converge towards 9 per cent.

2.3 Macroeconomic projections for 2022

2.3.1 External assumptions

Vaccine access is the principal fault-line along which short-term global economic developments and prospects have diverged. On one side of this fault-line lie many advanced economies, where vaccine roll-out has progressed rapidly since the beginning of the year; in these economies, public health restrictions that weigh on economic activity are in the process of being lifted. At the same time, extensive policy support has also helped fuel a rapid recovery in demand; indeed, there is now mounting evidence that supply-side constraints – rather than a shortfall in demand – are now becoming the main barrier to economic growth (**box 2**).

On the other side of the fault-line lie many emerging and lower income economies where vaccination coverage is much lower and, accordingly, the more transmissible *delta* variant has weighed on economic activity. Moreover, structural factors mean that the room for policy manoeuvre is typically lower than in advanced economies, raising the risk of prolonged sub-trend growth and, accordingly, increasing the probability of 'scarring' effects in emerging market and less developed economies.

Table 2: External assumptions, per cent change (unless stated)

	2020	2021	2022	2023	2024	2025
External GDP growth						
United States	-3.4	6.0	3.9	-	-	-
Euro area	-6.5	5.3	4.6	-	-	-
United Kingdom	-9.8	6.7	5.2	-	-	-
Technical assumptions						
Euro-sterling exchange rate (€1=)	0.89	0.86	0.86	0.86	0.86	0.86
Euro-dollar exchange rate (€1=)	1.14	1.19	1.18	1.18	1.18	1.18
Brent crude (dollars per barrel)	43.3	68.0	67.2	63.8	63.8	63.8

Notes: Oil prices (futures) in 2021 – 2025 are calculated on the basis of futures markets as of mid-September 2021.
Exchange rate outturns as of mid-September 2021 and unchanged thereafter.
Source: External growth forecasts are sourced from the OECD Interim Economic Outlook, September 2021 update.

Near-term prospects for Ireland's main exporting markets are broadly favourable at this point. Unprecedented economic policy support during the pandemic – both fiscal and monetary – has helped protect household incomes and corporate revenues in the euro area, UK and US,[6] and this should enable a relatively smooth hand-over to private demand. In all of these regions, the assumed normalisation in household savings should underpin robust consumer demand, while improving

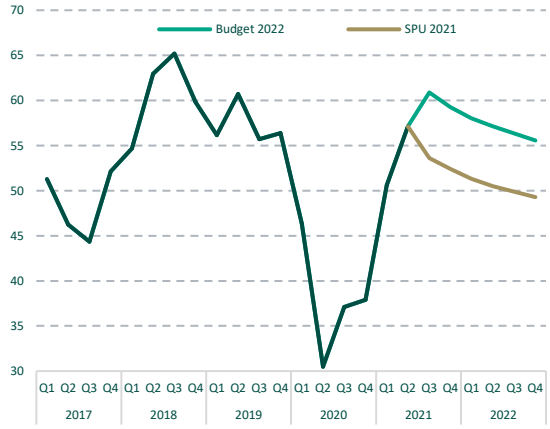
[5] For a fuller description, see *Ireland's Unemployment Rate and Covid-19 Disruption*, Economic Insights, Department of Finance, January 2021.
[6] These three regions are the destination for around two-thirds of Ireland's exports.

confidence alongside favourable financing conditions is expected to support an expansion of business investment.

Short-term forecasts for Ireland's main export markets are set out above (**table 2**). Apart from epidemiological developments, the key sources of risk to these projections lie in the possibility of prolonged supply chain disruption and a premature withdrawal of policy support. In the case of the UK, full customs checks are due to apply from the beginning of next year, and this could lead to some disruption to UK-bound Irish exports, notably amongst smaller and medium-sized firms.

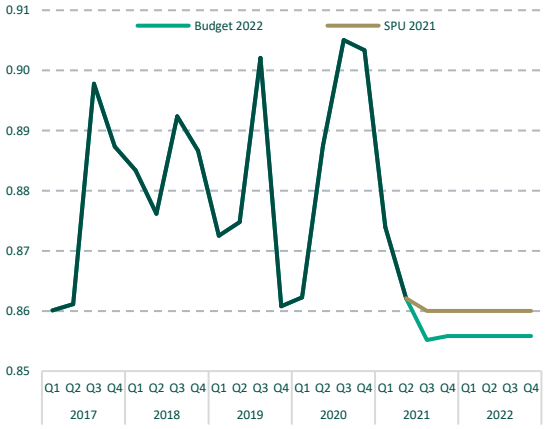
Figure 4: Change in key external assumptions relative to spring 2021 forecast

A: Oil prices, brent crude, euro



Note: the Department's spring forecasts were set out in the *Stability Programme Update*, April 2021.
Oil prices as per mid-September
Source: Macrobond.

B: Euro-sterling bilateral exchange rate



Note: in relation to exchange rates, the standard approach is to hold these constant at rates prevailing at a certain cut-off point (mid-September for the Department's autumn forecasts).
Source: Central Bank of Ireland.

The sharp rebound in global activity has led to a significant increase in oil prices this year, which are now well above pre-pandemic levels, and one of the drivers of higher consumer price inflation across the world. On the basis of futures markets in mid-September, oil prices were expected to average around $68 (€57) per barrel this year and around $67 (€57) per barrel next year.[7] An important risk is that global gas shortages spill-over into the oil market (oil and gas are substitutes), putting upward pressure on prices.

In terms of key bilateral exchange rates, the euro-sterling bilateral rate averaged around €1 = stg£0.86 in the first half of September. On the basis of the purely technical assumption of no further change over the remainder of the forecast horizon, this would imply no change next year relative to this year. A similar, purely technical approach results in a modest implied euro-dollar depreciation of around 1 per cent next year relative to this year (euro-dollar bilateral rate averages €1 = $1.19 for 2021).

[7] As previously documented, the macroeconomic external assumptions are grounded in data available to mid-September. By early-October, the spot price for wholesale oil and gas had increased significantly. Chapter 6 of this document presents some scenario analysis that 'stress test' some of these assumptions.

Box 2: Global supply chain disruption – a short-term constraint on economic activity?

Most advanced economies are now recovering from the pandemic. Demand has rebounded sharply, *inter alia* due to the normalisation of household saving behaviour, while world trade is now 5 per cent above pre-pandemic levels (**figure 5A**).

The capacity of the global economy to meet this demand, however, has been compromised by disruption to supply chains, with mounting evidence that this has become a binding constraint to economic activity as well as a contributory factor to the pickup in producer and consumer price inflation in many advanced economies.

To understand the dynamics at work, it is important to appreciate the fundamental overhaul of global goods production in recent decades. Multinational corporations have increasingly located different parts of the production process in different locations, in order to exploit region-specific comparative advantages. As a result, intra-firm trade has increased exponentially, with final goods relying on intermediate inputs sourced from multiple jurisdictions. Additionally, modern business processes increasingly rely on 'just-in-time' supply chains, the objective of which is to deliver goods precisely as they are required, in order to minimise inventory costs.

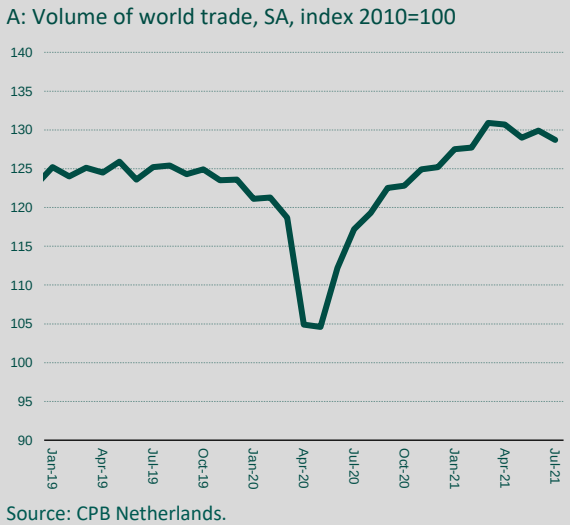
Against this backdrop, several bottlenecks have recently emerged to disrupt the free-flow of goods around the globe. The first spanner in the works is at the beginning of the supply chain, with pandemic-related factory closures in some developing economies. This has weighed on the supply of inputs and intermediary goods (timber and semi-conductors being good examples).

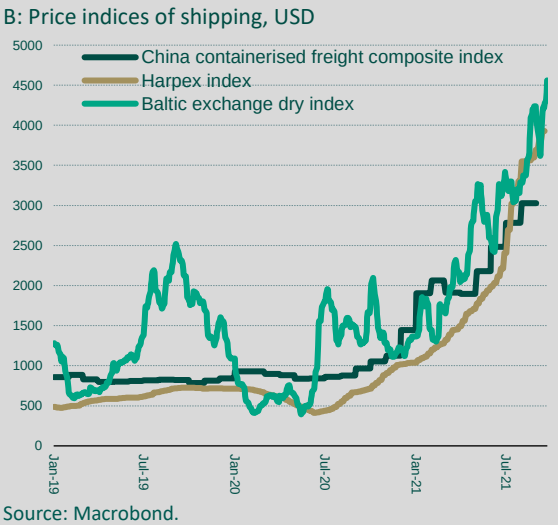
The second bottleneck relates to the transport infrastructure. Approximately 90 per cent of traded goods are transported by sea, requiring:

- containers to store the goods in transit;
- port infrastructure to on-load / off-load;
- sea freighters to ship them around the globe;
- heavy goods vehicles (HGV) for land transit to / from port.

Issues have arisen in all areas. A scarcity of shipping containers has emerged – this is primarily a logistical issue, with containers in high demand in East Asia sitting empty in ports in other parts of the world, having been stranded during the contraction in global trade during the most acute phase of the pandemic. Port capacity has been affected *inter alia* by worker shortages and social distancing requirements. A mismatch between demand and supply for shipping services has pushed up the price of shipping services (**figure 5B**), with some of these costs being passed on to consumers. Finally, a shortage of HGV workers has added to transport bottlenecks in some jurisdictions.

Figure 5: Covid-19 and global supply chains





It is unclear at this stage how long the supply chain disruption will persist. The most optimistic scenario is one in which increased investment in capacity – in transport infrastructure and additional labour – means additional supply comes on stream relatively quickly, while demand shifts from goods to services as economies and societies re-open. A less benign scenario involves a significant lag with, for instance, some estimates that it could be 2023 before additional shipping capacity is on-streamed.^

^ See, for instance, OECD Economic Outlook, September 2021.

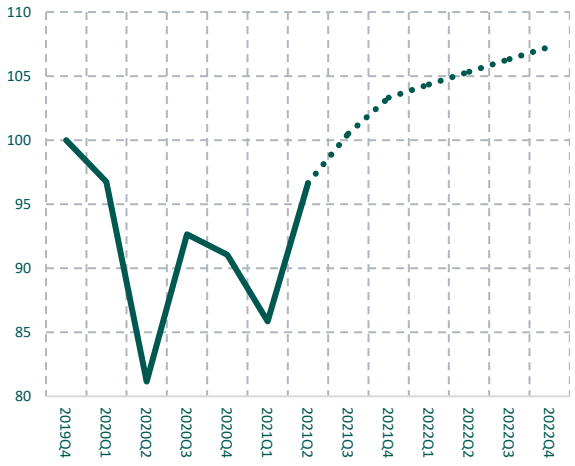
2.3.2 Domestic prospects

A fundamental building block of the Department's autumn forecasts is the assumption that there are no further public health restrictions and so there is a normalisation of economic activity over the short-and medium-term. On this basis, consumer spending is expected to benefit from a further reduction in the household savings rate, as this reverts to levels more in line with historical norms. Households also accumulated a large stock of 'excess savings' during the pandemic, and a partial unwinding of this is assumed to support spending on some big-ticket items, such as car purchases and foreign trips abroad.

In terms of the quarterly profile (**figure 6A**), some of the pent-up demand has already been released, and so the quarterly growth pattern involves more modest, but still solid, increases in consumer spending between now and end-2022. This would involve quarterly growth rates slightly above pre-pandemic trend, and result in an annual growth rate of 9½ per cent for next year. Importantly, this figure is partly a reflection of 'base effects' associated with the large fall in spending during the lockdown in the first quarter this year.

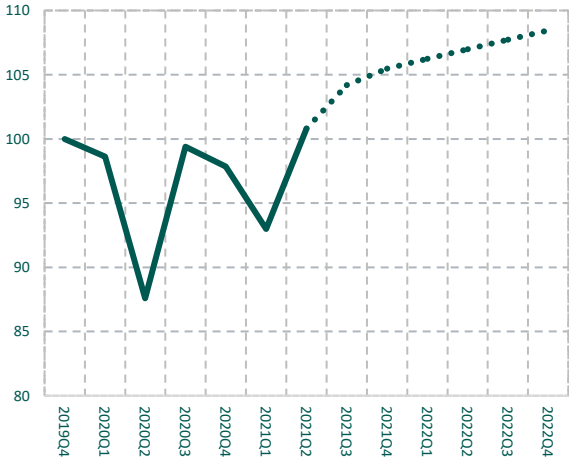
Figure 6: Quarterly projections for household consumption and MDD

A: Quarterly profile for consumption, 2019q4 = 100



Note: dotted line denotes projection.
Level immediately pre-pandemic set=100
Source: CSO and Department of Finance

B: Modified Domestic Demand, 2019q4 = 100



Note: dotted line denotes projection.
Level immediately pre-pandemic set=100
Source: CSO and Department of Finance

Modified-investment – which removes investment in aircraft leasing and imported intellectual property – is projected to accelerate to 6½ per cent next year, led by higher levels of investment spending in building and construction. Housing starts, a leading indicator for completions 6-12 months down the line, suggest a higher level of new housing construction, while the ramping-up of public capital spending under the revised *National Development Plan* will also provide support. At the same time, the assumed fading of the pandemic will bring greater levels of certainty, underpinning higher levels of corporate investment spending in areas such as machinery and equipment.

Against this backdrop, the Department is projecting MDD growth of 6½ per cent next year, with the strongest contribution from consumer spending (**figure 7A**). A modest negative contribution is assumed from the unwinding of pandemic-related emergency purchases of goods and services by government. The assumed quarterly profiles for consumer spending and MDD over the period to end-2022 are set (**table 4**), alongside the quarterly projection for unemployment and inflation.

Table 3: Macroeconomic prospects, per cent change (unless stated)						
	2020	2021	2022	2023	2024	2025
Economic activity			***per cent change***			
Real GDP	5.9	15.6	5.0	4.1	3.7	3.6
Nominal GDP	4.6	15.0	7.3	5.9	5.5	5.3
Real GNI*	-3.5	4.7	5.2	3.5	3.3	3.2
Real MDD	-4.9	5.2	6.5	4.2	4.0	3.8
Components of GDP			***per cent change***			
personal consumption	-10.4	6.8	9.6	3.6	3.4	3.2
government consumption	10.9	2.3	-1.8	2.0	2.0	2.1
modified-investment	-3.6	4.0	6.4	7.6	7.1	6.6
stock changes^	0.3	-0.3	0.0	0.0	0.0	0.0
exports	9.5	16.1	5.7	5.1	4.6	4.4
modified imports	1.6	11.3	7.0	5.9	5.2	5.0
Contributions to GDP growth			***percentage points***			
modified domestic demand	-2.5	2.5	3.0	1.9	1.9	1.8
modified net exports	9.5	13.4	2.1	2.1	1.9	1.8
stock changes	0.3	-0.3	0.0	0.0	0.0	0.0
statistical discrepancy	-1.3	0.0	0.0	0.0	0.0	0.0
Nominal amounts			***€ millions, current***			
GDP (nearest €25m)	372,875	428,700	460,075	487,275	514,125	541,600
GNI* (nearest €25m)^^	208,175	222,925	240,600	254,325	267,900	281,900

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: 2020 = CSO; 2021-25 = Department of Finance.

