Ireland: Growth continues despite headwinds

NTMA Investor Presentation

March 2024

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Index

Summary

Irish economic & fiscal strength but risks from global backdrop remain

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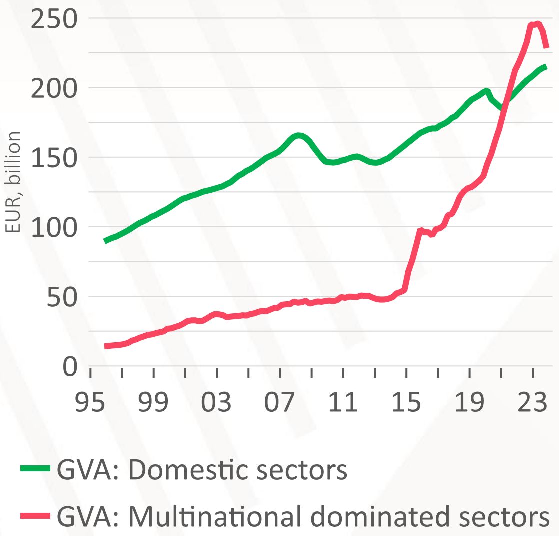
Low real economic growth in 2023

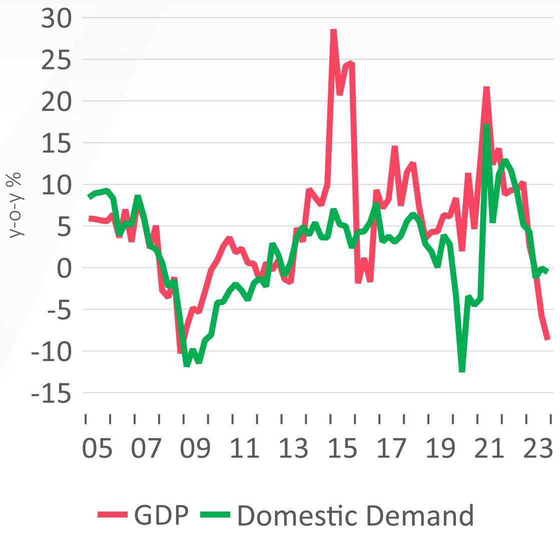
“Underlying” growth of 0.5% as inflation/monetary policy/lower investment slowed growth

Value added from ICT & pharma clear to see – step back in 2023



Source: CSO

MDD gives better picture of growth: Consensus forecasts of 1-2%+ for 2024



Source: CSO

Unemployment rate is at 4.2% – close to full employment

Source: CSO

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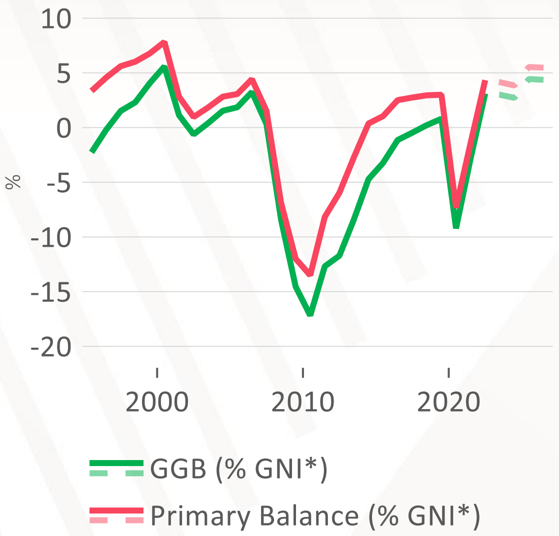
** Modified Domestic Demand series accounts for multinational activity (technically modified final domestic demand (excl. inventories))*

Note: Unemployment rate series shown uses the Covid adjusted unemployment rate between March 2020 and February 2022 and the standard unemployment rate elsewhere.

Large government surplus expected

Debt metrics all improved in 2023

Forecasted 2024 GG surplus (2.7%) despite growth headwinds



Source: CSO, Irish Department of Finance forecasts

Debt metrics mostly expected to be improve this year

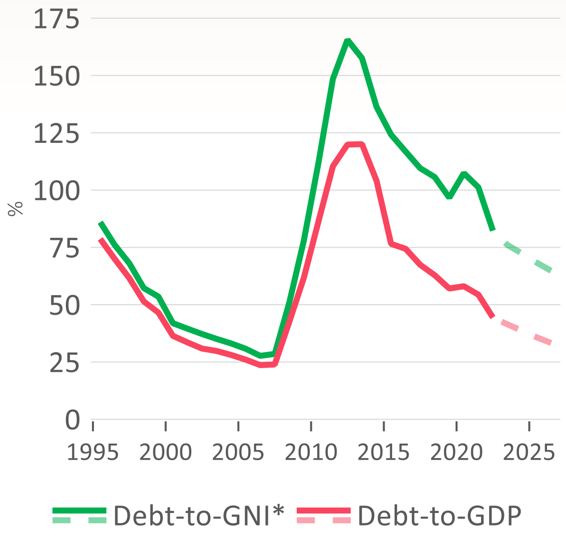
Debt-to-GNI*
(72.3% 2024f; 76.1% in 2023f)

Debt-to-GG Revenue
(171% 2024f; 180% in 2023f)

Average interest rate
(1.6% 2024f, from 1.5% in 2023f)

Debt-to-GDP^
(38.6% 2024f; 41.4% in 2023f)

Debt to GNI* expected to fall given surplus and limited issuance



Source: CSO, Irish Department of Finance forecasts

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

Medium term challenges/opportunities

External environment is challenging – inflation abating but European slowdown could impact

Inflation

Inflation moderating in Ireland similar to other European economies.

Core inflation remains elevated but consumption resilience evident in face of interest rate hikes

Growth

Labour market strength remained in 2023. Healthy domestic balance sheets helping to offset impact from monetary policy

Slowing growth in Europe is a headwind

Fiscal

Large surplus (c. 3% of GNI*) expected for 2024 via exceptional CT receipts.

Two new investment funds to be established. Intention to save windfall tax receipts and partially alleviate future fiscal/climate challenges.

NTMA funding range for 2024 is €6bn-€10bn

€3bn has been issued so far

Cash

Fiscal surplus alongside NTMA's strategy of prefunding means Ireland has a strong cash position.

The cash balance is expected to fall through 2024 as transfers to new sovereign funds occur

>10 years

Weighted average maturity of debt one of longest in Europe.

NTMA issuance since 2022 of €17bn at WAM of 15.4 years and average interest rate of 2.22%.

AA

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

S&P upgraded to AA and Moody's upgraded to Aa3 in 2023. Fitch has Ireland on a positive outlook.

Macro

Economic moderation in 2023 on
inflation/rate hikes and slowing investment

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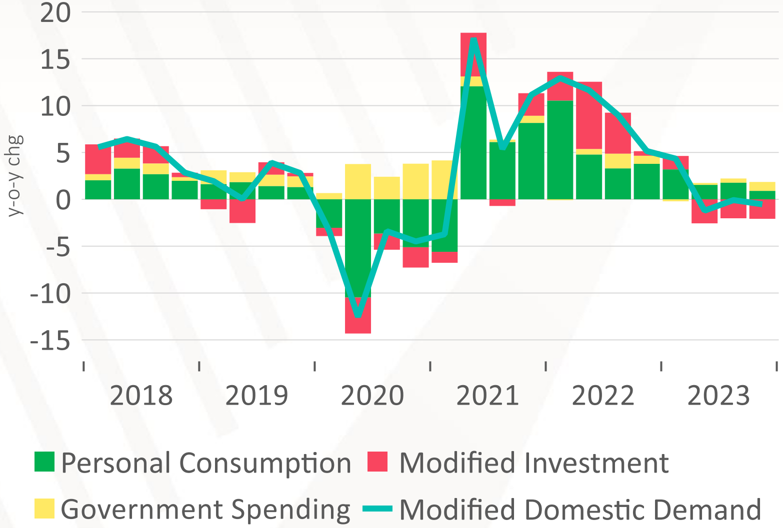
Modest Irish economic growth in 2023

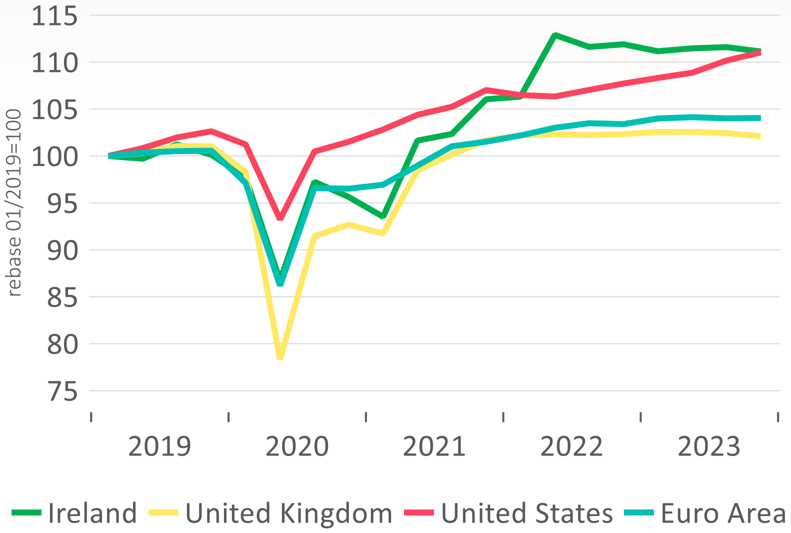
Consumption and employment growth still display resilience

Modified Domestic Demand increased marginally (+0.5%) in 2023 but consumption still contributing positively



Source: CSO

Irish economic activity overperformed in post-pandemic compared to major trade partners', but flatlined in 2023



Source: CSO, BEA, ONS, Eurostat

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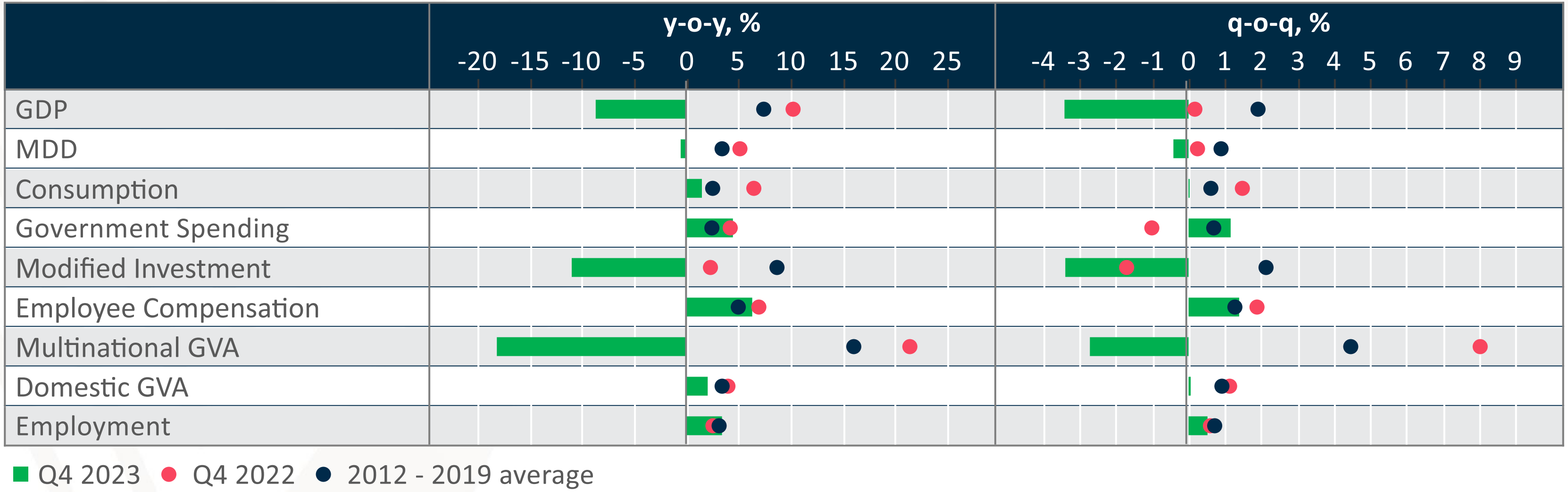
Note: MDD for Ireland is modified for multinational activity by Ireland's Central Statistics Office (CSO). MDD = Consumption + Government (current) spending + Modified Investment. Seasonal adjustment mean contributions do not always add up to MDD growth rate. RHS chart uses MDD for Ireland and GDP for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

Most activity measures moderating

MNE-impacted data volatile but many domestic indicators moderating rather than declining



Source: CSO, Eurostat

High frequency data somewhat mixed

Unemployment inched up in 2023 but other measures tilting positive

	2/22	3/22	4/22	5/22	6/22	7/22	8/22	9/22	10/22	11/22	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
Retail sales (ex motor)	-1.2	0.2	0.5	-0.2	-0.2	-1.1	0.2	-0.1	0.4	0.5	0.2	0.4	-0.3	0.4	0.4	0.5	0.8	-0.9	-0.3	-1.0	0.4	0.0	0.3	0.4	
Unemployment rate	4.6	5.0	4.5	4.2	4.2	4.2	4.3	4.3	4.4	4.5	4.3	4.2	4.1	4.1	4.1	4.2	4.4	4.4	4.4	4.6	4.5	4.4	4.5	4.5	4.2
Payroll employees	0.9	0.9	0.8	0.6	0.3	0.1	0.1	0.3	0.3	0.5	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.2		
Headline HICP	0.3	0.9	1.3	1.4	1.1	0.9	0.6	0.2	0.6	0.6	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
Core HICP	0.3	0.3	1.0	0.8	0.8	0.6	0.6	0.4	0.2	0.1	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	
House prices	0.8	0.7	0.5	0.5	0.7	0.9	1.0	0.9	0.6	0.3	0.2	0.0	-0.2	-0.5	-0.4	-0.3	0.1	0.3	0.5	0.6	0.8	1.0	1.2		
Consumer confidence	77.0	67.0	57.7	55.5	57.7	53.7	53.4	42.1	46.1	45.3	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
Composite PMI	59.1	61.0	59.6	57.5	52.8	52.9	51.0	52.2	52.1	48.8	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
Income Tax	2.1	2.1	2.7	2.4	2.4	2.5	2.4	2.2	2.5	4.4	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

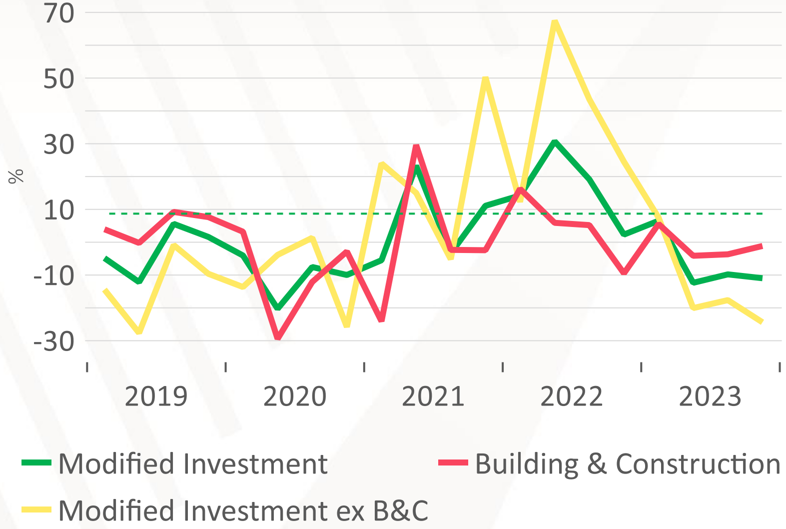
Source: CSO, Eurostat, ILCU, SPDJI, Irish Department of Finance

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.

Investment strength fallen off

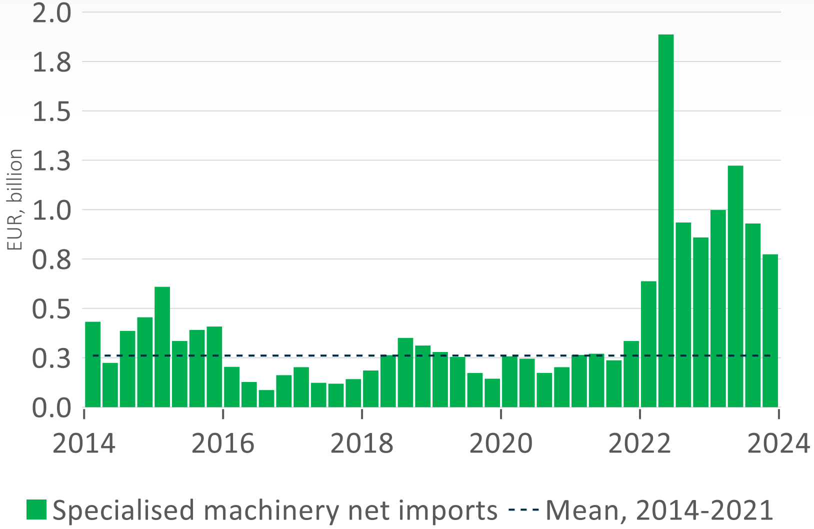
Machinery and Equipment had outsized increase in 2022

Some fallback in computer hardware, production facilities/data centres & new dwellings



Source: CSO

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



Source: CSO

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Note: Ireland's metric is modified investment, which strips out multinational activity. LHS chart: dashed line represents 2012 to 2019 average for modified investment.

