

Ireland: Solid economic growth amid external risks

NTMA Investor Presentation
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Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency



CONTENTS

- 03 Summary
- 08 Macro
- 22 Fiscal
- 33 NTMA Funding
- 43 ESG Sustainability
- 52 Structure of the Irish economy
- 61 Housing



Summary

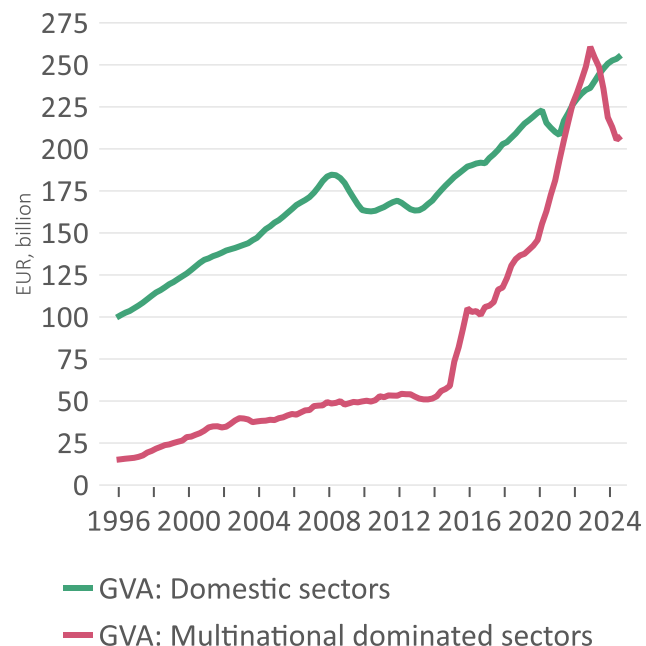
Economic growth is solid while
fiscal position remains strong



Real economic growth around 3% currently

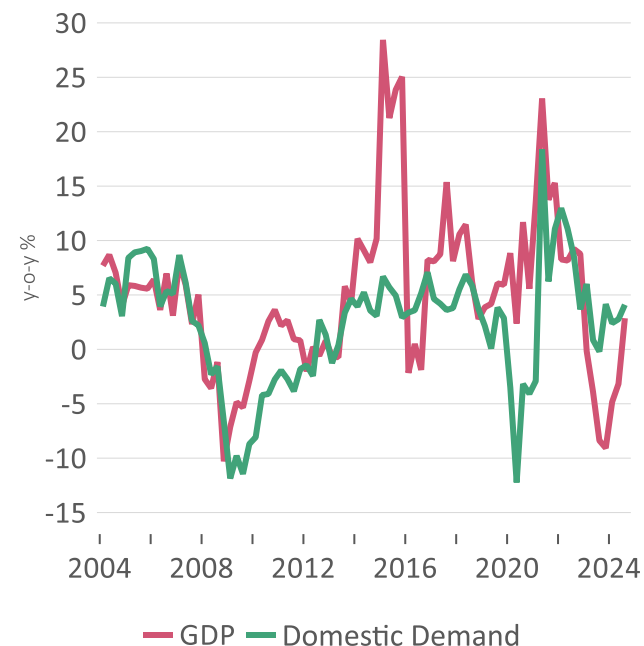
Full employment + fiscal policy + monetary policy will drive consumption

Value added from ICT & pharma strong – step back in manufacturing in 2023/24



Source: CSO

MDD gives better picture of growth: Consensus forecasts of 3% for 2025



Source: CSO

Unemployment rate ranging between 4-4.5% - full employment for two years



Source: CSO

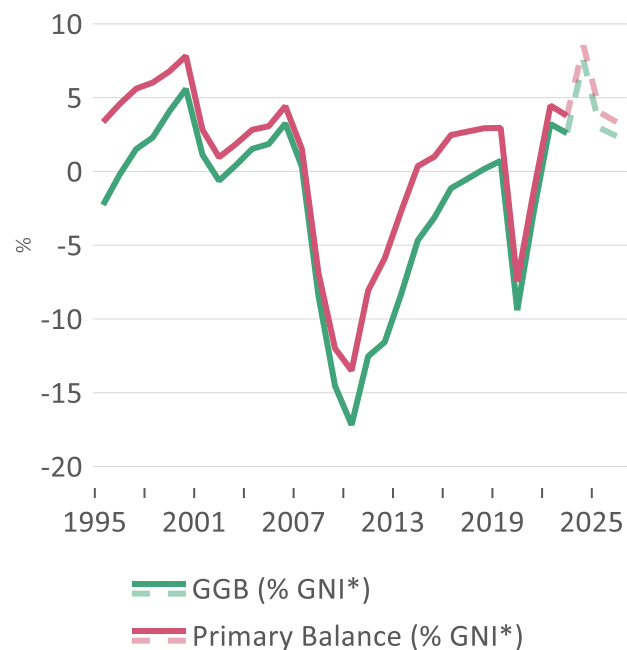
* Modified Domestic Demand series accounts for multinational activity (technically modified final domestic demand (excl. inventories))

Note: RHS uses the standard unemployment rate during the Covid period. The Covid adjusted unemployment rate was as high as 31.5% at times between March 2020 and Feb 2022.

Large government surplus expected

Debt metrics improved in 2024; two long term funds–FIF/ICNF established with €10bn transferred

Forecasted 2024 GG surplus of 7% GNI*,
2.5% excluding CJEU/Apple proceeds



Source: CSO

Debt metrics likely to have improved in 2024

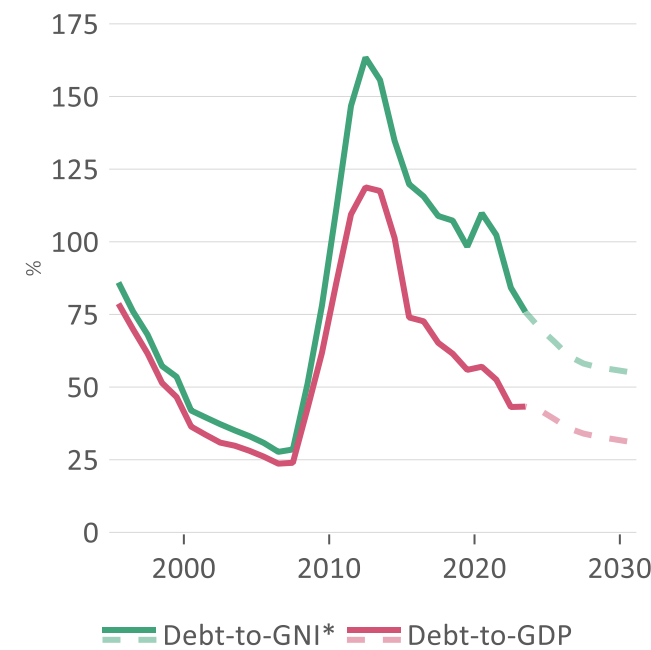
Debt-to-GNI*
(69.1% 2024f; 75.9% in 2023)

Debt-to-GG Revenue
(145.8% 2024f; 178% in 2023)

Average interest rate
(1.4% 2024f, 1.6% in 2023)

Debt-to-GDP[^]
(41.4% 2024f; 43% in 2023)

Debt to GNI* falling with solid growth,
surpluses and limited issuance



Source: CSO

[^] Debt to GDP is not an appropriate metric to use for Ireland

Medium term challenges/opportunities

External environment uncertain with growth concerns in EU and geopolitical concerns elsewhere

Growth

Labour market strength remained in 2024. Healthy domestic balance sheets, lower inflation and easing policy to come likely to help consumer in short term.

Slow growth in Europe is a headwind.

FDI Model

Risks surrounding geo-politics, deglobalisation, and corporate taxation are short/medium term concerns for a small open economy like Ireland.

Ireland being adaptive to global events is critical.

FIF/ICNF

Large surplus excluding CJEU/Apple case proceeds (c. 2.5% of GNI*) in 2024 via exceptional CT receipts.

€10bn in new funds, after first transfers made. Intention is to save portion of tax receipts and partially alleviate future challenges.

NTMA funding range for 2025: €6bn to €10bn

€3bn issued in January; cash balance is elevated but expected to fall

Cash

Tax strength alongside Apple proceeds means Ireland in strong cash position.

The cash balance was €34bn at end 2024 but expected to fall through 2025

WAM

Weighted average maturity of debt one of longest in Europe.

NTMA issuance since 2022 of €20bn at WAM of 14.9 years and average interest rate of 2.3%.

AA

Ireland rated in the AA category with all major rating agencies.

Fitch and DBRS upgraded to AA in 2024 while S&P is at AA (positive). Moody's remains at Aa3 but with a positive outlook.

Macro

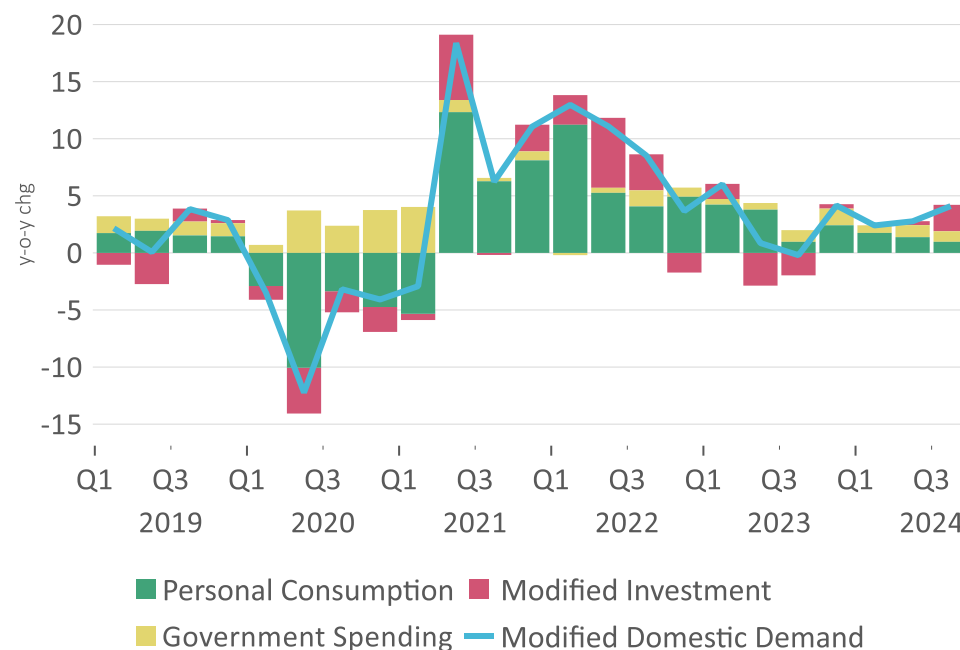
Economic growth in first
three quarters of 2024 ~3%



Irish economic growth continued in 2024

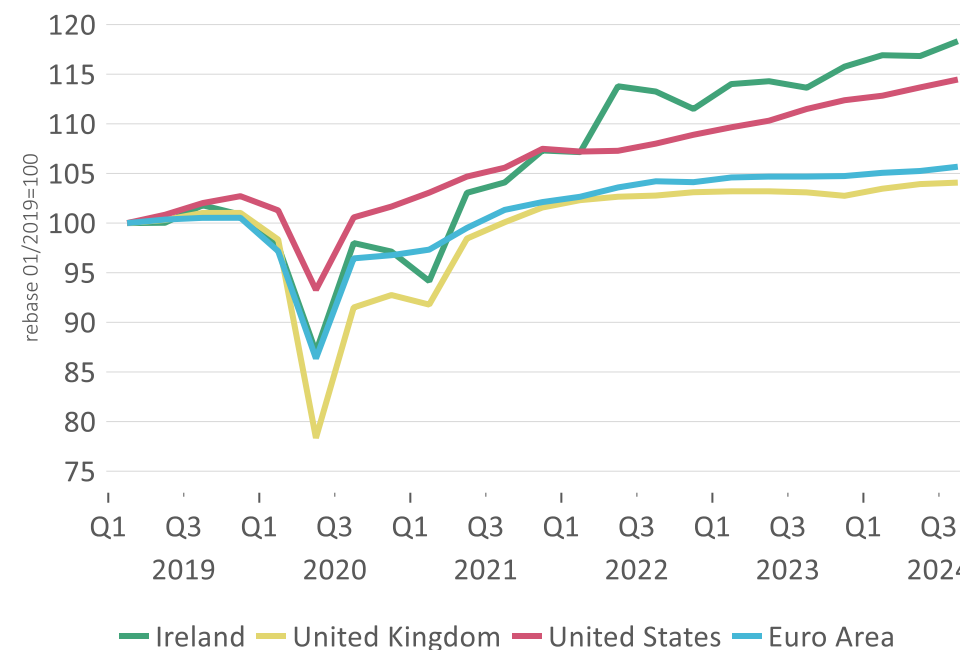
Consumption and employment growth display resilience

Modified Domestic Demand, our preferred measure increased by 4.1% annually in Q3 2024; 3% Q1-Q3



Source: CSO

Irish economic activity* has overperformed compared to major trade partners' – growth linked closely to US



Source: CSO, BEA, ONS, Eurostat

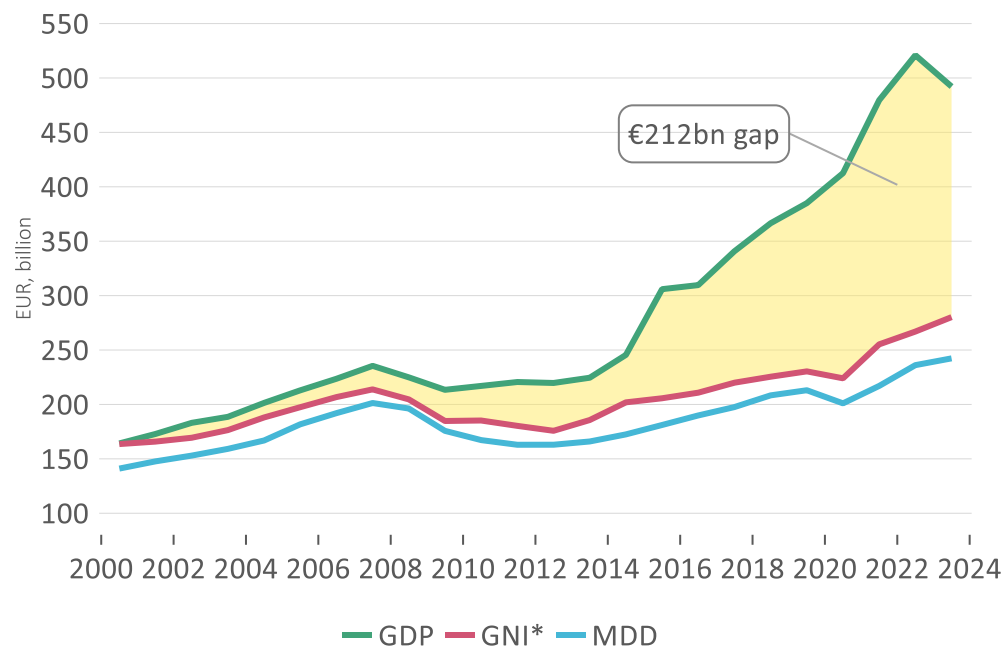
Note: MDD for Ireland is modified for multinational activity by Ireland's Central Statistics Office (CSO). MDD = Consumption + Government (current) spending + Modified Investment. Seasonal adjustment mean contributions do not always add up to MDD growth rate.

* RHS chart uses MDD for Ireland and GDP for all other countries.

Real GDP bounced back in Q3, had been weak since early 2023

GDP isn't a reliable metric for Ireland, sharp drop recently due to Industry sector

Real GDP declined in 2023 while measures that strip out MNE activity continued to grow



Source: CSO

Real GVA data shows decline in Industry; that is pharmaceutical and computer manufacturing weakness. Rebounded in Q3

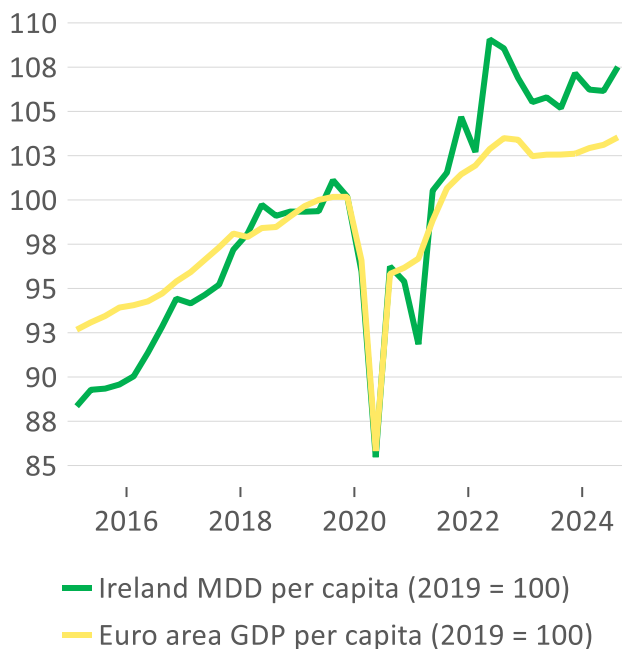


Source: CSO

Ireland vs Euro Area performance

Greater growth in Ireland with a similar inflation path aided by labour force

Ireland has grown on a higher path post Covid than EA average



Source: CSO, Eurostat, ECB

Inflation in Ireland has fallen slightly faster than Euro Area HICP



Source: CSO, Eurostat, ECB

Increased labour force, especially female p. rate driven growth with less inflation

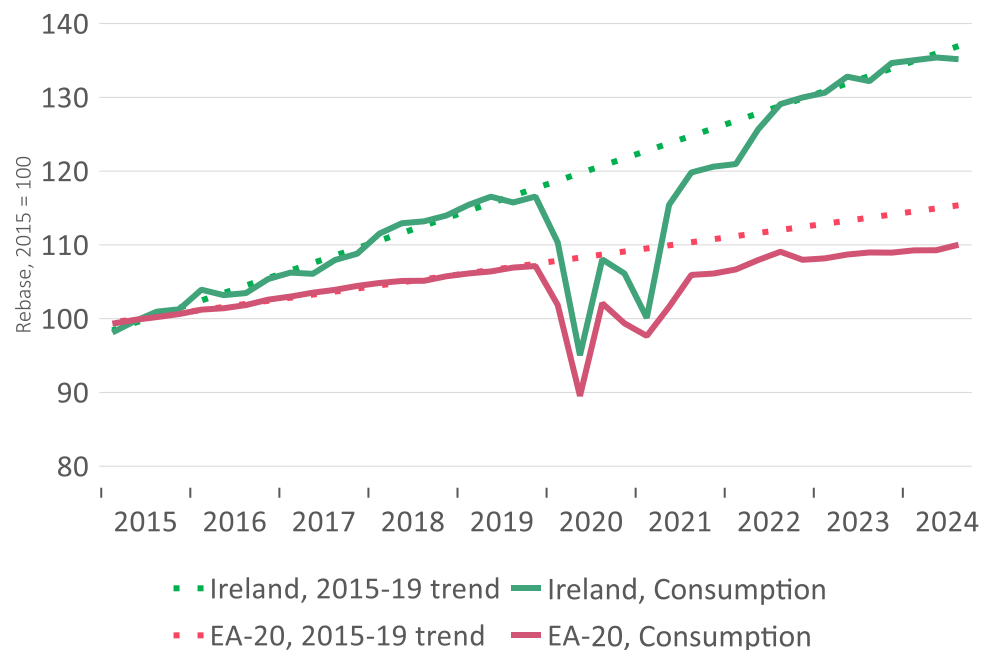


Source: CSO, Eurostat, ECB

Real spending main driver of economy

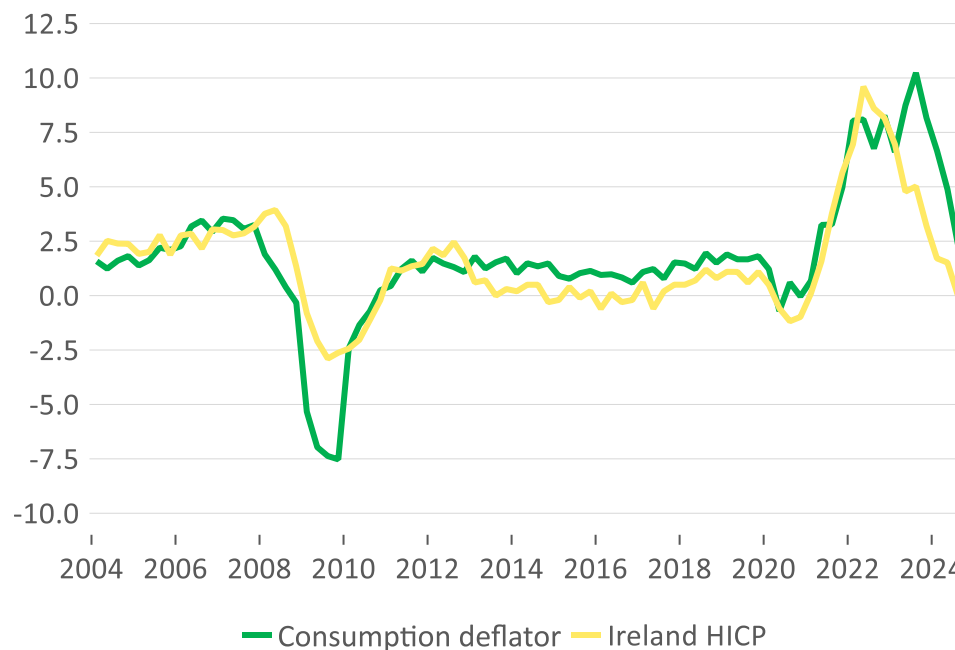
Consumption strong

Real personal consumption back at pre-pandemic trend.
Performance outstrips euro area average



Source: CSO, Eurostat

Gap between PCE deflator & HICP apparent in recent data: real consumption may be higher than estimated at present



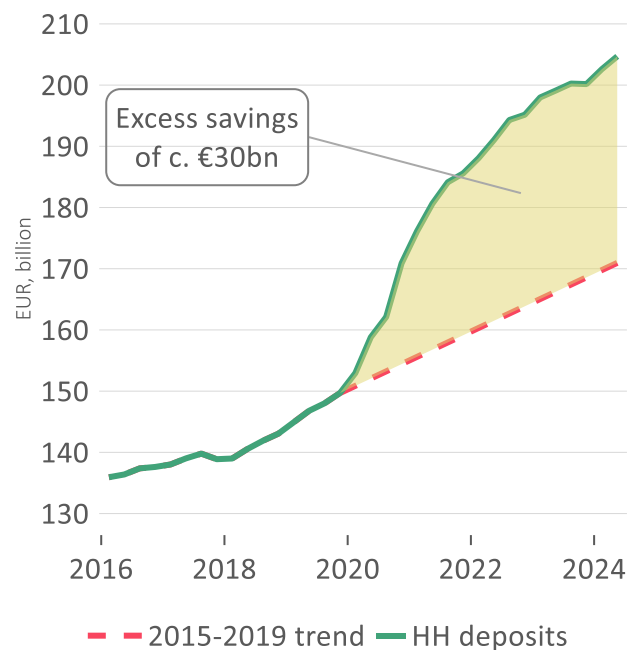
Source: Irish Department of Finance, CSO, Eurostat

Note: RHS chart plots data which joins discontinued series with CBI's new series. New data starts from October 2022. The Other/Miscellaneous sector is excluded from the chart due to large structural break in the data.