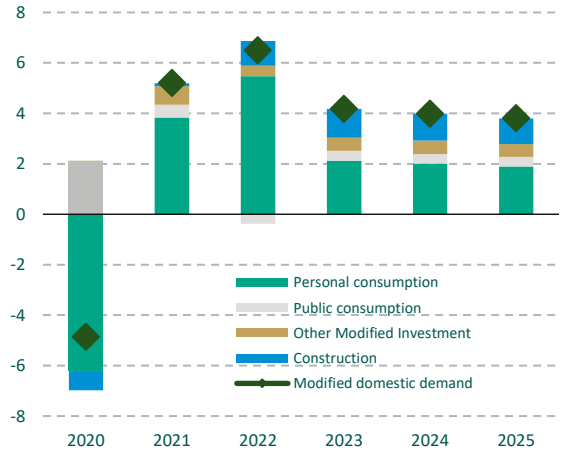
Exports are projected to increase by almost 6 per cent next year, supported by a broadly favourable external environment. Service exports are assumed to be the main driver, underpinned by ICT exports once again. While smaller in monetary terms, the employment-content of tourism and travel exports is significant; exports of these services are set to increase significantly over next year – albeit from a very low base – as more-and-more international travel restrictions are relaxed.

On the other hand, exports of goods are projected to decelerate sharply; this is based on the purely technical assumption that exports related to 'contract manufacturing' do not make a significant contribution to growth next year (this is a technical assumption rather than a variable that can be explicitly modelled). The introduction of full customs procedures by the UK authorities under the *Trade and Cooperation Agreement* could also be a significant headwind, in particular, for indigenous exports.

On the basis of these assumptions, GDP is projected to increase by 5 per cent next year (**figure 7B**). GNI* is expected to increase by 5¼ per cent, with the continued strong recovery in MDD offsetting a negative contribution from (domestic) net trade, the latter taking into account the introduction of full custom procedures by the UK authorities.

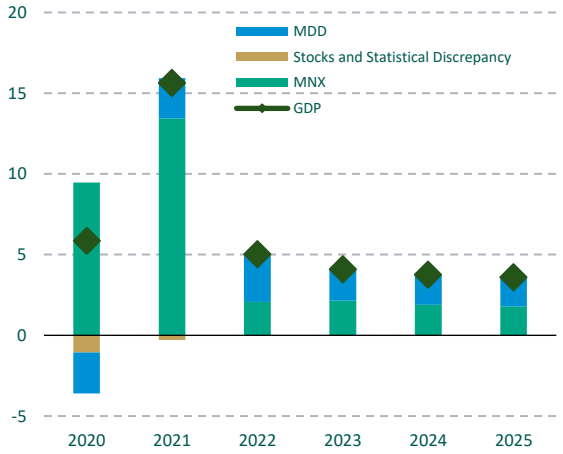
Figure 7: Contributions to modified domestic demand and to GDP

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

Table 4: Quarterly profiles of macroeconomic prospects, per cent change (unless stated)

	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Consumer spending	85.9	96.6	100.5	103.3	104.3	105.3	106.3	107.3
MDD	93.0	100.8	104.2	105.5	106.2	107.0	107.7	108.4
Inflation rate (per cent)	-0.1	1.6	3.1	4.5	3.3	2.4	1.6	1.7
Une. rate (per cent)	26.6	19.6	12.4	9.3	8.0	7.5	6.9	6.5

Notes: indexed 2019q4=100.
Unemployment based on CSO Covid-adjusted series, which treats PUP recipients as unemployed.
Source: Department of Finance.

2.4 Balance of payments and flow-of-funds

The internationalisation of the Irish economy complicates the interpretation of trends in the balance of payments. In headline terms, for instance, the current account balance moved from deficit in 2020 to a surplus of 17 per cent of GDP in the first half of this year. This turnaround largely reflected a substantial decline in purchases of intellectual property assets from abroad (classified as an import, and thereby temporarily depressing the external position), following significant on-shoring of these assets in recent years. The headline balance is expected to remain elevated over the forecast horizon, *inter alia* on the assumption that on-shoring activity remains limited.

The modified current account, which removes a number of globalisation-related distortions and, as such, is a better measure of the underlying balance. However, even on this basis, a double-digit surplus as a share of modified national income (**table 5**) was recorded last year. To put this into perspective, the last time Ireland recorded such a large surplus was during the Second World War.[8] Amongst developed countries, it is generally only oil producers or those with a significant presence of headquartered multi-national corporations which run external surpluses of this magnitude. As such, even this modified metric is difficult to interpret.

[8] See John FitzGerald and Sean Kenny (2018), '*Managing a Century of Debt'* and *Seamus* Coffey (2021), '*What's going on with the current account*?'.

Differences between domestic savings and investment are the counter-part to the external position: a current account surplus implies that domestic savings are in excess of domestic investment in physical (and intangible) assets, and *vice versa*. In turn, domestic savings and investment positions are the sum of the savings-investment balances of the different institutional sectors – the household, government and corporate (financial and non-financial) sectors. Given the difficulties in interpreting the overall modified balance, analysing the sectoral composition, in particular focusing on the household and government sectors, both of which are unaffected by statistical distortions, can provide greater insight into underlying trends.[9]

A large flow of funds from the government sector to the household sector has occurred since the outbreak of the pandemic (PUP, wage subsidy schemes, etc.). These supports have led to substantial net borrowing by the government sector (closely related to, though not exactly the same as, the general government deficit). On the other hand, the financial surplus of the household sector – a net lender – has increased by a broadly similar magnitude. In other words, the financial deficit of the general government sector has been largely offset by a financial surplus of the household sector.

Table 5: Savings, investment and the balance of payments, per cent of GDP (unless stated)

	2020	2021	2022	2023	2024	2025
Gross Savings	37.4	35.3	34.6	34.5	34.3	34.1
Modified Gross Savings (per cent GNI*)	30.6	29.7	28.8	28.8	28.8	28.7
of which:						
- households	15.3	12.0	6.9	6.0	5.7	5.6
- modified corporate	19.4	19.5	18.9	18.3	17.9	17.5
- government	-4.1	-1.7	3.0	4.6	5.1	5.6
Investment^	40.0	18.9	19.7	20.5	21.3	21.8
Modified investment (per cent GNI*)	19.1	19.1	19.6	20.4	21.1	21.8
of which:						
- households	2.7	2.8	3.1	3.5	3.8	4.2
- modified corporate^^	12.1	11.3	11.3	11.4	11.6	12.0
- government	4.4	5.0	5.1	5.5	5.7	5.7
Current account	-2.7	16.5	14.9	14.0	13.0	12.3
of which:						
- trade balance	22.3	45.4	44.0	43.2	42.4	42.0
- income balance	-24.9	-28.9	-29.1	-29.2	-29.5	-29.7
Modified current account (per cent GNI*)	11.5	10.6	9.2	8.5	7.6	6.9

Notes:
^ More specifically, gross capital formation which is the sum of gross domestic fixed capital formation, changes in stocks and the statistical discrepancy.
^^ The statistical discrepancy is included in the modified corporate sector (in both savings and investment) and accounts for approximately 3 pp of the modified corporate savings-investment balance.
Source: 2020 = CSO; 2021-25 = Department of Finance.

These financial positions are expected to unwind over the second half of this year and into next year, in line with the phased relaxation of public health restrictions. Increased consumer spending and housing investment will reduce the financial surplus of the household sector while the tapering of fiscal

[9] The annual institutional sector accounts will be published next month and will help provide further insight on the role of the corporate sector in driving Ireland's current account position.

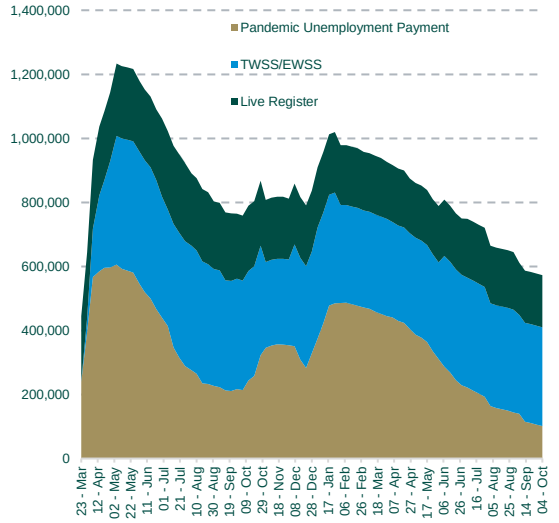
supports will reduce the financial deficit of the government sector. Over the medium-term, the modified current account surplus is projected to narrow further as these trends continue.

2.5 Labour market developments

Incoming data confirm that the Government's policy response to the pandemic – essentially keeping workers close to the jobs market – has paved the way for a rapid rebound in the labour market. Labour force survey data show a Covid-adjusted employment increase of 15.5 per cent in the second quarter relative to the first, as the public health restrictions began to be relaxed. Higher frequency data, from both official and unofficial sources, suggest an acceleration in the pace of employment creation over the summer, largely on foot of the (partial) resumption of face-to-face service activity. For instance, the number of people in receipt of the PUP, fell sharply over the summer (**figure 8A**), with data suggesting that the bulk of those exiting the PUP are transitioning to employment (in some cases to employment subsidised via the EWSS). In addition, real-time data show that new and total job postings on employment website *Indeed* are now around 50 and 35 per cent above their pre-pandemic levels respectively (**figure 8B**).[10]

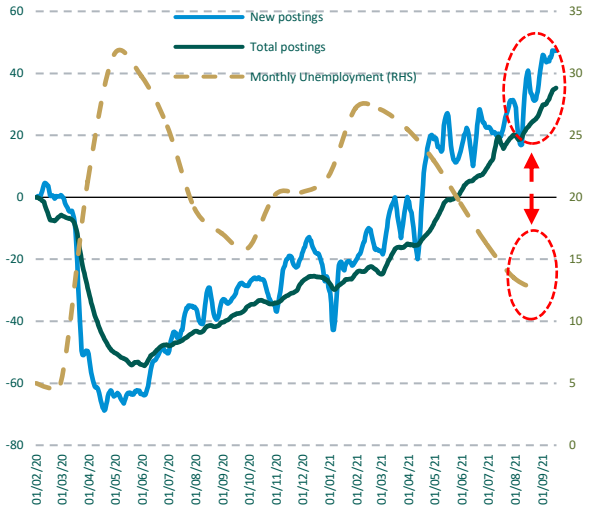
Figure 8: Labour market developments

A: Number on temporary labour market supports



Source: CSO, Revenue, DSP, analysis Department of Finance.

B: Demand vs supply of labour



Source: Indeed, Department of Finance.

The dismantling of the infrastructure around public health restrictions in the final quarter of this year will further support the demand for labour. In common with other jurisdictions, however, there is now mounting evidence that the availability of labour (i.e. labour supply) is becoming a barrier to job-creation, at least in some sectors. The labour market is, of course, a complex one with a myriad of sub-sectors and firms, but it would appear that shortages of labour – both skilled and unskilled – may be holding back production in some areas.

[10] For further detail on the Department of Finance's use of high frequency data to monitor developments in the labour market see the Insight note 'Covid-19 and the Irish Labour Market – Insights from High Frequency Data' (2021) available at: https://www.gov.ie/en/publication/3751e-economic-insights-summer-2021/

Table 6: Labour market developments, per cent change (unless stated)

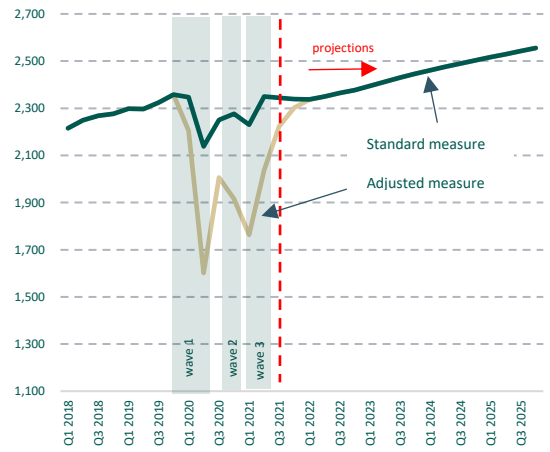
	2020	2021	2022	2023	2024	2025
Employment	-16.7	7.8	13.2	2.7	2.6	2.2
Unemployment rate (per cent)	19.2	16.8	7.2	6.0	5.3	5.0
Labour productivity^	27.1	7.3	-7.2	1.4	1.2	1.4
Compensation of employees*	0.7	6.9	6.0	5.6	5.8	5.9

Note: *Non-agricultural sector.
Employment and unemployment outturns and projections are on the basis of the CSO Covid-adjusted series which treats all recipients of the PUP as unemployed.
Source: 2020 = CSO: 2021-25 = Department of Finance.

Overall, employment growth of 7¾ per cent is expected for the year (c. 150,000 jobs), with the unemployment rate approaching 9 per cent by year-end. For next year, employment growth of just over 13 per cent (c. 275,000 jobs) is projected, with particularly strong growth in part-time employment assumed. On this basis, the number at work is expected to return to its pre-pandemic level in the mid-part of 2022, with the unemployment rate expected to fall to 6½ per cent by the end of next year.

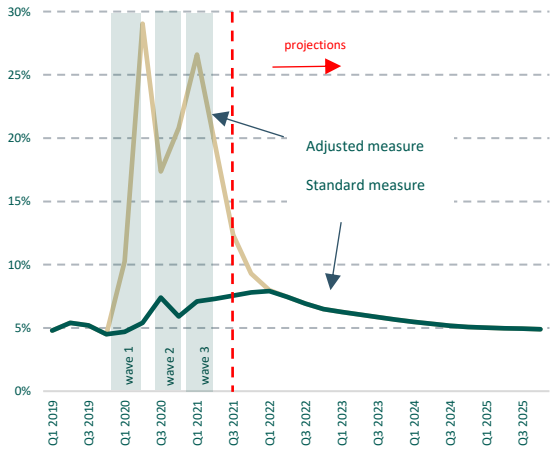
Figure 9: Labour market projections

A: Quarterly employment projections, 000



Notes: adjusted measure takes into account those on the PUP
Source: Department of Finance.

B: Quarterly unemployment projections, per cent



Notes: adjusted measure takes into account those on the PUP
Source: Department of Finance.

Compensation of employees – the national accounting terminology for the economy-wide pay-bill – increased by 0.7 per cent last year. While this may appear at odds with the exceptionally large fall in employment, Government wage subsides via the EWSS helped to offset this. Data for the first half of 2021 indicate that the wage bill is set to increase substantially, on foot of a recovery in employment, continued subsidisation of employment by Government and strong growth in earnings per capita in some sectors. The strength of income taxes in the year to date supports this conclusion. Overall, compensation of employees is projected at around 7 per cent this year and 6 per cent for next year.