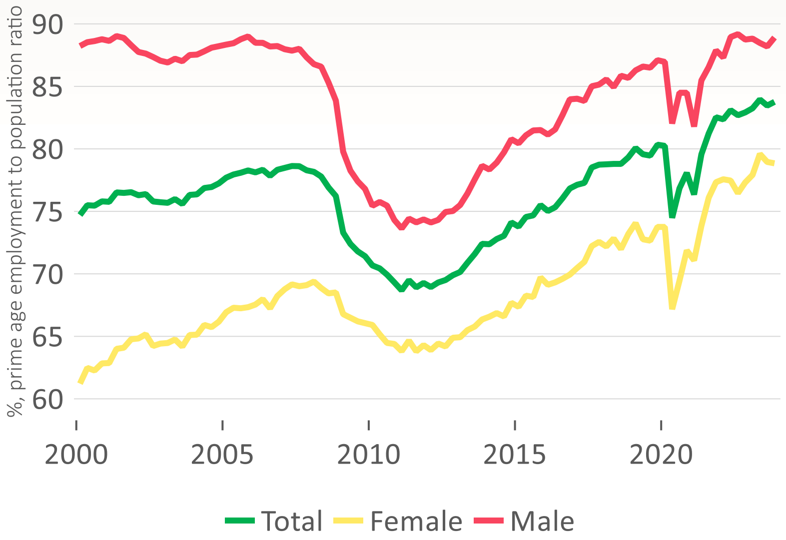
Employment growth strong

Unemployment rate low despite measurement volatility

Unemployment rate at 4.2% in February – rate has bounced around below 5% over last year

Source: CSO

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



Source: CSO

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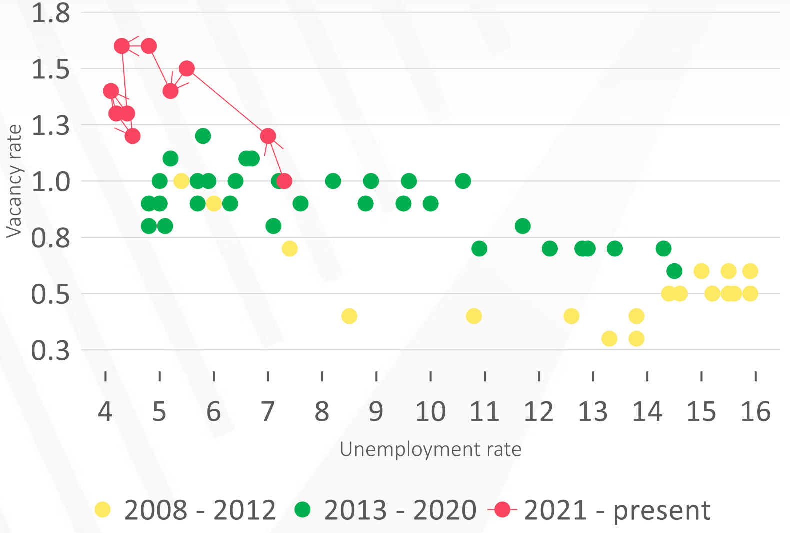
Note: LHS uses the standard unemployment rate during the Covid period. The Covid adjusted unemployment rate was as high as 31.5% at times between March 2020 and Feb 2022. Prime age refers to those aged between 25 to 54.

Some signs of labour market tightness

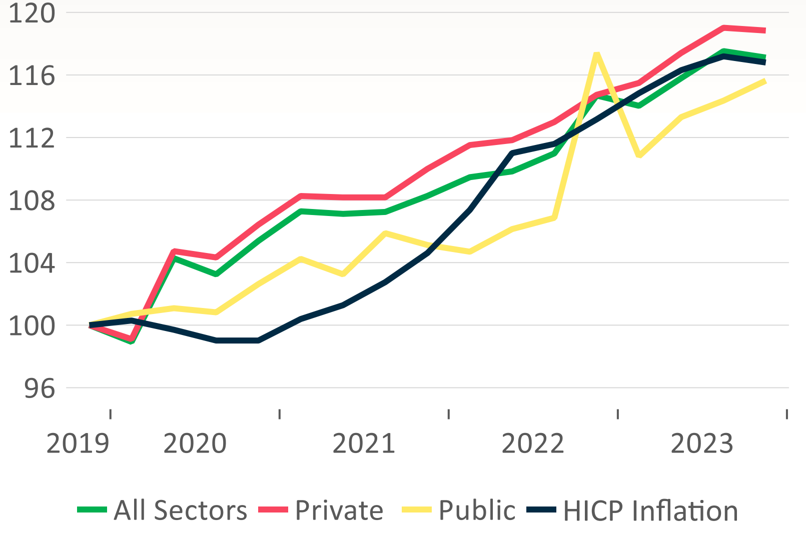
But wages and inflation moderating in recent data

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 since 2019

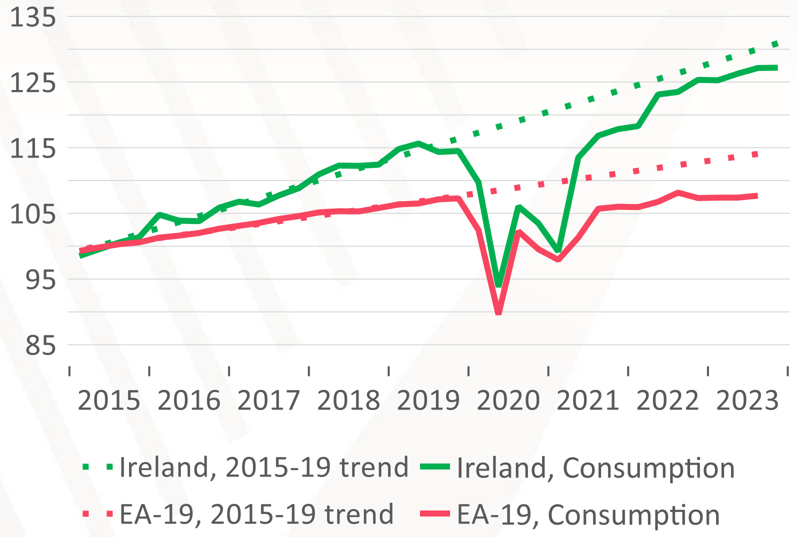


Source: CSO, Eurostat

Real spending main driver of economy

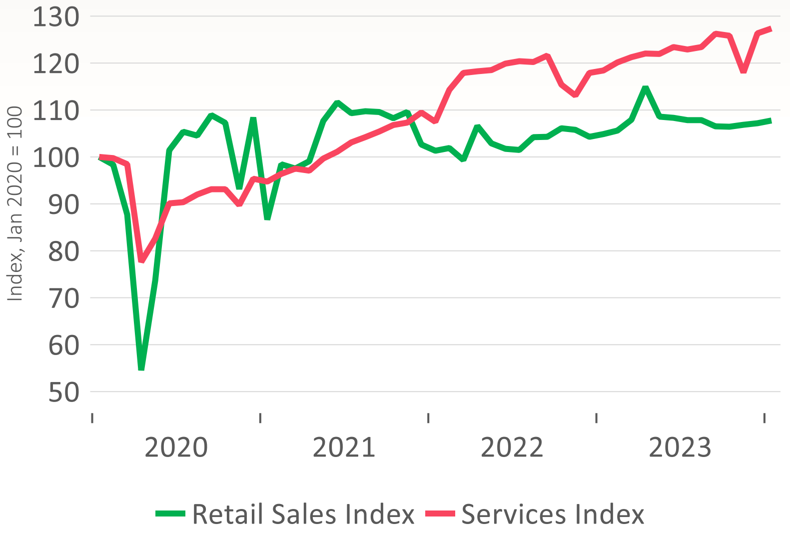
Consumption remains strong despite headwinds

Real personal consumption now near pre-pandemic trend. Performance outstrips euro area average



Source: CSO, Eurostat

Rebound in services has been factor in pick-up in consumption, but starting to wane



Source: CSO

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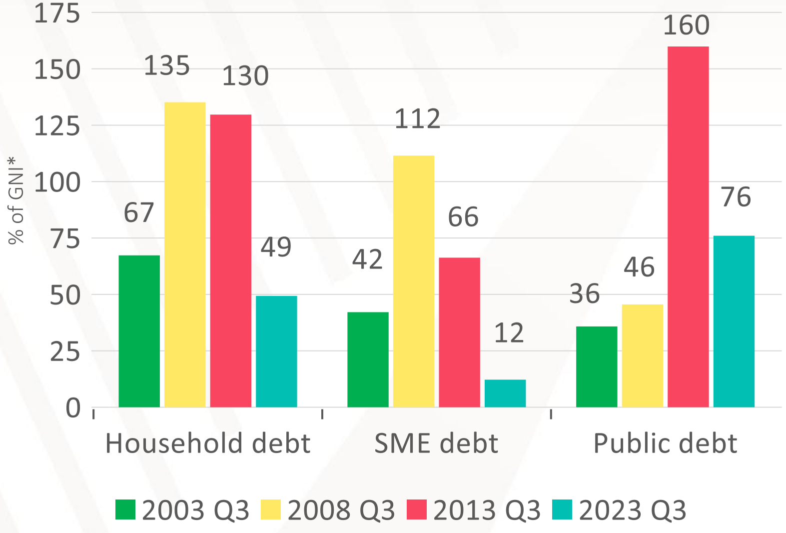
* *RHS chart indices are constant prices, seasonally adjusted*

Households balance sheet strength

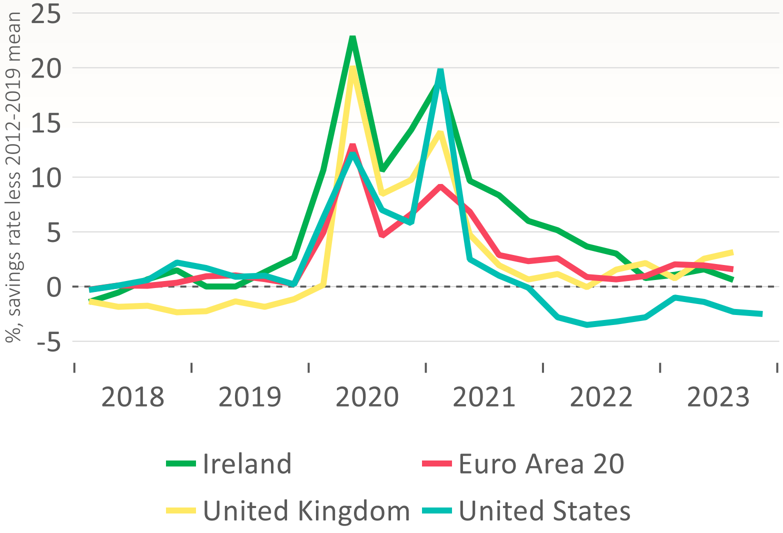
Debt levels much lower coming into pandemic + Covid savings

Private sector balance sheets are not over leveraged – healthy position will insulate against tighter monetary policy



Source: Central Bank of Ireland, Eurostat, CSO

Irish household savings rate near pre-pandemic average, suggesting pattern of excess saving has stopped



Source: CSO, ONS, Eurostat, BEA

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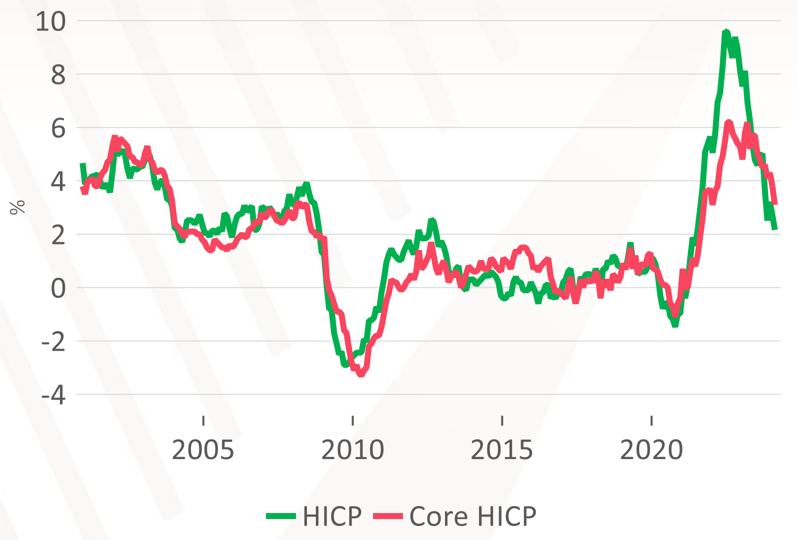
Flash harmonised inflation at 2.2%

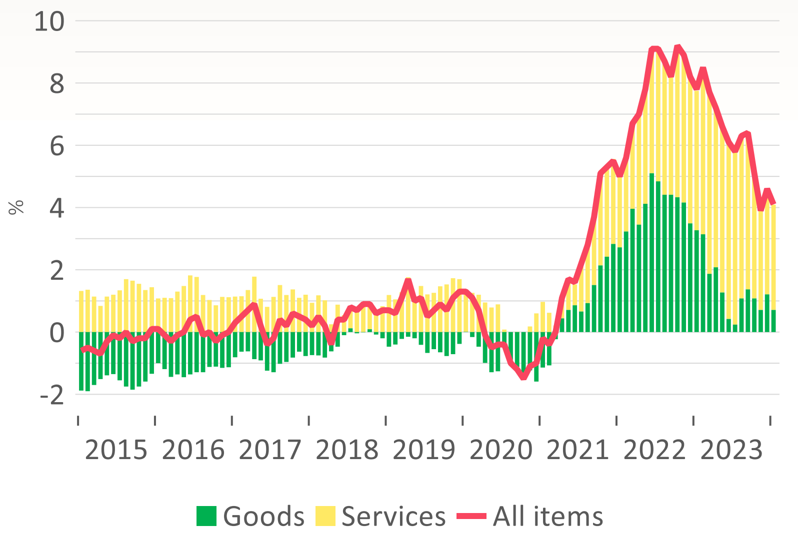
Energy and pandemic concerns easing; core inflation falling but elevated

Energy prices driving headline inflation but that segment of index is clearly easing; core remaining elevated



Source: CSO, Eurostat

Goods inflation easing strongly on back of energy prices – services inflation is stickier



Source: CSO

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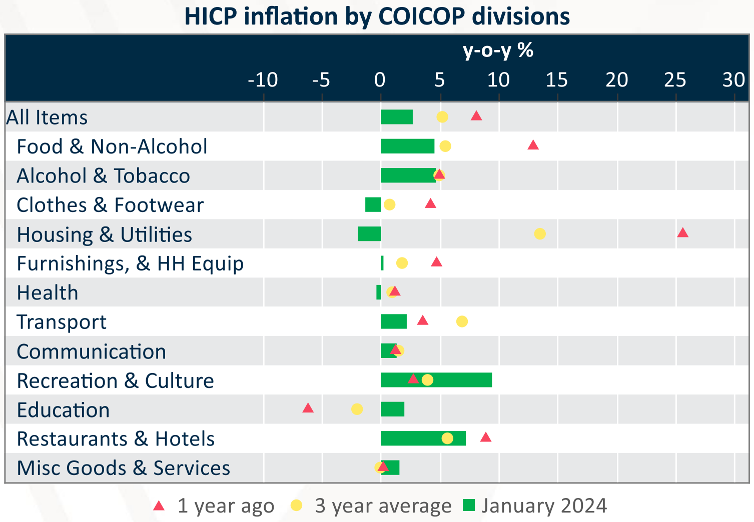
Note: RHS chart plots CPI inflation.