Basis for household consumption growth

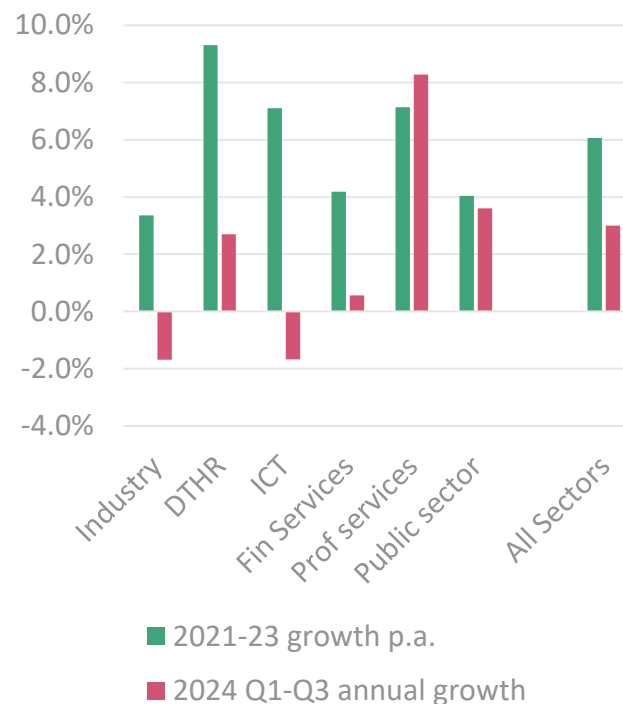
Spending comes from savings, incomes or borrowing; Ireland in good shape across all three

Large excess savings: pandemic savings remain in HH deposit accounts

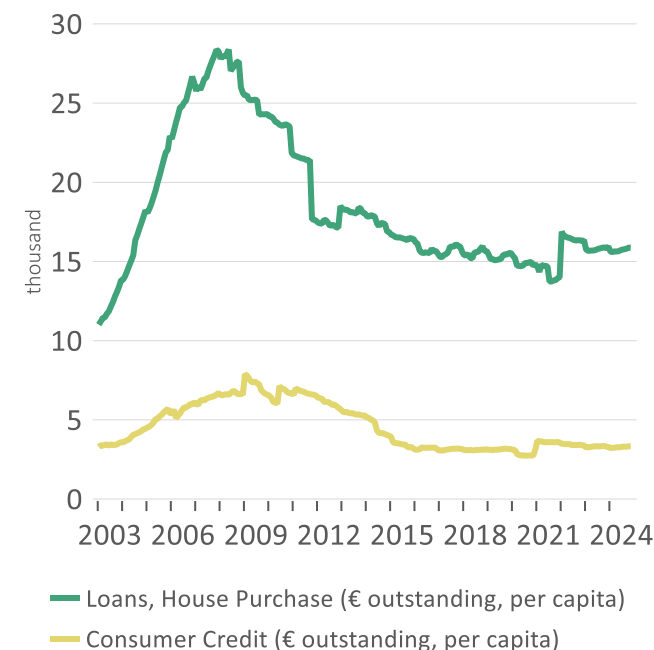


Source: Central Bank of Ireland

Income growth: Real compensation of employee growth still healthy



Borrowing: deleveraged position means current spending growth isn't debt fuelled



Source: Central Bank of Ireland, CSO

Source: CSO, Central Bank of Ireland

Labour market remains strong

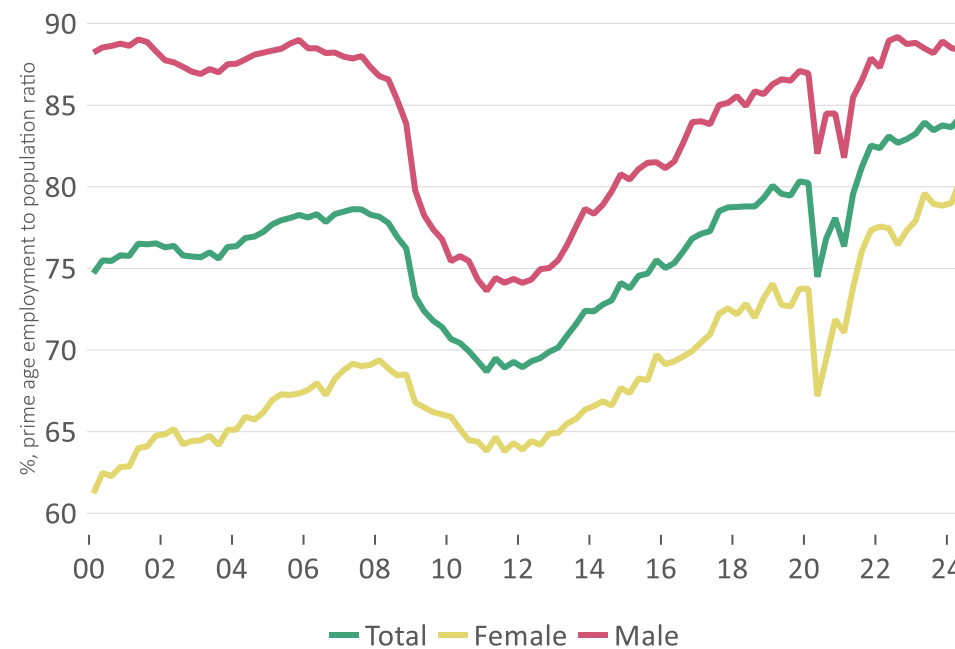
Unemployment rate low despite measurement volatility

Unemployment rate at 4.2% in December – has been below 5% for more than two years



Source: CSO

Prime age employment to population ratio near peak as job growth outstrips population growth



Source: CSO

Note: LHS uses the standard unemployment rate during the Covid period and red indicates when below 5%. The Covid adjusted unemployment rate reached a peak of 31.5% between March 2020 and Feb 2022. Prime age refers to those aged between 25 to 54.

Labour market tightness has eased

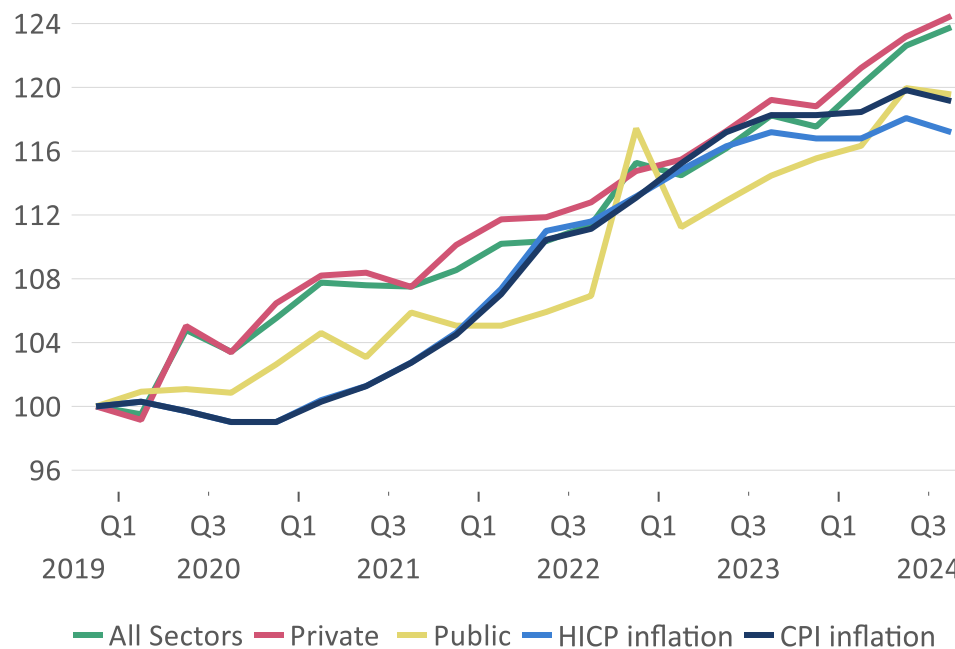
Wages and inflation mostly in sync

Beveridge curve suggests a tight labour market that has been loosening in recent months



Source: Eurostat, CSO

Earnings growth not out of line with inflation in 2019-2023, latest wage data showing real wage growth has returned



Source: CSO, Eurostat

Flash harmonised inflation at 1.0% in December

Disinflation trend running ahead of EA average

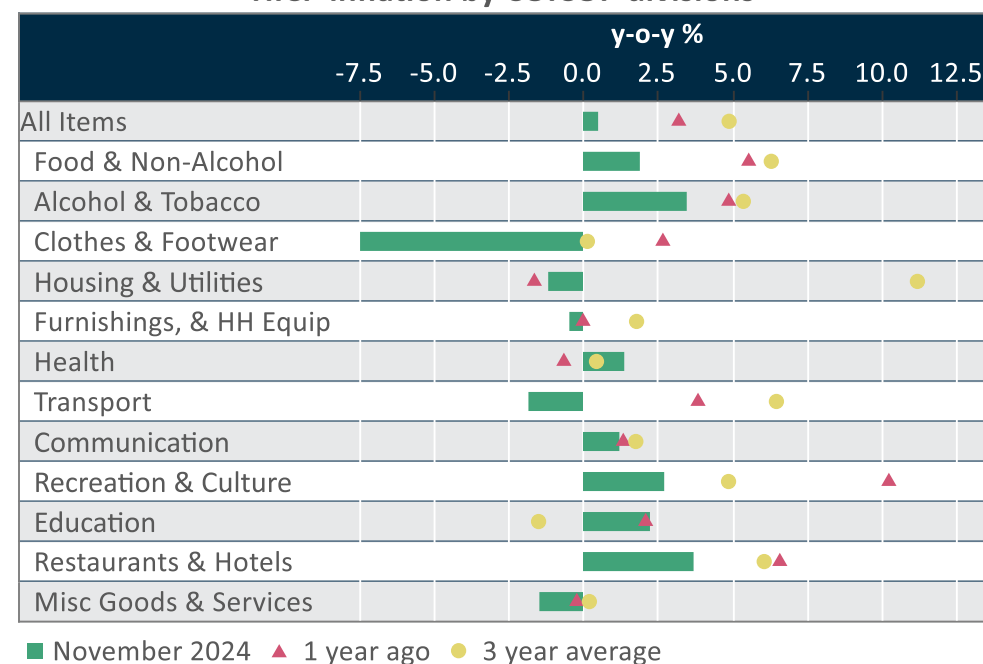
Headline falls well below target as goods inflation eases. Should revert closer to 2% in time. Core inflation at 1.5%



Source: CSO, Eurostat

Disinflation broad-based with energy base effects evident in utilities and transport

HICP inflation by COICOP divisions



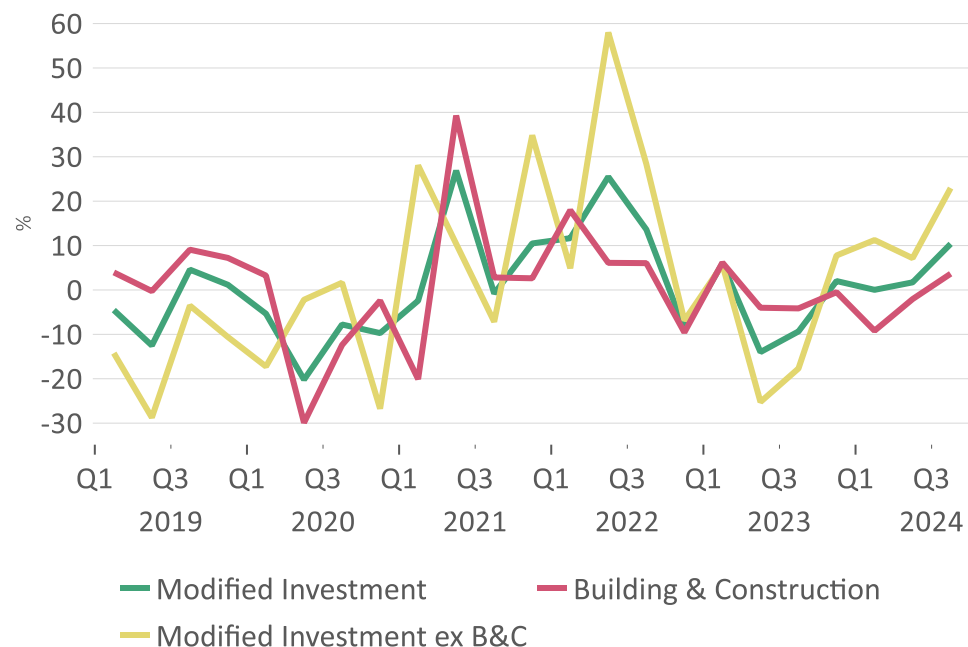
Source: CSO

Note: RHS chart plots CPI inflation.

Investment weakness in recent quarters

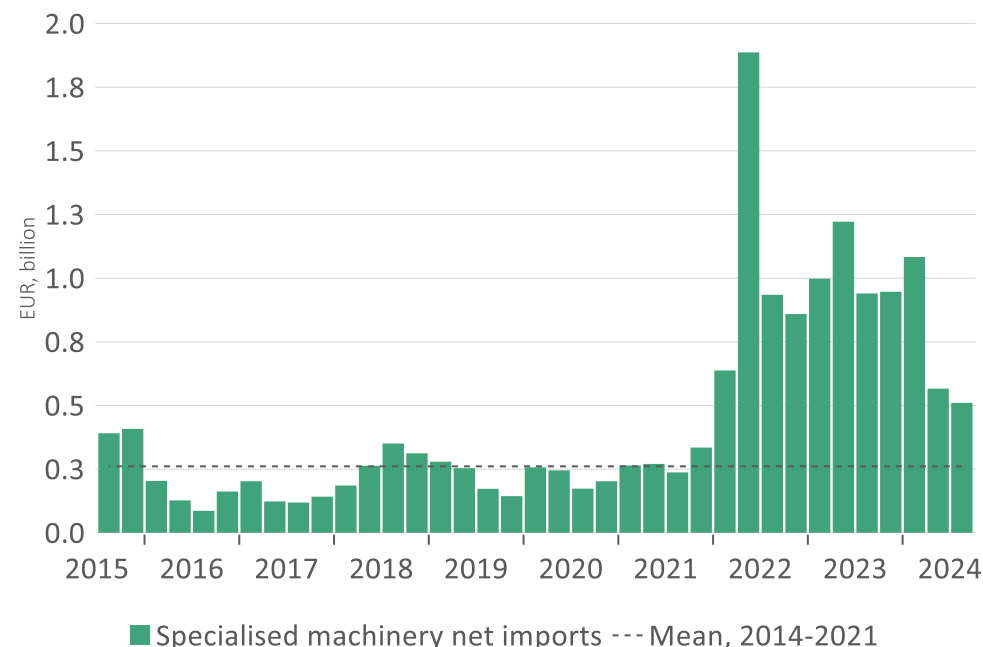
Interest rate environment has slowed investment, but some pick up in Q3

Investment picked up in Q3 after weakness in 2023/24 in computer hardware, production facilities/data centres



Source: CSO

Net imports of specialised machinery for particular industries saw huge bump in Q2 2022, led to jump in mod. investment



Source: CSO

Note: Ireland's metric is modified investment, which strips out multinational activity. LHS chart: dashed line represents 2014 to 2021 average for modified investment.

Risks from external environment

Rate cutting cycle remains supportive, but EU growth and US policy could be headwinds

	2024	2025
EA Monetary Policy	Continued cuts expected to end year	Continued cuts expected to mid-year
US Monetary Policy	Modest 2024 cuts expected	Minor cuts expected
US Growth	Trend growth	Trend growth
Trade/tariffs	Neutral	Uncertainty – potential trade shock
Energy Prices	Volatile but minimal impact for Ireland	Geo-political uncertainty
UK Growth	Modest growth	Minimal growth
Euro Growth	Minimal growth	Minimal growth
Global Inflation	Disinflation continues	Nearing target but uncertainty remains

Ireland's trading partners – Goods exports to EU and US, Services export to EU, goods imports from Europe in the main

% of total	Goods (2022)		Services (2022)		Total (2022)	
	Exports	Imports	Exports	Imports	Exports	Imports
US	30	16	12.5	51	19	41
UK	11	21	13	8	12	12
EU-27	39	30	32	18	35	22
China	7	10	3	2	4	4

Uncertainty surrounding OECD's BEPS process

Pillar Two implemented in EU this year, Pillar One progress has been stalled with future uncertain

Pillar One: Proposal to re-allocate taxing rights on non-routine profits

- The first pillar seeks to address taxing rights. It reallocates 25% of MNE's excess profit* from jurisdictions where companies reside to the markets where user/consumers are based.
- This is to keep pace with digitalisation of the economy where sales can take place without taxable presence in market jurisdiction.
- Pillar 1 will reduce Ireland's corporation tax base. Some estimates place the hit at c. €2bn per annum by 2026.
- Ireland has always been fully supportive of Pillar One despite the implied cost to the Exchequer.
- Pillar 1 may not materialise with several countries struggling to agree. If Pillar 1 was stalled, unilateral tax reforms by countries may be the result.

Pillar Two: 15% minimum effective global tax rate

- Countries will introduce a minimum effective tax rate with the aim of reducing incentives to shift profits.
- Where income is not taxed to the minimum level, there will be a 'top-up' to achieve the minimum rate of tax.
- The EU have agreed a directive to implement the 15% rate in 2024. The impact on tax will not be seen until 2026, however. This year's strong CT receipts is not because of implementation of Pillar II.
- Ireland's rate will remain one of the lowest in EU and will continue to be competitive. The R&D tax credit enhanced in Budget 2024 to maintain net benefit for businesses.
- Ireland can lean on other positives; educated and young workforce, English speaking, EU access, and ease of doing business.

