Ireland: Growth momentum but risks on horizon

Last year saw first budget surplus since 2007

May 2019

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

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Summary

Labour market getting tighter as debt sustainability improves

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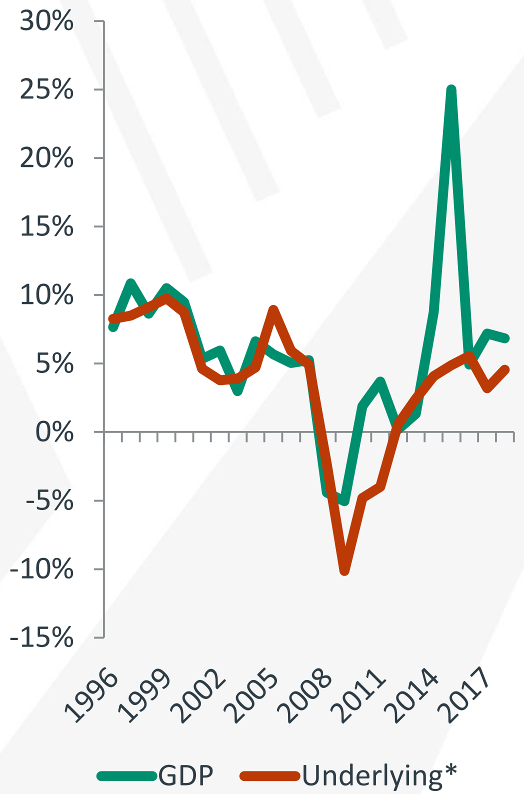
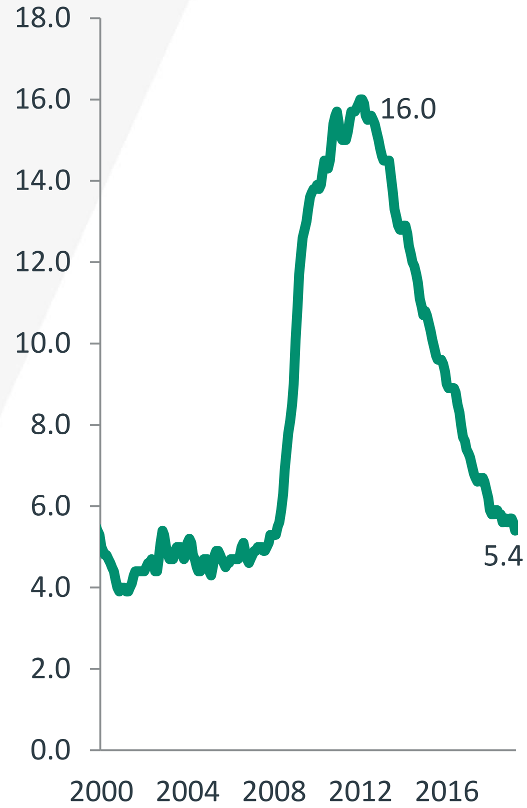
Domestic economy growing: averaging 4.5 per cent in 2014-18

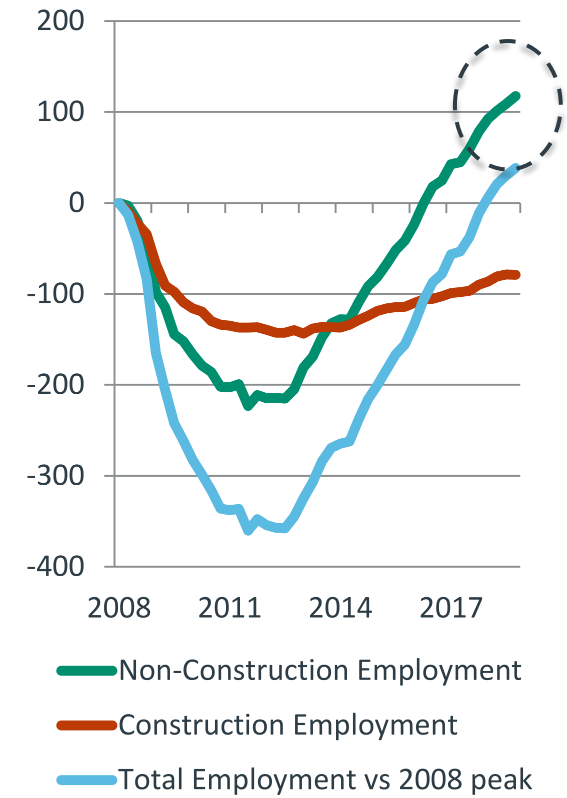
True growth healthy



Dramatic drop in unemployment rate



Employment (000s) well above 2008 peak



** Underlying series is modified final domestic demand (excludes inventories)*

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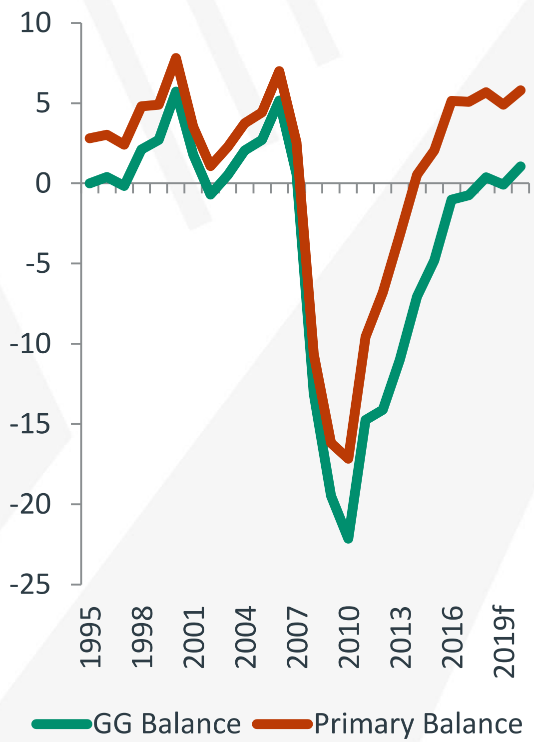
Primary surplus, improving debt dynamics and cash balances provide protection

Five years of primary surplus (€bn)



Ireland is improving its debt dynamics by the month

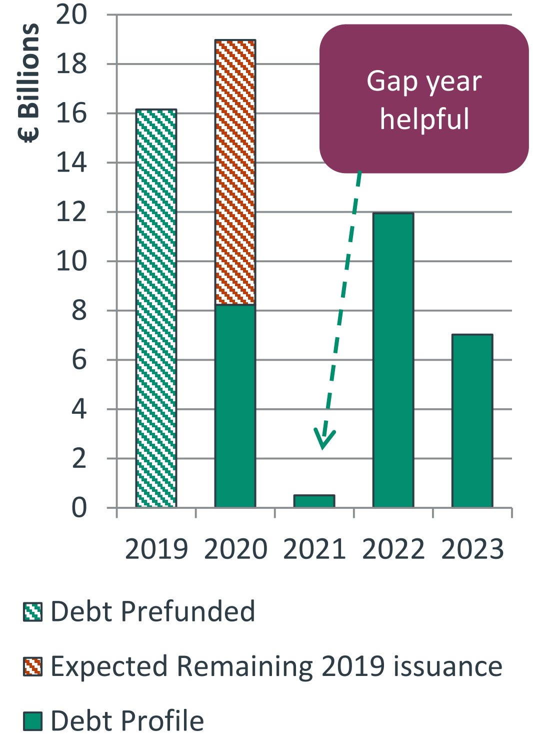
Debt-to-GNI*
(105% 2018f, from 166%)

Debt-to-GG Revenue
(255% 2018f, from 353%)

Average interest rate
(2.6% 2018f, from 5.1%)

Debt-to-GDP^
(64% 2018f, from 120%)

Cash-balance provides near-term protection (€bn)



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^ due to GDP distortions, Debt to GDP is not representative for Ireland, we suggest using other measures listed.

Main risks are external and outside Ireland's control

Growth

Euro Area and UK have slowed: these account for half of Ireland's exports

Easier monetary policy: "lower for longer" is good news for Ireland, given higher debt

US

Ireland is still a "high beta" bet on the US economy, in particular its ICT sector

US is in the late stage of its economic cycle , which raises questions for Ireland

Brexit

"Hard" Brexit could reduce Irish growth by 4-6 % points cumulatively over two years

Employment might be up to 3.5% less than in a benign scenario according to DoF/ESRI

€5.5bn issued in 2019 so far; well positioned given prefunding and maturity lengthening

Pre-funded

Current cash balances easily cover 2019 redemptions

The remainder of €14-18bn in expected funding in 2019 to fund 2020 redemptions

10 years

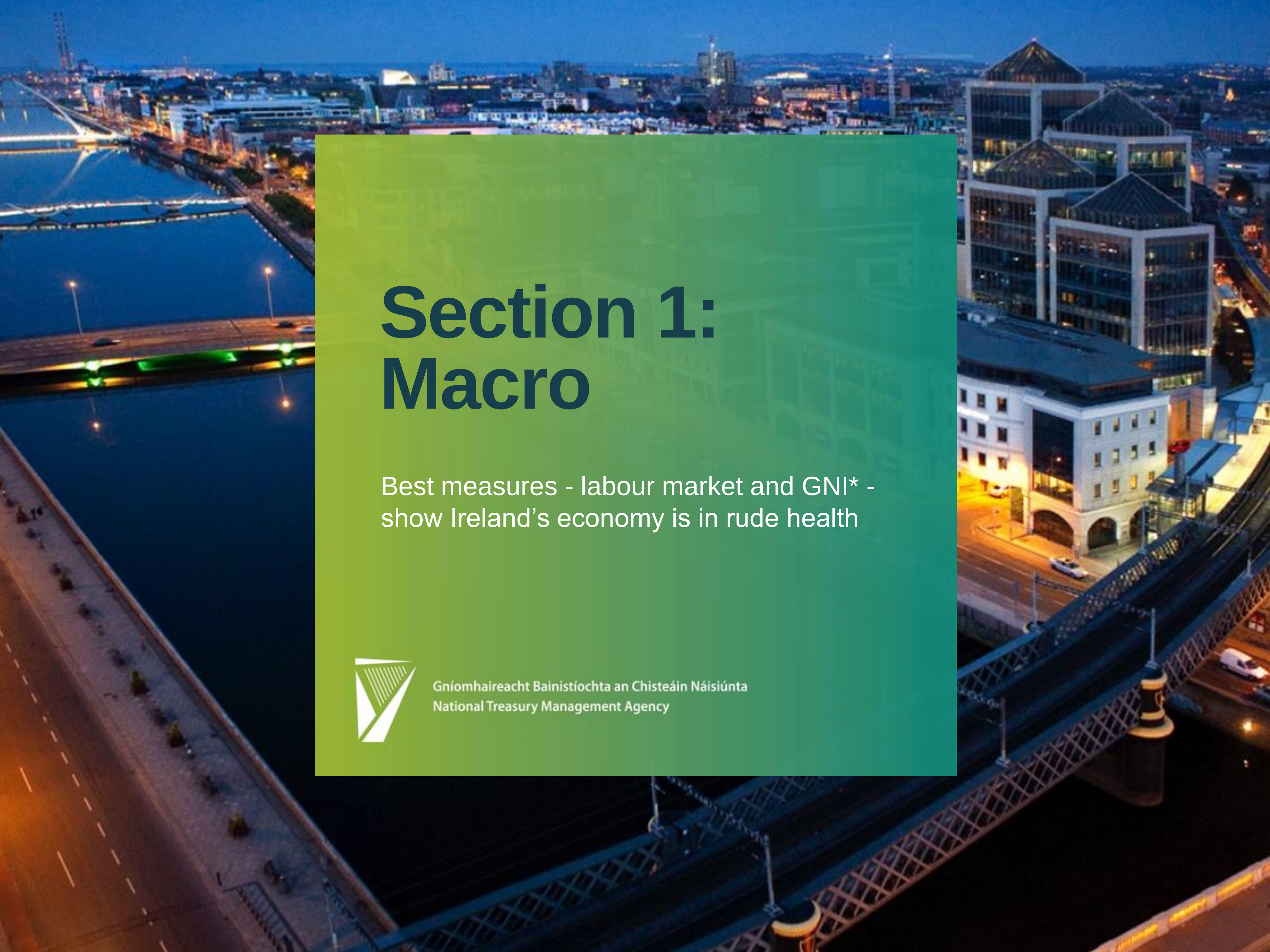
One of the longest weighted average maturities in Europe

NTMA has used QE period to lengthen maturities, lower interest costs and repay its IMF debt early

A+/A2/A+

Ratings from main agencies

Ireland's debt sustainability is improving, which suggests that ratings may rise to double-A territory further barring shocks



Section 1: Macro

Best measures - labour market and GNI* - show Ireland’s economy is in rude health

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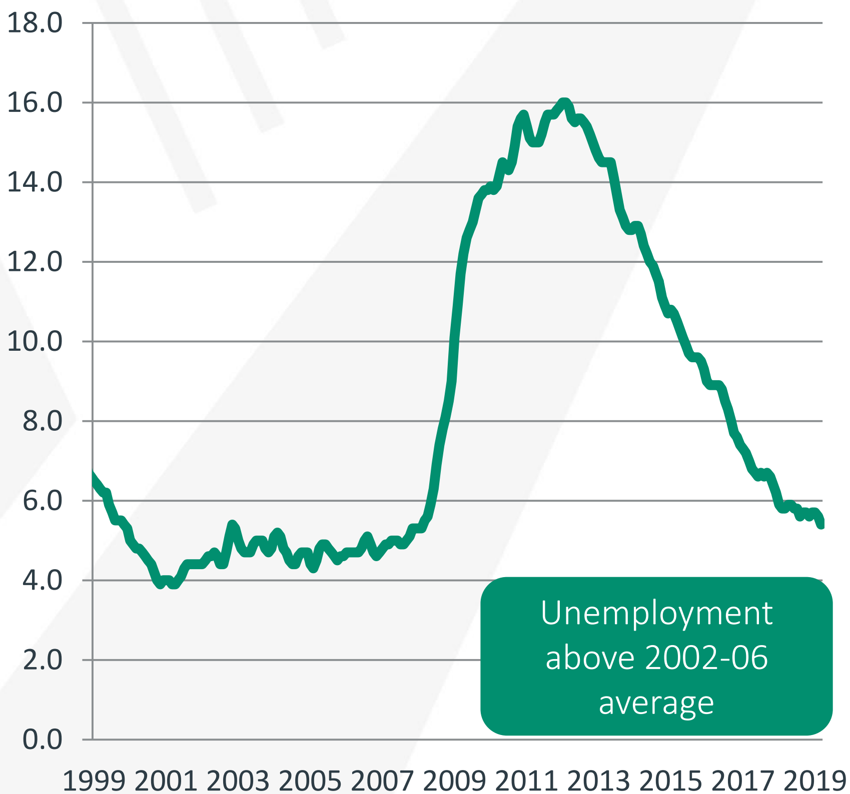
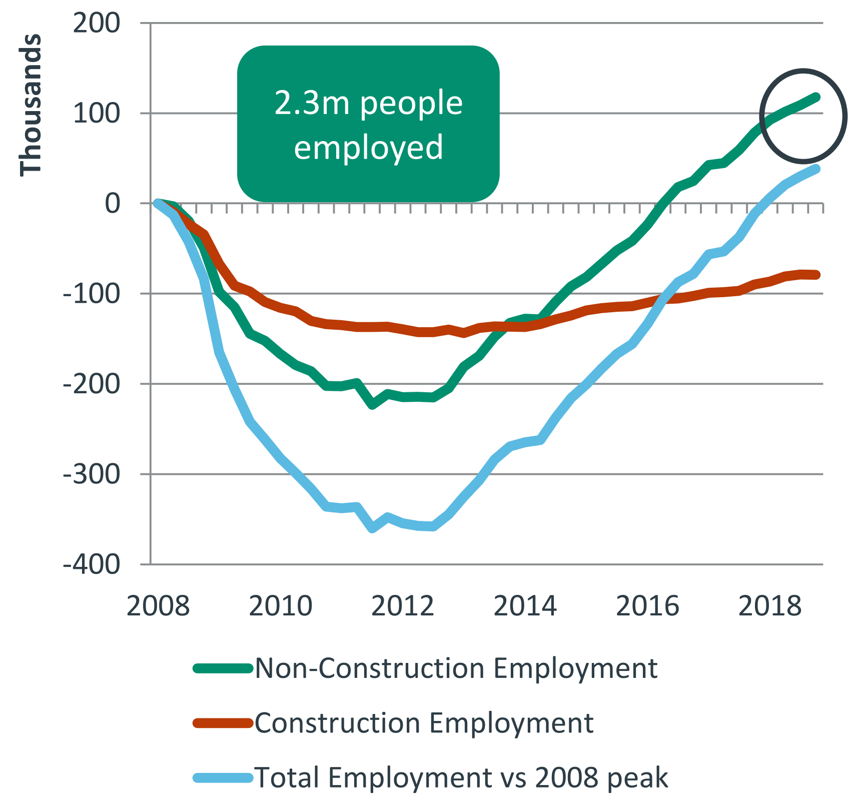
Labour market best illustrates Ireland's growth story – 115K non-construction jobs added on net vs. 2008 peak

Unemployment rate: down to 5.4% in April 2019 from peak of 16%



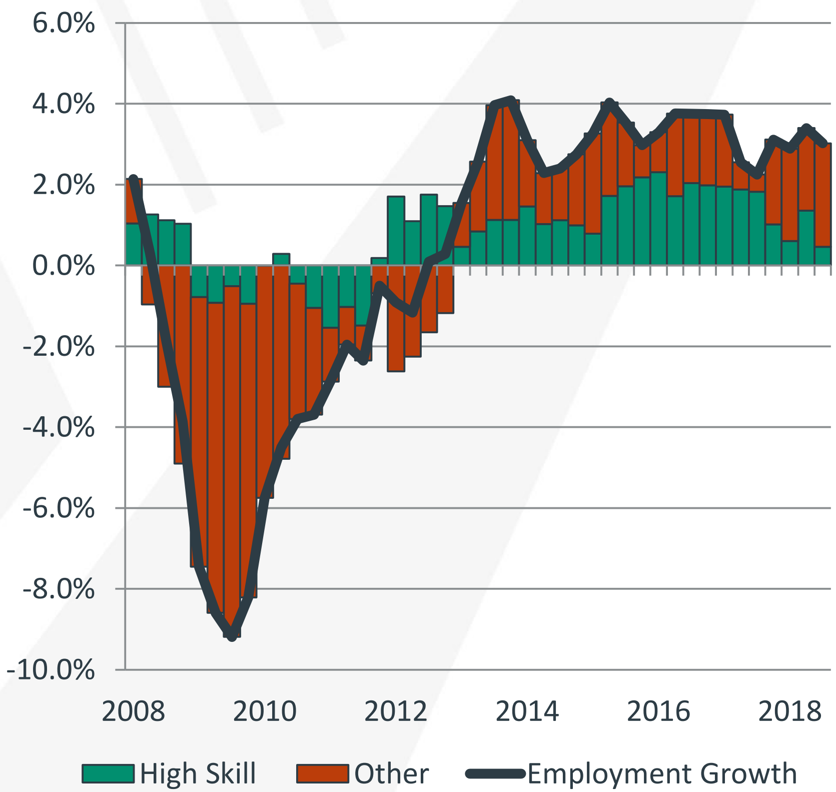
Total employment back above previous peak as 115K non-construction jobs added on net



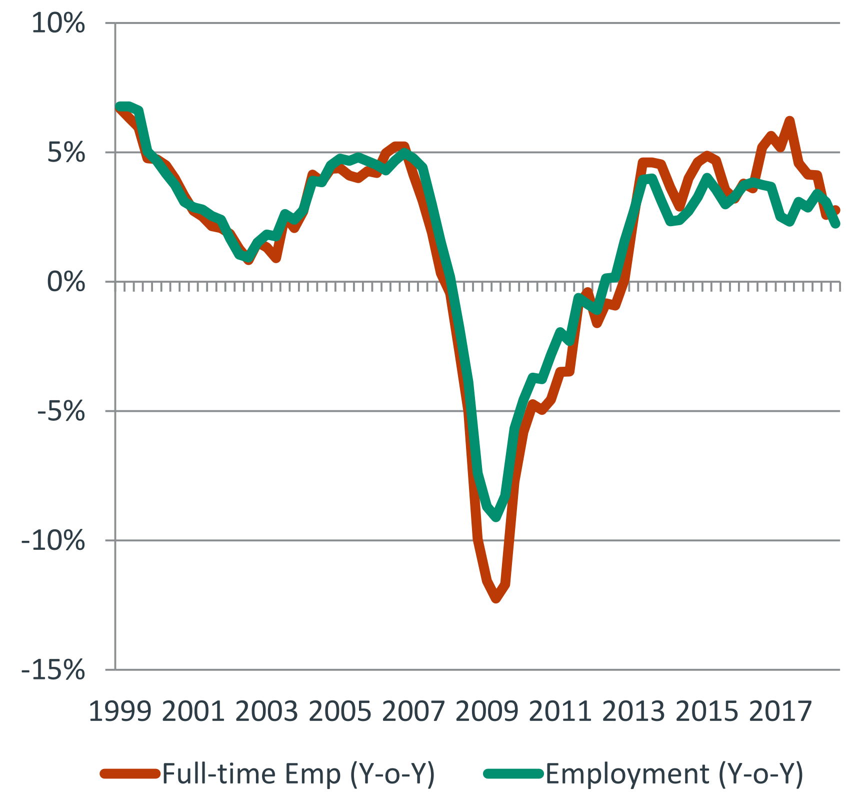
Source: CSO

High-skill and full-time employment were both expanding strongly for a long period, before recent deceleration

High-skill employment has grown sharply



Substantial rise in full-time employment



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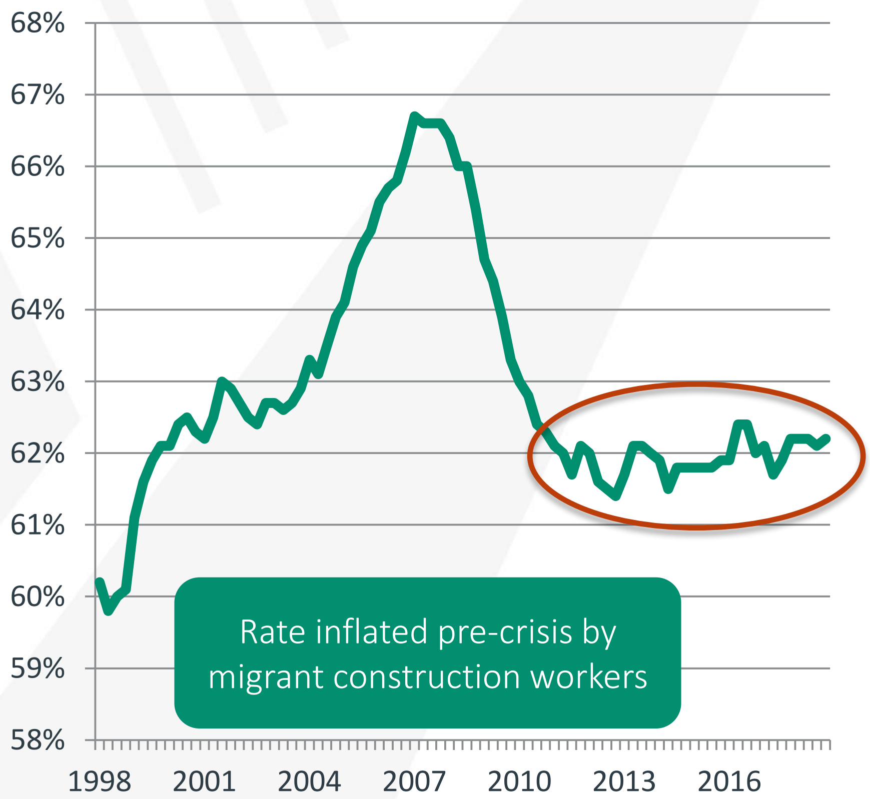
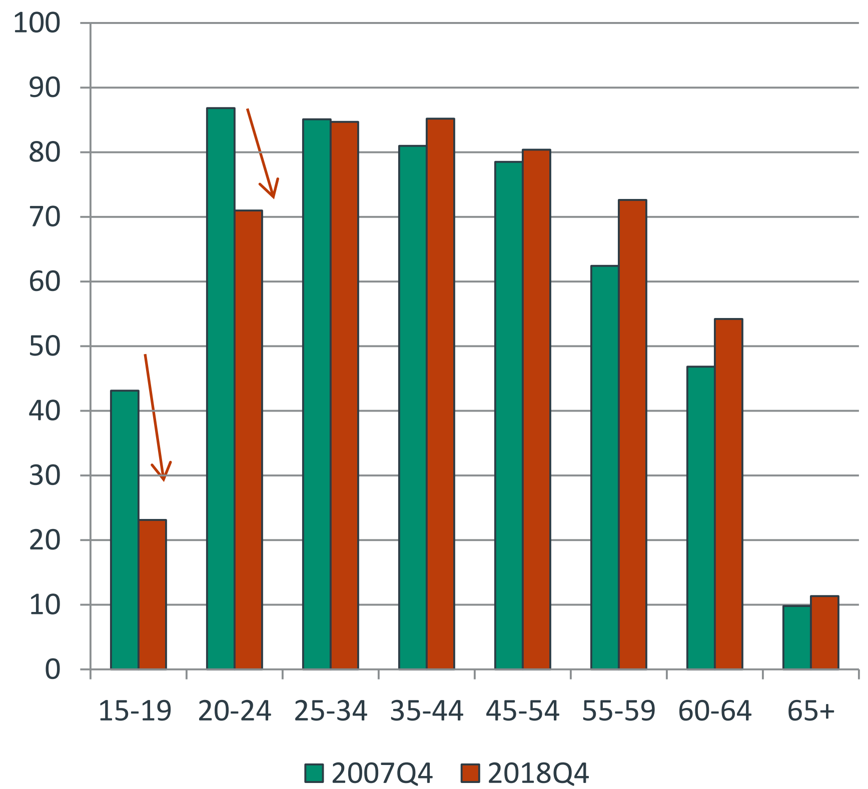
Source: Eurostat; CSO
High Skill jobs include the ISCO08 defined groupings Managers, Professionals, Technicians and associate professionals