Inflationary pressure broad across index

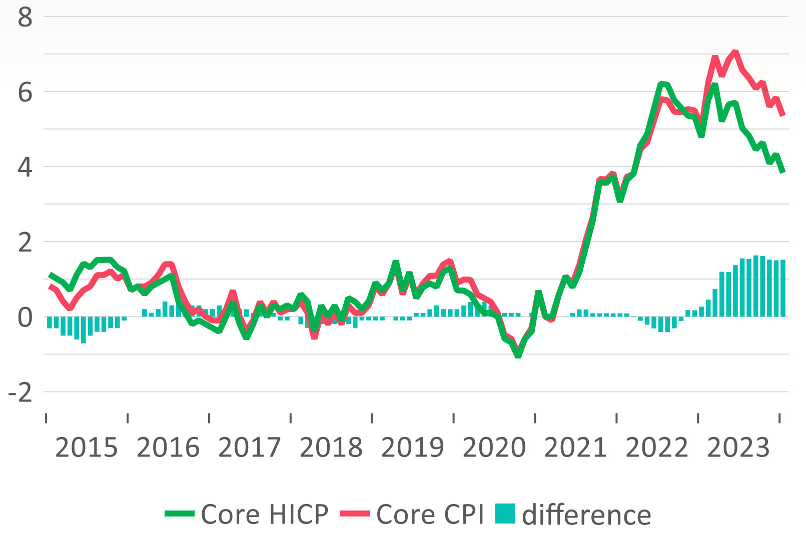
Services sectors alongside utilities costs seeing price pressure

Inflation has eased from a year ago in nearly all sectors



Source: CSO

Core HICP levelling off but core CPI elevated largely due to mortgage interest (which is excluded from HICP basket)



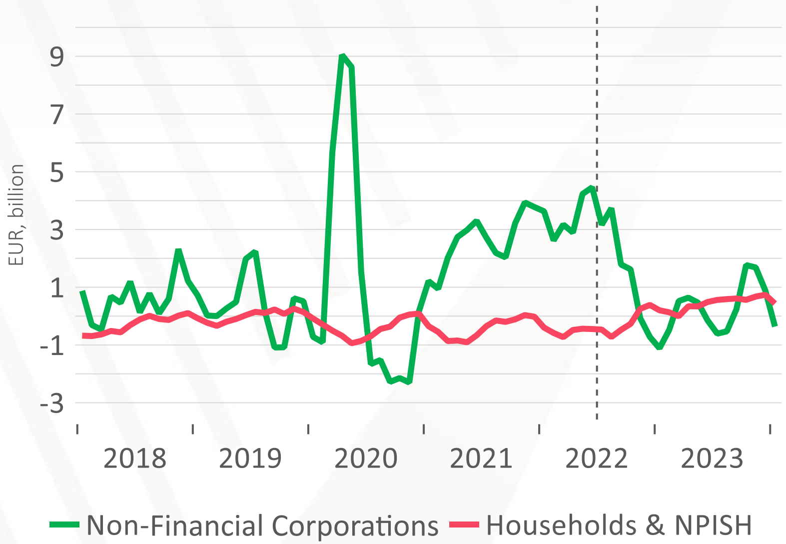
Source: CSO, Eurostat

Note: RHS shows distribution of annual inflation rates across all CPI items (unweighted).

Monetary tightening having effect

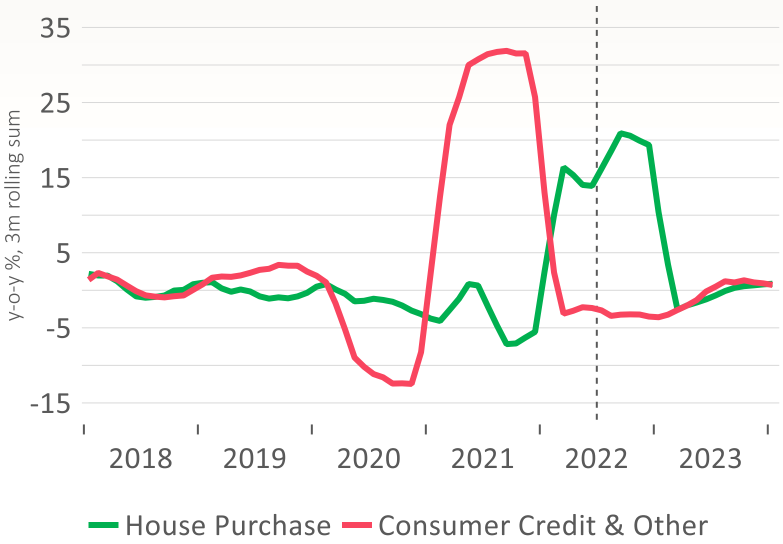
Some divergence between businesses and households

Lending to Irish NFCs declined as rates increased while household lending increased on house purchases



Source: ECB

Impact of covid lockdowns and rate increases evident in consumer lending, but now stabilised in the "new normal"



Source: Central Bank of Ireland

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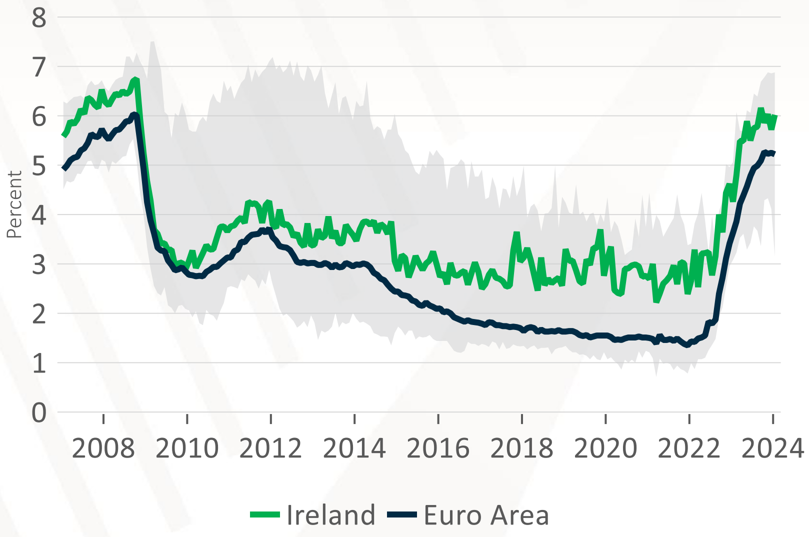
Note: Dashed lines denote first ECB rate hike in current cycle.

NPISH: Non-Profit Institutions Serving Households

Banks passing on rate hikes to businesses

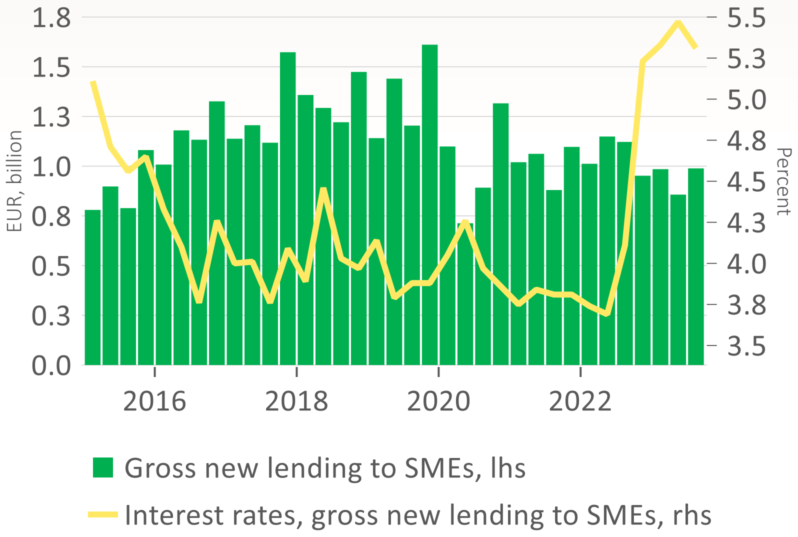
Interest rates to NFCs among highest in Euro Area

Interest rates have been increasing until recent plateau (grey equals min/max range)



Source: ECB

Lending volume to SMEs down modestly but rates have jumped in latest data



Source: Central Bank of Ireland

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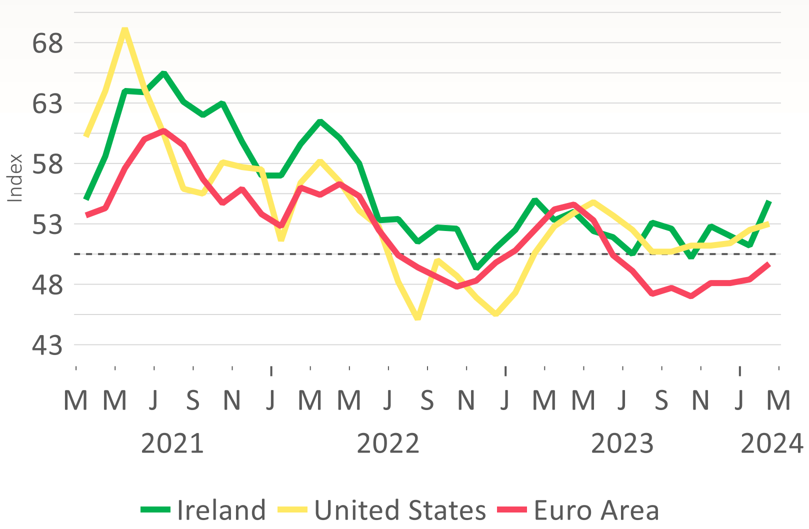
External environment in 2024

Rate cuts likely in 2024 but slowing external growth a headwind for Ireland

	2023	2024
EA Monetary Policy	Higher rates impacting activity thru credit flows	Rate cuts priced in from June
EU Fiscal Policy	Expansionary	Less expansionary
US Monetary Policy	High rates but not overtly slowing activity	Rate cuts priced in
US growth	Modest growth	Modest growth
Energy prices	Prices pressure easing	Impact unclear
UK growth	Minimal growth	Minimal growth, recession risk
Euro Growth	0.5%-1% growth at best	Minimal growth, recession risk
Global Inflation	Disinflation trend clear	Moderation expected to continue

Irish PMI has slipped like other economies, but services helping to keep PMI above 50



Source: S&P Global

OECD's BEPS process may impact FDI offering

Pillar Two implemented in EU this year, Pillar One – number of open issues

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.
- Implementation progress slowed by number of open issues

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.
- 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 group profit in excess of 10% of its revenue*

Fiscal

Large surplus in 2023 on back of continued excess corporate tax

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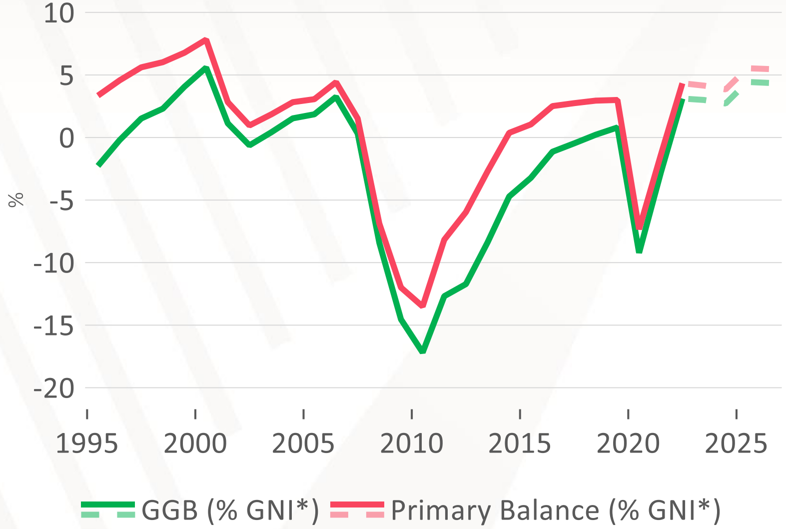
Fiscal surplus in Ireland

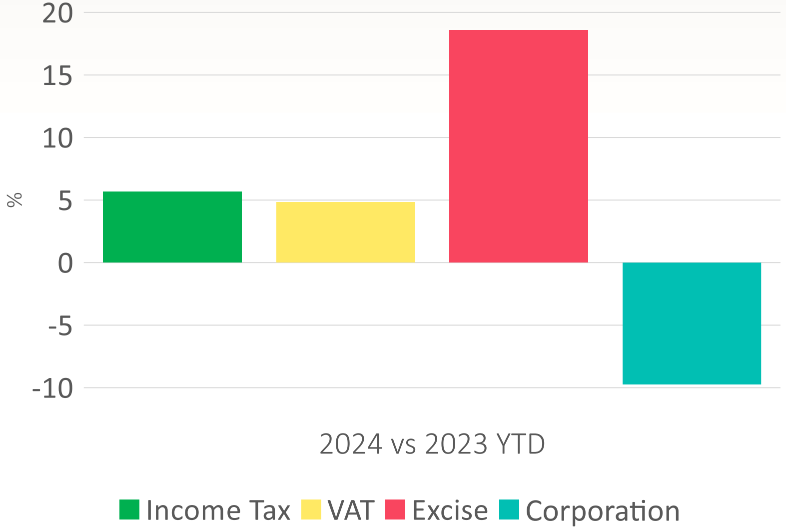
Robust revenues mean surpluses expected in short term

2024 General Government surplus expected to be c. 3% of GNI*



Source: CSO, Irish Department of Finance forecasts

Income tax (+5.7%) and VAT (+4.8%) both up in early tax receipts in 2024, Corporate Tax receipts to start from March



Source: Irish Department of Finance

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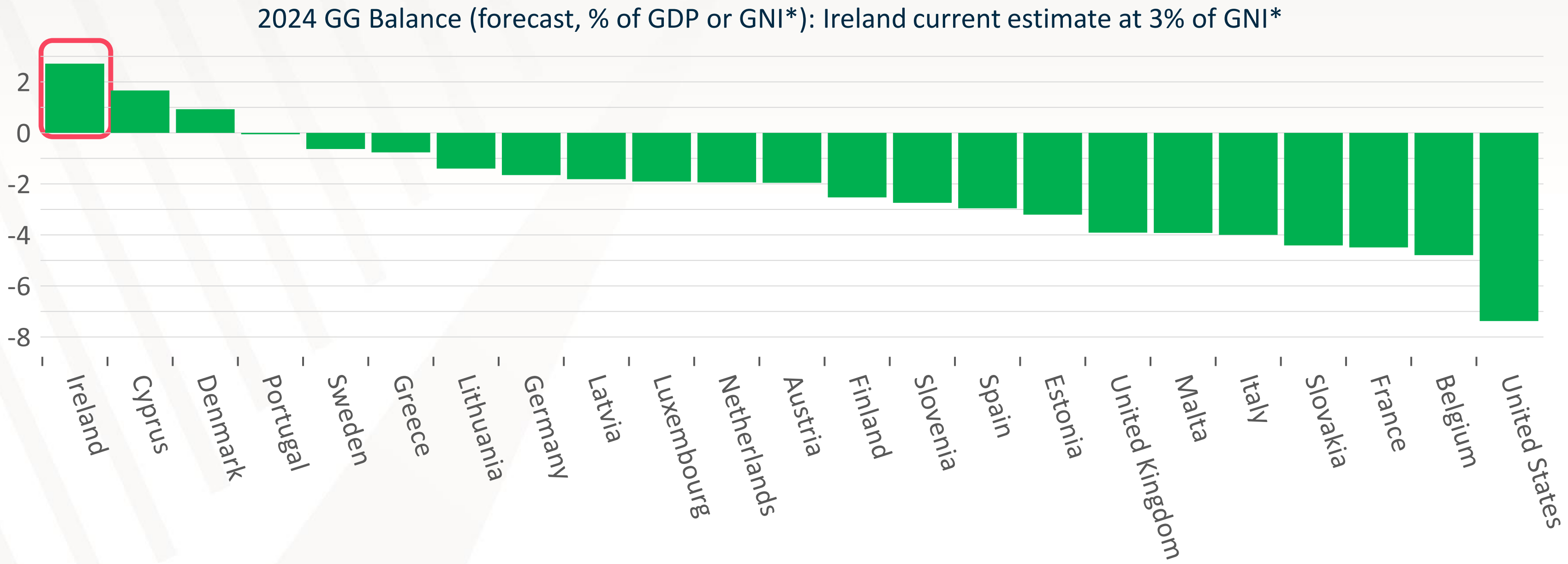
LHS chart: GG and primary balance numbers used exclude banking recapitalisations during GFC

Surplus compares well to others

Recovery in fiscal position evident, question arises to how to manage such surpluses



Source: IMF, Irish Department of Finance

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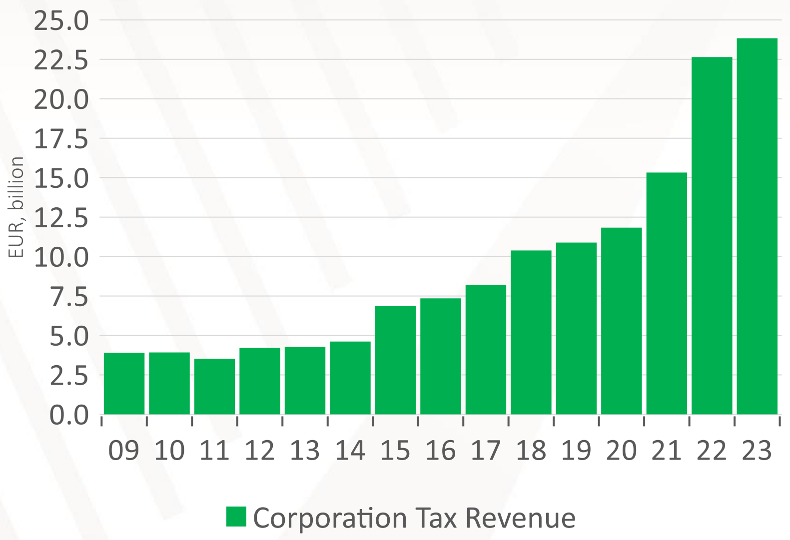
Note: Irish forecast based on Department of Finance Budget 2024 forecasts and most recent Exchequer Returns data. Forecasts for other countries taken from IMF World Economic Outlook October 2023 Forecasts

