

Ireland: Supports and surplus heading in uncertain winter

NTMA Investor Presentation
October 2022



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

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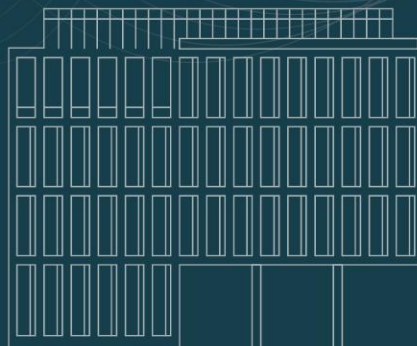


Summary

Irish economic resilience clear in
labour market and tax data



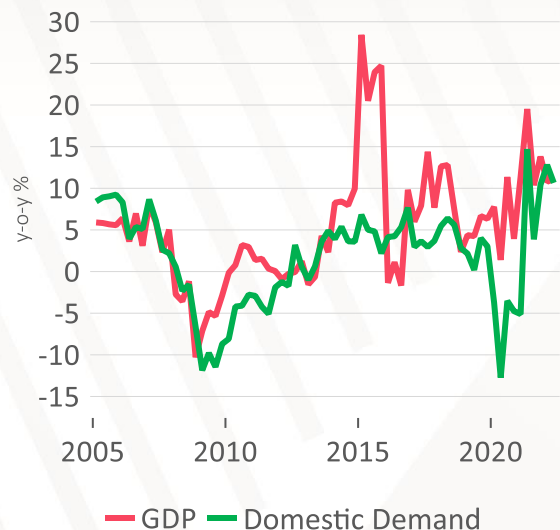
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Domestic economic recovery evident

Ukraine conflict/inflation/tightening monetary policy likely to impact growth

Domestic demand* gives better picture of recent economics swings



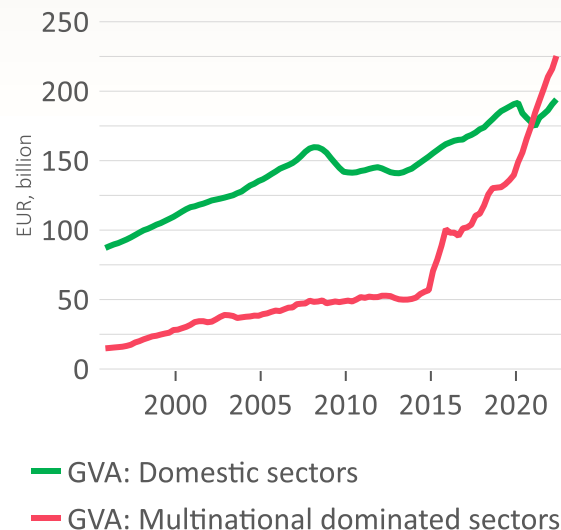
Source: CSO

Unemployment is low again – labour market back close to full employment



Source: CSO

Value added from ICT & pharma has given Ireland resilience



Source: CSO



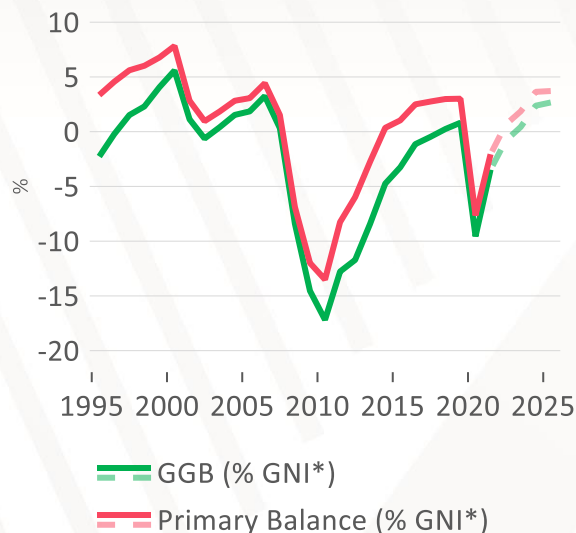
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* Domestic demand series accounts for multinational activity and known as modified final domestic demand (excludes inventories)

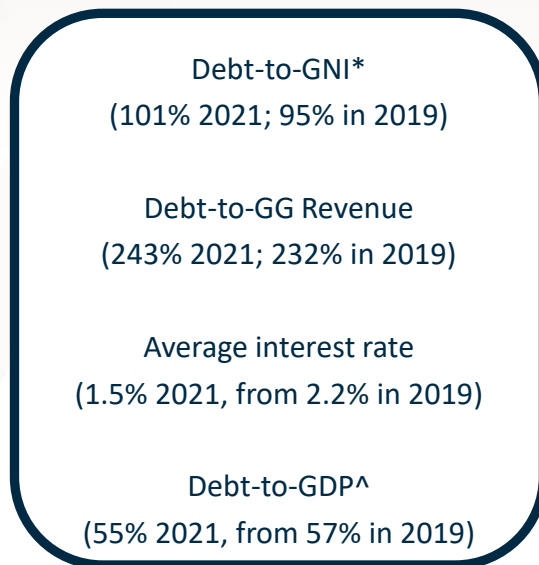
Government set for surplus this year

Debt to GNI* to fall again in 2022

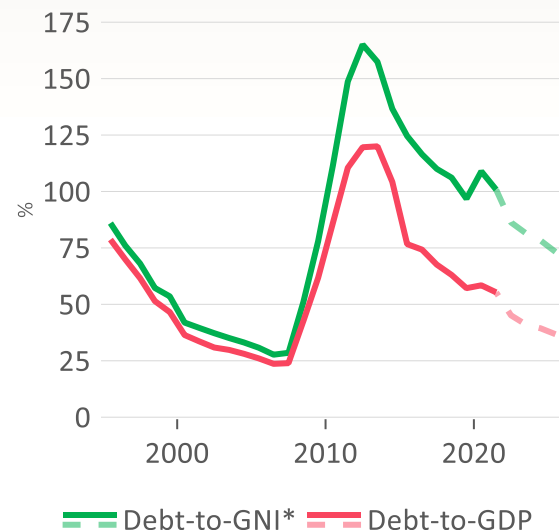
Forecasted 2022 GG surplus of 0.4% of GNI* after revenue strength



Debt position temporary reversed by Covid response



Debt to GNI* to fall below 90% in 2022 after strong economic recovery



Source: CSO, Irish Department of Finance forecasts
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^ Debt to GDP is not an appropriate metric to use for Ireland

Source: NTMA, CSO, Irish Department of Finance forecasts

Medium term economic challenges

Recovery amid energy price shocks, global slowdown and broadening inflation

Growth

Real consumption was strong in Q2. Direct exposure to Ukraine conflict is limited but indirect impact on energy costs will increasingly be a factor.

Labour market strength gives comfort

Fiscal

Deficit set for surplus in 2022 as economic recovery buoys revenues. Heading into uncertain period in good fiscal shape

Spending on cost-of-living measures announced in Budget 2023

Inflation

High inflation in Ireland similar to any other developed economy

Inflation and rate hikes will slow growth momentum but Ireland enters uncertain phase in full employment



2022 funding complete at €7bn

Revenue strength meant funding came in below original funding range of €10-14bn

Cash

Improving fiscal position alongside NTMA's strategy of prefunding means Ireland has a strong cash position

This affords the NTMA a large degree of flexibility

>10 years

Weighted average maturity of debt one of longest in Europe

NTMA issuance since 2020 has a weighted average maturity of 12.8 years

AA-

Ireland rated in the AA-category with nearly all major rating agencies

Despite Covid impact, Fitch and DBRS upgraded their rating for Ireland to AA space. Moody's upgraded to A1 (positive outlook)

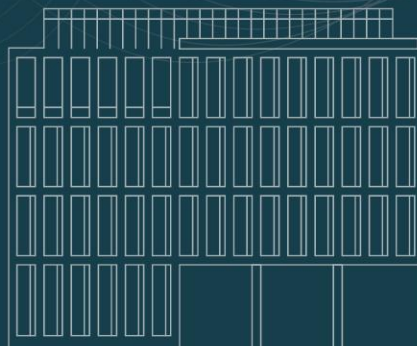


Macro

Data show domestic recovery but real consumption hit by energy prices



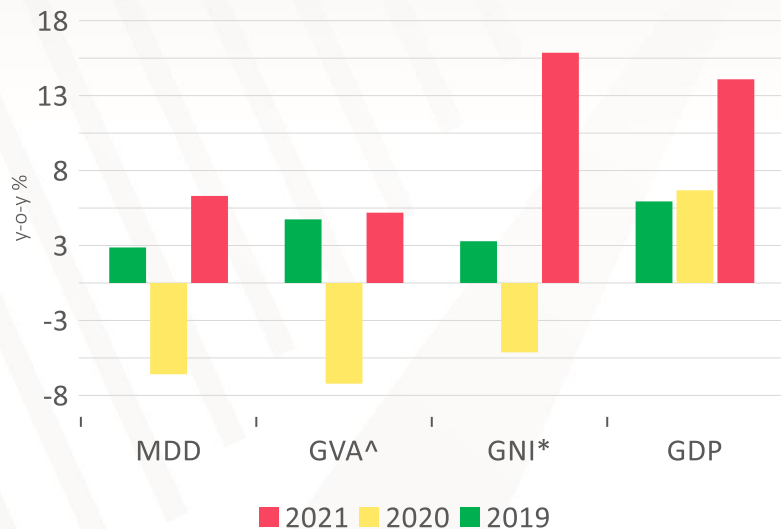
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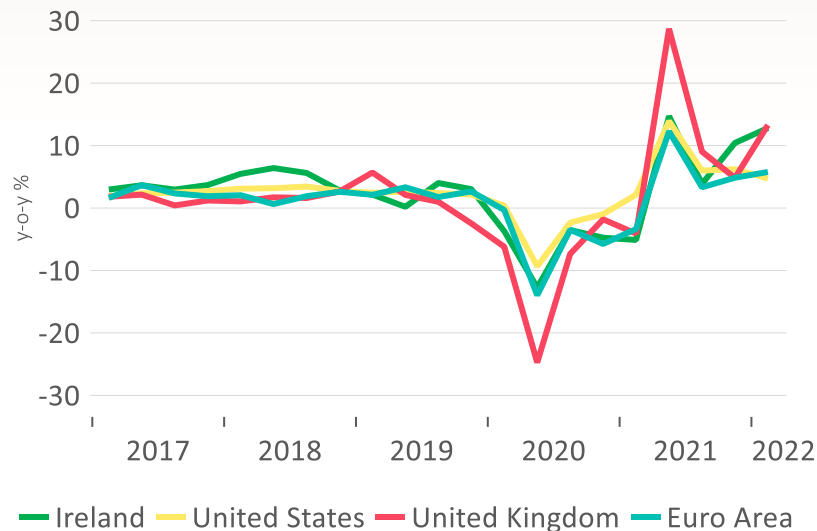
Ireland performing relatively well

Modified domestic demand gives the best guide

Modified Domestic Demand and GVA (excluding foreign-owned MNEs) place growth at 5-6% last year



Irish MDD bounced back in Q2 2022 (4.3% q-o-q) and better than euro area on similar metrics^{*}



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Source: CSO

Note: MFDD for Ireland is modified for multinational activity by Ireland's Central Statistics Office (CSO). MDD = Consumption + Government (current) spending + Modified Investment. [^] GVA excluding foreign multinational enterprises

^{*} Series for US, UK and Euro area = Consumption + Government spending + Domestic investment

Source: CSO, BEA, ONS, Eurostat

Growth expected for Ireland in 2022

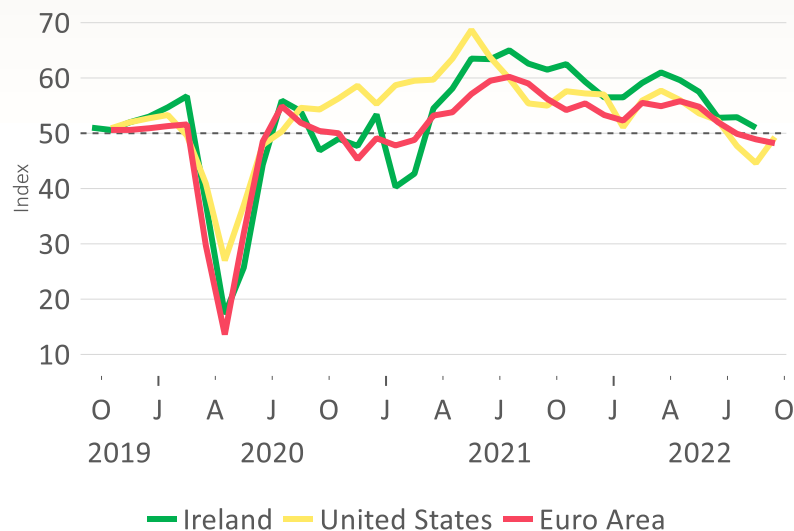
Q2 MDD data rebounded after disappointing Q1, PMIs show slowdown like elsewhere

Government forecasts growth could be 7.7% in 2022 but there are obvious downside risks for H2

	Annual Growth Q2 vs Q2 2021	Quarterly Growth Q2 vs Q1 2022
GDP	11.1	1.8
MDD	10.6	4.3
Consumption	5.6	1.8
Gov't Spending	2.6	2.7
Mod. Investment	33.3	11.4
Employee Compensation	12.2	2.5

Source: CSO

Ireland's Composite PMI better than euro area for some time but slowdown is becoming evident



Source: IHS Markit



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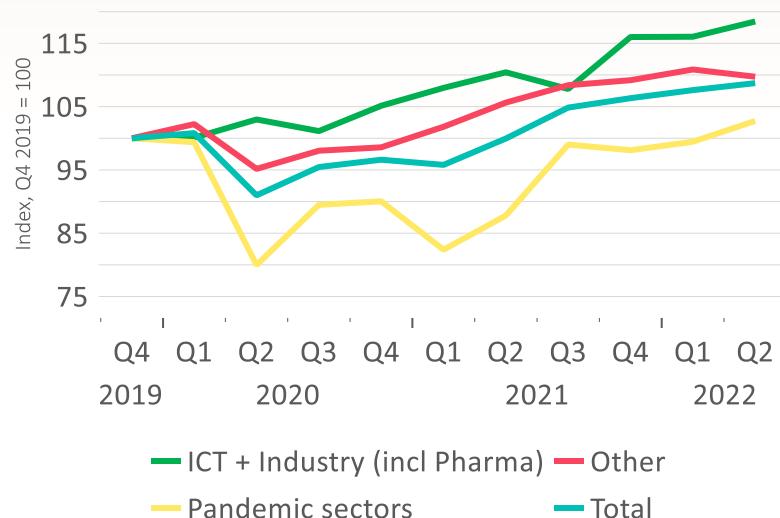
Labour market strength evident in 2022

Unemployment rate well below pre-pandemic levels

Unemployment rate at 4.3% in September – full employment position achieved



Employment growth exceptional for MNC firms; pandemic-affected sectors at pre-Covid levels



Source: CSO

Source: CSO



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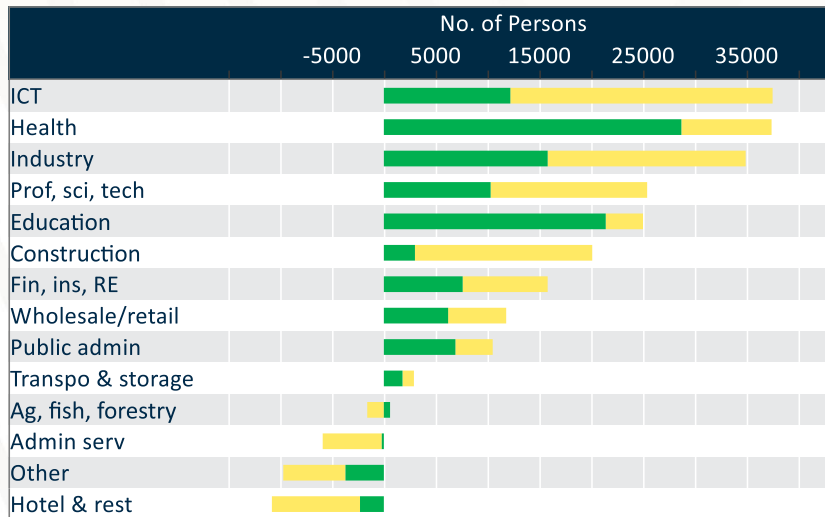
* * Unemployment rate series shown uses the Covid adjusted unemployment rate between March 2020 and Feb 2022 and the standard unemployment rate elsewhere.