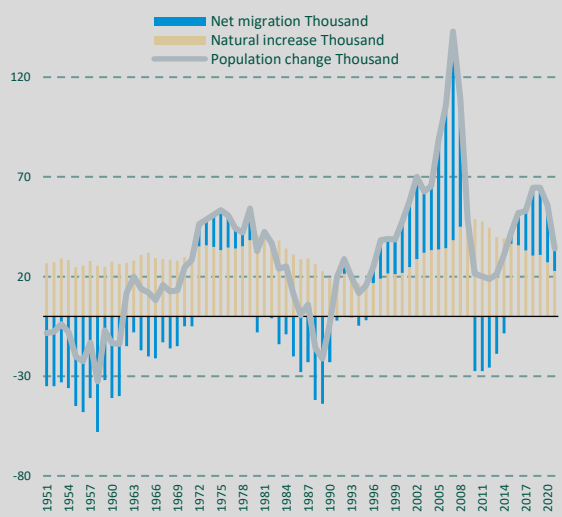
Box 3: Short summary of the Irish population since the mid-twentieth century

Data published by the CSO in early-September confirm that, for the first time since 1851, the population of Ireland has now topped the 5 million mark. This box briefly reviews the drivers behind this demographic change.

As well documented, the *Great Famine,* and its aftermath, triggered a downward trajectory in the Irish population that lasted until the mid-part of the last century. A low-point was reached in 1961, when the population of the Republic was just 2.8 million. Since then, the population of the Republic has nearly doubled.

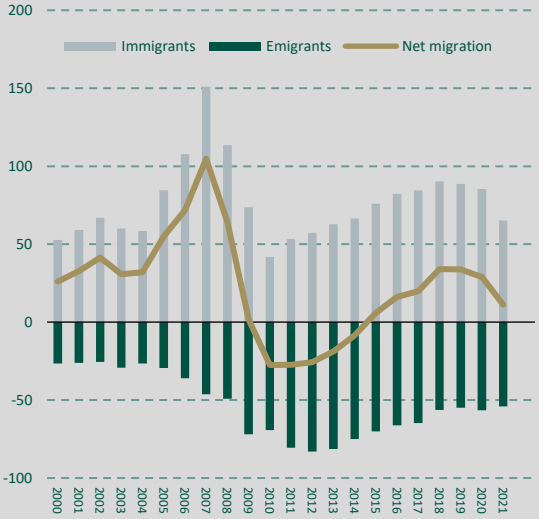
Figure 10: Population change in Ireland

A: Composition of population change 1951-2021 (000s)



Source: Dept of Finance analysis of CSO data.

B: Migration flows 2000-2021 (000s)



Source: Dept of Finance analysis of CSO data.

Population change is determined by two factors: the natural change in the population (births less deaths) alongside migration flows. In Ireland over the past 70 years or so, migration flows have been the key driver of population change (**figure 10A**). During the 1950s, net outflows amounted to around 40,000 per annum (2.3 per cent of the working age population at the time). Net outward migration halved during the 1960s and was replaced, for a short time by net inward migration in the 1970s. However, the surge in unemployment during the 1980s led to a resumption of net outflows.

From the mid-1990s until 2007, the Irish population expanded significantly, with large net migration inflows. Rapid economic growth – initially as living standards converged to European Union 'norms' and, subsequently, a construction sector boom – boosted the demand for labour. Some of this was met by immigration from the Member States that joined the EU in the mid-2000s. At its peak in 2007, net annual inflows amounted to over 100,000, with gross inflows reaching 150,000 (**figure 10B**).

The severe recession following the financial and sovereign debt crises reversed this trend, with a resumption of net outward migration over 2010-2014. However, as the economy recovered in the following years, net migration again turned positive, though this has been tempered somewhat by the Covid-19 pandemic.

In contrast to net migration, the natural increase in the population, i.e. births less deaths, has been relatively stable over the last 70 years. Over this period, the number of births has consistently exceeded the number of deaths, contributing to population expansion. The natural increase was greatest in the years immediately following the financial crisis, peaking in 2010 at just under 50,000, driven by a notable increase in the birth rate. Since then, however, the number of births in Ireland has been falling by nearly 3 per cent a year, resulting in a slowing of the natural increase.

Population projections undertaken by the CSO suggest further expansion of the Irish population in the years ahead, reaching 6.5 million by 2070. This increase, as well as changes in the age structure of the population will have a significant impact on the public finances.^

^ see *Population Ageing and the Public Finances in Ireland*, Department of Finance, (2021) available at: https://www.gov.ie/en/publication/6ba73-population-ageing-and-the-public-finances-in-ireland/

2.6 Price developments

After several years of under-shooting, consumer price inflation has picked up since the beginning of this year. As measured by the harmonised index (the HICP), annual inflation reached 3 per cent in August, its highest rate since 2008.

Price increases are largely the result of pandemic-related factors, and similar trends are observed elsewhere. The fundamental driver of the increase in core (non-energy) price inflation across advanced economies has been a growing mismatch between demand and supply, the origins of which lie in a shifting of preferences arising from the pandemic. For instance, the demand for many durable goods in advanced economies rose sharply in the first half of this year; however, the capacity of suppliers to meet this demand was curtailed *inter alia* by a shortage of inputs (such as semi-conductors). Over the summer, a shift in consumer demand – towards contact-intensive services as these have re-opened in many countries – alongside labour shortages has put upward pressure on prices.

From an Irish perspective, headline inflation is expected to peak in the fourth quarter of this year. This assumption takes into account base effects associated with the reversal of the temporary VAT reduction which will add to the year-on-year rate of increase in the coming months.[11] For the year as a whole, headline HICP inflation of 2.3 per cent and core inflation (which excludes the volatile components of energy and unprocessed food) of 1.7 per cent are projected. The rate of inflation should ease over the course of next year, as supply-side pressures are assumed to dissipate. Headline HICP inflation of 2.2 per cent is projected; the corresponding rate for core inflation is 2.1 per cent.

Table 7: Price developments, per cent change

	2020	2021	2022	2023	2024	2025
GDP deflator	-1.2	-0.6	2.2	1.7	1.7	1.7
Personal consumption deflator^^	0.7	3.4	3.3	2.5	2.5	2.4
Harmonised index of consumer prices	-0.5	2.3	2.2	1.9	2.1	2.2
Core HICP inflation^	-0.1	1.7	2.1	1.9	2.1	2.2
Export price deflator	-2.1	-1.2	1.4	1.3	1.3	1.3
Import price deflator	-1.1	0.8	1.4	1.3	1.3	1.3
Terms-of-trade	-1.0	-2.0	0.1	0.0	-0.1	0.0

Notes: ^ core inflation is HICP inflation excluding the most volatile components, namely energy and unprocessed food.
^^ The personal consumption deflator has been above headline HICP in recent years. The gap is largely explained by the fact that imputed rents are included in the consumption basket but do not appear in the HICP basket. It is assumed however that the gap between the two narrows over the forecast horizon in line with a moderation of rental inflation.
Source: 2020 = CSO; 2021-25 = Department of Finance.

The GDP deflator, a wider measure of price changes in the economy, is forecast to fall by 0.6 per cent this year. Given the size of the traded sector, 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. Falling export prices (partly related to exchange rate developments), alongside rising import prices (partly related to higher oil and other commodity prices), have contributed to a deterioration in the terms of trade this year. For next year, the GDP deflator is projected to increase by 2¼ per cent, taking into account prices in the domestic economy as well as the assumption that the terms-of-trade is broadly unchanged (the latter assumption is a function of technical assumptions for oil prices and exchange rates as set out earlier).

[11] As part of the July Stimulus package last year, the standard rate of VAT was reduced from 23 to 21 per cent between September 2020 and February 2021. This reduction was reversed in March, and so 'base effects' will temporarily affect the annual rate of inflation from September this year.

Box 4: Recent trends in inflation

The resurgence in consumer price inflation since the spring has triggered an important discussion regarding the persistence, or otherwise, of price dynamics. This box delves a little deeper into the dynamics at work, both in Ireland and elsewhere.

In July, US consumer price inflation reached 5.4 per cent, its highest since August 2008, although some moderation was recorded in August (**figure 11A**). The latest observation for the UK was 3.2 per cent, the highest reading since 2012. In the euro area, the equivalent rate was 3 per cent, with the 'flash' (or early) estimate pointing to a rate of 3.4 per cent in September. This would be the highest since September 2008.

While inflation dynamics in all regions are multi-faceted, several commonalities emerge. Firstly, energy and other commodity prices have 'normalised' following exceptionally low levels last year (the wholesale price of one brand of oil even moved into negative territory at one point – albeit for one-off reasons). Secondly, fiscal policy is playing a role – directly, via a reversal of VAT cuts in some countries and, indirectly, via boosting demand in other countries.

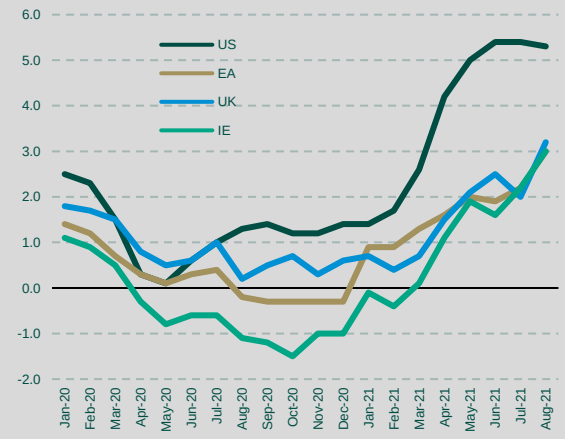
Both of these are largely one-off factors and are generally expected to unwind. More fundamental is the imbalance between demand and supply that has emerged in many regions. The origins of this mismatch lie in the recovery in demand as restrictions have eased; while supply has recovered, it has done so at a slower pace (not all firms are producing at full capacity and not all workers have returned to the labour market). This has given rise to price pressures, which has been exacerbated by global supply chain disruptions, namely the availability of inputs (e.g. semi-conductors) and transport bottlenecks (**box 2**). Additionally, labour shortages in some sectors have pushed up wages in some service sectors; in most countries, wages are the largest component of service input costs and higher wages are, in some cases, being passed on to consumers in the form of higher prices.

From an Irish perspective, the rate of inflation has accelerated over the course of this year. In August, the rate of 'core' inflation was 1.9 per cent, its highest since January 2009. Looking below the surface, however, the data show that around half of the increase in core inflation in August is explained by price dynamics in just three items – airfares, motor cars and accommodation (**figure 11B**). Taken together, these three items account for only 8½ per cent of the core HICP basket.

The price of plane tickets rose by around 50 per cent on an annual basis in August, due to strong demand following the relaxation of restrictions on international travel during the summer. Base effects were also a factor, given the price decline for this component during the worst of the pandemic. The recent uptick in accommodation inflation is a function of the re-opening of the domestic economy, with strong demand fuelled *inter alia* by accumulated savings. While not directly tied to re-opening, price inflation for the motor cars component of the basket is also a function of pandemic-related developments: strong demand – again partly fuelled by the record levels of household savings – combined with supply constraints has put upward pressure on car prices this year.

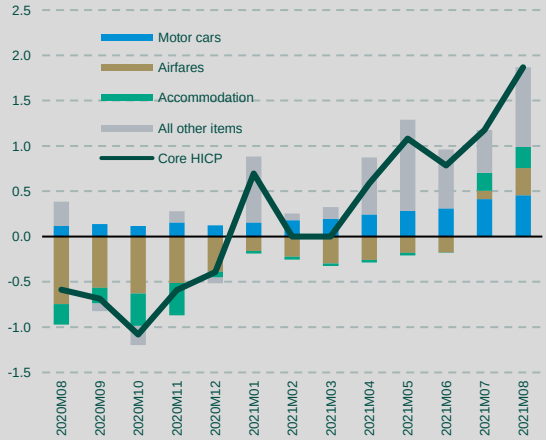
Figure 11: Inflationary developments, in Ireland and main export markets

A: Headline inflation, y/y per cent change



Source: Eurostat, US BLS, ONS

B: Contribution to 'core' inflation in Ireland, pp



Source: Eurostat

The fact that inflation is currently being driven by a relatively narrow set of goods and services lends support to the idea that the current pick-up is a temporary phenomenon. That said, and in common with elsewhere, consumer demand remains very strong in Ireland. Therefore, if supply disruptions are more prolonged than assumed, inflationary pressures could be more persistent than currently assumed.

2.7 Medium-term economic prospects

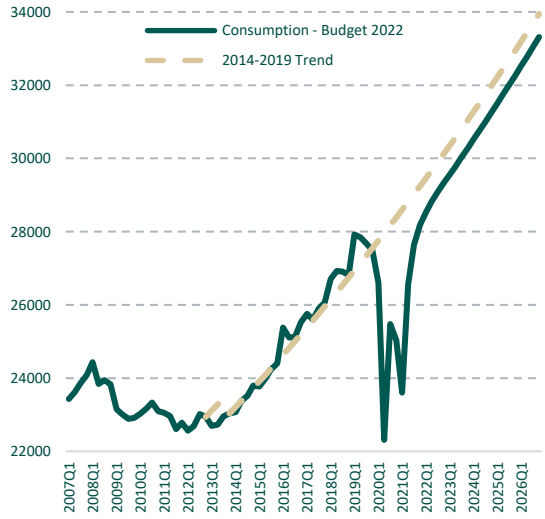
Medium-term prospects will be determined, as always, by the availability of capital and labour in the economy, together with the efficiency (productivity) with which these are combined to produce output. In this context, an important, but still open, question relates to the extent – if any – of any permanent destruction to the economy's productive capacity arising from the pandemic. Economic history and theory point to several channels through which these could arise, such as capital scrapping or lower productivity.

While the jury is still out, the relatively short duration of the recession – compared with, for instance, the previous recession a decade ago – lends support to the view that 'scarring' effects may be somewhat contained. It will be some time, however, before the actual impact of the pandemic on the economy's growth capacity can be firmly established.

Real GNI* is tentatively projected at around 3¼ per cent per annum over the medium-term. While the key domestic indicators of consumption and MDD broadly return to trend in late 2022 / early 2023, they remain below the level of the pre-pandemic trend at the end of the forecast horizon (**figure 12B**). As more data become available over time, it may be necessary to adjust these estimates. The medium-term projections assumed some mis-matches in the labour market: the skills needed by firms in expanding sectors of the economy being different to the skills of these in firms in declining sectors.

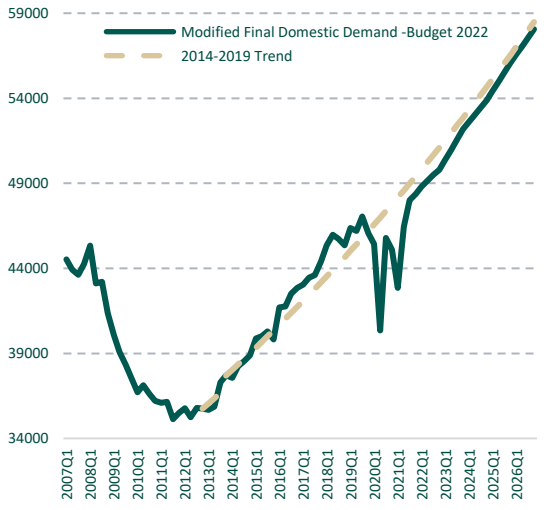
Figure 12: Estimates of 'scarring' – projections vs pre-pandemic trends

A: Consumer spending relative to pre-pandemic trend



Source: Department of Finance.

