Supporting information

The following sections provide supporting information and analysis related to various parts of the Council's mandate and its assessments. This section includes key analytical areas that the Council routinely assesses. The insights provided by these sections are an essential part of how the Council thinks through how the economy and public finances are evolving.

S1. Endorsement process

Endorsement timeline

The key dates underpinning the Council's endorsement of the Department of Finance's macroeconomic projections for *Budget 2023* are set out in Table S1a.

Table S1a: Timeline for Endorsement of *Budget 2023* Projections

2 September	The CSO released its Quarterly National Accounts estimates for Q2 2022.
6 September	The Council's Secretariat and Department staff met with the CSO to clarify technical details of latest Quarterly National Accounts estimates.
9 September	The Department sent the Council preliminary forecasts in line with Memorandum of Understanding requirements.
13 September	The Department presented its preliminary forecasts to the Council's Secretariat.
14 September	The Department sent updated forecasts including further detail on HICP inflation.
16 September	The Department of Finance presented its latest forecasts to the Council and Secretariat and answered questions. After the meeting the Council had a preliminary discussion on its endorsement decision.
19 September	The Council finalised a decision on the endorsement. The Chairperson of the Council wrote a letter to the Secretary General of the Department of Finance endorsing the set of macroeconomic forecasts underlying *Budget 2023*.
27 September	The Department's forecasts were published in *Budget 2023*.

Council's Benchmark projections

Below is a summary of the Council's Benchmark projections, which were an input to its endorsement exercise. The Council finalised these projections on Friday 9 September before opening the Department of Finance's preliminary forecasts.

Table S1b: The Council's Benchmark projections

% change in volumes unless otherwise stated

	2020	2021	2022	2023	2024	2025	2026	2027
Demand								
GNI*	-4.6	15.4	1.3	2.0	3.5	3.9	4.1	3.9
...of which (p.p. contributions)								
Underlying domestic demand[b] (p.p.)	-5.2	5.5	5.3	1.9	3.1	3.9	3.6	3.1
Adjusted net exports[b] (p.p.)	-0.4	10.3	-4.2	0.3	0.4	0.0	0.4	0.8
Other, incl. stocks (p.p.)	0.9	-0.4	0.2	-0.2	0.0	0.0	0.0	0.0
Underlying domestic demand[a]	-5.9	6.3	6.7	2.3	3.7	4.7	4.3	3.7
Consumption	-10.9	4.6	6.0	2.7	4.3	3.6	3.6	3.4
Government	11.6	6.5	0.9	0.7	-1.4	2.0	2.0	2.0
Underlying investment[a]	-8.5	11.4	15.6	2.8	7.4	9.9	8.0	5.8
Adjusted net exports	-3.3	91.0	-22.2	2.2	2.7	-0.1	3.2	5.6
Supply								
Potential output	-1.6	3.7	-0.1	1.2	4.2	4.4	4.2	3.8
Output gap (% potential output)	-4.6	-3.1	1.3	1.3	0.7	0.9	1.2	1.3
Labour Market								
Labour force	1.0	6.4	2.0	2.0	1.9	1.6	1.6	1.6
Employment	-10.7	9.0	12.9	2.0	1.7	1.7	1.7	1.7
Unemployment rate (% labour force)	16.0	13.9	4.7	4.7	4.9	4.8	4.7	4.5
Prices								
HICP	-0.5	2.4	8.7	7.8	3.1	2.1	2.3	2.2
Personal consumption deflator	0.9	3.8	8.1	7.8	3.7	2.8	2.8	2.6
GNI* deflator	-0.5	1.6	7.7	3.6	3.3	2.9	2.7	2.4
Other								
Nominal GNI*	-5.1	17.2	9.1	5.7	6.9	6.9	6.9	6.4
Nominal GNI* (€ billion)	200.0	234.3	255.8	270.4	289.1	309.1	330.4	351.6
Modified current account (% GNI*)	6.6	11.1	9.3	8.1	7.9	7.3	7.0	6.9
Savings ratio	25.7	24.3	17.0	13.8	11.4	10.4	9.6	9.2

a Underlying (final) domestic demand, underlying investment, and underlying imports exclude "other transport equipment" (mainly aircraft) and intangibles.
b Underlying contributions to real GNI* growth rates in percentage points — here adjusted net exports is forecast based on adjusted exports and adjusted imp
levels in 2019 (in 2018 constant prices) are estimated as €93.2 billion and €74.8 billion, respectively.