Nearly all sectors back above 2019 level

Next quarters critical for wage-price spiral concerns

Job gains broad-based, with female employment up 10.0% compared to pre-pandemic, vs 4.6% for males

Q2 2022 vs Q4 2019



Male Female

Earnings data remain positive, but pandemic-related issues still evident in measures of labour costs



Source: CSO



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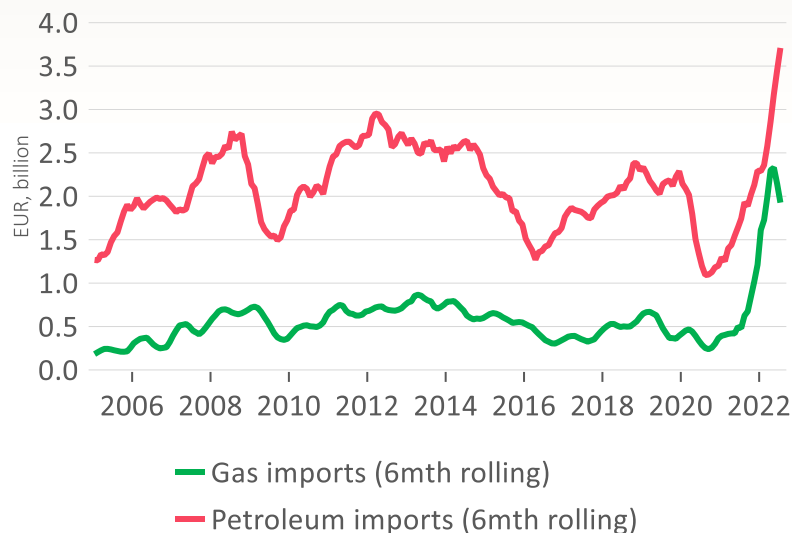
Source: CSO

External environment concerning

Central banks removing extraordinary stimulus as global slowdown expected

	2021	2022
EA Monetary Policy	Max accommodative	Purchases ended; Rate normalisation
EU Fiscal Policy	Expansionary	Expansionary
US Monetary Policy	Max accommodative	Move to >3.5% policy rate expected
US growth	Rebound	Decelerating growth
Oil price	Rising	Elevated
UK growth	Rebound	Decelerating growth
Euro Growth	Rebound	Decelerating growth, energy supply/costs
Global Inflation	Rising	Elevated in 2022

Ireland price taker on Oil/Gas: €7bn (3.5% of MDD) spent on fuel imports in Jan - July 2022, greater than all of 2021



Source: CSO

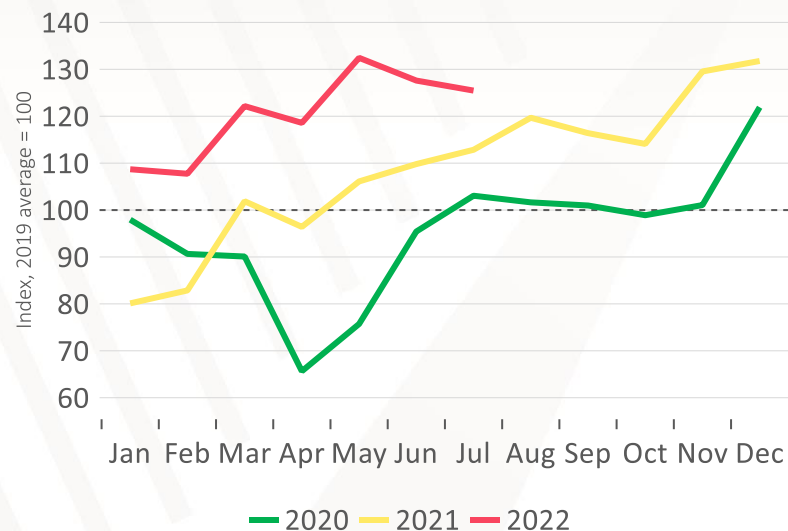


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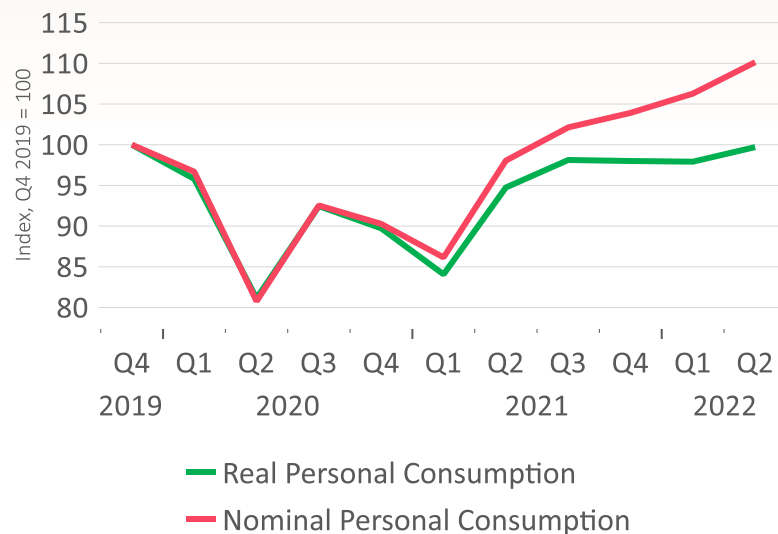
Nominal Spending up: real spending flat

Inflation is now clearly eating into real consumption

Card spending data* show a strong start in 2022 compared to average spending in 2019 (nominal data)



High-inflation environment hitting real consumption as divergence between real and nominal spending widens



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Source: Central Bank of Ireland

* CBI spending data is nominal data and not seasonally adjusted

Source: CSO

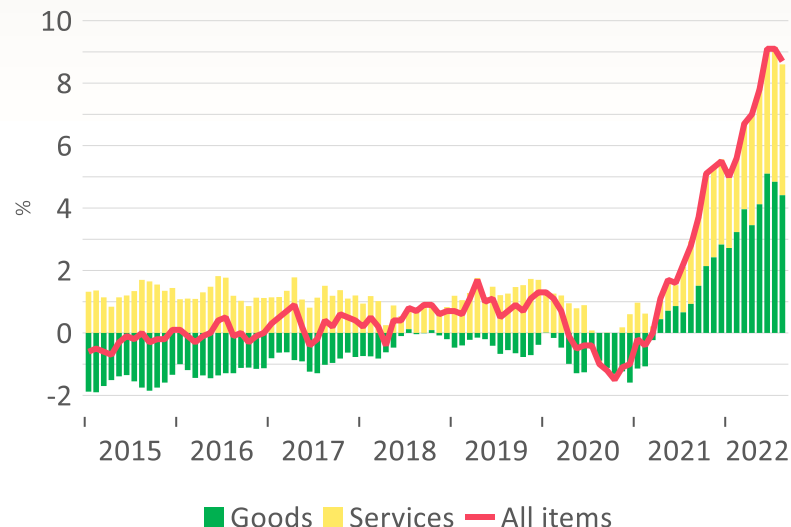
Inflation at 8.6% in Ireland

Energy and pandemic are big drivers but core inflation also elevated

Energy prices driving a proportion of headline inflation but core measure also elevated



Goods inflation impacted by energy prices – services inflation could be stickier



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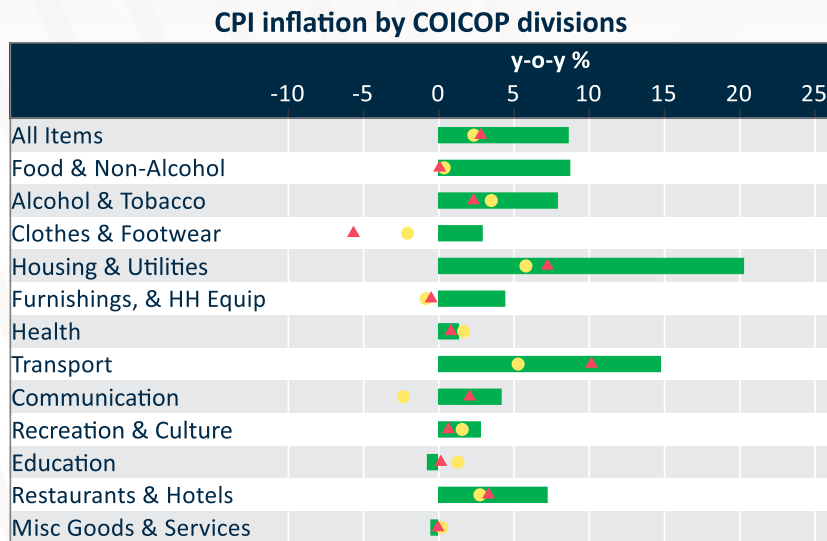
Source: Eurostat

Source: CSO

Inflationary pressure broadening

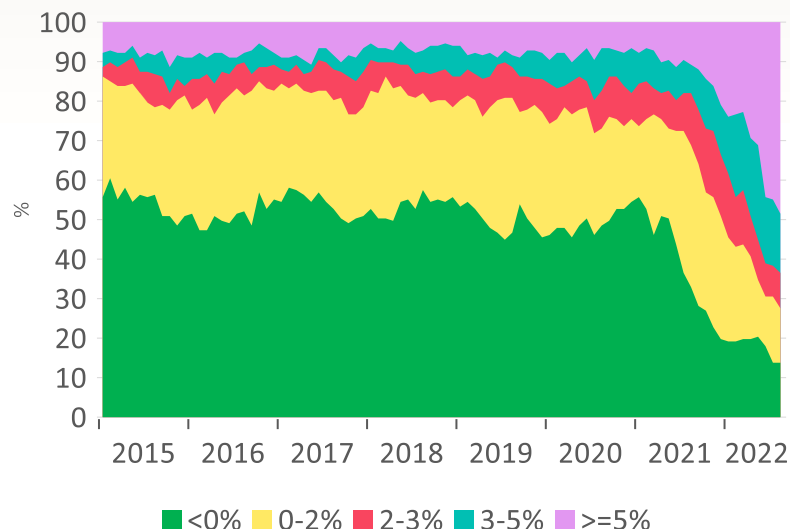
Re-opening and energy evident in inflation index

Biggest pick-up in inflation concentrated in energy and Covid-hit sectors



▲ 1 year ago ● 3 year average ■ August 2022

Inflation is broadening: 50% of products in CPI basket are seeing >5% annual inflation



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Source: CSO

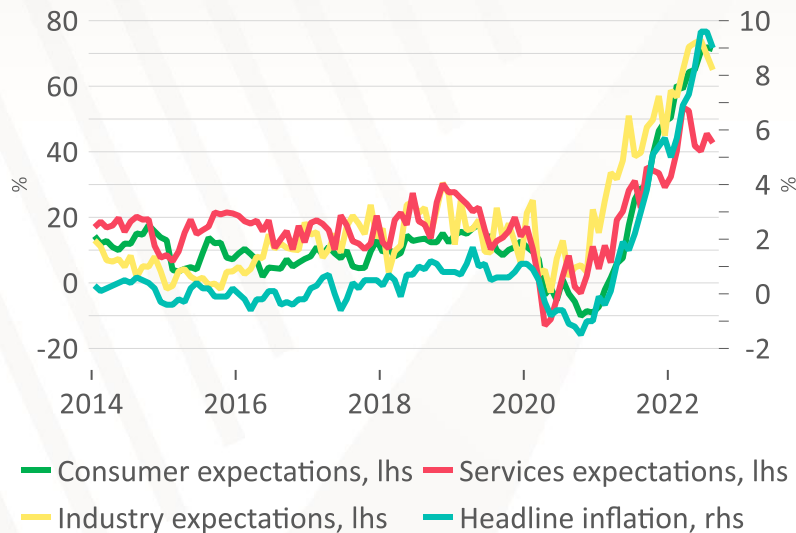
Source: CSO

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

Sustained inflation an obvious risk

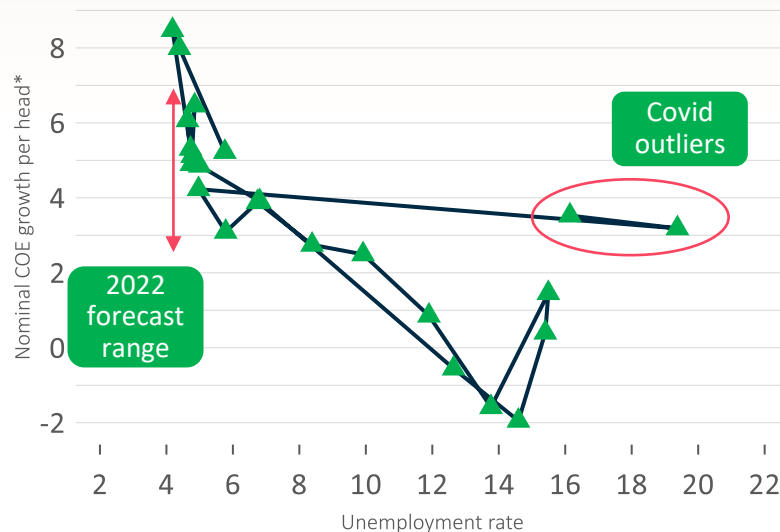
Phillips curve historically has held in Ireland

Inflation expectations picking up for consumers and businesses



Source: DG ECFIN, Eurostat

Phillips curve has held in Ireland in recent past and unemployment is below 5%



Source: CSO, Eurostat



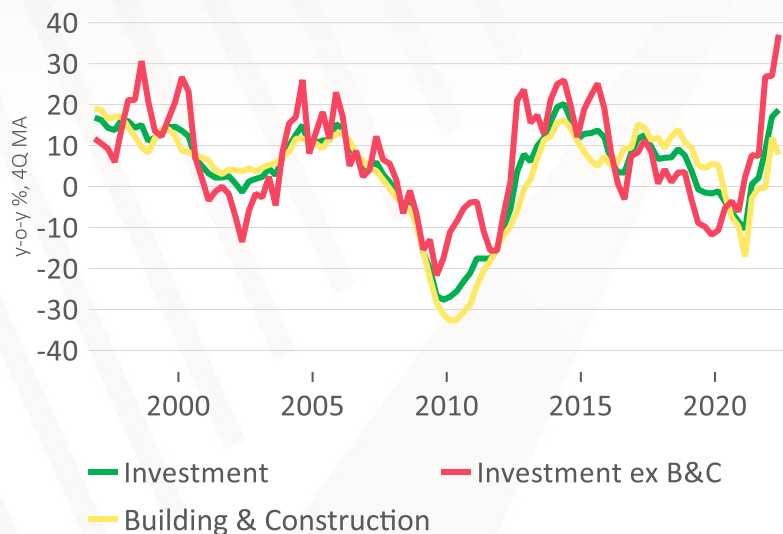
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* Excludes agriculture incomes

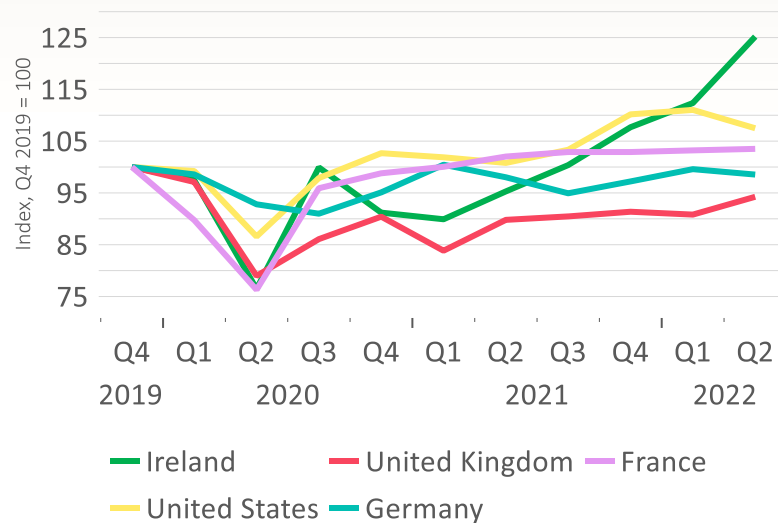
Investment is rebounding strongly

Modified investment well up on pre-pandemic but likely bolstered by one-off factors

Computer hardware investment, data centres and new dwelling construction driving modified investment



Irish investment since pre-pandemic has strengthened comparatively in recent quarters



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Source: CSO

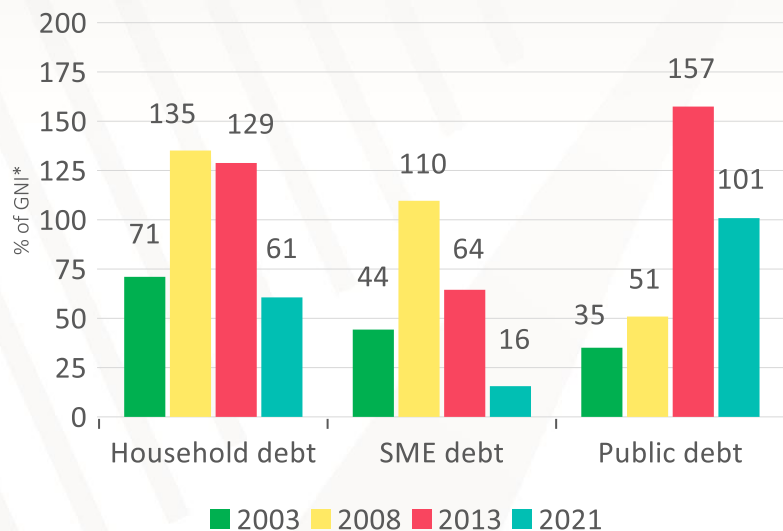
Note: Ireland metric is modified investment, which strips out multinational activity

Source: CSO, BEA, DESTATIS, ONS, INSEE

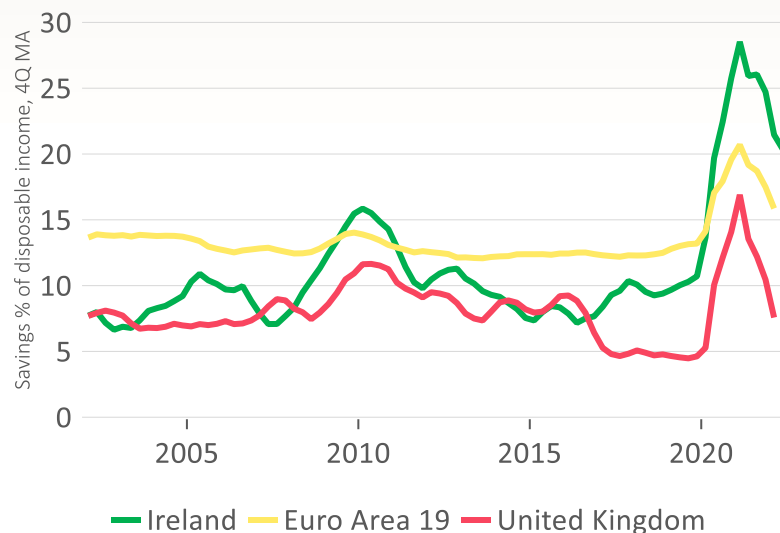
Households balance sheets improved

Debt levels much lower coming into pandemic + new Covid savings

Legacy of 2008-12 financial crisis and Covid is on
Government not private balance sheets



Gross HH saving rates have jumped in Ireland more than in
most countries due to forced savings/income supports



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Source: Central Bank of Ireland, Eurostat, CSO

Source: CSO, ONS, Eurostat

Note: Gross Savings as calculated by the CSO has tended to be a volatile series, some caution is warranted when interpreting this data

OECD's BEPS process may impact FDI offering

Ireland signed up to agreement; implementation has been delayed to 2024 at earliest

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

- ▶ Over 130 countries have signed on for the BEPS 2.0 two-pillar set of reforms.
- ▶ The first pillar focuses on proposals that would re-allocate some taxing rights between jurisdictions where companies reside and the markets where user/consumers are based.
- ▶ Under such a proposal, a proportion of profits would be re-allocated from small countries to large countries.
- ▶ Pillar 1 will reduce Ireland's corporation tax base. Some estimates place the hit at up to €2bn per annum by the middle of the decade.
- ▶ Ireland has always been fully supportive of Pillar One despite the implied cost to the Exchequer.

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.
- ▶ Ireland had reservations on the minimum tax rate proposal but signed up after further clarity was given.
- ▶ The minimum rate is greater than the 12.5% rate that Ireland levies and thus some of Ireland's comparative advantage in attracting FDI will be lost.
- ▶ Ireland can lean on other positives; educated and young workforce, English speaking, EU access, and ease of doing business
- ▶ At 15% corporate tax rate, Ireland's rate remains one of the lowest in the EU.

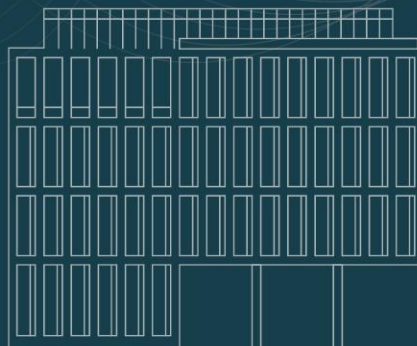


Fiscal

Surplus expected on back of strong revenue growth



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Ireland set for surplus in 2022

Recovery in fiscal position in just three years – thanks to strong revenues

Response

GG Deficit was large in 2020 at €19bn but fell to €7.1bn in 2021 (3.1% of GNI*).

Govt. forecasts a small surplus of €1bn (0.4% of GNI*) in 2022

Revenues

Ireland's economic structure has meant revenues have rebounded strongly.