Labour participation has not yet fully recovered – young reaching labour force later

Participation rate hovering around 62%



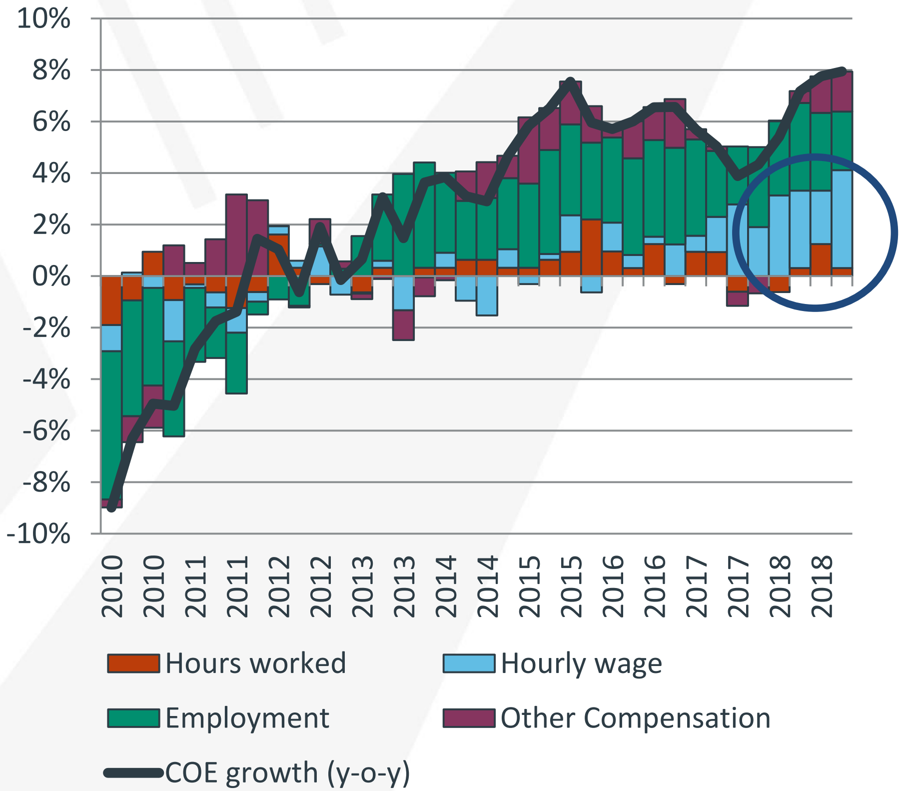
Part. rate down as construction jobs lost and younger people stay in education longer



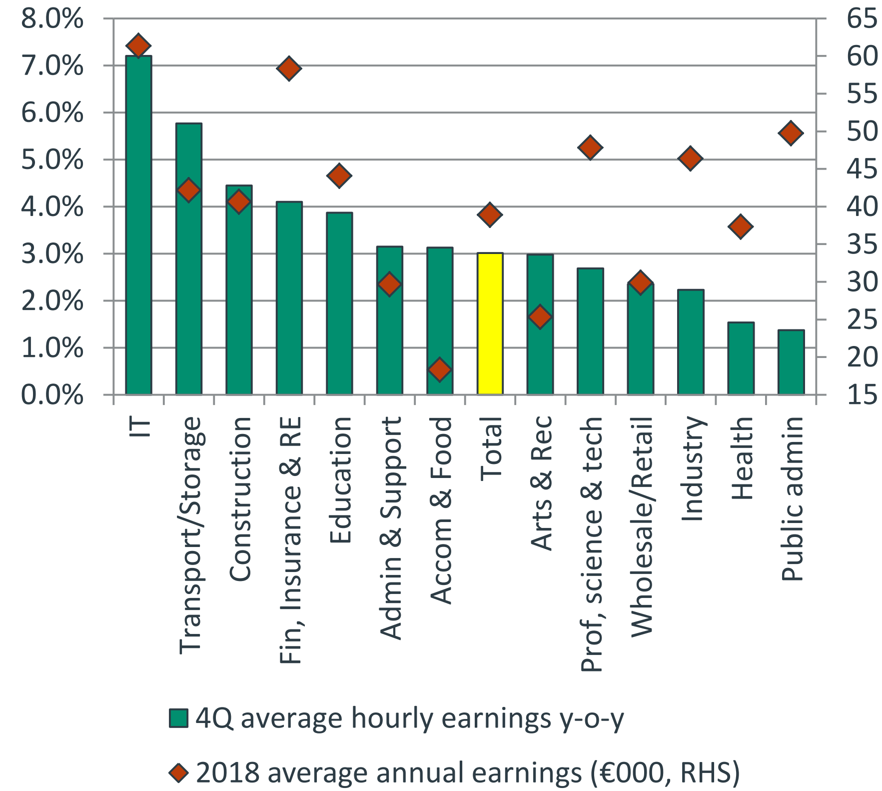
Source: CSO

Wages growth evident in 2018 but uneven across sectors

Wage growth a driver for increase in compensation of employees…



… but disparities remain across sectors



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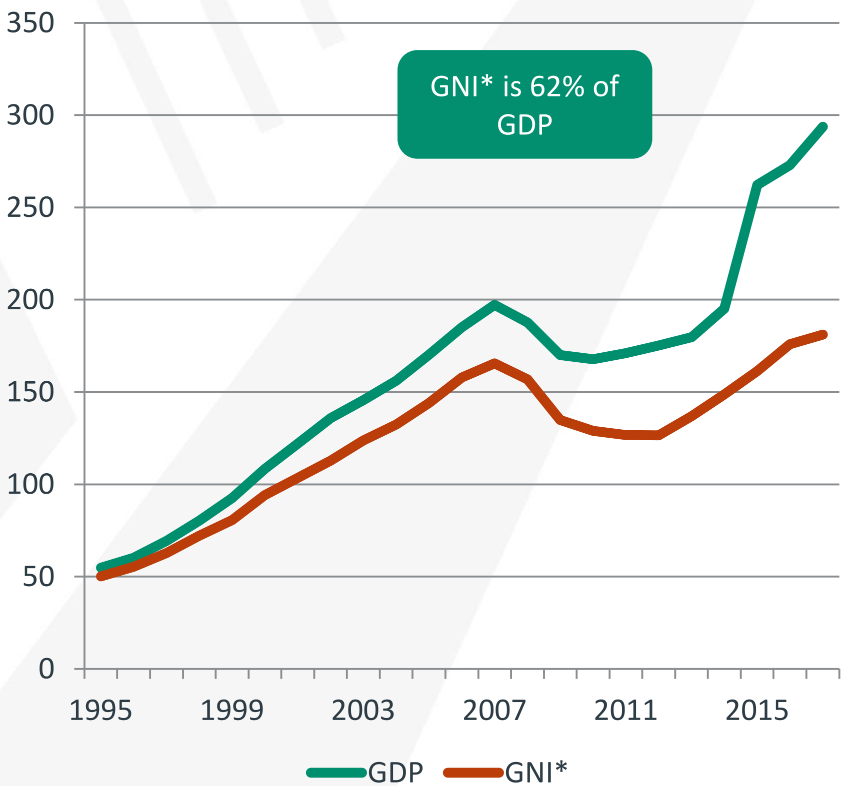
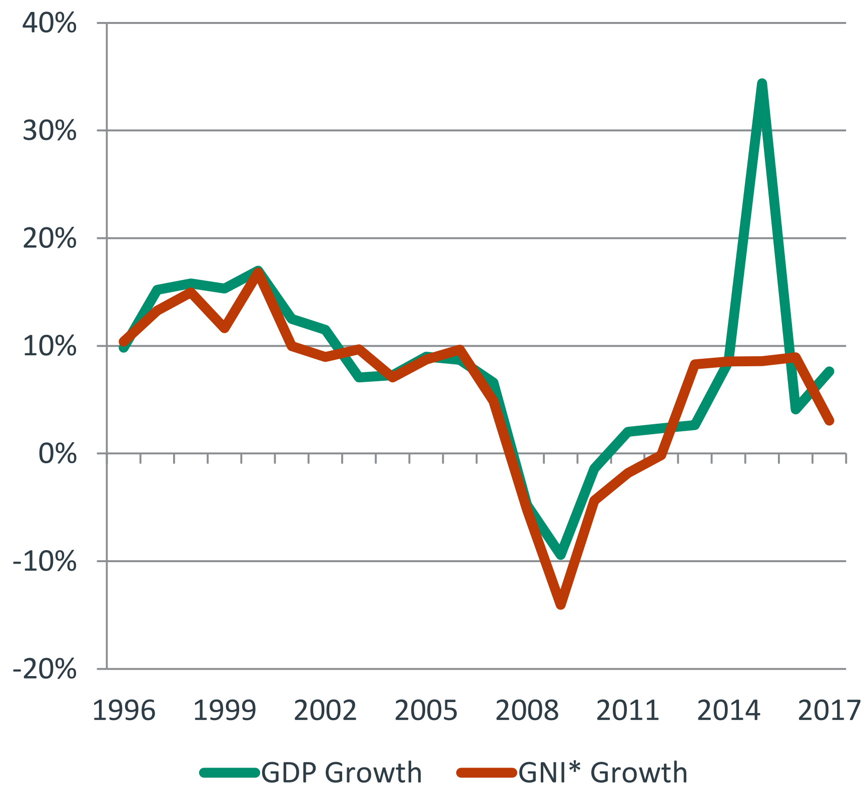
Source: CSO

GDP distortions mean we need to look to other metrics; Irish recovery evident when looking at GNI*

GNI* was €181bn in 2017; 9.4% higher than in 2007 (current prices)



GNI* growth rate averaged 7.5% 2013-2017 (current prices)



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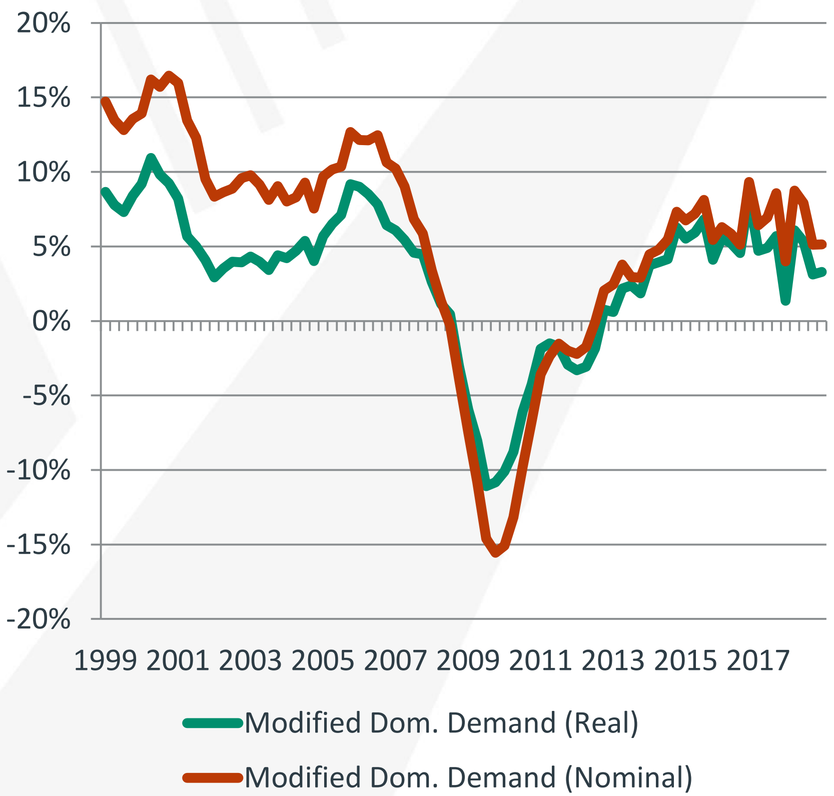
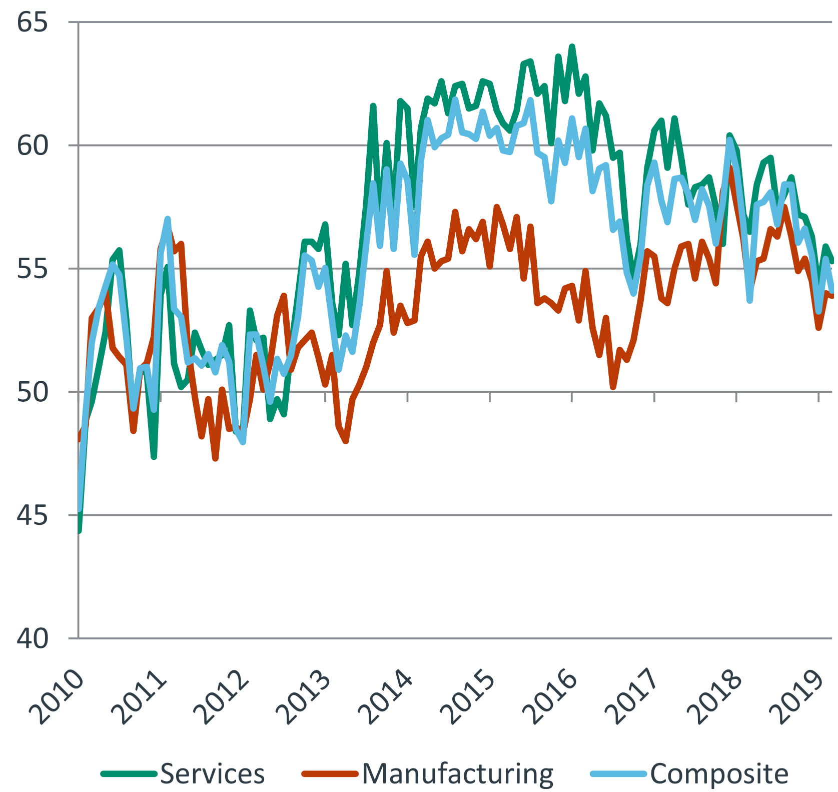
Source: CSO
Note: See annex for discussion on the GDP distortions from 2015 onwards

Short-term indicators robust if a little less hot

Domestic demand grew strongly in 2018



Ireland's PMIs are still expanding but down from the heights of 2016



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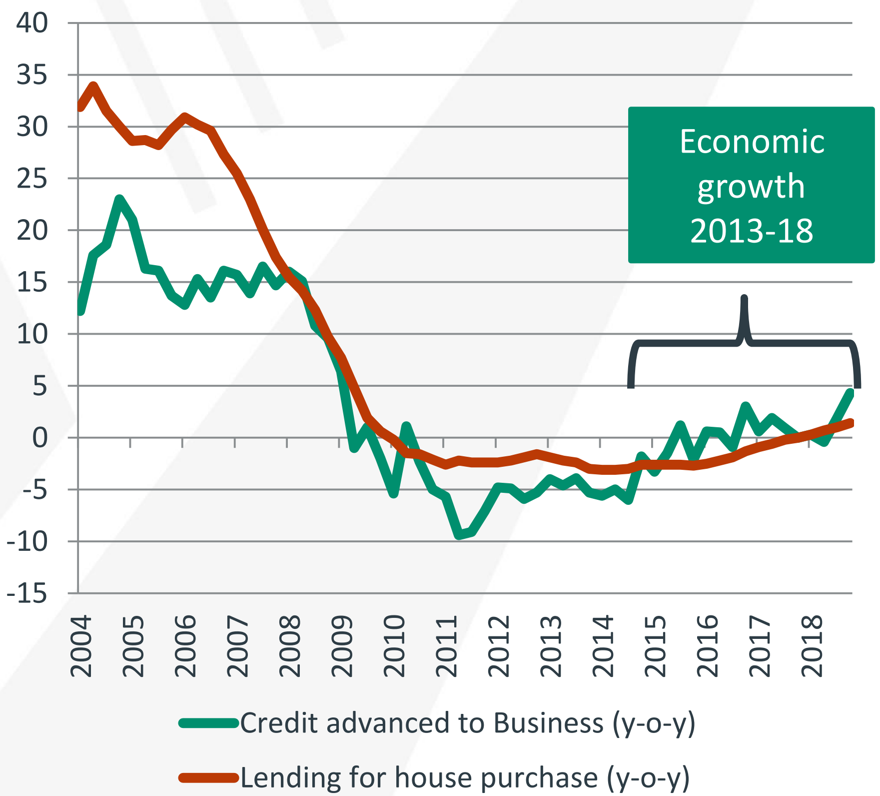
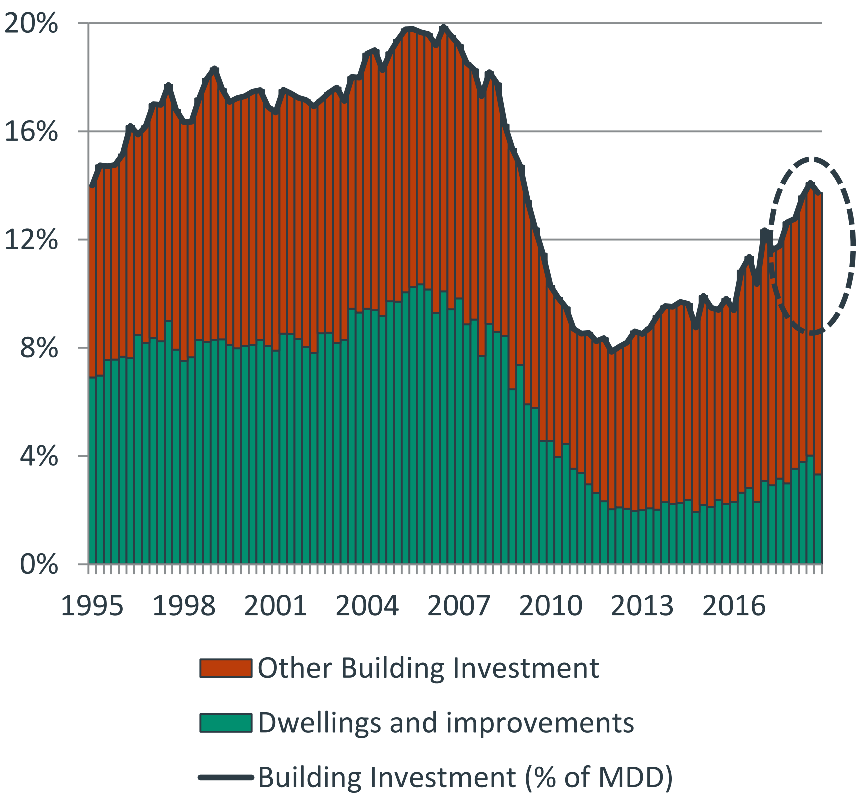
Source: CSO; Markit, Bloomberg, Investec
Note MDD measure used here private consumption, government consumption, building investment, elements of machinery & equipment investment, elements of intangible asset investment, value of physical changes in stock. See annex for more detail.

Crucially the recovery has not been driven by credit so far

Lending for house purchase only edging into positive territory recently



Building investment % of domestic demand is growing – led by non-residential



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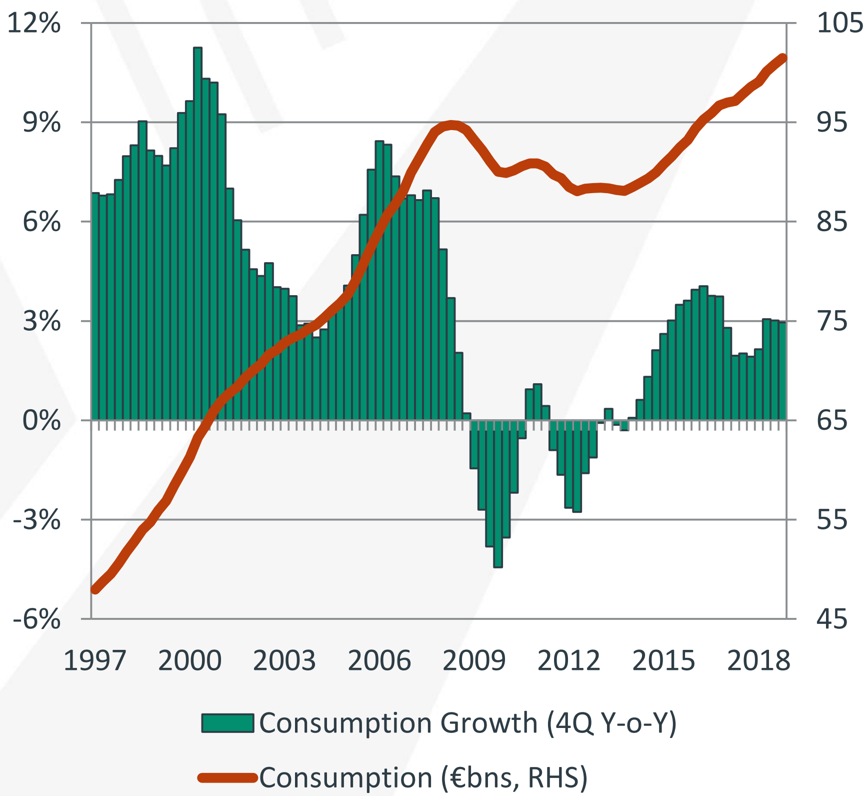
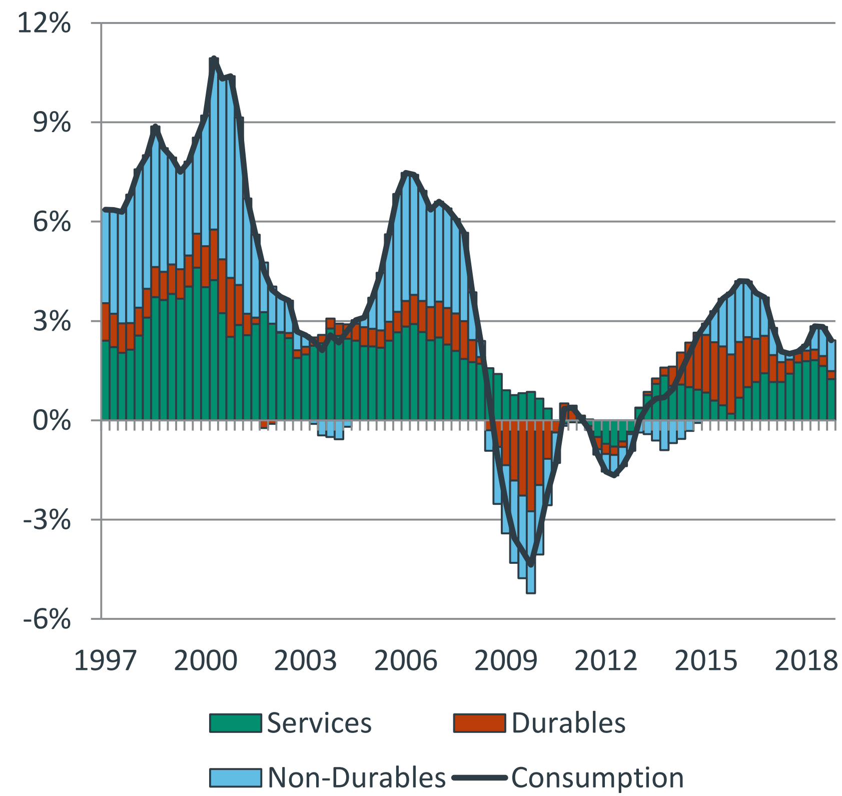
Source: CBI; CSO
Note: Credit to business series excludes financial intermediation and property related credit
Note Modified investment excludes impact of imports of intangible and aircraft leasing assets