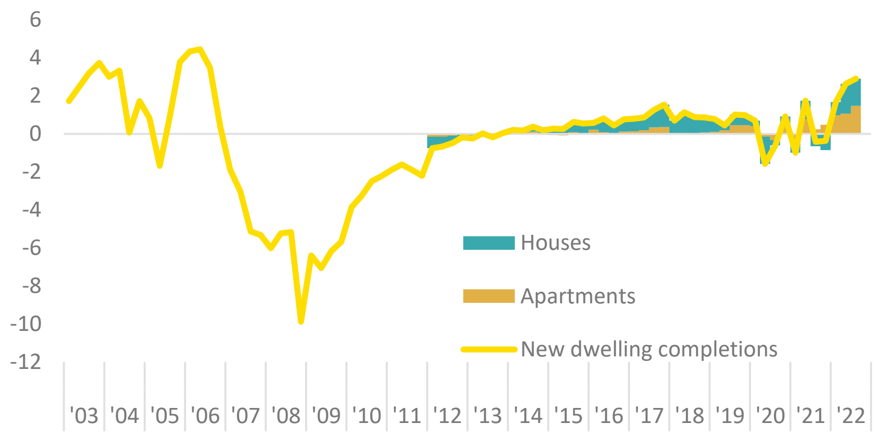
S2. Imbalances

This section looks at a selection of imbalances indicators for the Irish economy. Among the more cyclical aspects of the Irish economy presented below include the construction sector, mortgage lending, house prices, and rents.

New dwelling completions have increased considerably in 2022, with new-built apartments accounting for more than half of the increase.

Annual change in new dwelling completions

Thousands

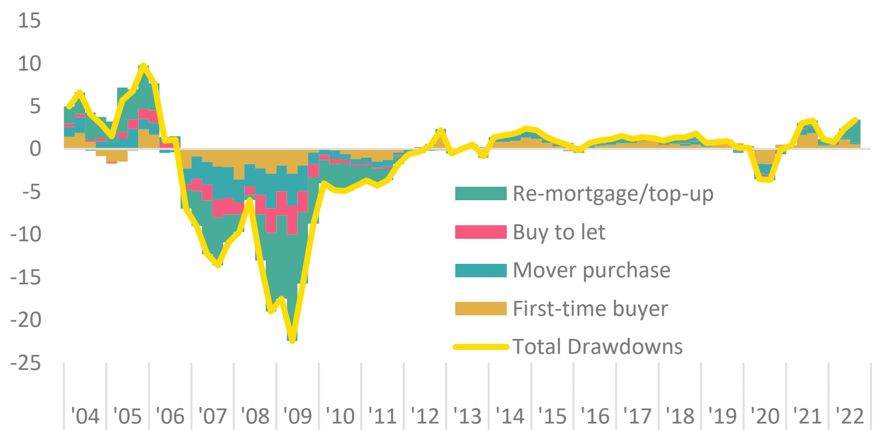


Sources: CSO; and Fiscal Council workings.
Notes: Prior to 2011, connections to the electricity grid are used as a proxy for new dwelling completions.

Mortgage drawdowns increased by €3.4 billion in Q3 2022 compared to Q3 2021, the largest annual increase since Q1 2006 (€7.6 billion), driven by re-mortgaging and top-ups (€2.7 billion). As the Central Bank of Ireland has recently announced a loosening of its macroprudential rules for house purchases, lending developments will require increased scrutiny, especially with respect to house prices (see below).