Strength of both Corporate and Income tax revenues from multinational sectors has helped buoy government finances

Debt

Debt ratios increased due to Covid with modest jump in 2021 for debt to GNI*

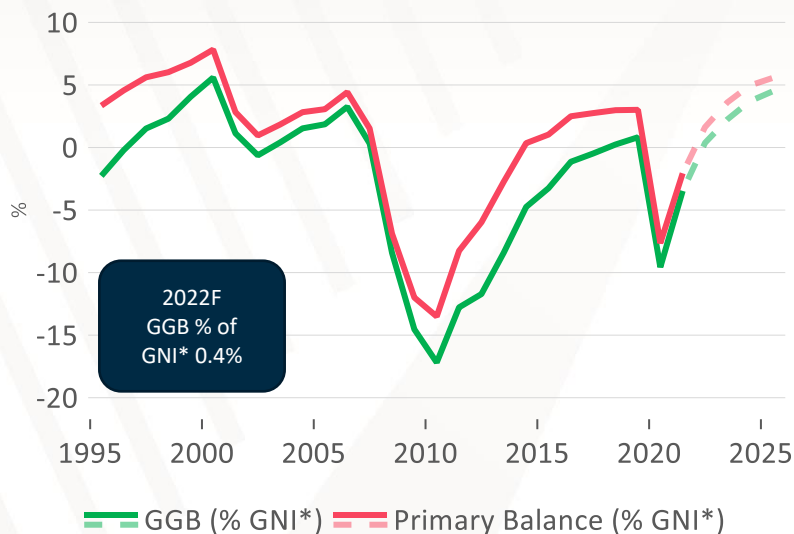
End-2021 ratio at 101%. Ratio will fall closer to pre-pandemic levels by end-2022 (c. 95%)



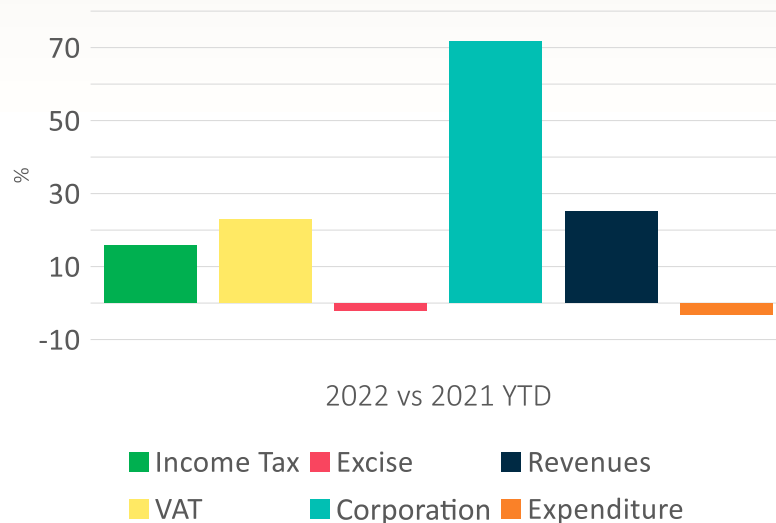
Ireland set for surplus in 2022

Robust revenues mean surplus is forecasted a year ahead of schedule

Gen. Govt. surplus expected in 2022, 0.4% of GNI*



Revenues strong in 2022; income tax and VAT important but corporate tax exceptionally strong^ (end-August)



Source: CSO, Irish Department of Finance forecasts

Source: Irish Department of Finance

^CT receipts growth unusually large but expected to be c. 37% for year-end

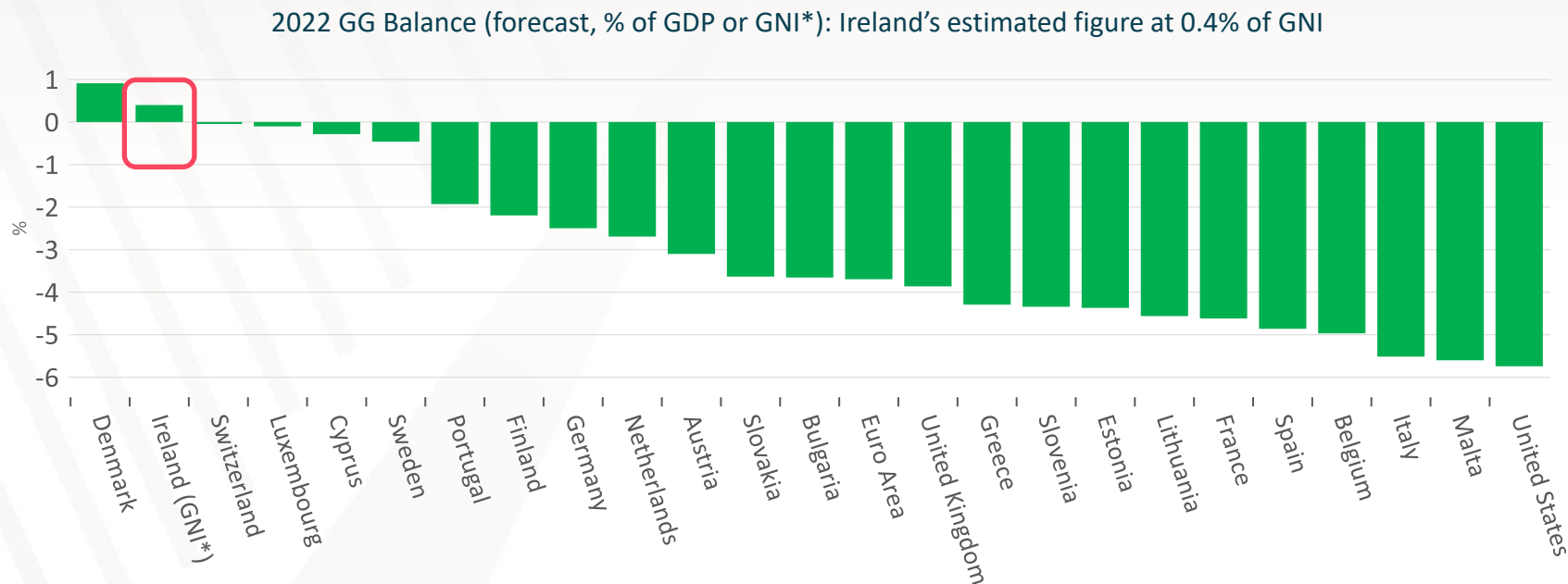
LHS chart: Underlying GG and primary balance numbers used (excludes banking recapitalisations during GFC)



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Surplus compares well to others in EA

Recovery in fiscal position evident



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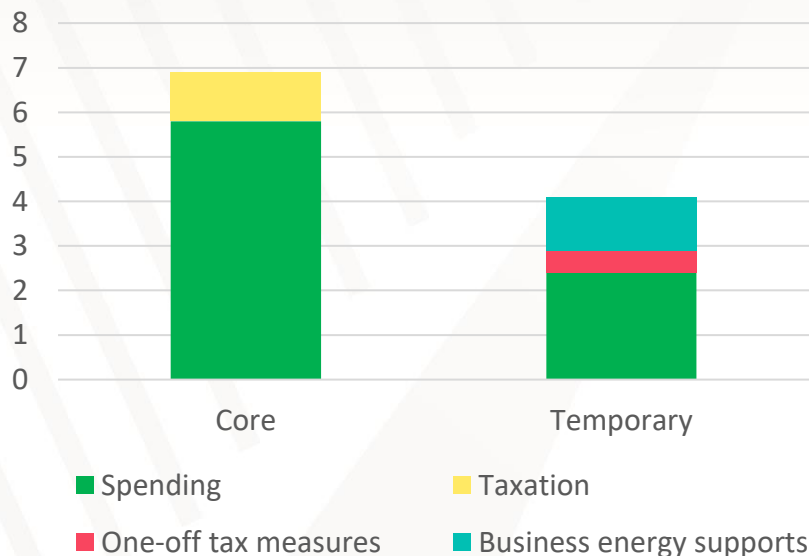
Forecasts for other countries taken from European Commission Summer Forecasts

Source: DG ECFIN, Irish Department of Finance

Budget 2023 announces €11bn in measures

Mix of permanent measures and one-offs equate to 4.2% of GNI*

Permanent budget measures amounted to €6.9bn and one-off cost of living measures amounting to €4.1bn



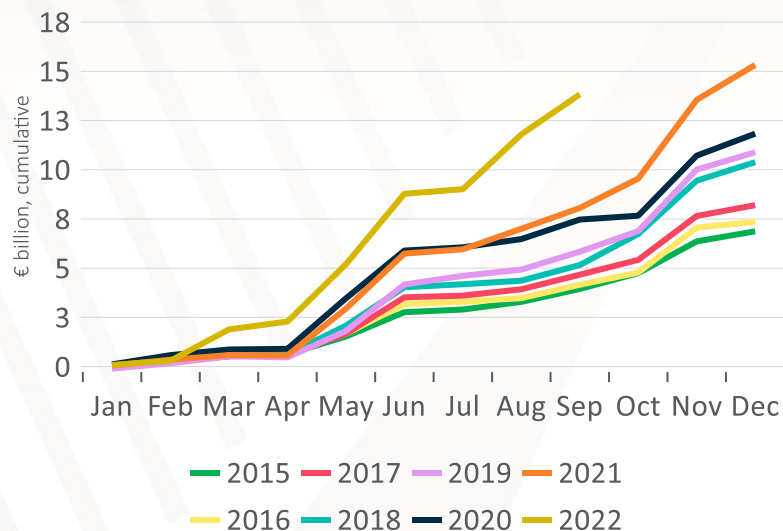
- ▶ The one-off measures include:
 - ▶ Households will receive €600 in electricity credits.
 - ▶ Double child benefit payment in Q4
 - ▶ Other lump sum welfare payments
 - ▶ Businesses receive up to €10K a month for energy bills.
- ▶ The permanent measures include:
 - ▶ Tax band for highest income rate of 40% rising from €36.8K to €40K (€1.2bn cost).
 - ▶ Increases to pension and unemployment payments.
 - ▶ 25% cut to childcare costs & college fees will be reduced.
 - ▶ GG expenditure to increase by 4.8% in 2022. Excluding Covid spending, “core” expenditure will increase by 9.1% (& 6.3% for 2023). Both above the 5% spending rule the Government aims for. Plan to revert to its 5% rule in 2024.



Corporate tax receipts growing strongly

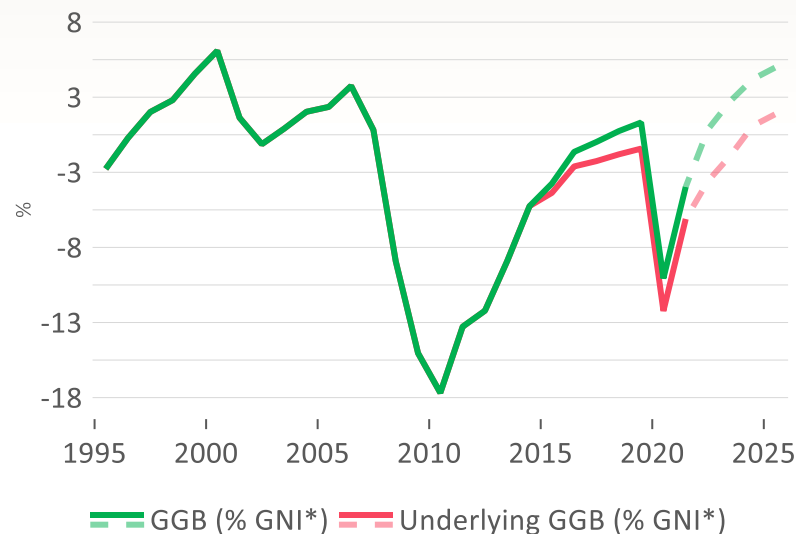
New measure of underlying GGB which excludes “windfall corporate tax” published

Corporation tracking for €21bn in 2022 after strong Q1-Q3, easily eclipsing last year's total



Source: Irish Department of Finance

Underlying GGB measure suggests Ireland would reach surplus by 2024

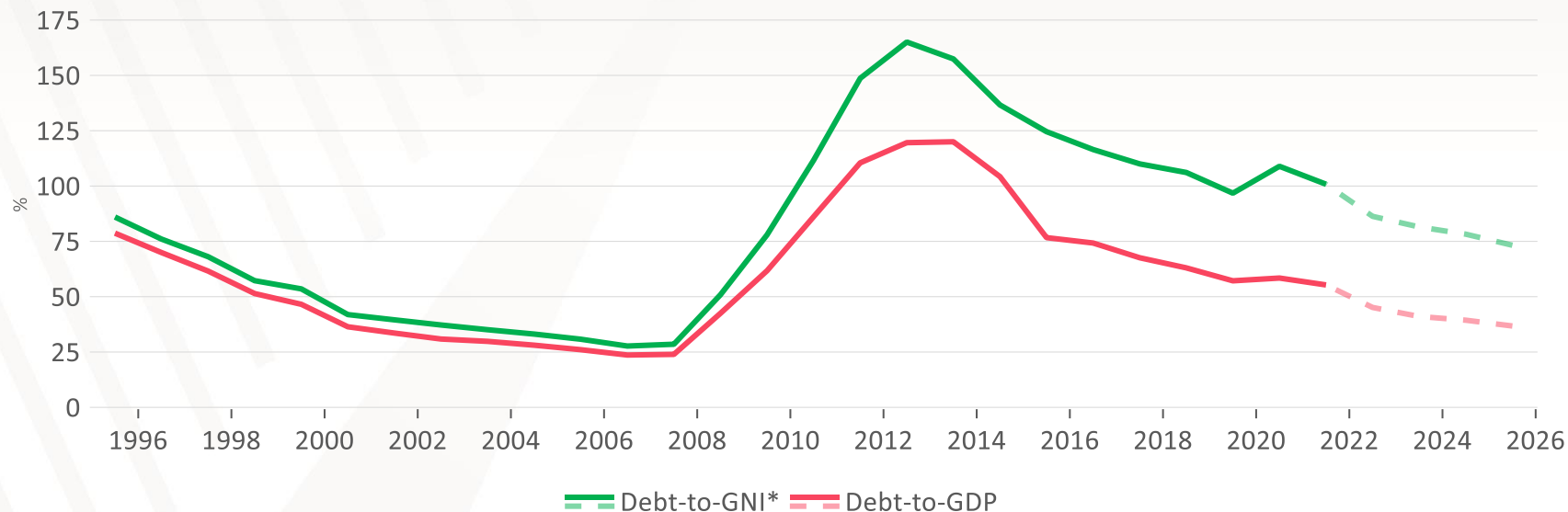


Source: CSO, Irish Department of Finance forecasts

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 €9bn for 2022).

GG debt to GNI* to fall below 90% in 2022

Debt 101% of GNI* in 2021 and expected to fall as growth and fiscal position both help



Source: NTMA, CSO, Irish Department of Finance forecasts

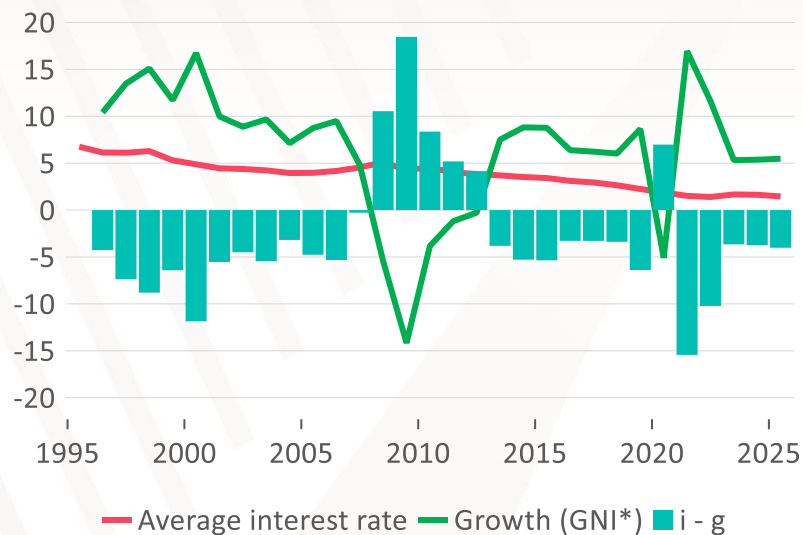


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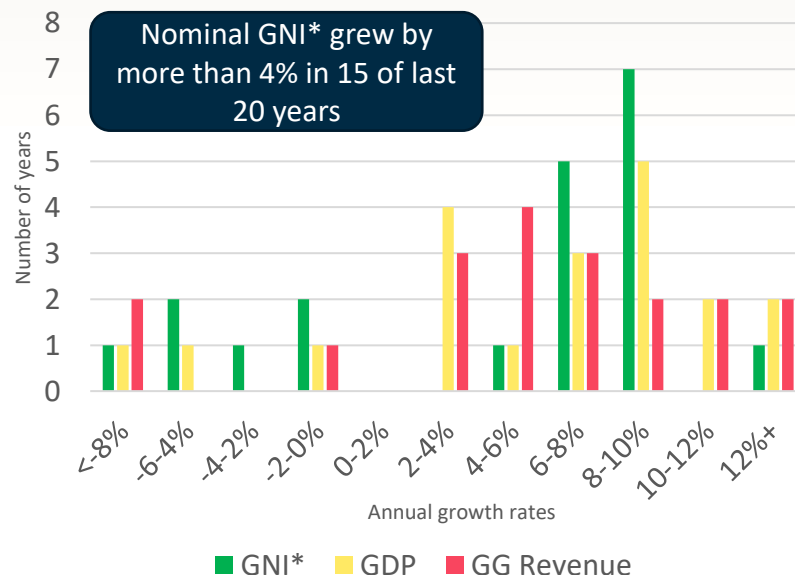
The “i-g” snowball effect in Ireland’s favour

Low interest rates coupled with high nominal growth underpins debt dynamics

With low rates locked in, Ireland’s “hurdle rate” for a positive snowball effect is low



Histogram of Ireland’s recent growth history (2002-2021)



Source: CSO, Irish Department of Finance forecasts, NTMA analysis

Source: CSO, NTMA analysis



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Alternative Debt Metrics

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

2021

	GG debt to GG revenue %	GG interest to GG revenue %	GG debt to GDP %
Greece	391	5.0	193
Italy	312	7.3	151
Portugal	281	5.4	127
Spain	271	5.0	118
Cyprus	244	4.3	104
Ireland	239	3.3	55 (101 GNI*)
UK	227	5.5	85
Belgium	219	3.4	108
France	214	2.6	113
EA 19	202	3.1	96
Slovenia	170	2.9	75
Austria	166	2.2	83
Slovakia	155	2.7	63
EU 27	147	3.6	88
Germany	145	1.2	69
Netherlands	119	1.3	52



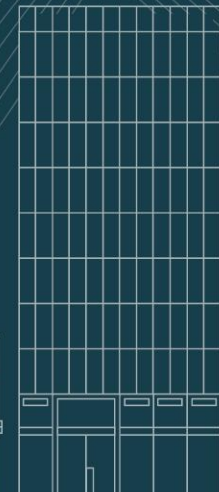
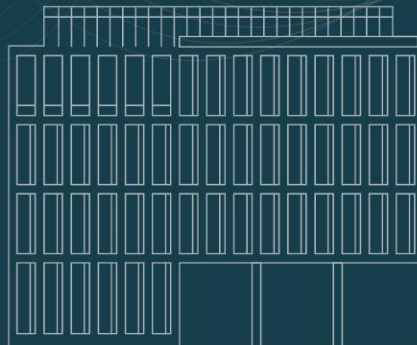
NTMA Funding