* Excess profit is defined as a group profit in excess of 10% of its revenue

High frequency data suggest continued growth

Consumer confidence, tax and unemployment giving positive signals

	12/22	1/23	2/23	3/23	4/23	5/23	6/23	7/23	8/23	9/23	10/23	11/23	12/23	1/24	2/24	3/24	4/24	5/24	6/24	7/24	8/24	9/24	10/24	11/24	
Retail sales (ex motor)	0.8	0.0	0.2	-0.3	-0.4	0.0	0.4	0.3	0.2	-0.4	-0.1	0.0	0.5	0.2	-0.3	-0.3	0.1	0.1	-0.1	-0.1	-0.2	0.2	0.1		
Unemployment rate	4.4	4.3	4.1	4.1	4.1	4.1	4.3	4.3	4.4	4.6	4.6	4.5	4.5	4.5	4.1	4.2	4.4	4.4	4.4	4.5	4.2	4.2	4.2	4.2	4.1
Payroll employees	0.6	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.1	0.2	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.2	-0.1	0.1		
Headline HICP	0.5	-0.4	0.1	0.5	0.9	0.5	0.5	0.4	0.5	0.3	0.3	-0.2	-0.1	-0.6	0.0	0.0	0.5	0.4	0.4	0.4	0.2	-0.2	-0.2	-0.4	
Core HICP	0.2	-0.1	0.4	0.6	1.1	0.8	0.6	0.5	0.4	0.0	0.1	-0.1	0.2	-0.4	0.1	0.1	0.7	0.5	0.4	0.5	0.3	-0.2	-0.1	-0.4	
House prices	0.2	0.0	-0.2	-0.5	-0.4	-0.3	0.1	0.3	0.5	0.6	0.8	1.0	1.1	1.0	0.8	0.5	0.5	0.4	0.6	0.8	1.0	1.0	0.8		
Consumer confidence	48.7	55.2	55.6	53.9	59.2	62.4	63.7	64.5	62.2	58.8	60.4	61.9	62.4	74.2	70.2	69.5	67.8	65.7	70.5	74.9	72.0	71.9	74.1	74.1	
Composite PMI	50.5	52.0	54.5	52.8	53.5	51.9	51.4	50.0	52.6	52.1	49.7	52.3	51.5	50.7	54.4	53.2	50.4	52.5	50.1	52.2	52.6	52.1	52.6	55.2	
Income Tax	2.5	2.8	2.2	2.3	3.1	2.6	2.5	2.7	2.5	2.4	2.6	4.6	2.6	2.9	2.4	2.6	3.2	2.7	2.8	2.9	2.6	2.6	2.8	4.7	

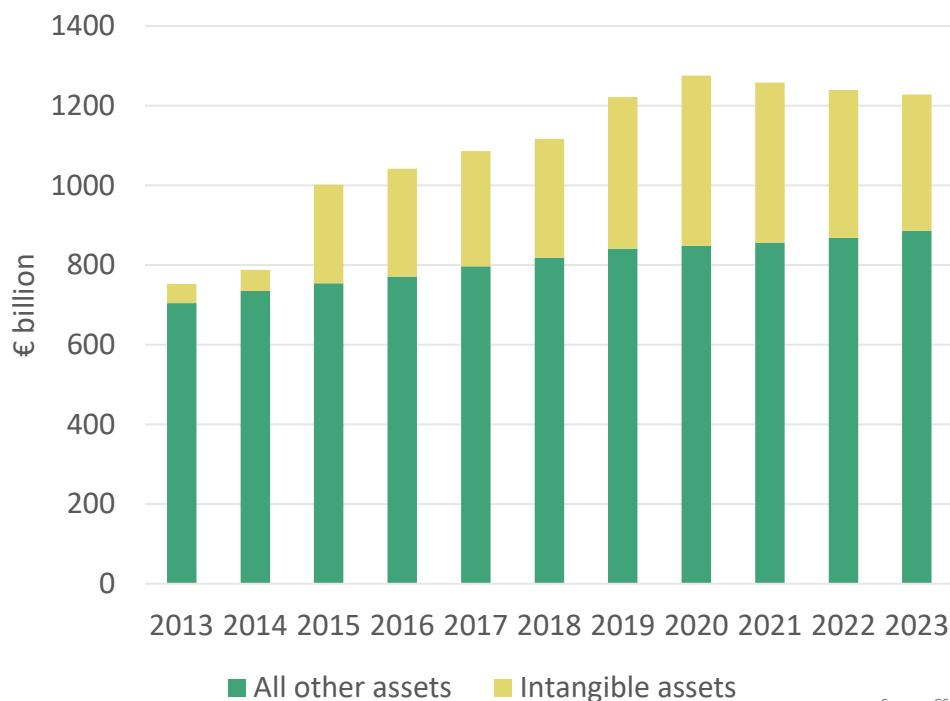
Source: CSO, Eurostat, ILCU, SPDJI, Irish Department of Finance

Note: Retail sales, payroll employees, HICP and house prices are calculated as m-o-m% 3mma. Income tax is the monthly tax revenue; November includes income tax for those who are self-employed.

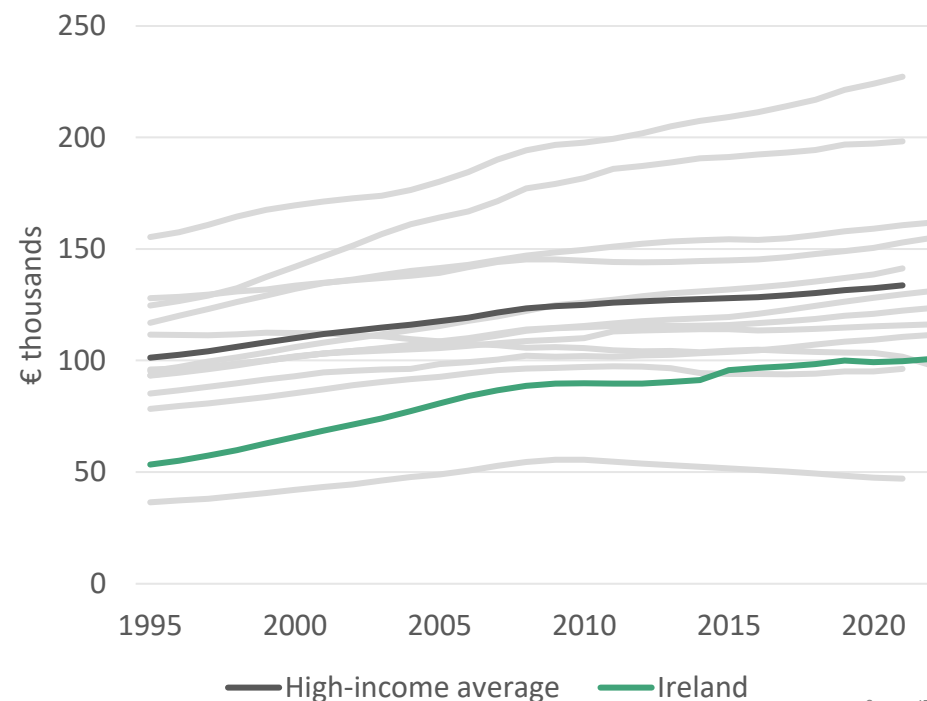
Continued need for infrastructure investment

Physical capital stock in Ireland has not met the demand for infrastructure and is below high-income average

The proportion of fixed assets that are intangible increased from 6.5% in 2013 to a peak of 33.5% in 2020



Real net capital stock per capita below European high-income average (after accounting for multinational distortions)



Note: Intangible fixed assets include computer software, R&D, works of art and mineral exploration. High income countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Norway and Sweden.

Fiscal

Large surplus in 2024 due to CJEU/Apple proceeds and continued corporate tax strength

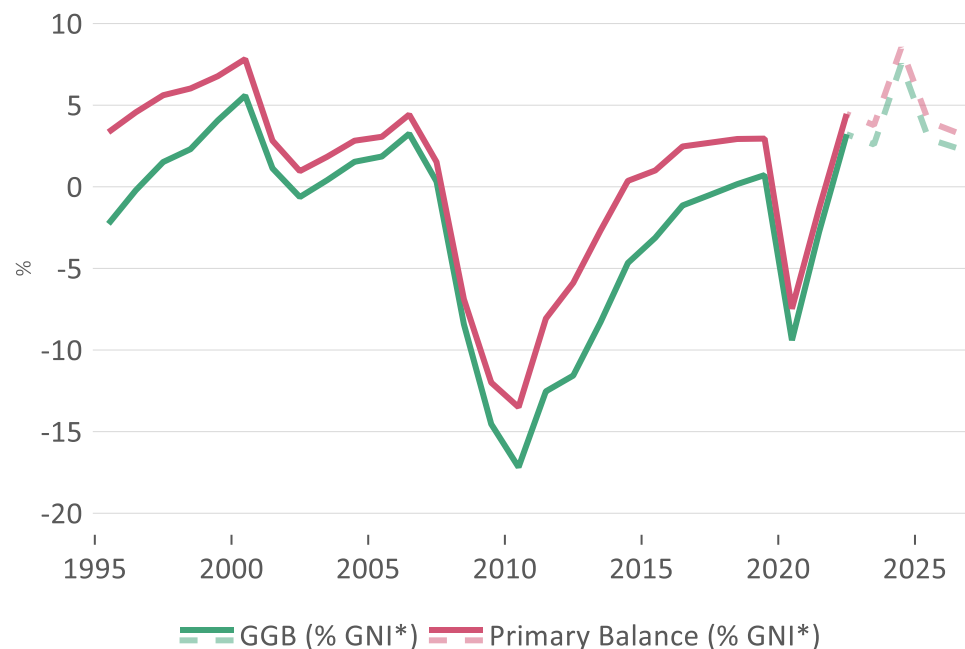
Sovereign Funds established



Fiscal surplus in Ireland – c. €8bn in 2024

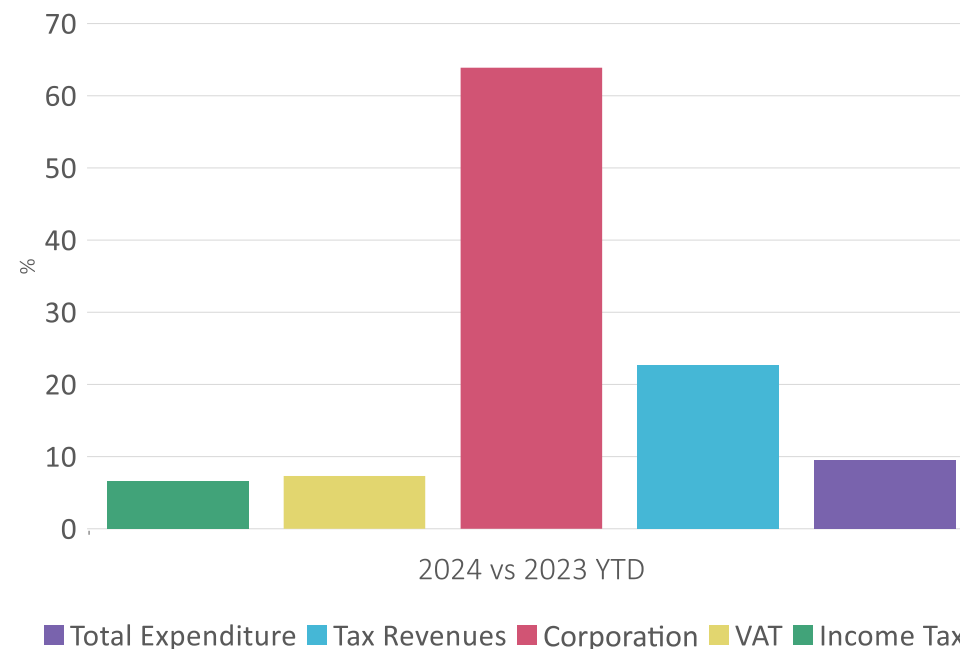
CJEU case proceeds plus robust CT revenues mean surpluses expected despite increases in expenditure

2024 General Government surplus expected to be c. 7% of GNI* on back of strong CT receipts and CJEU ruling



Source: CSO

Income tax and VAT both up c.7% in 2024, huge CT growth both cyclically as well as due to CJEU/Apple case proceeds

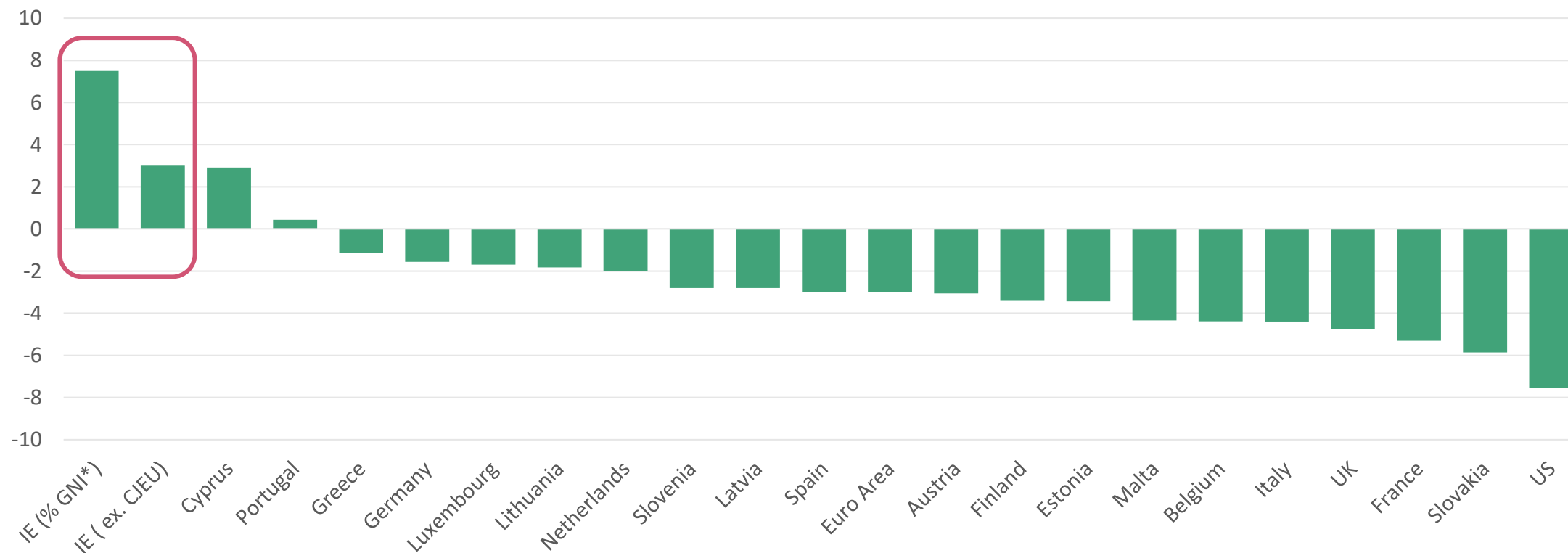


Source: Irish Department of Finance

LHS chart: GG and primary balance numbers used exclude banking recapitalisations during GFC. For General Government statistics, the €14.1bn Apple case proceeds must be recognised immediately although the cash has not yet been received. It will likely be received over the next six months. RHS chart: Expenditure is Total Gross Voted Expenditure

Surplus after one-off proceeds still strong

Fiscal position points to question of how to prudently manage such surpluses

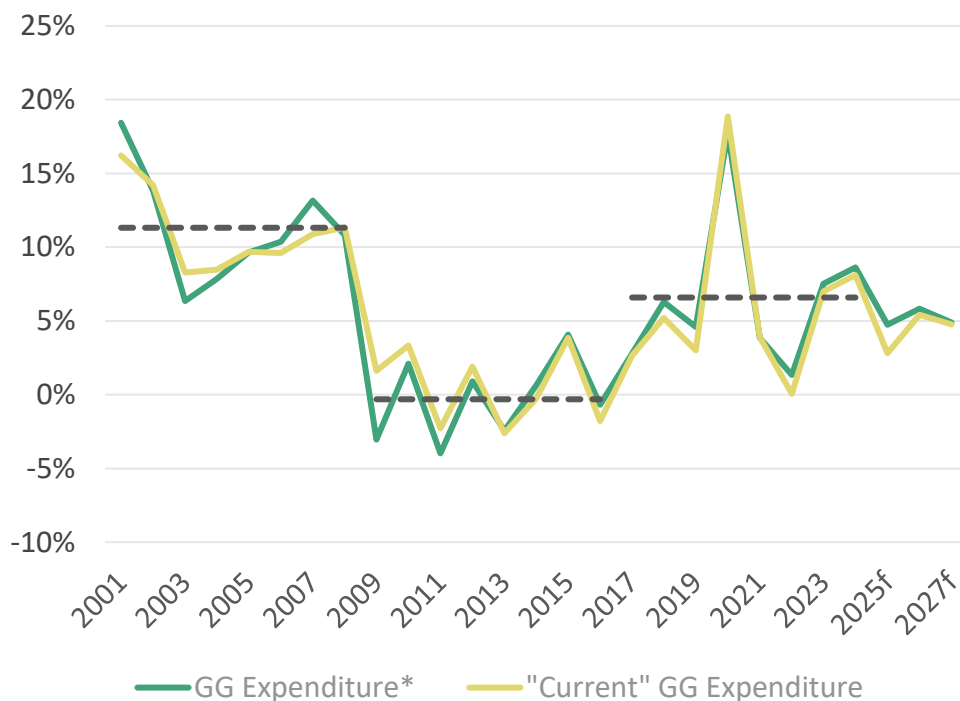


Note: Irish forecast based on Department of Finance Budget 2025 forecasts and most recent Exchequer Returns data. Forecasts for other countries taken from the European Commission's Autumn 2024 Forecasts.

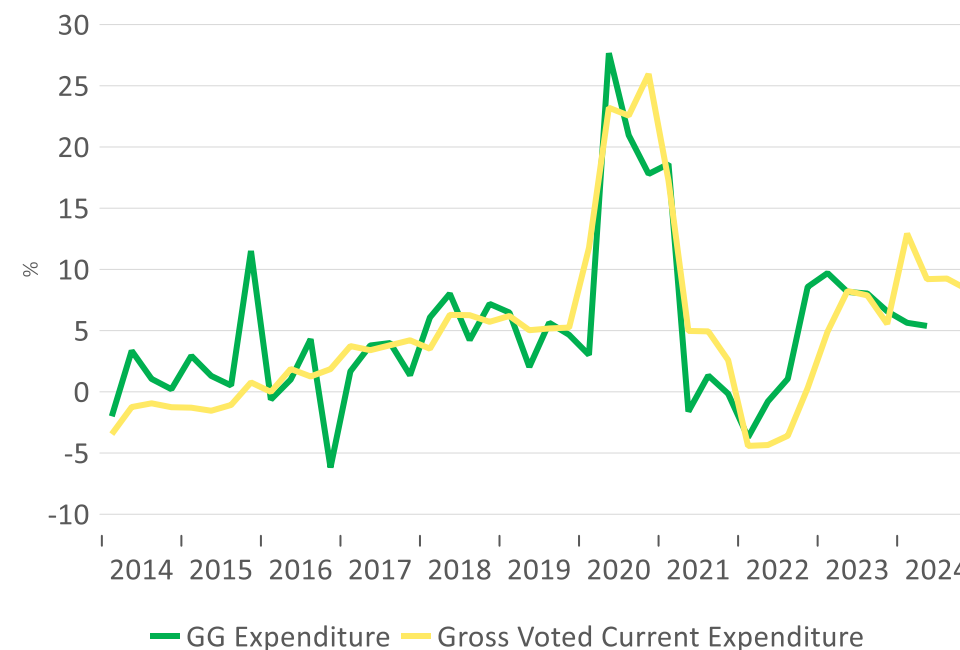
Expenditure spiked in 2024

Latest forecasts expect spending growth to be well above 5% spending rule in 2024 and 2025

Recent trend on expenditure growth in between loose 2000-2008 period and austere 2009-2017 period but...



...clear spike in gross current voted expenditure in 2024 (annual growth rates)



Source: Irish Department of Finance, CSO

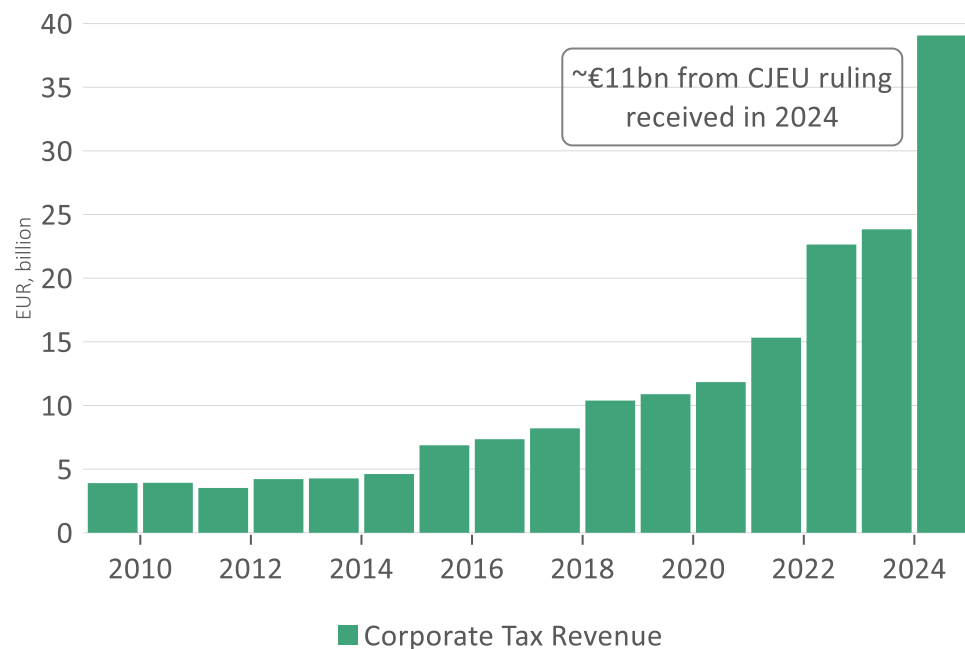
Source: Department of Finance, CSO, Forecasts from Budget 2025

LHS: * GG expenditure excludes banking recapitalisation costs. "Current" GG exp = GG exp minus govt. GFCF. RHS: 3 month-on-3month growth used.