Annual change in mortgage drawdowns

€ billion year-on-year change

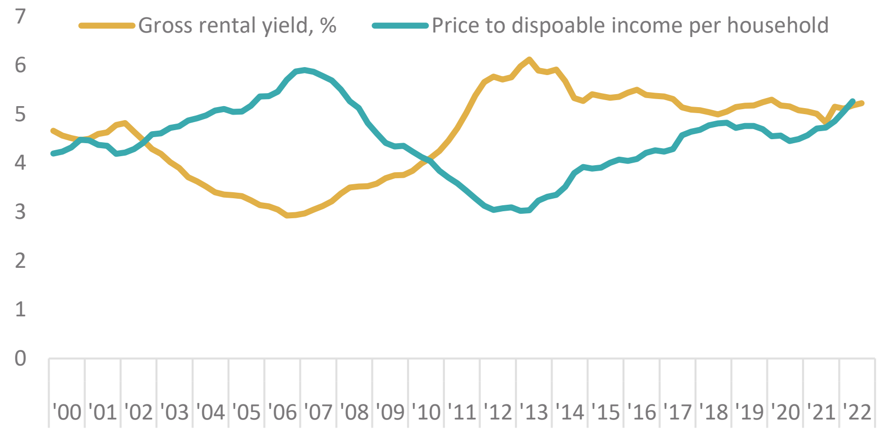


Sources: Banking and Payments Federation of Ireland; and Fiscal Council workings.

Ireland's house prices relative to average household disposable income have tended to mirror gross rental yields. However, in 2022, prices have increased faster than disposable incomes, whereas rents risen at a similar rate to house prices. Relative to average disposable incomes, house prices in Q2 2022 were at their highest level for 14 years, since Q2 2008.

House prices and rents

% (gross rental yield) and multiple (price to disposable income per household)



Sources: Fiscal Council workings.
Notes: Gross rental yield is HICP CP04.1 (actual rentals for housing) indexed to the Residential Tenancies Board standardised national rent at end-2021, multiplied by 12, and divided by the national average house price indexed to the residential property price index.

S3. Macro-fiscal risks

This section outlines the major risks envisaged for the Government's official economic and budgetary forecasts. The risks shown are primarily those noted in *Budget 2023*, but with additional risks identified by the Council.

Macroeconomic Risks Matrix

Likelihoods and impacts are as assessed by the Council

Likelihood	Impact	
High	High	**Faster monetary policy tightening**: the risk of persistently high inflation in the world's major advanced economies has Increased, and the impact of central banks increasing interest rates to far above prevailing rates in recent years Is likely to further affect economic growth in Ireland.
High	High	**Geopolitical tensions/war in Ukraine escalates**: economic activity would suffer as a result of broader conflict.
High	Medium	**Lower FDI**: a partial reversal of foreign direct investment in Ireland is likely due to higher interest rates and potential international corporation tax reform; given the importance of FDI for the Irish economy, this is a significant negative development for high-skill job creation in Ireland.
High	Medium	**International stagflation**: if aggregate demand remains greater than aggregate supply for a sustained period, it is possible that higher inflation will prove more prolonged, with potential implications for slower international economic growth. This would reduce demand for Ireland's exports from its main trading partners. However, features of the Irish economy including the presence of multinational firms in less-cyclical sectors (such as pharmaceuticals and ICT) could potentially avert a recession for Ireland.
Medium	High	**Further energy price rises**: the impact of a further rise in energy prices could exacerbate the global slowdown, with potentially significant ramifications for the Irish economy.
Medium	High	**De-globalisation and supply-chain disruption**: the pandemic could result in more permanent shifts away from trade and globalisation, exacerbating previous trade tensions and trends, with adverse implications for Ireland's small and open economy.
Medium	Medium	**Brexit**: it is possible that renewed frictions between the EU and the UK will harm growth prospects, and that the full impact of Brexit on the Irish economy will prove more severe than assumed.
Medium	High	**Lower energy prices**: if Russia's war in Ukraine ends sooner than expected, or technological improvements result in greater reliance on renewable energy, this could reduce Ireland's exposure to higher gas prices, and potentially undo some of the damage caused by higher energy prices since mid-2021.
Medium	High	**Higher investment**: although housing starts have slowed in 2022, a greater medium-term response for housing supply could be encouraged by excess household savings, or the Central Bank of Ireland's loosening of its macroprudential rules for house purchases, or due to successful delivery of the National Development Plan. This could provide a boost to economic activity in excess of official estimates, although housebuilding In Ireland has been highly cyclical (see S2, and Conroy, Casey, and Jordan-Doak (2021)).
Medium	Medium	**Stronger output from MNCs**: the main benefits to the Irish economy of MNCs include wages paid to employees (including income taxes), corporation taxes paid to the Exchequer, and direct-business or ancillary benefits to domestic firms.
Medium	Medium	**War in Ukraine escalates**: economic activity would suffer as a result of broader conflict.
Low	High	**Extreme weather events**: given the experiences of other countries, as climate change continues, It Is possible that extreme weather events with economically significant implications will occur more frequently.
Low	Low	**New public health restrictions**: the impact of further restrictions due to vaccine-resistant variants of Covid-19, or a new pandemic, would be high.