B: MDD relative to pre-pandemic trend



Source: Department of Finance.

Chapter 3
Exchequer Developments and Outlook

3.1 Summary

The full suite of fiscal tools – direct public expenditure, taxation measures and contingent supports – has been deployed to cushion the impact of the pandemic. While such a counter-cyclical approach was both appropriate and necessary, the ongoing cost is significant. After recording an Exchequer deficit of €12.3 billion last year, a further deficit of €12.1 billion is in prospect this year. Even with economic recovery, the Exchequer is projected to run another large deficit of €7.7 billion in 2022.

3.2 Exchequer developments in 2021

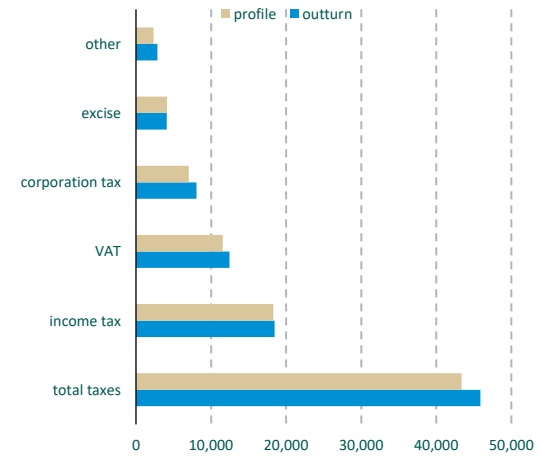
3.2.1 Tax revenue

Annual growth in tax receipts in 2021 is affected by 'base effects': reduced domestic economic activity, tax warehousing and the *Covid Restrictions Support Scheme* (CRSS, which is funded from corporation and income tax revenue) all depressed the cash-value of tax receipts last year. Accordingly, year-on-year comparisons of tax revenue in 2021 are partly flattered by these developments.

With this in mind, tax receipts to end-September were 15.9 per cent (€6.3 billion) higher than in the same period last year, as the relaxation of public health restrictions and the associated recovery in domestic economic activity have boosted tax revenue. The rebound in the labour market has helped underpin further gains in income tax receipts, while higher levels of consumer spending have supported increased VAT payments. Corporation tax receipts have also performed well to end-September. A number of large taxpayers in the corporate sector appear to have been unaffected by the pandemic, with profitability (and, therefore, tax liabilities) remaining high; this is reflected in the c.15 per cent annual growth in nominal GDP this year. November is the most significant month for corporation tax returns and, given the year-to-date performance, a strong outturn is assumed.

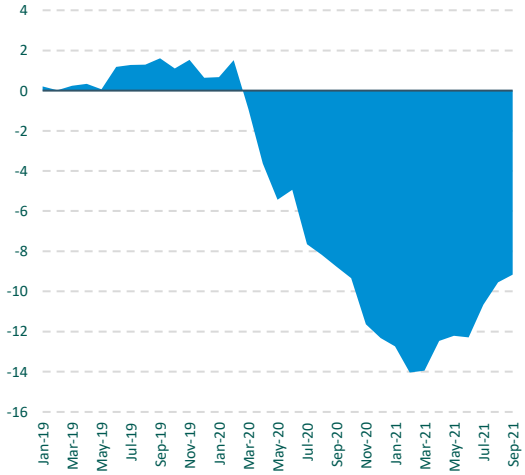
Figure 13: Exchequer developments

A: Cumulative tax receipts, q1-q3, € thousands



Source: Department of Finance

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



Source: Department of Finance

Tax receipts are expected to continue to perform well for the remainder of the year. The quarterly profile for economic activity outlined in Chapter 2 involves a pick-up in the final quarter, as the remaining

restrictions are removed. This, in turn, should support further gains in employment (and, hence, income tax receipts) as well as increased consumer spending on services (and, hence, VAT receipts).

For this year as a whole, income tax receipts are projected at €26.0 billion (14.6 per cent higher than last year); this figure takes account of the strong performance to-date as well as the expected outturn from self-employed taxpayers due in November. Corporate tax receipts are estimated at €13.9 billion (17.4 per cent higher than last year); this would mean that the share of receipts from the corporate sector would reach 21.0 per cent, its highest ever.

In relation to indirect taxes, the VAT yield is projected at €15.4 billion for the year (24.0 per cent higher than last year), while the yield from excise duties is projected at €6.0 billion (a 10.7 per cent increase).

Taking into account developments in other taxation headings, whose yield is typically much lower than the 'big four' outlined above, total taxation revenue is projected at €66.1 billion this year, an increase of €8.9 billion (15.7 per cent) relative to last year. On this basis, the taxation yield would be the highest on record.

3.2.2 Non-tax revenue

Non-tax revenue this year is projected at €2.4 billion, while capital resources (mainly EU funding under the Brexit Adjustment Reserve and the European Regional Development Fund) are estimated at €11.2 billion.[12]

3.2.3 Expenditure developments

Taking into account measures provided for in *Budget 2021,* the *Summer Economic Statement a*nd the estimated underspend in voted expenditure, the Government Expenditure Ceiling for this year stands at €89.3 billion. This is composed of temporary, Covid-related spending of €13.4 billion, and permanent spending of €75.9 billion (**table 8**), as well as EU receipts.

In relation to temporary, Covid-related spending, over €10 billion has been allocated to the Department of Social Protection for additional expenditure on employment and income supports. To end-September, over €7.5 billion has been spent on the three main labour market schemes, the EWSS, PUP and CRSS. Elsewhere, some €1.8 billion has been allocated to the Department of Health to support the health service response to the pandemic, while substantial additional funding has also been provided for the education sector, for the operation of public transport and for other sectors. Temporary spending also includes outlays as part of the combined €5.4 billion in contingency funding, provided for as part of *Budget 2021*, to allow for a flexible fiscal response to the pandemic as it evolved. As public health restrictions were tightened following the resurgence in the virus at end-December 2020 (the *alpha* wave), the contingency funds were subsequently fully deployed, largely financing increased PUP and EWSS payments.

In relation to permanent, non-Covid spending, €75.9 billion of voted spending has been allocated to departments in 2021. Departments to receive significant increases in core expenditure were the Department of Health, Department of Housing, Local Government and Heritage and the Department of Education. Reflecting the prioritisation of key public infrastructure investment, the capital ceiling in 2021 was €10.5 billion, an increase of 8.3 per cent.

[12] The large increase in non-voted capital expenditure and capital resources in 2021 is due to a monthly Exchequer cash flow loan to the Social Insurance Fund. This transaction has no impact on the Exchequer deficit.

In terms of implementation, gross voted expenditure at the end of the third quarter was 3.9 per cent (€2.3 billion) higher than last year, though 3.2 per cent (€2 billion) behind expectations. The underspend reflects a number of factors, most notably the closure of most construction sites in the first quarter of the year, which meant that departments and agencies were effectively unable to spend their capital allocations during that period.

3.2.4 Summary

Putting all of these parts together implies an Exchequer deficit of €12.1 billion for this year. This is an improvement in the position relative to the spring forecasts (set out in the *Stability Programme Update*); with additional spending more than offset by higher tax receipts.

3.3 Exchequer outlook for 2022

3.3.1 Tax forecasts

The robust performance of tax revenue in 2021 means that *ceteris paribus* the projection of the level of tax revenue next year – and, indeed, in future years – is higher than previously estimated. Working alongside the *Revenue Commissioners*, the Department estimates that most — but not all — of the gains made in 2021 will carry forward to 2022 and, additionally, to later years.

For next year, overall tax revenue is projected at €70.2 billion, an increase of €4.1 billion (6.2 per cent) relative to this year. This takes account of the updated economic projections outlined earlier which, notably, incorporate higher price deflators (tax revenue growth in any year is a function of nominal, rather than 'real', rates of change in the economic aggregates).

At a disaggregated level, indirect tax receipts will benefit from robust consumer spending; VAT and excise duties are forecast to increase by 9.6 per cent and 10.3 per cent, respectively. VAT receipts will also be boosted by the payment of previously warehoused liabilities. To-date, €1.4 billion of VAT has been warehoused, and these funds will flow into the Exchequer over the coming years.[13]

The direct taxation yield is also projected to increase next year. While still robust, the very strong growth rate of income tax is unlikely to be repeated; instead, growth of around 5.8 per cent is projected. This would mean that income taxes account for 40 per cent of the overall tax take in 2022. On the corporate side, part of the increase this year is assumed to be of a one-off nature and is not included in the €14.1 billion forecast for receipts in 2022.

3.3.2 Non-tax revenue

Non-tax revenue will continue to benefit from dividend payments to the Exchequer in the coming years. In particular, payments by the Central Bank of Ireland should continue, albeit at a lower level than in recent years. The Exchequer will also benefit from the distribution of the NAMA surplus, with €0.5 billion currently expected to be paid to the Exchequer in 2022.[14] These payments are dependent upon market conditions.

3.3.3 Expenditure

The *Summer Economic Statement* set out fixed expenditure ceilings for next year (and over the period to the mid-part of this decade, taking account of the 'trend' growth rate of the economy). For next year, the expenditure ceiling is €87.6 billion.

[13] It should be noted, however, that these cash payments have no impact on the general government deficit, which is calculated on an accruals basis.
[14] As purely financial transactions, these transfers do not benefit the general government balance.

While the worst of the pandemic appears to have passed, some of the budgetary costs to limit its impact will linger in 2022. A total of €6.8 billion has been earmarked for Covid-related expenditure. Some €0.8 billion will be allocated to the Department of Health. A further €1.1 billion has been allocated to the Department of Social Protection to fund, amongst other things, the extension of EWSS into the first four months of next year. Moreover, reflecting the possibility of a further wave (for instance, due to a decline in the potency of current vaccines), a contingency fund amounting to €4 billion has been created.

Table 8: Expenditure breakdown, € million

	2021	2022	2023	2024	2025
Voted Expenditure	**89,250**	**87,590**	**85,605**	**89,025**	**93,185**
of which:					
:'Core' expenditure	75,890	80,080	84,095	88,330	92,775
: covid-related	13,360	6,800	750	500	250
inc labour market transition		*1,075*	*750*	*500*	*250*
: Brexit Adjustment Reserve		500	565		
: National Recovery and Resilience Plan		210	190	195	160
Memo: Core Expenditure					
core – year-on-year increase		4,190	4,010	4,235	4,445
core – year-on-year increase, per cent		5.5%	5.0%	5.0%	5.0%

Source: Department of Public Expenditure and Reform

In relation to capital expenditure, following a mid-term review, the Government published a revised *National Development Plan 2021-2030* on Monday 4th October. This provides for a very ambitious programme of capital expenditure to meet Government's priorities *inter alia* in the areas of housing, climate action and public transport. *Budget 2022* sets out the Departmental ceilings consistent with this. Overall, capital spending is set at €11.7 billion in 2022, the equivalent of c. 5 per cent of modified national income.

At a European level, the *Recovery and Resilience Facility* (RRF) lies at the heart of the EU's response to the pandemic. This financial facility involves loans and grants to Member States to limit the fallout from the recession induced by lockdowns. Drawdown of funding is conditional upon the submission of *National Recovery and Resilience Plans* (NRRP) detailing the national reforms and investments to be supported by the facility. Ireland's NRRP was published[15] and formally submitted to the European Commission in June and, subject to meeting certain policy milestones, Ireland is set to receive almost €1 billion over the years 2022 – 2025.

Ireland is also eligible for European funding under the *Brexit Adjustment Fund* (BAR), the objective of which is, among other things to compensate businesses for lost trade, preserve jobs, help fishing communities and building customs facilities at ports. Based on the European Commission's proposed allocations, Ireland will receive nearly €1.1 billion in funding under this facility over the period 2021 – 2025.

In relation to voted spending, amounts equivalent to the projected receipts under the RRF and BAR are incorporated in addition to core spending.

3.3.4 Summary

[15] Ireland's NRRP is available at: https://www.gov.ie/en/publication/d4939-national-recovery-and-resilience-plan-2021/

Taking all of the above together, 2022 will see an improvement in the Exchequer position with a deficit of €7.7 billion in prospect.

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 key inputs: firstly, the outlook for the economy which, by-and-large, drives the revenue side of the equation and, secondly, Government spending decisions that largely determine the expenditure side of the equation.

The economic outlook, outlined in Chapter 2, is consistent with further increases in taxation revenue over the medium-term. Any change in the assumed economic cycle – positive or negative – would, of course, impact on revenue receipts; nevertheless, on the basis of the central economic scenario, tax revenue would increase by an average of 5.4 per cent per annum over 2023-2025, broadly in line with nominal GDP growth.

Constructing these projections necessitates an assumption regarding the impact of the OECD Base Erosion and Profit Shifting (BEPS) process on corporation tax revenue. This is an extremely challenging exercise, both in terms of timing and magnitude. For the purpose of calibrating this medium-term forecast, the impact of international tax reform is very tentatively estimated – in terms of revenue foregone – at €2 billion relative to baseline by 2025; the revenue impact is phased in from 2023. These figures will be revised as additional information becomes available over time.

On the spending side, Government has introduced medium-term expenditure ceilings and annual expenditure is fixed over the 2023-2025 period. These ceilings imply 'core' expenditure growth of c. 5 per cent per annum over the period. This 'expenditure rule' allows for steady improvements in public services while, at the same time, narrowing the deficit and stabilising the debt-income ratio. From 2023 onwards, allowance has been made for the assumed increase in the number on the Live Register (as the PUP is discontinued from early next year).

On this basis, the Exchequer deficit is forecast to continue to narrow over the current forecast horizon, reaching €1.1 billion by 2025.

Table 9: Budgetary projections 2020-2025, € million

	2020	2021	2022	2023	2024	2025
CURRENT BUDGET						
Expenditure						
Gross voted current expenditure	75,635	78,800	75,870	73,180	76,200	79,585
Non-voted current expenditure*	7,585	7,555	7,805	7,895	7,990	8,145
Gross current expenditure	**83,215**	**86,355**	**83,675**	**81,075**	**84,190**	**87,730**
less expenditure receipts and balances	17,400	15,605	14,845	14,955	15,255	15,565
Net current expenditure	**65,815**	**70,750**	**68,830**	**66,120**	**68,935**	**72,165**
Receipts						
Tax revenue	57,165	66,110	70,195	74,090	78,365	82,300
Non-tax revenue	4,650	2,420	1,910	2,100	2,040	1,980
Net current revenue	**61,815**	**68,530**	**72,105**	**76,190**	**80,405**	**84,280**
CURRENT BUDGET BALANCE	**-4,005**	**-2,220**	**3,275**	**10,070**	**11,470**	**12,115**
CAPITAL BUDGET						
Expenditure						
Gross voted capital expenditure**	9,650	10,450	11,720	12,420	12,825	13,600
Non-voted capital expenditure*	1,910	10,695	6,120	1,255	1,265	1,060
Gross capital expenditure	**11,560**	**21,145**	**17,840**	**13,675**	**14,090**	**14,660**
Less capital receipts	35	50	50	50	50	50
Net capital expenditure	**11,525**	**21,095**	**17,790**	**13,625**	**14,040**	**14,610**
Capital resources	**3,215**	**11,190**	**6,775**	**1,810**	**1,740**	**1,420**
CAPITAL BUDGET BALANCE	**-8,310**	**-9,905**	**-11,015**	**-11,815**	**-12,300**	**-13,190**
Exchequer Balance	**-12,315**	**-12,125**	**-7,740**	**-1,745**	**-830**	**-1,075**
Government Expenditure Ceiling**	85,285	89,250	87,590	85,600	89,025	93,185

Notes: *Central Fund.
** Projected GEC.
Figures are rounded to the nearest €5 million and may affect totals.
Fiscal numbers are presented on an *ex-post* basis.
The projected outturn for 2021 differs from the White Paper in respect of expenditure (budget measures) and taxation (CT and financial resolutions).
The year-on-year decline in the Exchequer balance in 2025 is due to the assumed impact of tax warehousing (cash positive) in 2024. These repayments have no effect on the general government balance.
Source: Department of Finance.