Funding complete for the year

Continued flexibility in strategy due to
cash balances and long average life



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2022 funding complete at €7bn

Revenue strength meant funding came in below original funding range of €10-14bn

Cash

Improving fiscal position alongside NTMA's strategy of prefunding means Ireland has a strong cash position

This affords the NTMA a large degree of flexibility

>10 years

Weighted average maturity of debt one of longest in Europe

NTMA issuance in 2020/21 had a weighted average maturity of 12.8 years

AA-

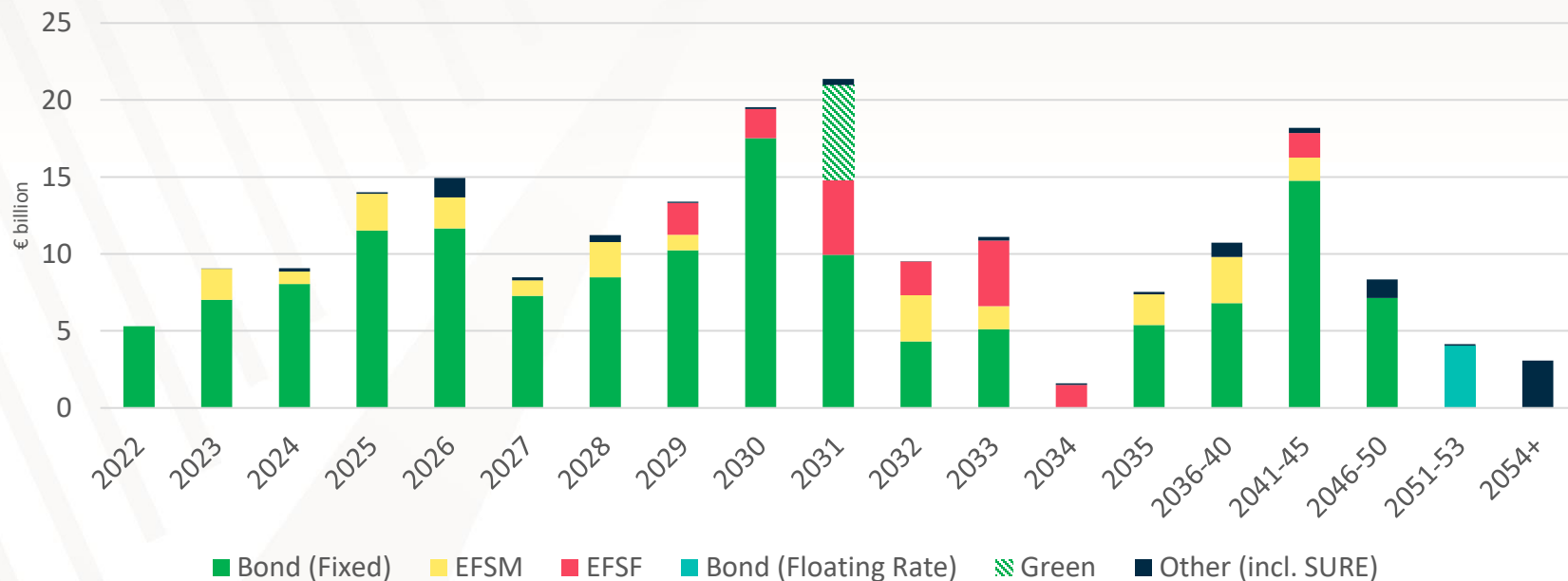
Ireland rated in the AA-category with nearly all major rating agencies

Despite Covid impact, Fitch and DBRS upgraded their rating for Ireland to AA space. Moody's upgraded to A1 (positive outlook)



High level of flexibility in NTMA issuance plans

Helped by smoother maturity profile



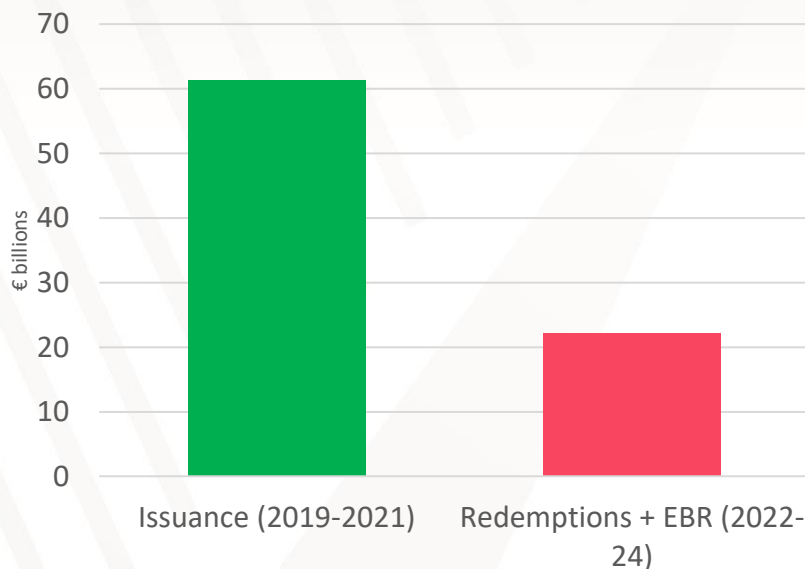
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Source: NTMA

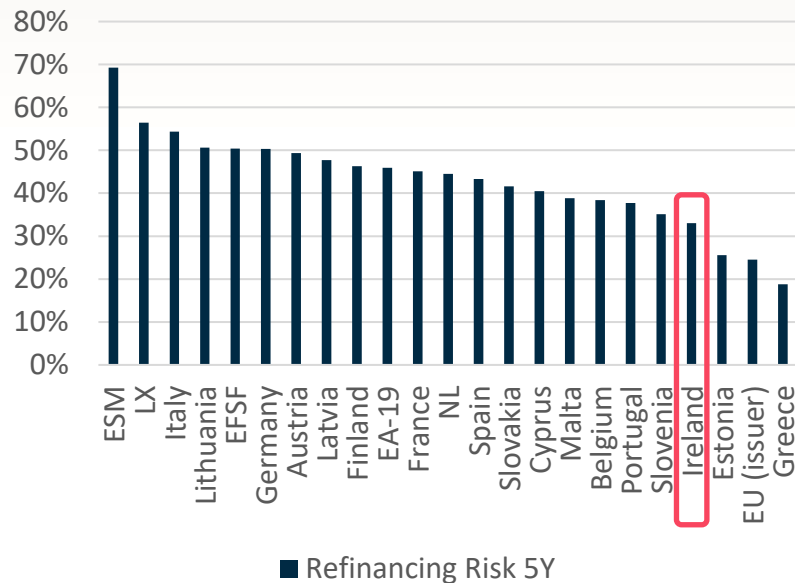
Lower supply expected in coming years

Ireland has low redemptions compared to rest of Europe

Current borrowing requirements suggest NTMA issuance won't match recent past in coming years (€bns)



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



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Source: NTMA, Budget 2023 forecasts

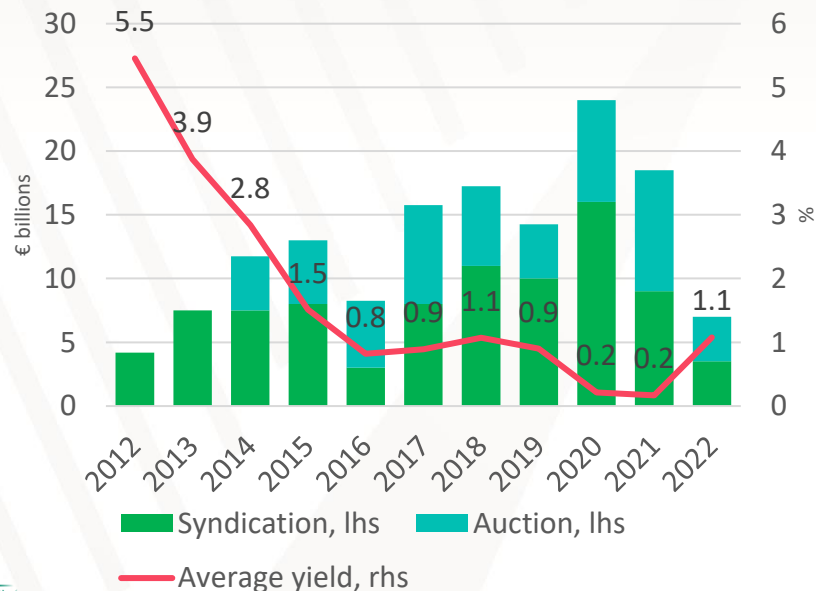
Source: NTMA

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

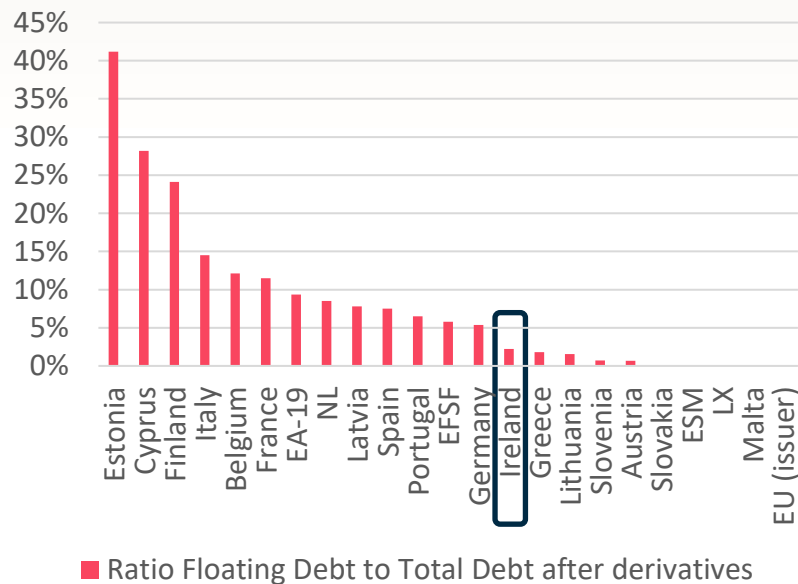
Borrowing costs anchored

Ultra low rate era may be over but Ireland used the period well

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



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



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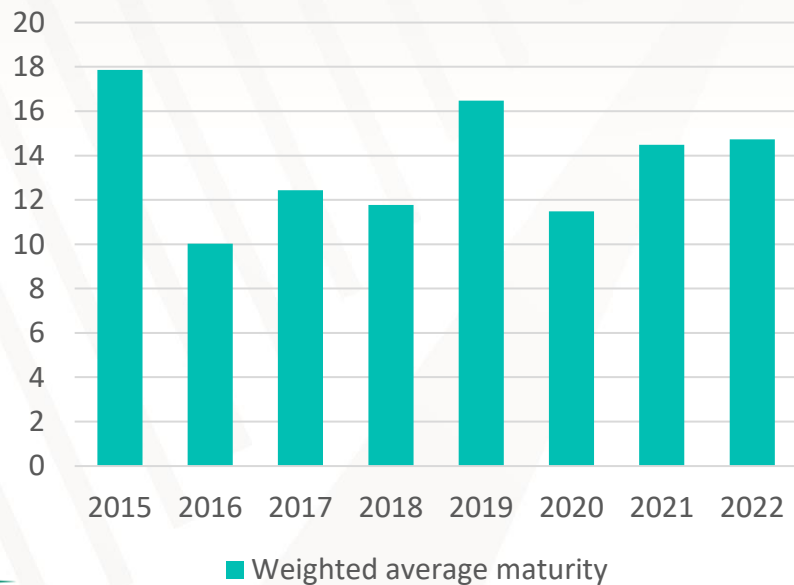
Source: NTMA

Note only auctions and syndication

NTMA has lengthened weighted maturity

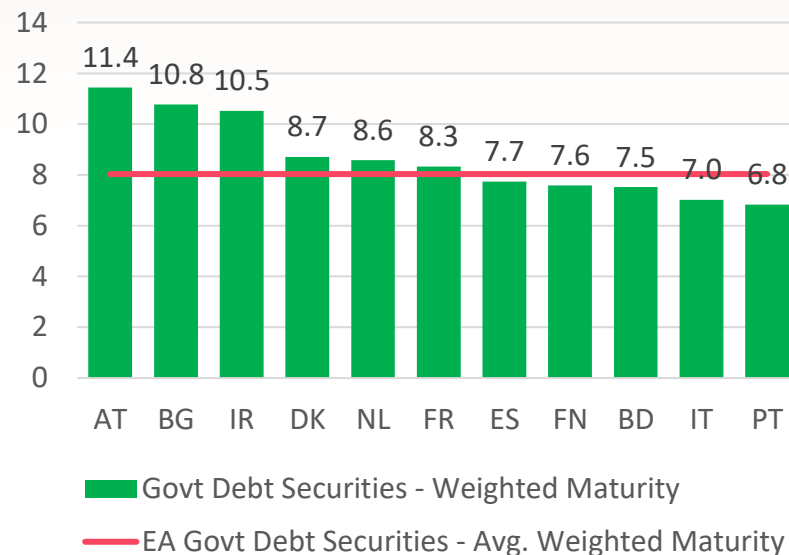
Debt management strategy took advantage of QE to extend debt profile since 2015

Benchmark issuance has extended the maturity of Government debt ...



Source: NTMA

...Ireland (in years) compares favourably to other EU countries



Source: ECB



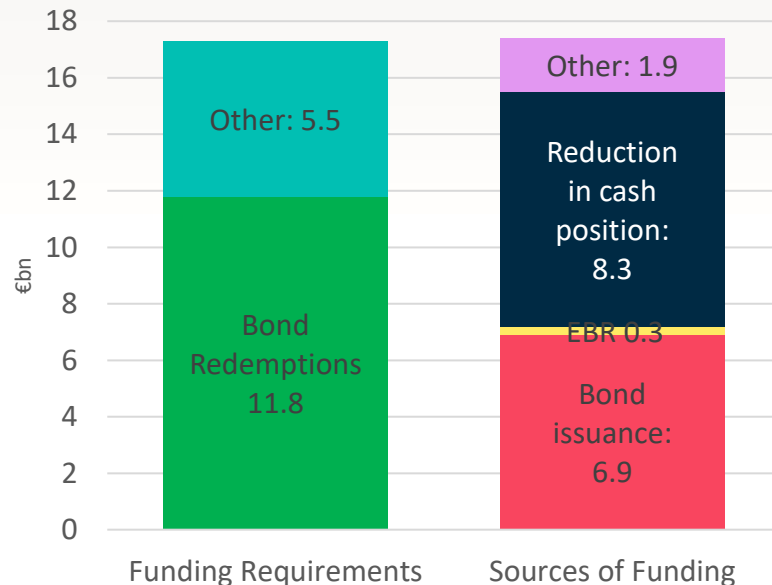
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Note: Weighted maturity for Ireland includes Fixed rate benchmark bonds, FRNs, Amortising Bonds, Notes issued under EMTN programme, T-Bills and ECP Data. It excludes programme loans and retail.

Funding needs and sources

Lower borrowing results in cash balance running down

- ▶ There are two bond redemptions in 2022, one of which occurred in March. They total €11.8bn.
- ▶ The Exchequer Borrowing Requirement (EBR) for 2021 was €7.4bn. This was lower than expected in October's Budget (forecasted EBR of €12.1bn). Thus, the NTMA entered 2022 with a large cash balance of €27.5bn.
- ▶ In 2022, the EBR for the year has been revised to be a surplus. This is shown in the chart.
- ▶ The NTMA is likely to continue to hold significant cash into 2023. The balance at year-end will be c. €20bn.



Source: NTMA

Rounding may affect totals

1. On 28 September 2022, the NTMA announced there would be no bond issuance in Q4 2022 meaning total nominal issuance for the year is €7bn; the cash proceeds, including from the non-competitive auctions, are shown in the chart.
2. Other funding needs includes provision for the potential bond/FRN purchases and general contingencies.
3. Other funding sources mostly comprises of net State Savings (retail) and other medium/long-term borrowing.
4. EBR is the Department of Finance's Budget 2023 estimate of the Exchequer Borrowing Requirement

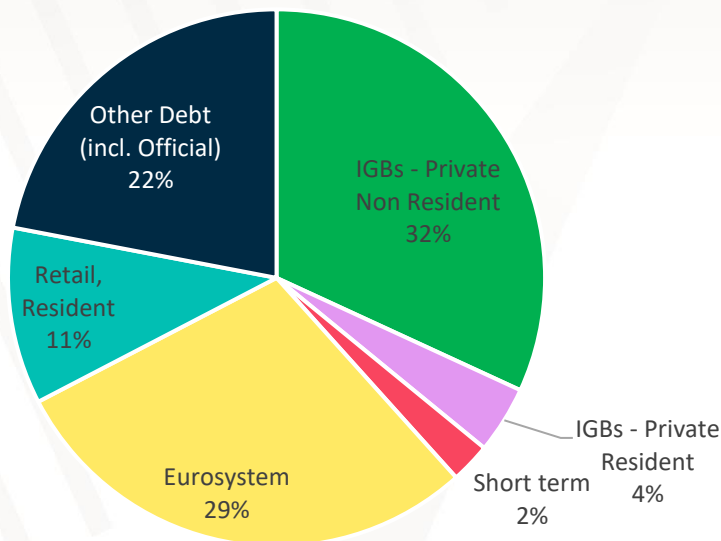


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Diverse holders of Irish debt

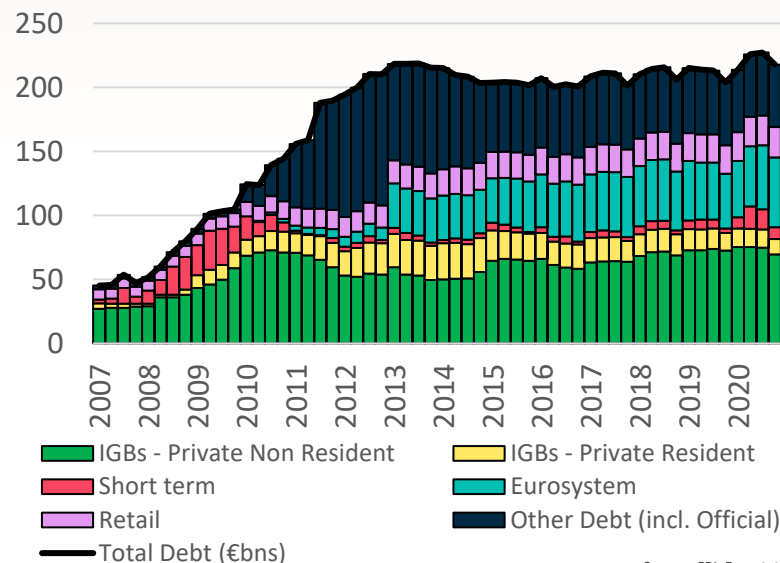
Sticky sources account for c. 60%

Ireland roughly split 85/15 on non-resident versus resident holdings (end-2021)