Consumer spending growth fuelled by rising incomes rather than recourse to debt

Private consumption expanded by 3% in 2018



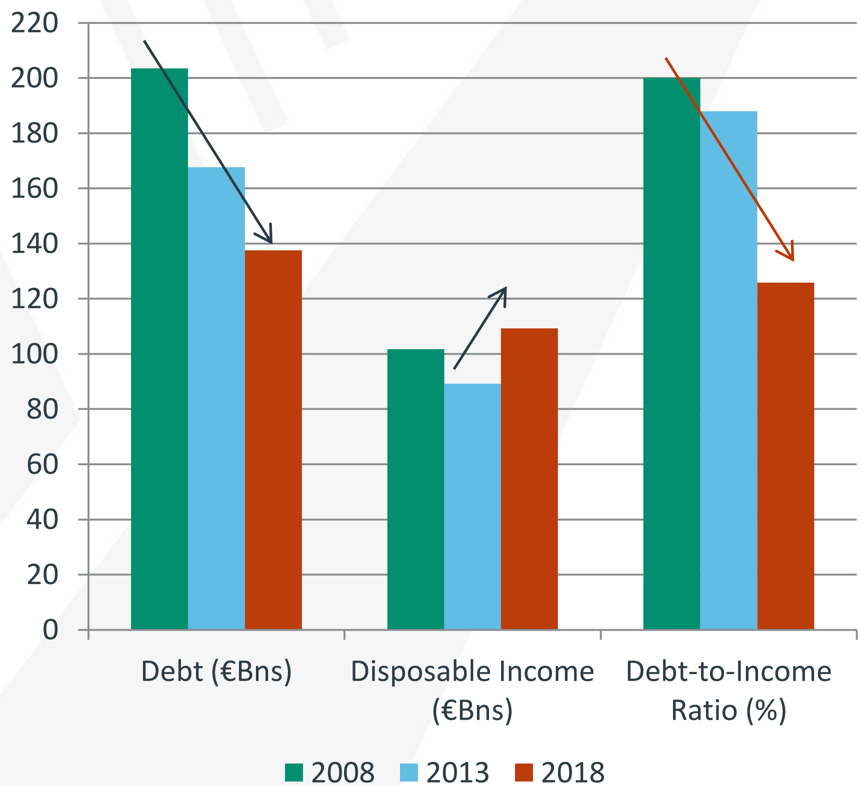
Services driving latest growth in spending



Source: CSO; Eurostat

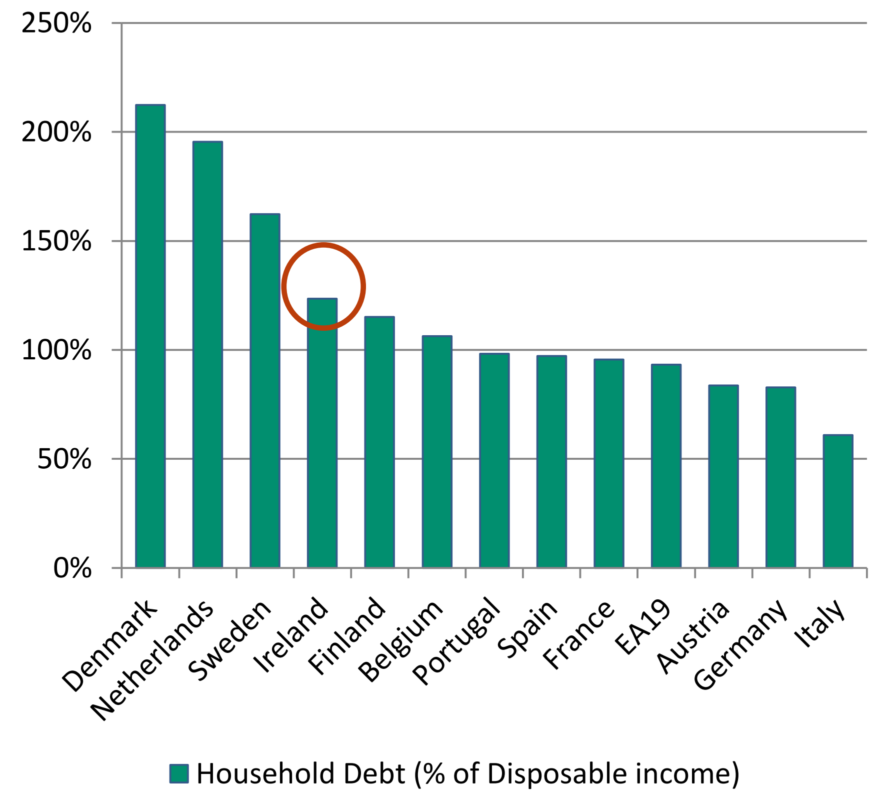
Private debt remains elevated but stock has fallen by a third in a decade

Household debt ratio has decreased due to deleveraging and increasing incomes



Source: [CBI] (Q3 2018 data used)

Debt to after-tax income* improving (123%) but among highest in Europe

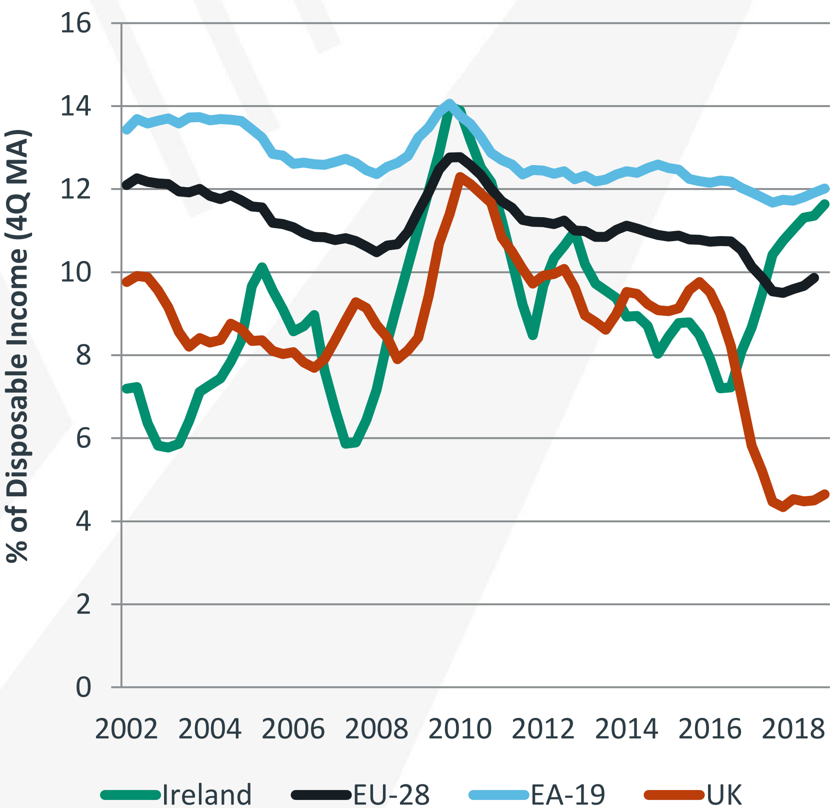


Source: [Eurostat] (Q4 2018)

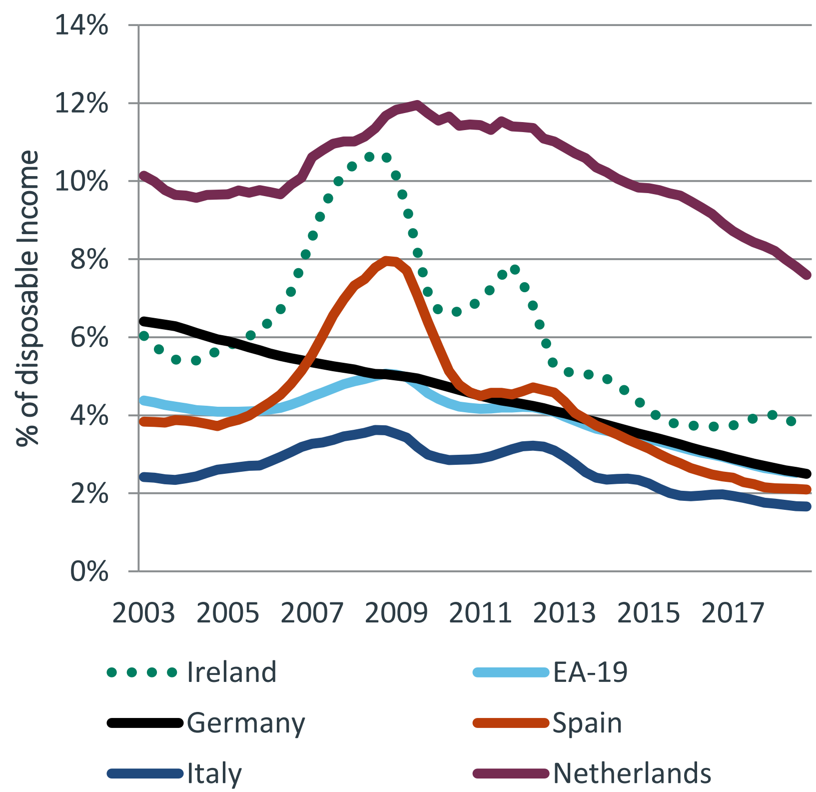
*Measure excludes "other liabilities" from household debt.

Saving rate lower in recent years, facilitating consumption and slower pace of deleveraging

Gross household saving rate lower than peak but healthy 8-11%



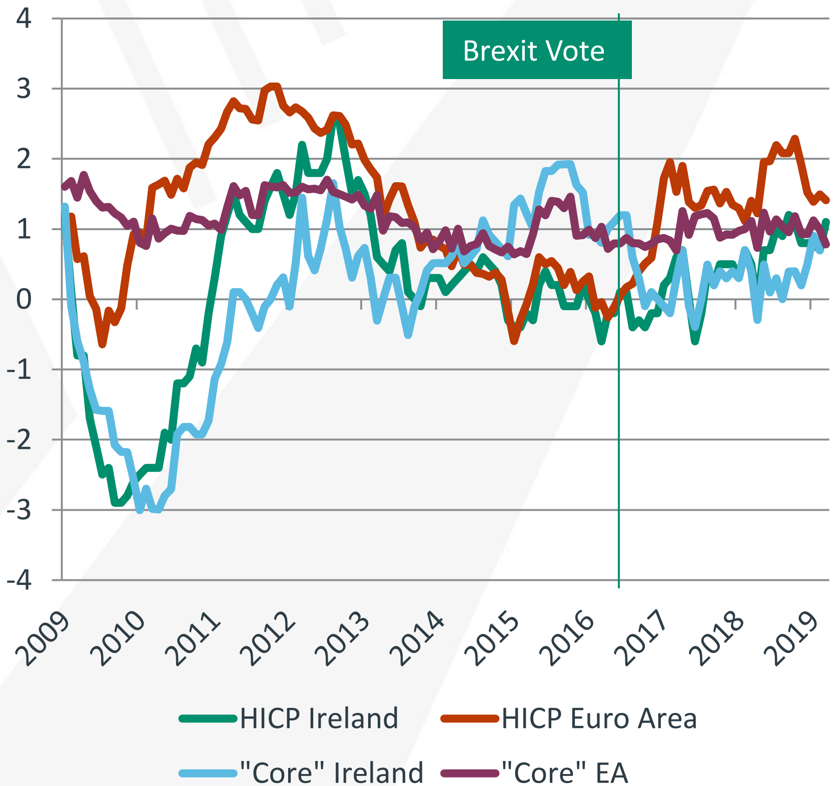
Interest burden down to only 4% of disposable income from peak of 11%



Source: Eurostat, ONS, CSO ; CBI, Eurostat NTMA calculations
Note: Gross Savings as calculated by the CSO has tended to be a volatile series in the past, some caution is warranted when interpreting this data

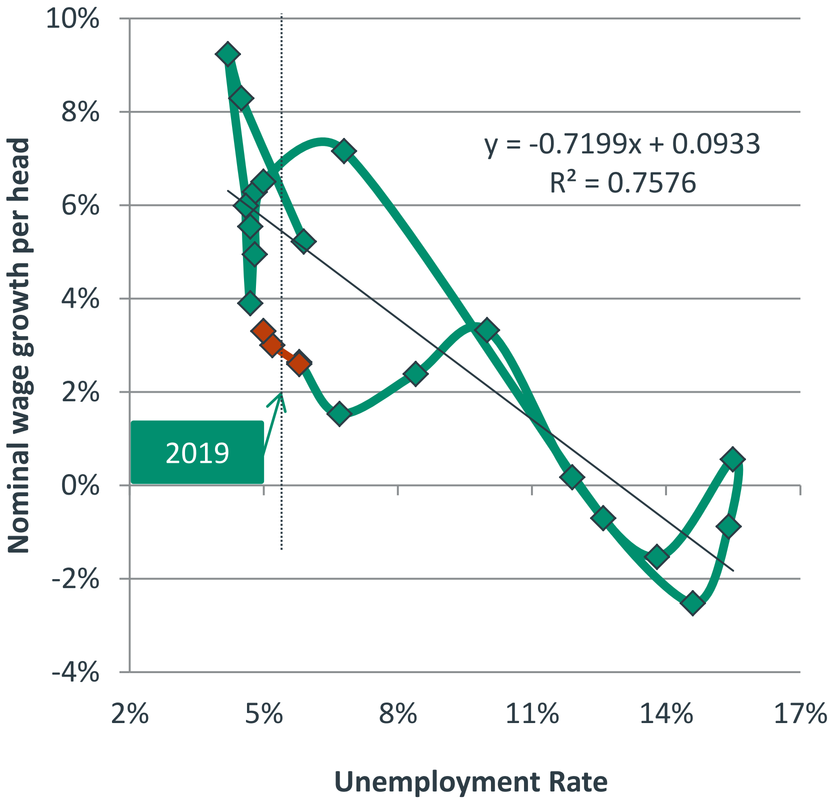
Despite being late cycle, inflation is low; Ireland's *Phillips Curve* may be "kinked"

Inflation (%) in Ireland lower than EA due mostly to sterling weakness post-Brexit vote



Source: CSO, Eurostat

Wage growth a natural consequence of improving labour conditions (1999-2021)



*Source: CSO, NTMA analysis *red dots are Budget 2019 forecasts (2018-2020); Non-Agriculture employment /wage data*

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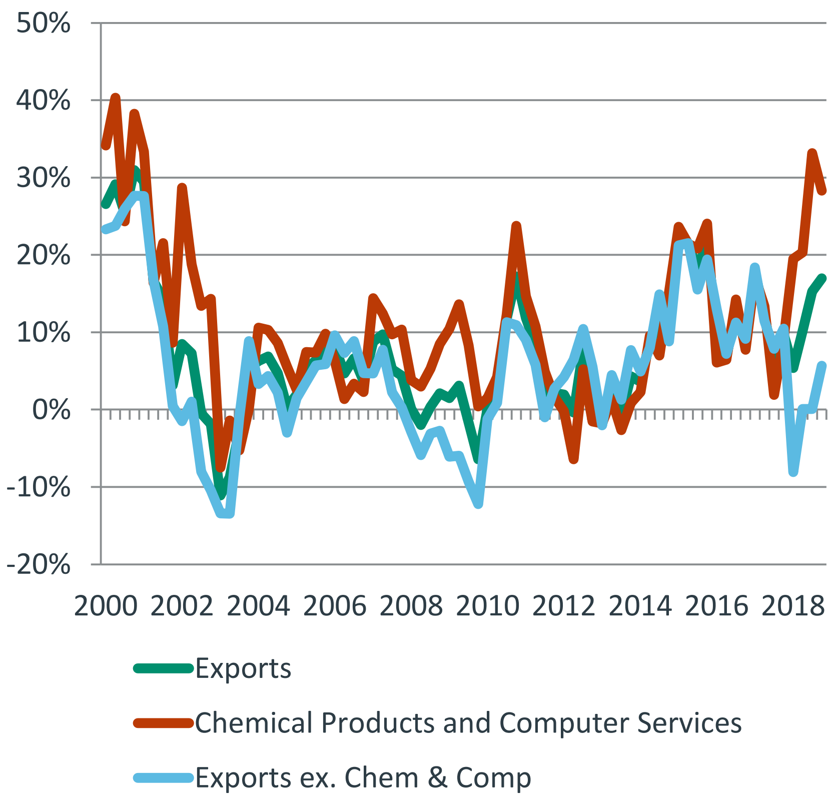
External environment a bit more helpful for Ireland in 2019

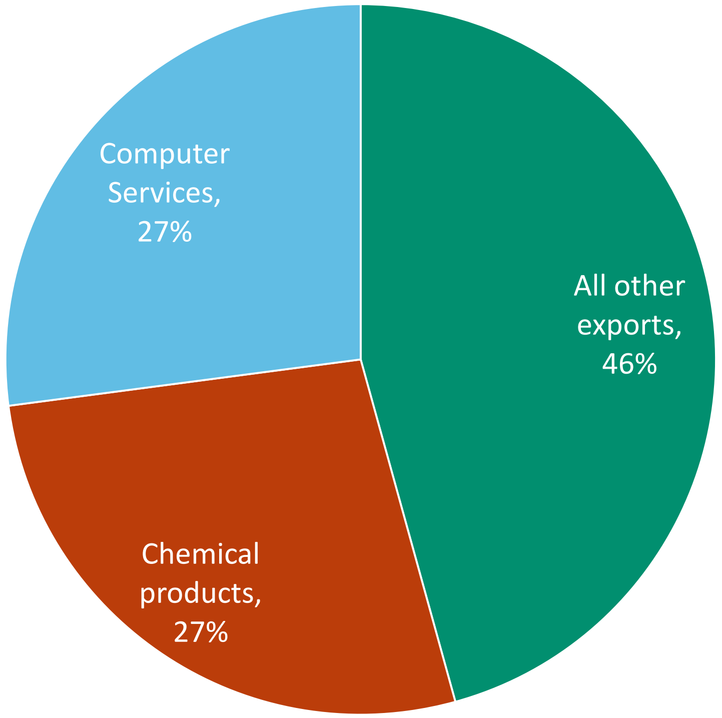
	2015	2016	2017	2018	2019f
EA Monetary Policy	Accommodative	Accommodative	Accommodative	Less accommodative	Less accommodative
US Monetary Policy	Accommodative	Accommodative	Accommodative but tightening	Further tightening	Curve inversion, but ST U-turn
US growth	Stimulative	Less stimulative	Stimulative	Stimulative due to fiscal package	Neutral 2^{nd} derivative
Oil price	Falling	Falling	Rising	Falling	No change yoy
UK growth	Stimulative	Less favourable; Brexit impact	Growth slowing	Growth slowing	Brexit crunch
Euro Growth	Stimulative	Stimulative	Stimulative	Slowing growth	Set to improve?
Euro currency	Very Helpful	Helpful	Headwind	Neutral	No chg. v £ weaker v $

Export growth has slowed in recent quarters

Goods exports outside MNC-dominated sectors were weak in 2018 (y-o-y change)



Ireland's exports are dominated by pharma and technology (2018 data)



Source: CSO
Note: Nominal values used. Excludes contract manufacturing

Section 2: Fiscal & NTMA funding

Ireland is fully funded for 2019 having recorded a small budget surplus in 2018

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€5.5bn issued in 2019 so far; well positioned given prefunding and maturity lengthening

Pre-funded

Current cash balances easily cover 2019 redemptions

The remainder of €14-18bn in expected funding in 2019 to fund 2020 redemptions

10 years

One of the longest weighted average maturities in Europe

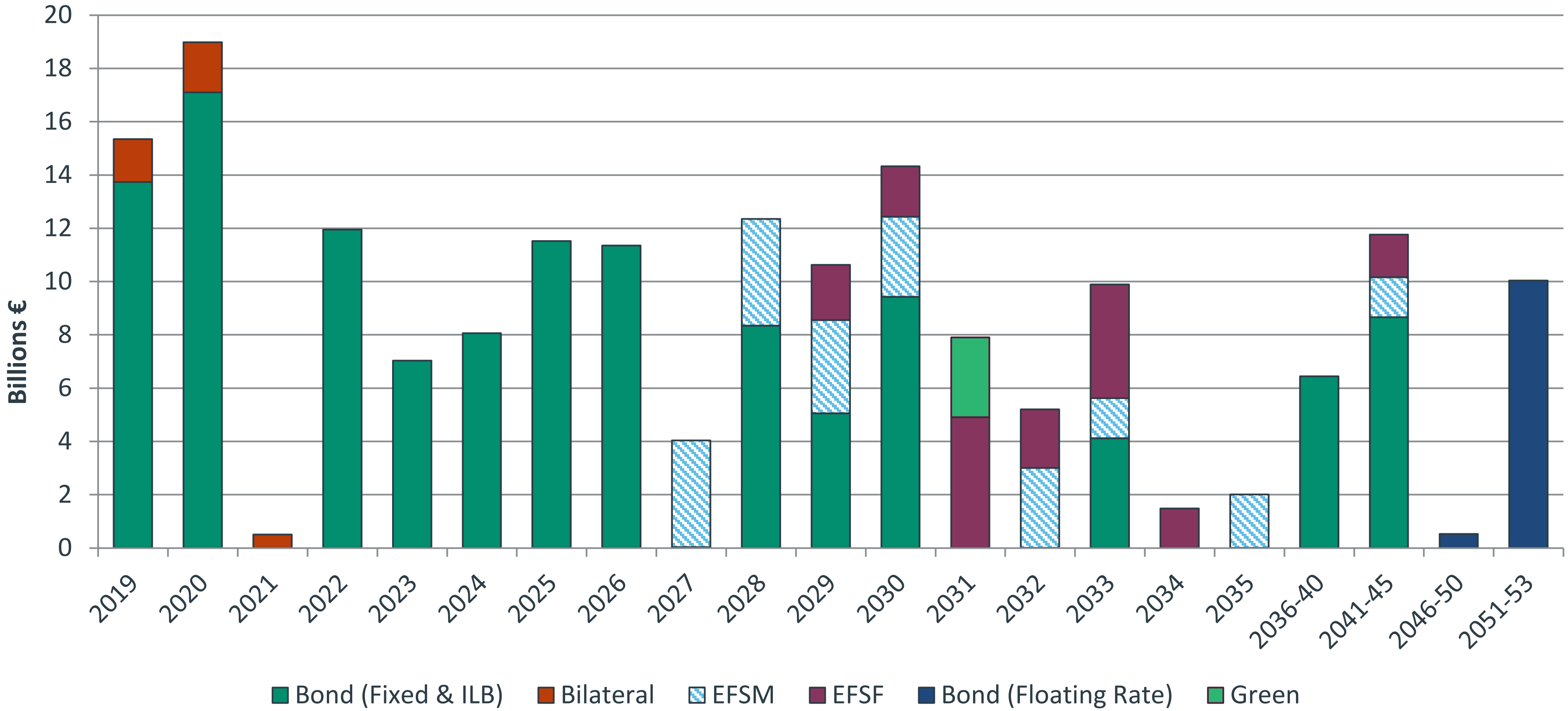
NTMA has used QE period to lengthen maturities, lower interest costs and repay its IMF loans early

A+/A2/A+

Ratings from main agencies

Ireland's debt sustainability is improving, which suggests that ratings may rise to double-A territory further barring shocks

Maturity profile: IMF repayment and FRN buy-backs have reduced refinancing risk; Green diversifies investor base



Source: NTMA

Note: EFSM loans are subject to a 7-year extension that will bring their weighted-average maturity from 12.5 years to 19.5 years. It is not expected that Ireland will refinance any of its EFSM loans before 2027. As such we have placed the pre-2027 EFSM loan maturity dates in the 2027-30 range although these may be subject to change.