Corporate tax grew more modestly in 2023

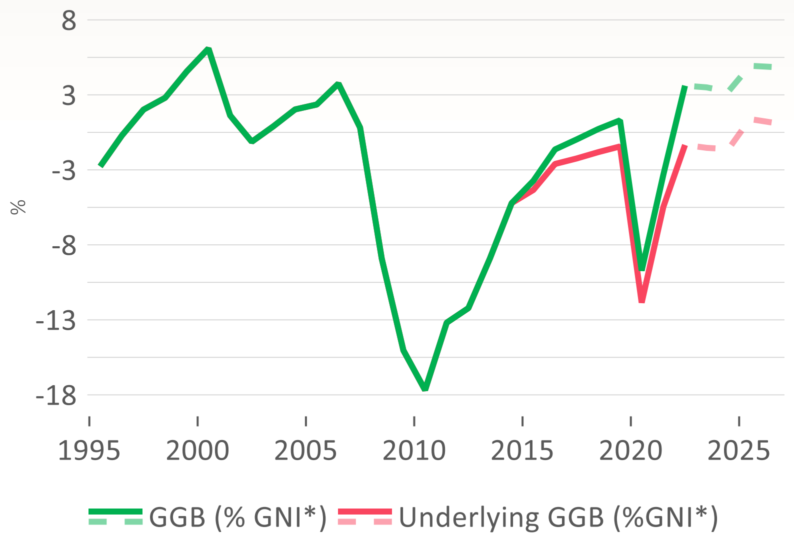
Government plans to places excess receipts in two investment funds (FIF/ICNF)

Corporation tax revenue was €23.8bn in 2023, double 2020 level – legitimate concern receipts are transitory



Source: Irish Department of Finance

Underlying GGB suggests Ireland would be in small deficit in 2023 if excess Corporate Tax excluded (-0.7% of GNI*)



Source: CSO, Irish Department of Finance forecasts

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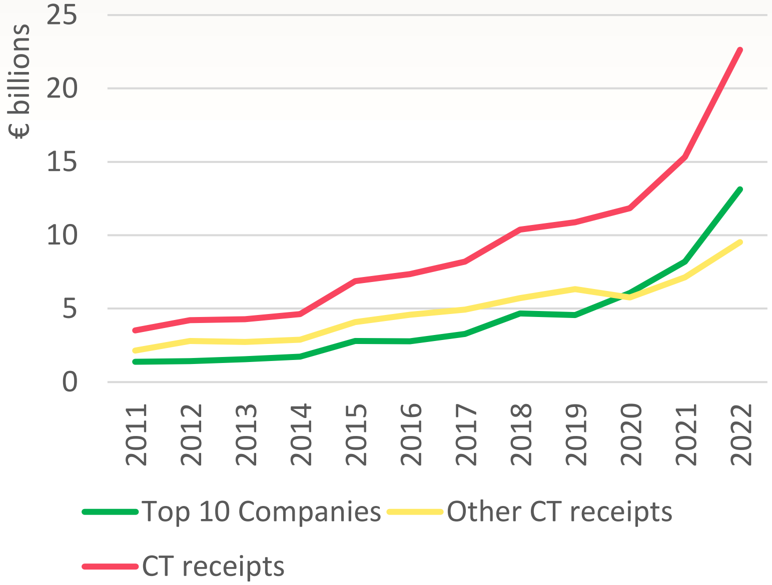
Note: The Department of Finance's underlying general government balance is the GGB excluding the Government's estimated windfall corporation tax receipts (windfall estimated at €10.8bn for 2022 and €11.8bn for 2023).

Multinationals at core of CT payments

Manufacturing the driver in last year's CT surge

CT paid (€m)	2022	vs. 2021
Manufacturing	10,078*	+5,660
ICT	4,184	+922
Fin and Insurance	2,698	+334
Wholesale, retail	2,292	-49
Admin and Support	1,199	-86
Prof, Sci, Tech	660	+4
Construction	469	+105
Mining, Quarry, Utilities	304	+127
Other	760	+304

Top 10 driving recent CT surge – likely that even top 3 companies pay c. 30% of all CT receipts (Fiscal Council analysis)



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Source: Revenue Report, Macrobond

**€5,536m chemical and pharma manufacture (+ €2,645m on 2021), €3,788m ICT manufacture (+ €2,855m on 2021)*

New funds are a mitigant to excess CT risk

Government intends to establish two new funds in 2024

Future Ireland Fund (FIF)

- The FIF will be a long-term savings fund which intends to contribute to exchequer expenditures in the decades to come (e.g., population ageing, the digital and climate transitions).
- The intention is for 0.8% of GDP (c. €4-6bn per annum) to be transferred to the FIF each year out to 2035.
- To start, €4bn of €6bn in the National Reserve Fund (NRF, or Rainy Day Fund) will be transferred into FIF.
- 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)

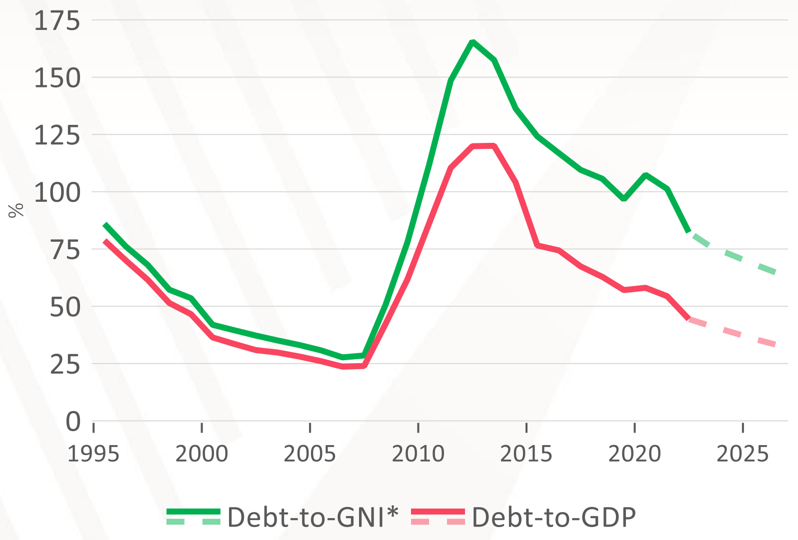
- The ICNF's mandate is to help the state meet its considerable infrastructure and green climate needs.
- In the past, Ireland has fallen into the trap of cutting capital investment in downturns. This fund will act as a reserve to be drawn on for capital expenditure if a downturn arises.
- To start the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

Source: Budget 2024 and published General Scheme

Debt to GNI* likely fell to c. 76% in 2023

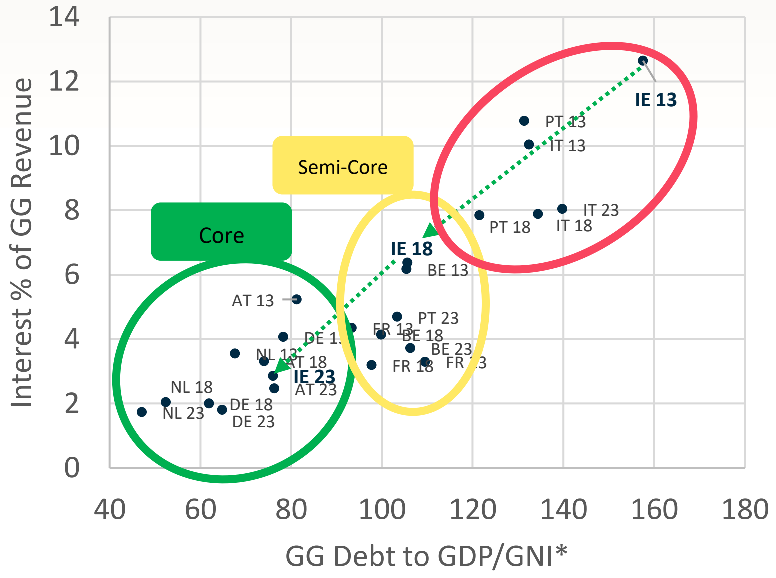
GG debt to GNI* to fall on nominal growth and surplus position

Debt to GNI* likely on downward trajectory; low debt to GDP means proposed EU fiscal rules won't impact Ireland



Source: CSO, Irish Department of Finance forecasts

Ireland's debt fundamentals have moved into "core" space in recent years (2013 vs. 2018 vs 2023)



Alternative Debt Metrics

Need to assess other metrics apart from debt to GDP when analysing debt sustainability

2023

	GG debt to GDP %	GG debt to GG revenue %	GG interest to GG revenue %
Greece	161	334	7.2
Italy	140	292	8.0
France	110	212	3.3
Spain	108	251	5.6
Belgium	106	212	3.7
Portugal	103	239	4.7
UK	97	230	8.8
EA 19	91	196	3.7
EU 27	83.1	182	3.7
Cyprus	78	185	3.2
Ireland	**41 (76 GNI*)**	**187**	**2.9**
Austria	76	156	2.5
Slovenia	69	157	2.9
Germany	65	141	1.8
Slovakia	57	135	2.4
Netherlands	47	110	1.7

Source: DG ECFIN, Irish Department of Finance

NTMA Funding

2024 funding range €6-€10 billion

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National Treasury Management Agency

NTMA funding range for 2024 is €6bn-€10bn

€3bn has been issued so far

Cash

Fiscal surplus alongside NTMA's strategy of prefunding means Ireland has a strong cash position.

The cash balance is expected to fall through 2024 as transfers to new sovereign funds occur

>10 years

Weighted average maturity of debt one of longest in Europe.

NTMA issuance since 2022 of €17bn at WAM of 15.4 years and average interest rate of 2.22%.

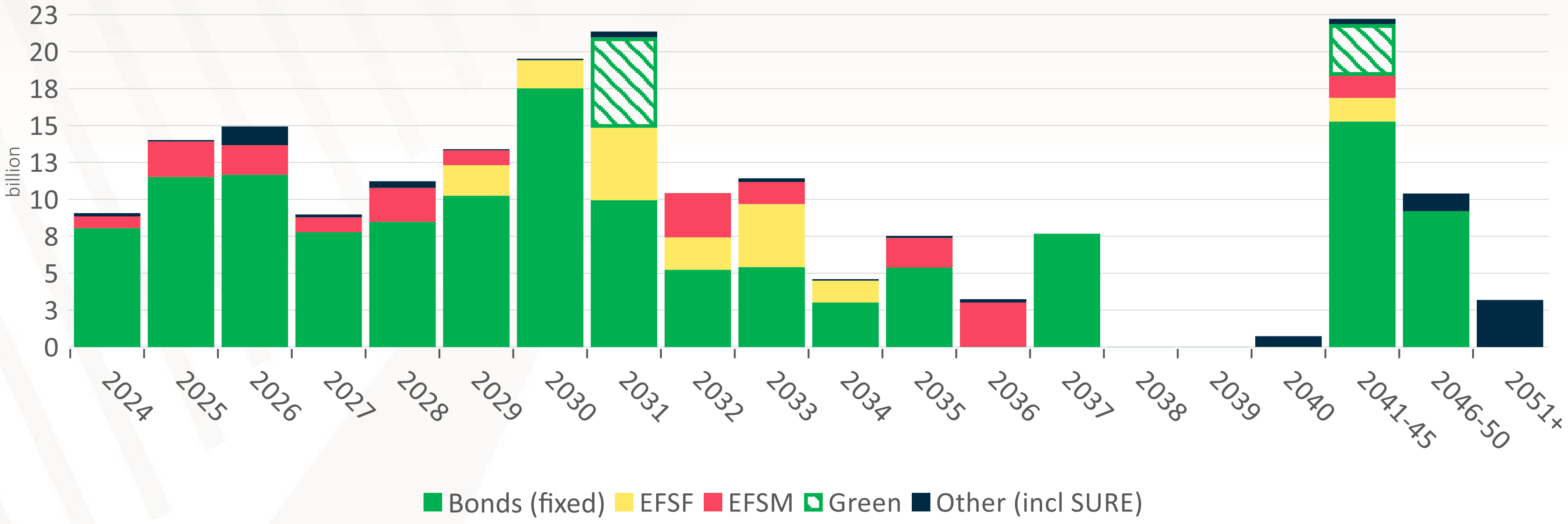
AA

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

S&P upgraded to AA and Moody's upgraded to Aa3 in 2023. Fitch has Ireland on a positive outlook.

Smooth maturity profile

Redemptions are modest in coming years, FRNs fully repaid

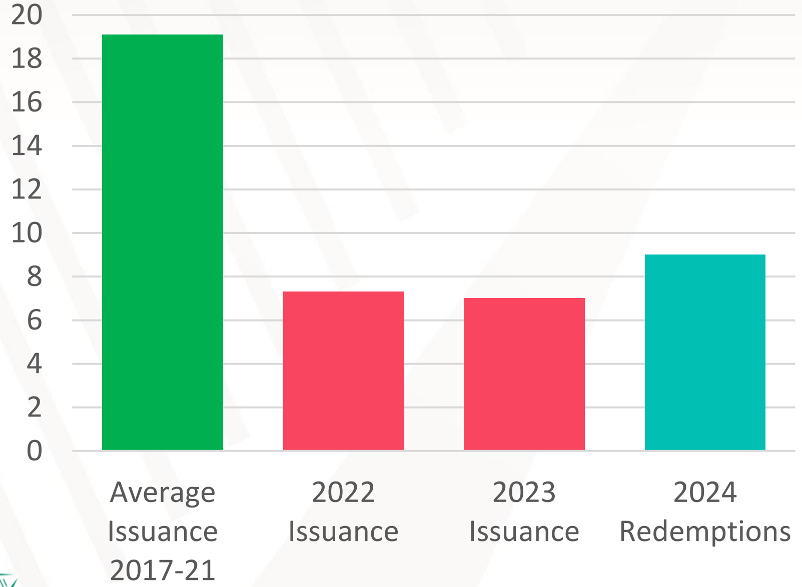


Source:

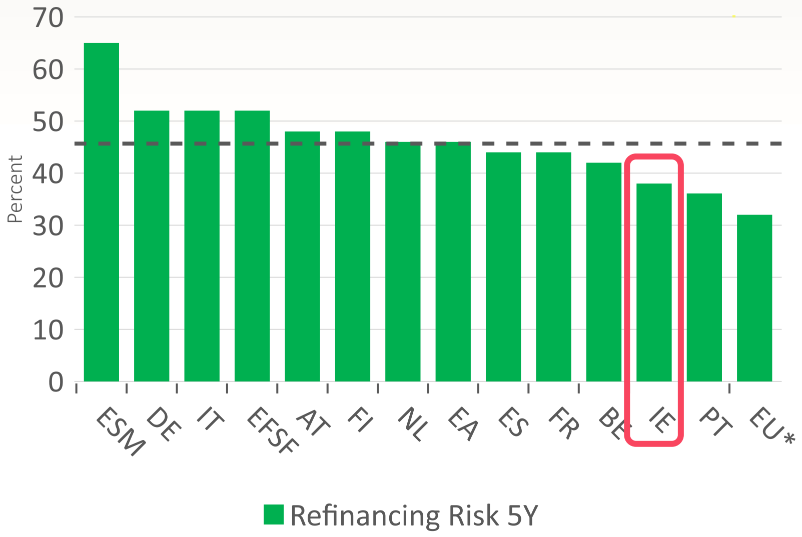
Low supply expected in coming years

Redemptions are modest compared to rest of Europe

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



Ireland's refinancing risk is low - only a third of debt is set to mature in the next five years



Source: ESDM

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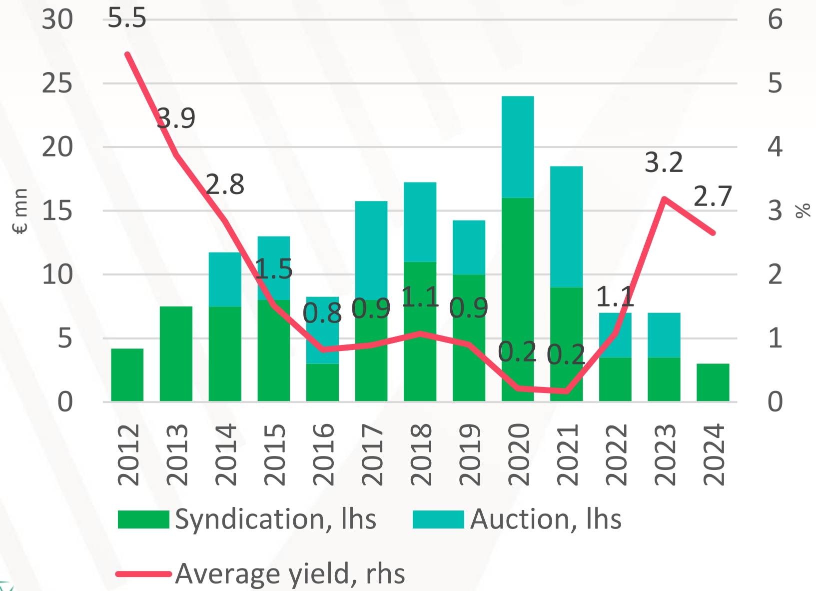
Refinancing rate defined as debt maturing within five years divided by total debt outstanding.