Sources: Department of Finance (Budget 2023); and Fiscal Council assessments.

Fiscal Risks Matrix

Likelihoods and impacts are as assessed by the Council

Likelihood	Impact	
Not Specified	High	**Escalation of War in Ukraine.** Further disruption to energy supply could have significant economic and fiscal implications. Budget 2023 does not specify a likelihood of an escalation of the war.
High	High	**Health overruns**. Beyond the immediate pressures of the pandemic, spending pressures in the health area remain a significant risk. Sláintecare reforms could also add significant costs. This risk is added by the Council.
High	Medium	**Corporation tax: policy change**. Adverse impacts of a changing international environment could be substantial. However, *Budget 2023* forecasts already incorporate a significant impact (€2 billion). *Budget 2023* forecasts do not incorporate any additional revenue from introducing a higher rate of corporation tax (15%) on firms with a global turnover in excess of €750 million. In addition, planned reforms are likely delayed until 2024. As a result, a medium impact may be more appropriate over the forecast horizon considered. There is high uncertainty about the outcomes in this area.
High	Medium	**Other spending pressures/overruns**. Some obvious spending pressures have not been budgeted for. For example, the Christmas Bonus has not been budgeted for 2023 or beyond, despite having been paid in every year since 2014. This risk is added by the Council.
High	Medium	**Climate change and renewable energy targets**. Budget *2023* says "climate policy and the corresponding actions needed to reduce emissions by 50% by 2030 and transition to net-zero by 2050 will have macroeconomic and fiscal implications." The Council assesses this risk to be medium impact over the Budget 2023 forecast horizon (2022-2025).
Medium	High	**Corporation tax: concentration risk:** As has been previously documented**,** corporation tax revenue is concentrated amongst a small number of payers. Firm specific factors (or factors that impact on a number of these firms) could have a significant impact on corporation tax receipts. The Council asses this risk to be medium likelihood.
Medium	Medium	**Cost of living measures.** Additional measures to address the cost of living would negatively affect the public finances. Were inflation to be higher than forecast for an extended period, this may be more likely to occur. In addition, some of the temporary measures could prove longer lasting than assumed in Budget *2023*.
Medium	Medium	**Population ageing**. There is a risk that the costs of ageing could be larger than allowed for under *Budget 2023* forecasts. Stand-Still costs in the coming years are significant, mostly due to inflation, but partially due to population ageing.
Medium	Medium	**Cost overruns in capital projects.** Large capital projects in Ireland have a history of significant cost overruns. Given the large increase in capital spending forecast in Budget *2023*, there is a risk that capital projects exceed their projected cost. This risk is added by the Council.
Medium	Medium	**Contingent liabilities**. Significant loans and guarantees to support sectors during the pandemic. Losses could arise if firms are unable to repay. The Council assesses this risk to be medium likelihood.
Medium	Medium	**Litigation or one-off measures**. Any unexpected litigation against the state could lead to additional expenditure. Redress schemes, while inherently one-off in nature could have significant costs (Mica homes redress and mother and baby homes survivors scheme). €2.7 billion has been allocated for Mica homes redress.
Low	High	**Pandemic related budgetary measures**. The reintroduction of public health restrictions would significant economic and fiscal implications. More generally, if some of the pandemic related schemes (PUP, EWSS etc) were to be reintroduced, that would imply additional expenditure.
Low	Medium	**Refugee-related measures**. Were the number of refugees entering Ireland to exceed estimates on which *Budget 2023* were based, this would imply additional expenditure.
Medium	Low	**Borrowing costs**. Borrowing conditions have been favourable in recent times. These have since changed and will impact on Irish borrowing costs, particularly given the high debt levels. However, given the low gross financing needs in the coming years, the Council assesses this risk to be low impact within the forecast horizon covered by *Budget 2023*.
Low	Low	**Dividend payments**. Lower-than-expected dividend returns from the States shareholdings in financial institutions and semi state bodies. The Council assesses this to be low impact.