Source: CBI, Eurostat, ECB

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



Source: CBI, Eurostat, ECB



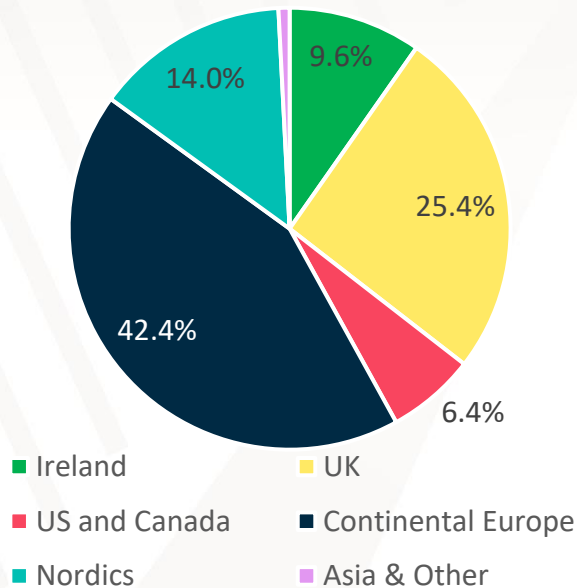
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IGBs excludes those held by Eurosystem. Eurosystem holdings include SMP, PSPP, PEPP and CBI holdings of FRNs. Figures do not include ANFA. Other debt has included IMF, EFSF, EFSM, Bilateral as well as IBRC-related liabilities over time. Retail includes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

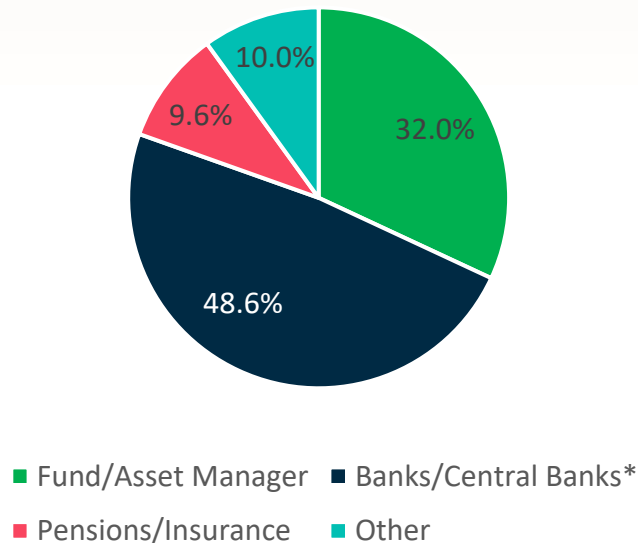
Investor base

Demand for Government bonds is wide and varied

Country breakdown:
Average over last five syndications



Investor breakdown:
Average over last five syndications



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National Treasury Management Agency

Source: NTMA

Source: NTMA

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

Credit Ratings for Ireland

Four upgrades in 2022 so far; Ireland rated in “AA” category by majority

Rating Agency	Long-term	Short-term	Outlook/ Trend	Date of last change	Date of next review
Standard & Poor's	AA-	A-1+	Stable	Nov 2019	Nov 2022
Fitch Ratings	AA-	F1+	Stable	Jan 2022	Jul 2022
Moody's	A1	P-1	Positive	May 2022	Nov 2022
DBRS Morningstar	AA(low)	R-1 (middle)	Stable	Jan 2022	2023
R&I	AA-	a-1	Stable	Feb 2022	2023
KBRA	AA-	K1+	Stable	Jan. 2020	Dec 2022
Scope	AA-	S-1+	Stable	May 2021	Oct 2022



Commission's ruling on Apple annulled

Further appeal by EC means case continues

- 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.
- Apple appealed the ruling, as did the Irish Government. **The General Court granted the appeal in July 2020, annulling the EC's ruling.**
- This case had nothing to do with Ireland's corporate tax rate. It related to whether Ireland gave unfair advantage to Apple with its tax dealings. **The General Court has judged no such advantage occurred.**
- The Commission has decided to appeal to a higher court: the European Court of Justice. This process could still be lengthy. Pending the outcome of the second appeal, the €13bn plus EU interest will remain in an escrow fund.
- The NTMA has made no allowance for these funds in any of its planning throughout the whole process. **There is no need to adjust funding plans given the decision by the General Court or by the Commission's decision to appeal.**

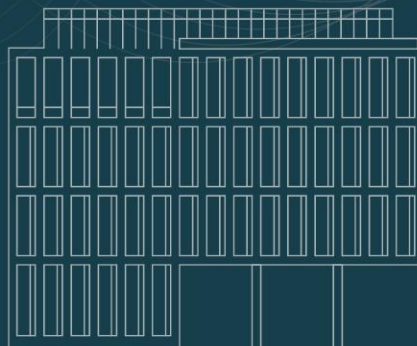


ESG

Issuance & government policy
demonstrate Ireland's green commitment



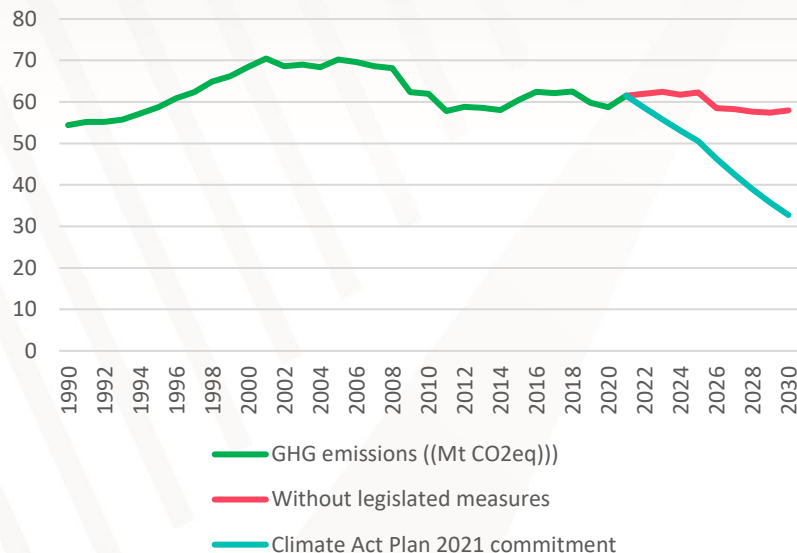
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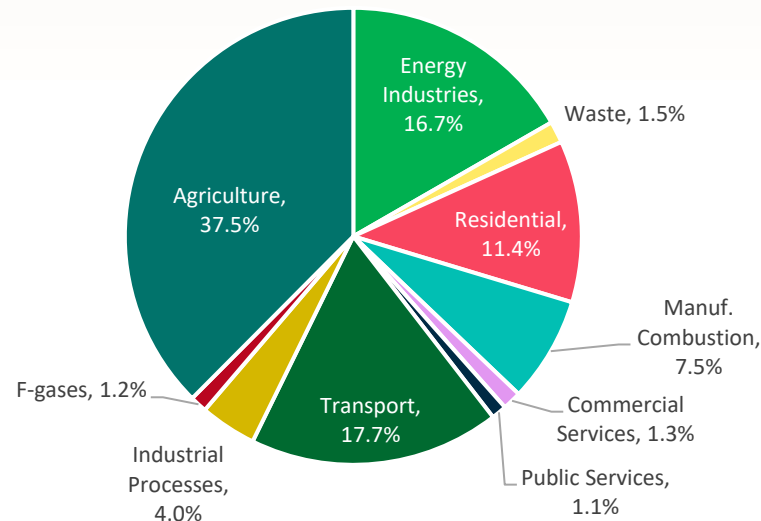
Ireland's Greenhouse Gas emissions

State of Play – emissions rose in 2021 after fall in Covid year

Ireland's emissions fell post financial crisis – but significant progress needs to be made by end of decade



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



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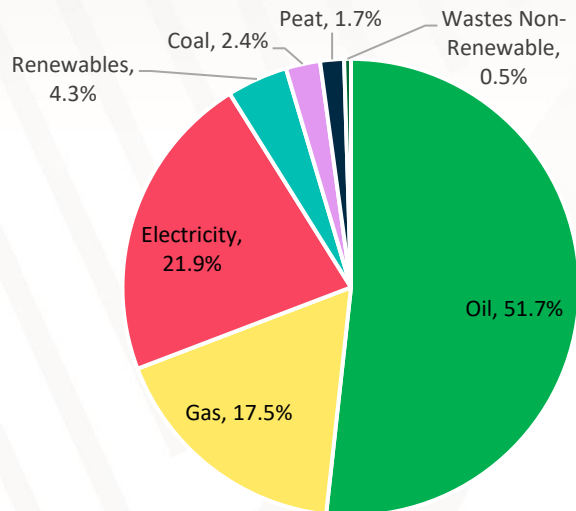
Source: Environment Protection Agency (Ireland) , Climate Action Plan 2021

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

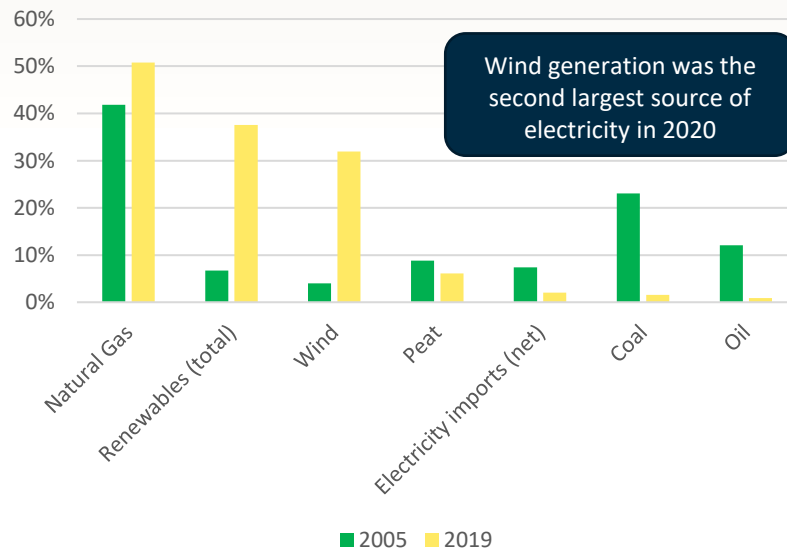
Ireland Energy: Fossil fuels prevalent

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 63% of oil use in 2021



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



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Source: SEAI, Climate Action Plan 2021, EU Renewable Energy Directive

Waste (non-renewables) accounted for 0% (2005) and <1% (2019) of electricity production

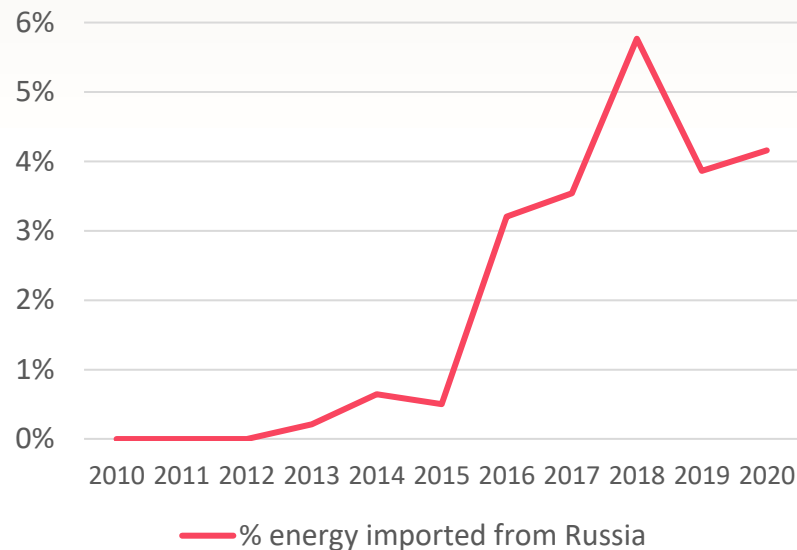
Ireland's Energy Imports

Ireland less reliant on Russian energy compared to many European countries

Russia is an important supplier of solid fossil fuels (e.g. coal) but these account for just 2.4% of Ireland's energy mix

Fuel Type	#1 Source	#2 Source	#3 Source	#4 Source
Oil and Petroleum	United Kingdom (41%)	United States (30%)	Norway (7%)	Russia (5%)
Natural Gas	United Kingdom (64%)	Domestic* (36%)	n/a	n/a
Solid Fossil Fuels	South Africa (25%)	Colombia (22%)	Russia (21%)	United Kingdom (19%)

Ireland's dependence on Russia for energy has been low in the past – and remains well below other EU countries



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.
- 51% reduction: 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 update 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.

Climate Action Plan Goals:

- ▶ Target of 5GW of offshore and up to 8GW of onshore wind energy by 2030.
- ▶ Enable 500,000 sustainable travel journeys per day. Increase biofuel use in transport, bus and rail replacements to be low or zero carbon emissions. Increase proportion of kms driven by electric cars to 40-45%.
- ▶ Commitment to retrofit 500,000 homes by 2030 and install 680,000 renewable energy heat sources in new and existing residential buildings.

Sector	% Reduction by 2030 relative to 2018	GHG emissions 2030 Ceiling
Electricity	75%	3 MtCO ₂ eq
Transport	50%	6 MtCO ₂ eq
Buildings (Commercial and Public)	45%	1 MtCO ₂ eq
Buildings (Residential)	40%	4 MtCO ₂ eq
Industry	25%	4 MtCO ₂ eq
Agriculture	25%	17.25 MtCO ₂ eq
Other*	50%	1 MtCO ₂ eq



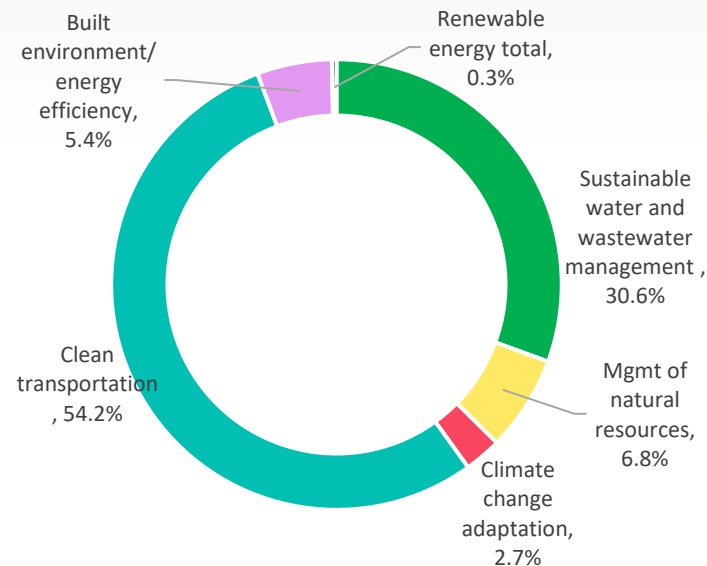
Irish Sovereign Green Bonds (ISGB)

Irish Sovereign Green Bond Impact Report 2020: sample impacts

Some highlights from the report*

- **Built Environment/ Energy Efficiency**
 - Energy saving (GigaWattHours) : 156
 - Number of homes renovated : 19,086
 - EV home charger grants provided: 2,523
- **Clean Transportation**
 - Number of public transport passenger journeys: 137.7 million
 - Greenway users: 725,191**
 - Take-up of Grant Schemes/ Tax foregone provided (number of vehicles) : 24,122
- **Climate Change Adaptation**
 - 16 major Flood relief projects at planning, development or construction phase.
 - 8,296 properties protected on completion

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



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**For a more detailed break-down please see the forthcoming ISGB 2020 Impact Report*

*** Raw count from 3 longest Greenways- Waterford, Old Rail Trail, Royal Canal Greenway*

Irish Sovereign Green Bonds (ISGB)

Cumulative €7.34bn allocated to green projects following fourth year

- €6.85bn nominal outstanding (€7.34bn cash equivalent)
- There was full allocation of remaining proceeds from ISGBs on hand at year end 2021
- 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
- Four annual allocation reports and three annual impact reports now published



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Irish Sovereign Green Bond Impact Report 2020: Highlights*

► Environmentally Sustainable Management of Living Natural Resources and Land Use

Number of hectares of forest planted: 2,434

Number of Landfill Remediation projects being funded: 76

► Renewable Energy

Number of companies (including public sector organisations) benefitting from SEAI Research & Innovation programmes as lead, partner or active collaborators : 19

SEAI Research & Innovation awards: 11

► Sustainable water and wastewater management

Water savings (litres of water per day) : 227.6 million

New & upgraded water and wastewater treatment plants: 5

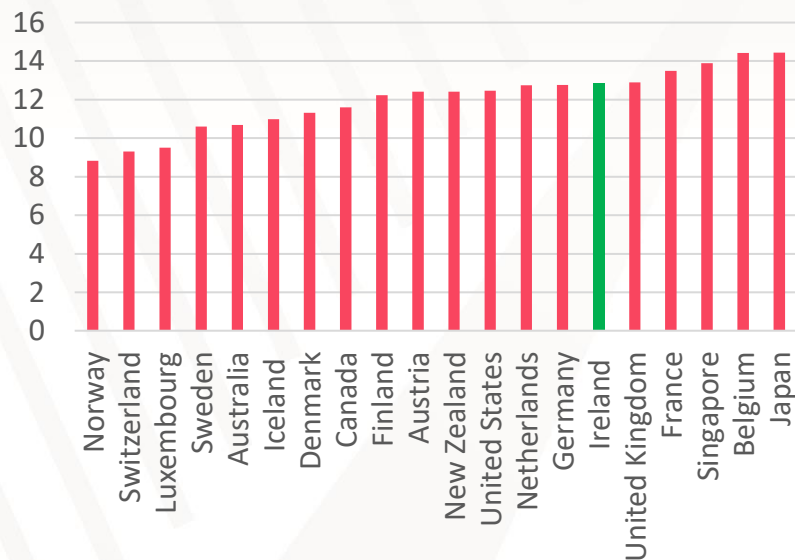
Length of water main laid (total) : 178km

**For a more detailed break-down please see the forthcoming ISGB 2020 Impact Report*

Ireland in top 20 most sustainable countries

Ireland rated highly by Sustainalytics and rating agencies on ESG

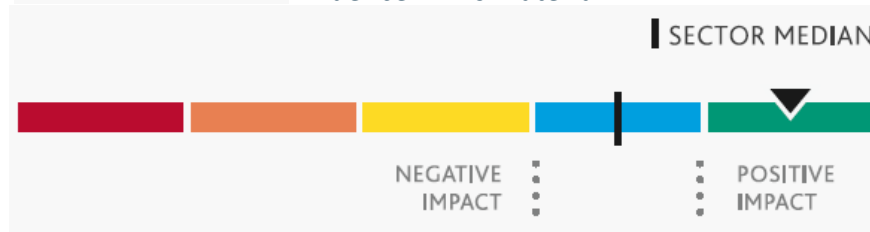
Ireland ranks 15th globally by Sustainalytics for ESG risk



Moody's view on Ireland much like other agencies – strong governance a key risk mitigant

CIS-1
Positive

“For an issuer CIS-1 (Positive), its ESG attributes are overall considered as having a positive impact on the rating. The overall influence... is material”.