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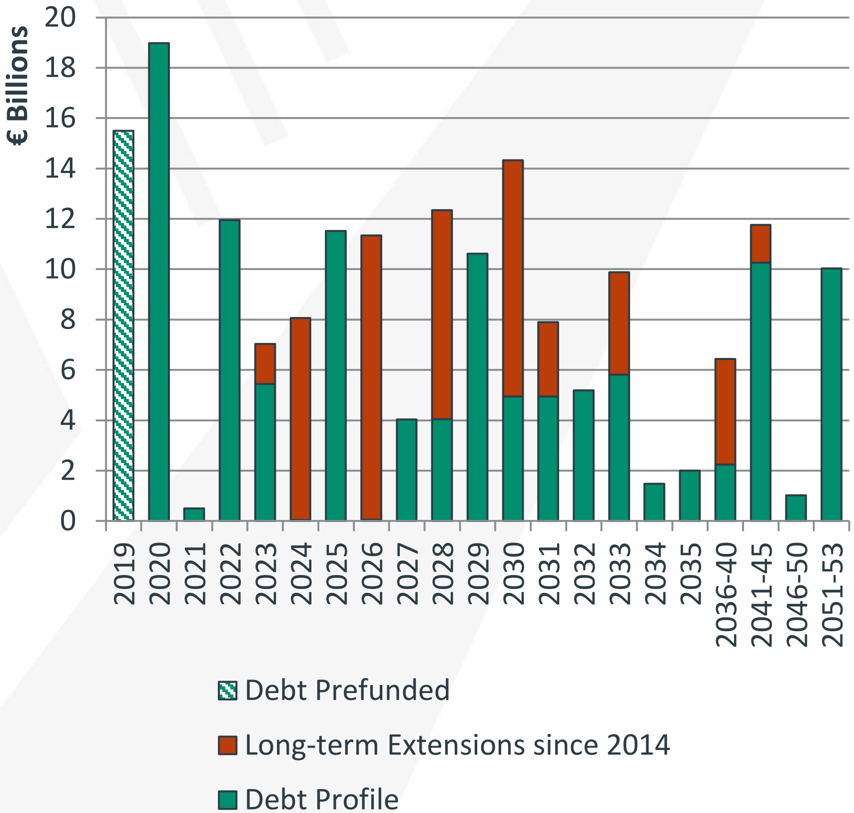
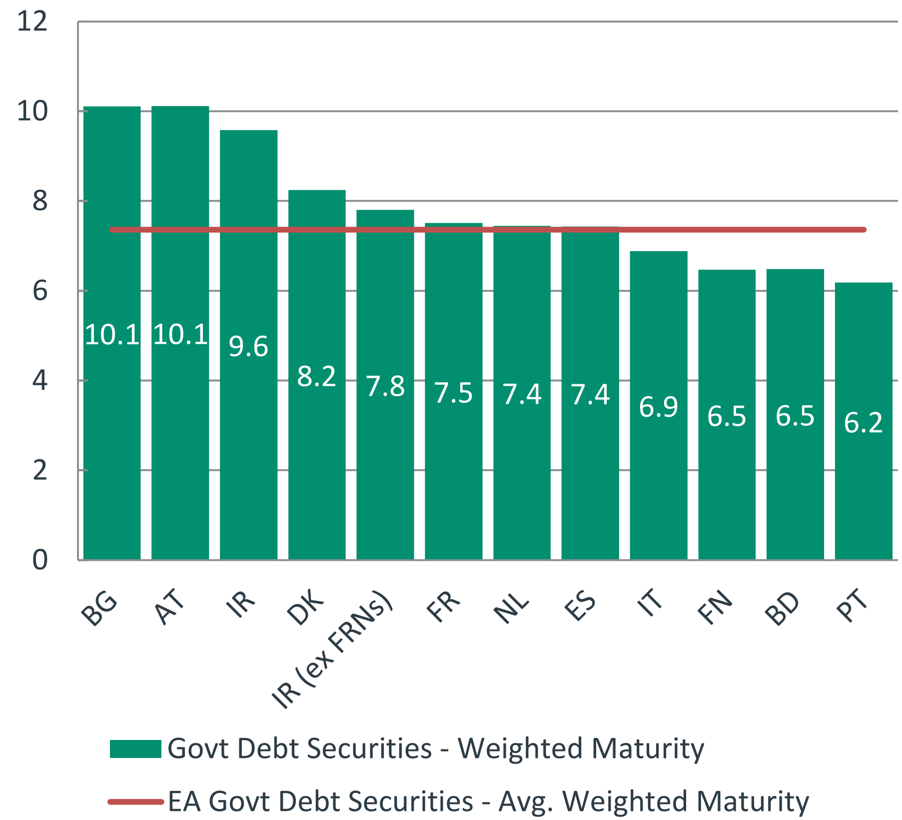
The NTMA took advantage of QE to extend debt profile

Various operations have extended the maturity of Government debt …



…Ireland (in years) now compares favourably to other EU countries



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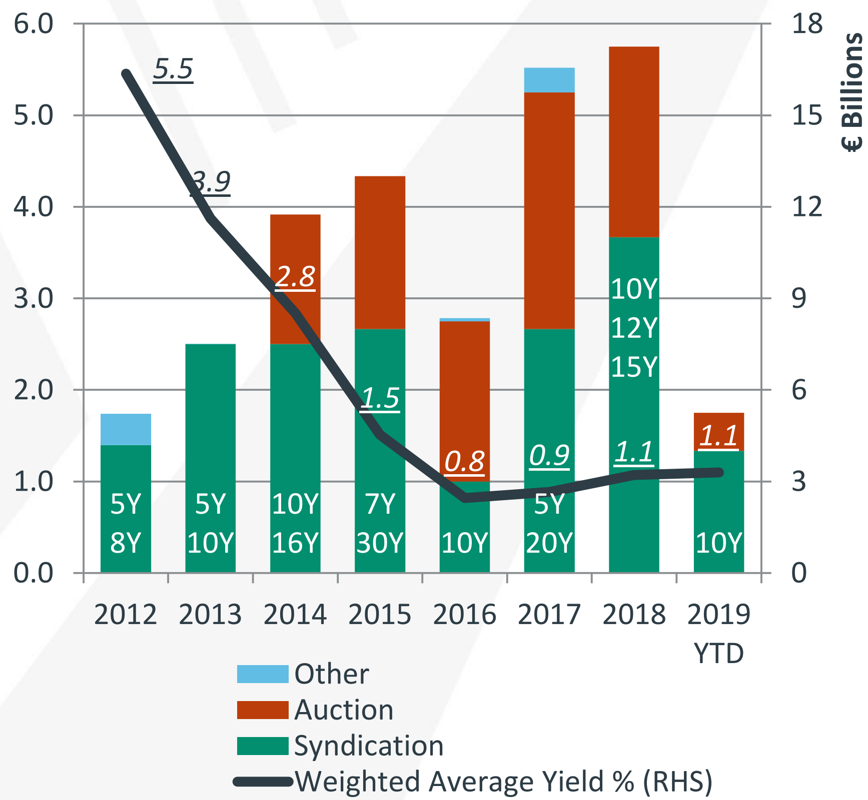
Source: NTMA; ECB

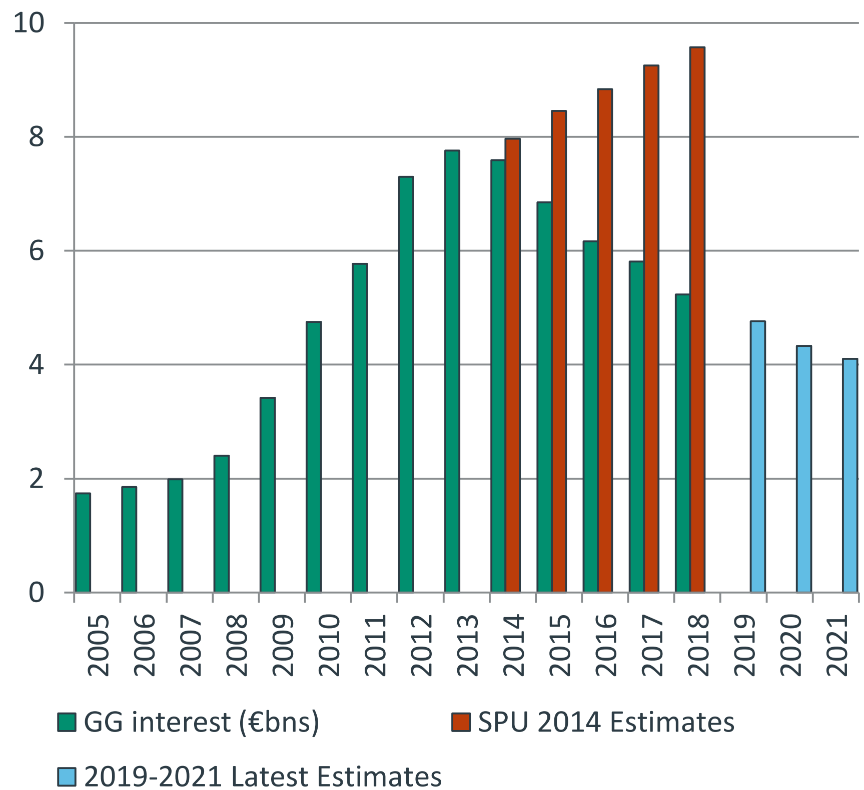
**excludes programme loans. Ireland's maturity including these loans is still similar*

Funding strategy has lowered the State's interest burden

NTMA issued €60bn MLT debt since 2015; 13.3 yr. weighted maturity; avg. rate of 1.1%



Interest costs forecasted pre-QE to be c.€10bn; likely to be below €5bn in '19



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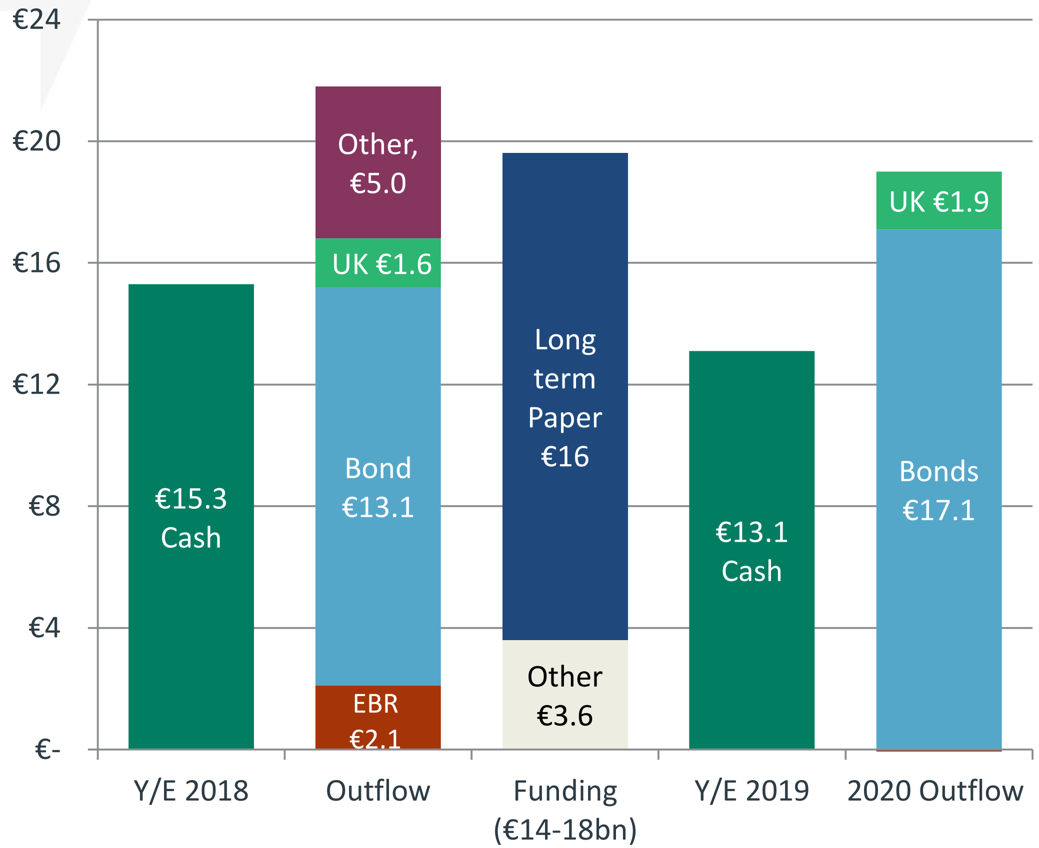
Source: NTMA, CSO, Department of Finance

Other issuance includes inflation linked bonds, private placement and amortising bonds

The State is funded three to four quarters in advance

- The next redemption is in June (€7.1bn).
- In January 2019, the NTMA issued a 10 year benchmark bond. It raised €4bn at 1.123% yield.
- In 2018, the NTMA issued three new bonds by syndication.
    - A 10 year benchmark bond raised €4bn at a yield of 0.944%.
    - A 15 year benchmark bond raised €4bn at a yield of 1.319%.
    - In October, Ireland issued its first Sovereign Green Bond. It raised €3bn for12y money at 1.399%.

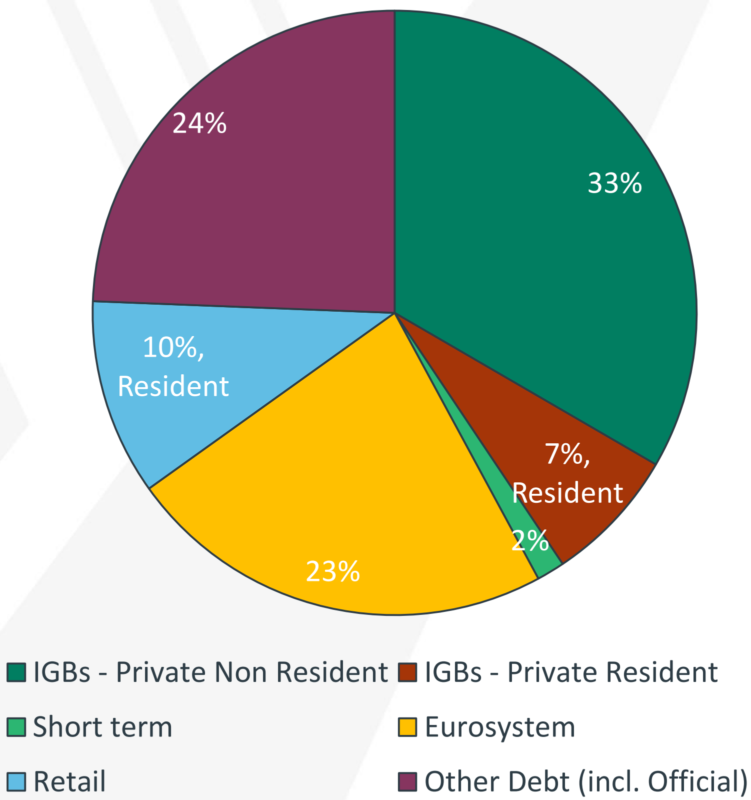


Source: NTMA

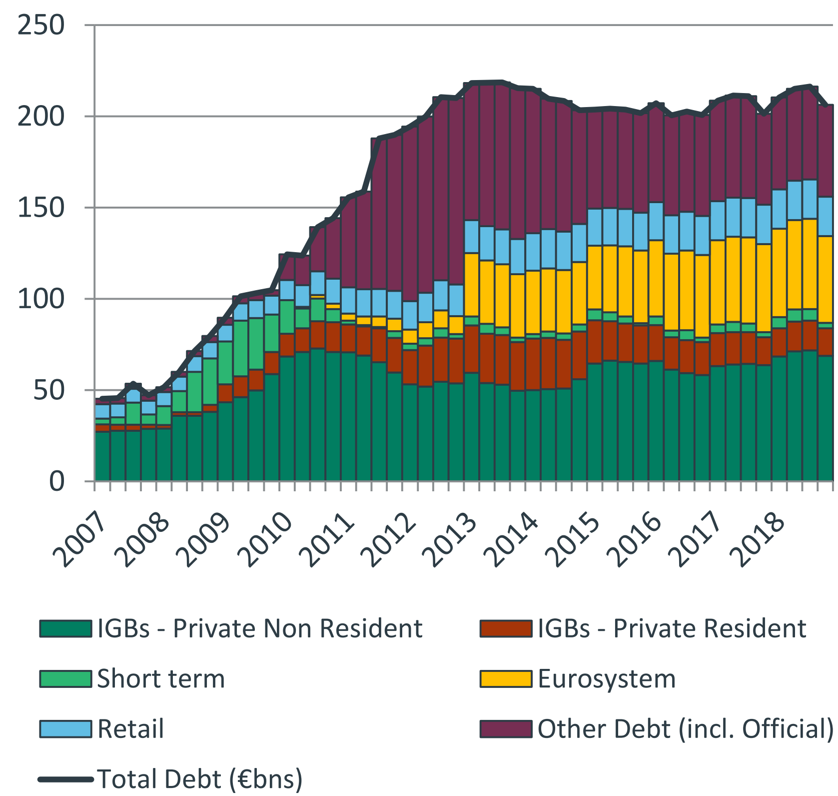
- EBR is the Exchequer Borrowing Requirement (DOF estimate)
- Outflows, long term paper and end-year cash position are estimates for illustrative purposes.
- Cash balances excludes non-liquid asset classes such as Housing Finance Agency (HFA) Guaranteed Notes.
- Other outflows includes bond buybacks, switches, and contingencies.
- Other funding includes Retail (State Savings).
- Rounding may occur.

Diverse holders of Irish debt – sticky sources account for over 50%

Ireland roughly split 80/20 on non-resident versus resident holdings (End '18)



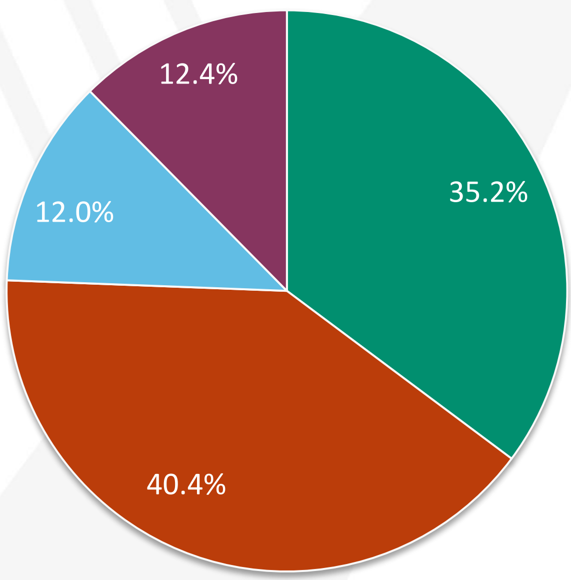
"Sticky" sources - official loans, Eurosystem, retail - make up over 50% of Irish debt



Source: CSO, Eurostat, CBI, ECB, NTMA Analysis
IGBs excludes those held by Eurosystem. Eurosystem holdings include SMP, PSPP and CBI holdings of FRNs. Figures do not include ANFA. Other debt Includes IMF, EFSF, EFSM, Bilateral as well as IBRC-related liabilities. Retail includes State Savings and other currency and deposits. The CSO series has been altered to exclude the impact of IBRC on the data.

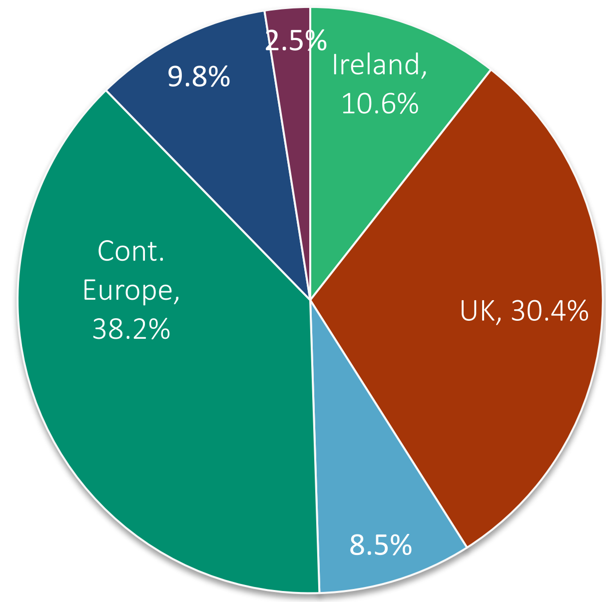
Investor base for Government bonds is wide and varied

Investor breakdown:
Average over last 5 syndications



■ Fund/Asset Manager ■ Banks/Central Banks
■ Pensions/Insurance ■ Other

Country breakdown:
Average over last 5 syndications

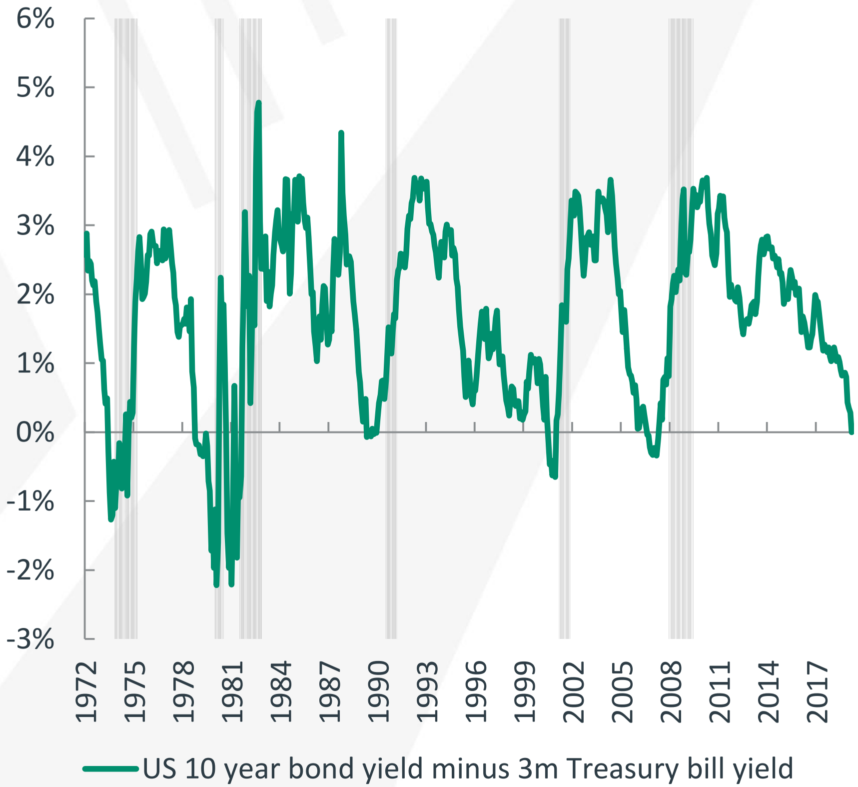


■ Ireland ■ UK
■ US and Canada ■ Continental Europe
■ Nordics ■ Asia & Other

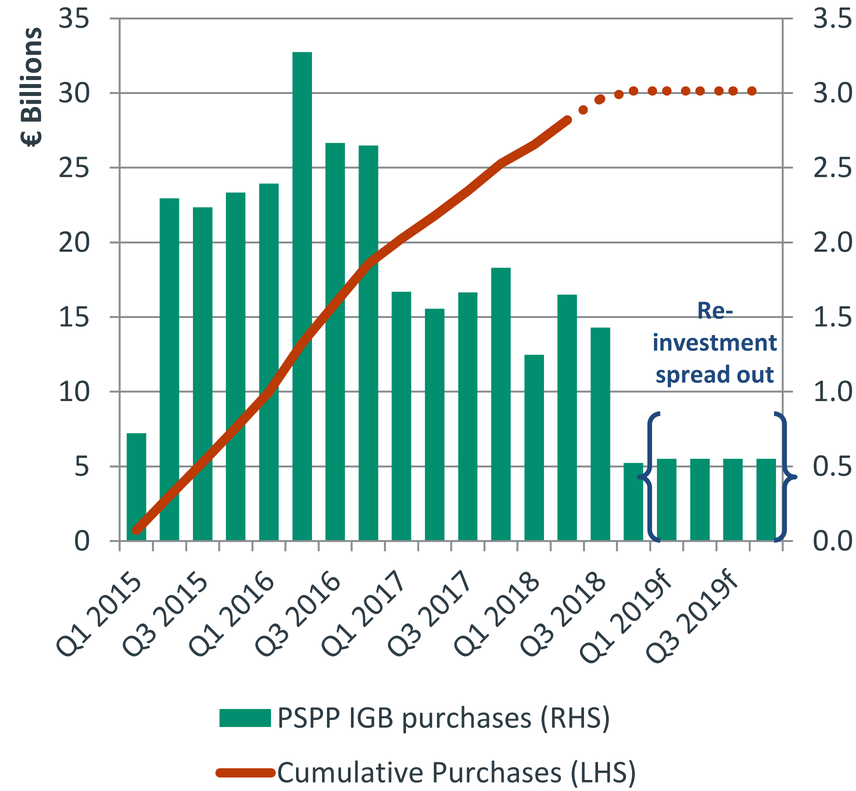
Source: NTMA

Late cycle risks mixed for Ireland: rates may remain low but end of ECB bond buying could expose credit spread

US yield curve has inverted (albeit only slightly so far): will history repeat?