Sources: Department of Finance (Budget *2023*); and Fiscal Council assessments.

S.4 Detail on fiscal outturns and forecasts

This section sets out key budget figures on spending, taxes and the budget balance based on recent outturns and latest forecasts.

Table S4: Fiscal forecasts from Budget 2023

	2020	2021	2022	2023	2024	2025
General Government Revenue	83,190	98,735	112,475	119,490	124,040	130,875
Income Tax	22,711	26,665	30,255	32,065	34,180	36,245
VAT	12,424	15,440	18,280	19,350	21,055	22,480
Corporation Tax	11,833	15,325	21,050	22,715	22,240	23,715
Of which excess	4,670	5,000	9,000	10,000	9,000	9,500
PRSI	10,625	11,798	14,075	15,069	16,067	17,130
Excise	5,448	5,840	5,720	6,270	6,895	7,370
Stamp Duties	2,090	1,485	2,095	2,195	2,300	2,455
Remaining GG Revenue	18,059	22,182	21,000	21,826	21,303	21,480
General Government Expenditure	101,953	105,814	111,510	113,315	113,330	117,220
Social payments	37,593	37,691	38,575	39,420	38,820	39,385
Compensation of employees	24,829	26,551	28,325	29,475	30,790	32,025
Intermediate consumption	14,908	15,796	17,930	16,555	17,255	18,030
Capital expenditure	8,633	8,793	10,105	11,365	13,280	14,725
Interest expenditure	3,828	3,292	3,290	3,615	3,535	3,195
Subsidies	6,421	7,324	3,315	2,645	1,595	1,600
Other	5,741	6,367	9,970	10,240	8,055	8,260
Primary expenditure	98,125	102,522	108,220	109,700	109,795	114,025
Current Primary expenditure	89,492	93,729	98,115	98,335	96,515	99,300
General Government Balance excluding excess CT	-23,433	-12,079	-8,035	-3,825	1,710	4,155
General Government Balance	-18,763	-7,079	965	6,175	10,710	13,655

Sources: CSO; Department of Finance; and Fiscal Council workings.

Note: Estimates for excess CT in 2020 are Fiscal Council estimates. Estimates for 2021-2025 are taken from *Budget 2023* documentation. Remaining GG revenue is calculated as a residual. It is calculated as general government revenue minus tax and PRSI revenue items which are listed above. As these specific revenue headings are on a cash basis, this residual measure may not be informative. The temporary business energy support scheme is assumed to be expenditure and is allocated to subsidies for 2022 and 2023 (€600 million in each year).