** EU data is EU as an issuer*

Borrowing costs anchored

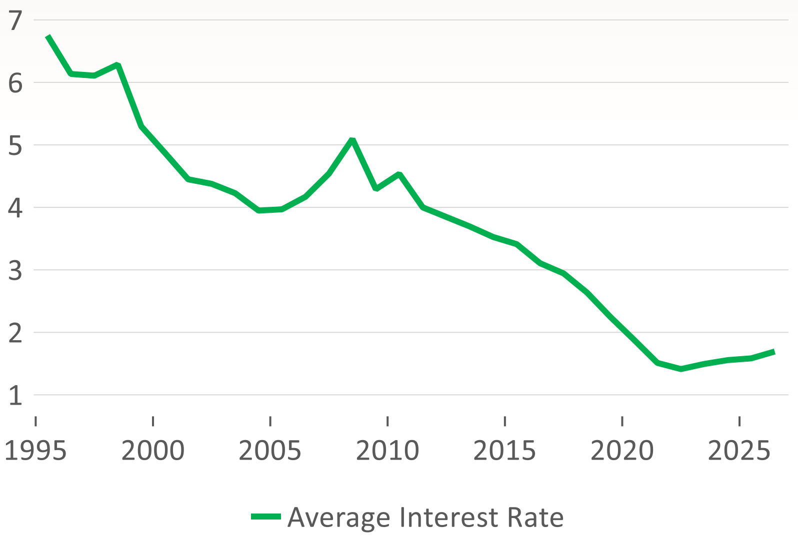
Ultra-low rate era over but Ireland used the period well

NTMA issued €42.5bn MLT debt in 2020/21 at 12.8 yr. weighted maturity and avg. rate 0.19%



Source: NTMA

Vast majority of Irish debt is fixed rate at average cost of 1.5%



Source: CSO

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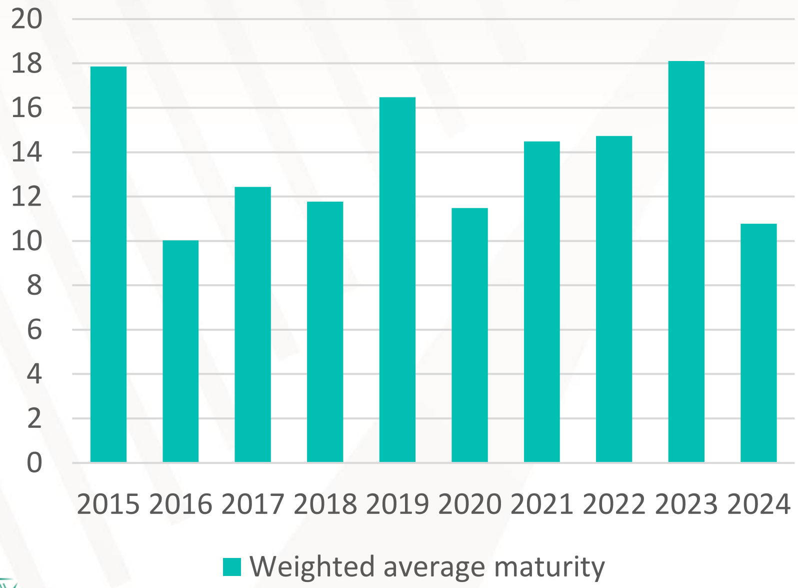
Note only auctions and syndication

** EU data is EU as an issuer*

NTMA has lengthened weighted maturity

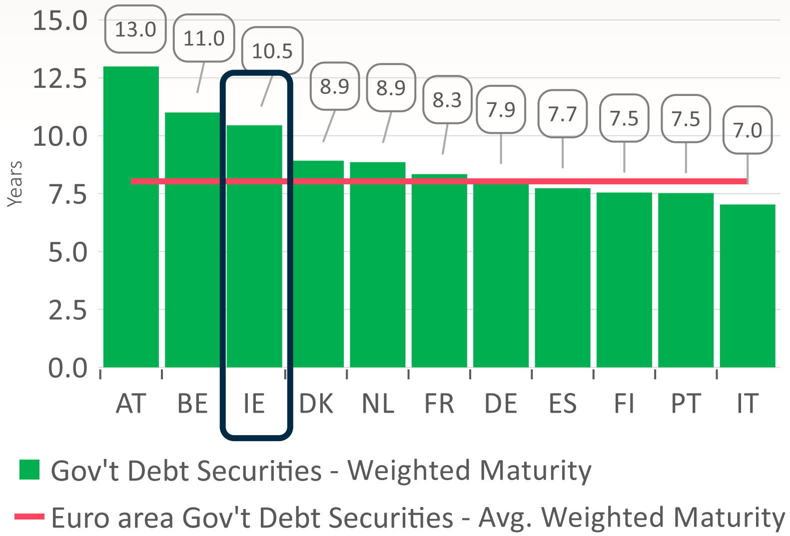
Debt management strategy has extended debt profile since 2015

Benchmark issuance has extended the maturity of Government debt since 2015



Source: NTMA

Ireland (in years) compares favourably to other EU countries



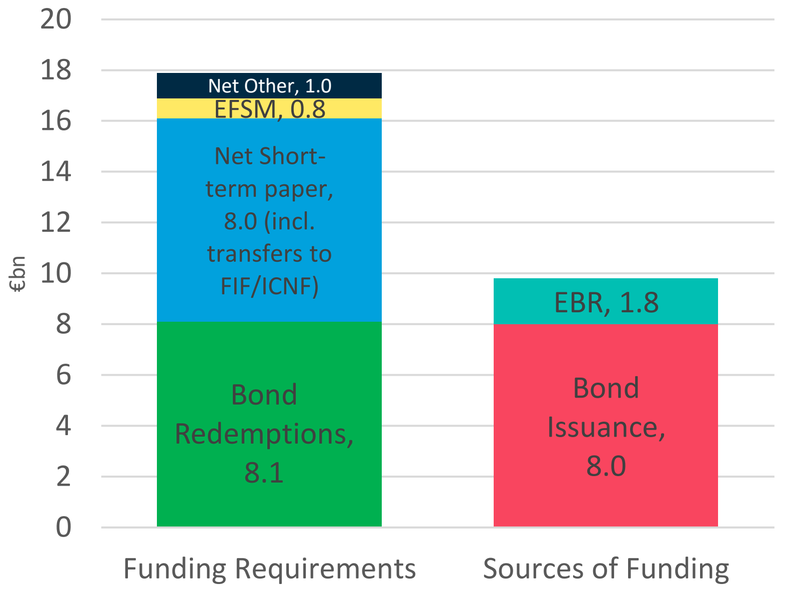
Source: ECB

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

Funding needs and sources for 2024

Modest borrowing amid expected EBR surplus

- There is one bond redemption in 2024 (€8.1bn in March). There is also a EFSM repayment due this year.
- The Exchequer Borrowing Requirement (EBR) for 2024 is expected to be a surplus (hence shown as funding source).
- The NTMA held significant cash throughout 2023. The balance at year-end 2023 was c. €25bn. This will likely fall through 2024 as transfers to the FIF/ICNF occur.



Source: NTMA

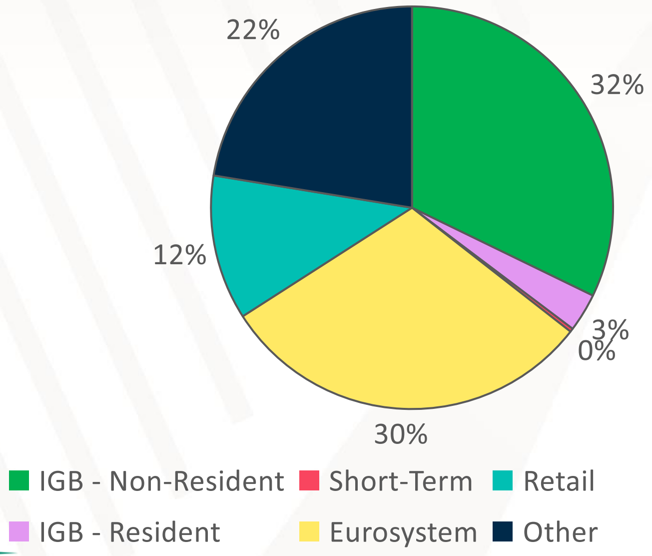
Rounding may affect totals

1. *In the funding sources column, €8bn is reflected indicatively for bonds as it is the midpoint of the announced funding range.*
2. *Net STP (short term paper) outflows are primarily related to the expected dissolution of National Reserve Fund and transfers to the Future Ireland Fund and Infrastructure, Climate and Nature Fund.*
3. *EBR is the Department of Finance's Budget 2024 estimate of the Exchequer Borrowing Requirement*

Diverse holders of Irish debt

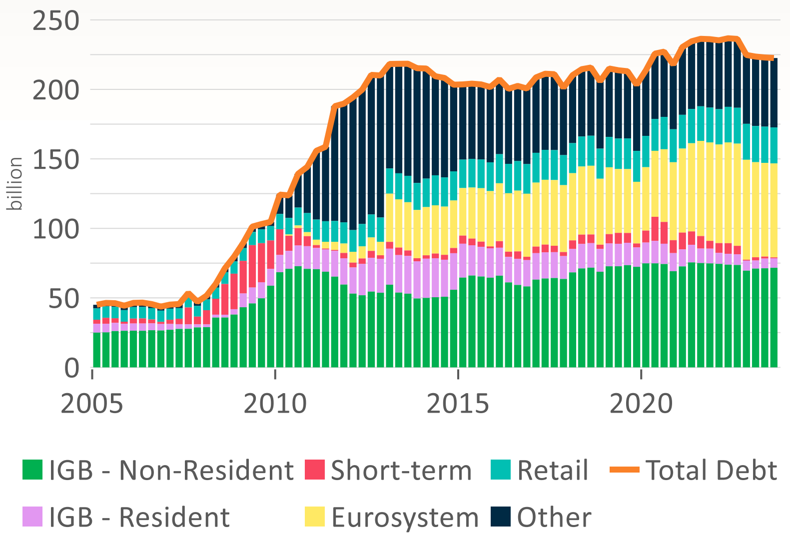
Sticky sources account for greater than 60%

Ireland roughly split 85/15 on non-resident versus resident holdings (Q3 2023)



Source: Eurostat, ECB, Central Bank of Ireland

“Sticky” sources - official loans, Eurosystem, retail - make up c. 60% of Irish debt



Source: Eurostat, ECB, Central Bank of Ireland

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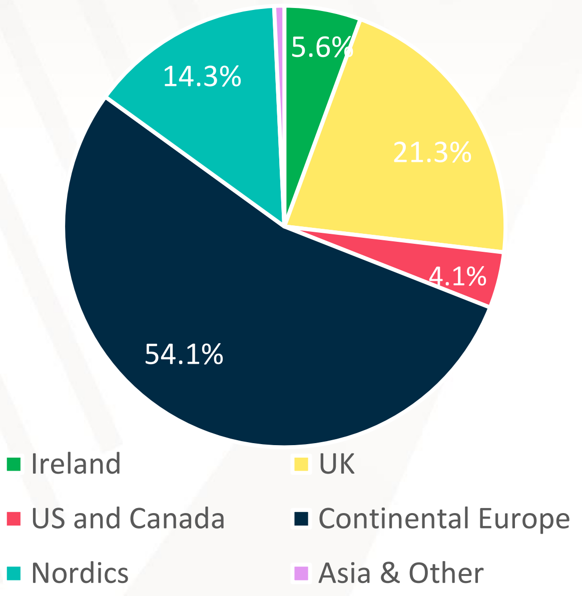
IGBs excludes those held by Eurosystem. Eurosystem holdings include SMP, PSPP, PEPP and CBI holdings of FRNs. Figures do not include ANFA. Other debt has included IMF, EFSF, EFSM, Bilateral as well as IBRC-related liabilities over time. Retail includes State Savings and other currency and deposits. The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

Investor base

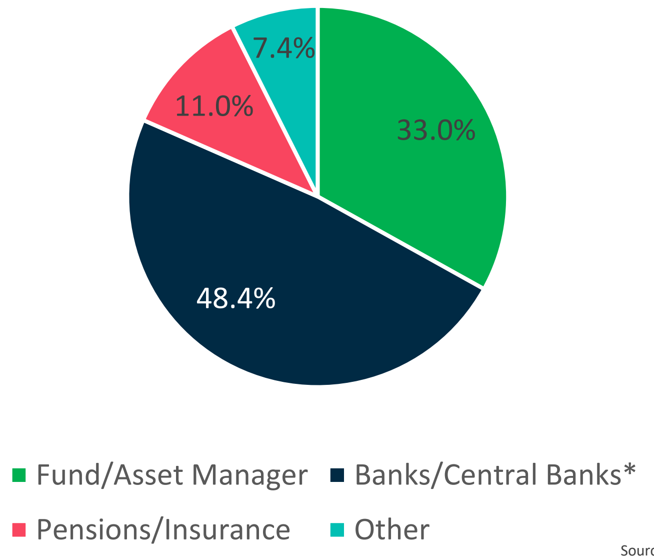
Demand for Government bonds is wide and varied

Country breakdown:
Average over last five syndications



Source: NTMA

Investor breakdown:
Average over last five syndications



Source: NTMA

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* Does not include ECB. ECB does not participate on primary market under its various asset purchasing programmes

Credit Ratings for Ireland

S&P upgrade in May 2023; 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+	Stable	May 2023	17th May
Fitch Ratings	AA-	F1+	Positive	Jan 2022	31st May
Moody's	Aa3	P-1	Stable	Apr 2023	H2 2024
DBRS Morningstar	AA(low)	R-1 (middle)	Stable	Jan 2022	22nd March
R&I	AA-	a-1+	Stable	Feb 2022	Q1 2024
KBRA	AA	K1+	Stable	May 2023	26th April
Scope	AA-	S-1+	Positive	May 2021	H2 2024

Apple case: Await CJEU decision

General Court found in Ireland/Apple's favour; AG proposes that Court set aside this judgment

- In 2016, the European Commission ruled that Ireland illegally provided State aid of up to €13bn, plus interest to Apple. This figure was based on the tax foregone as a result of a historic provision in Ireland's tax code. The Irish Government closed this provision on December 31st 2014. This case had nothing to do with Ireland's current corporate tax rate or regime.

- 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).

- The Advocate General (AG), an official adviser to the court, delivered his opinion on 9 November 2023. The AG recommended that the CJEU set aside the 2020 ruling and refer it back to the General Court for a new decision. The AG opinion does not form part of the CJEU's judgment but is considered by the Court when arriving at its final judgment.

- The CJEU will issue its final judgement at a later date. Pending the outcome of the legal process, the €13bn plus EU interest will remain in an escrow fund.

- **The NTMA has not included these funds in any of its issuance plans in the past or currently.** The funds are seen as separate and will be returned to Apple if the General Court's decision is upheld.