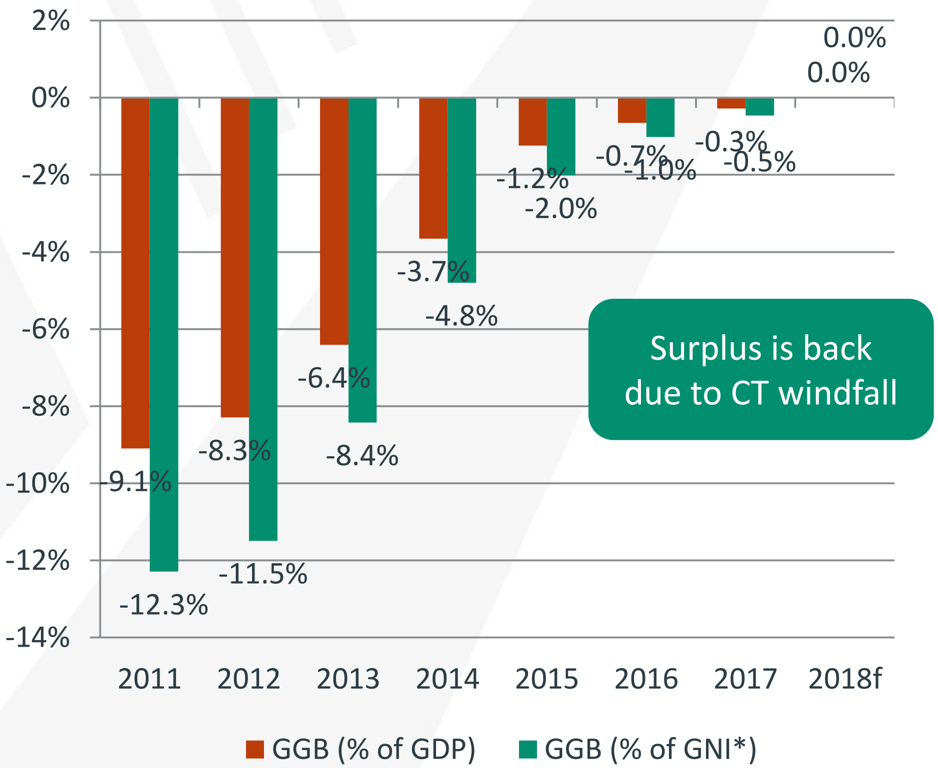
In Euro Area, PSPP re-investment continuing as ECB eases with TLTROs



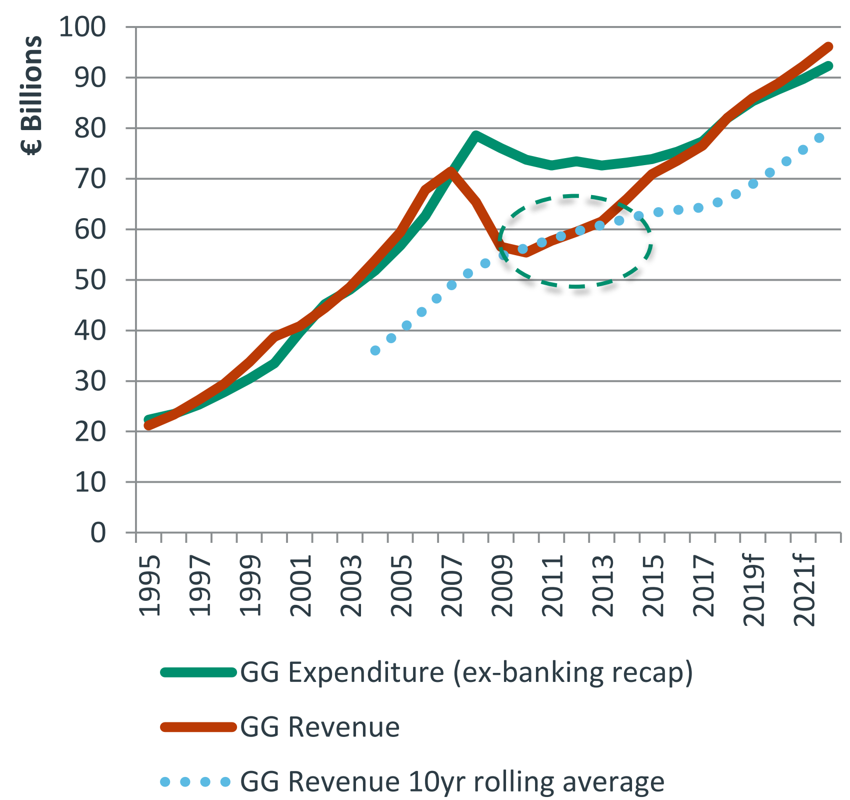
Source: DataStream
**Shaded areas indicate recessionary periods in the US*

Ireland provisionally recorded a full budget surplus for first time in 11 years in 2018

Gen. Govt. Balance from -12% to surplus (ex-banking recap) in 7 yrs



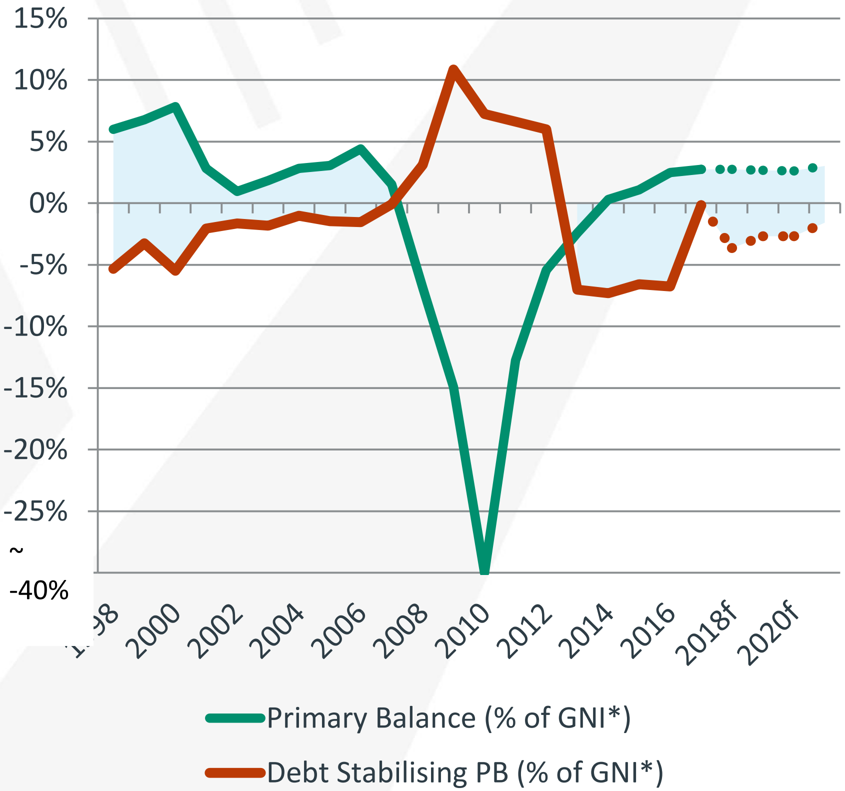
Revenue surge has helped Ireland balance the books since 2015 (€bn)



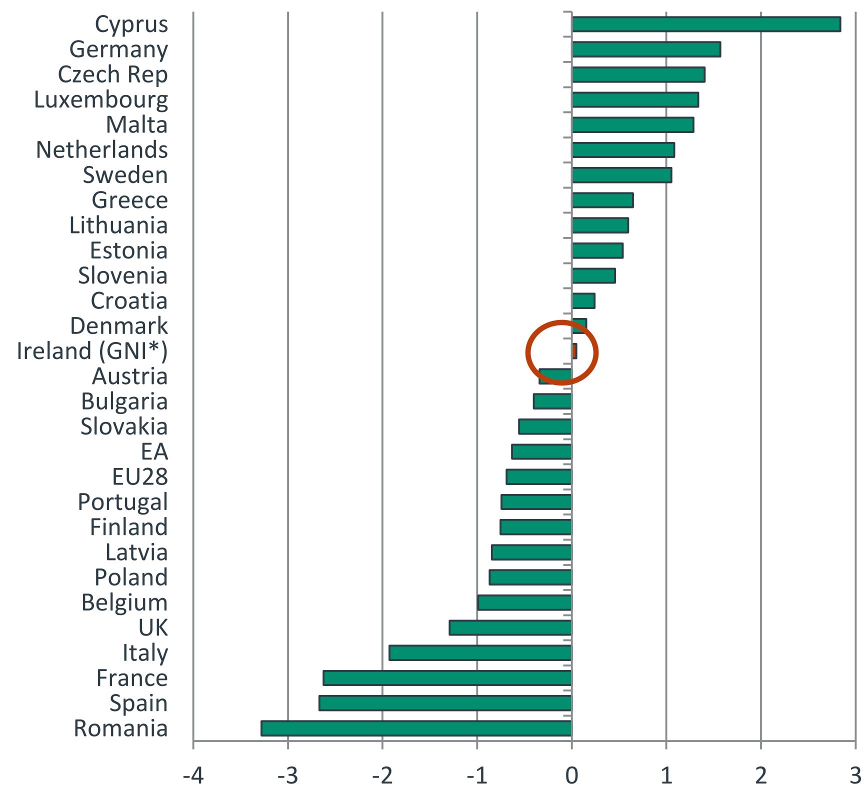
Source: CSO; Department of Finance

Ireland has improved its debt dynamics: next step is to follow others and run consistent GGB surplus

In recent years Ireland has run primary surpluses that reduced debt ratios



2018 GGB Deficit/Surplus (% of GDP); Ireland middle of the pack in Europe



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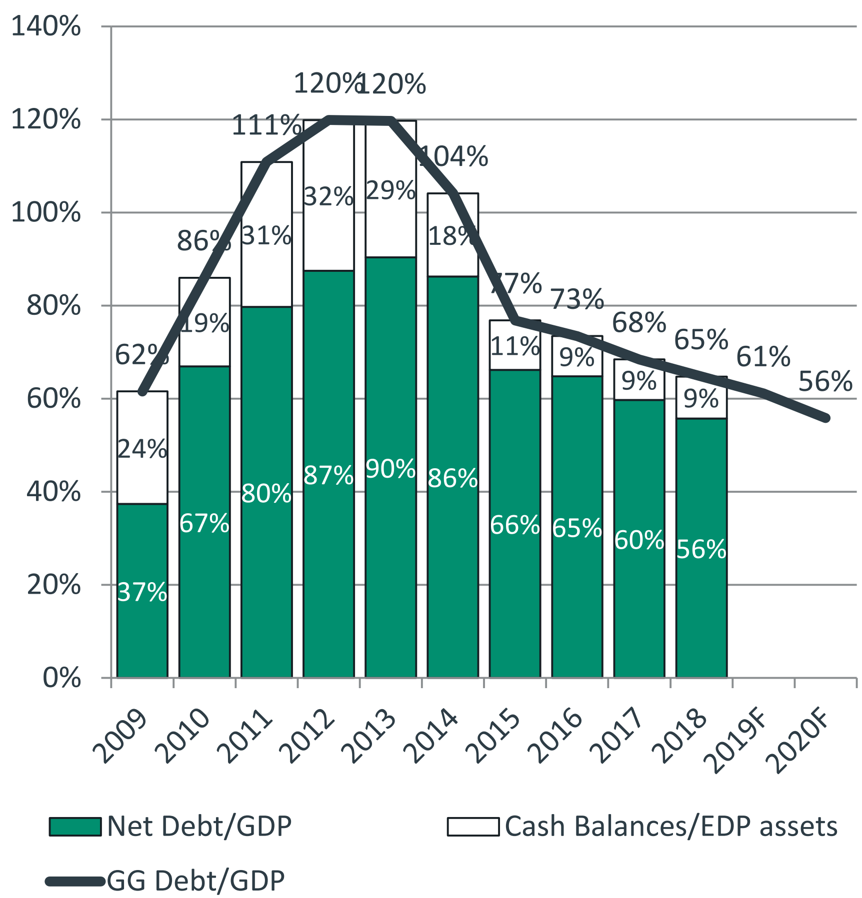
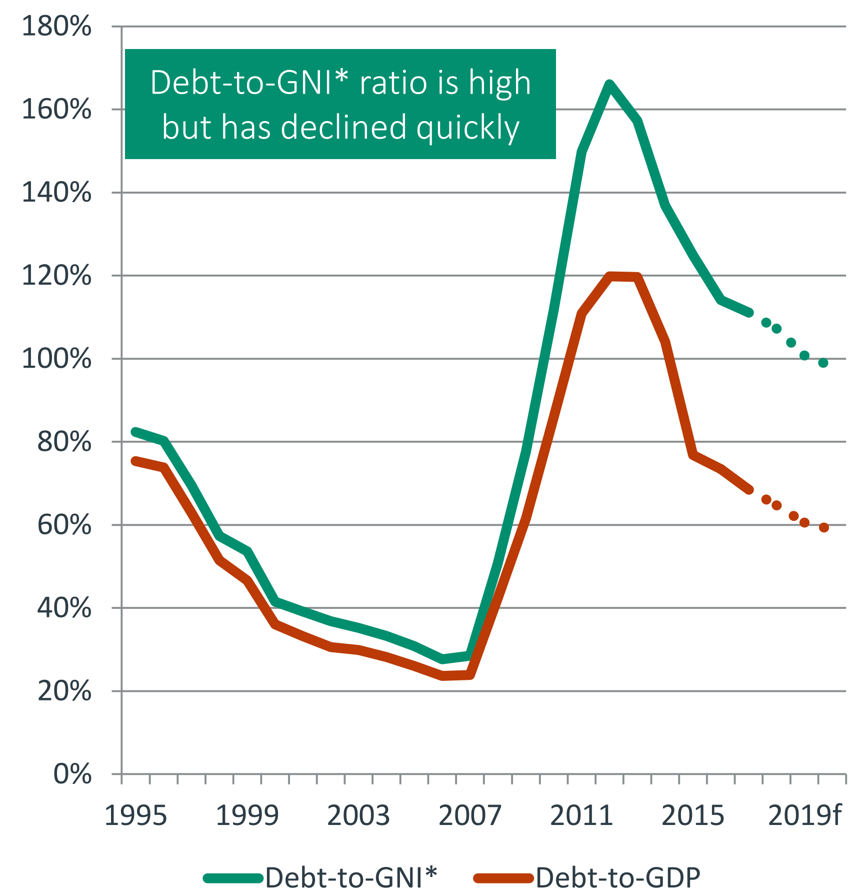
Source: CSO; Department of Finance, EU Commission forecasts, NTMA calculation
Note: Debt Stabilising primary balance is the primary balance it is necessary to run in a year to keep the debt-to-GNI ratio from rising given the average interest rate and growth in that year.*

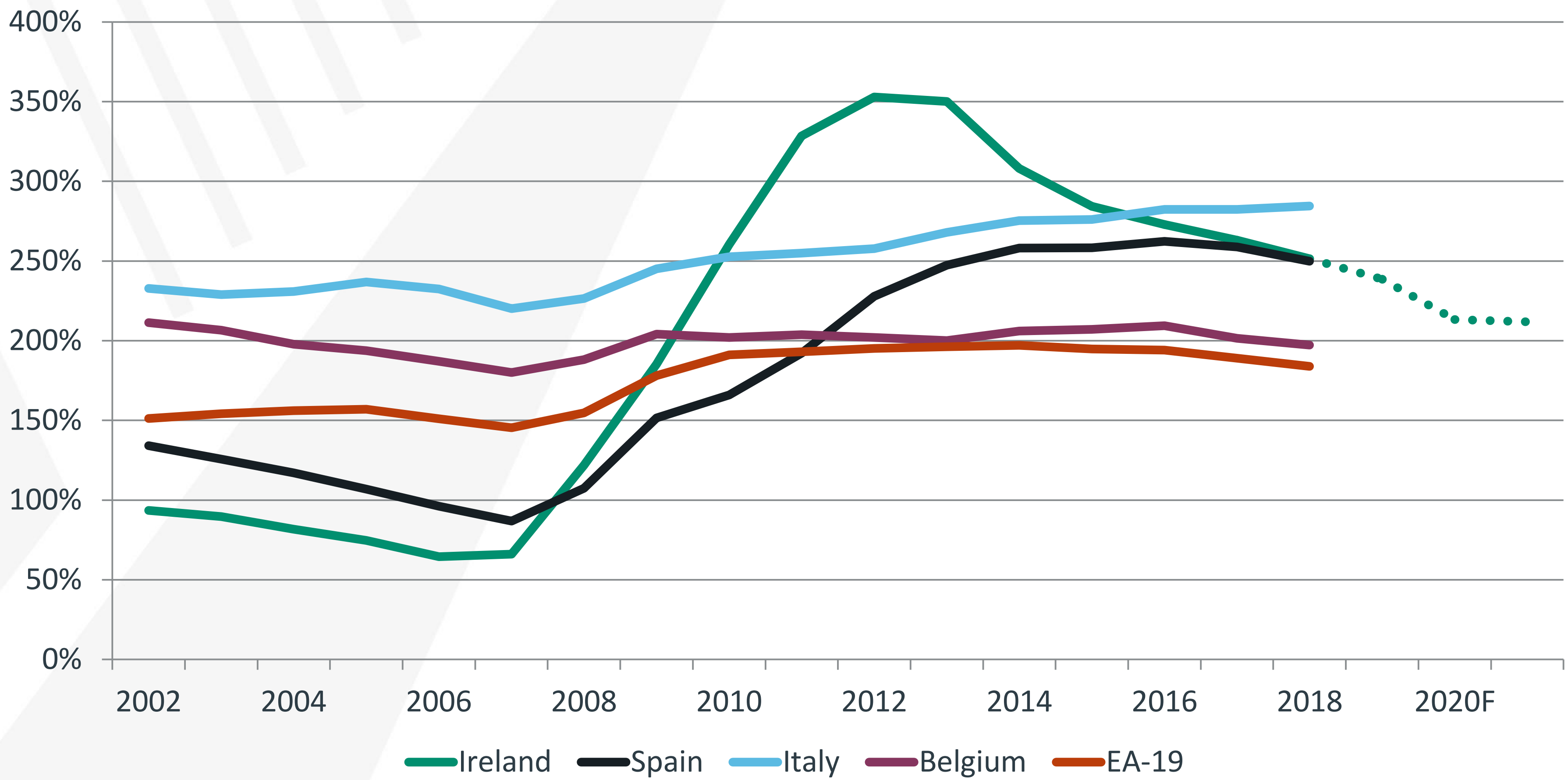
Gross Government debt forecasted to be 64% of GDP at end-2018; 105% of GNI*; reality somewhere in between





Source: CSO; Department of Finance

Alternative debt service metrics must also be used for Ireland e.g. General Government debt to GG Revenue



Source: Eurostat, CSO; Department of Finance

It’s best to analyse Irish debt with broad range of metrics

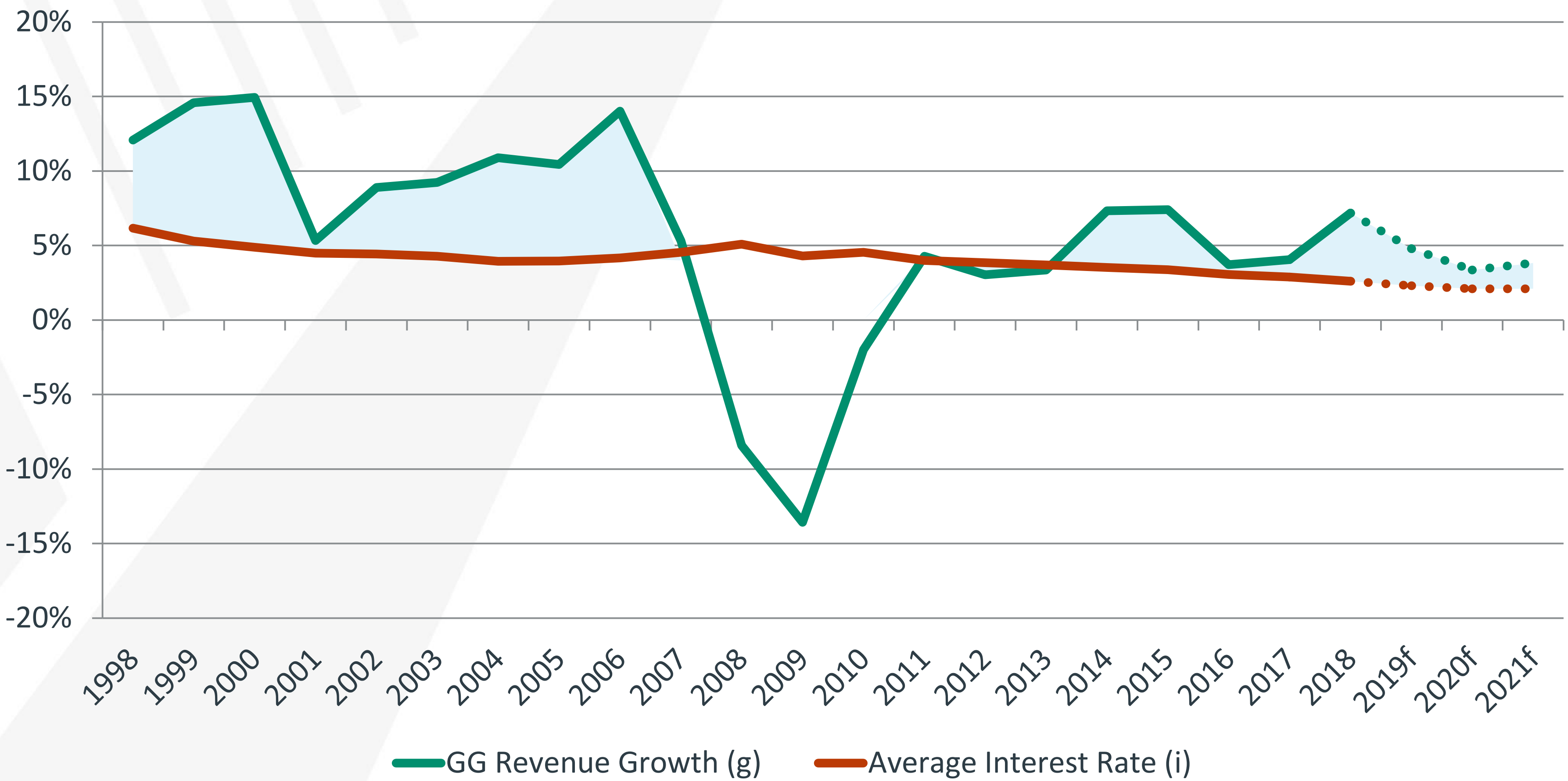
2018	GG debt to GG revenue %	GG interest to GG rev %	GG debt to GDP %
Greece	378.8%	6.7%	181.1%
Italy	284.5%	7.9%	132.2%
Portugal	279.2%	7.9%	121.5%
Cyprus	256.8%	6.7%	102.5%
Ireland	***251.4%***	***6.4%***	***64.8%***
Spain	249.8%	6.2%	97.1%
UK	218.3%	6.2%	86.8%
Belgium	197.4%	4.6%	102.0%
EA19	184.0%	4.0%	85.1%
France	183.9%	3.5%	98.4%
EU28	177.8%	4.1%	80.0%
Slovenia	162.8%	4.6%	70.1%
Austria	151.8%	3.3%	73.8%
Germany	133.7%	2.0%	60.9%
Slovakia	122.6%	3.2%	48.9%

Source: Eurostat, Department of Finance

** 2018 Interest % of GG Revenue would be closer to 6% excluding the interest paid to CBI (of which 80% is returned to the State) , much of which accrues because of the holdings of the CBI’s legacy holding of Irish FRNs*

*** 107% Debt to GNI* ratio in 2018*

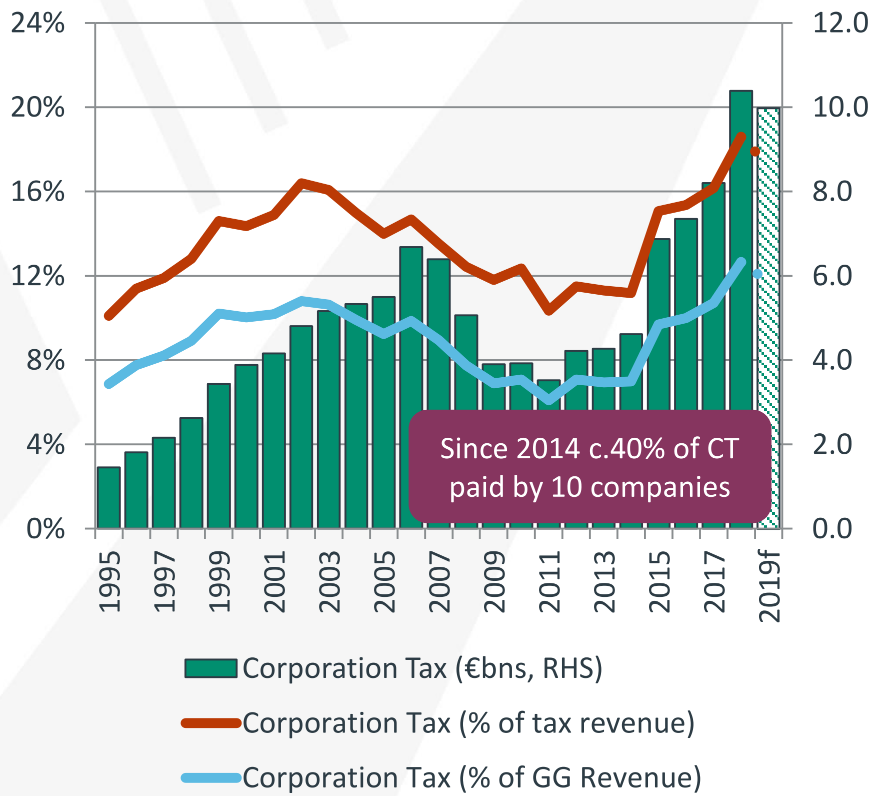
Snowball Effect (i-g) in Ireland's favour given lower average interest rate