S5. Tax forecasts decomposed

This section examines official forecasts for the main tax heads. The projected yearly changes in tax receipts are decomposed to better understand how the forecasts are arrived at. The annual changes are attributed to a number of components:

1) "**macro**" is the part of the forecast driven by growth in the relevant macro driver (such as wage growth, recognising the sensitivity of income tax growth to this driver)

2) "**one-offs**" — non-recurring items that effect expected receipts

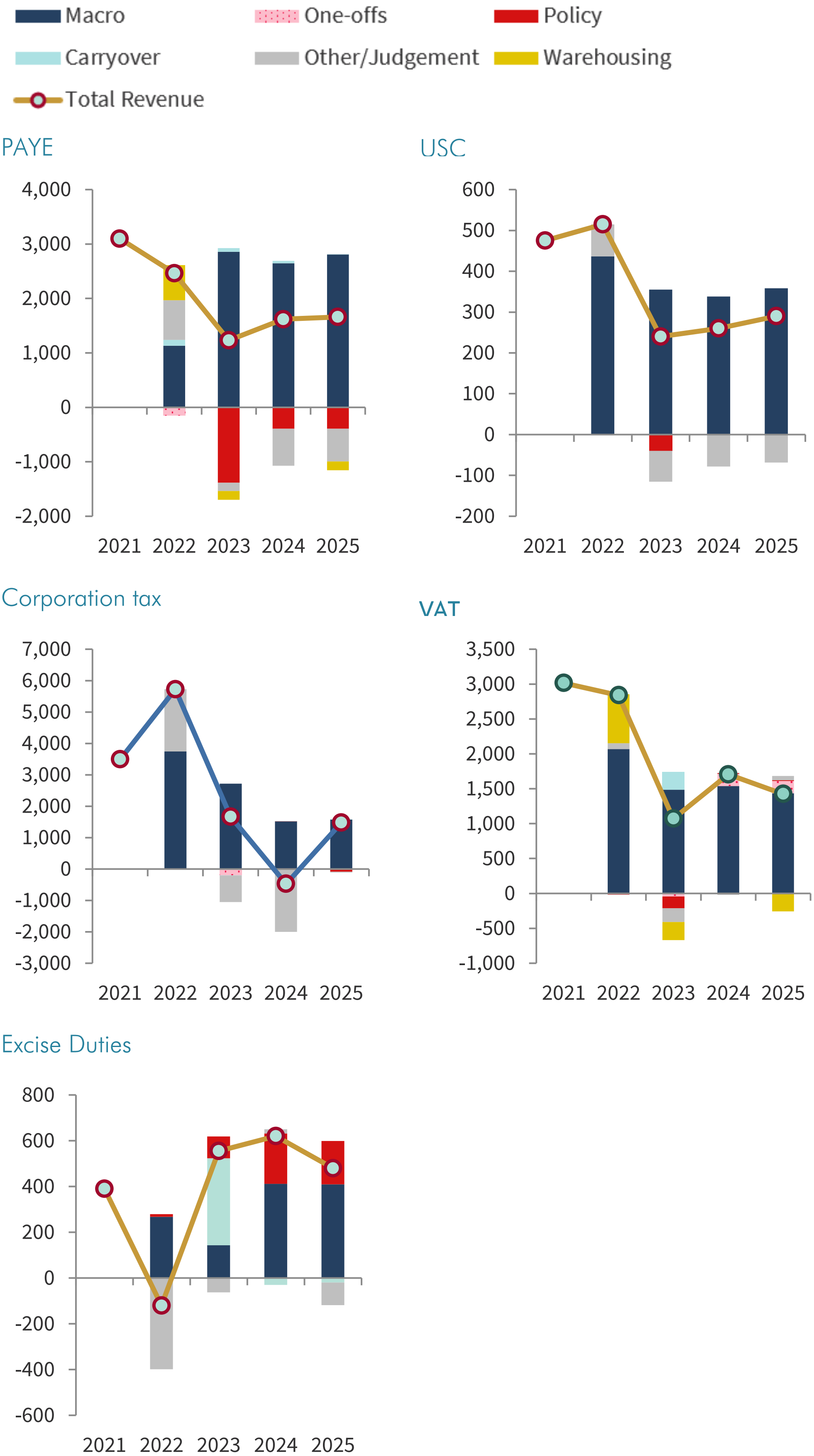
3) "**policy**" changes, such as tax cuts or tax increases. For PAYE and USC, this does not include the yield from higher wages. As a result, in 2024 and 2025, the negative impact of policy changes is shown, despite these policy changes not being enough to fully index tax bands and credits (Section 2.5)

4) "**warehousing**" the net impact of warehousing of taxes from 2020 - 2022, with repayments from 2022-2025.