Chapter 4
General Government Developments and Outlook

4.1 Summary

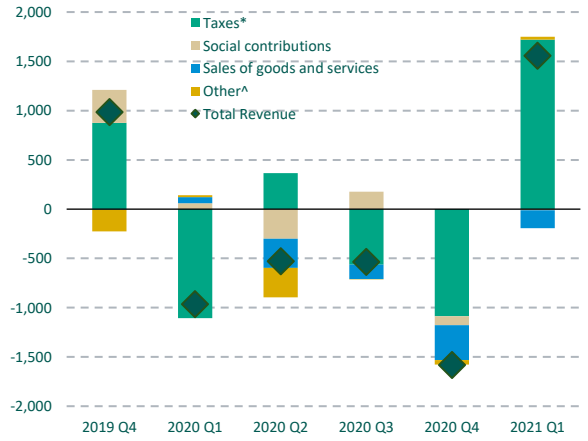
Counter-cyclical budgetary policy to support households and firms means that general government expenditure will reach €106.4 billion this year. Financing this involves general government revenue of €93.1 billion, with the shortfall – a general government deficit of €13.3 billion – bridged through borrowing. For next year, a general government deficit of €8.3 billion – the equivalent of 3.4 per cent of GNI* – is in prospect. On the basis of existing Government policies, and on the basis of the central economic scenario set out in this document, the deficit should narrow further over the medium-term.

4.2 General government balance: developments in 2021

Government finance statistics, published by the CSO, show general government revenue of €19.5 billion in the first quarter of this year, an annual increase of 8.7 per cent. This solid increase – at a time of very stringent restrictions – was largely driven by annual gains in tax revenue (**figure 14A**). On the other side, general government expenditure was €26.3 billion in the first quarter, nearly €5 billion higher than a year earlier. This very large increase in public spending is evident in the subsidy (mainly the EWSS), social transfers (mainly the PUP) and intermediate consumption (mainly health services) components (**figure 14B**).

Figure 14: Annual change in general government revenue and expenditure

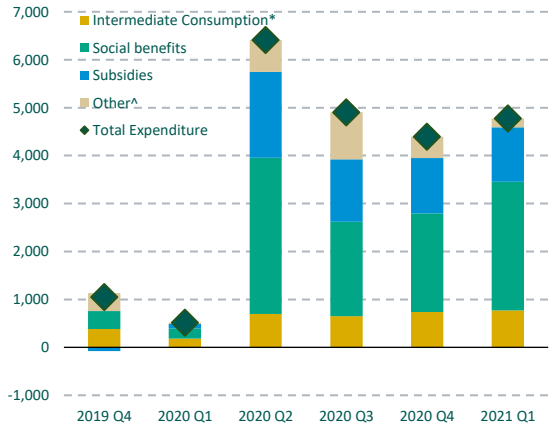
A: General government revenue, €millions



Note: * includes indirect, direct and capital taxes;
^ includes current and capital transfers and investment income.

Source: CSO

B: General government expenditure, €millions



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

Source: CSO

On foot of these developments, a general government deficit of €6.8 billion was recorded in the first quarter (**figure 14A**). While remaining in deficit, the general government position over the summer and autumn is expected to benefit from lower outlays on social transfers, in line with the decline in numbers on the PUP.

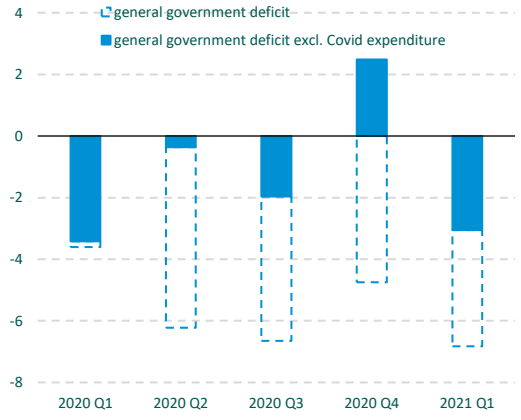
For the year as a whole, general government revenue is estimated at €93.1 billion this year, the equivalent of 41.8 per cent of GNI*. In compositional terms, taxes on income and wealth – mainly income and corporation taxes – are estimated at €43.0 billion, an increase of 14.5 per cent relative to last year. Taxes on production and imports (mainly indirect taxes such as VAT, excise and customs

duties) are estimated at around €27.0 billion, an annual increase of 11.5 per cent. Social security receipts are projected at €16.1 billion, an annual increase of 7.4 per cent. Other general government receipts are projected at €7 billion.

General government expenditure is estimated at €106.4 billion this year, or 47.7 per cent of GNI*. Primary expenditure – total expenditure excluding debt interest payments – is estimated at €103 billion. Interest expenditure is estimated at €3.3 billion this year. The direct fiscal support provided by the government to the Irish economy during the pandemic has been amongst the highest of advanced economies (**figure 15B**).

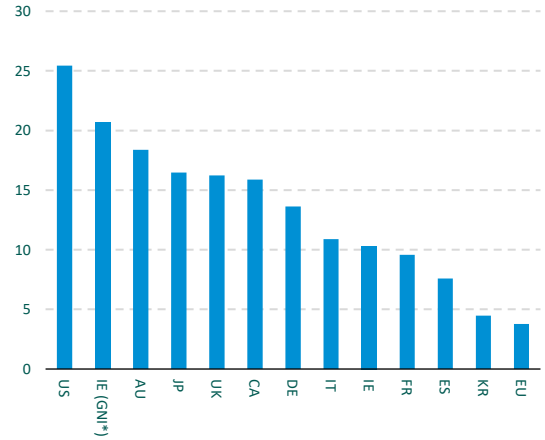
Figure 15: General government developments

A: General government quarterly balance € billions



Source: CSO, Department of Finance calculations

B: Direct fiscal supports, selected countries, per cent GDP



Notes: includes only 'above the line' supports.
CA=Canada, AU=Australia, JP=Japan, KR=South Korea.
Source: IMF Fiscal Monitor database.

As a result of these developments, the general government deficit for this year is estimated at €13.3 billion, or 5.9 per cent of GNI*.

4.3 General government balance: outlook for 2022

For next year, taxes on income and wealth are projected at €44.3 billion, an increase of 3.1 per cent reflecting the assumed recovery in the labour market as well as further profitability gains. Taxes on production and imports are projected at €29.2 billion; this would be an increase of 8 per cent and reflects the ongoing rebound in consumer spending. Other general government revenue, including social security receipts, is projected at €23.3 billion, so that overall general government revenue is projected at €96.8 billion next year; this would result in a revenue-GNI* ratio of 40.2 per cent.

On the expenditure side of the equation, 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 €26.7 billion for next year while the latter is projected at €33.4 billion. Gross fixed capital formation is projected at €11.4 billion, and takes account of the increased funding for capital projects as part of the revised *National Development Plan 2021-2030*. Other expenditure is projected at €33.6 billion so that, in aggregate terms, general government spending is projected at €105 billion. This would result in an expenditure-GNI* ratio of 43.6 per cent.

Accordingly, a general government deficit of €8.3 billion, or 3.4 per cent of GNI* is currently in prospect for 2022.

Table 10: Exchequer balance to GGB 2020-2025, € million (unless stated)						
	2020	2021	2022	2023	2024	2025
Exchequer balance	-12,315	-12,125	-7,740	-1,745	-830	-1,075
Walk	-6,100	-1,130	-520	660	555	1,950
General government balance	**-18,415**	**-13,255**	**-8,260**	**-1,080**	**-270**	**875**
of which:						
General government revenue	**83,615**	**93,110**	**96,715**	**102,100**	**106,570**	**110,880**
Taxes on production and imports	24,215	26,990	29,150	31,310	33,115	34,690
Current taxes on income, wealth	37,565	42,995	44,310	46,385	48,795	51,330
Capital taxes	505	540	555	580	605	630
Social contributions	14,970	16,075	16,725	17,465	17,620	17,865
Property Income	1,120	745	680	1,075	1,175	1,245
Other	5,240	5,765	5,300	5,280	5,260	5,120
General government expenditure	**102,030**	**106,360**	**104,975**	**103,175**	**106,840**	**110,005**
Compensation of employees	24,510	25,645	26,670	27,815	29,005	30,305
Intermediate consumption	14,910	16,895	14,870	14,590	15,270	15,995
Social payments	38,530	37,225	33,360	32,605	33,380	33,920
Interest expenditure	3,830	3,295	3,395	3,575	3,505	3,175
Subsidies	5,650	5,730	2,790	2,405	2,300	2,115
Gross fixed capital formation	8,785	9,430	11,365	13,300	14,395	15,225
Capital transfers	1,720	2,855	3,185	3,565	3,490	3,500
Other	4,095	5,285	5,340	5,320	5,500	5,765
Resources not allocated	0	0	4,000	0	0	0
memo items						
GGB per cent GNI*	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
Total revenue, per cent GNI*	40.2	41.8	40.2	40.1	39.8	39.3
Total expenditure, per cent GNI*	49.0	47.7	43.6	40.6	39.9	39.0

Notes: the 'walk' from the exchequer balance to the general government balance is set out in the appendix.
Figures reflect the reclassification of local authority rent as non-market output, for additional information see: https://www.cso.ie/en/releasesandpublications/er/giea/governmentincomeandexpenditurejuly2021/
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 scenario set out earlier, general government revenue is projected to increase further in the coming years (**table 10**). Covid-related expenditure is phased out from end-2022; thereafter, general government expenditure is projected to increase at an annual average rate of 1.6 per cent over 2023-2025. On this basis, the general government deficit should continue to narrow in the coming years. By the mid-part of the decade, a surplus of €0.9 billion (0.3 per cent of GNI*) is projected.

4.5 Structural budget balance: estimates for 2020-2025

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. In principle, it is the key macro-fiscal indicator as it shows the underlying fiscal situation and, for this reason, it is an anchor for the European Union's fiscal rules. In practice, however, this metric is besieged by measurement challenges, most notably the difficulty in obtaining real-time estimates of the economic cycle, even in 'normal' times.

Estimates of the structural balance during a once-in-a-century pandemic are more uncertain, with the shock affecting both the demand and supply sides of the economy. Additionally, the pandemic has probably accelerated transformation (more rapid roll-out of automation, digitalisation) with implications for both demand and supply.

Notwithstanding these caveats, estimates of the structural fiscal position are presented below for completeness (**table 11**). The figures require a technical adjustment to potential growth estimates for this year, given the double-digit expansion of GDP. On this basis, the structural deficit this year amounts to 0.2 per cent of GDP. Over the medium-term, the structural position is expected to return to balance, with a structural surplus projected in 2025.

Table 11: Structural budget balance, per cent of GDP (unless stated)

	2020	2021	2022	2023	2024	2025
Headline fiscal developments						
General government balance	-4.9	-3.1	-1.8	-0.2	-0.1	0.2
One-off / temporary measures	**-3.0**	**-2.5**	**-1.4**	**0.0**	**0.0**	**0.0**
Interest expenditure	1.0	0.8	0.7	0.7	0.7	0.6
General government primary balance	**-3.9**	**-2.3**	**-1.1**	**0.5**	**0.6**	**0.7**
Economic cycle						
GDP growth rate	5.9	15.6	5.0	4.1	3.7	3.6
Potential GDP growth rate	9.7	14.1	4.6	3.9	3.7	3.6
Output gap	-2.1	-0.8	-0.4	-0.2	-0.1	-0.2
Structural fiscal developments						
Cyclical budgetary component	**-1.1**	**-0.4**	**-0.2**	**-0.1**	**-0.1**	**-0.1**
Cyclically adjusted balance	**-3.9**	**-2.7**	**-1.6**	**-0.1**	**0.0**	**0.2**
Structural budget balance	-0.8	-0.2	-0.2	-0.1	0.0	0.2
Structural primary balance	0.2	0.6	0.6	0.6	0.7	0.8

Notes: estimates of the output gap are based on the Department's preferred methodology for calculating the 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/
Source: Department of Finance.

Box 5: General government gross versus net investment

The stock of physical capital in any economy is a crucial macroeconomic variable. The amount of capital^ per worker is a key determinant of productivity and, hence, of living standards.

The capital stock, in turn, is composed of private capital (owned by firms – factories, machines, etc. – and households – mainly houses) as well as public-owned assets. As in the case of private capital, the stock of public capital fluctuates each year in line with gross government investment; in the other direction, the existing public capital stock depreciates each year due to 'wear-and-tear'.

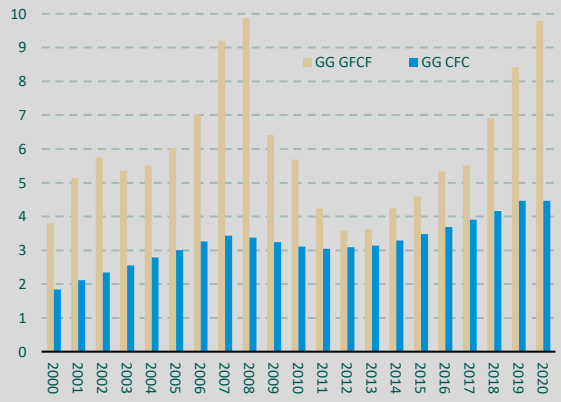
A decade ago, annual gross public investment (or, formally, gross fixed capital formation) was averaging around €3½ billion per annum (2.8 per cent of GNI*); this was only slightly in excess of the annual depreciation of publically owned assets (**figure 16A**). As a result, there was limited net increase in the public capital stock.

This has fundamentally changed in recent years, with Government ramping up public investment significantly. Last year, gross public investment amounted to just under €10 billion, the equivalent of 4.7 per cent of GNI*. This was over double the estimated depreciation bill, resulting in a large net addition to the stock of public assets.

Eurostat data show that Ireland allocates a larger share of total spending to investment than European norms (**figure 16B**). Last year, around 9½ per cent of total general government spending in Ireland was directed towards gross investment, a figure that was around 3 percentage points in excess of the euro area average (having been below the average a decade ago). Even relative to the larger euro area Member States, the Irish figure compares favourably.