ESG

Issuance & government policy
demonstrate Ireland’s green commitment

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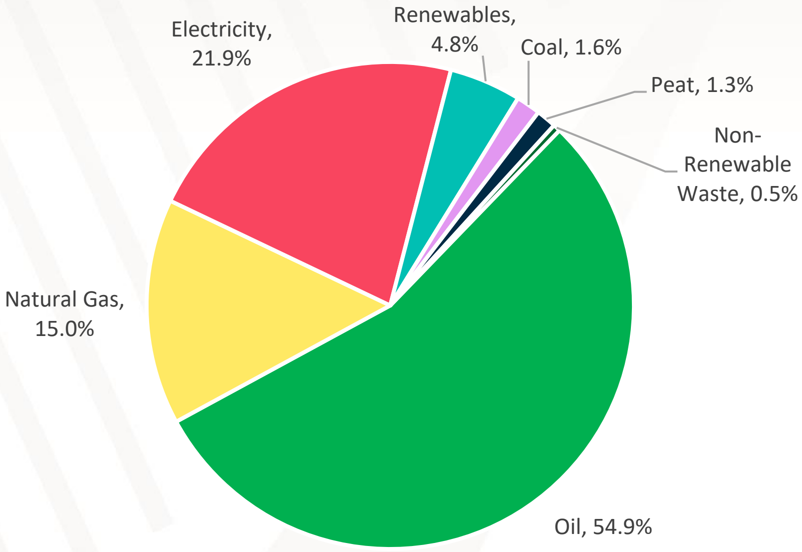
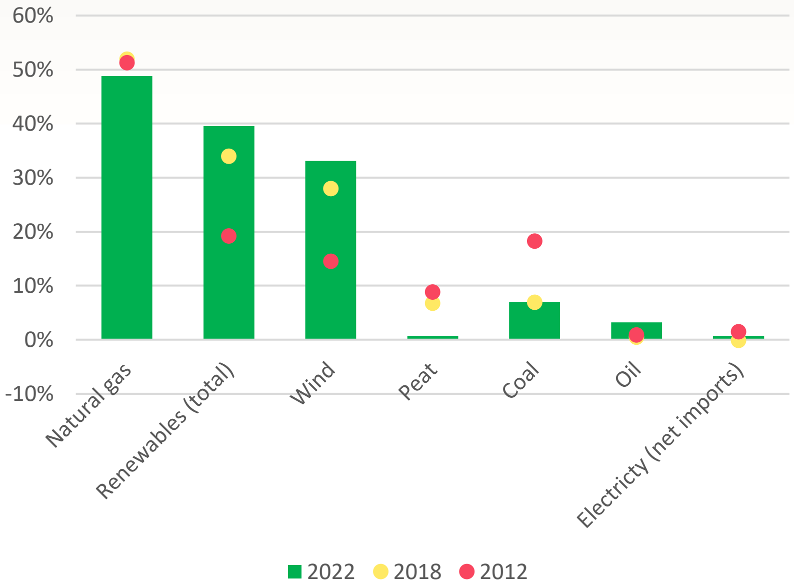
Ireland's energy: fossil fuels prevalent

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

Oil accounts for the largest share of Ireland's energy mix. Transport accounted for 72% of oil use in 2022



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

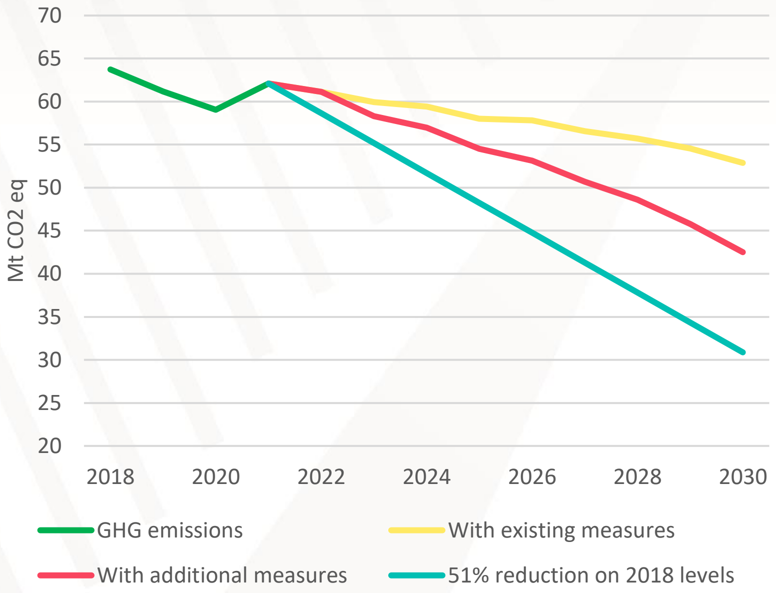


Source: SEAI

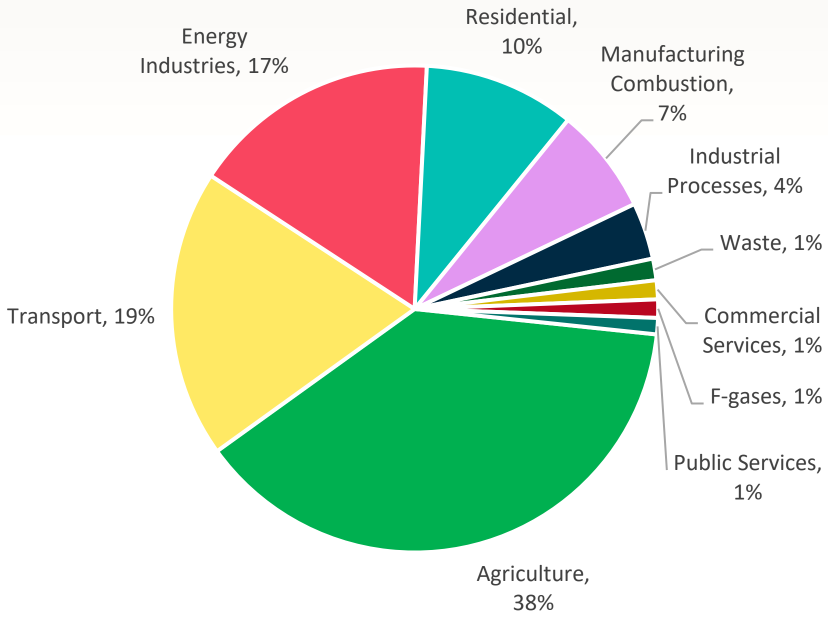
Ireland’s greenhouse gas emissions

EPA report notes further measures needed to achieve emissions reduction target

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



Emissions from agriculture make up a significant portion of the total In Ireland (c. 10% in EU and US)



Source: Environment Protection Agency (Ireland).

Note: Metric used is million tonnes carbon dioxide equivalent (Mt CO2eq). RHS is 2022 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.

Carbon Budgets & Sectoral Ceilings

Budget Period	2021-2025	2026-2030	2031-2035 (provisional)
MtCO2eq	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%

**F-gases, Petroleum Refining and Waste*

*** EPA Projections under the With Additional Measures scenario*

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 the 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 (ISGB)

Over €10bn issued in Green; allocated to green projects following fourth year

- €10.35bn nominal outstanding across two bonds (€10.8bn cash equivalent)
- Cumulatively €10.8bn 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
- Five annual allocation reports and four annual impact reports now published

Irish Sovereign Green Bond Impact Report 2021: Highlights*

- **Environmentally Sustainable Management of Living Natural Resources and Land Use**

  Number of hectares of forest planted: 2,016

  Number of Landfill Remediation projects being funded: 70
- **Renewable Energy**

  Number of companies (including public sector organisations) benefitting from SEAI Research & Innovation programmes as lead, partner or active collaborators : 143

  SEAI Research & Innovation awards: 48
- **Sustainable water and wastewater management**

  Water savings (litres of water per day) : 222.1 million

  New & upgraded water and wastewater treatment plants: 12

  Length of water main laid (total) : 202km

**For a more detailed break-down please see the ISGB 2021 Impact Report*

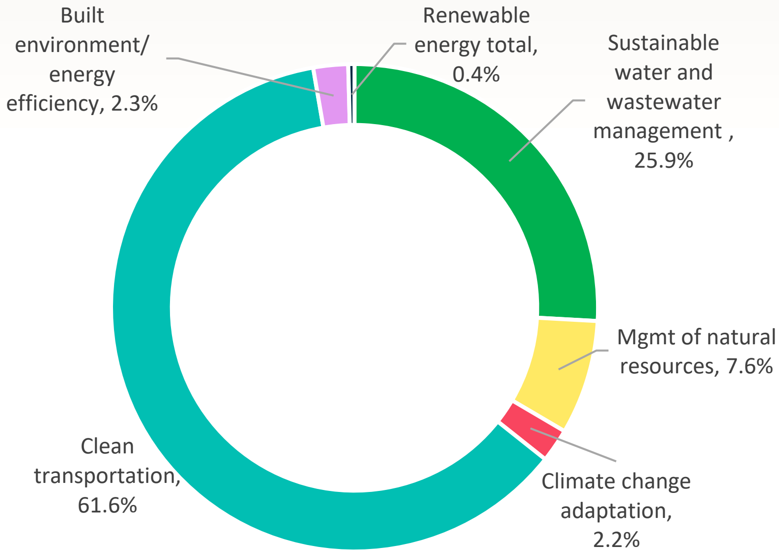
Irish Sovereign Green Bonds (ISGB)

Irish Sovereign Green Bond Impact Report 2021 & Allocation Report 2022: sample impacts

Some highlights from the report*

- **Built Environment/ Energy Efficiency**
  - Energy saving (GigaWattHours) : 458
  - Number of homes renovated : 17,187
  - EV home charger grants provided: 15,547
- **Clean Transportation**
  - Number of public transport passenger journeys: 139.8 million
  - Length of regional and national greenways constructed: 70km
  - 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.
  - 8,296 properties protected on completion

Allocation in 2022 of ISGB funding has focused on Water/Waste management and transportation



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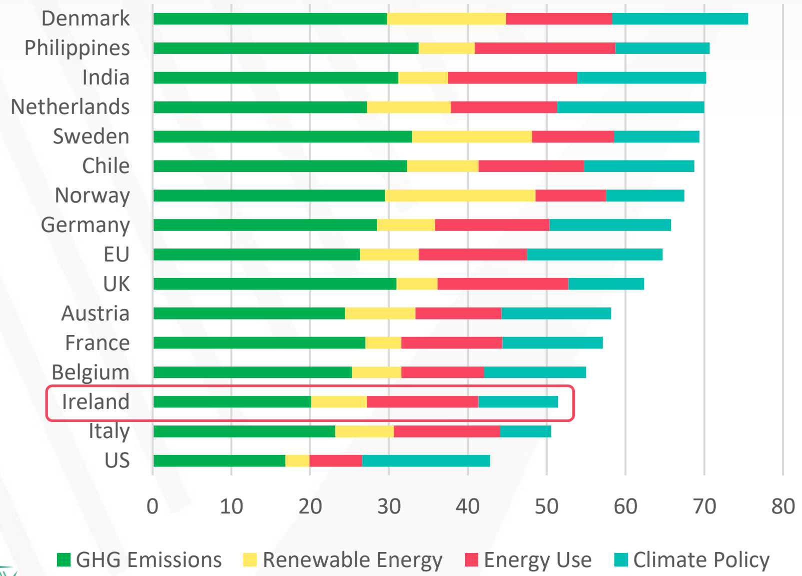
*For a more detailed break-down please see the Irish Sovereign Green Bond Allocation Report 2022

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

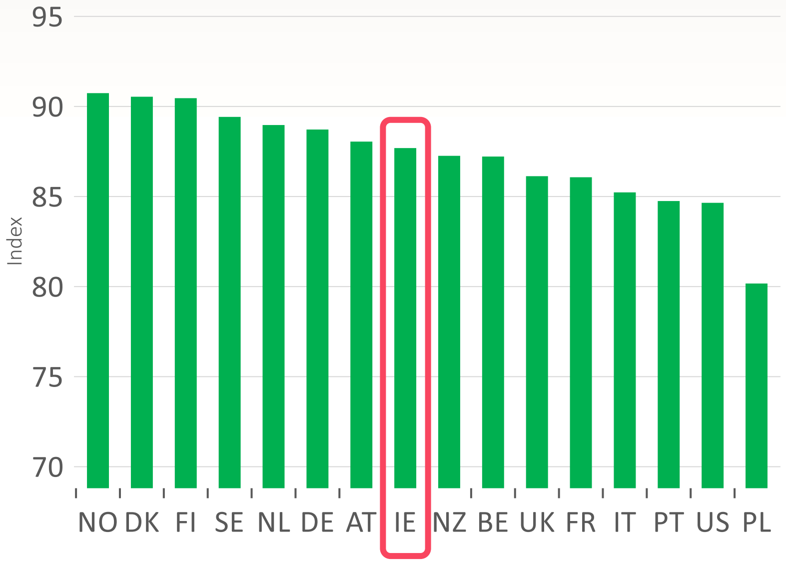
Action needed in sectors like energy and healthcare

Ireland ranks behind leaders like Denmark in current environmental metrics



Source: CCPI

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

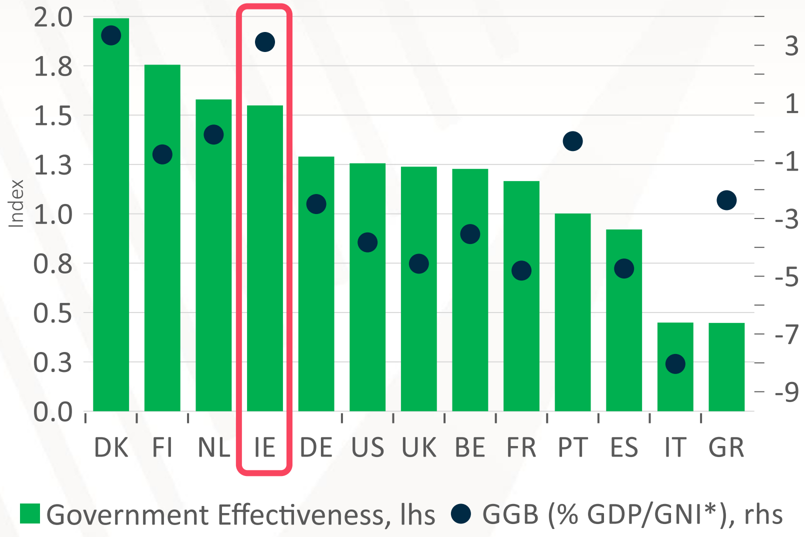


Source: SPI

Governance typically been Ireland's strength

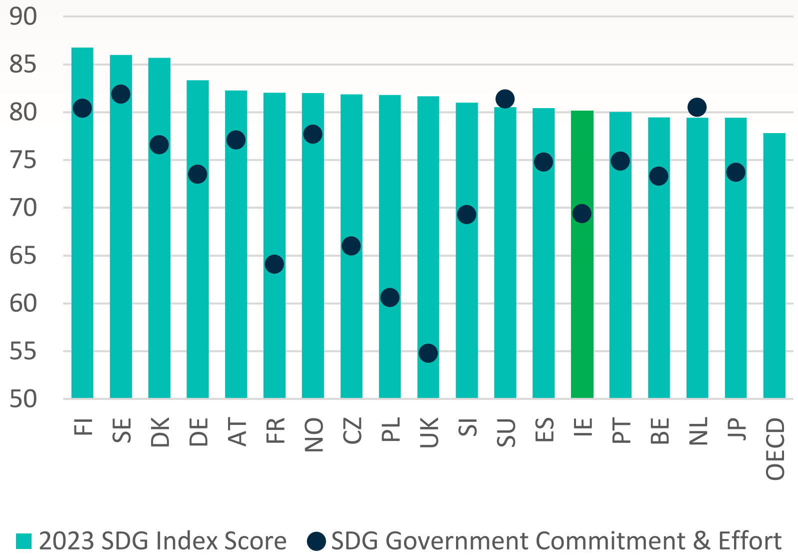
Viewed well on many indicators focusing on sound governance and institutional strength

Ireland is well positioned to tackle ESG challenges with strong government effectiveness and large fiscal surplus



Source: World Bank, DG ECFIN, Irish Department of Finance

Ireland ranked 9th globally on progress towards achieving the Sustainable Development Goals



Source: OECD Sustainable Development

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Structure of the Irish Economy

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

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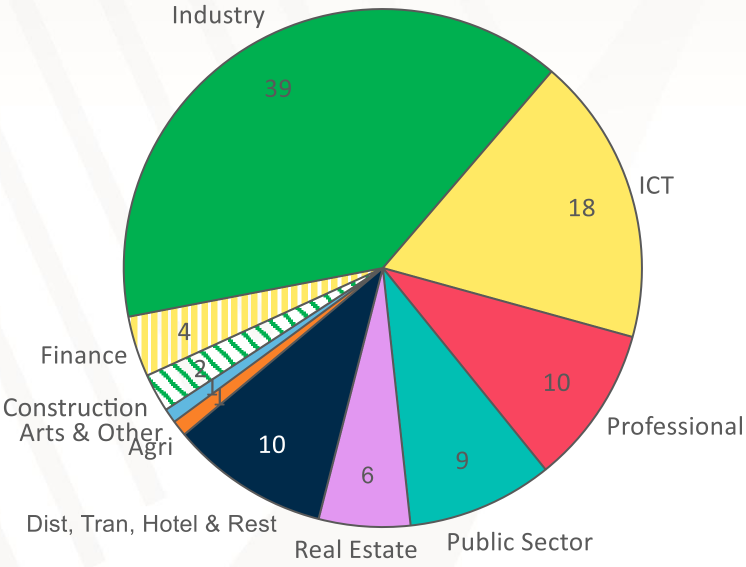
Multinational activity distorts Ireland's data

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	14	37
ICT (Tech)	7	10	19
Professional	10	14	10
Dist, Tran, Hotel & Rest	24	18	10
Public Sector	30	29	10
Real Estate	0	1	6
Financial	5	8	4
Construction	5	4	3
Agriculture	1	1	1
Arts & Other	4	2	1

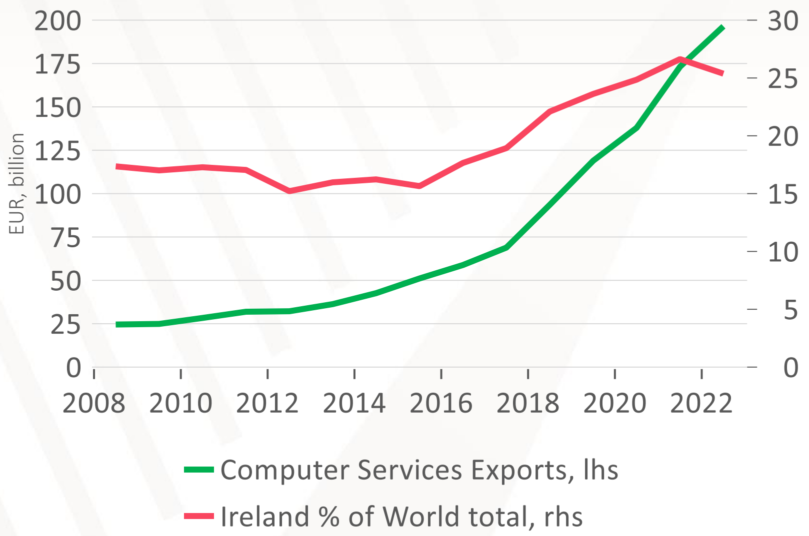
Source: Eurostat

Note: RHS based on calendar-adjusted seasonally-adjusted data as of 2023 Q3.