5) "**carryover**" effects — policy impacts carried over from previous years

6) "**other**" — other potential elements affecting the forecasts, including judgment applied by the Department of Finance. It is calculated as the difference between the Fiscal Council's internal forecasting exercise and the Department of Finance's own forecasts.

Figure S5: Tax forecasts decomposed



Sources: Department of Finance; and Fiscal Council workings.

S6. Stand-Still scenario for spending

Table S6.1: Stand-still costs are larger than planned spending increases

Annual change in €bn (gross voted current spending)

	2024	2025
Stand-Still scenario	4.2	4.4
- demographic pressures	0.9	0.8
- price pressures	3.2	3.5
Total Increases in “core” current spending *Budget 2023*	3.3	3.7
Gap to Stand-Still	0.9	0.7

Sources: Fiscal Council workings.

Notes: Stand-still estimates assumes spending on social welfare, health and education also grows in line with key demographic growth and that key welfare rates and public sector pay rates grow in line with forecasts of private sector wages rates in 2024 and 2025, while other prices increase in line with inflation. Get the data.

S7. Fiscal rules

Table S7.1: Summary Fiscal Rules assessment

% of GDP unless otherwise stated. For deviations, negative values = non-compliance

	2021	2022	2023	2024	2025
Corrective Arm					
General government balance (% GNI*)[4]	-3.0	0.4	2.2	3.7	4.5
General government balance	-1.7	0.2	1.1	1.9	2.2
General government balance Limit	-3.0	-3.0	-3.0	-3.0	-3.0
General government debt (% GNI*)[4]	100.9	86.3	81.5	78.3	73.2
General government debt	55.4	45.1	41.1	39.4	36.8
1/20th Debt Rule Limit	60.0	60.0	60.0	60.0	60.0
Debt Rule met?	Y	Y	Y	Y	Y
Preventive Arm & Domestic Budgetary Rule					
Structural balance adjustment requirement					
MTO for the structural balance	-0.5	-0.5	-0.5	-0.5	-0.5
Structural balance	1.3	2.6	2.5	2.0	2.3
MTO met?	Y	Y	Y	Y	Y
Minimum change in structural balance required	0.0	0.0	0.0	0.0	0.0
Change in structural balance	2.2	1.3	-0.1	-0.4	0.2
1yr deviation (€ bn)	7.7	15.5	16.4	14.7	16.9
1yr deviation (p.p.)	1.8	3.1	3.0	2.5	2.8
2yr deviation (€ bn)	3.1	11.6	16.0	15.5	15.8
2yr deviation (p.p.)	0.7	2.4	3.1	2.8	2.7
Expenditure Benchmark					
(a) Reference rate of potential growth (% y/y)	2.3	2.3	2.3	2.2	2.0
(b) Convergence margin	0.0	0.0	0.0	0.0	0.0
(a-b) Limit for real net expenditure growth (% y/y)	2.3	2.3	2.3	2.2	2.0
GDP deflator used	14.3	6.5	4.4	2.1	1.9
Limit for nominal net expenditure growth (% y/y)	17.0	8.9	6.8	4.3	4.0
Net expenditure growth (% y/y)	6.1	10.2	0.8	-0.7	3.5
Net expenditure growth (corrected for one-offs) (% y/y)	7.7	7.8	7.1	4.4	3.8
1yr deviation (corrected for one-offs) (€ bn)	7.5	0.9	-0.3	-0.1	0.2
1yr deviation (corrected for one-offs) (% GNI*)	3.2	0.4	-0.1	0.0	0.1
2yr deviation (corrected for one-offs) (€ bn)	4.1	4.2	0.3	-0.2	0.1
2yr deviation (corrected for one-offs) (%GNI*)	1.8	1.8	0.1	-0.1	0.0
Limit for nominal net expenditure growth (€bn)	13.7	7.8	6.4	4.4	4.2
Net expenditure increase (€bn)	5.5	9.8	0.8	-0.8	3.7
Net expenditure increase (corrected for one-offs) (€bn)	6.2	6.8	6.7	4.4	4.0
Current Macroeconomic Aggregates					
Real GDP growth (% y/y)	0.0	10.0	4.7	3.3	3.8
Potential GDP growth (% y/y)	4.6	2.9	1.0	2.0	2.2
Output gap	-1.6	0.3	-0.4	-0.1	0.1
GDP deflator used (% y/y)	14.3	6.5	4.4	2.1	1.9