Corporate tax – strong growth but obvious concentration risk

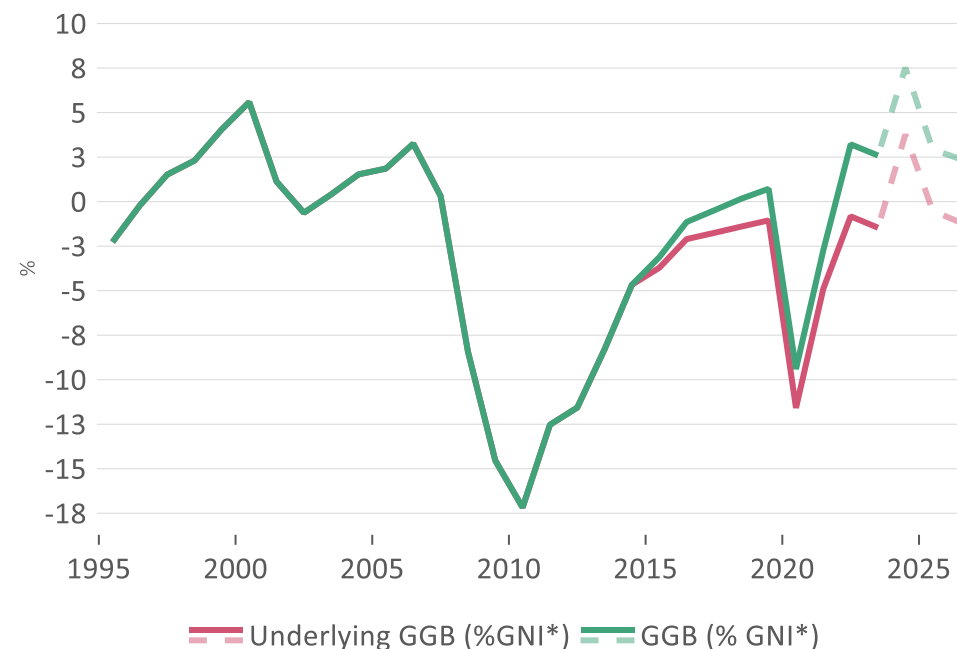
Two new sovereign investment funds (FIF/ICNF) help to safeguard portion of CT receipts

CT revenue was €23.8bn in 2023 and double 2020 level – forecasts suggest €28.2bn received in 2024 (excluding CJEU)



Source: Irish Department of Finance

Underlying GGB suggests Ireland would be in deficit in 2024 if excess CT and CJEU ruling windfalls excluded (-2.2% of GNI*)



Source: CSO

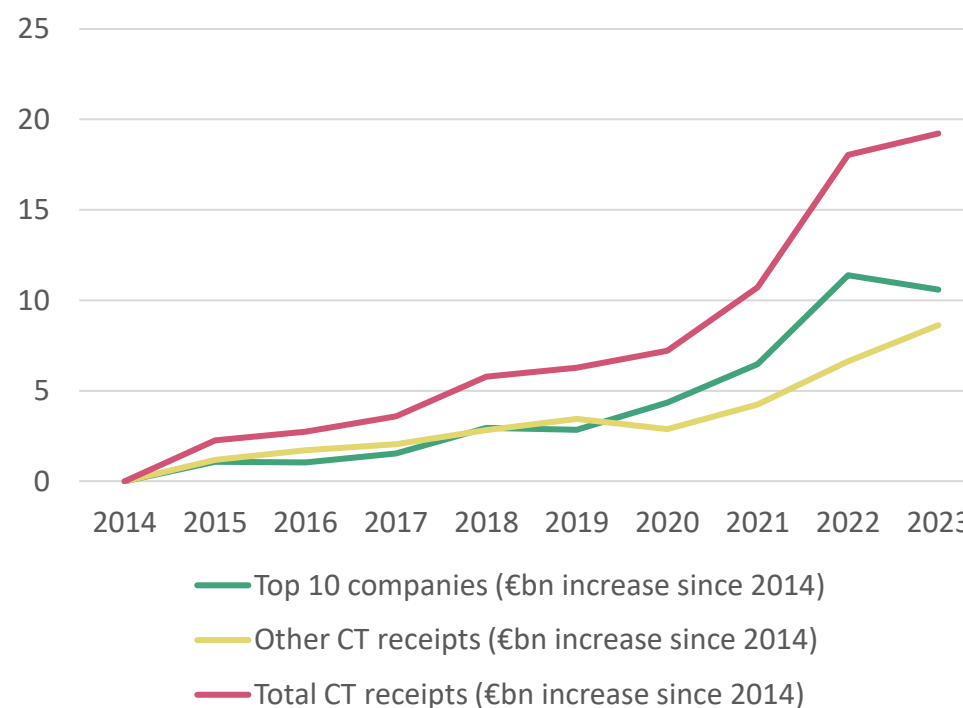
Note: The Department of Finance’s underlying general government balance is the GGB excluding the Government’s estimated windfall corporation tax receipts (windfall estimated at €15.9bn for 2024) and the Apple case proceeds.

Multinationals at core of CT payments

Manufacturing the top driver in CT but chemical and pharma fell versus 2022

CT paid (€m)	2023	vs. 2022
Manufacturing	9,073*	-1,005
ICT	4,131	-53
Fin and Insurance	3,593	+895
Wholesale, retail	2,700	+408
Admin and Support	1,609	+410
Prof, Sci, Tech	844	+184
Construction	543	+74
Mining, Quarry, Utilities	327	+23
Other	1,021	+261

Top 10 driving recent CT surge until 2023 – likely top 3 companies pay c. 40% of all CT receipts (Fiscal Council analysis)

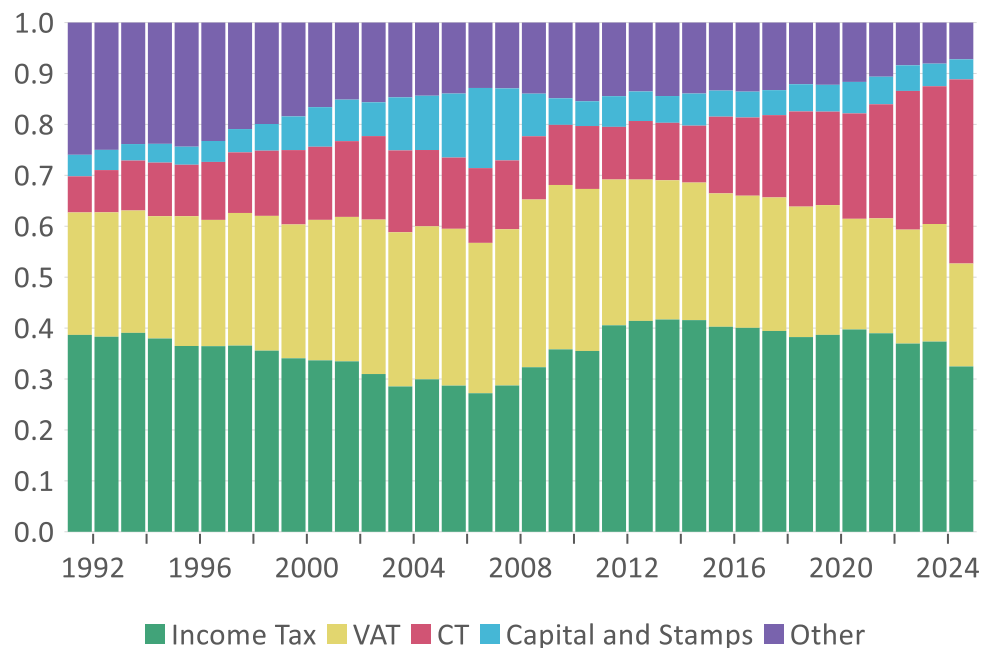


Source: Revenue Report 2024. *€3,884m chemical and pharma manufacture (- €1,651m on 2022), €4,248m ICT manufacture (+ €460m on 2022)

Corporate tax – critical revenue source

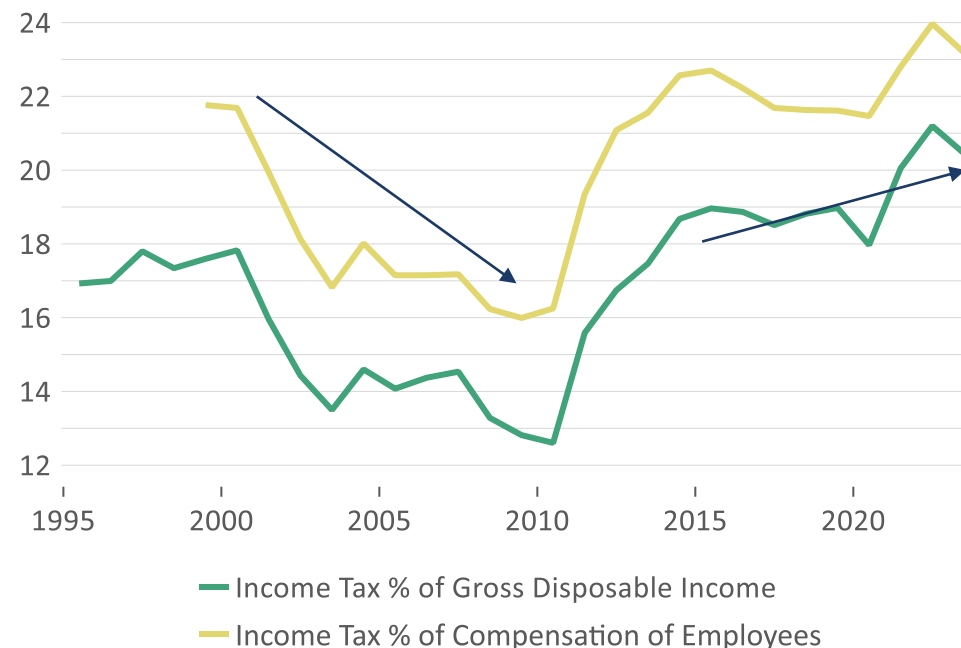
CT accounts for 29% of tax receipts, it was 11% a decade ago

CT accounts for 29% of tax receipts after excluding CJEU ruling; spillovers to Income Tax/VAT from MNC employees



Source: Irish Department of Finance

Income tax base was narrowed massively in early 2000s; In recent years we have seen no such narrowing



Source: CSO, Irish Department of Finance

FIF/ICNF funds established; first transfers have been made

New funds help to mitigate to excess CT risk

Future Ireland Fund (FIF) - €8bn AUM

- The FIF is a long-term savings fund which intends to contribute to exchequer expenditures in 2040s onwards (e.g., for population ageing, the digital & climate transitions).
- Legislation sets out that 0.8% of GDP (c. €4-6bn per annum) to be transferred to the FIF each year out to 2035.
- Just over €8bn now sits in the FIF. To start, €4bn of €6bn in the National Reserve Fund (NRF, or Rainy Day Fund) was transferred to FIF. The transfer of 2024's 0.8% of GDP contribution brings the FIF to €8bn. In time, the Government suggest as much as €100bn could reside in the FIF.
- The Funds are to be managed and controlled within the NTMA.

Infrastructure, Climate and Nature Fund (ICNF) - €2bn AUM

- The ICNF's mandate is to help the state meet its considerable infrastructure and green climate needs.
- In the past, Ireland has fallen into the trap of cutting capital investment in downturns. This fund will act as a reserve to be drawn on for capital expenditure if a downturn arises.
- To start the fund off, the remaining €2bn in the NRF has been transferred into the ICNF. From 2025 to 2030, €2bn a year will be transferred into the ICNF from the Exchequer.
- There are clear rules on how money can be drawn down with Irish Fiscal Advisory Council to play a role.
- A portion of the ICNF can be drawn down if needed to help meet climate and nature targets.

Apple: CJEU confirms EC decision

CJEU set aside General Court decision meaning escrow funds go to Ireland

- In 2016, the European Commission ruled that Ireland provided State aid of up to €13bn, plus interest to Apple. The Irish position has always been that Ireland does not give preferential tax treatment to any companies or taxpayers.
- Apple appealed the ruling, as did the Irish Government. The General Court granted the appeal in July 2020, annulling the EC's ruling. The Commission then appealed to a higher court: the Court of Justice of the European Union (CJEU).
- In September 2024, the CJEU set aside the judgement of the General Court and gave a final judgment in the matter. The CJEU confirmed the Commission's decision that Ireland granted state aid. The case involved an issue that is now of historical relevance only; the Revenue opinions date back to 1991 and 2007 and are no longer in force. The proceeds amount was based on the tax foregone owing this period. The Irish Government closed this provision in December 2014.
- The process of transferring the assets in the Escrow Fund to Ireland is underway with three-quarters of the total having been recouped by end 2024. In his Budget Speech, the Minister for Finance outlined the Government's intention to use the funds for long term infrastructure spending.
- As stated previously, the NTMA has not included these funds in any of its issuance plans.

Debt to GNI* likely falling to high 60s in 2024

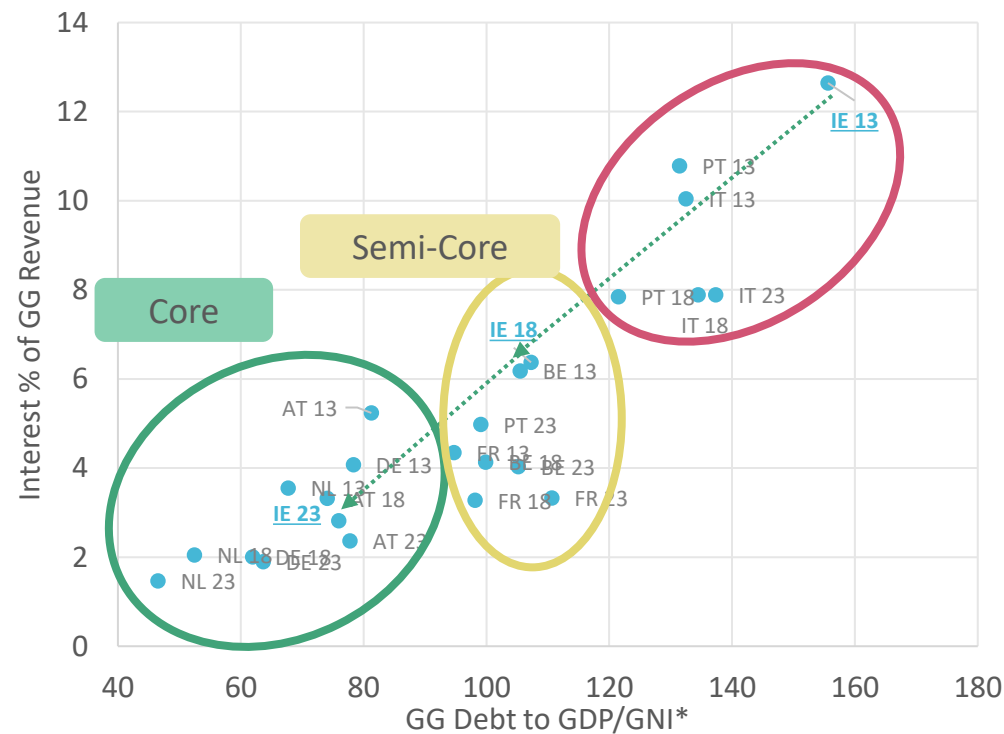
GG debt to GNI* to fall on nominal growth and surplus position

Debt to GNI* at 76% in 2023 and at 69% in 2024f; low debt to GDP means proposed EU fiscal rules won't impact Ireland



Source: CSO

Ireland's debt fundamentals have moved firmly into "core" space in recent years



Alternative Debt Metrics

Need to assess metrics other than debt to GDP when analysing debt sustainability

2024

	GG debt to GDP %	GG debt to GG revenue %	GG interest to GG revenue %
Greece	154	317	7.1
Italy	139	294	8.4
France	112	217	3.9
Spain	106	242	5.8
Belgium	105	207	4.2
UK	104	247	7.0
Portugal	96	218	4.9
EA 19	90	193	4.0
EU 27	82.9	180	4.0
Austria	78	156	2.7
Ireland	41 (69 GNI*)	145	2.1
Cyprus	71	163	3.2
Slovenia	68	151	3.1
Germany	63	135	2.0
Slovakia	58	141	3.2
Netherlands	47	110	1.6

Source: DG ECFIN, Irish Department of Finance

Source: Forecasts from the SPU 2024 and the European Commission's Spring 2024 Forecasts. Irish revenue figures temporarily inflated in 2024 by one-off Apple case proceeds

NTMA Funding

2025 funding range €6bn - €10bn



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency



NTMA funding range for 2025: €6bn to €10bn

€3bn issued in January ; cash balance is elevated but expected to fall

Cash

Tax strength alongside Apple proceeds means Ireland in strong cash position.

The cash balance was €34bn at end 2024 but expected to fall through 2025

WAM

Weighted average maturity of debt one of longest in Europe.

NTMA issuance since 2022 of €20bn at WAM of 14.9 years and average interest rate of 2.3%.

AA

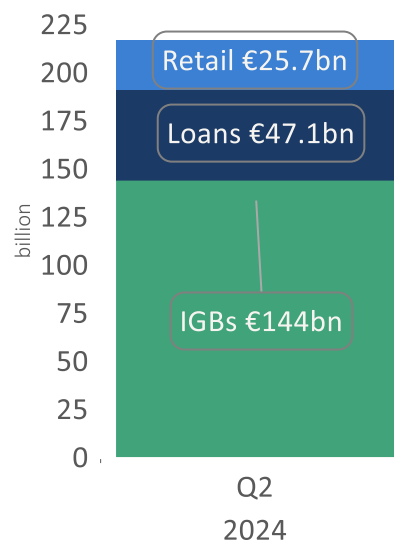
Ireland rated in the AA category with all major rating agencies.

Fitch and DBRS upgraded to AA in 2024 while S&P is at AA (positive). Moody's remains at Aa3 but with a positive outlook.

Smooth maturity profile

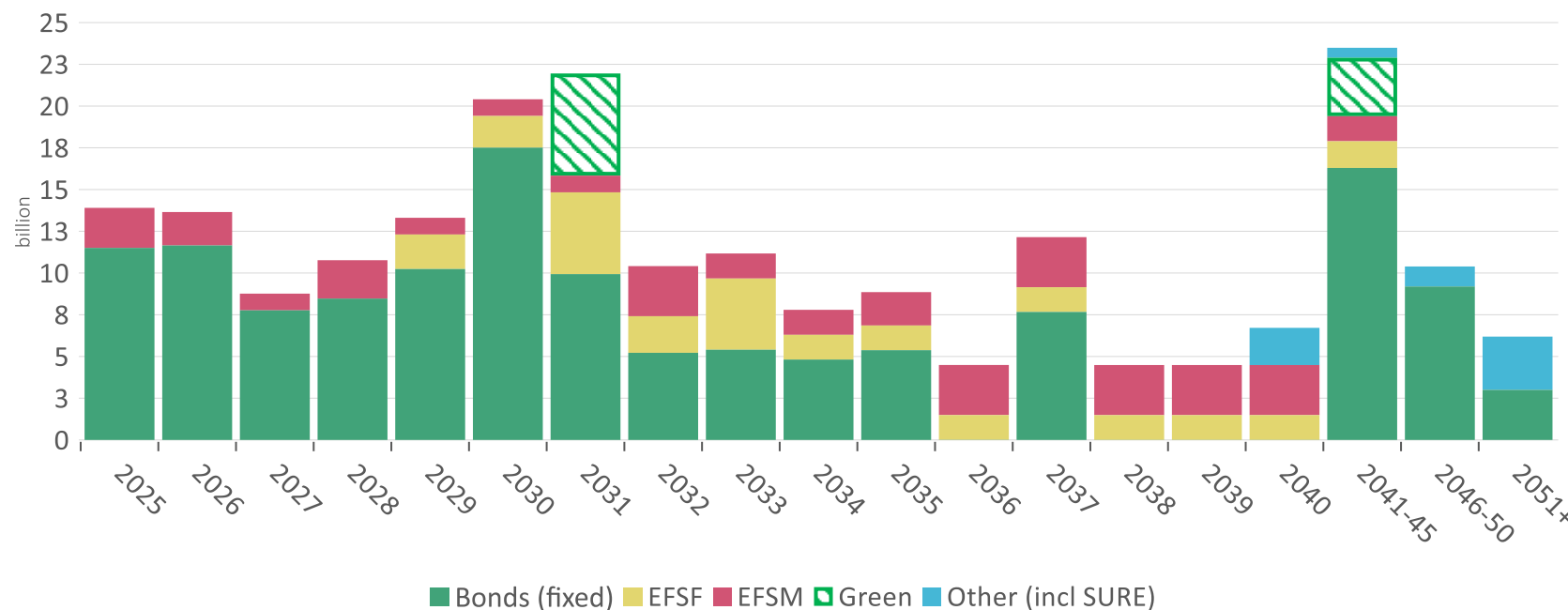
Redemptions are modest in coming years

GG debt of €216bn (Q2 2024)



Source: Eurostat

Marketable debt profile

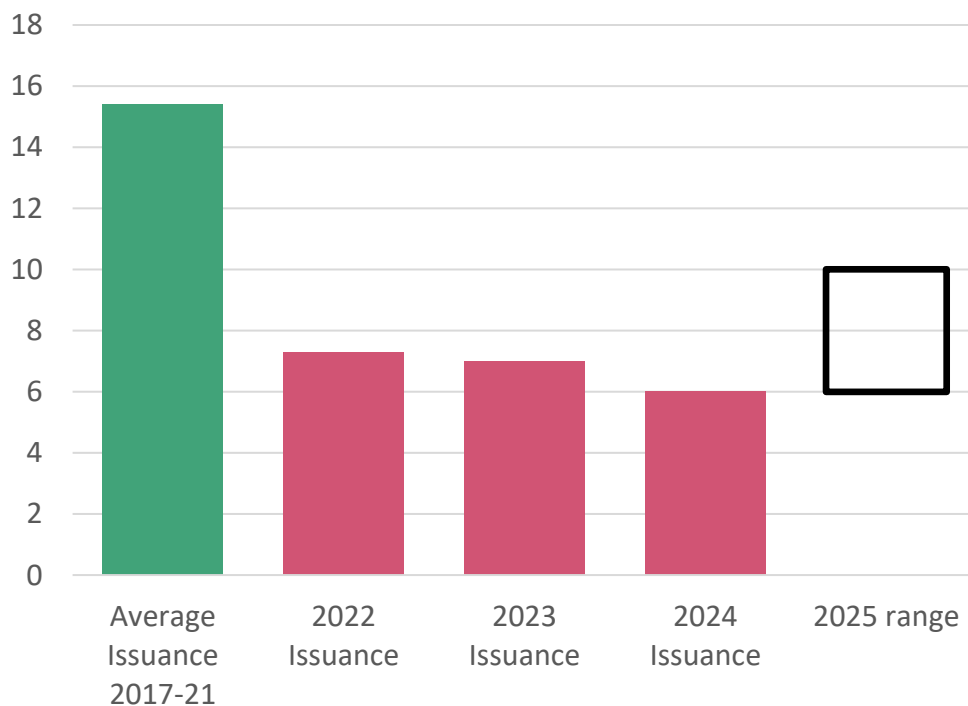


Source: NTMA

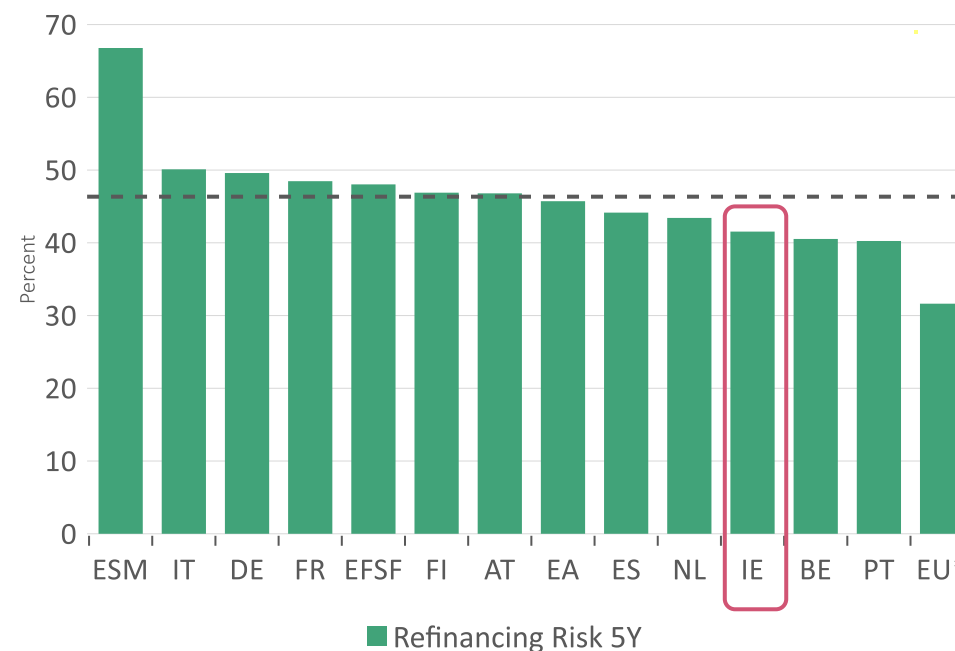
Low supply expected given strong surpluses