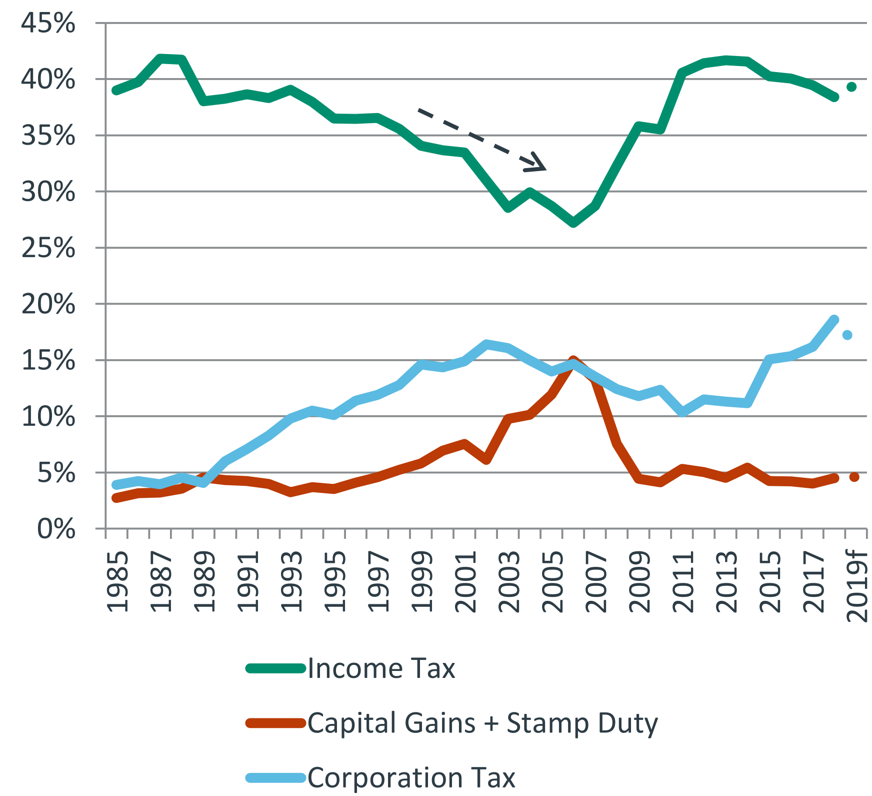
Source: CSO; Department of Finance

Corporation tax revenue keeps surprising positively, but each year the concentration risk increases

Corporation tax receipts have more than doubled in four years



Income tax base intact (% tax revenue) - not comparable to narrowing of base pre-crisis



Source: Department of Finance

Ireland issued 2031 Sovereign Green Bond in Oct. 2018

€3bn

Final order book of €11.3bn
95% to non-Irish investors
UK 23%; Germany/Austria and France 19% each; Nordics 12%; Benelux 11%

1.399%

2031 maturity
priced at MS+12 bps

New demand

Increased demand from the three established centres for green investment
France 19%, the Netherlands 9% and Nordics 12%

- Green Bond Framework aligned with the ICMA Green Bond Principles (see slide 76)
- 1 in 5 euros in the National Development Plan to be spent on green projects (see slide 77)

Source: NTMA
Further details are available at ntma.ie

Ireland: "A" grade from all major credit rating agencies; Net debt level is a positive for Ireland relative to peers

Rating Agency	Long-term	Short-term	Outlook/ Trend	Date of last change
Standard & Poor's	A+	A-1	Stable	June 2015
Fitch Ratings	A+	F1+	Stable	Dec 2017
Moody's	A2	P-1	Stable	Sept 2017
DBRS	A(high)	R-1 (middle)	Stable	March 2016
R&I	A	a-1	Stable	Jan. 2017

€ Billion	2016	2017	2018
Currency and deposits (mainly retail debt)	21.3	21.6	21.6
Securities other than shares, exc. financial derivatives	124.2	130.7	134.2
- Short-term (T-Bills, CP etc)	2.4	2.9	3.1
- Long-term (MLT bonds)	121.8	127.8	131.1
Loans	55.2	49.0	50.3
- Short-term	0.7	0.5	0.6
- Long-term (official funding)	54.6	48.5	49.7
General Government Debt	200.7	201.3	206.2
EDP debt instrument assets	*24.9*	*27.3*	*28.6*
Net Government debt	175.8	174.0	177.6

Source: NTMA, CSO

Section 3: Brexit

Extension delays any impact on Ireland, while “Hard” Brexit is still the fear

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National Treasury Management Agency

Brexit Path is unclear – “Hard” Brexit might be less likely but is not entirely ruled out

Cons

- Less trade given lower demand from UK/ tariffs
- Higher import prices possible in long-term: tariffs may outweigh FX benefit. Non-tariffs costs could also be significant.
- Regions suffer (agriculture, tourism), while Dublin may benefit (via FDI that leaves Britain)
- Banking sector likely to suffer because of its UK operations
- Political economy (border, ally on direction of EU economic policy)

Pros

- Increased FDI, as multinationals avoid turmoil
  - Financial services (passporting)
  - Other multinationals - especially IT and business services
- Commercial property occupancy could rise; there may also be an influx of well paid workers
- ECB and fiscal response in Europe
- Some trade offsets
  - Irish companies may steal EU market share from British ones

Whichever type of Brexit materialises, trade is likely to be negatively impacted

	Goods (2018)		Services (2017)		Total (2017)	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
US	27.7	16.9	11.6	27.0	18.3	25.0
UK*	11.4	21.9	16.4	9.3	15.1	13.7
NI	1.6	1.6	n/a	n/a	n/a	n/a
EU-27	39.0	37.9	29.9	25.7	32.8	27.4
China	3.9	5.9	2.5	1.5	3.2	2.8
Other	18.0	17.4	39.5	36.6	30.5	31.1

Irish/UK trade linkages will suffer following Brexit

- The UK is the second largest single-country export destination for Ireland's goods and the largest for its services
- At the same time, Ireland imports 20-25% of its goods from the UK. Consumer goods, capital equipment and inputs into the export process will become cheaper thanks to FX.

There is significant employment related to Ireland's trade with the UK

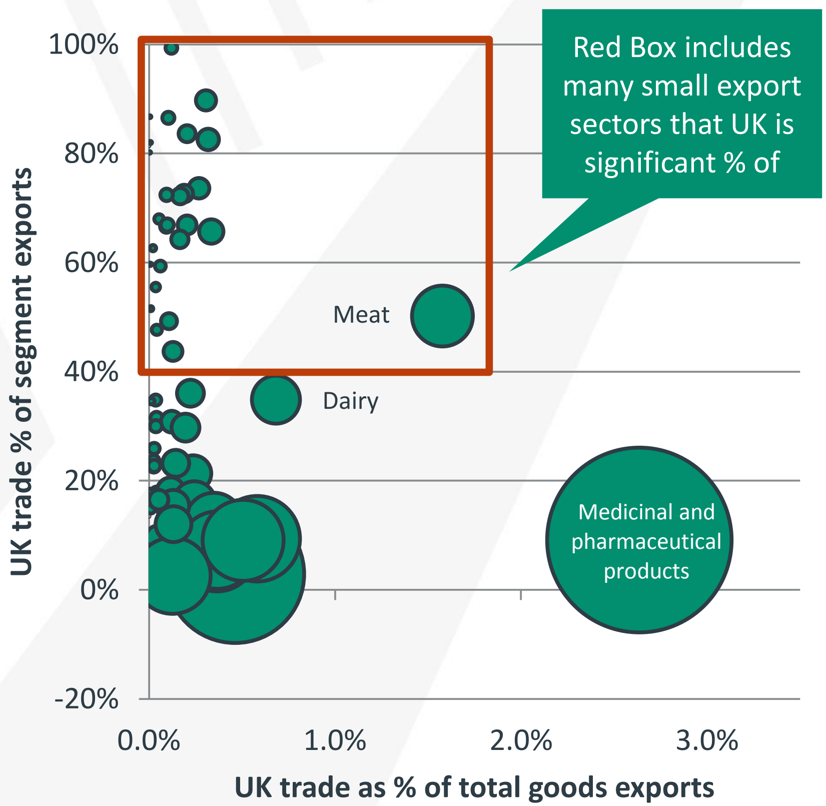
- The UK might only account for 15% of Ireland's total exports, but Ireland is more dependent than that, when you consider the employment related to those exports

SMEs account for over 55% of IE exports to UK. They are likely to be more affected than larger companies by the introduction of tariffs and barriers to trade

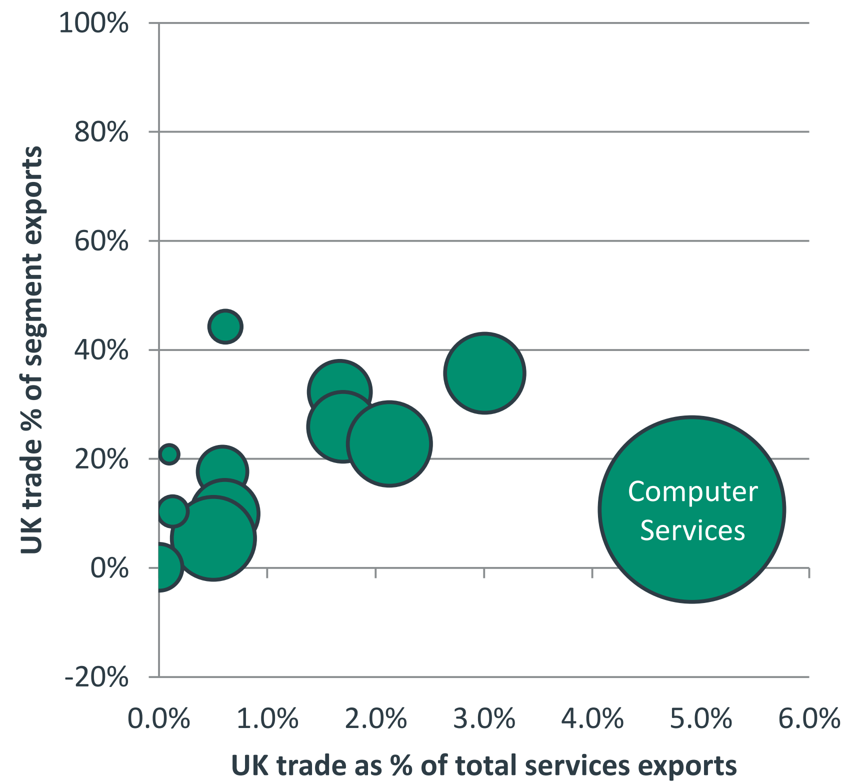
*Source: CSO 2017 * UK data includes Northern Ireland*
NTMA calculations; Data does not include contract manufacturing

Breakdown of exports to the UK: important trade partner especially so in smaller sectors (agri-food products)

UK is 13-14% of goods exports but very important partner in many small sectors



UK is 16% of services exports but not the majority trading partner in any segment



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National Treasury Management Agency

Source: CSO goods 2017 data, services 2016 data
The size of bubble relates to the sector's importance to Ireland's exports

Hard Brexit impact estimates all show similar story – return to WTO rules would be really negative for Ireland

Forecast vs. no Brexit baseline	Short term (2 years)	Medium term (5 years)	Long term (10-15 years)
Department of Finance (ESRI)	-2.4%	-3.3%	-5.0%
Copenhagen Economics	-2.0 to 2.5%	-4.5%	-7.0% (of which -4.9% is due to regulatory divergence)
Central Bank of Ireland	-4.0%	-	-6.0%
Bank of England “disruptive” (implied)	-5.0%	-6.2%	-6.2%
Bank of England “disorderly” (implied)	-6.3%	-8.2%	-8.2%
UK Treasury range (implied)	-	-	-5.0 to 7.2%

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National Treasury Management Agency

Source: ESRI, Copenhagen, Bank of England, UK treasury
Implied uses the impact on UK GDP and an elasticity measure of 0.8 to calculate the impact on Irish Growth

Many financial institutions have already announced that they will expand or set up in Dublin after Brexit

FDI: Ireland may benefit

- 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.
- Ireland's FDI opportunity will depend on the outcome of post-exit trade negotiations. The UK (City of London) is almost certain to lose its EU passporting rights on exit, so there may be more opportunities in time.

Companies that have indicated jobs to be moved to Ireland

J.P.Morgan
Morgan Stanley
citi
BARCLAYS
Goldman Sachs
Bank of America Merrill Lynch
LEGG MASON GLOBAL ASSET MANAGEMENT
S&P Global Ratings
BARINGS

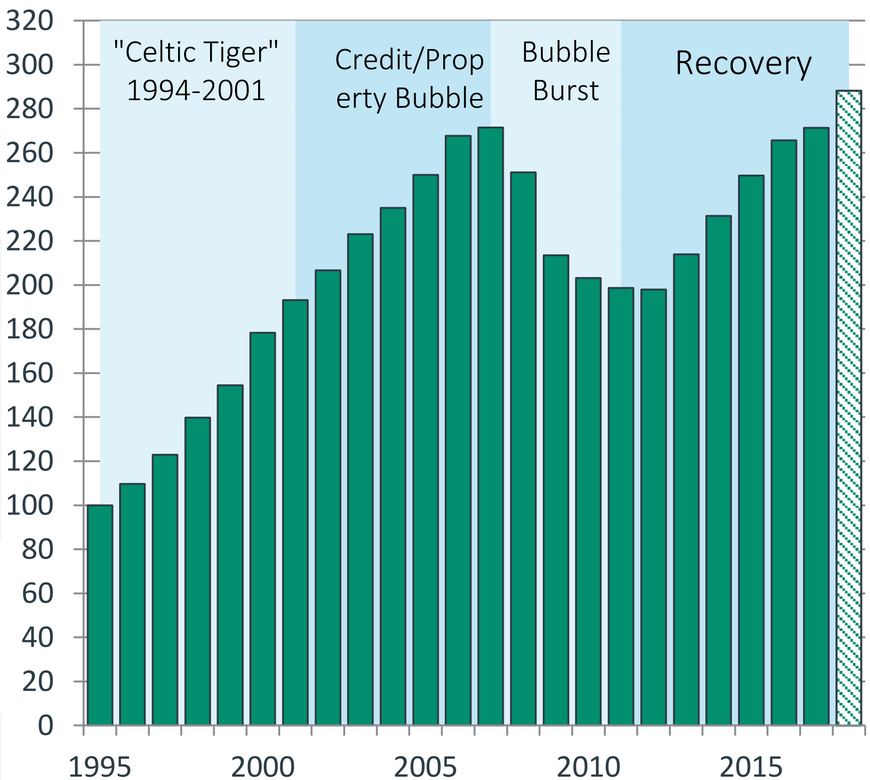
Section 4: Long term fundamentals

Ireland’s long run future looks bright thanks to its favourable demographics

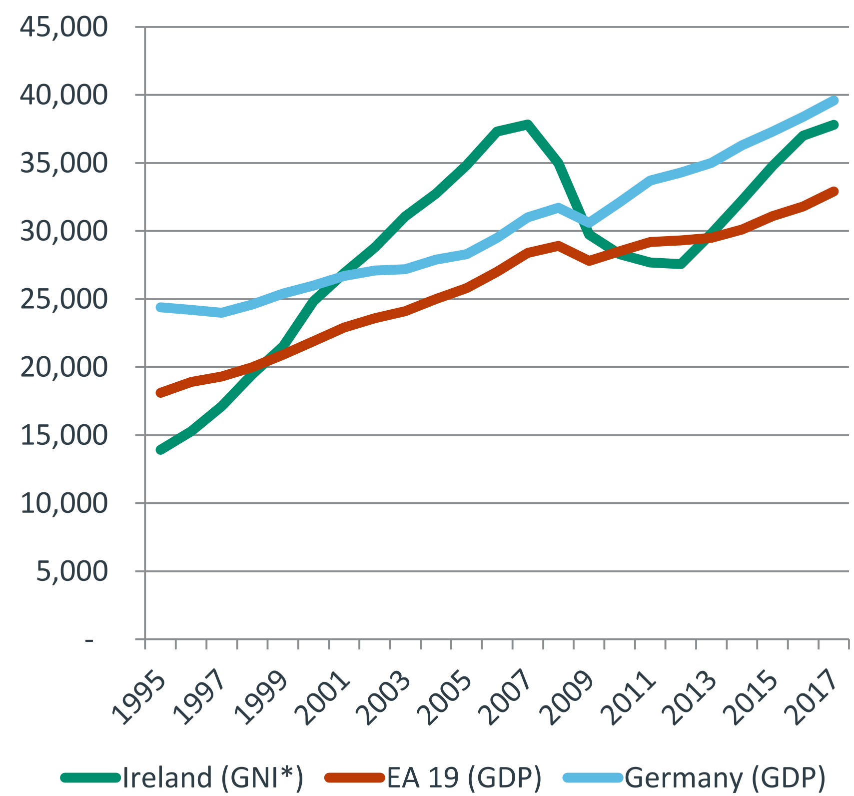
Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Much rebalancing has taken place – Ireland's structural growth drivers have reasserted

Gross National Income* at current prices (1995=100)



Ireland's GNI* per capita hit 2007 levels and compares favourably to EA



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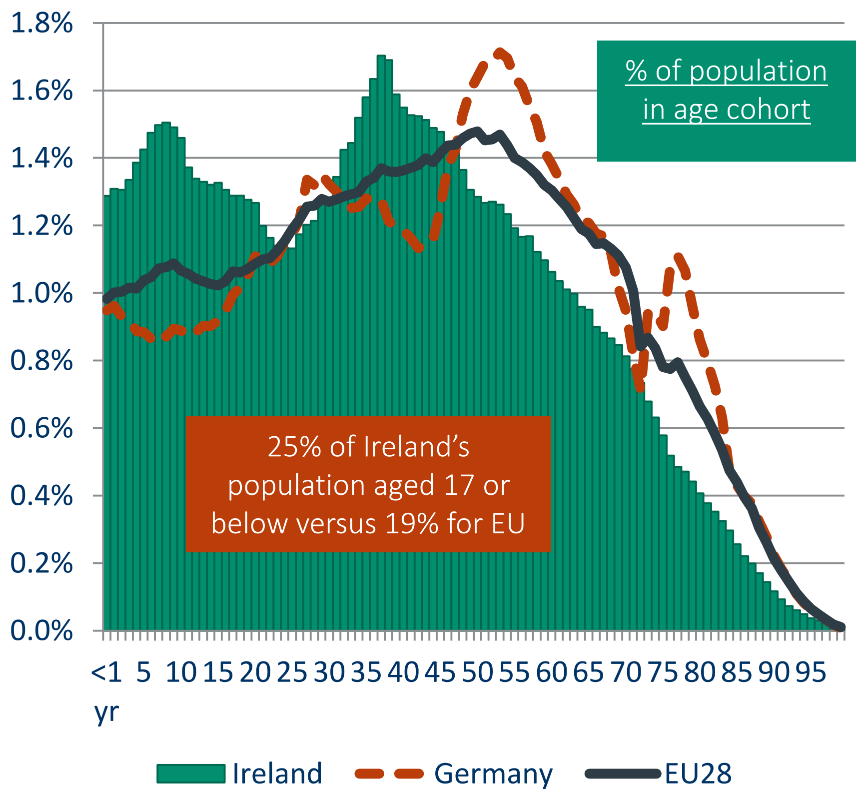
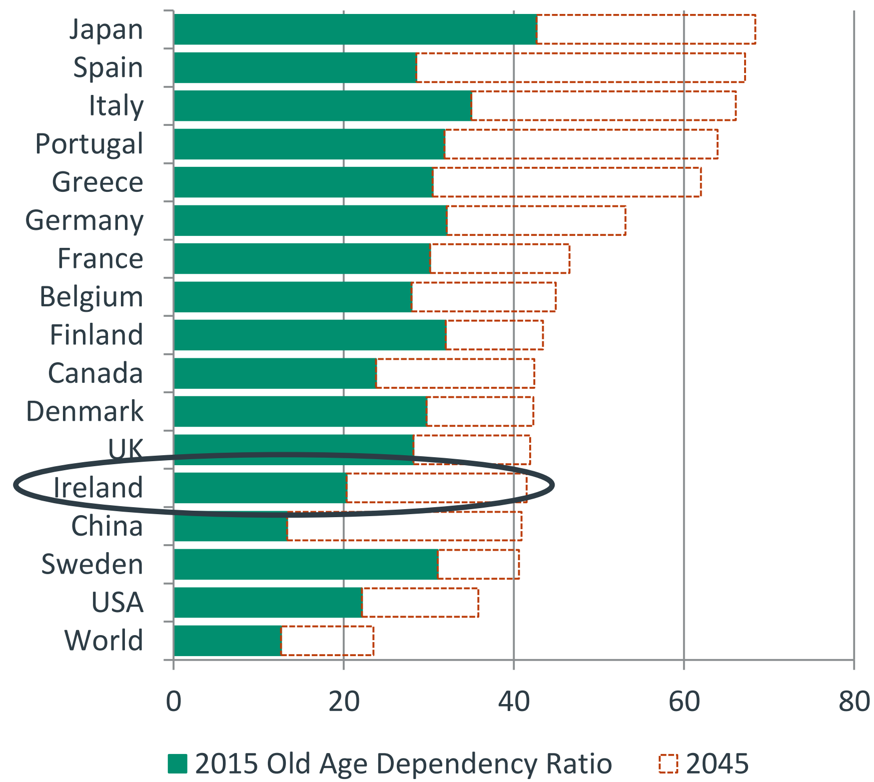
Source: CSO, Eurostat

Ireland's population profile healthier than the EU average

Ireland's population was 4.86m in 2018 – over 200,000 more than 2011 Census



Ireland's population will remain younger than most of its EA counterparts



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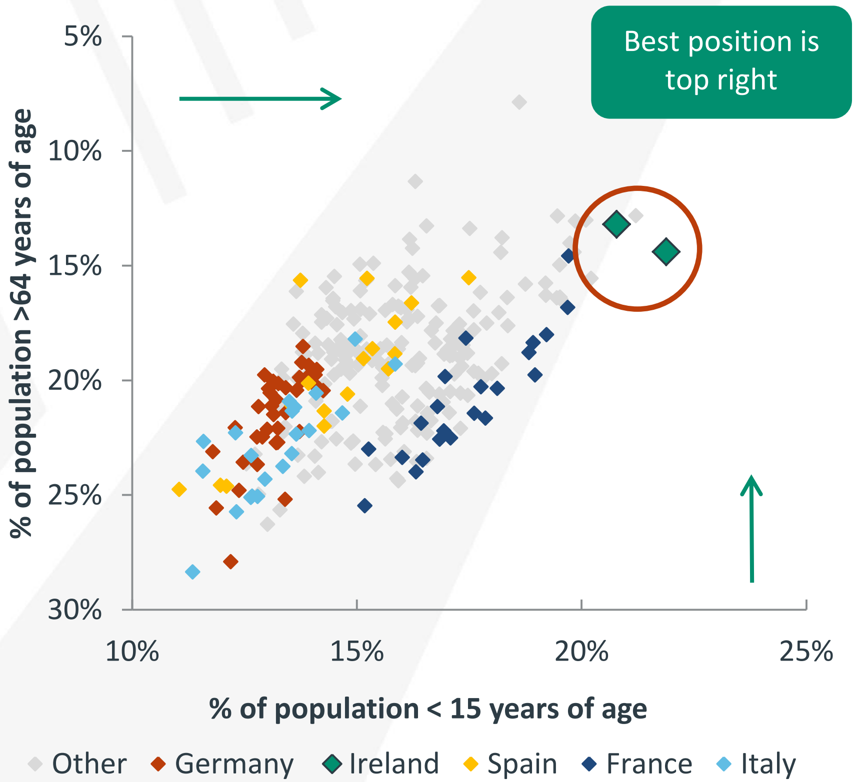
Source: Eurostat (2018) CSO; UN population projections

Favourable population characteristics underpin debt sustainability over longer term: next 10 years look great