Sources: CSO; Department of Finance; and Fiscal Council workings.
Notes: [1] All figures are presented on a general government basis. Assessments examine the *Budget 2023* revenue and expenditure plans, using the Council's based approach to the Domestic Budgetary Rule and considering the Council's views on one-off/temporary measures and on Discretionary Revenue Measure output and output gap estimates are taken from *Budget 2023*. For more information on the Council's principles-based approach see Table S7.2 and Box A o Council's Ex-post Assessment of Compliance with the Domestic Budgetary Rule 2018 (Fiscal Council, 2019a). The MTO is not currently set for 2023-2025 b constant at -0.5% of GDP. [2] The 1/20th Debt Rule requires that the debt-to-GDP ratio should make annual progress toward the reference value of 60% of GI debt-to-GDP ratio falls below 60%, the requirement is to maintain a ratio below 60%.[3] Exceptional circumstances exist for 2021–2022. Therefore, deviations requirements for these years are allowed. [4] The general government balance and general government debt are shown here as a % of GNI* for reference purp Legal compliance with the corrective arm of the SGP is assessed based on GDP ratios. Get the data.

Table S7.2: Outline of the Council's principles-based approach to the Budgetary Rule

Criteria	Fiscal Council Approach	European Commission Approach
Potential Output and the Output Gap	The Department's GVA-based estimates of potential output and the output gap.	The European Commission's own CAM-based estimates of potential output and the output gap.
Reference Rate for Expenditure Benchmark	Based on the Department's latest estimates of GVA-based potential output growth (i.e. not frozen).	Based on the European Commission's CAM-based estimates of potential output, frozen in spring of year *t-1*. No reference rate is set for *t+2* or later years.
Deflator for Expenditure Benchmark	Based on the Department's latest estimates of the demand-side GVA deflator (i.e. not frozen).	Based on the European Commission's estimates of the GDP deflator, frozen in spring of year *t-1*.
Adjustment Requirement and Convergence Margin	Based on the latest estimates of distance from the MTO in year *t-1* (i.e. not frozen). No negative convergence margin applied.	Based on the European Commission's estimates of distance from the MTO that are frozen in either spring or autumn of year *t-1* (whichever is more favourable). For ex-post assessment, requirements can be unfrozen in spring of year *t+1* if these are more favourable in terms of compliance. Negative convergence margin allowed.
NAWRU	Assumed constant at 5.5%.	The Commission's latest CAM-based estimates of the NAWRU.
Margin of Tolerance	No margin of tolerance.	0.25% of GDP from the MTO.
Significant Deviation from the Expenditure Benchmark	0.5% and 0.25% of GNI* for 1-year and 2-year assessment respectively.	0.5% and 0.25% of GDP for 1-year and 2-year assessment respectively.
Budgetary Semi-Elasticity	0.52	0.522

Note: For a full explanation of the Council's Principles-based Approach (PBA) to the Domestic Budgetary Rule see Box A of Ex-post assessment of compliance with the Domestic Budgetary Rule 2018 (Fiscal Council, 2019a) and Box M of the November 2019 Fiscal Assessment Report (Fiscal Council, 2019b). As of *Budget 2022*, the Department's preferred measure of the output gap is based on their GVA based models. As a result, the Council's Principles-based Approach is now based on this preferred measure of the output gap.