Ireland's ESG Credit Impact Score:

“low exposure to environmental risk”

“a positive influence of its social considerations”

“very strong governance profile”



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
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Source: Sustainalytics (2021), Moody's

Note: Sustainalytics score is out of 100, closer to zero means less ESG risk

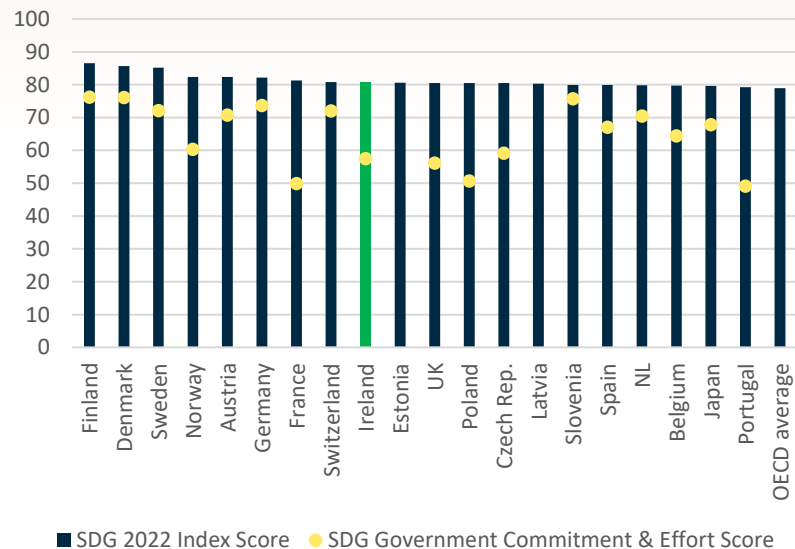
Close to OECD average on SDG progress

But behind some of the leaders in Europe

Ireland similar to OECD but behind others when considering intensity metrics

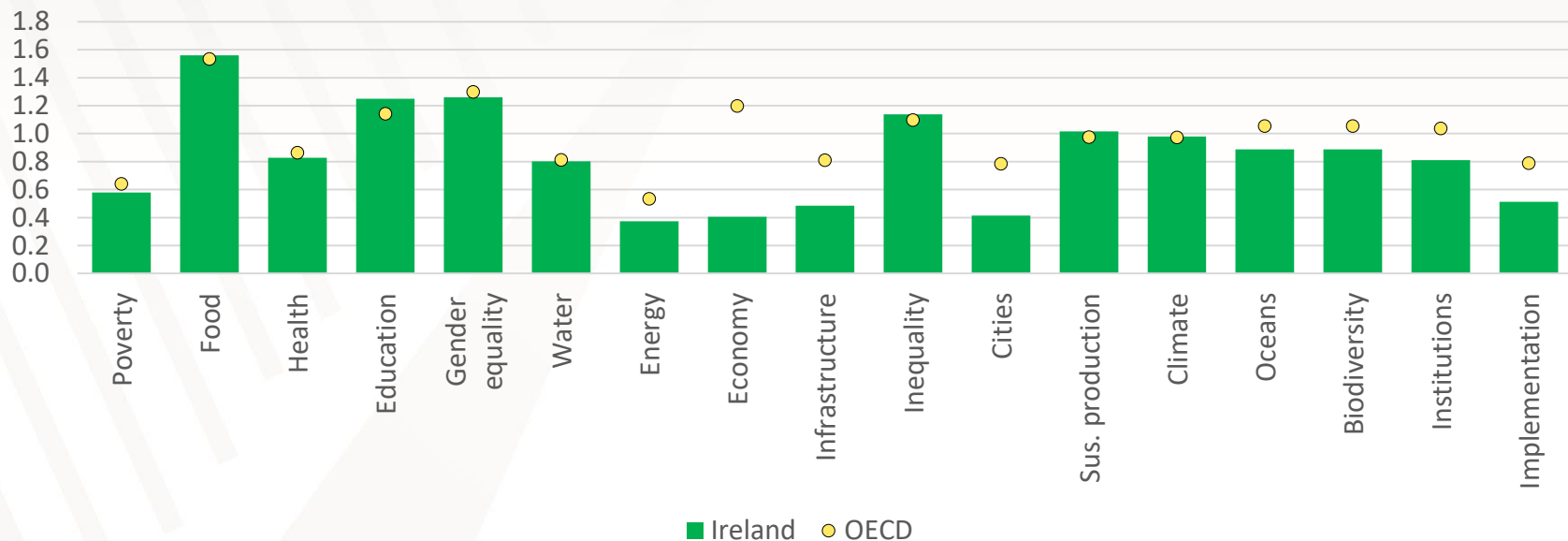
	GHG emissions per unit of GDP	OECD Ranking (1st = High Intensity)	CO2 emissions per unit of GDP	OECD Ranking (1st = High Intensity)	% Renewable energy supply	OECD Ranking (1st is desirable)
Ireland	0.2	30	0.09	35	11.1	24
Ire (GNI*)	0.3	11	0.14	24		
OECD	0.3	n/a	0.14	n/a		
Australia	0.5	2	0.32	2	7.1	35
Belgium	0.2	19	0.17	14	7.8	32
Canada	0.5	4	0.34	1	16.4	18
France	0.2	33	0.10	34	10.7	26
Germany	0.2	23	0.16	17	14.6	21
Italy	0.2	28	0.13	27	18.2	16
NL	0.2	25	0.16	17	7.2	34
UK	0.2	32	0.12	30	12.5	23
Spain	0.2	27	0.13	27	14.7	20
US	0.4	6	0.24	6	7.9	31

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



Ireland compares well to OECD on “S&G”

Based on the 17 Sustainability and Development Goals of the UN



Source: OECD (2021)

Each bar shows “distance” country needs to travel to reach each SDG. Distances are measured in standardised units with 0 indicating that the level for 2030 has already been attained; and 3 is the distance most OECD countries have already travelled. Bars show the average country performance against all targets under the relevant Goal for which data are available, and diamonds show the OECD average.

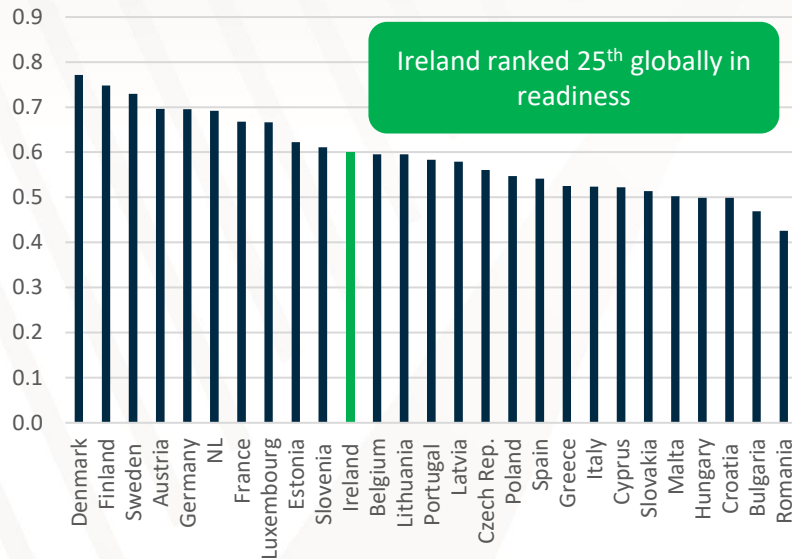


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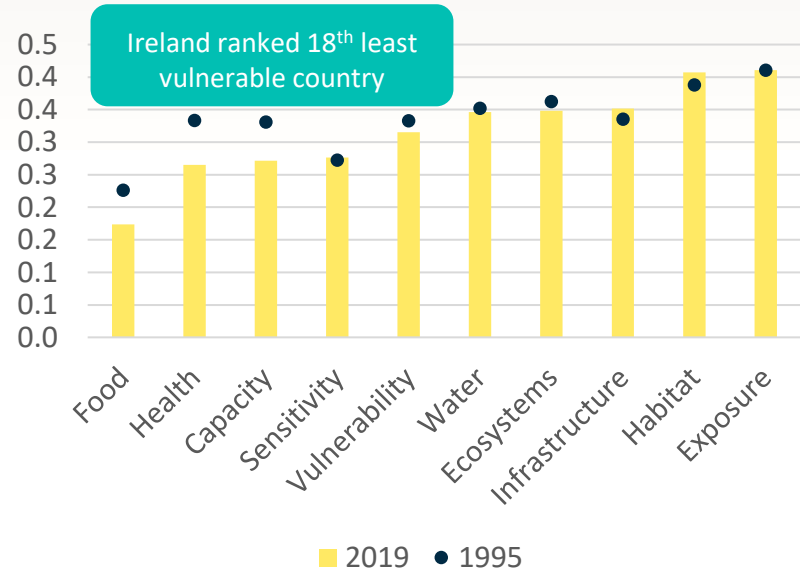
Readiness and vulnerability to climate change

Ireland's vulnerability to climate change and readiness to strengthen resilience have improved

Ireland ranked middle of the pack for readiness* when compared to EU27



Ireland's overall vulnerability** has decreased 5.3% from 1995-2019



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Source: Notre Dame Global Adaptation Initiative

*Readiness: Measures a country's ability to leverage investments and convert them to adaptation actions.

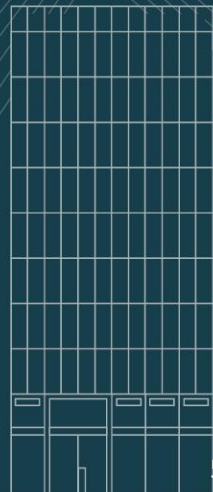
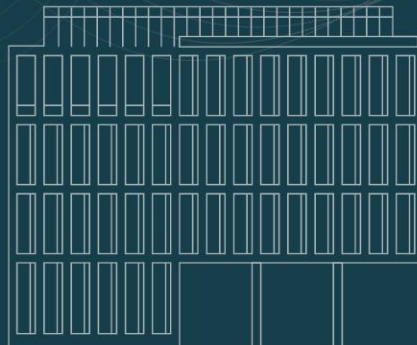
** Vulnerability: Measures a country's exposure, sensitivity and capacity to adapt to the negative effects of climate change.

Structure of the Irish Economy

Multinationals distort the “true” economic picture but offer clear benefits of jobs, income, taxes



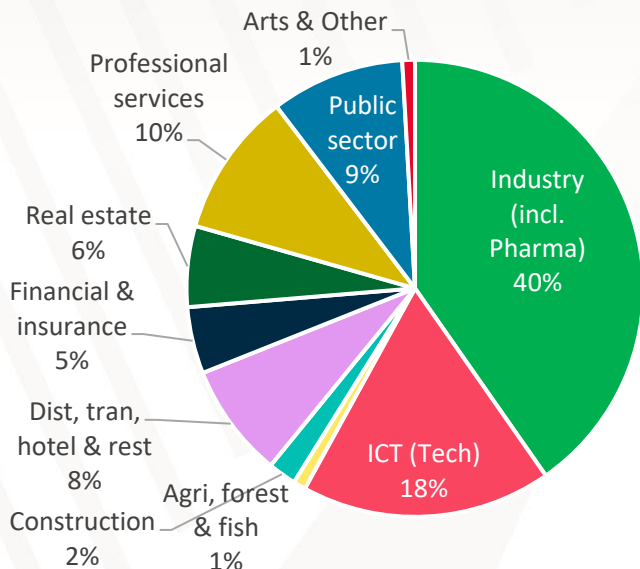
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Multinational activity distorts Ireland's data

Notwithstanding those issues, MNCs have real positive impact

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



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

	Share of Employment (2022 Q1)	Share of Wage Bill (2021)	Share of GVA (2021)
Agriculture	4.1%	1%	1%
Industry (incl. Pharma.)	12.5%	14%	40%
Construction	6.4%	4%	2%
Dist., Tran, Hotel & Rest	23.2%	17%	8%
ICT (Tech)	6.6%	10%	18%
Financial	4.9%	8%	5%
Real Estate	0.5%	1%	6%
Professional	10.7%	14%	10%
Public Sector	26.7%	29%	9%
Arts & Other	4.4%	2%	1%



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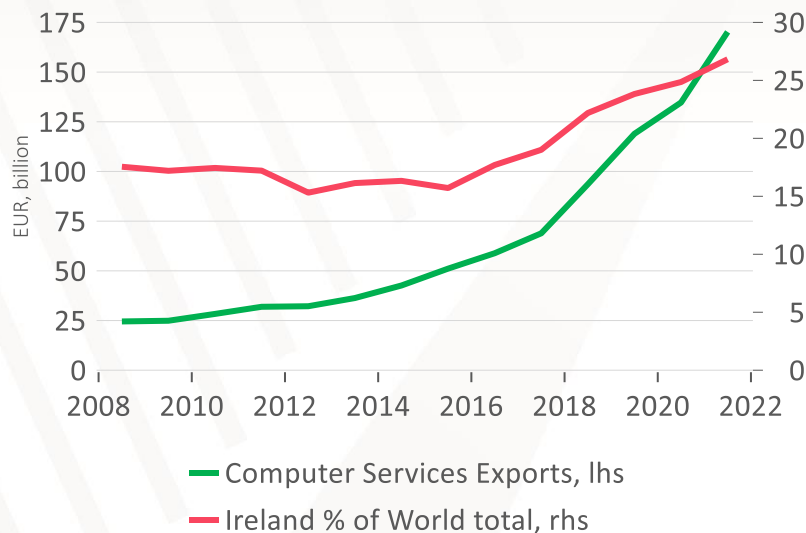
Source: CSO

2021 Real GVA used

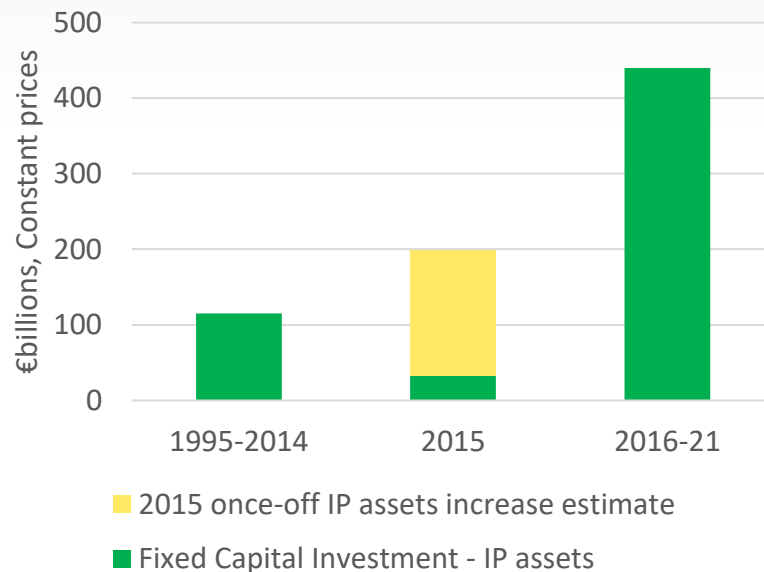
€0.6trn of intellectual property into Ireland

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

Ireland is now a leader in Computer Services; Exports have up from €50bn to €173bn since 2015



Enormous inflows (c. €0.6trn) of IP assets into Ireland since 2015 on the back of BEPS 1.0 reforms



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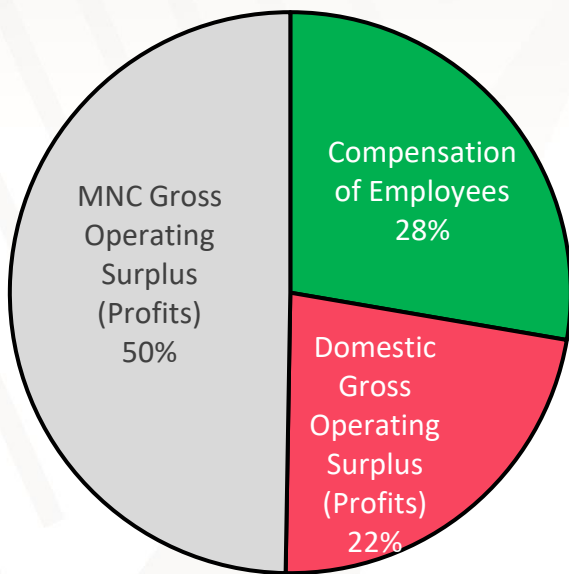
Source: CSO, WTO

Source: CSO, NTMA analysis

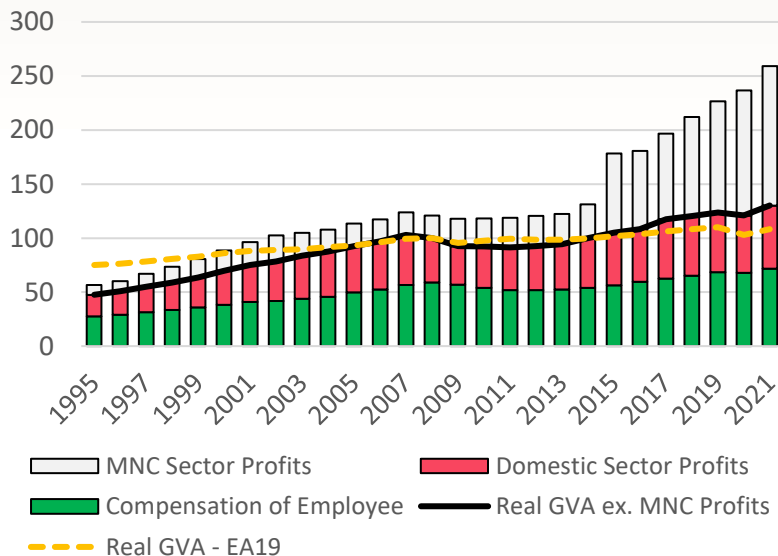
Underlying economy was robust pre-Covid

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)



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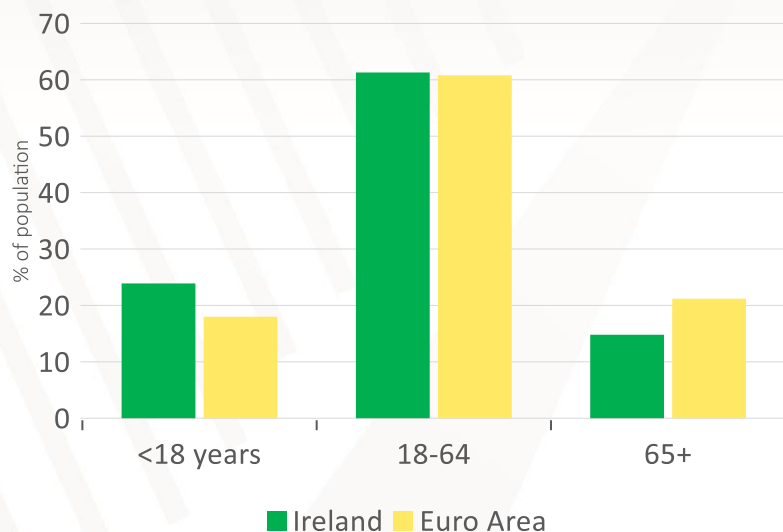
Source: CSO, NTMA calculations (Nominal 2021 data used in left chart)

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.