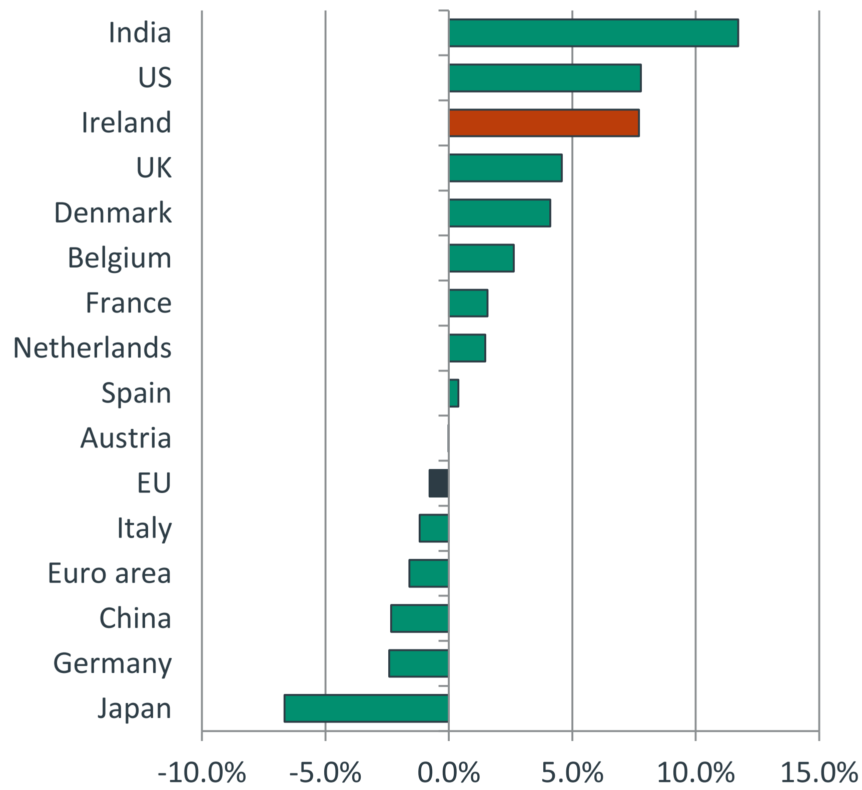
Regional data show Ireland's mix of young and old among the best in EU



Source: Eurostat; Regional NUTS2 basis

Note: Each dot is a NUTS2 region in the EU. Y-axis is inverted

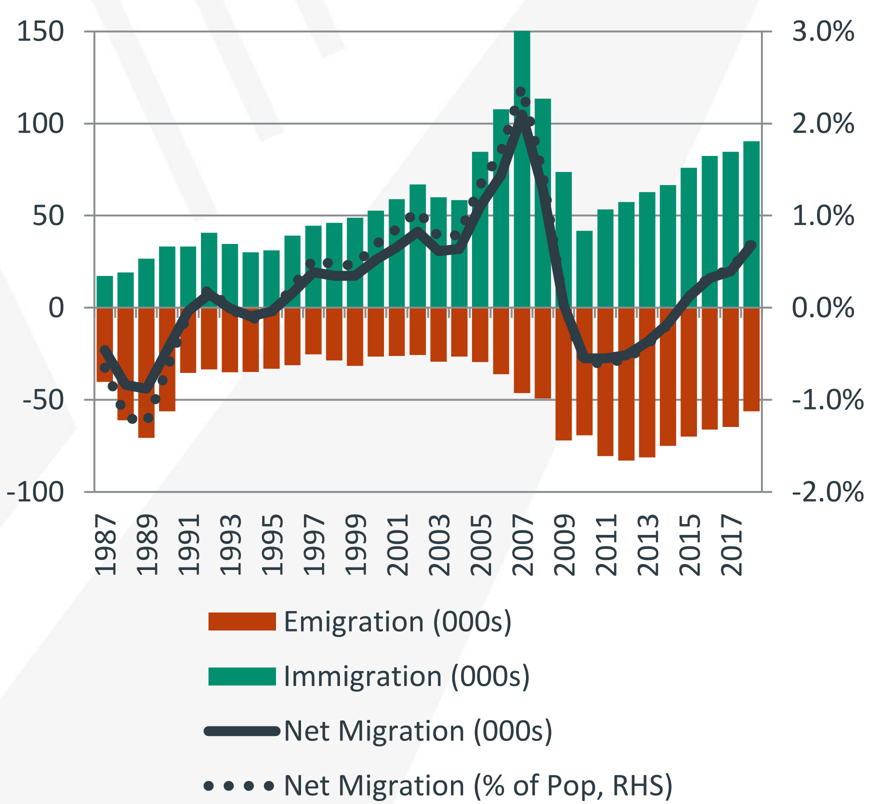
Ireland's Working-Age Population expected to grow in coming years (2019-2028)



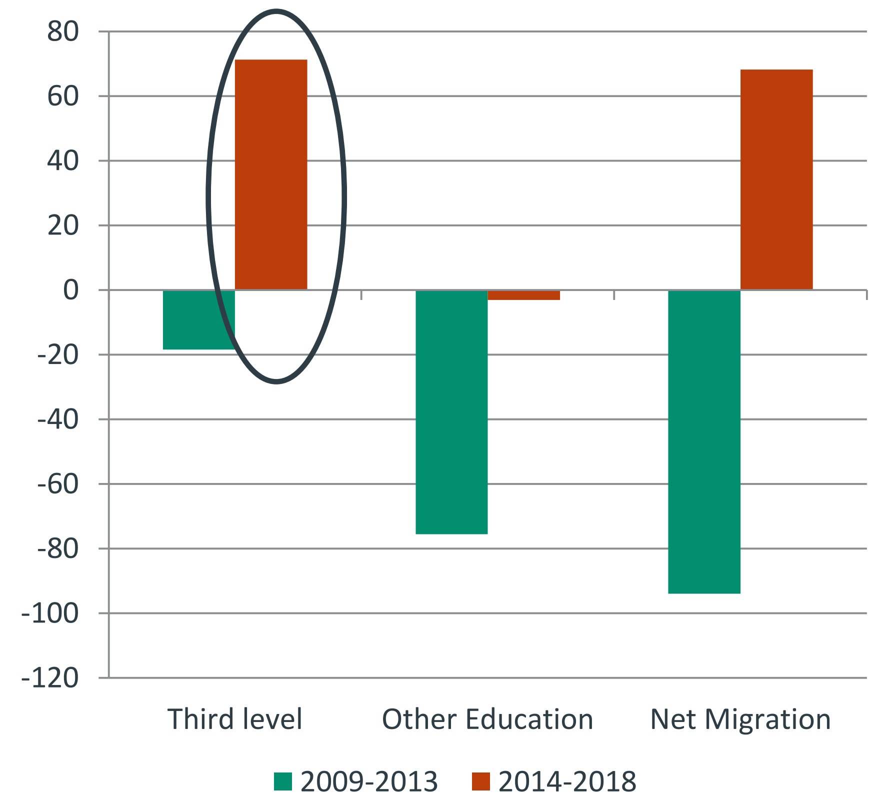
Source: Oxford Economics forecasts

Openness to immigration has been beneficial to Ireland

Latest Census data show net migration positive since 2015 – mirroring economy



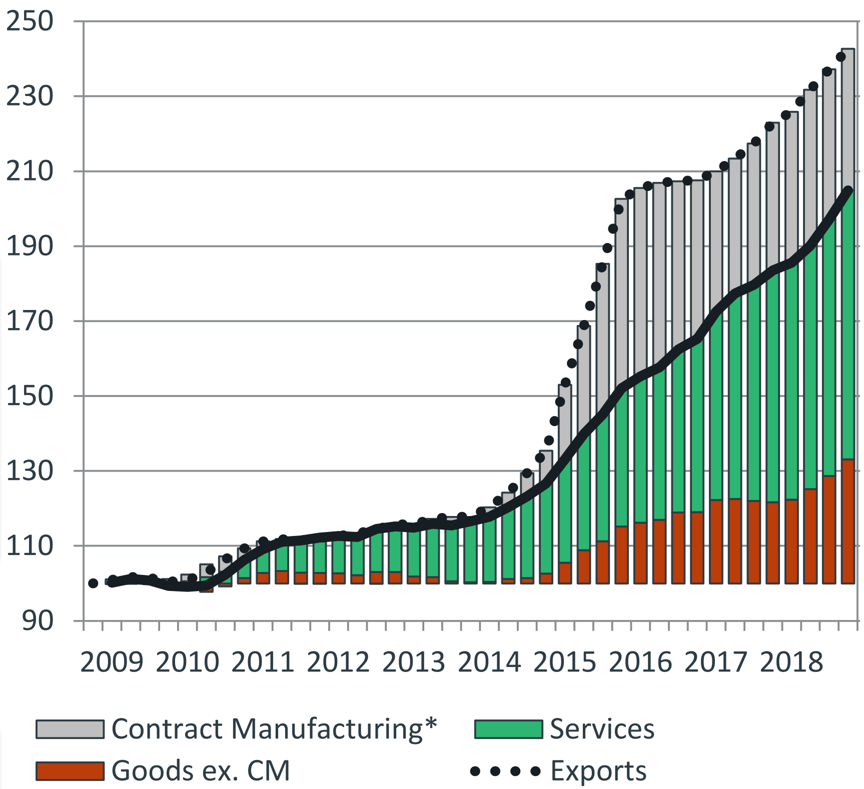
Highly educated migrants moving to Ireland "Reverse Brain Drain"



Source: CSO

Openness to trade is also central to Irish success – led by services exports; Brexit may hinder export-led growth

Cumulative post-crisis total exports (4Q sum to end-2008 = 100, current prices)



Ireland benefits from export diversification by destination

	Goods (2018)		Services (2017)		Total (2017)	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
US	27.7	16.9	11.6	27.0	18.3	25.0
UK*	11.4	21.9	16.4	9.3	15.1	13.7
NI	1.6	1.6	n/a	n/a	n/a	n/a
EU-27	39.0	37.9	29.9	25.7	32.8	27.4
China	3.9	5.9	2.5	1.5	3.2	2.8
Other	18.0	17.4	39.5	36.6	30.5	31.1

*Source: CSO, NTMA calculations , * Contract manufacturing proxy*

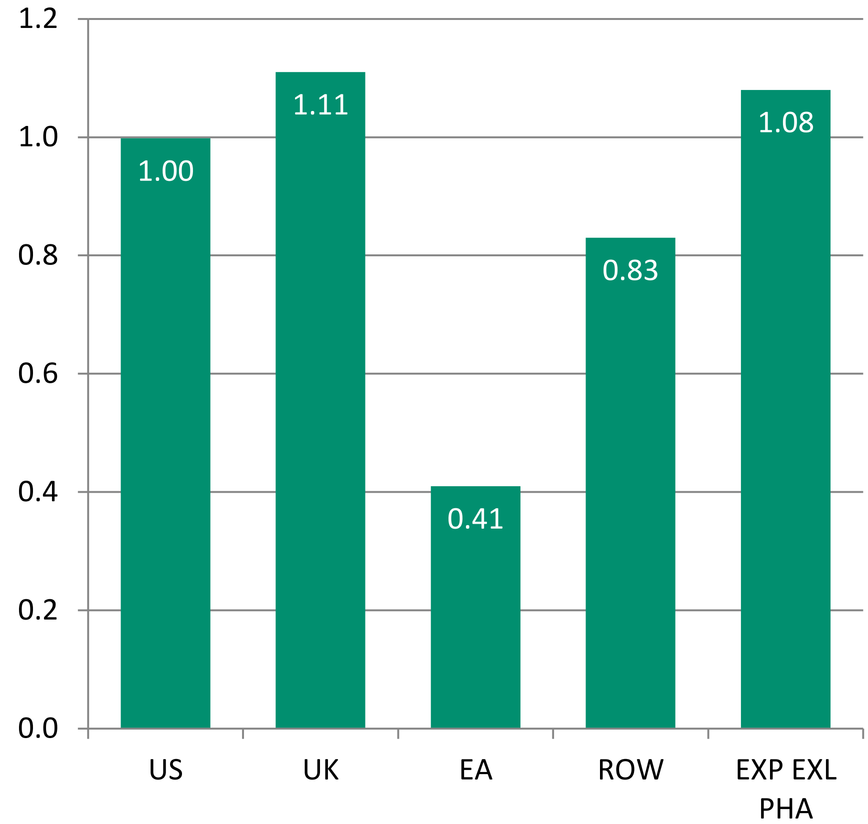
Ireland’s goods exports respond vigorously to euro movements – in both directions

- A 1% depreciation of the euro increases Irish goods exports to the US by 1%
- The equivalent response for exports to the UK is 1.1% and to the rest of world is 0.8%. Brexit has the opposite effect on Irish exports.
- The EUR/USD exchange rate has a positive effect (elasticity of 0.4) on Irish goods exports to the euro area, due to Ireland-based multinational companies’ exports to EA for onward sale to the rest of the world
- The elasticity of total goods exports excluding pharma to the exchange rate >1

Source: CSO; NTMA empirical analysis

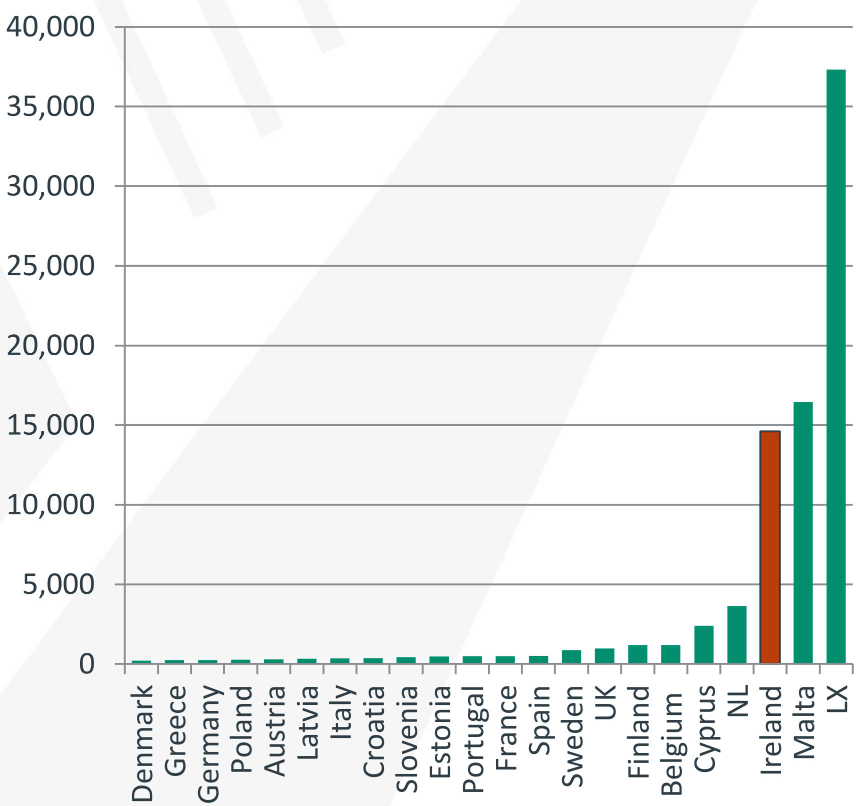
Note: All coefficients significant at 99% level; not affected by contract manufacturing. Time period is 1998 to 2016 Q2. For longer time periods, the UK elasticity is smaller (closer to 0.4-0.5 for 1981 onwards).

Response (% chg.) of Irish goods exports to 1% depreciation of the euro

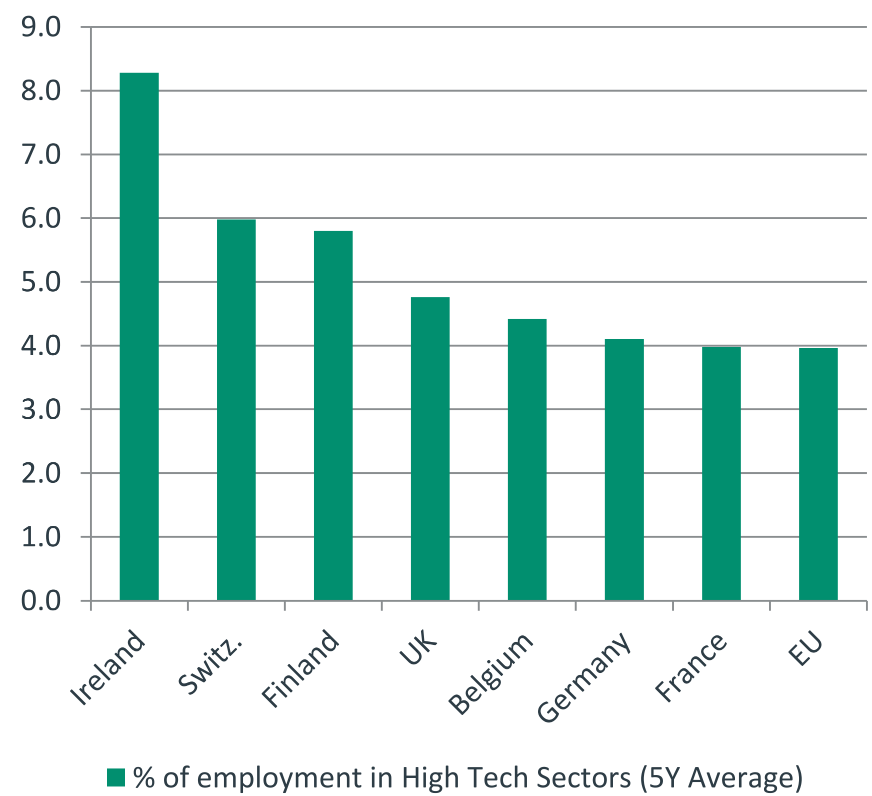


Crucially, openness to overseas capital has played a big part in Ireland's economic development

Average FDI inflow in $ per capita, 2012–17



Ireland has attracted high-quality jobs



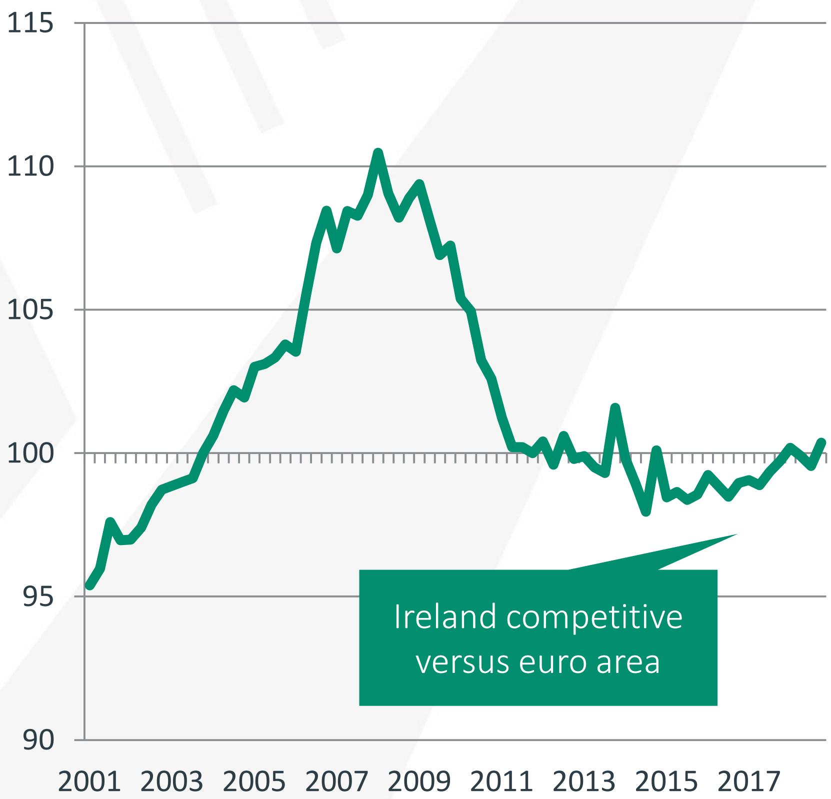
Source: [Unctad (UN) database](), Eurostat
Note: High tech = High-technology manufacturing and knowledge-intensive high-technology services

All this leads to mixture of highly productive and labour intensive sectors in Ireland

Source: CSO , NTMA calculations, 2018 data

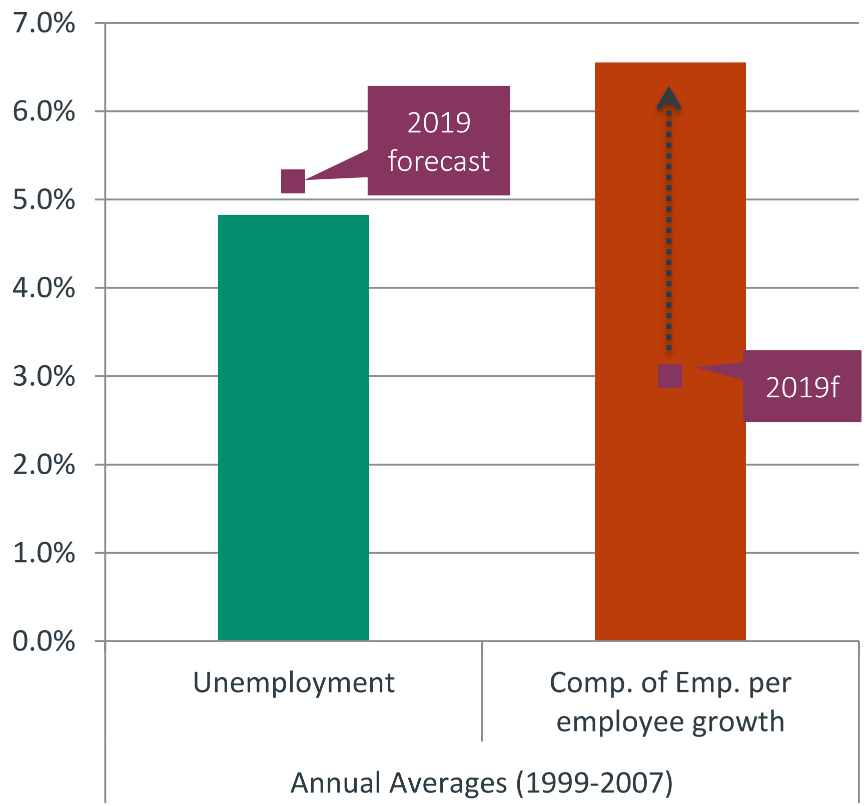
Ireland is pretty competitive now; we need to avoid repeat of the mid-2000s

Nominal Labour Cost Ratio – IE vs Euro Area



*Source: Eurostat, NTMA analysis *Ratio = IE Nom. Labour Costs/ EA Nom. Labour Costs*

Unemployment back towards 1999-2007 level, but wage growth less than half



Source: CSO, Eurostat, NTMA calculations

Ireland’s strong fundamentals highlighted by performance on United Nations sustainability index

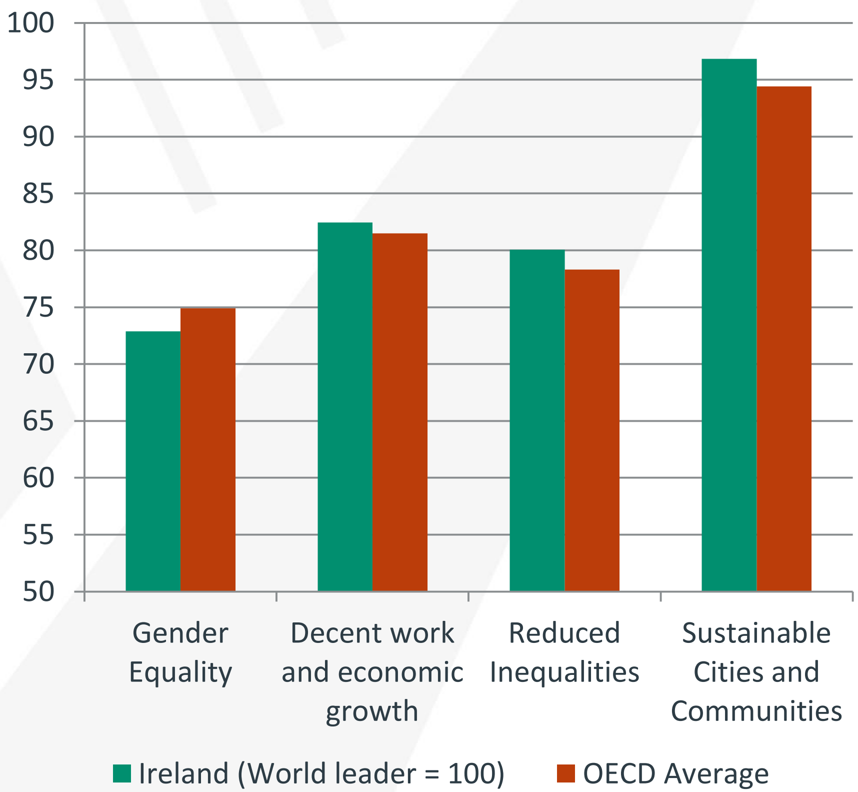
Selected Countries	Global Rank	Index Score (0-100)
Sweden	1	85.6
Denmark	2	84.2
Finland	3	84.0
Norway	4	83.9
Czech Republic	5	81.9
Germany	6	81.7
France	10	80.3
Belgium	12	80.0
United Kingdom	16	78.3
Ireland	**19**	**77.9**
Spain	25	76.8
Portugal	28	75.6
Italy	30	75.5
Luxembourg	33	75.0
Greece	38	72.9
United States	42	72.4

Ireland	Global rank	Vs. Regional Average
Subjective Wellbeing (2016)	13/133	↑
Environmental Performance Index (2016)	19/155	↑
Human Development Index (2016)	8/157	↑
Global Competitiveness Index (2016/17)	21/134	↑
Global Peace Index (2016)	12/149	↑

Source: United Nations SDG project

Ireland is a good place to live and do business

Ireland is close to OECD norms on social issues



Ireland scores well on metrics such as property rights and government efficiency

UN Goal – Peace, Justice and Strong institutions	Ireland Actual Figure	Ireland Normalised (world leader = 100)	OECD Average
Overall	-	87.5	75.8
Corruption Perception Index (0-100)	73.0	79.4	73.5
Government Efficiency (1-7)	4.8	**74.8**	**52.8**
Homicides (per 100,000 people)	1.1	97.8	96.1
Prison population (per 100,000 people)	80.0	87.8	74.6
Property Rights (1-7)	6.1	**94.8**	**73.1**
Population who feel safe walking alone at night (%)	75.0	73.7	67.4

Source: United Nations SDG project

Ireland reformed its corporate tax code to meet global standards; the 12.5% rate is fixed Government policy

Ireland's part in OECD (BEPS) corporate tax reform

- Ireland has been a strong supporter of the BEPS process since inception.
- Removal of known tax avoidance structures such as the "Double Irish", "the Single Malt" and "stateless companies".
- Ireland is best in class on tax transparency and exchange of information. Ireland is one of only 23 jurisdictions to have been found to be fully compliant with new international best practice by the Global Forum on Tax Transparency and Exchange of Information.
- Ireland introduced Country by Country Reporting in 2015. Ireland also ratified the BEPS multilateral instrument in domestic legislation which will update the majority of Ireland's tax treaties to be BEPS compliant.