Redemptions in next 5 years are modest compared to rest of Europe

Current borrowing requirements suggest NTMA issuance will be similar to recent years (€bns)



Ireland's refinancing risk is low – Ireland below euro area in what is to mature in the next five years



Source: ESDM

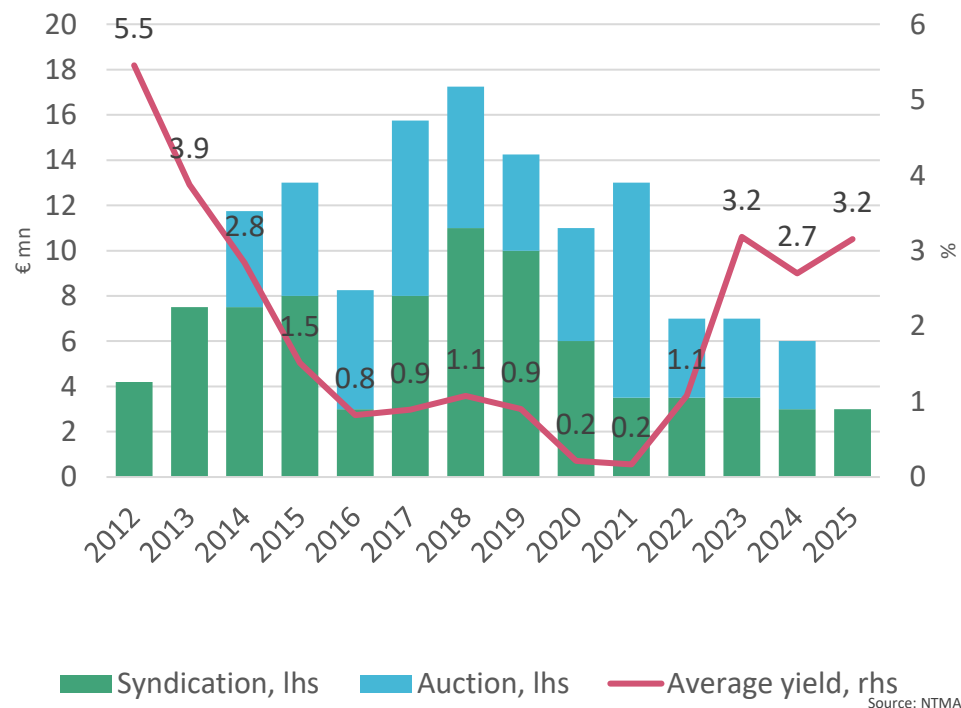
Refinancing rate defined as debt maturing within five years divided by total debt outstanding, Q2 data from ESDM.

* EU data is EU as an issuer

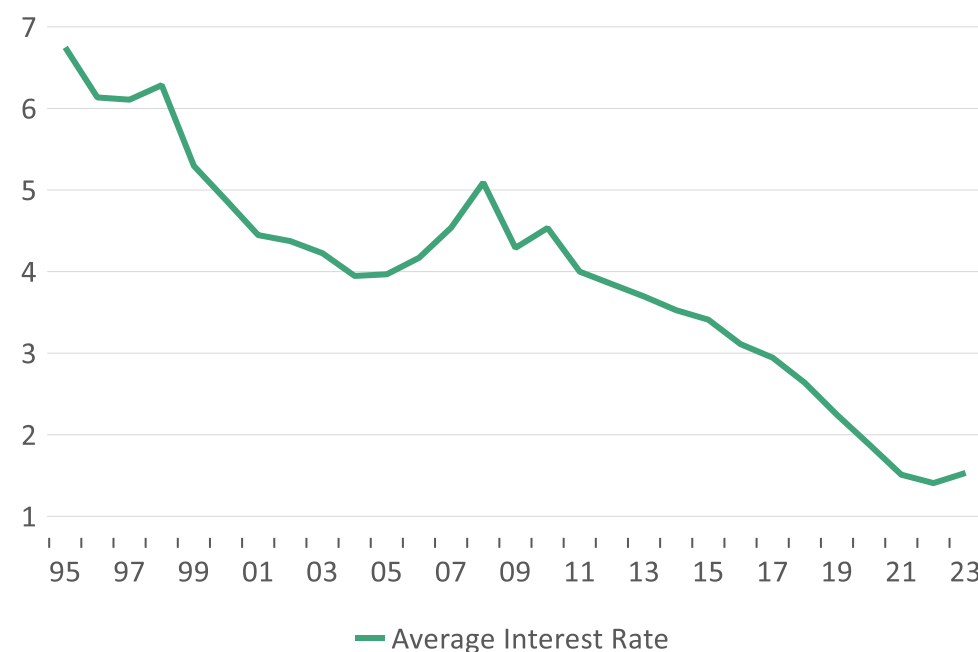
Borrowing costs anchored

Ultra-low rate era well in rearview mirror but Ireland used that period well

Modest issuance in 2023-25 at more normalised rates - €16bn issued at circa 3.0%



Vast majority of Irish debt is fixed rate at average cost of 1.6%



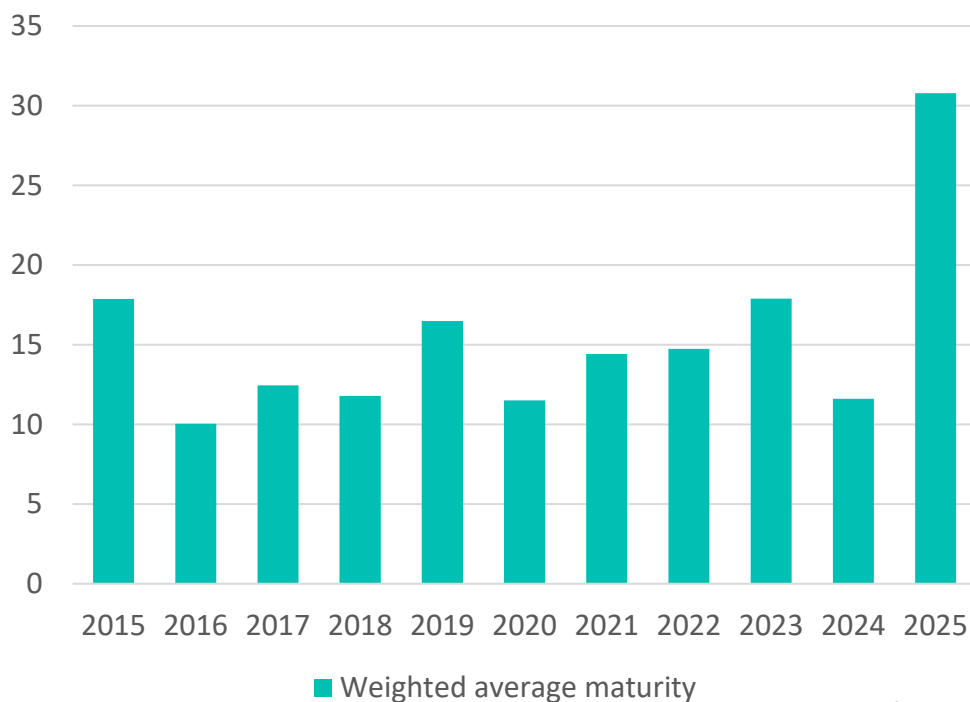
Source: CSO

Note: LHS chart includes only auctions and syndication

NTMA weighted maturity longer than most

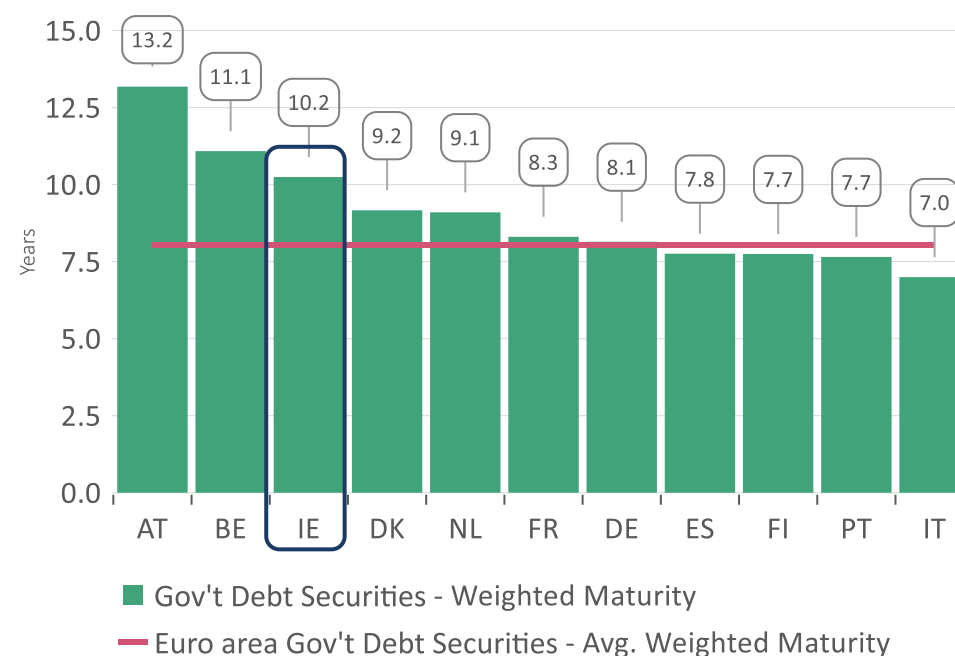
Debt management strategy has extended debt profile

Benchmark issuance has extended the maturity of Government debt since 2015



Source: NTMA

Ireland's debt securities (in years) compares favourably to other EU countries



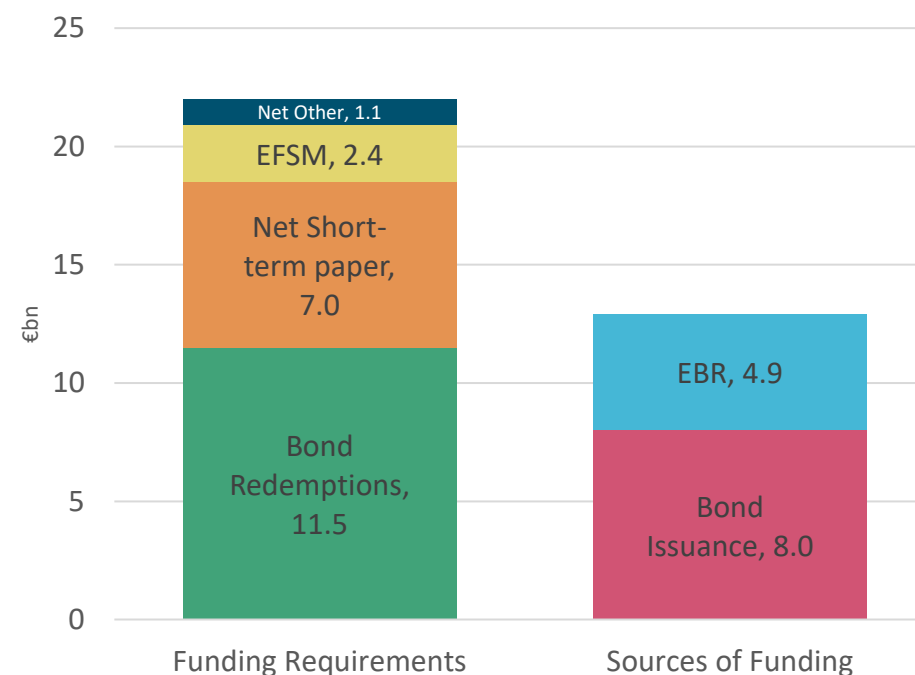
Source: ECB

Note: For RHS, weighted maturity for Ireland includes Fixed rate benchmark bonds, Amortising Bonds, Notes issued under EMTN programme, T-Bills and ECP Data. It excludes programme loans and retail.

Funding needs and sources for 2025

Tax receipts and CJEU/Apple proceeds means cash balance larger than expected

- There is a bond redemption of €11.5bn in March this year. There was also a EFSM repayment of €2.4 due.
- The Exchequer Borrowing Requirement (EBR) for 2025 is expected to be a surplus (hence shown as funding source). It includes the remaining c. €3bn in cash receipts from the CJEU/Apple case proceeds.
- The NTMA held significant cash & liquid asset balances throughout 2024. The balance at year-end was €34.3bn. We are currently forecasting the cash & liquid asset balance to be approx. €25bn for end-2025.



Source: NTMA

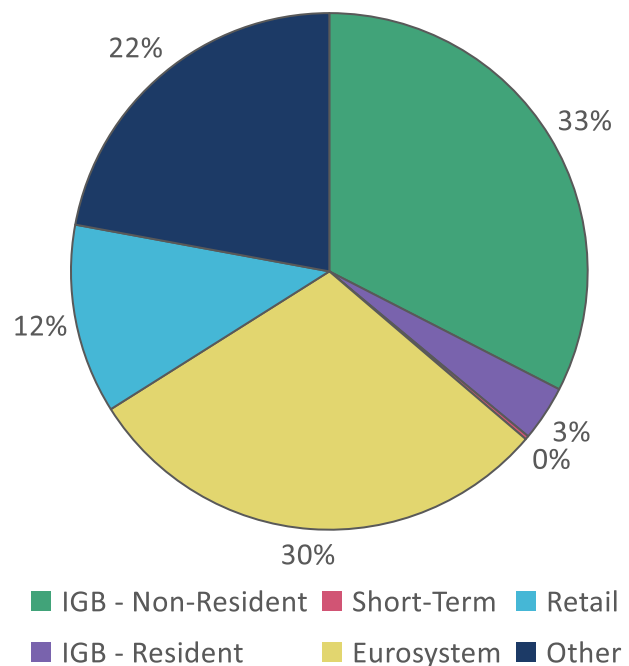
Rounding may affect totals.

1. In the funding sources column, €8bn is reflective of the midpoint of the €6-10bn funding range.
2. EBR is the Budget 2025 estimate adjusted for the additional Court of Justice of the European Union judgement proceeds received in 2024.

Diverse holders of Irish debt

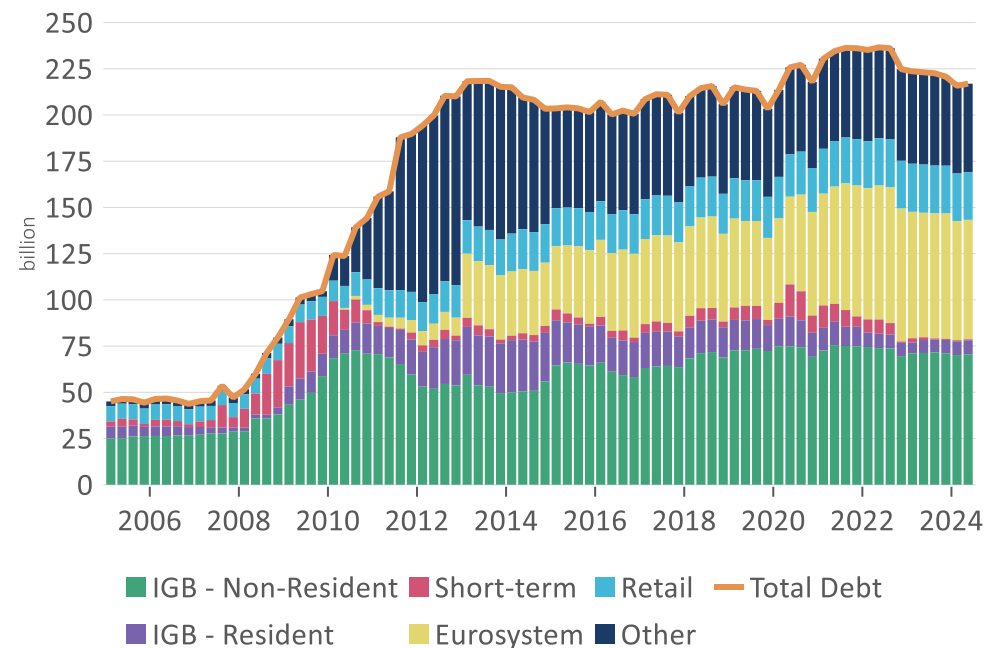
“Sticky” sources account for nearly two-thirds of debt

Ireland split roughly 85/15 on non-resident versus resident holdings



Source: Eurostat, ECB, Central Bank of Ireland

“Sticky” sources – official loans, Eurosystem, retail – make up c. 65% of Irish debt



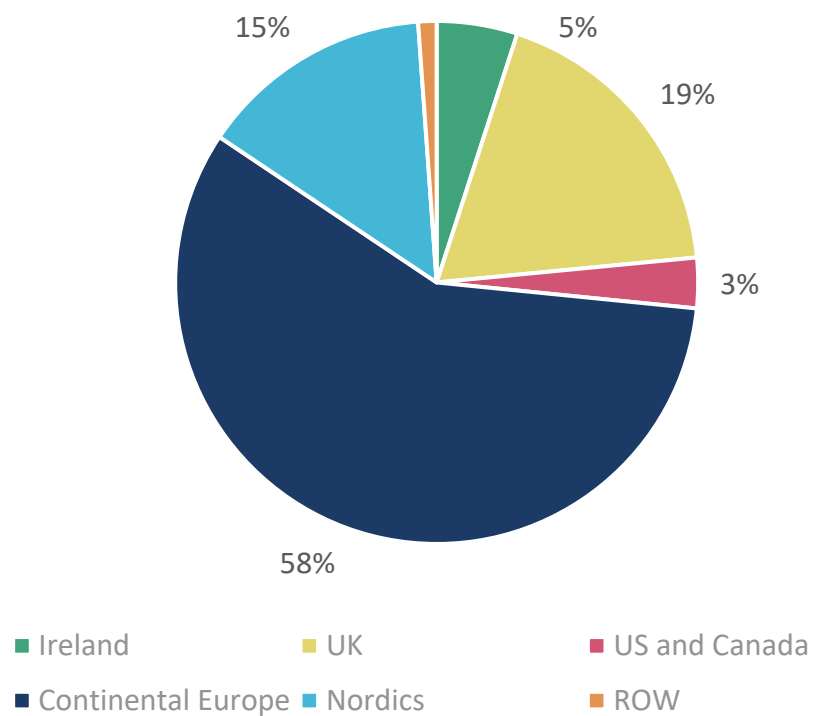
Source: Eurostat

Note: IGBs excludes those held by Eurosystem. Eurosystem holdings include SMP, PSPP, PEPP and CBI holdings of FRNs. Figures do not include ANFA. Other debt has included IMF, EFSF, EFSM, Bilateral as well as IBRC-related liabilities over time. Retail includes State Savings and other currency and deposits. The CSO series has been altered to exclude the impact of IBRC.

Investor base

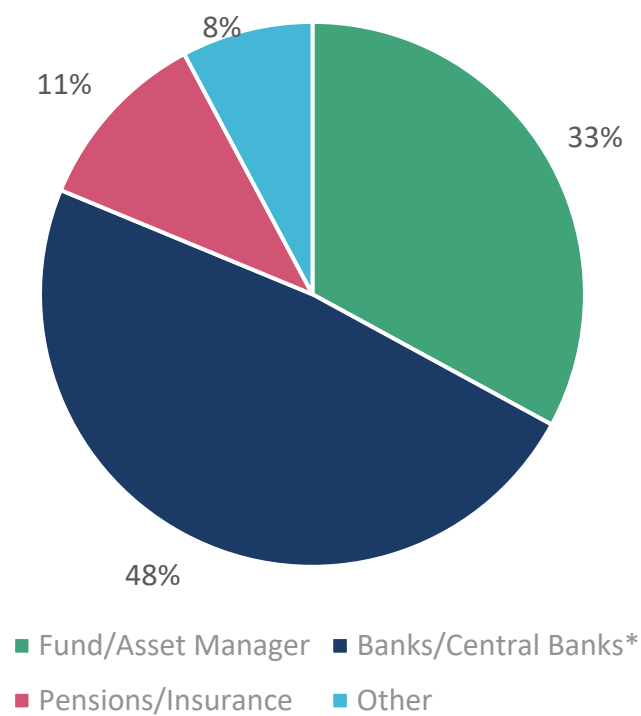
Demand for Government bonds is wide and varied

Country breakdown: Average over last five syndications



Source: NTMA

Investor breakdown: Average over last five syndications



Source: NTMA

* Does not include ECB.