€0.68trn of intellectual property into Ireland

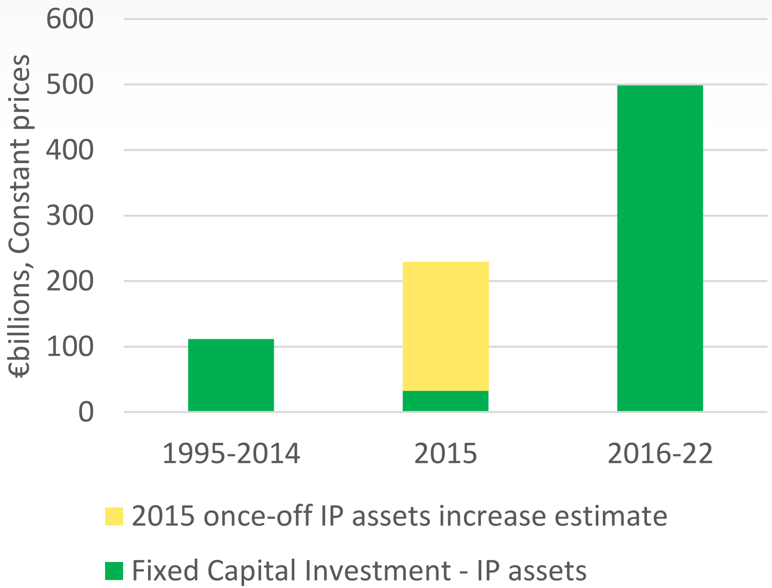
Assets brought here by tech. & pharma. in recent years

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



Source: CSO, WTO

Enormous inflows (c. €0.68trn) of IP assets into Ireland since 2015 on the back of BEPS 1.0 and other tax reforms

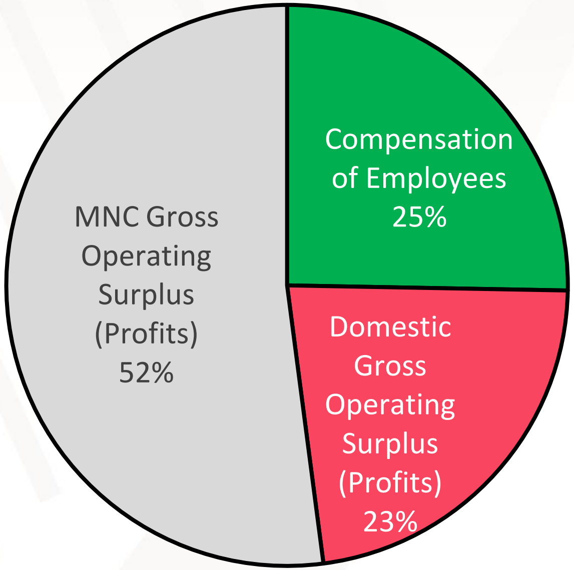


Source: CSO and NTMA analysis – Gross Fixed capital formation and Gross capital stock figures used in RHS chart

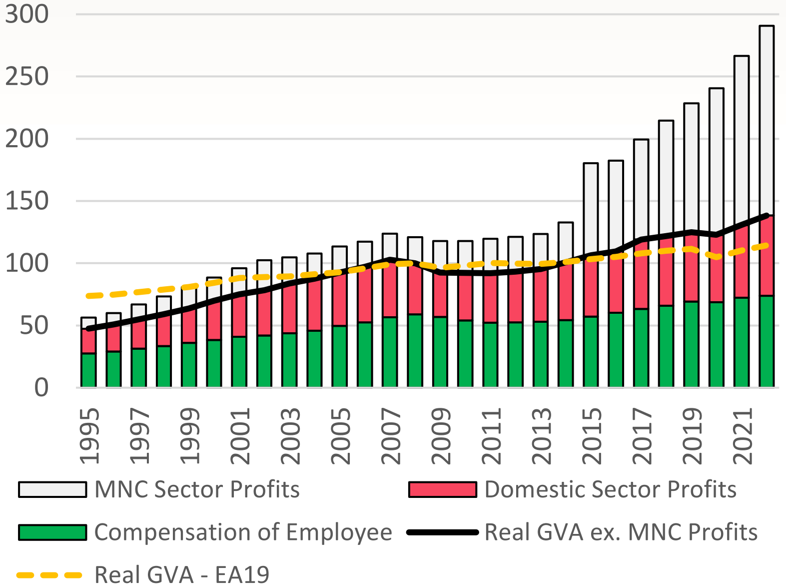
Underlying economy above EA average

MNCs add real substance to IE 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)



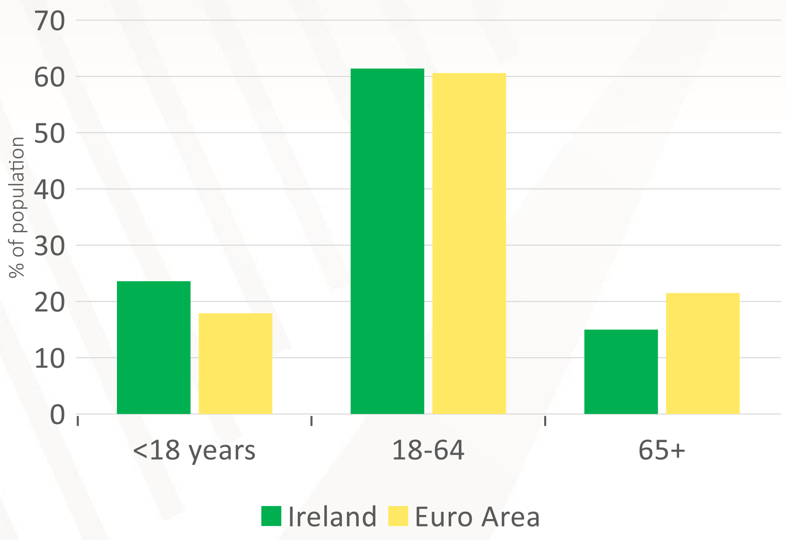
Source: CSO, NTMA calculations (Nominal 2022 data used in left chart)

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

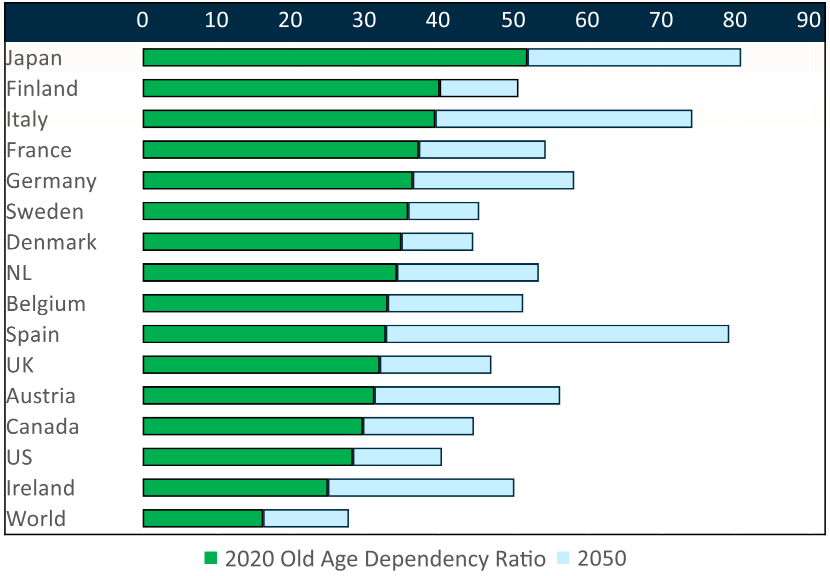
Age profile younger than the EU average but won’t outrun aging demographics

Ireland’s population at 5.28m in April 2023: younger population than EU



Source: Eurostat

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



Source: UNDESA

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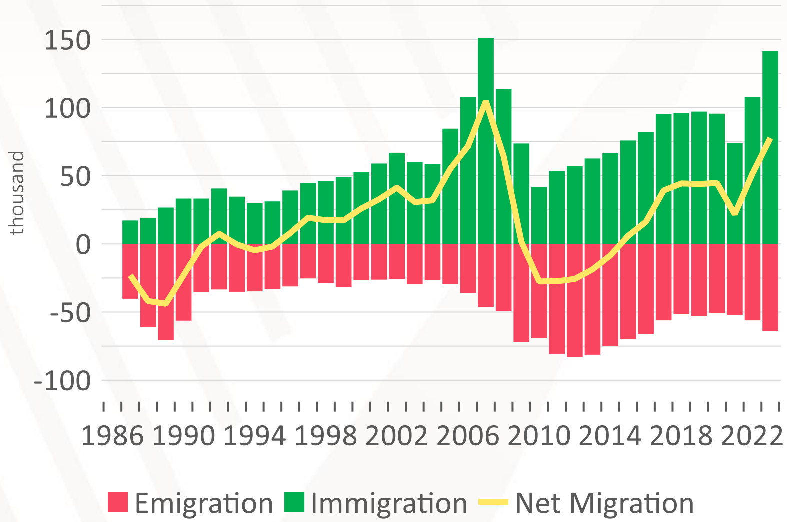
Migration improves Ireland's human capital

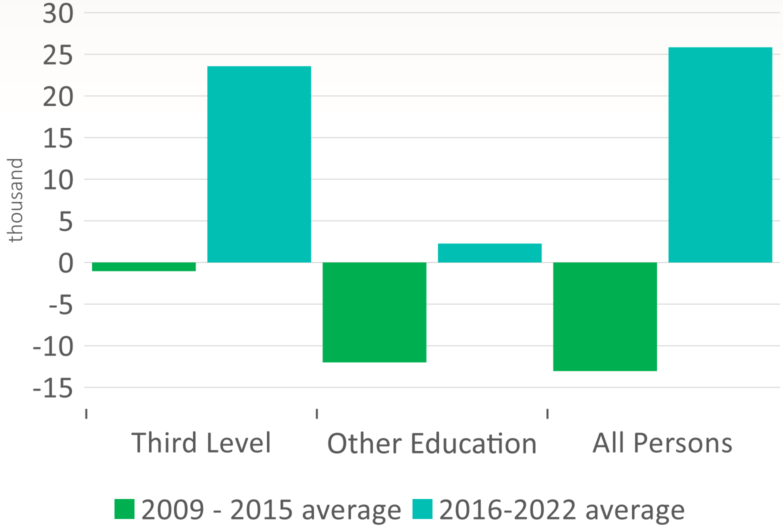
Ireland's net migration has swung back and forth on economic performance

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

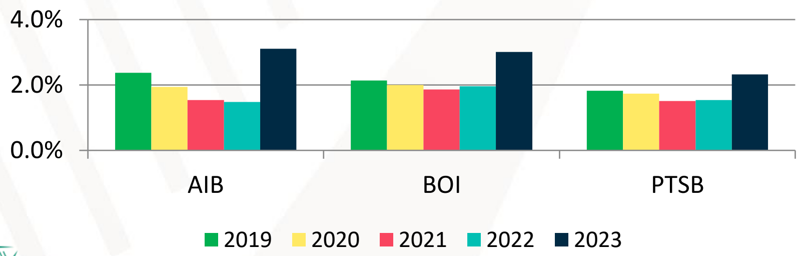
Migration figures based on year to April

Ireland’s Banking Sector Overview

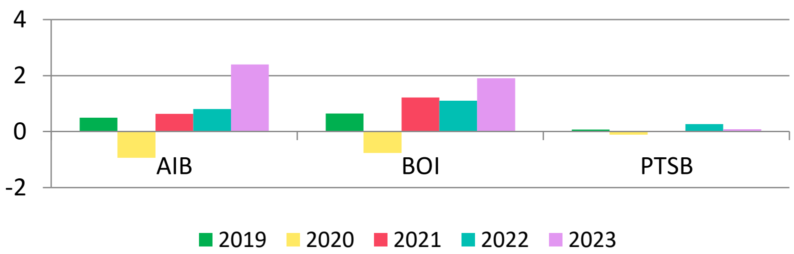
Less competition possible in decade to come

- Banking sector well capitalised with sufficient liquidity buffers
- Banks profitable as net interest margins helped by rising interest rate environment.
- Ulster Bank and KBC - both of which have no govt. ownership have left Irish banking market. Reduced competition is main impact.
- 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 2023/24. The Government owned approx. 41% of AIB and 57% of PTSB. Sales are likely to be ongoing as government divests from sector.

Net Interest Margin



Profit before Tax (€bns)



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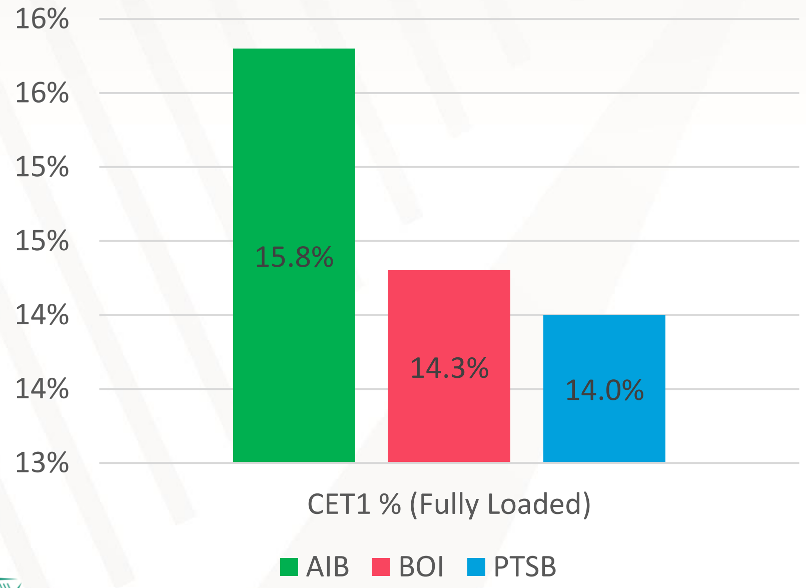
Source: Annual reports of banks - BOI, AIB, PTSB

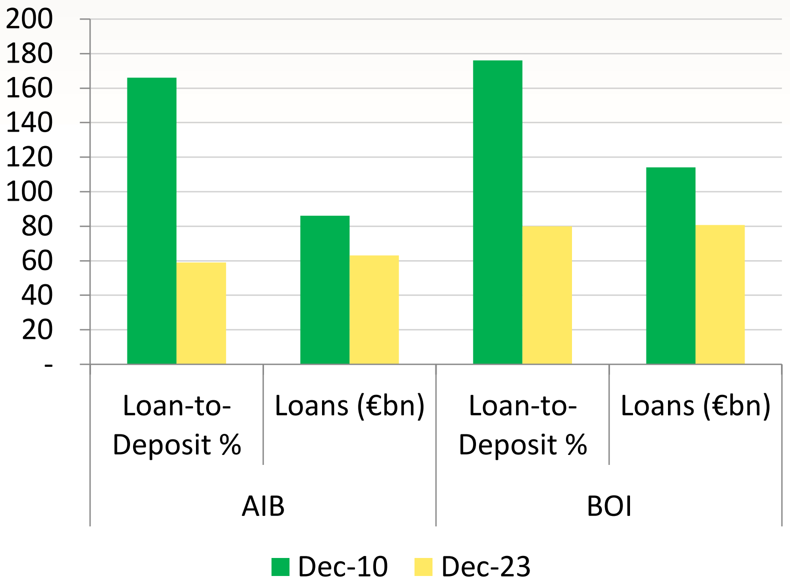
Capital ratios strong

Bank's balance sheets contracted and consolidated since GFC

CET 1 capital ratios allow for ample forbearance in 2024 if needed



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



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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 rate hikes and increased building costs

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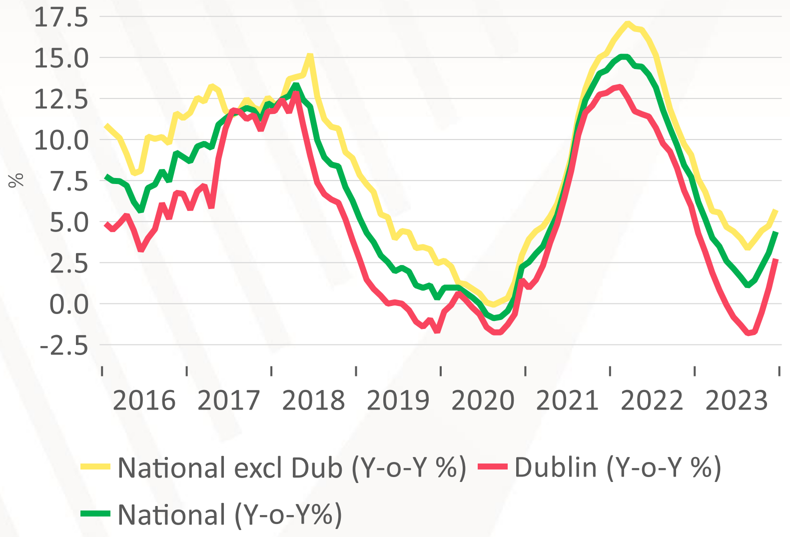
Prices up in recent years

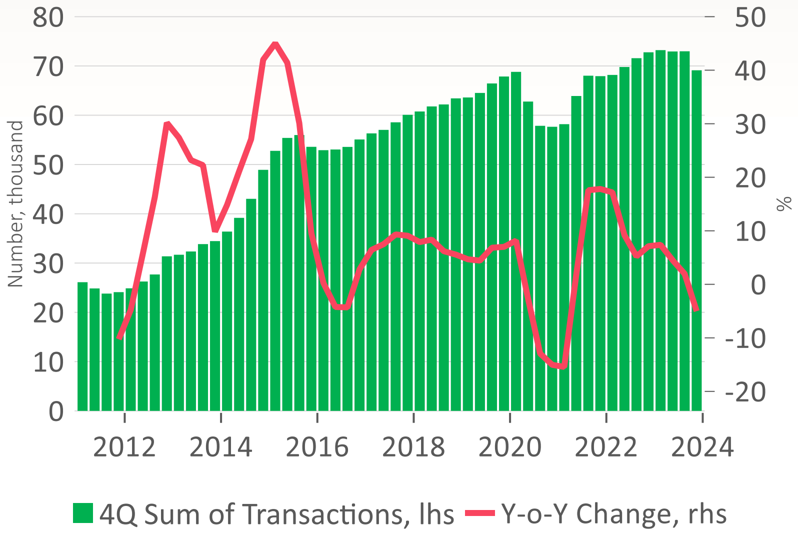
Supply hampered by the pandemic and inflation (c.40-50k units needed p.a.)