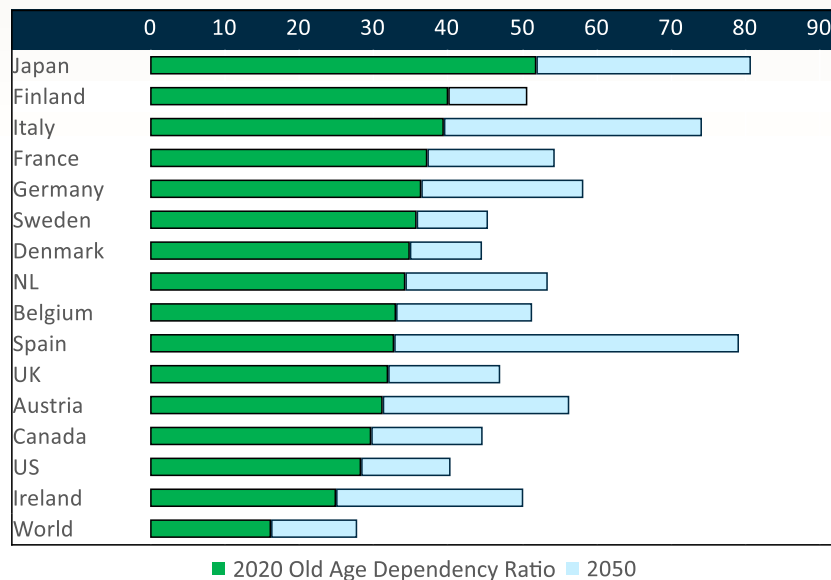
Ireland's population helps growth potential

Age profile younger than the EU average

Ireland's population at 5.12m in 2022: younger population than EU



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



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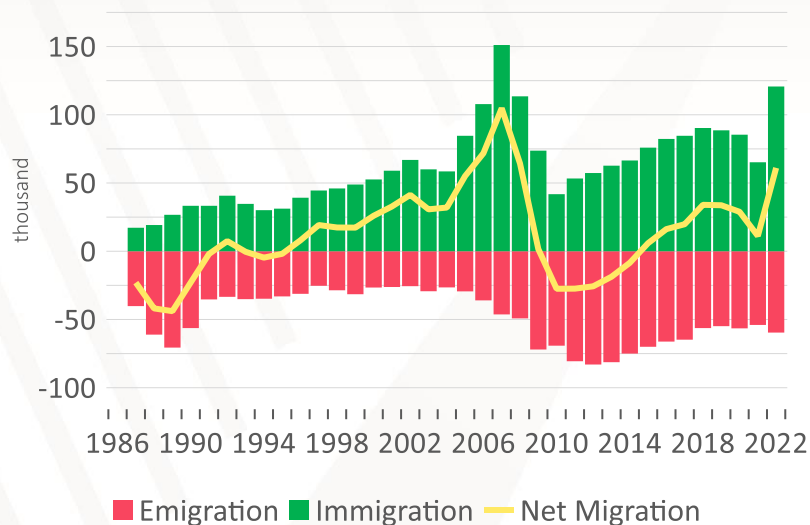
Source: Eurostat

Source: UNDESA

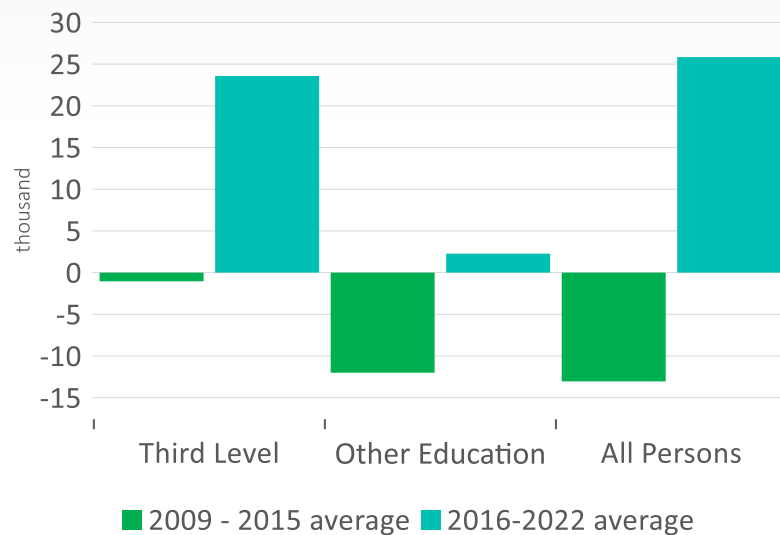
Migration improves Ireland's human capital

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

Latest Census data show net migration positive since 2015 – recent slowdown due to Covid



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



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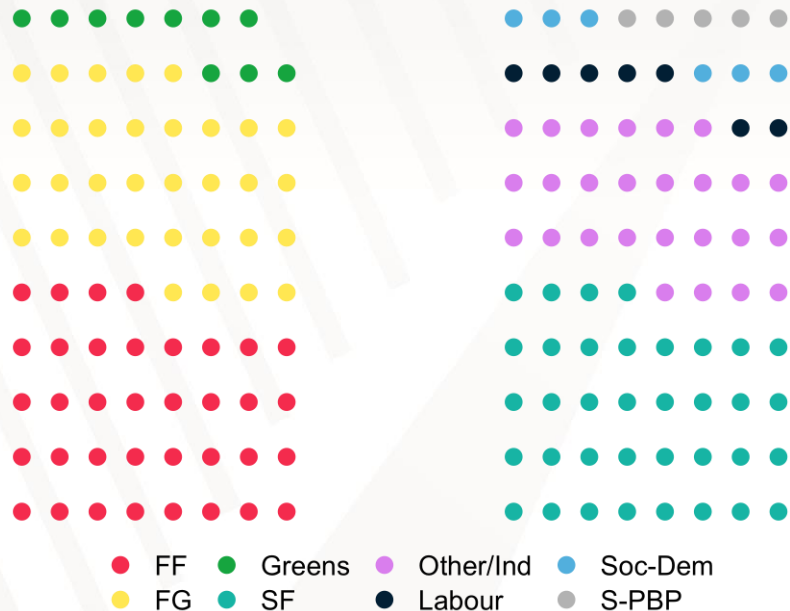
Source: CSO

Migration figures based on year to April

Source: CSO

Ireland's Government

The composition of the Dáil Éireann is evenly balanced between Government and Opposition



Key information on the 33rd Dáil Éireann

- ▶ Leadership
 - ▶ Taoiseach: Micheál Martin (FF)
 - ▶ Tánaiste: Leo Varadkar (FG) – (Martin and Varadkar swap roles in Dec 2022)
 - ▶ Leader of the Opposition: Mary Lou McDonald (SF)
- ▶ Political groups
 - ▶ Government (79 seats, temporary lack of majority)
 - ▶ Fianna Fáil (36), Fine Gael (33), Green Party (10)
 - ▶ Opposition (80 seats)
 - ▶ Sinn Féin (36), Other/Independent (26), Labour Party (7), Social Democrats (6), S-PBP (5)
- ▶ Voting system: Proportional representation - Single transferable vote
- ▶ Last election: 8 February 2020
- ▶ Next election: No later than 20 February 2025



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
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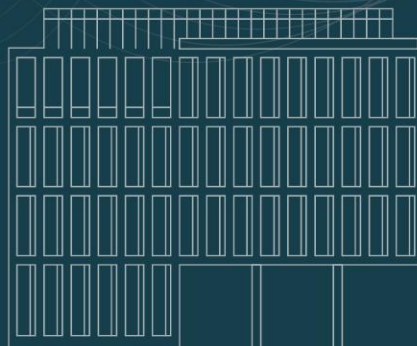
Source: Houses of the Oireachtas

Brexit

Free trade agreement has re-routed
trade patterns



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency



Free Trade Agreement in place

Allows for tariff free trade but non-tariff barriers have increased

Main points of FTA

- From January 1 2021, the UK became a “third country” outside the EU’s single market and customs union. As such without a free trade agreement, trade would have been subject to tariffs and quotas.
- Under the deal, goods trade between the two blocs remain free of tariffs.
 - However, goods moving between the UK and the EU will be subject to customs and other controls, and extra paperwork is expected to cause disruptions.
 - Due to these non-tariff barriers, Brexit will likely result in less trade.
- Under the deal, services trade between the two blocs will continue but again could be hampered.
 - The Agreement provides for a significant level of openness for trade in services and investment.
 - But providing services could be hampered. For example, UK service suppliers no longer have a “passporting” right, something crucial for financial services. They may need to establish themselves in the EU to continue operating.
- The deal means less cooperation in certain areas compared to before Brexit. Financial and business services are only included to a small extent. Cooperation on foreign policy, security and defence will be lower also.
- Brexit is likely to result in less trade in the long run between the EU and the UK but the deal does avoid the worst case scenarios: Hard Brexit was averted and the economic impact to Ireland will be more modest.



Withdrawal Agreement signed in 2019

Northern Ireland protocol within Withdrawal Agreement resolves many but not all of the land border issues

- The withdrawal agreement is a legally binding international treaty which works in tandem with the free trade agreement.
- Northern Ireland will remain within the UK Customs Union but will abide by EU Customs Union rules – dual membership for NI.
- No hard border on the island of Ireland: the customs border is “in the Irish sea”. Goods crossing from Republic of Ireland to Northern Ireland will not require checks, but goods that are continuing on to the UK mainland will.
- Complex arrangements will be necessary to differentiate between goods going to NI and those travelling through NI to UK or vice versa. Customs checks at ports, VAT and tariff rebates and alignment of regulations will be needed.

All of the island of Ireland remains in the EU's “single market” for goods, with a customs border in the Irish Sea

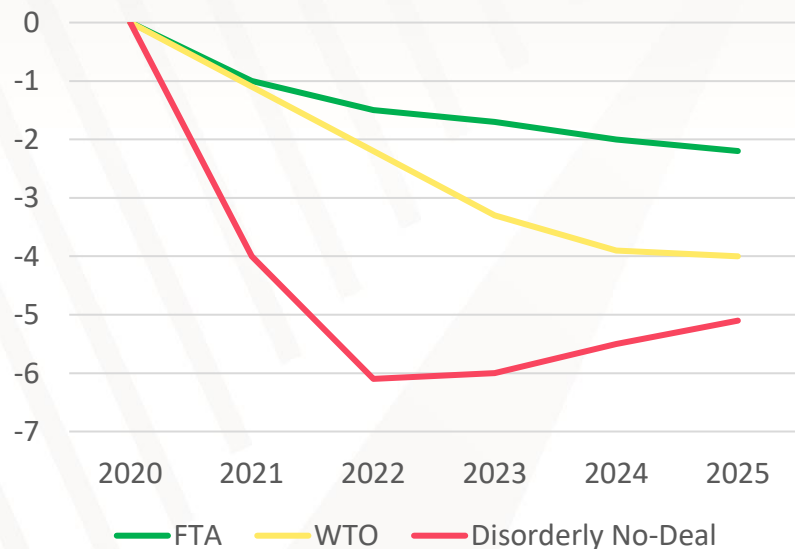
Northern Ireland remains part of the U.K.'s customs regime but collects taxes and tariffs on behalf of the EU



Impact of Brexit on Ireland likely net negative

Deal means the shock is smaller & spread over longer horizon

Modelled impact on output (in % of growth) versus No Brexit baseline: FTA reduces impact significantly



IE trading partners: UK important for good imports (land bridge) & services exports

% of total	Goods (2020)		Services (2020)		Total (2020)	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
US	31.2	15.5	13.5	35.0	20.6	30.7
<u>UK</u>	<u>9.1</u>	<u>23.1</u>	<u>14.4</u>	<u>6.6</u>	<u>12.0</u>	<u>10.0</u>
EU-27	39.6	34.9	30.6	11.7	34.2	16.8
China	6.8	7.6	2.9	1.6	4.4	3.0
Other	13.3	18.9	38.6	45.1	28.5	39.3



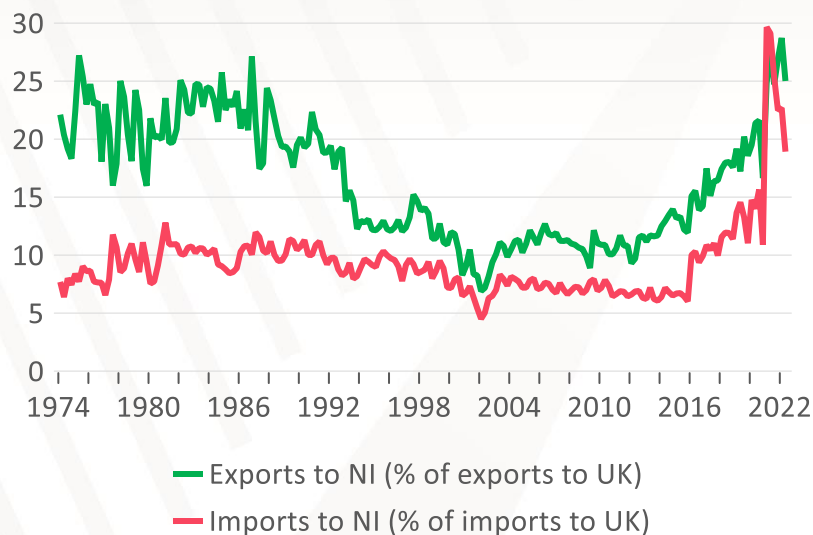
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Source: CBI, NTMA analysis

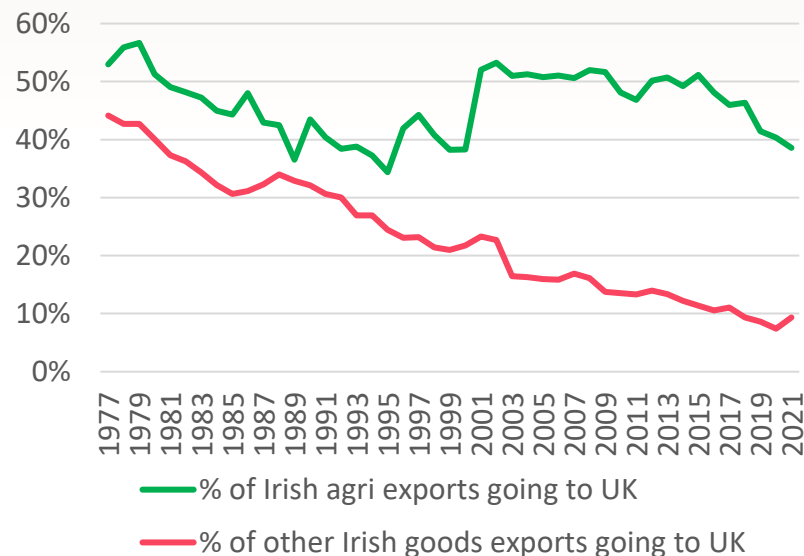
Trading flows are changing after FTA

ROI-NI trade jumped in 2021, both imports and exports

NI trading route more important than ever for IE-UK trade –
special trade status of NI a factor



UK exit from single market will continue trend of lower goods
trade between IE & UK



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Source: CSO

Source: CSO

Modest benefit: FDI inflows into Ireland

The UK (City of London) has lost degree of access to EU market

FDI: Ireland benefitting already

- ▶ Ireland could be a beneficiary from displaced FDI. The chief areas of interest are
 - Financial services
 - Business services
 - IT/ new media.
- ▶ Dublin is primarily competing with Frankfurt, Paris, Luxembourg and Amsterdam for financial services.
- ▶ The UK (City of London) has lost significant degree of access to EU market so there may be more opportunities in time.
- ▶ 2019 figures from the IDA have shown that at least 70 investments into Ireland have been approved since the announcement of Brexit.

Companies that have indicated jobs have or will be moved to Ireland



J.P.Morgan



LEGG MASON
GLOBAL ASSET MANAGEMENT

S&P Global
Ratings

BARINGS



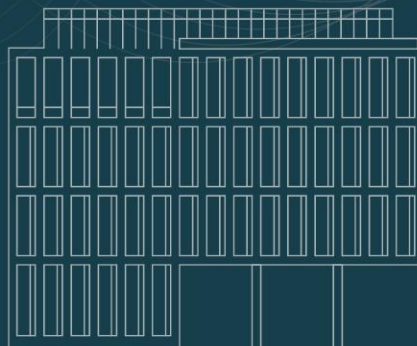
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Property & Banks

Significant price pressures resulting from
a lack of supply and strong demand



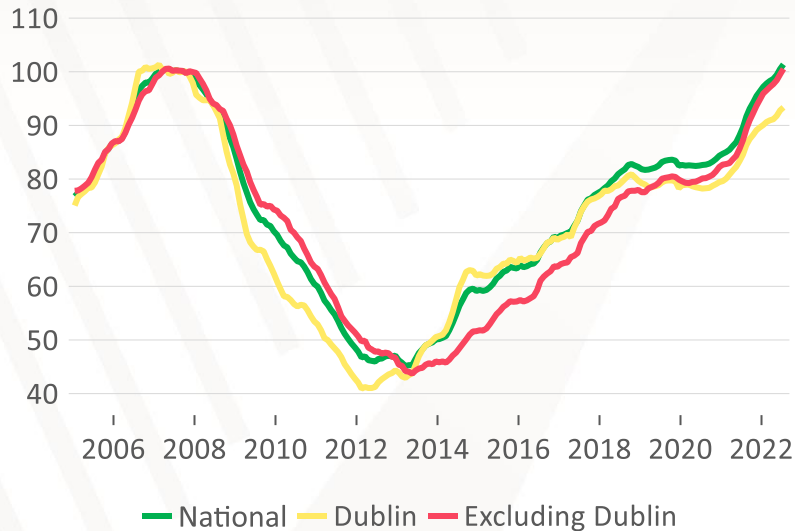
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Prices have risen since Covid

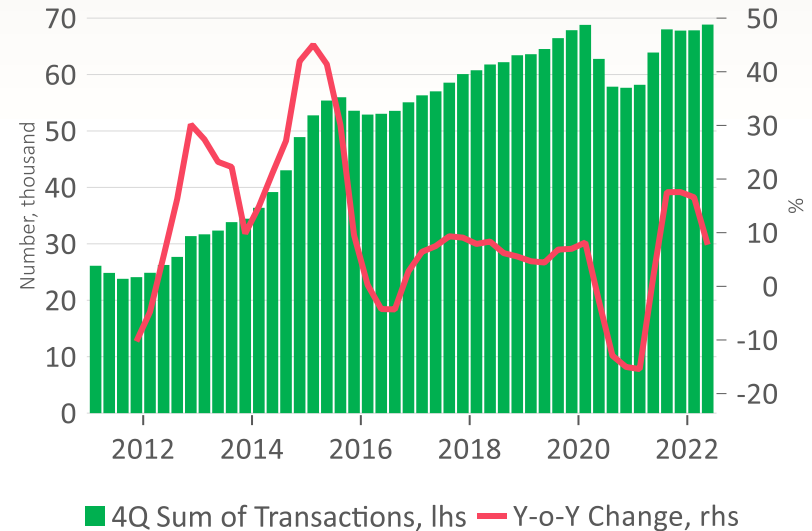
Pandemic hampered supply as demand relatively unchanged (c.33k units needed p.a.)