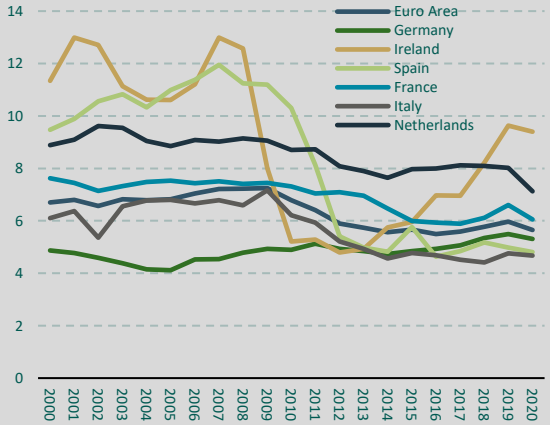
Figure 16: General government gross and net investment

A: public investment vs depreciation € billions



Note: GFCF = gross fixed capital formation;
CFC=consumption of fixed capital
Source: Dept. of Finance calculations based on CSO data.

B: gross public investment spending as per cent of total



Note: general government fixed capital formation expressed as a share to total general government expenditure
Source: Dept. of Finance calculations based on Eurostat data.

Furthermore, the revised *National Development Plan* provides for average Exchequer capital outlays of just under €12 billion per annum over the period to 2025 (the forecast horizon covered in this document); accordingly, even when depreciation is taken into account, the net addition to the stock of public assets is set to increase substantially in the coming years. This investment will help to boost the capacity of the economy, to eliminate bottlenecks, and to attract (or 'crowd-in') private investment.

^ Since the revisions to the national accounting methodology, as set out in the *System of National Accounts 2008* (which governs the compilation of national accounts internationally) were incorporated, the definition of physical assets has expanded to include intangible assets such as intellectual property.

Chapter 5
General Government Debt

5.1 Summary

Public indebtedness has increased significantly, as the Government has used its balance sheet to absorb the pandemic-induced shock to economic activity. At the end of this year, gross public debt is estimated at €236.7 billion, the equivalent of 106.2 per cent of modified national income. The Government's fiscal strategy involves slowing the pace at which debt is accumulated so that the debt-national income ratio is put on a downward trend over the medium term.

Notwithstanding its relatively high level of debt, several structural factors have helped to limit the burden of this debt. These include a relatively low (average) interest rate and an elongated maturity profile (which limits rollover needs). Additionally, the State also holds significant liquid assets so that net debt is considerably lower. In common with other advanced economies, much of the debt issued to finance the fiscal response to the pandemic has been purchased by the domestic Central Bank, which has lowered sovereign borrowing costs.

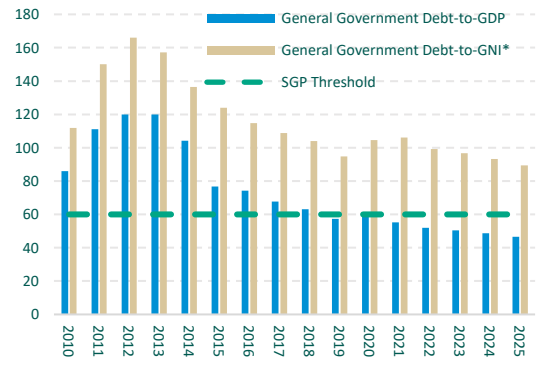
5.2 Debt Developments

The mobilisation of large fiscal support to limit the economic disruption from the pandemic has resulted in an increase in public indebtedness. At end-2021, Ireland's outstanding general government gross debt is projected at €236.7 billion, the equivalent of 106.2 per cent of GNI*. Relative to pre-pandemic levels at end-2019, this is an increase of 11.5 percentage points of GNI*.

Further public debt accumulation is in prospect for next year. On the basis of current expectations for the headline deficit, the stock of outstanding public indebtedness is projected to increase to €238.7 billion by end-2022; this would result in a debt-GNI* ratio of just over 99.2 per cent. By the mid-part of this decade, the economic and fiscal projections outlined earlier imply gross public debt amounting to around €252 billion by end-2025 (**figure 17A**), the equivalent of 89.5 per cent of GNI*.

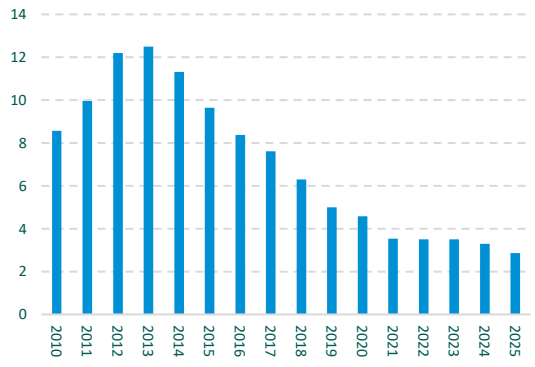
Figure 17: General government debt developments

A: Debt ratio



Source: CSO, Department of Finance

B: Debt interest payments to revenue ratio



Source: CSO, Department of Finance, NTMA

Notwithstanding the rapid increase in public indebtedness, financing conditions remain favourable *inter alia* due to a supportive monetary policy backdrop in the euro area. Debt interest payments as a percentage of total revenue – an important indicator of repayment capacity as it sets out the share of revenue absorbed by debt interest payments – is set out above (**figure 17B**). The key takeaway from

this is that the burden of servicing public debt has not deteriorated on foot of increased liabilities. Of course, once the exceptional monetary support is withdrawn, accumulated liabilities will need to be refinanced at potentially higher rates (albeit not immediately, given the maturity profile of these instruments). The Government fiscal strategy involves putting the debt-income ratio on a declining trajectory over the medium-term, in order to ensure roll-over of debt at reasonable rates into the future.

Table 12: General government debt developments, per cent of GNI* (unless stated)

	2020	2021	2022	2023	2024	2025
Gross debt (€ billions)	217.9	236.7	238.7	246.0	250.0	252.2
Gross debt ratio	104.7	106.2	99.2	96.7	93.3	89.5
Change in gross debt ratio(=1+2+3)	10.0	1.5	-6.9	-2.5	-3.4	-3.8
Contributions to change in debt ratio^:						
General Government deficit (1=1a+1b)	8.8	5.9	3.4	0.4	0.1	-0.3
: interest expenditure (1a)	1.8	1.5	1.4	1.4	1.3	1.1
: primary deficit (1b)	7.0	4.5	2.0	-1.0	-1.2	-1.4
SFA (2=2a+2b+2c+2d+2e+2f+2g)	-2.2	2.5	-2.6	2.4	1.4	1.1
: change in liquid assets (2a)	0.3	1.7	-3.2	1.2	0.2	-0.4
: interest adjustments (2b)	0.3	0.1	0.1	0.1	0.1	0.2
: equity transactions (2c)	-1.2	-0.2	-0.2	-0.3	-0.3	-0.2
: accrual adjustments (2d)	0.5	0.7	0.1	0.2	0.1	0.1
: impact of ISIF (2e)	0.0	0.0	0.0	0.0	0.0	0.0
: collateral held (2f)	0.0	0.0	0.0	0.0	0.0	0.0
: other (2g)	-2.1	0.1	0.6	1.2	1.2	1.3
Nominal GNI* contribution (3)	3.4	-6.9	-7.8	-5.4	-4.9	-4.6
Memorandum items:						
: average interest rate	1.8	1.4	1.4	1.5	1.4	1.3

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.

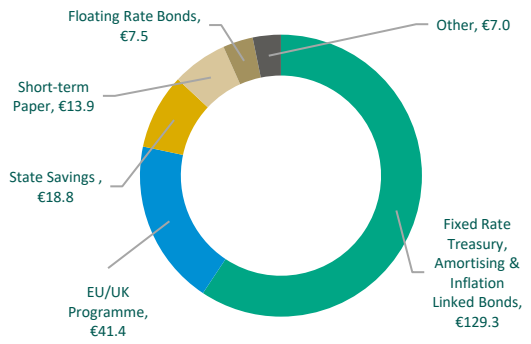
5.3 Structural aspects of Irish public debt

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-2020, total outstanding liabilities amounted to just under €218 billion (**figure 18A**). Almost 60 per cent of these were fixed rate treasury, amortising and inflation-linked bonds. Obligations to the official sector – the *European Financial Stability Mechanism* (EFSM) and *European Financial Stability Facility* (EFSF) – were the next most important, accounting for around a fifth of liabilities. Of particular note has been the steady decline in recent years of the Floating Rate Notes (FRN's) issued in 2013 (to replace the IBRC promissory notes held by the Central Bank). As of end-September, the NTMA had, in 2021, purchased, and subsequently cancelled, a further €1.5 billion of FRN's from the Central Bank, replacing them with medium- to long–term fixed rate market funding.

Figure 18: Structural aspects of Irish general government debt

A: Composition of debt at end-2020, € billion



Note: the "other" category includes consolidation adjustments in respect of debt, including government bonds held by general government entities

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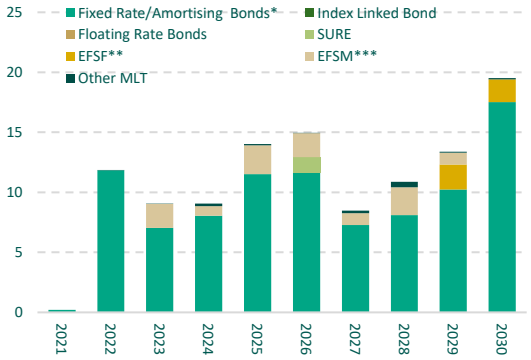
Source: CSO, NTMA

B: MLT debt maturity profile 2021-2030, € billions^



Note: ^ as at end-September 2021.
*Includes NTMA repo activity.
**EFSF loans reflect the maturity extensions agreed in June 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 above reflect both original and revised maturity dates of individual EFSM loans..

Source: NTMA.

5.3.2 *Funding and maturity profile*

The National Treasury Management Agency (NTMA) has, as of end-September this year, issued €16 billion[16] of Government bonds from the funding range of €18 to €20 billion announced last December. This issuance was completed at a weighted average yield of 0.14 per cent and a weighted average maturity of over 14 years.

There are no bond maturities in 2021. Looking ahead to 2022 (**figure 18B**), two bonds with an aggregate outstanding balance of just under €12 billion will mature (March, October).

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 13**).

Table 13: Gross and net general government debt, per cent of GNI* at end-year

	2020	2021	2022	2023	2024	2025
General government debt (gross)	104.7	106.2	99.2	96.7	93.3	89.5
EDP debt instrument assets	15.4	15.8	11.0	10.8	11.0	10.3
Net debt position	89.3	90.4	88.2	85.9	82.3	79.2

Source: CSO, Department of Finance and NTMA.

At end-2021, net public indebtedness is projected at 90.4 per cent of GNI* while, for the end of next year, the figure is forecast at 88.2 per cent of GNI*.

[16] Excludes non-competitive auctions.

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 14**).

Table 14: Irish sovereign credit rating

	Long-term rating	Short-term rating	outlook
Standard & Poor's	AA-	A-1+	Stable Outlook
Moody's	A2	P-1	Positive Outlook
Fitch Ratings	A+	F1+	Stable Outlook

Notes: as per October 2021.
Source: NTMA.

Chapter 6
Risk and Sensitivity Analysis

6.1 Summary

While mass vaccination means that the outlook has improved, the Irish economy is not yet out of the woods. As the virus is constantly mutating, this raises the possibility of a '*variant of concern*', i.e. a vaccine-resistant variant that is even more transmissible or virulent. This could potentially necessitate the re-introduction of public health restrictions to contain a new wave of the virus.

On the other hand, the 'excess' savings accumulated by the household sector could give rise to stronger-than-expected consumer spending, domestic demand and prices pressures. On the inflation side, there is strong evidence to support the view that the current pick-up in the headline rate incorporates a not-insignificant transitory component. However, rising energy prices and more prolonged global supply chain disruption could give rise to higher-than-expected price pressures, particularly if an inflation 'chain reaction' was triggered.

The purpose of the analysis set out in this Chapter is to 'stress test' the central economic scenario 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 set out.

Risks at this point are two-sided and are assessed as being broadly balanced. However, the risk of higher-than-expected inflation, relative to the Department's baseline projection, is very much tilted to the upside (an inflation scenario is set out in detail below).[17]

6.2 Scenario analysis

6.2.1 epidemiological shock

The baseline scenario, outlined earlier in this document, rests on the assumption that the high level of vaccination in Ireland allows for an easing of virtually all remaining containment measures towards the end of October, and this paves the way for a strong and durable economic recovery.

However, there remains considerable uncertainty on the future path of the virus, including the impact of vaccine-resistant mutations. It is important to 'stress-test' this assumption and the analysis below sets out the estimated economic impact of a severe epidemiological scenario in which some restrictions are reintroduced. The analysis does not assess the probability of such a scenario – an impossible undertaking – but simply aims to quantify the economic fallout in the event of further containment measures.

To calibrate the economic impact of such an epidemiological scenario, research undertaken jointly by the Department of Finance and the ESRI is drawn upon.[18] The modelling assumes that some element of restrictions are in place for a period of time, due to *inter alia* new variants. Again, this is not a forecast, it is a scenario analysis.

[17] Contingent liabilities were previously covered in this chapter. However, an analysis of potential liabilities that may pose a risk to the public finances is now set out in the Departments annual assessment of contingent liabilities; see: https://www.gov.ie/en/publication/d8727-contingent-liabilities-an-overview_april-2021/

[18] Garcia Rodriguez, A., Bergin, A., Rehill, L. and Sweeney, E., 2021. *Exploring the impact of COVID-19 and recovery paths for the economy. ESRI Working Paper Series*. Available at: https://www.esri.ie/publications/exploring-the-impact-of-covid-19-and-recovery-paths-for-the-economy

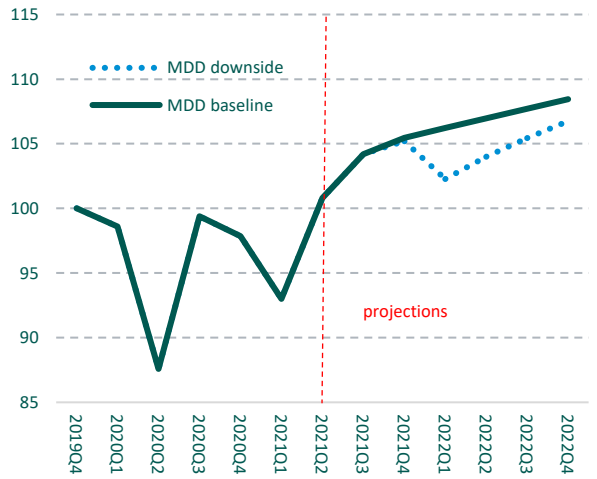
The impact of this severe epidemiological scenario, relative to the baseline scenario, is set out below (**figure 19A**). Although firms and households have increasingly adapted to the new trading environment, there is still an economic fall-out *inter alia* as some economic activity requires face-to-face contact. For the purpose of calibrating this analysis, restrictions are assumed to apply from the beginning of next year and to last until the end of the first quarter. Overall, MDD growth would be reduced (relative to baseline) from 6.4 per cent to 3.8 per cent – a reduction of just over 2½ percentage points (pp). At the end of next year, the Irish economy as measured by MDD would be approximately 1½ pp smaller relative to the baseline scenario.

6.2.2 faster unwinding of savings shock

The current projections assume that the household savings rate starts to normalise over the next couple of quarters and the savings ratio reaches pre-pandemic levels just before the end of the forecast horizon. Over the longer-term it is assumed that, in total, around 20 per cent of the excess deposits (or around €3 billion) are unwound.