House prices up modestly y-on-y, above previous peak in 2007 – Dublin seeing prices stall in last year



Source: CSO

Transaction volumes have started to slow following ECB rate hikes



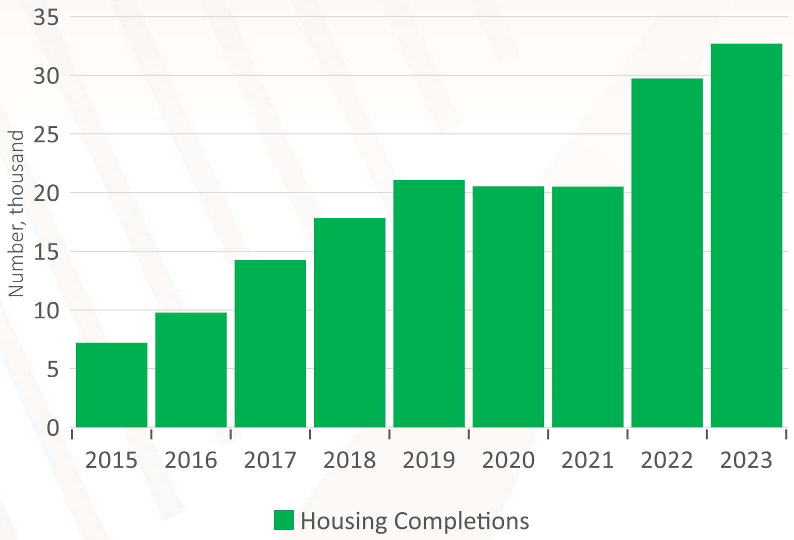
Source: CSO

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

Supply outlook better than expected

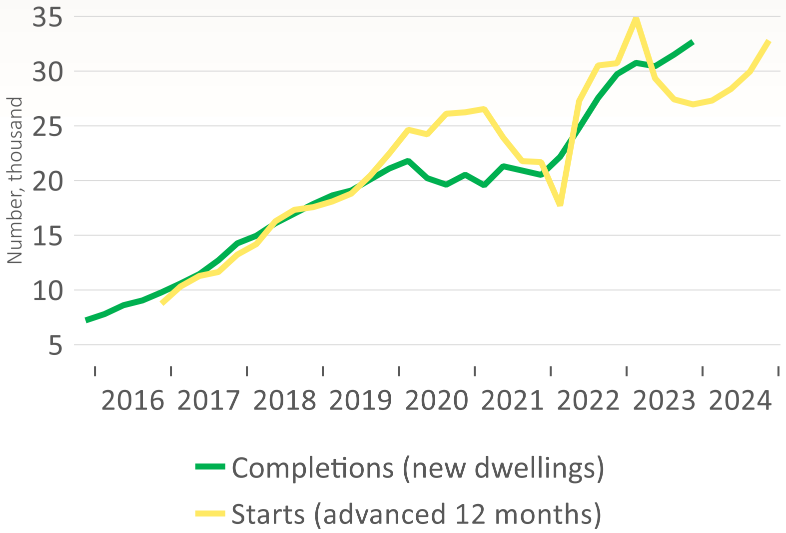
Stronger supply in 2023 with government assistance a key driver

New Dwellings Completions* exceeded 30,000 units threshold in 2023



Source: CSO

Housing starts show supply chain issues and inflation have weighed on development but have begun to rise again



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

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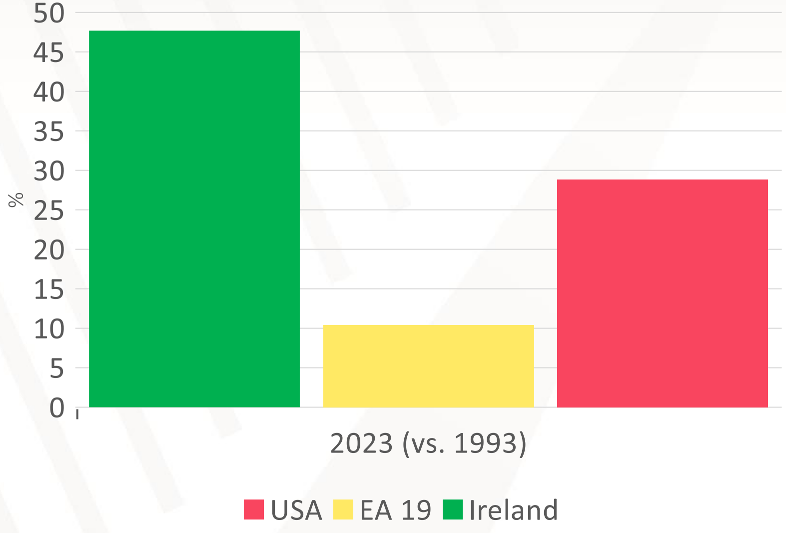
** Housing completions derived from electrical grid connection data for a property. Reconnections of old houses overstate the annual run rate of new building (all connections in graph).*

Demand is strong

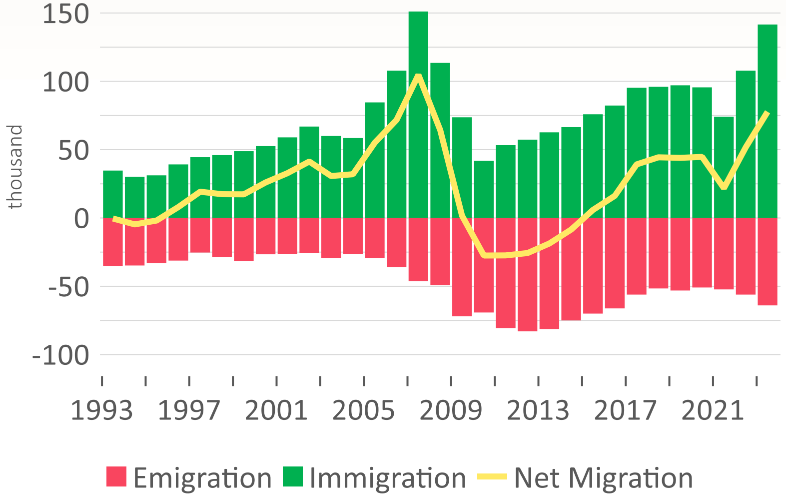
National population increase alongside net migration fuelling demand

Population has grown significantly for 30-40 years



Source: Eurostat, U.S. Census Bureau

Increased net migration given economy and refugees from Ukraine add demand for housing

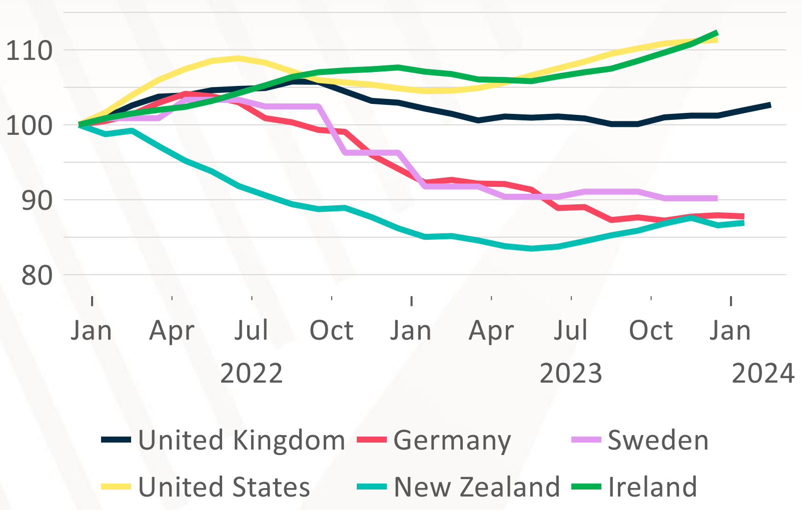


Source: CSO

House prices remain resilient amid hikes

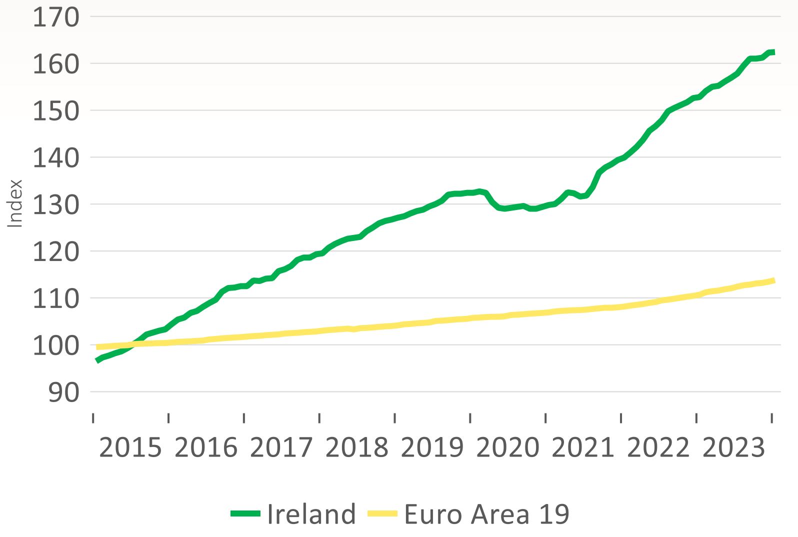
Demand has ensured prices and rents have increased

House prices have fallen in other countries but Irish prices have remained elevated



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

Rents pressures remain strong with a y-on-y increase of 6.2% in December (2015 = 100)

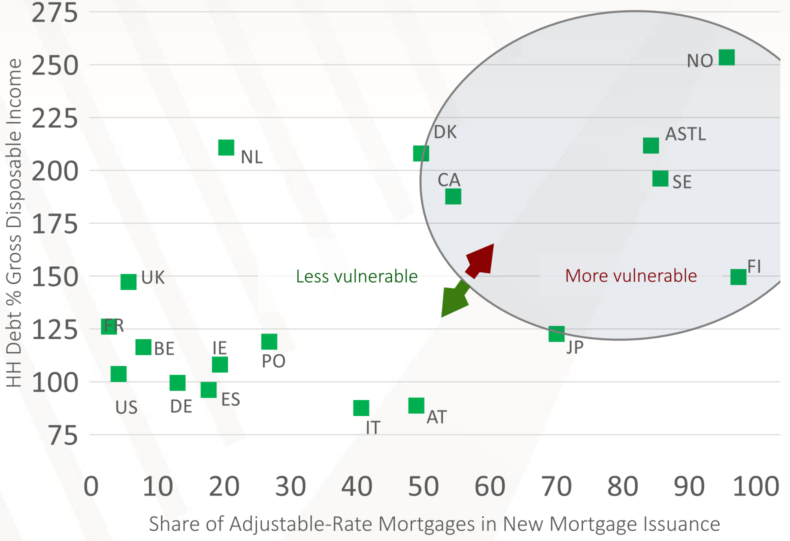


Source: Eurostat

Ireland less vulnerable to rising interest rates

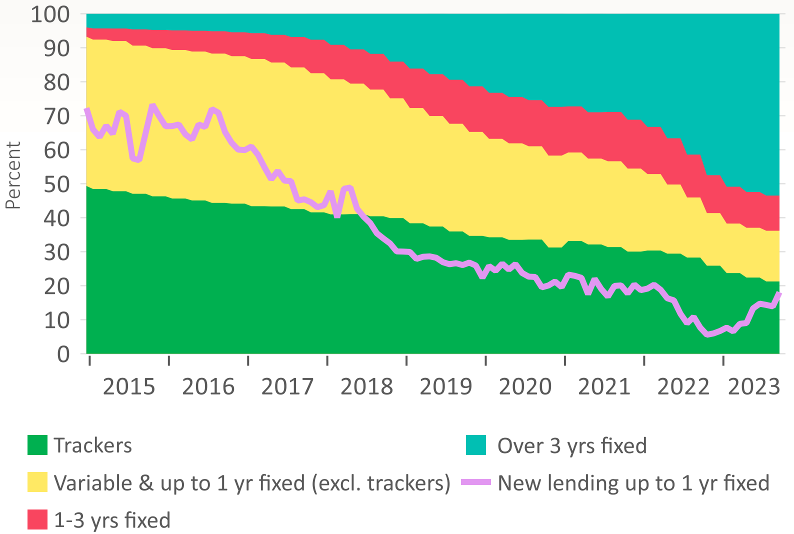
But could pose a greater threat in the medium term

Low share of adjustable rate mortgage and low HH debt to income ratios- Ireland less exposed to rising interest rates



Source: OECD, ECB, FHFA

…but most mortgages in Ireland exposed to higher interest rates over the medium term



Source: Central Bank of Ireland

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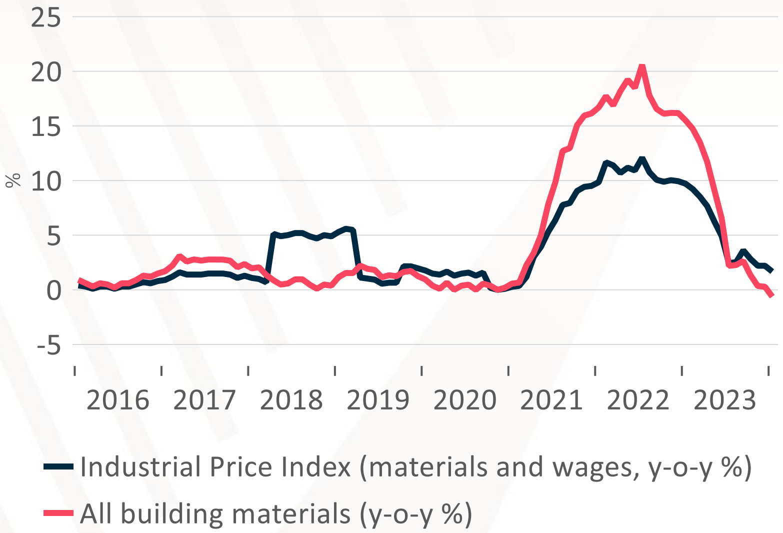
Inflation normalising in construction sector

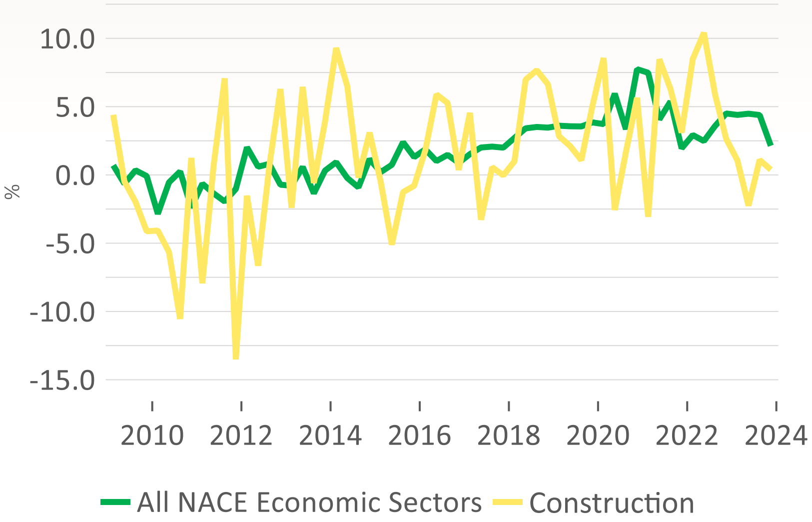
Growth in material and labour costs has softened in recent months

Materials inflation in the sector is past its peak but level is elevated



Source: CSO

Labour costs in construction variable but growing roughly in line with overall wage growth



Source: CSO

RHS = weekly earnings on a 4Q yearly growth rate

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