House prices close to previous peak in 2007 (=100), prices up 13% year-on-year



Source: CSO

Transactions have rebounded after Covid lockdowns

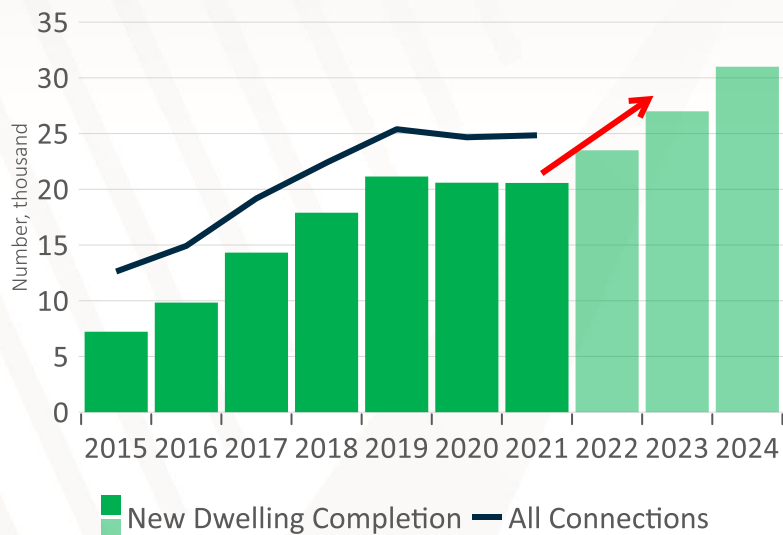


Source: CSO

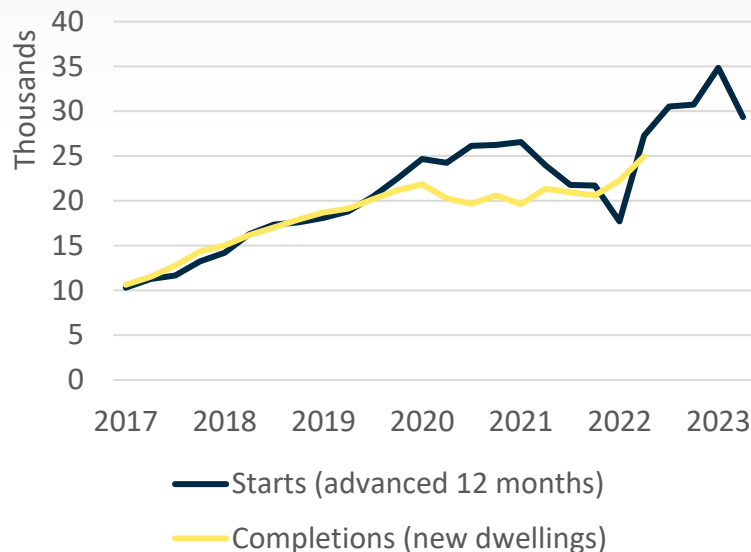
Completions forecasted to grow 50% by 2024

2022-24 may see rebound in supply – housing starts 30k+ in last 12 months

New Dwellings Completions* hampered by Covid lockdowns in 2020 and 2021, rebound expected in 2022, 2023**



Recent housing starts show supply is responding – last 12 months have seen 25K units completed



Source: CSO, DoH



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Source: CSO

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

** 2022 & 2023 CBI Forecast

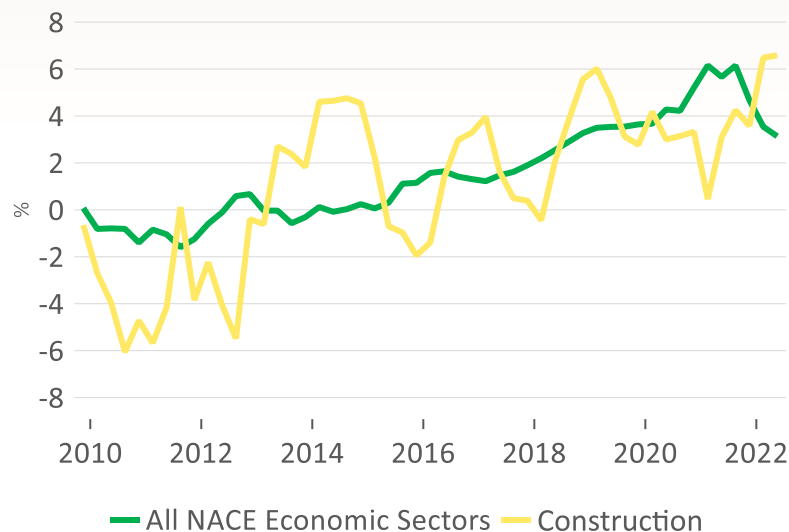
Inflation clear in construction sector

Increased material costs obvious but wages haven't expanded rapidly yet

Materials up 20.6% year-on-year in July – may start to slow new development



Latest earnings data in construction show wage inflation jumped above the rest of the economy but series is volatile



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Source: CSO

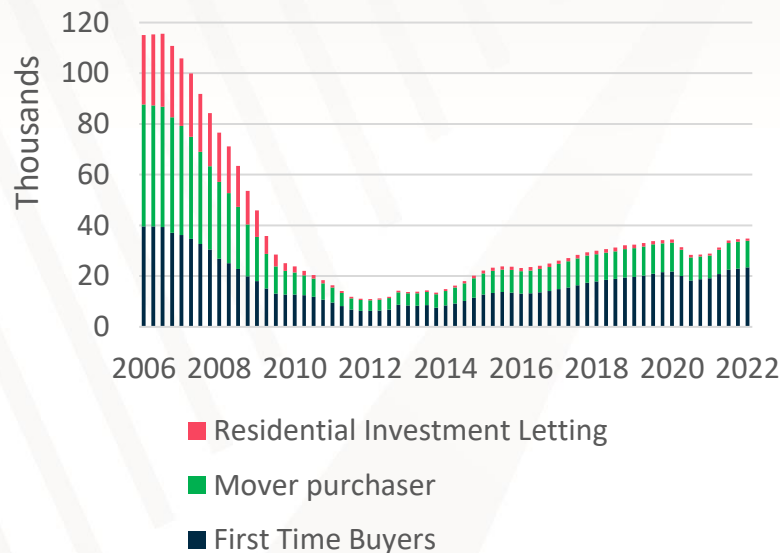
RHS = weekly earnings on a 4Q yearly growth rate

Source: CSO

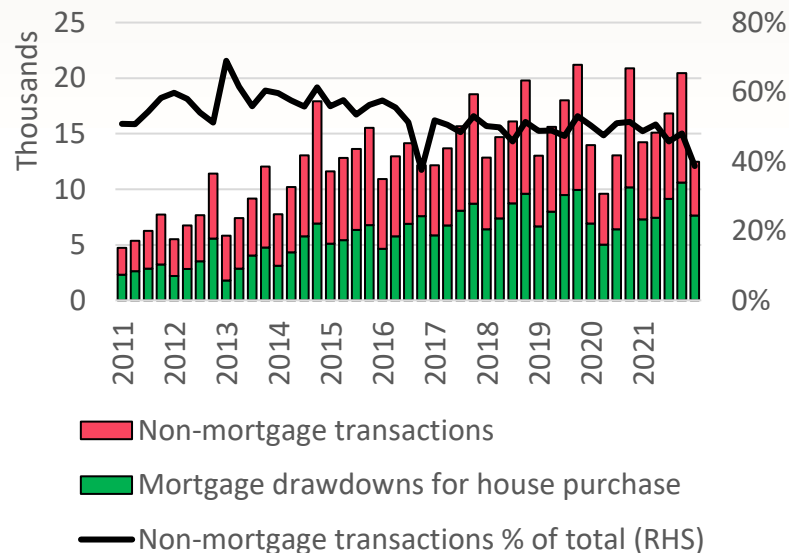
Latent demand is strong

Mortgage drawdowns increasing

Mortgage drawdowns* (000s) rose in recent quarters after Covid-19 impact



Non-mortgage transactions still important – c.40% of all transactions



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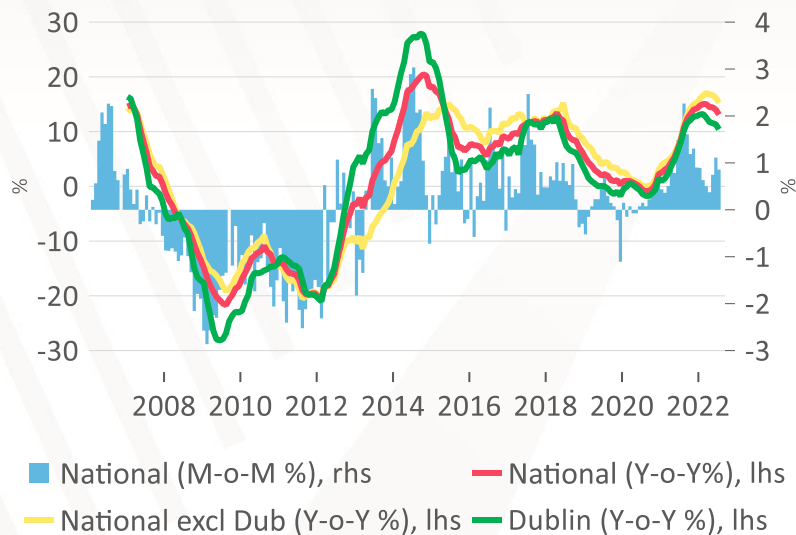
Source: BPF; CSO

*4 quarter sum used (LHS)

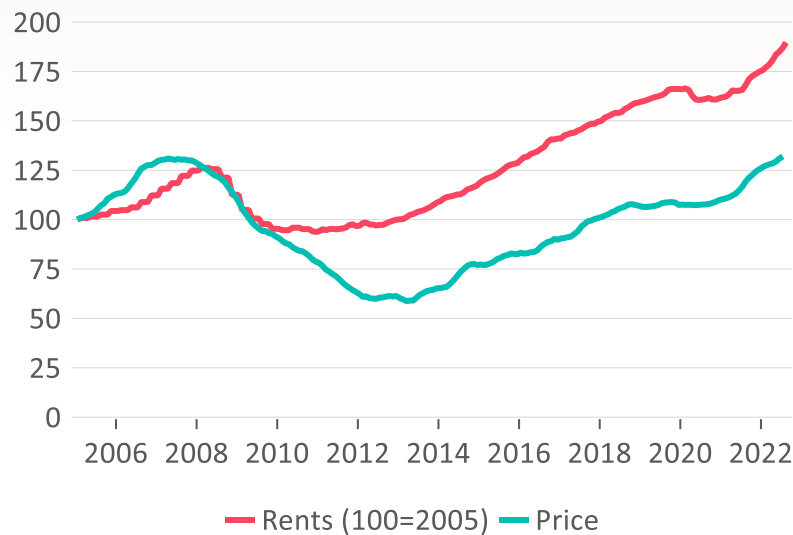
Covid-19 impact on prices coming through

Inflation driven by strong demand with rents pressure strong

House prices up 13% in the year to July 2022 with monthly growth still robust



Rents pressures strong with a y-on-y increase of 12.7% after initial Covid related softening



Source: CSO

Source: CSO

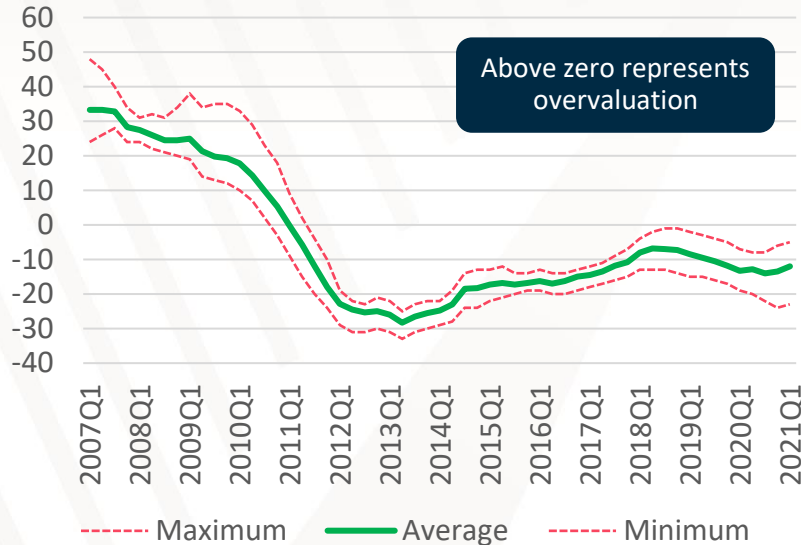


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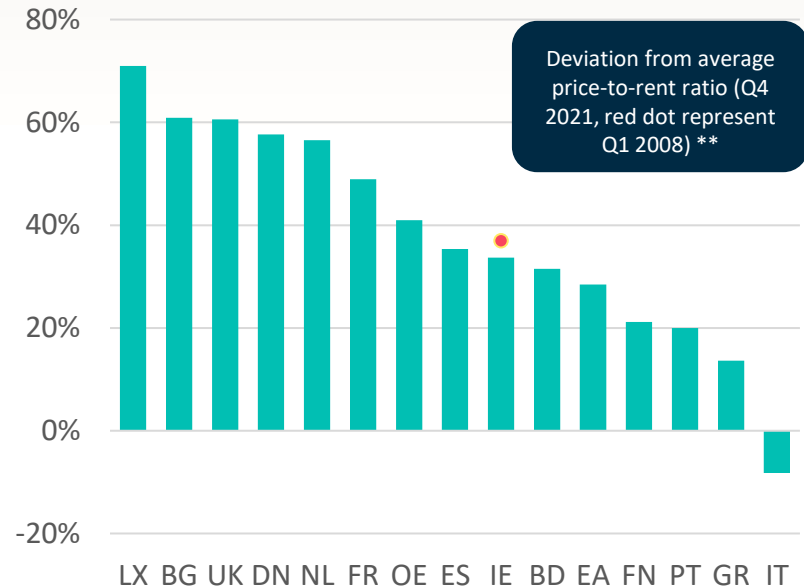
Price valuation metrics somewhat unclear

But the market is not comparable to mid 2000s

ECB estimates* indicate that residential prices in Ireland are currently undervalued...



...but by OECD measures they are above long run average price to rent metrics

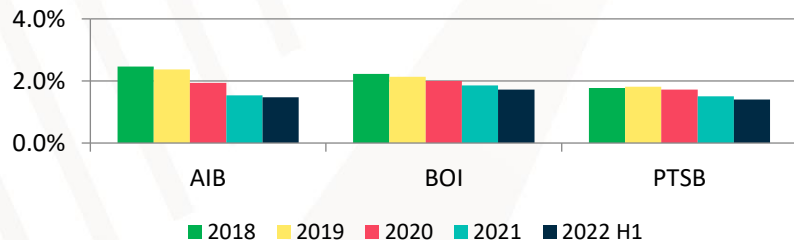


Ireland's Banking Sector Overview

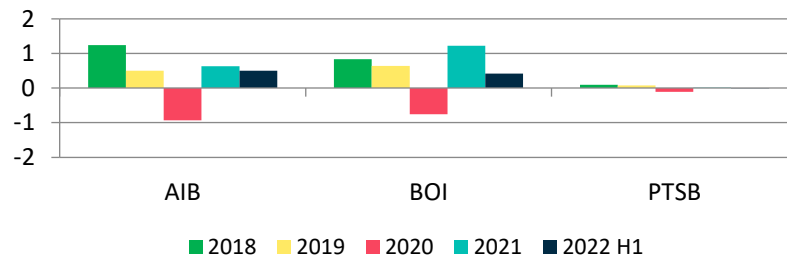
Less competition possible in decade to come

- Banks profitable before Covid-19: income, cost and balance sheet metrics much improved.
- Net interest margins will be helped by rising interest rate environment.
- Ulster Bank and KBC - both of which have no govt. ownership have decided to leave 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.
- A tranche of AIB shares were sold in June 2022 which returned another €304.8mn to the Irish Exchequer. The Government still own approx. 63.5% of AIB.

Net Interest Margin



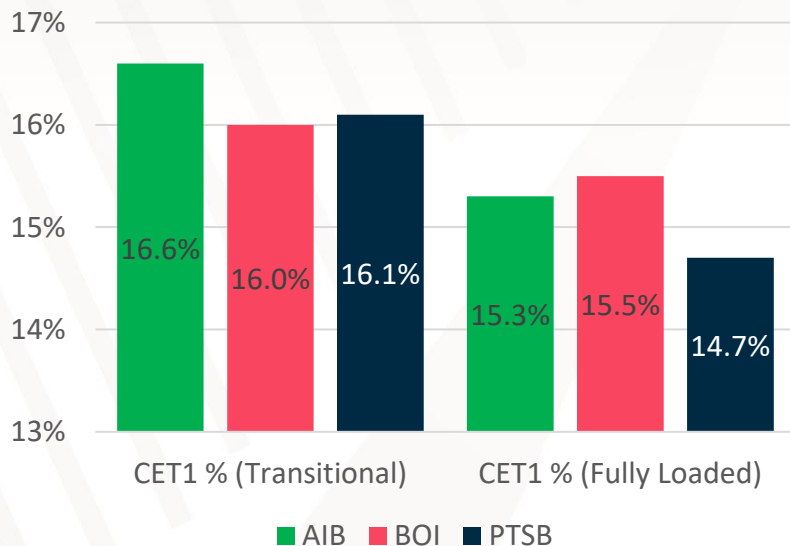
Profit before Tax



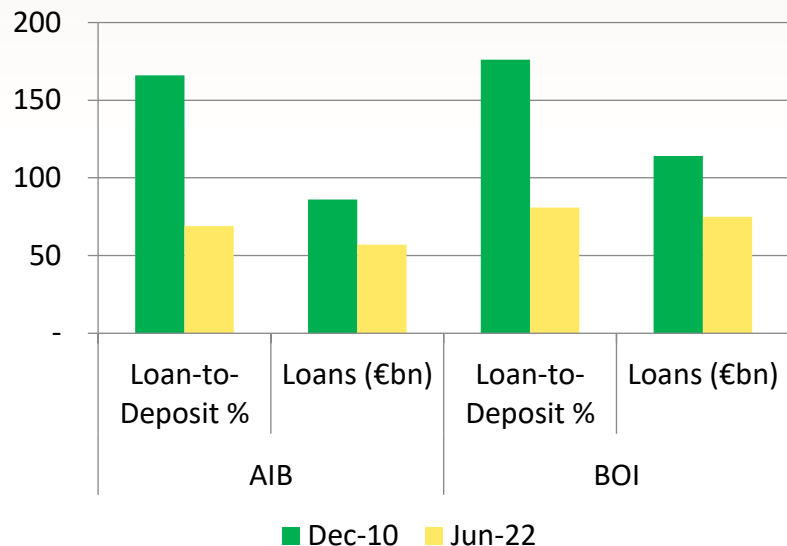
Capital ratios strengthened in last 10 years

Bank's balance sheets contracted and consolidated since GFC

CET 1 capital ratios allow for ample forbearance in 2022



Loan-to-deposit ratios have fallen significantly as loan books were slashed



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Source: Published bank accounts

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

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