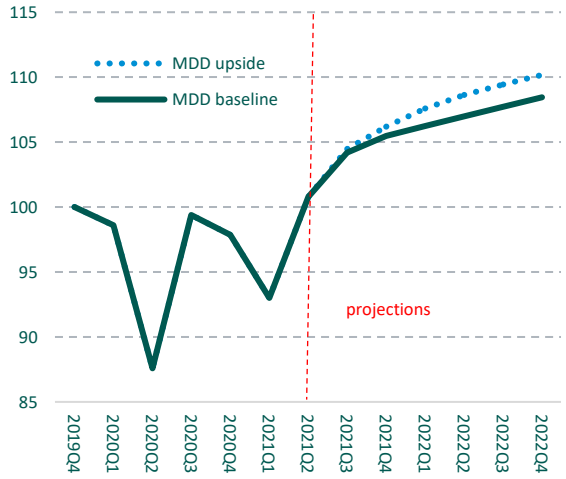
Figure 19: Scenario analysis for modified domestic demand

A: Re-introduction of restrictions



Notes: calibration of scenario described in text
Source: Department of Finance calculations

B: More rapid unwinding of savings



Notes calibration of scenario described in text
Source: Department of Finance

To calibrate an alternative scenario (**figure 19B**), households are assumed to spend 20 per cent of their excess deposits by the end of next year, a more rapid drawdown than the baseline projection. In this scenario, the household savings rate in 2022 returns to the point where it was immediately preceding the pandemic in 2019. For the purposes of this analysis, it is assumed that this additional spending results in higher 'real' purchases of goods and services, rather than higher inflation. As a result, consumption growth would be increased (relative to baseline) by ½ pp this year and by 2¼ pp next year. This would, in turn, increase MDD by ½ pp this year and by 1¼ pp next year.

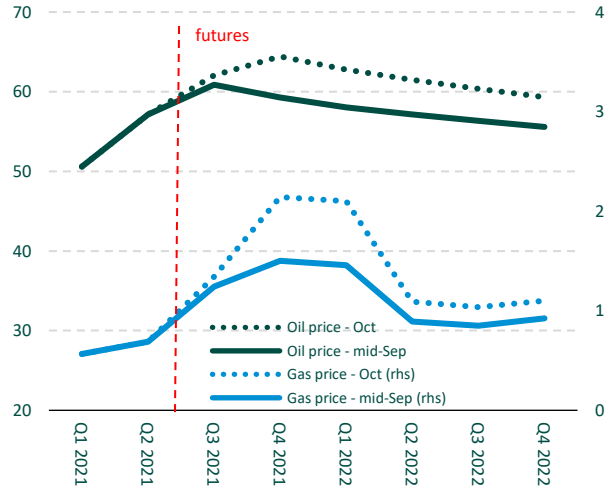
6.2.3 inflation shock

A further possibility is one in which a rapid unwinding of savings also triggers higher consumer prices as the supply capacity of the domestic economy is unable to match the increased demand. In addition, a persistence of global supply chain disruption could also result in sustained higher domestic inflation alongside lower growth. Finally, it is also worth pointing out that many commodity prices have increased since the Department's forecasts were finalised (**figure 20A**).

The scenario below (**figure 20B**) involves higher energy prices, prolonged global supply chain disruption and stronger short-term domestic demand. In this scenario, HICP inflation this year would be approximately ¼ percentage points higher; for next year, inflation would be around 1¼ percentage points higher. About half of the increase next year is attributable to recent developments in oil and gas prices, with the remainder explained by the inflationary impact of a more rapid unwinding of excess savings and a more persistent imbalance between demand and supply. While not assumed in this scenario, 'second-round' effects (such as higher inflation expectations feeding into wage demands) could put additional upward pressure on inflation.

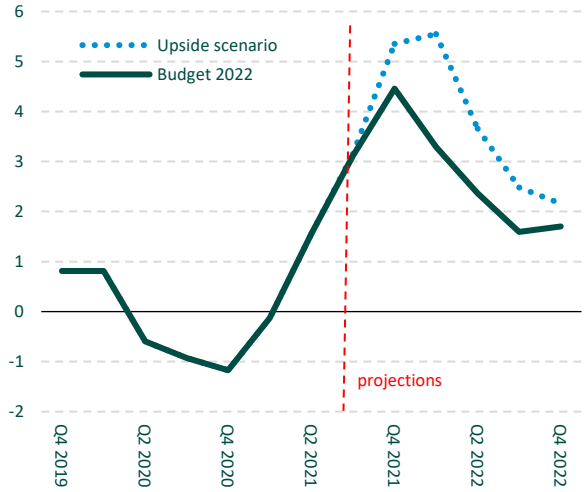
Figure 20: Scenario analysis for inflation

A: Oil prices – mid-September vs early-October



Oil prices = € per barrel, Gas prices based on UK Natural Gas Index (€)
Source: Department of Finance calculations

B: Higher inflation shock



Notes: simulation described in text
Source: Department of Finance

The simulations set out above are best thought of in terms of 'partial equilibrium' – they show the impact of a particular shock on one variable. Clearly, the impact of, for instance, higher oil prices would not only impact on consumer price inflation but on other economic variables also which, in turn, would impact on others.

To undertake such 'general equilibrium' (or whole-of-economy) analysis requires a structural model of the Irish economy. In this context, and COSMO (the COre Structural MOdel of the Irish economy),[19] using the Department calibrated the economic impact of a 50 per cent oil price shock.

Table 15: Impact of a 50 per cent oil price shock on selected economic aggregates

	Shock=year T	T+1	T+2	T+3	T+4	T+5
Inflation	1.0	0.4	0.3	0.3	0.3	0.2
Non-traded output	-0.1	-0.3	-0.5	-0.7	-0.9	-1.0
Consumer spending	-0.4	-0.7	-1.0	-1.3	-1.5	-1.7
Unemployment, per cent	0.0	0.1	0.2	0.2	0.3	0.3
GGB, per cent GNI*	0.0	-0.2	-0.2	-0.4	-0.4	-0.6

Notes: Figures are expressed in percentage deviation from baseline for non-traded output and consumption; percentage point changes from baseline for inflation, unemployment and fiscal measures.
Source: Department of Finance calculations.

[19] Bergin, A. *et al*. *COSMO: A new COre Structural MOdel for Ireland* ESRI Working Paper No. 553.

The results of this exercise (**table 15**) show a rise in inflation of 1 pp within the first year of the oil price shock (labelled T) with the effect gradually easing thereafter. Consumer spending output in the non-traded sector (a proxy for MDD) both fall, with the deviation from baseline levels rising to over 1 per cent in each case over the medium term.

This shock propagates as a result of the real income shock to households, lower production as well as lower demand by firms for labour as result of higher input prices. This is reflected in higher levels of unemployment, which are 0.3 pp higher five years following such a shock. These factors *inter alia* lead to a deterioration in the general government balance.

Table 16: Risk assessment matrix – economic			
Risk	**Likelihood**	**Origin**	**Impact and main transmission channel**
Downside			
Vaccine resistant variants	**Not quantifiable**	**External**	**High** – while households and firms have adapted to recent lockdowns with a diminishing economic impact, the emergence of vaccine resistant variants could lead to further infection waves and a re-imposition of 'lockdown'. Meanwhile a delay in the global vaccine roll-out heightens the risk of '*variants of concern*' (*see Section 6.2 Scenario Analysis*).
Stagflation	**Low**	**External**	**High** – a persistent mismatch in supply and demand exacerbated by global supply chain disruptions could result in a sustained rise in inflation and lower growth (*see Section 6.2 Scenario Analysis*).
Premature policy withdrawal	**Medium**	**External**	**Low** – premature policy tightening in main trading partners would lead to a weaker recovery in external demand and, potentially, capital outflows from emerging market economies (as per 2013) with possible de-stabilising consequences.
Brexit 'after-effects'	**Low**	**External**	**Medium** – the full introduction of customs checks next year by the UK could have a more significant than anticipated negative impact on Irish exports, in particular, in the SME and traditional sector.
SME indebtedness	**Low**	**Domestic**	**Medium** – while SME insolvency rates have been relatively low during the pandemic, there is the possibility of higher bankruptcies and defaulting on debt as fiscal supports are tapered; this could slow the rate of investment. .
Financial sector amplification	**Low**	**External/ domestic**	**High** – a prolonged downturn could lead to spill-overs to the financial sector, potentially giving rise to a negative feedback loop between the financial sector and the 'real' economy.
Investment impact from changes to global tax rules	**Medium**	**External**	**Medium –** changes to international tax rules have the potential to diminish Ireland's ability to attract FDI.
De-globalisation	**Low**	**External**	**Medium** – the pandemic could result in a more permanent shift away from international trade and globalisation and towards re-shoring, exacerbating previous trade tensions, with adverse implications for the Irish economy
Scarring	**Low**	**External**	**Medium** – while estimates of the permanent damage to the economy have been scaled back, scarring effects could prove to be stronger, for instance through a slower-than-anticipated rebound in migration.
Upside			
Stronger output from MNCs	**High**	**External**	**High** – stronger value-added from MNCs (ICT, pharma, contract manufacturing, etc.) would boost corporate sector output and increase GDP (though the impact on domestic living standards would be limited).
Unwinding of 'excess' savings	**Medium**	**Domestic**	**High** – greater than assumed use of 'excess' savings by consumers would boost spending and increase domestic demand.
Greater housing supply response	**Medium**	**Domestic**	**High** – greater than expected response of housing supply to policy interventions would boost investment and domestic demand and potentially ease inflationary pressures.

Source: Department of Finance.

Table 17: Risk assessment matrix - fiscal		
Risk	**Likelihood**	**Impact and main transmission channel**
Domestic		
Pandemic-related budgetary pressures	**NQ**	**High** – another set of restrictions that weigh on economic growth would have significant fiscal cost.
Ageing population	**Medium**	**Medium –** Ireland's population is ageing rapidly with significant additional outlays required annually simply to maintain existing levels of service.
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 is difficult to determine and could be higher than the €2 billion by 2025 currently assumed.
Corporation tax: concentration risk	**Low**	**Medium** – around 40 per cent of corporation tax revenue arises from the 10 largest payers; a shock to this revenue stream would have negative implications for the public finances.
Dividend payments	**Low**	**Medium** – lower-than-expected dividend payment arising from the State's shareholdings in banks or commercial semi-state companies.
EU Budget contributions	**Medium**	**Low** – stronger-than-assumed growth in national income could increase the Irish contribution to the EU Budget.
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	**Low**	**Medium** – government financing has benefitted from supportive bond market conditions and any change could 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

www.FiscalCouncil.ie | admin@FiscalCouncil.ie | (+353) 1 863 2005
Whitaker Square, Sir John Rogerson's Quay, Dublin D02 K138, Ireland.

30 September 2021

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 2022 will be based.[1]

The Council received the Department's forecasts on 17 September 2021 and discussed these forecasts with Department of Finance staff on 24 September 2021, ahead of the Council's endorsement meeting.

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 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 2022 covering the years 2021 and 2022.

The Council is satisfied that the forecasts are within an endorsable range, taking into account the methodologies used and the plausibility of the judgements made.

The Council will discuss the endorsement process and assess the macroeconomic projections in its forthcoming Fiscal Assessment Report, due in November 2021.

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".

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

Table A1: Comparison of 2021 forecasts with other public sector institutions

	GDP	employment	inflation	gg deficit	gg debt
Department of Finance	15.6	7.8	2.3	3.1	55.2
Central Bank of Ireland	15.3	2.1	2.1	3.8	54.5
ESRI	12.6	3.2	2.3	3.4	54.6
IMF	13.0	n.a.	1.9	n.a	n.a
European Commission	7.2	n.a.	1.5	5.0	61.4

Notes: economic variables in per cent change; fiscal variables as a per cent of GDP
The ESRI and the Department of Finance use Covid adjusted employment figures, the Central Bank does not.
Source: latest forecasts from the institutions cited.

Table A2: Comparison of 2022 forecasts with other public sector institutions

	GDP	employment	inflation	gg deficit	gg debt
Department of Finance	5.0	13.2	2.2	1.8	51.9
Central Bank of Ireland	7.2	2.2	2.9	2.1	51.4
ESRI	7.1	13.1	2.5	1.7	51.8
IMF	3.5	n.a.	1.9	n.a	n.a
European Commission	5.1	n.a.	1.2	2.9	59.7

Notes: economic variables in per cent change; fiscal variables as a per cent of GDP
The ESRI and the Department of Finance use Covid adjusted employment figures, the Central Bank does not.
Source: latest forecasts from the institutions cited.

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

	2021 forecast		change, pp	2022 forecast		change, pp
	spring	autumn		spring	autumn	
Economic activity						
Real GDP	4.5	15.6	+11.1	5.0	5.0	0.0
Real GNI*	2.5	4.7	+2.2	5.5	5.2	-0.3
MDD	2.6	5.2	+2.6	7.4	6.5	-0.9
Prices						
HICP	1.1	2.3	+1.2	1.9	2.2	+0.3
Core HICP	0.7	1.7	+1.0	1.7	2.1	+0.4
GDP deflator	0.4	-0.6	-0.8	1.8	2.2	+0.4
Labour market						
Employment (per cent)	4.0	7.8	+3.8	11.0	13.2	+2.2
Unemployment rate (per cent)	16.3	16.8	+0.5	8.2	7.2	-1.0

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA estimates.

Table A4: Comparison of autumn fiscal forecasts vs spring fiscal forecast, per cent of GNI*

	2021 forecast		change, pp	2022 forecast		change, pp
	spring	autumn		spring	autumn	
General government balance	-8.1	-5.9	2.2	-4.8	-3.4	1.4
of which:						
: General government revenue	40.6	41.8	1.2	39.1	40.2	1.1
Taxes on production and imports	11.4	12.1	0.7	11.2	12.1	0.9
Current taxes on income, wealth etc.	17.5	19.3	1.8	17.0	18.4	1.4
Capital taxes	0.2	0.2	0.0	0.2	0.2	0.0
Social contributions	7.5	7.2	-0.3	7.2	7.0	-0.2
Property Income	0.5	0.3	-0.2	0.3	0.3	0.0
Other	3.5	2.6	-0.9	3.2	2.2	-1.0
: General government expenditure	48.7	47.7	-1.0	44.0	43.6	-0.3
Compensation of employees	11.5	11.5	-0.0	11.1	11.1	0.0
Intermediate consumption	7.1	7.6	0.5	6.7	6.2	-0.5
Social payments	17.9	16.7	-1.2	15.0	13.9	-1.2
Interest expenditure	1.5	1.5	0.0	1.5	1.4	-0.1
Subsidies	2.7	2.6	-0.2	1.4	1.2	-0.2
Gross fixed capital formation	5.0	4.2	-0.8	5.1	4.7	-0.4
Capital Transfers	0.8	1.3	0.5	1.0	1.3	0.3
Other	2.2	2.4	0.2	2.1	2.2	0.2
Unallocated	-	-	-	-	1.7	1.7
General government debt	2.7	1.5	-4.2	-2.0	-6.9	-4.9
of which:						
: headline balance	4.7	5.8	1.1	2.8	3.4	0.6
: SFA	0.8	2.6	1.8	-0.9	-2.6	-1.7
: other (including denominator effect)	-2.8	-6.9	-4.1	-4.0	-7.8	-3.8

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA estimates.