Credit Ratings for Ireland

Three ratings agencies on positive outlook; Ireland rated in AA category by all

Rating Agency	Long-term	Short-term	Outlook/Trend	Date of last rating change	Date of next review
Standard & Poor's	AA	A-1+	Positive	May 2023	21 March
Fitch Ratings	AA	F1+	Stable	May 2024	9 May
Moody's	Aa3	P-1	Positive	Apr 2023	14 Feb
Morningstar DBRS	AA	R-1(high)	Stable	Sept 2024	14 March
R&I	AA-	a-1+	Positive	Feb 2022	H1
KBRA	AA	K1+	Stable	May 2023	Q2
Scope	AA	S-1+	Stable	Aug 2024	14 Feb

ESG Sustainability

Issuance & government policy
demonstrate Ireland's green commitment



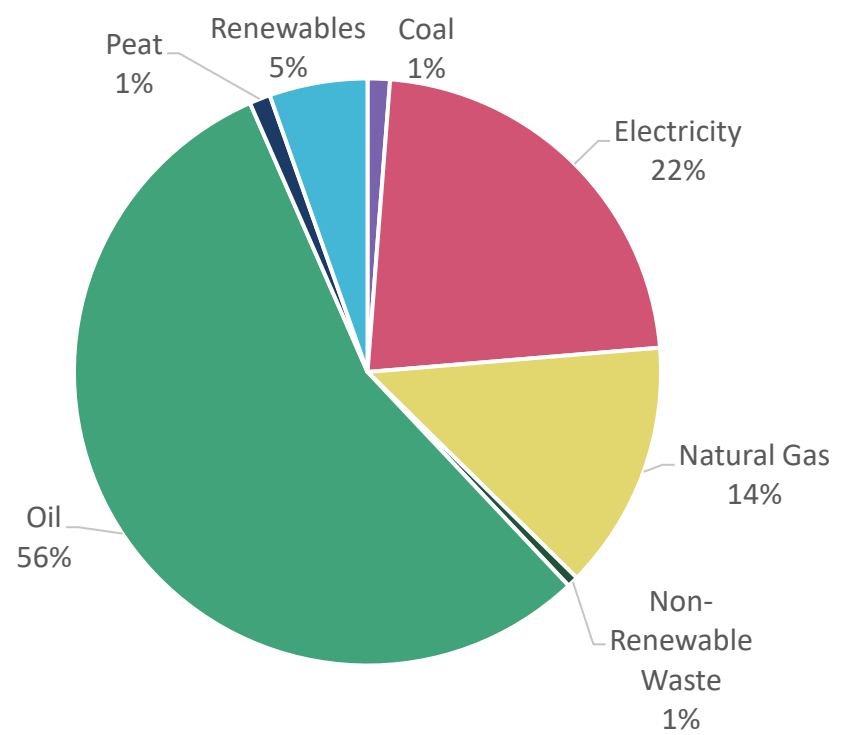
Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency



Ireland's energy: fossil fuels prevalent

Ireland's energy mix is reliant on fossil fuels but share of renewables to increase by 2030

Oil accounts for the largest share of Ireland's energy mix (2023 data)



Electricity production has become more renewables based but still far from Climate Action Plan aim of 80% by 2030

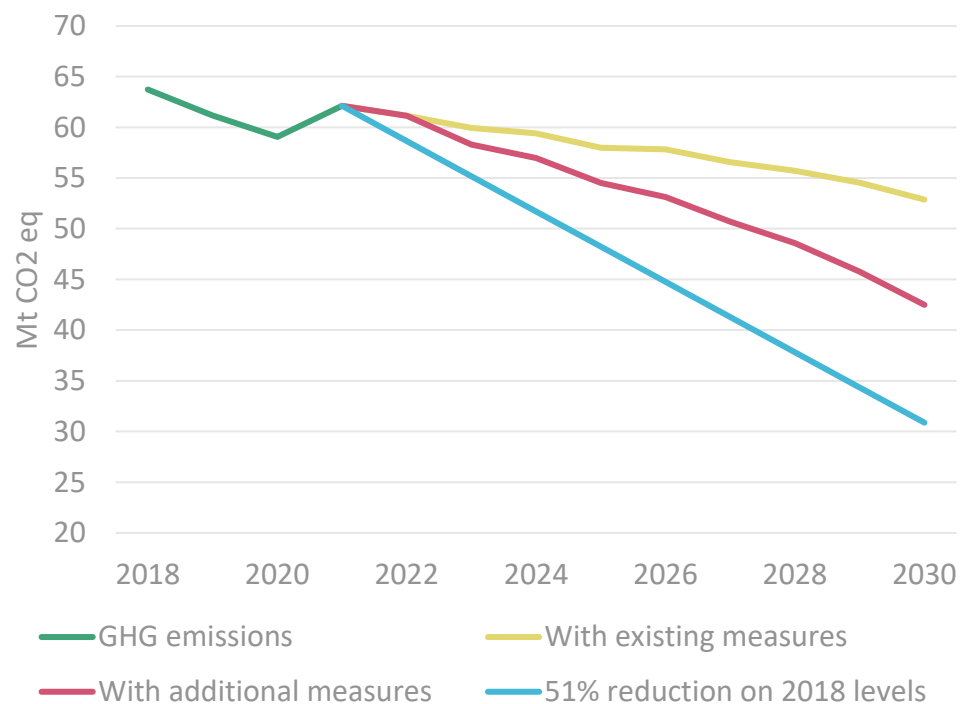


Source: SEAI

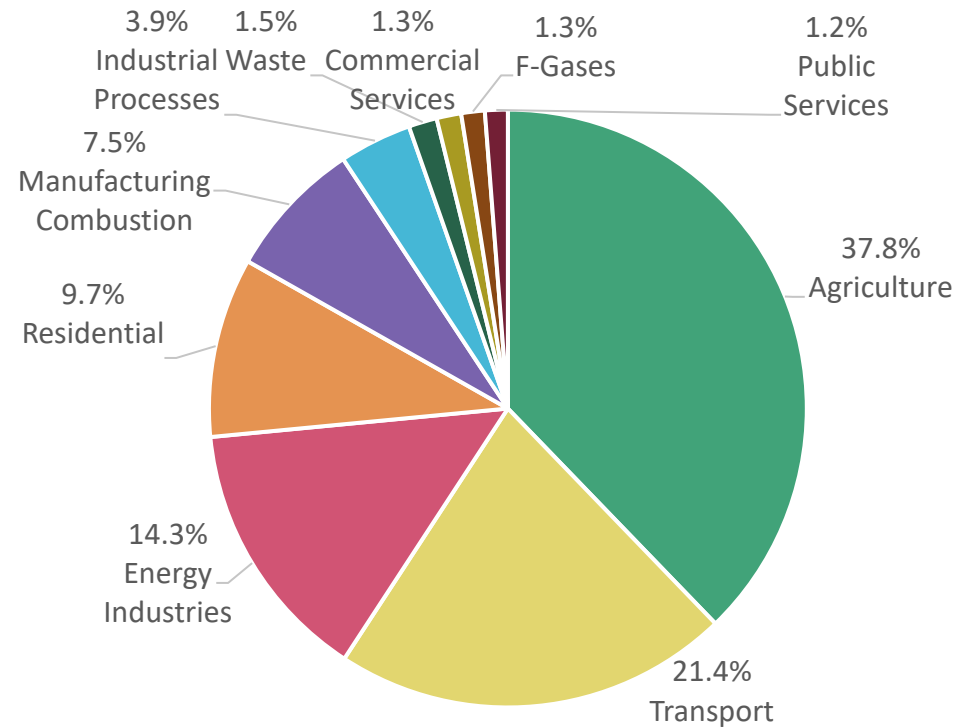
Ireland's greenhouse gas emissions

EPA report notes further measures needed to achieve emissions reduction target

EPA projections indicate Ireland will fall short of the 51% reduction target for 2030



Emissions from agriculture make up a significant portion of the total in Ireland



Source: Environment Protection Agency (Ireland). Note: Metric used is million tonnes carbon dioxide equivalent (Mt CO2eq). RHS is provisional 2023 data.

Climate Action Legislation

The Climate Action & Low Carbon Development Act 2021 aims for Net Zero by 2050

Climate Action & Low Carbon Act:

- **Carbon Budgeting:** The Act embeds the process of carbon budgeting into law. It requires Government to adopt a series of economy-wide-five-year carbon budgets.
- **National Climate Objective:** First carbon budgets will aim for a reduction of 51% of emissions by 2030.
- **Climate Action Strategy:** A national plan will be prepared every five years and actions for each sector will be updated annually.
- **All of Government approach:** Local authorities are required to prepare a Climate Action Plan and public bodies obliged to conduct their functions in line with the national plan
- **Progress:** At the end of 2023, Ireland was exactly 60% through the 2021-2025 carbon budget and is over-emitting against its CAP targets (SEAI analysis).

*F-gases, Petroleum Refining and Waste

** EPA Projections under the With Additional Measures scenario

Carbon Budget & Sectoral Ceilings

Budget Period	2021-2025	2026-2030	2031-2035 (provisional)
MtCO ₂ eq	295	200	151
Average Annual Reduction	4.8%	8.3%	3.5%

Sector	Target reduction by 2030 vs. 2018	Projected** reduction 2030 vs. 2018
Electricity	75%	62%
Transport	50%	41%
Buildings (Commercial and Public)	45%	50%
Buildings (Residential)	40%	48%
Industry	25%	11%
Agriculture	25%	19%
Other*	50%	21%

Climate Action Plan 2024

Pillars to tackle emissions reduction

Powering renewables

- 9GW onshore wind, 8GW solar and at least 5GW offshore wind by 2030
- Phase out and end use of coal and peat in electrical generation
- Transform flexibility of electricity system by improving system services and storage capacity

Building Better

- Retrofit 500,000 dwellings by 2030
- Put heat pumps into 680,000 homes by 2030
- Generate 2.7TWh of district heating by 2030
- Improve carbon sequestration and reduce management intensity of drained soils on grasslands

Transport

- Reduce distance driven across all car journeys by 25%
- Walking, cycling, public transport will account for 50% of journeys
- 1 in 3 private cars will be EV's
- Increase rural bus routes and frequency

Agriculture

- Reduce use of chemical nitrogen as fertiliser
- Increase organic farming to 450,000 hectares
- Expand indigenous biomethane sector
- Contribute to delivery of land use targets for afforestation, reduce mgmt. intensity of organic soils
- Increase uptake on protected urea on farms to 90-100%

Enterprise

- Reduce clinker content in cement and substitute products with lower carbon content for construction materials
- Reduce fossil fuel share of final consumption
- Increase total share of heating to 70-75% by 2030
- Grow the circular and bio economy

Land Use

- Increase annual afforestation rates to 8,000 hectares
- Promote forest management initiatives in forests to increase carbon sinks and stores
- Improve carbon sequestration and reduce management intensity of drained soils on grasslands
- Rehabilitate 33,000 hectares of peatlands

Irish Sovereign Green Bonds

Over 11bn issued in Green and allocated to green projects

Summary of Green Bond Issuance

- €11.38bn nominal outstanding across two bonds
- Cumulatively €11.3bn allocated
- Issuance through both syndicated sales and auctions
- Pipeline for eligible green expenditure remains strong
- Launched 2018 and based on ICMA Green Bond Principles – Use of proceeds model
- Governed by a Working Group of government departments chaired by the Department of Finance
- Compliance reviews by Sustainalytics
- Six annual allocation reports and five annual impact reports now published

Irish Sovereign Green Bond Impact Report 2022: Highlights*

Environmentally Sustainable Management of Living Natural Resources and Land Use

- Number of hectares of forest planted: 2,273
- Number of Landfill Remediation sites with funding drawn down: 67

Renewable Energy

- Number of companies (including public sector organisations) benefitting from SEAI Research & Innovation programmes as lead, partner or active collaborators: 23
- SEAI Research & Innovation awards: 41

Sustainable water and wastewater management

- Public side water savings (litres of water per day): 11 million
- New & upgraded water and wastewater treatment plants: 15
- Length of water main laid (total): 315km

*For a more detailed break-down please see the ISGB 2022 Impact Report

Irish Sovereign Green Bonds (ISGB)

Irish Sovereign Green Bond Impact Report 2022 & Allocation Report 2023: sample impacts

Some highlights from the report*

Built Environment/Energy Efficiency

- Non-residential energy saving (Gigawatt Hours): 151
- Number of homes renovated: 27,200

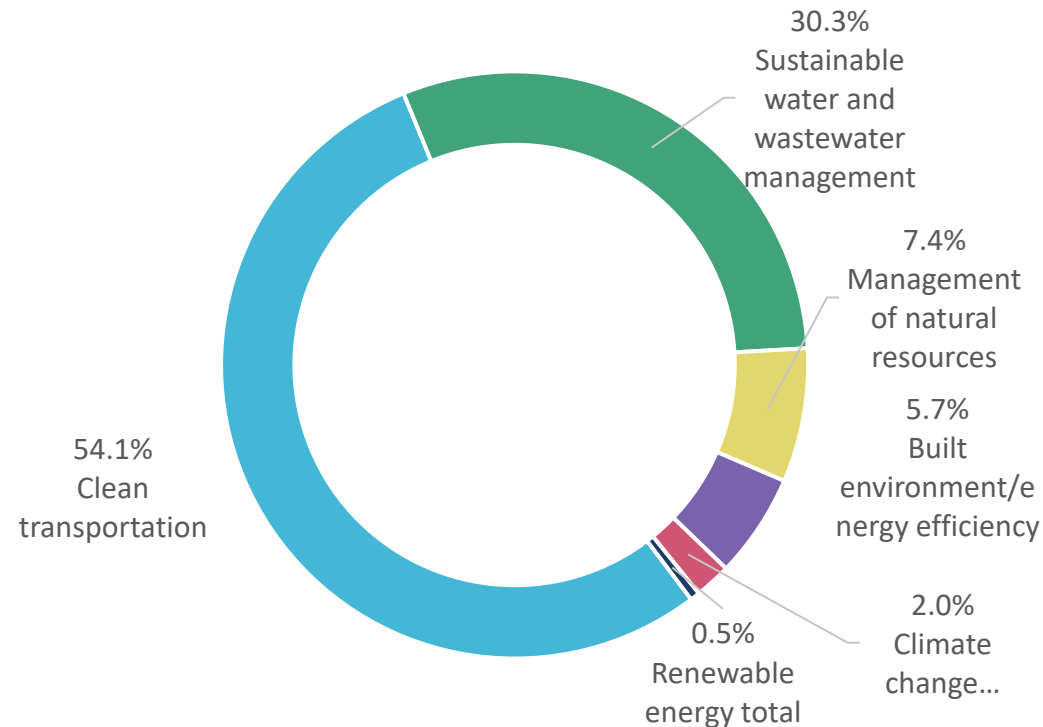
Clean Transportation

- Grant-aided EV home charging points installed: 16,299
- Number of public transport passenger journeys: 249.7 million
- Length of regional and national greenways constructed: 54km
- Take-up of Grant Schemes/Tax foregone provided (number of vehicles): 33,020

Climate Change Adaptation

- 16 major flood relief projects at planning, development or construction phase
- 8,913 properties protected on completion

Allocation in 2023 of ISGB funding has focused on Water/Waste management and transportation

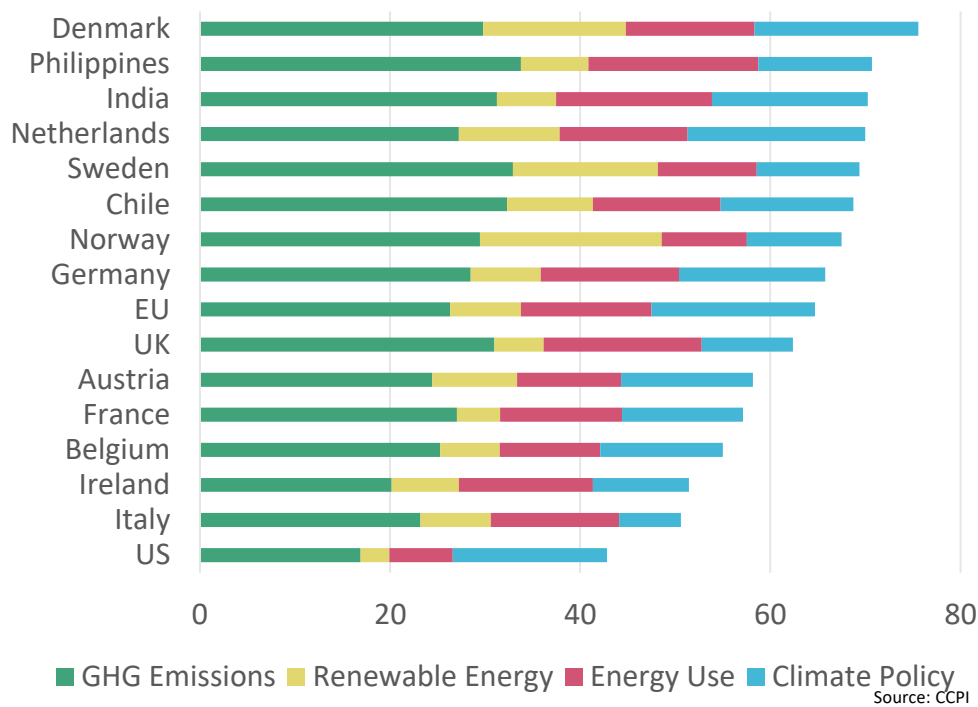


*For a more detailed break-down please see the Irish Sovereign Green Bond Allocation Report 2023

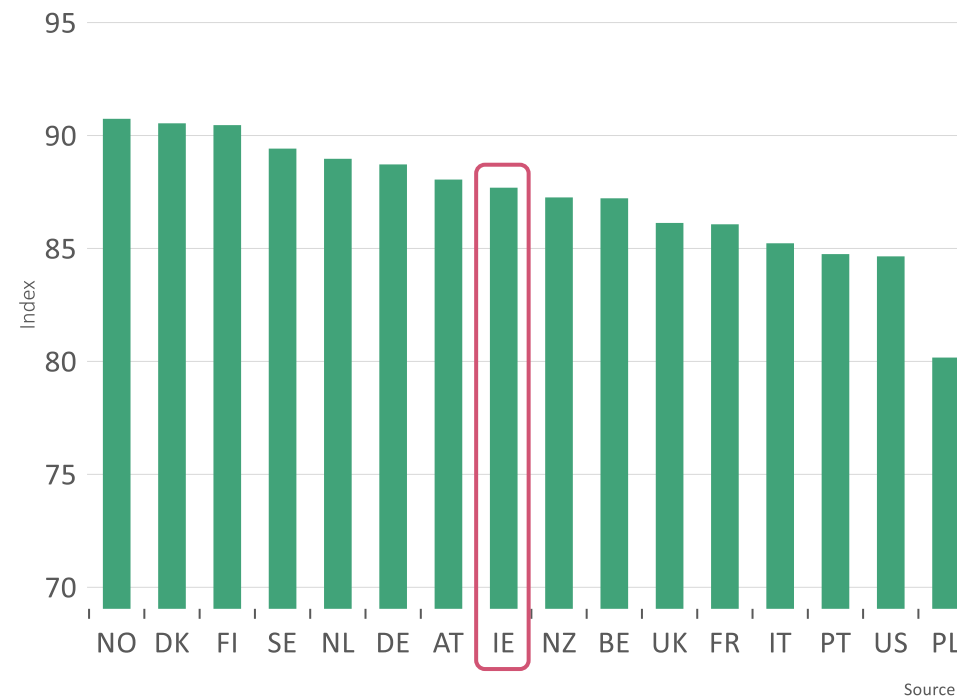
Further progress on 'E' and 'S' to be made

Action needed in sectors like energy and healthcare

Ireland ranks behind leaders like Denmark in current environmental metrics



Ranked 13th out of 160 countries in the Social Progress Index but scores lower on healthcare and housing affordability



Policy on Just Transition and Biodiversity

All of National Parks and Wildlife Service budget included in Green bond allocation

Just Transition

The importance of ensuring a just transition is explicitly recognised in the Climate Act 2021 and in the Climate Action Plans

- National Just Transition Fund 2020
 - €22.1m in grant funding provided to projects that contribute to the economic, social and environmental sustainability for the Wider Midlands region
- EU Just Transition Fund and Ireland's Territorial Just Transition Plan
 - Includes up to €169m in investment for the economic transition for the Midlands region for 2021-2027
- Green Skills for Further Education and Training 2021-2030 Roadmap
- Skills for Zero Carbon
- Just Transition Commission set up

Biodiversity

Irish policies for biodiversity are primarily set by the National Biodiversity Action Plans

- 4th National Biodiversity Action Plan 2023-2030
 - Backed by legislation, the NBP sets the agenda for biodiversity conservation and supports Ireland's international commitments
- Wildlife Amendment Act 2023
- International Commitments:
 - UN Convention on Biological Diversity
 - EU Nature Restoration Law
 - EU Biodiversity Strategy for 2030
 - Global Biodiversity Framework
- Peatlands Restoration
 - Bord na Móna Peatlands Restoration
 - EU supported The Living Bog Project 2016-2021