Annex 3
Glossary of economic terminology used in document

Table A5: Glossary of terms used in Chapter 2 – Economic Outlook

'Core' inflation	A measure of consumer price inflation (harmonised across the EU) that excludes the unprocessed foods and energy components; the rationale is that these components are highly volatile and excluding them from any analysis gives a better indication of underlying price dynamics.
Headline investment	Represents the sum of overall investment, comprising of the sum of building and construction, machinery and equipment spending as well as spending on intangible assets.
Intangible asset	A productive asset that is not physical in nature, which can comprise of brand recognition, goodwill and intellectual property, such as patents, trademarks and copyrights. Intangible assets were included in national accounting under the changes introduced by the 2010 *European System of Accounts* (ESA2010).
Intellectual Property (IP)	A category of property that includes intangible creations of human intellect. It includes copyrights, patents, and trademarks.
Modified current account	The current account balance excluding net factor income of re-domiciled PLCs, depreciation of R&D imports, traded intellectual property, and leased aircraft. Included are the cost of imported investment in net aircraft related to leasing, R&D-related intellectual property, and imports of R&D services.
Modified domestic demand	A proxy for the domestic economy, comprising of the sum of personal and government consumption and investment, excluding investment in imported IP and aircraft for leasing purposes. It also excludes changes in the value of inventories.
Modified GNI (or GNI*)	Defined as Gross National Income less the effects of the profits of re-domiciled companies and the depreciation of intellectual property products and aircraft leasing companies.
Modified investment	Total of investment excluding investment in imported IP and aircraft for leasing purposes. It also excludes changes in the value of inventories.
Modified net exports	A measure of net exports (exports less imports) excluding investments in aircraft by the leasing sector and net R&D imports. Other modified investment is machinery and equipment excluding investment in aircraft by the leasing sector, plus domestic R&D.
Now-cast	A prediction of the past, the very near future, and the very recent past. Not to be confused with a forecast which is an estimate prior to the period of interest, a nowcast is an estimate made during the period of interest.
Output gap	Represents the difference between the actual output of an economy and the maximum potential output of an economy expressed as a percentage of Gross Domestic Product.
Potential (GDP)	The level of output that an economy can produce at a stable inflation rate.

Source: Department of Finance.

Annex 4
Additional fiscal data

Table A6: Difference between exchequer balance and general government balance, € millions

	2020	2021	2022	2023	2024	2025
Exchequer balance	-12,315	-12,125	-7,740	-1,745	-830	-1,075
Exclude equity and loan transactions	-2,415	-395	-550	-650	-830	-655
Adjust for interest accrual	600	275	310	275	340	640
Adjust for tax accruals	865	900	-190	190	140	355
Adjust for other accruals	185	645	485	400	55	5
Net lending of NCSSBs^	-1,915	-1,090	-650	-805	-805	-1,000
Impact of ISIF	-65	85	80	85	85	85
Net lending of Social Insurance Fund	-3,635	-410	1,320	1,920	2,390	2,875
Net lending of other EBFs^	515	110	75	110	105	105
Net lending of Local Government	-235	-1,250	-1,400	-865	-925	-460
General government balance (GGB)	-18,415	-13,255	-8,260	-1,080	-270	875
GGB, per cent of GNI*	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
Nominal GNI*	208,175	222,925	240,600	254,325	267,900	281,900

Notes: In the case of 'net lending', a positive sign indicates a sector is a net lender, a negative sign a net borrower.
GDP rounded to nearest €25 million.
^ NCSSB = non-commercial semi-state bodies, EBF = extra budgetary fund.
Source: Department of Finance, Department of Public Expenditure and Reform, NTMA.

Table A7: Alternative presentation of exchequer position, € million

	2020	2021	2022	2023	2024	2025
Revenue	**76,055**	**83,385**	**86,590**	**90,730**	**95,240**	**99,585**
: tax revenue	57,165	66,110	70,195	74,090	78,365	82,300
- Income tax	22,710	26,015	27,515	29,220	31,040	32,795
- VAT	12,425	15,410	16,895	18,380	19,640	20,670
- Corporation tax	11,835	13,890	14,080	14,170	14,675	15,170
- Excise duties	5,450	6,035	6,655	7,080	7,520	7,925
- Stamp duties	2,090	1,725	1,805	1,860	1,985	2,110
- Motor tax	940	925	910	910	915	920
- Customs	275	470	510	545	575	605
- Capital gains tax	950	1,100	1,275	1,345	1,410	1,475
- Capital acquisitions tax	495	540	555	580	605	630
: A-in-As (inc. PRSI, NTF and balances)	17,435	15,655	14,890	15,000	15,305	15,615
: non-tax revenue	1,420	930	770	1,115	1,320	1,395
: capital resources	30	690	730	525	250	275
Expenditure	**92,865**	**96,800**	**95,390**	**93,490**	**97,005**	**101,320**
: gross voted current expenditure	75,635	78,800	75,870	73,180	76,200	79,585
: gross voted capital expenditure	9,650	10,450	11,720	12,420	12,825	13,600
: non-voted current expenditure	7,580	7,550	7,800	7,890	7,980	8,135
- debt servicing	4,675	3,805	3,895	3,975	3,925	3,850
Balance excl. transactions with no GG impact	**-16,810**	**-13,415**	**-8,800**	**-2,760**	**-1,765**	**-1,735**
Revenue transactions with no GG impact	**6,410**	**11,985**	**7,185**	**2,270**	**2,215**	**1,735**
: non-tax revenue	3,230	1,485	1,140	985	720	590
: capital resources	3,185	10,500	6,045	1,285	1,495	1,145
Expenditure transactions with no GG impact	**1,915**	**10,700**	**6,125**	**1,260**	**1,275**	**1,070**
: non-voted current expenditure	5	5	5	5	10	10
: non-voted capital expenditure	1,910	10,695	6,120	1,255	1,265	1,060
Balance of transactions with no GG impact	**4,495**	**1,285**	**1,060**	**1,010**	**940**	**665**
Exchequer balance	**-12,315**	**-12,125**	**-7,740**	**-1,745**	**-830**	**-1,075**

Note: Figures are rounded to the nearest €5 million and may affect totals
The projected outturn for 2021 differs from the White Paper in respect of expenditure (budget measures) and taxation (CT and financial resolutions).
The year-on-year decline in the Exchequer balance in 2025 is due to the assumed impact of tax warehousing (cash positive) in 2024. These repayments have no effect on the general government balance.
Source: Department of Finance.

Table A8: General government balance, per cent of GNI*

	2020	2021	2022	2023	2024	2025
Net lending by sub-sector						
General government balance	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
Central government	-8.7	-5.4	-2.9	-0.1	0.2	0.5
Local government	-0.1	-0.6	-0.6	-0.3	-0.3	-0.2
General government						
Total Revenue	40.2	41.8	40.2	40.1	39.8	39.3
Total Expenditure	49.0	47.7	43.6	40.6	39.9	39.0
Net lending/borrowing	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
Interest expenditure	1.8	1.5	1.4	1.4	1.3	1.1
Primary balance	-7.0	-4.5	-2.0	1.0	1.2	1.5
One-off / other temporary measures	-5.4	-4.8	-2.7	0.0	0.0	0.0
Total revenue						
Total taxes	29.9	31.6	30.8	30.8	30.8	30.7
Taxes on production and imports	*11.6*	*12.1*	*12.1*	*12.3*	*12.4*	*12.3*
Current taxes on income, wealth etc.	*18.0*	*19.3*	*18.4*	*18.2*	*18.2*	*18.2*
Capital taxes	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
Social contributions	7.2	7.2	7.0	6.9	6.6	6.3
Property Income	0.5	0.3	0.3	0.4	0.4	0.4
Other	2.5	2.6	2.2	2.1	2.0	1.8
Total revenue	40.2	41.8	40.2	40.1	39.8	39.3
p.m.: Tax burden	37.4	39.2	38.0	37.9	37.7	37.4
Total expenditure						
Compensation of employees	11.8	11.5	11.1	10.9	10.8	10.8
Intermediate consumption	7.2	7.6	6.2	5.7	5.7	5.7
Social payments	18.5	16.7	13.9	12.8	12.5	12.0
Social transfers in kind via mkt producers	*3.4*	*3.2*	*2.7*	*2.5*	*2.4*	*2.3*
Social transfers other than in kind	*15.1*	*13.5*	*11.2*	*10.4*	*10.1*	*9.7*
Subsidies	2.7	2.6	1.2	0.9	0.9	0.8
Interest expenditure	1.8	1.5	1.4	1.4	1.3	1.1
Gross fixed capital formation	4.2	4.2	4.7	5.2	5.4	5.4
Capital Transfers	0.8	1.3	1.3	1.4	1.3	1.2
Other	2.0	2.4	2.2	2.1	2.1	2.0
Resources to be allocated	0.0	0.0	1.7	0.0	0.0	0.0
Total expenditure	49.0	47.7	43.6	40.6	39.9	39.0
p.m. : Government consumption	22.9	21.6	19.9	19.2	18.9	18.8
GNI* at current market prices	208,175	222,925	240,600	254,325	267,900	281,900

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA estimates.

Table A9: General interest expenditure, € millions

	2020	2021	2022	2023	2024	2025
National Debt Cash Interest	4,515	3,635	3,730	3,805	3,755	3,680
per cent tax revenue	7.9	5.5	5.3	5.1	4.8	4.5
per cent of GDP	2.2	1.7	1.8	1.8	1.8	1.8
National Debt Cash Interest Accruals	-520	-250	-305	-270	-340	-640
Consolidation and Grossing Adjustments	-135	-90	-60	-15	10	25
Accrued promissory note interest	0	0	0	0	0	0
Other	-30	0	30	55	80	110
Total Interest on ESA2010 basis	3,830	3,295	3,395	3,575	3,505	3,175
per cent of total gg revenue	4.6	3.5	3.5	3.5	3.3	2.9
per cent of GNI*	1.8	1.6	1.6	1.7	1.7	1.5

Source: Department of Finance, CSO and NTMA.

Table A10: Projected movement in general government debt, € billions

	2020	2021	2022	2023	2024	2025
GG DEBT: OPENING POSITION	204.0	217.9	236.7	238.7	246.0	250.0
IN-YEAR FLOWS:						
Exchequer borrowing requirement	12.3	12.1	7.7	1.7	0.8	1.1
Change in Exchequer deposits	0.7	3.8	-7.8	2.9	0.6	-1.1
Net lending of NCSSBs	-0.7	-0.1	0.1	0.4	0.6	0.8
Net lending of local government	0.1	1.3	1.4	0.9	0.9	0.5
Other flows	1.4	1.7	0.6	1.3	1.0	1.0
GG DEBT: CLOSING POSITION	217.9	236.7	238.7	246.0	250.0	252.2

Notes: NCSSBs = Non-commercial semi-state bodies
Source: Department of Finance, CSO and NTMA.

Annex 5
Summary: macroeconomic and fiscal aggregates

Table A11: Summary – macroeconomic aggregates

	2020	2021	2022	2023	2024	2025
Economic activity			***year-on-year per cent change (unless stated)***			
Real GNI*	-3.5	4.7	5.2	3.5	3.3	3.2
Real GDP	5.9	15.6	5.0	4.1	3.7	3.6
Nominal GDP (nearest €25m)	372,875	428,700	460,075	487,275	514,125	541,600
Nominal GNP (nearest €25m)	282,625	307,450	329,325	347,925	365,975	384,450
Nominal GNI* (nearest €25m)	208,175	222,925	240,600	254,325	267,900	281900
Components of GDP			***year-on-year per cent change***			
Personal consumption	-10.4	6.8	9.6	3.6	3.4	3.2
Government consumption	10.9	2.3	-1.8	2.0	2.0	2.1
Investment	-23.0	-47.1	8.9	8.5	7.9	5.8
Modified investment	-3.6	4.0	6.4	7.6	7.1	6.6
Modified domestic demand	-4.9	5.2	6.5	4.2	4.0	3.8
Exports	9.5	16.1	5.7	5.1	4.6	4.4
Contributions to real GDP growth			***percentage points***			
modified domestic demand	-2.5	2.5	3.0	1.9	1.9	1.8
modified net exports	9.5	13.4	2.1	2.1	1.9	1.8
stock changes	0.3	-0.3	0.0	0.0	0.0	0.0
statistical discrepancy	-1.3	0.0	0.0	0.0	0.0	0.0
Price developments			***year-on-year per cent change***			
HICP	-0.5	2.3	2.2	1.9	2.1	2.2
GDP deflator	-1.2	-0.6	2.2	1.7	1.7	1.7
Personal Consumption Deflator	0.7	3.4	3.3	2.5	2.5	2.4
Labour market			***year-on-year per cent change (unless stated)***			
Employment	-16.7	7.8	13.2	2.7	2.6	2.2
Unemployment (per cent of labour force)	19.2	16.8	7.2	6.0	5.3	5.0
Labour Productivity^	27.1	7.3	-7.2	1.4	1.2	1.4
Compensation of Employees*	0.7	6.9	6.0	5.6	5.8	5.9
Compensation per Employee*	19.4	-1.3	-6.6	2.7	3.0	3.3
External			***per cent of GDP***			
Trade balance	22.3	45.4	44.0	43.2	42.4	42.0
Modified current Account (per cent GNI*)	11.5	10.6	9.2	8.5	7.6	6.9
Cyclical Developments			***per cent of potential GDP***			
Output Gap	-2.1	-0.8	-0.4	-0.2	-0.1	-0.2

Source: CSO for 2020 (except output gap) and Department of Finance for 2021

Table A12: Summary – fiscal aggregates

	2020	2021	2022	2023	2024	2025
Exchequer			*€ millions*			
Exchequer Balance	-12,315	-12,125	-7,740	-1,745	-830	-1,075
Tax Revenue	57,165	66,110	70,195	74,090	78,365	82,300
General government			*€ millions*			
Total Revenue	83,615	93,110	96,715	102,100	106,570	110,880
Total Expenditure	102,030	106,360	104,975	103,175	106,840	110,005
General government balance	-18,415	-13,255	-8,260	-1,080	-270	875
General government			*per cent GNI**			
Total Revenue	40.2	41.8	40.2	40.2	39.8	39.3
Total Expenditure	49.0	47.7	43.6	40.6	39.9	39.0
General government balance	-8.8	-5.9	-3.4	-0.4	-0.1	0.3
Interest expenditure	1.8	1.5	1.4	1.4	1.3	1.1
Primary balance	-7.0	-4.5	-2.0	1.0	1.2	1.4
Gross fixed capital formation	4.2	4.2	4.7	5.2	5.4	5.4
Gross debt	104.7	106.2	99.2	96.7	93.3	89.5
Net debt	89.3	90.4	88.2	85.9	82.3	79.2

Source: Department of Finance, Department of Public Expenditure and Reform, CSO and NTMA.

Rialtas na hÉireann
Government of Ireland

Tithe an Rialtais, Sráid Mhuirfean Uacht, Baile Átha Cliath 2, D02 R583, Éire
Government Buildings, Upper Merrion Street, Dublin 2, D02 R583, Ireland

T: +353 1 676 7571 | @IRLDeptFinance
www.finance.gov.ie

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