Structure of the Irish Economy

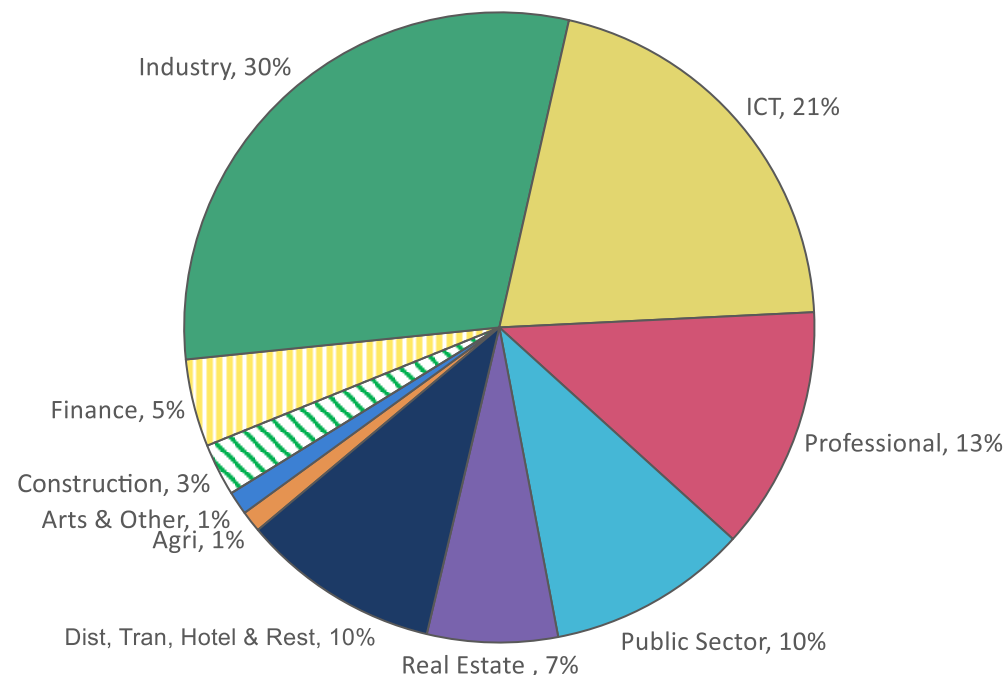
Multinationals overstate economic prosperity but offer clear benefits of jobs, income, taxes



Multinational activity distorts Ireland's data

Notwithstanding those issues, MNCs have real positive impact

Multinationals dominate GVA: profits are booked here but overstate Irish wealth generation



Source: Eurostat

Domestic side of economy adds jobs; MNCs add GVA/high wages

Percentage of Total

	Employment	Compensation of Employees	Real GVA
Industry (incl Pharma)	13	13	30
ICT (Tech)	7	10	21
Professional	10	14	13
Public Sector	30	28	10
Dist, Tran, Hotel & Rest	24	18	10
Real Estate	1	1	7
Financial	5	8	5
Construction	5	5	3
Arts & Other	4	2	1
Agriculture	1	1	1

Source: Eurostat

Note: Based on calendar-adjusted seasonally-adjusted data as of 2024 Q3

€0.8trn of intellectual property into Ireland

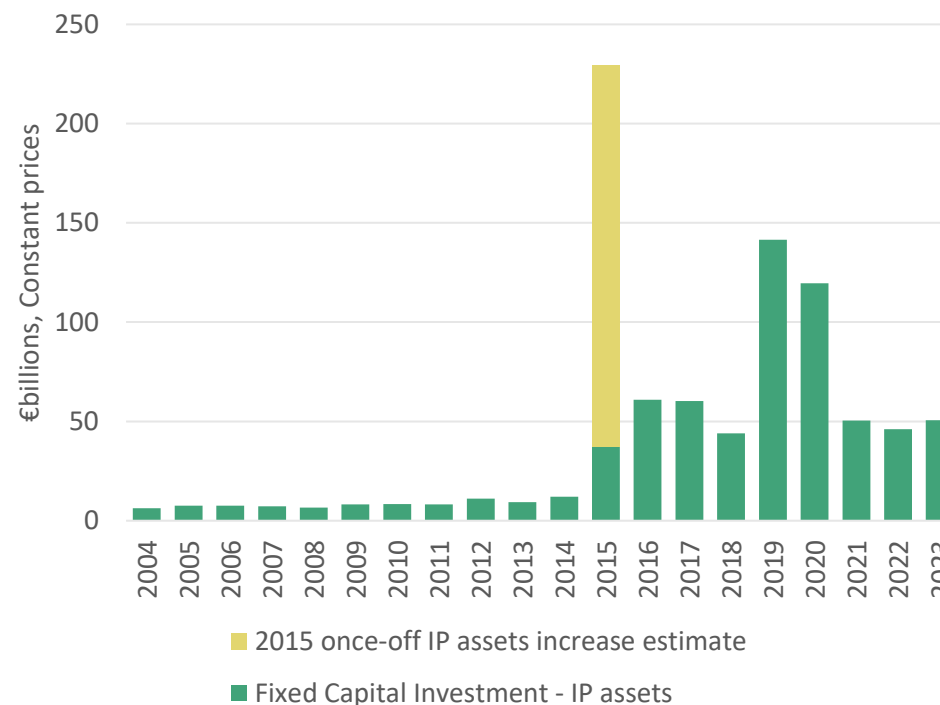
Assets brought here by tech. & pharma. in recent years

Ireland is now a leader in Computer Services; Exports up from €50bn to €170bn since 2015



Source: CSO, WTO

Enormous inflows (c. €800bn) of IP assets into Ireland since 2015 on the back of BEPS 1.0 and other tax reforms

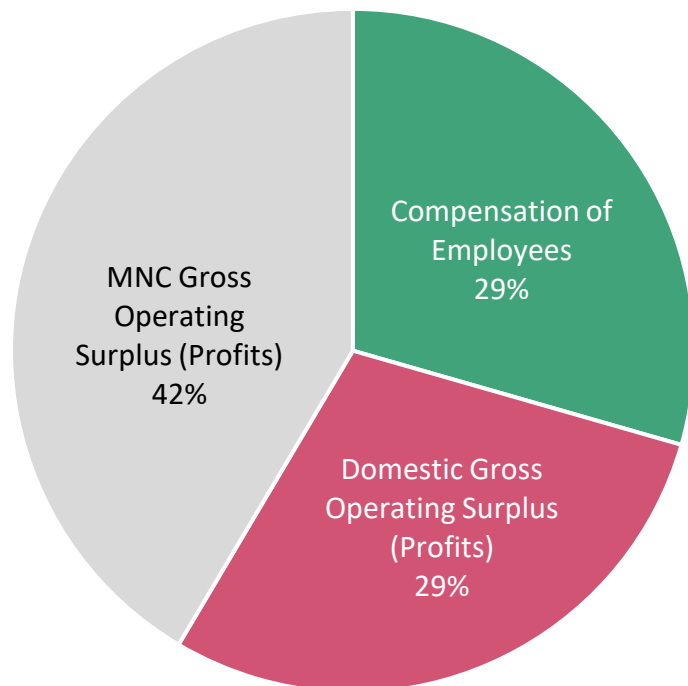


Source: CSO and NTMA analysis – Gross Fixed capital formation and Gross capital stock figures used in RHS chart

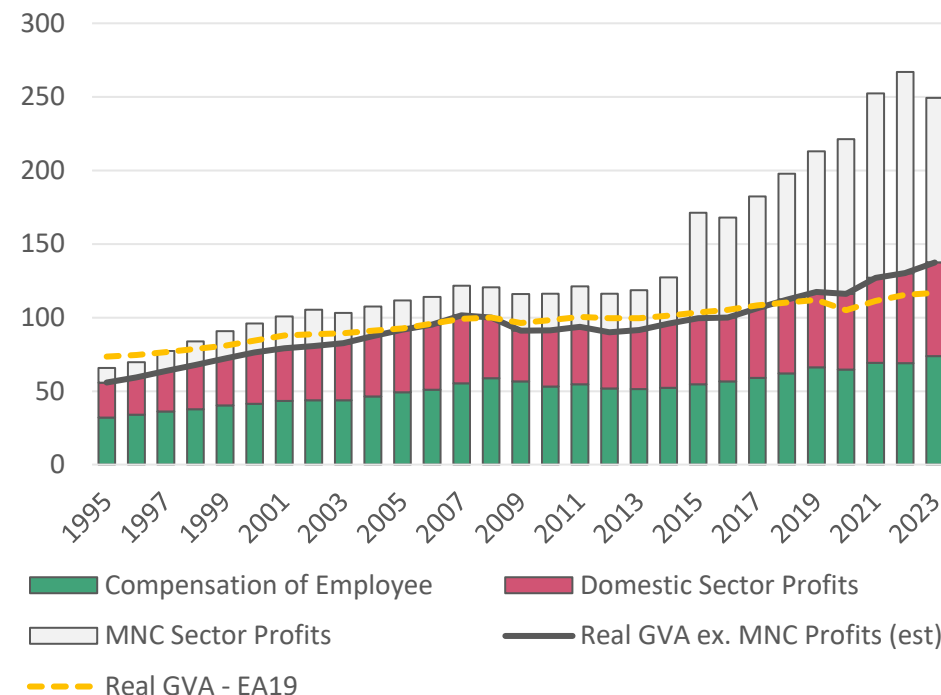
Underlying economy above EA average

MNCs add real substance to Irish economy as wage bill filters out to domestic sectors

Ireland's income = wages (all sectors) + domestic sectors profits + tax on MNC profits



Ireland, on an underlying basis, growing faster than euro area average in recent years (2008 = 100)

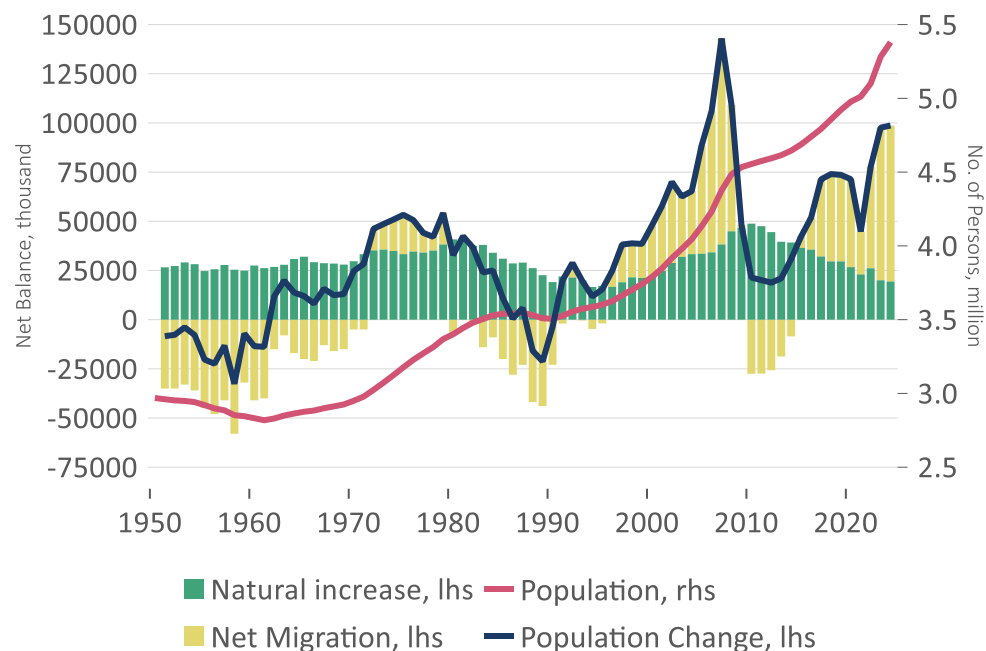


Source: CSO, NTMA calculations. LHS shows nominal 2023 data. Foreign-owned MNE dominated includes Nace sectors 19, 20, 21, 26, 31, 32, 58, 61, 62, 63 and 77. Ireland's GVA data has been adjusted to strip out the distortionary effects of some of the multinational activity that occurs in Ireland. Specifically, a profit proxy is estimated for the sectors in which MNCs dominate.

Ireland's population helps growth potential

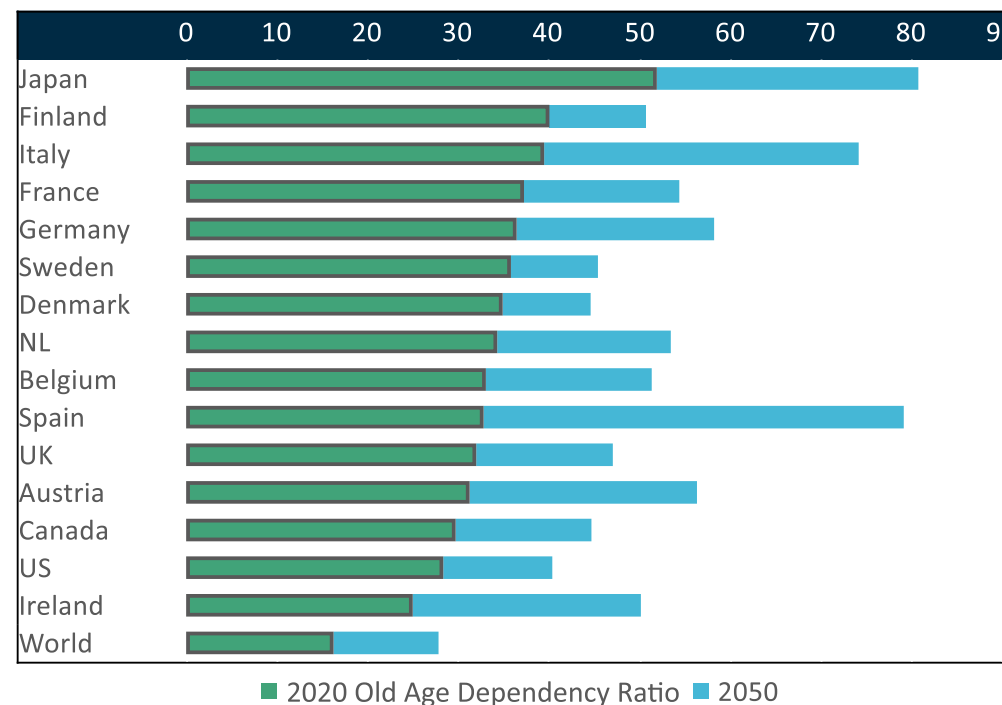
Age profile younger than the EU average but won't outrun aging demographics

Ireland's population at 5.4m in April 2024: Migration driving robust population growth



Source: CSO

Ireland's population will age rapidly in decades to come; to remain younger than most of its EA counterparts

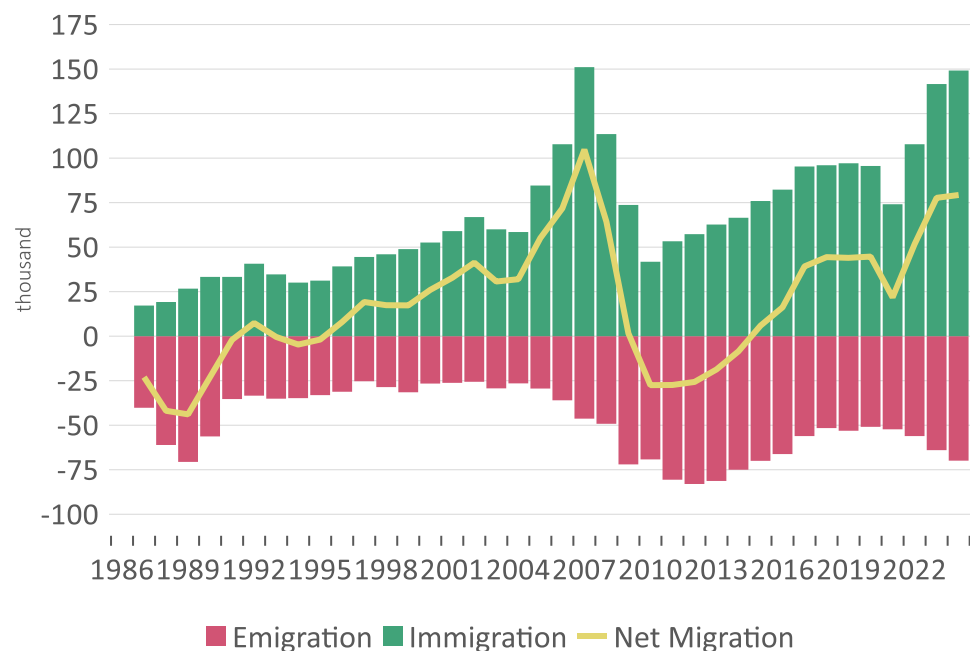


Source: UNDESA

Migration improves Ireland's human capital

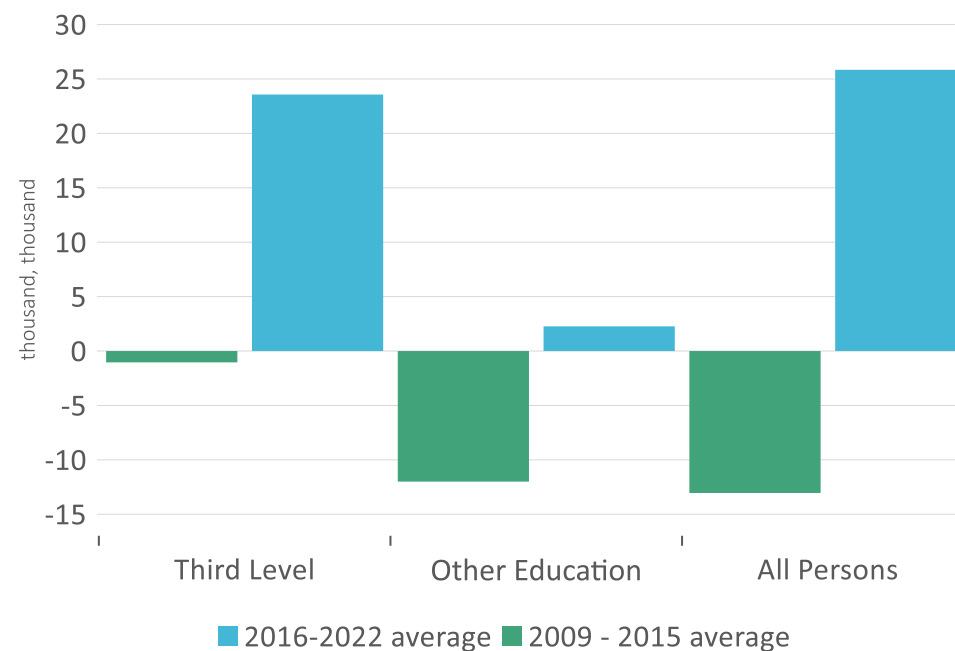
Ireland's net migration has swung back and forth on economic performance

Continued inward migration led to 98k increase (c. 2%) in last year – due to strong economy & UKR refugee efforts



Source: CSO

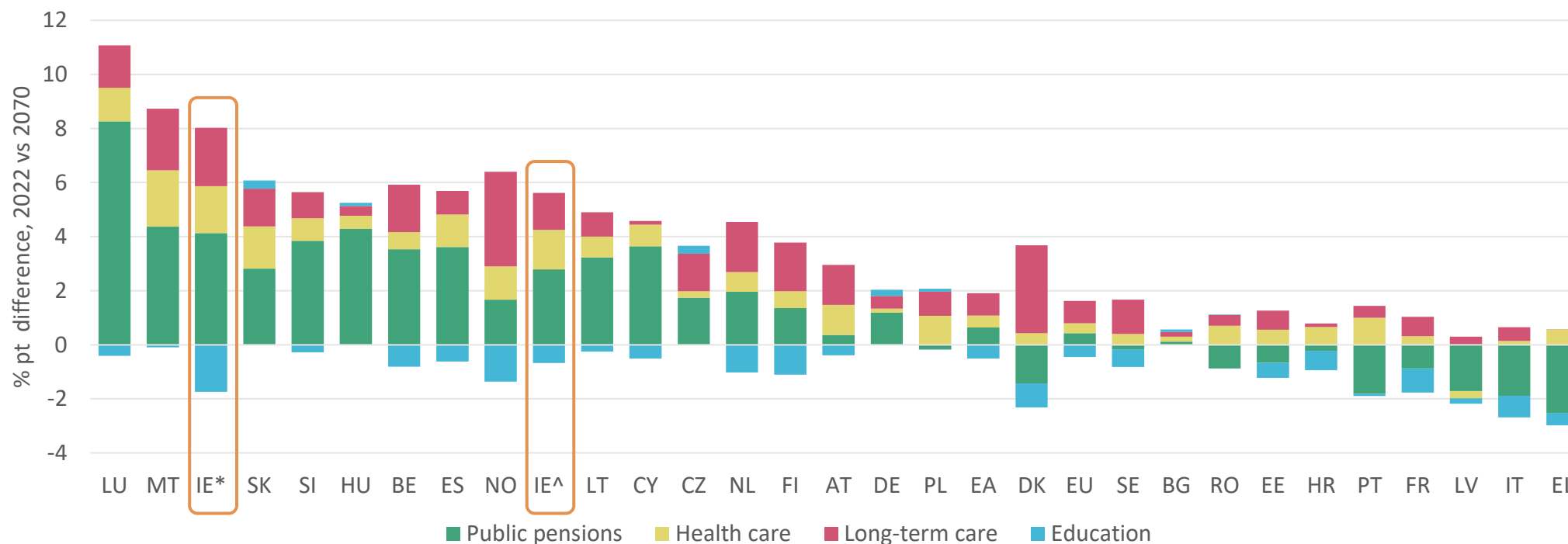
Migration inflow particularly strong in highly educated cohort – work in MNCs attractive



Source: CSO

Total cost of ageing projected to increase

Increase largely driven by pensions, while education spending expected to decline



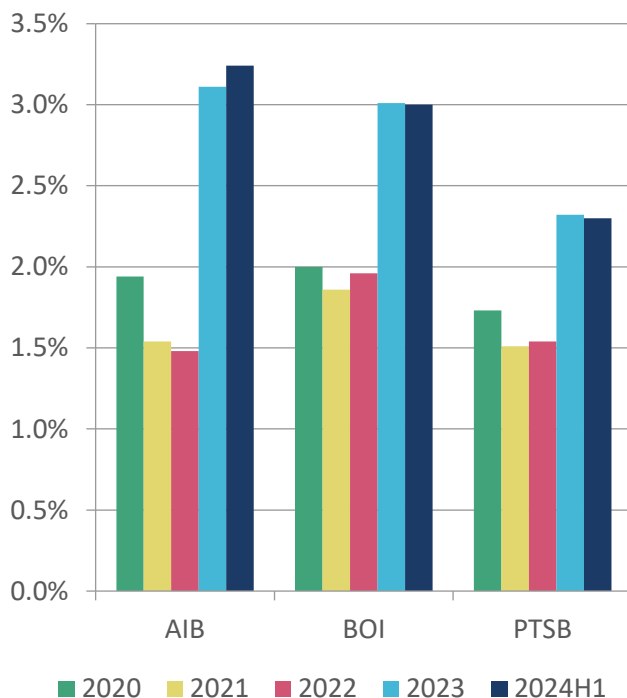
Source: 2024 Ageing Report. Economic and Budgetary Projections for the EU Member States (2022-2070) and NTMA calculations. Chart shows spending as a % of GDP/GNI*.

* denotes as a percent of GNI*, ^ as a percent of GDP.

Ireland's Banking Sector Overview

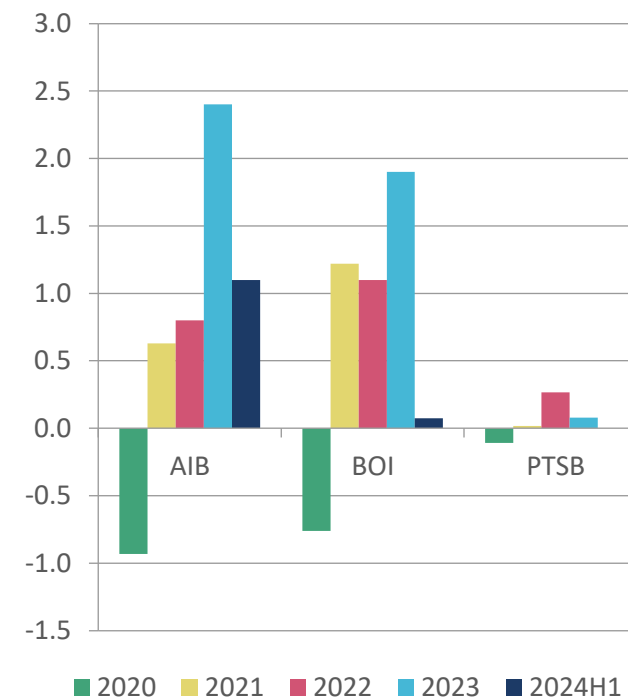
Profitable and well capitalised

Net Interest Margin – 2023 and 2024 saw rebound



- Banking sector well capitalised with sufficient liquidity buffers
- Banks profitable as net interest margins helped by higher interest rate environment. ECB policy reversing this trend.
- The Irish Government has sold its share in BOI. This leaves just AIB and PTSB with government involvement.
- Further tranches of AIB and PTSB shares were sold in 2024. The Government owned approx. 22% of AIB and 57% of PTSB at end 2024. Sales are likely to be ongoing as government divests from sector.

Profit Before Tax (€bns) – margins helped by rates

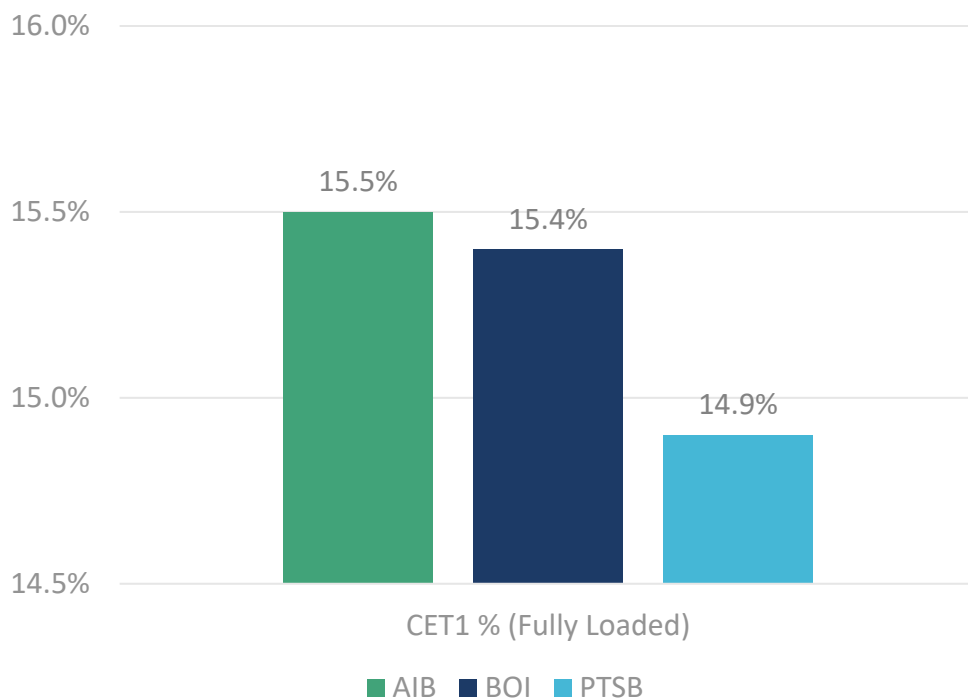


Source: Annual reports of banks - BOI, AIB, PTSB

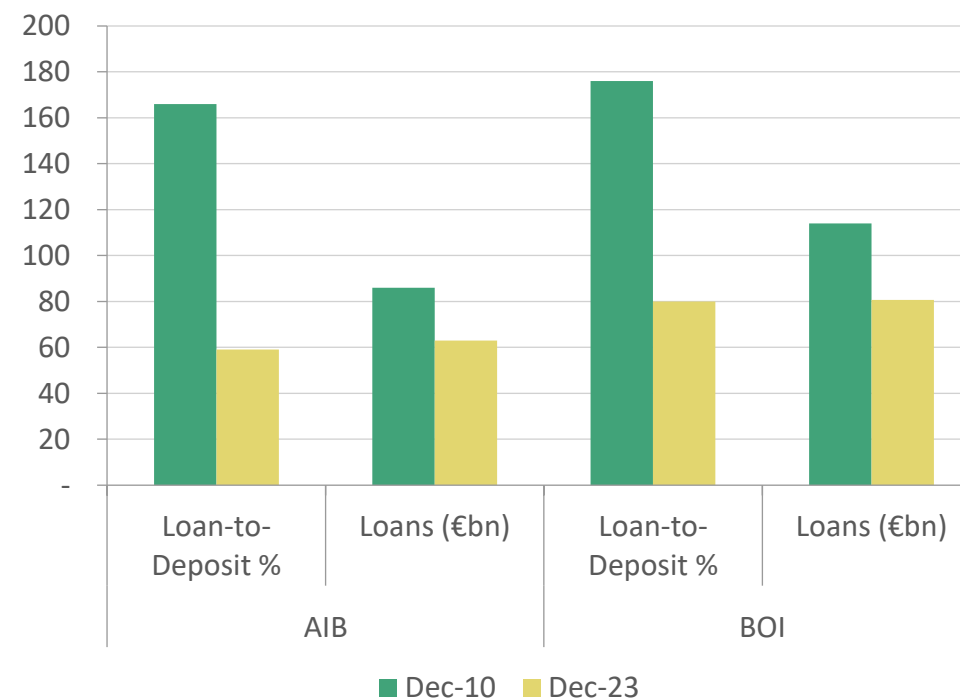
Capital ratios strong

Bank's balance sheets contracted and consolidated since GFC

CET 1 capital ratios healthy – interim results 2024 data



Loan-to-deposit ratios have fallen in recent years as deposits have increased on back of HH savings, banks leaving



Source: Published bank accounts
Note: "Fully loaded" CET1 ratios used. Refers to the actual Basel III basis for CET1 ratios.

Housing

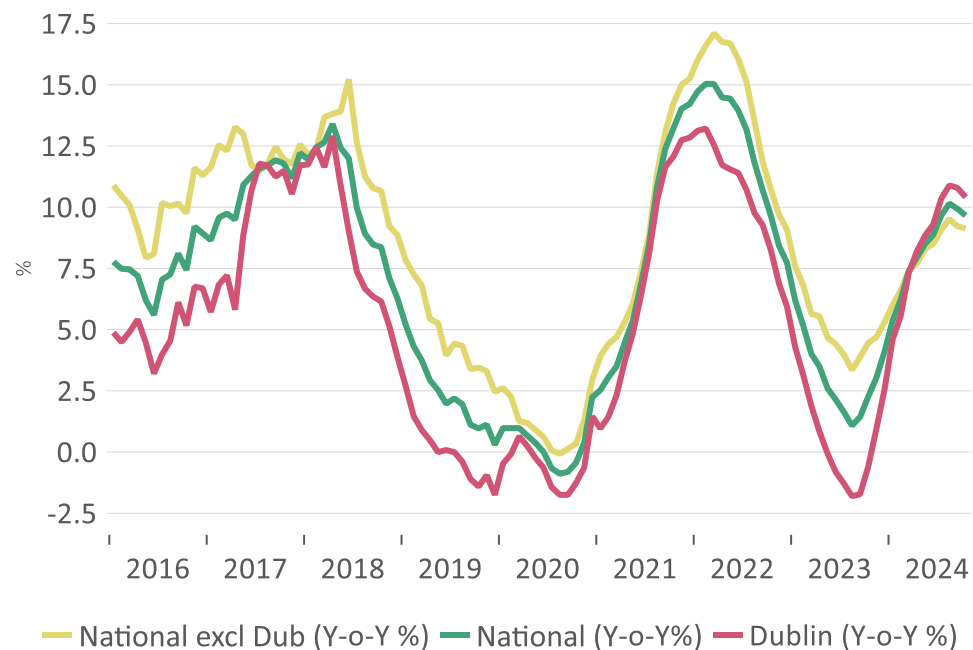
Demand/prices still elevated despite normalised interest rate environment and increased building costs



Prices up strongly in recent years

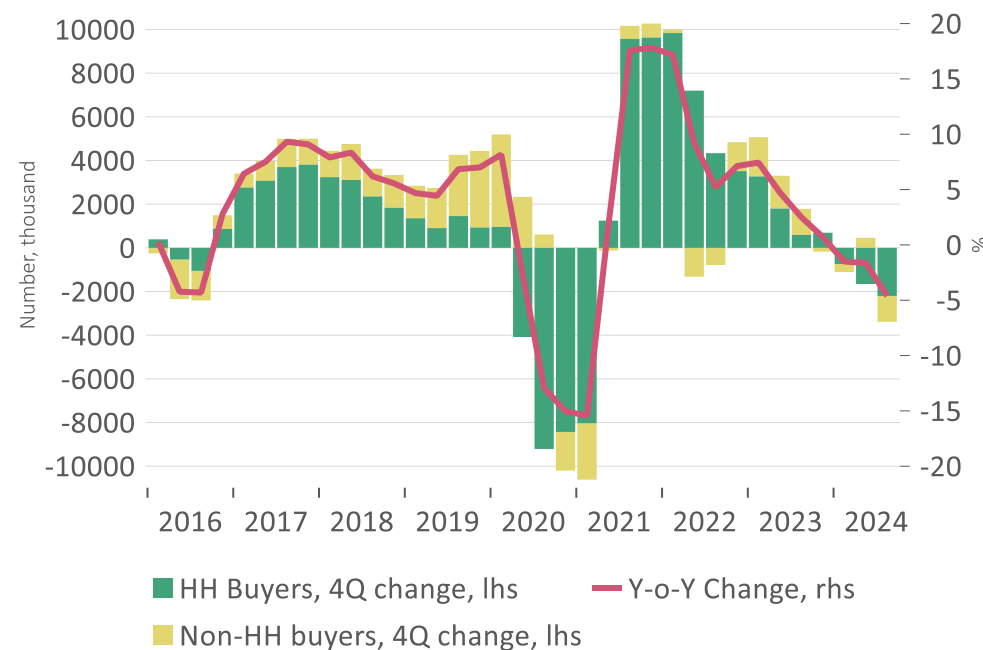
Supply hampered by the pandemic and inflation (c. 50k units needed p.a.)

House prices up ~10% y-on-y. Dublin seeing prices rebound after stalling



Source: CSO

Transaction volumes have fallen on lower existing stock for sale but new homes completions in Q4 may bump up volumes by YE



Source: CSO

* Some estimates have put housing needs as high as 60,000 a year over the coming decades

Supply is improving but below needed level

However, supply likely to rise less than suggested by recent starts data

New Dwellings Completions* exceeded 32,000 units threshold in 2023, pipeline suggest further increase in 2024/25



Source: CSO, Irish Department of Housing, Planning & Local Government

Pricing of new dwellings (y-o-y growth) vs. existing dwellings impacted by Covid squeeze on new units + govt. action recently



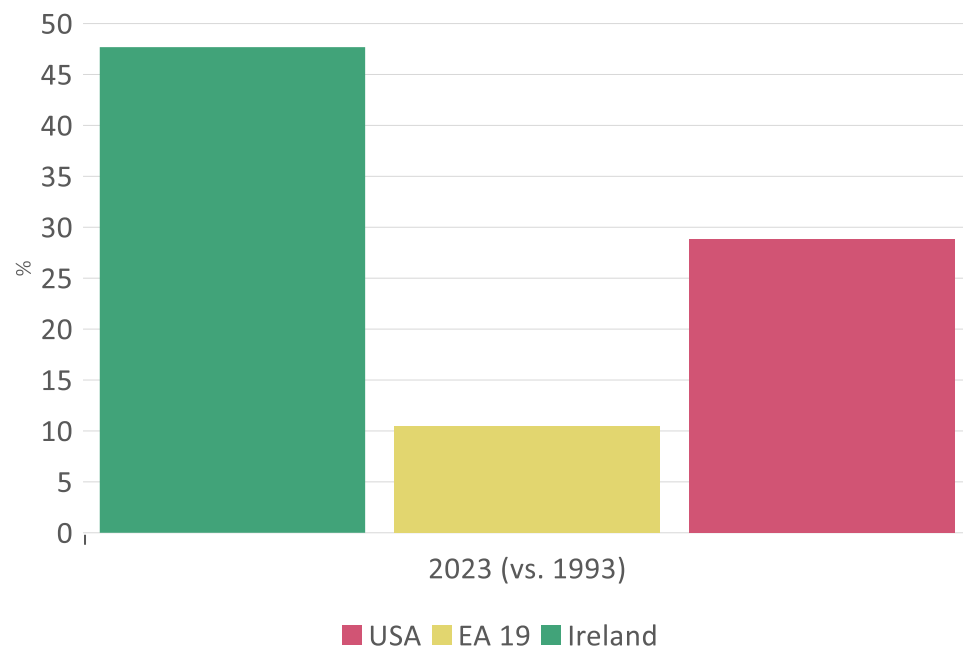
Source: CSO

* Housing completion derived from electrical grid connection data for a property. Reconnections of old houses overstate the annual run rate of new building (all connection sin graph). Starts data in 2024 impacted by deadline related to waiver on development contributions and rebate on water charges

Demand is strong

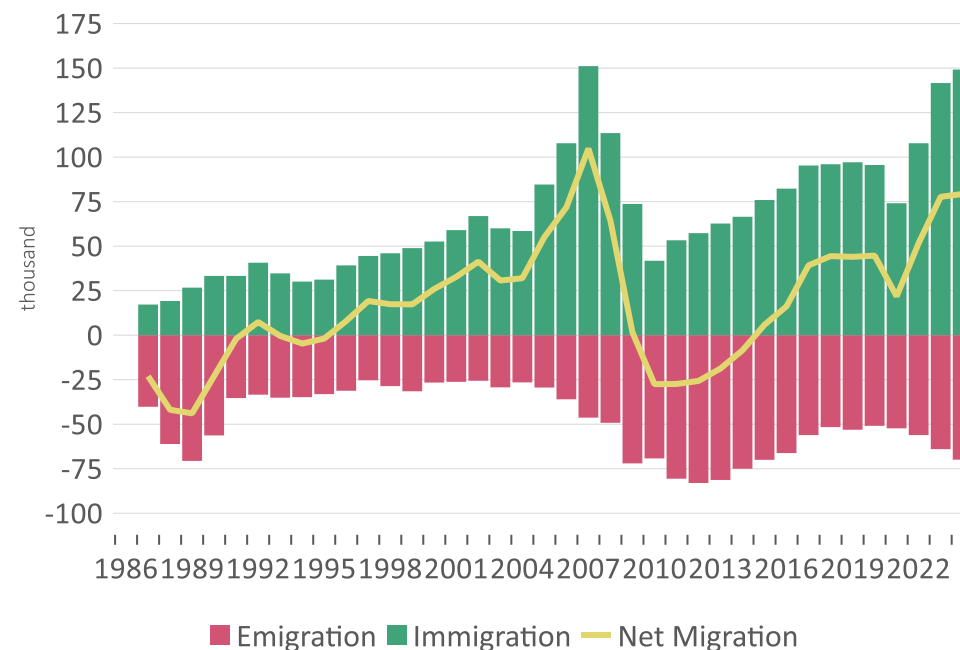
National population increase alongside net migration fuelling demand

Population has grown significantly for 30-40 years



Source: Eurostat, USCB

Increased net migration add demand for housing

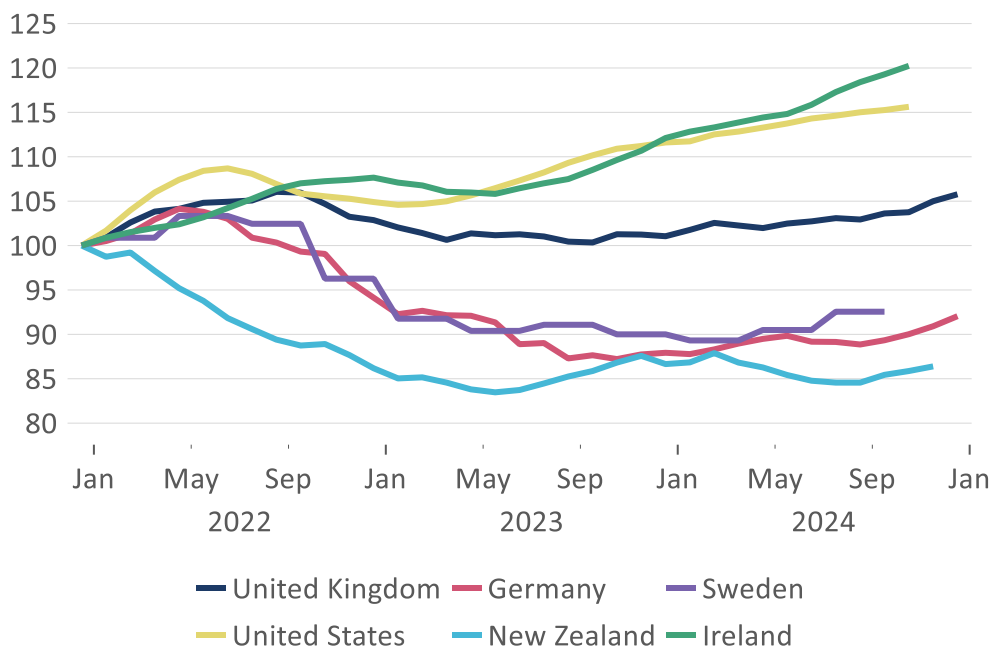


Source: CSO

House prices remained resilient as interest rates normalised

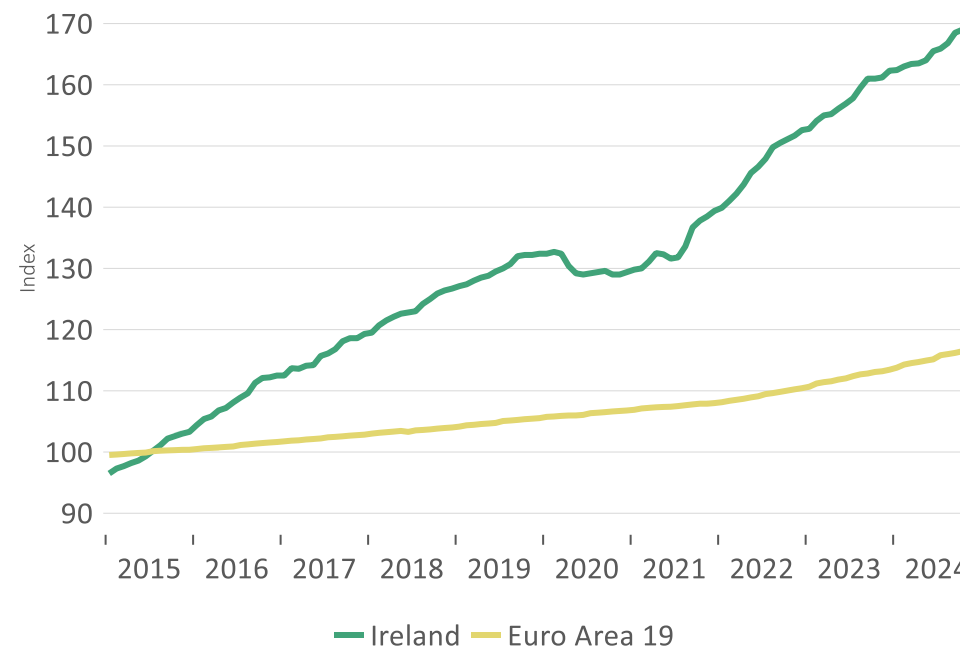
Demand has ensured prices and rents have increased, lower rates may act as tailwind

House prices have fallen in other countries, but Irish prices have remained elevated like US



Source: StatCan, CBS, Nationwide, S&P Global, Europace AG, Real Estate Norway (Eiendom Norge), REINZ, SCB, CSO, StatFin

Rent pressures remain strong with an annual rate of increase above 5% in 2024



Source: Eurostat

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