Ireland's role in EU actions on corporate tax reform

- Ireland agreed two Anti-Tax Avoidance Directives (ATADs) with our fellow EU Member States in 2016 and 2017. The Anti-Tax Avoidance Directives represent binding commitments to implement 3 significant BEPS recommendations into Irish law as well as two additional anti-avoidance measures.
- Three out of five required components of the ATADs are now in effect as of 1st Jan 2019: Controlled-Foreign Company (CFC) rules, Exit Tax and General Anti-Abuse Rules (GAAR).
- We continue to engage positively at both EU and OECD level on tax issues.

Section 5: Property

Residential property prices have risen thanks to lack of supply and capital inflows

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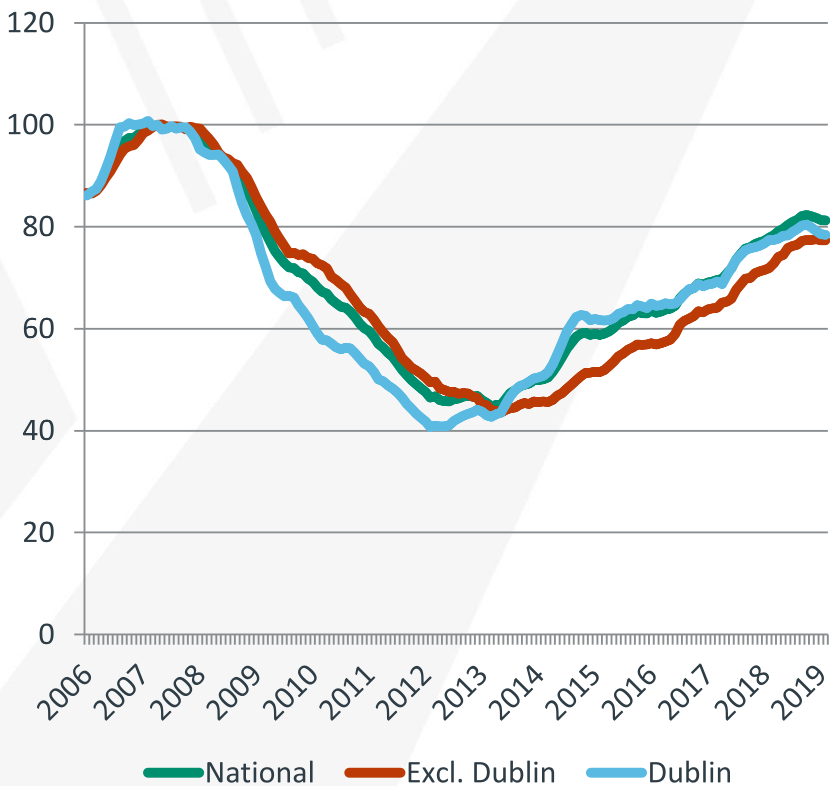
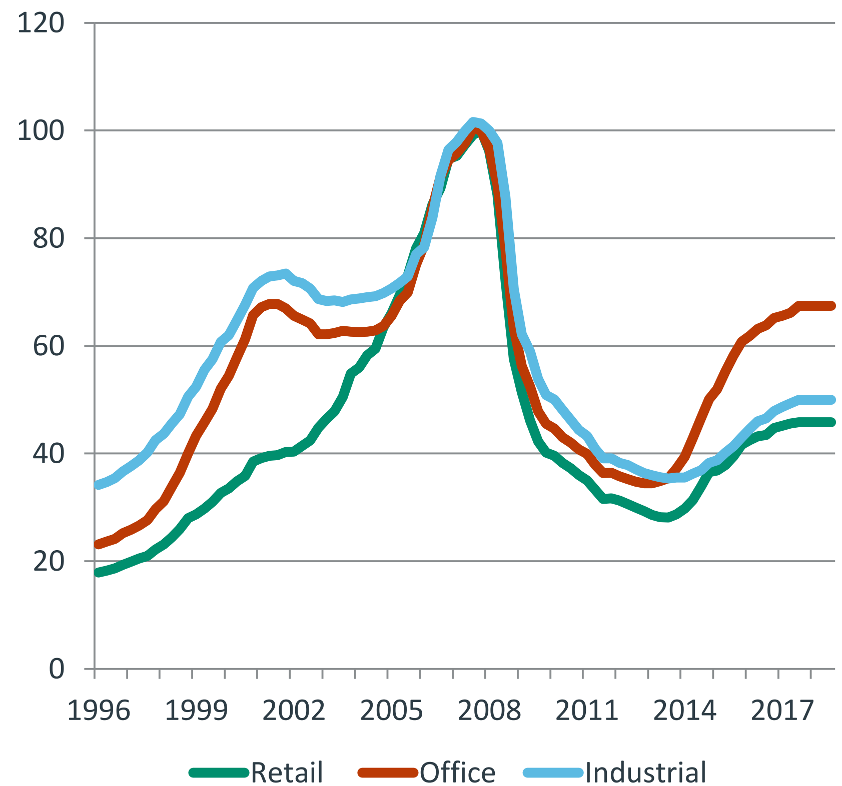
National Treasury Management Agency

Residential property prices have rebounded strongly since 2012; Commercial cooled in 2018

House prices rising strongly but some way off peak



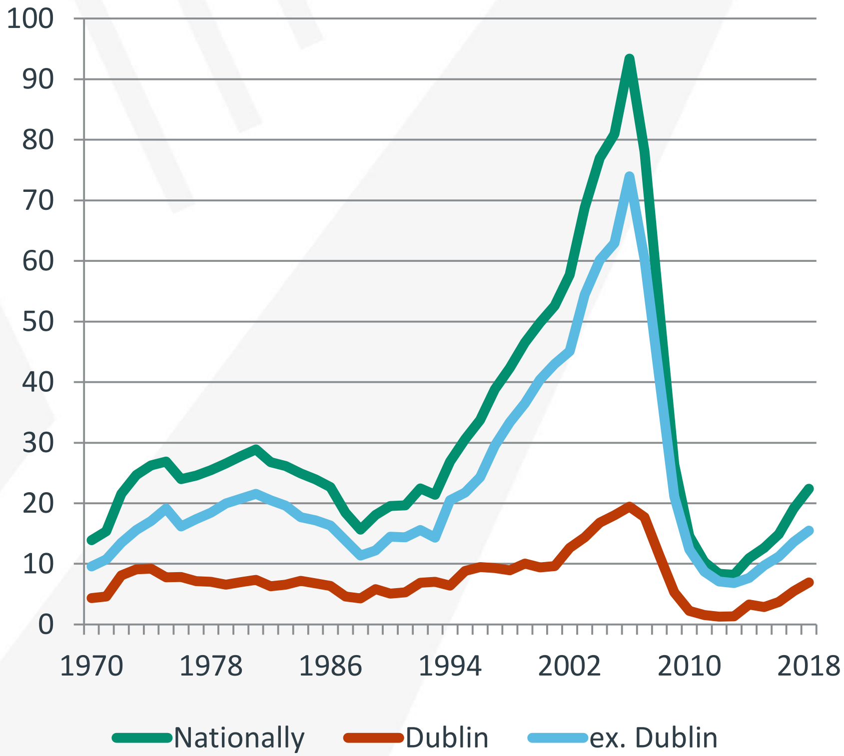
Office leads commercial property (peak = 100)



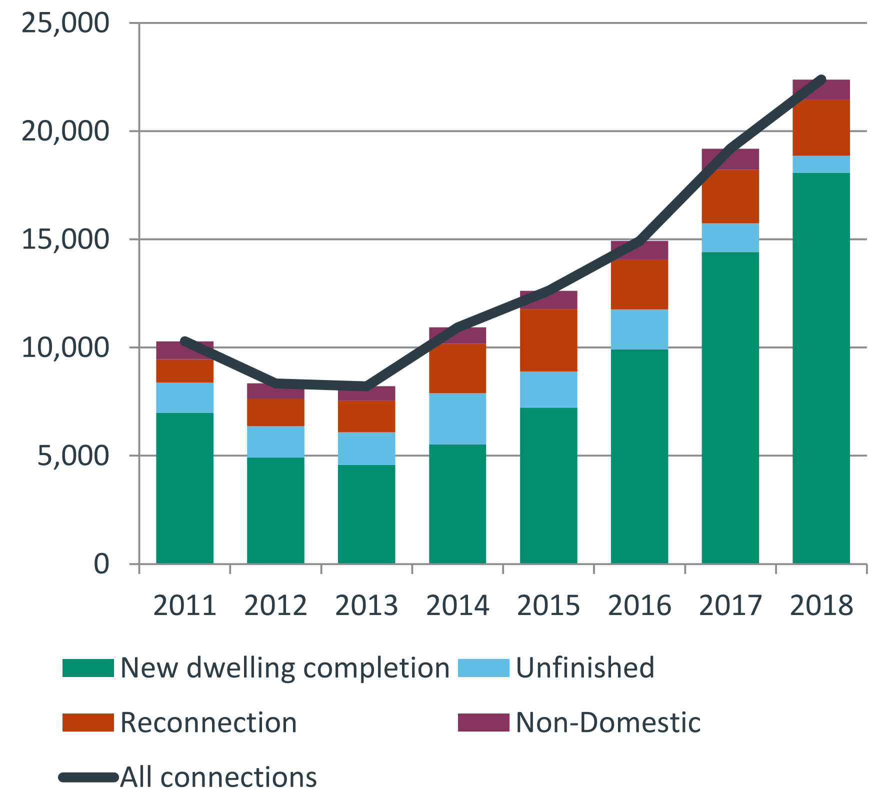
Source: CSO; IPD

Housing supply still below demand; price inflation has moderated as supply slowly catching up

Housing Completions above 22,000 in 2018 but still low historically (000s)



New dwellings* make up 80% of housing completions: some debate about the rest



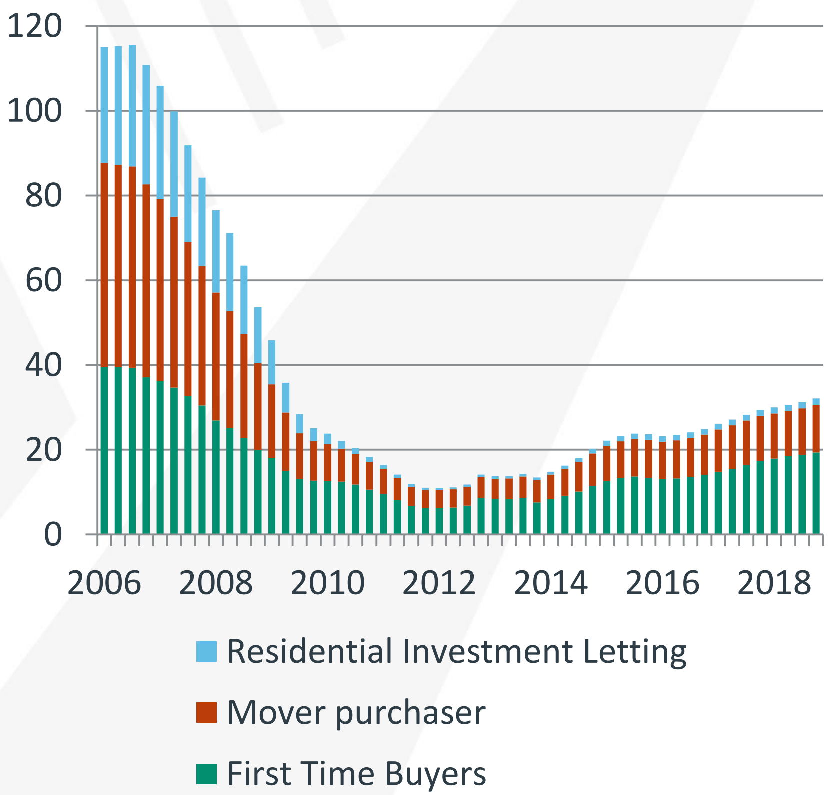
Source: DoHPCLG, CSO, NTMA Calculations

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

* 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.

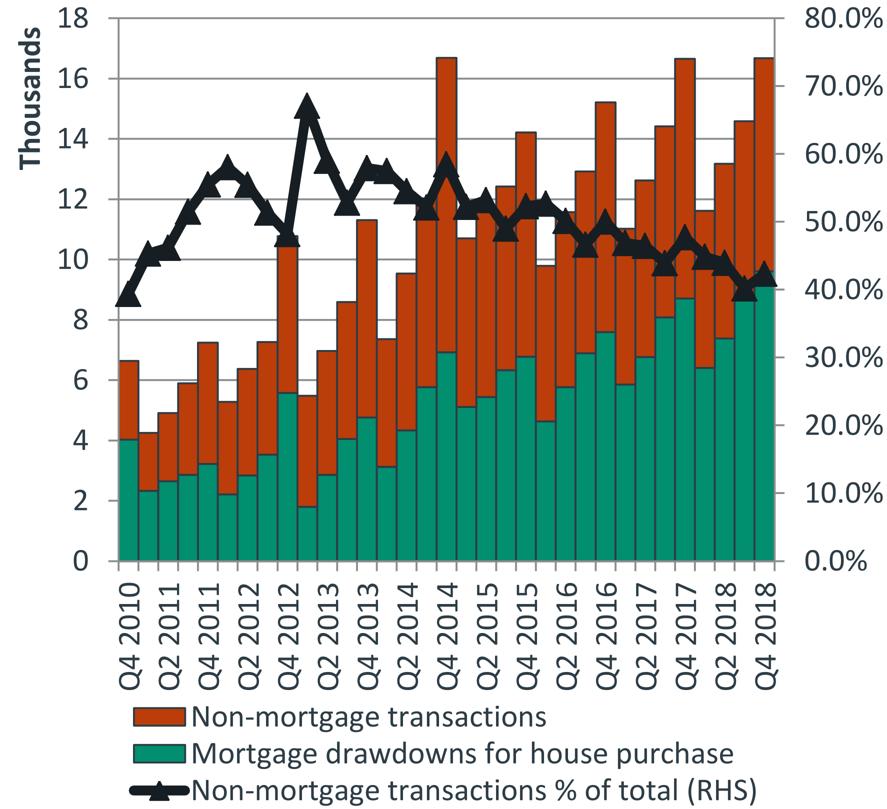
Demand has picked up since 2015; Credit slowly increasing as cash buyers become less important

Mortgage drawdowns rise from deep trough (000s)



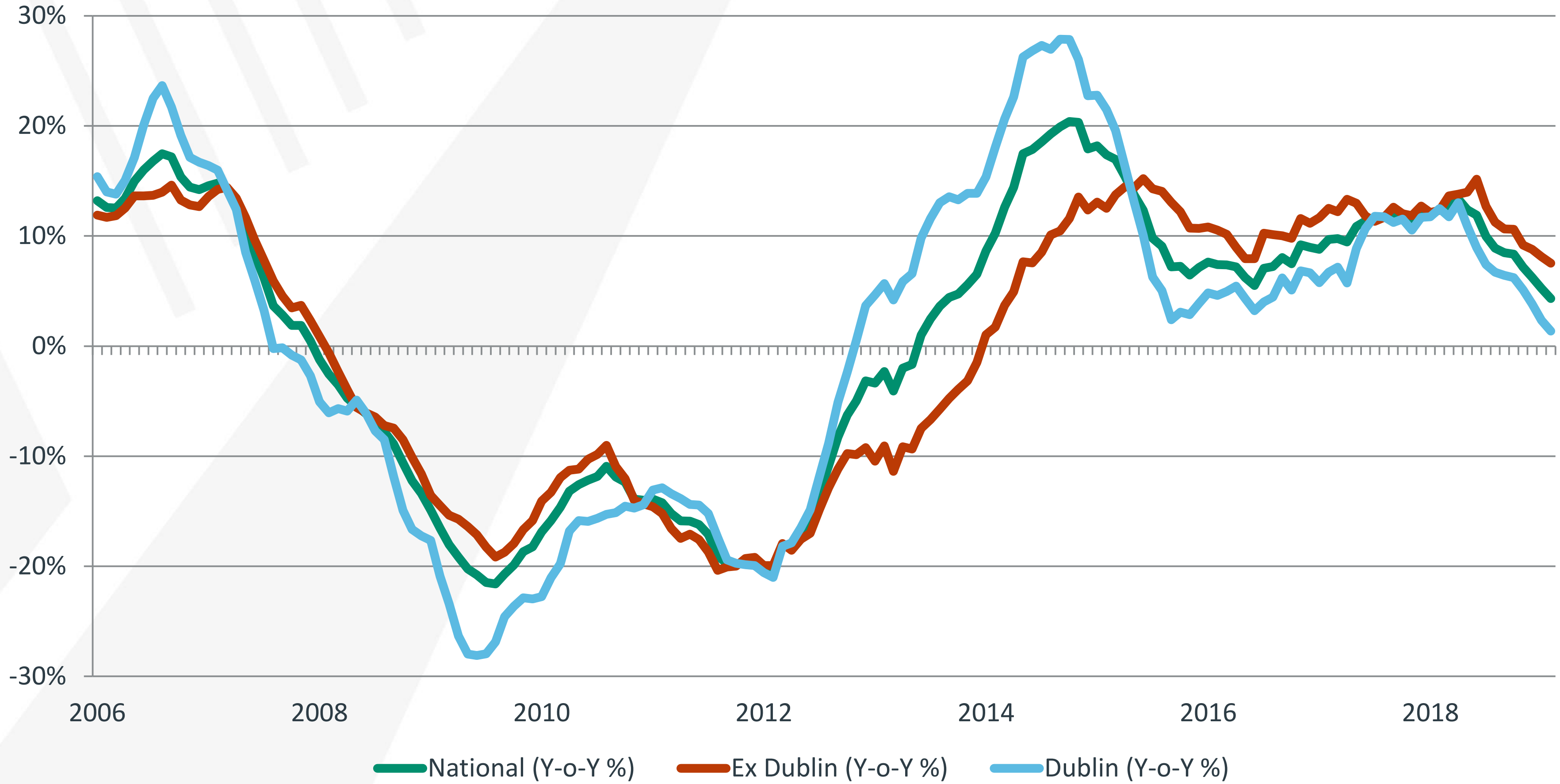
Source: BPFI   **4 quarter sum used*

Non-mortgage transactions still important but closer to 40% of total



Source: BPFI; Residential Property Price Register

Residential property prices have rebounded strongly since 2012 but levelled off in 2018



Source: CSO;

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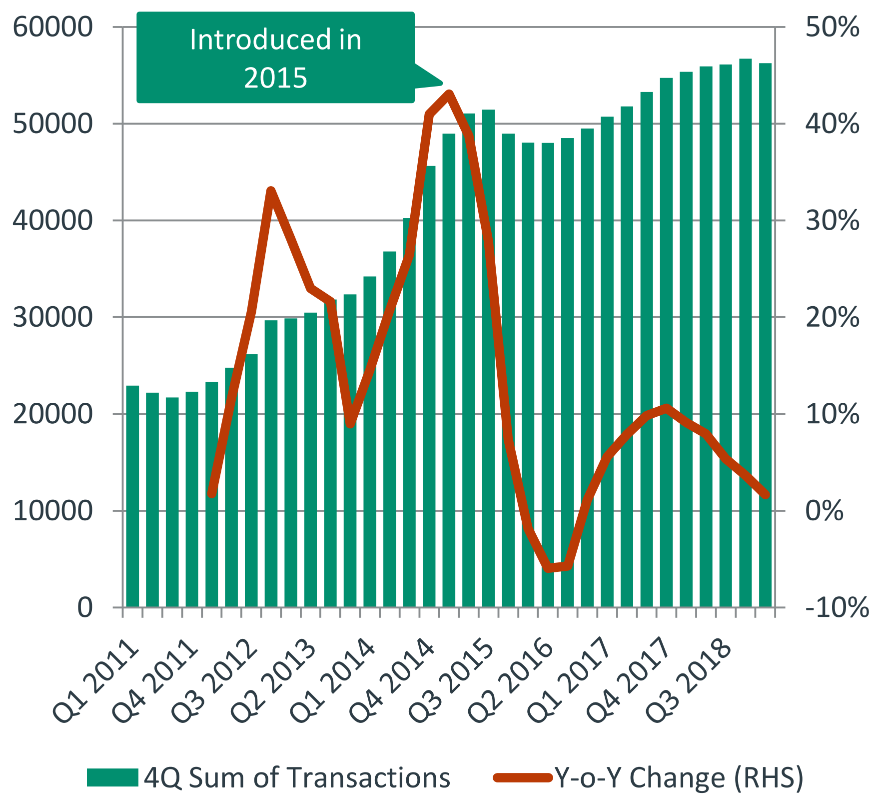
National Treasury Management Agency

CBI's macro-prudential rules increase resilience of banking and household sector

CBI's amended macro-prudential rules

- First time buyers (FTBs) can borrow 90% of the value of a home (10% minimum deposit). Five per cent of the total new lending to FTBs will be allowed above the 90% LTV limit.
- For second and subsequent buyers (SSBs), banks must restrict lending for primary dwelling purchase above 80 per cent LTV to no more than 20 per cent of new lending to SSBs.
- Bank must restrict lending for primary dwelling purchase above 3.5 times LTI to no more than 20 per cent of that aggregate value for FTBs and 10 per cent for SSBs.
- Banks have to limit Buy-to-Let loans (BTL) above 70 per cent LTV to 10 per cent of all BTL loans.

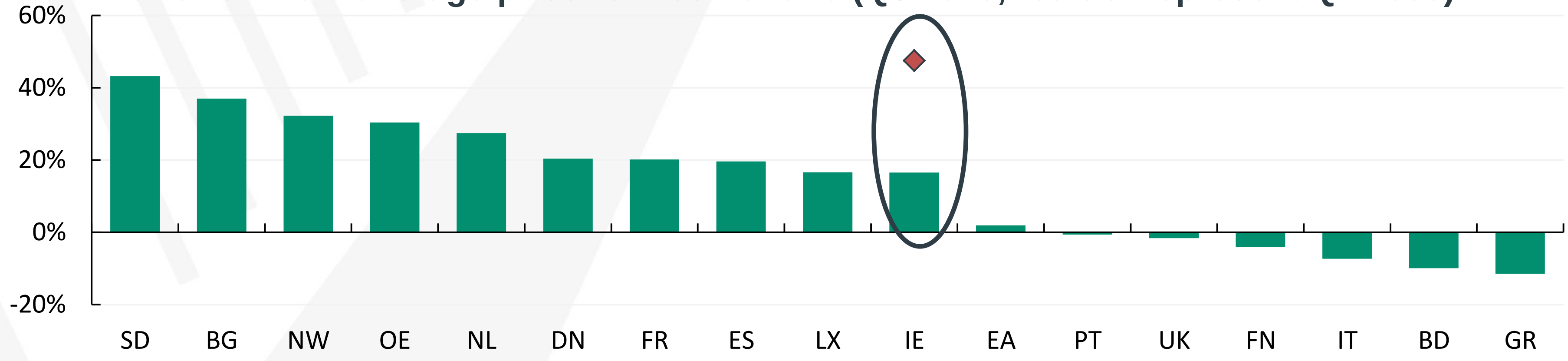
Transaction growth has slowed since macro-prudential rules introduced



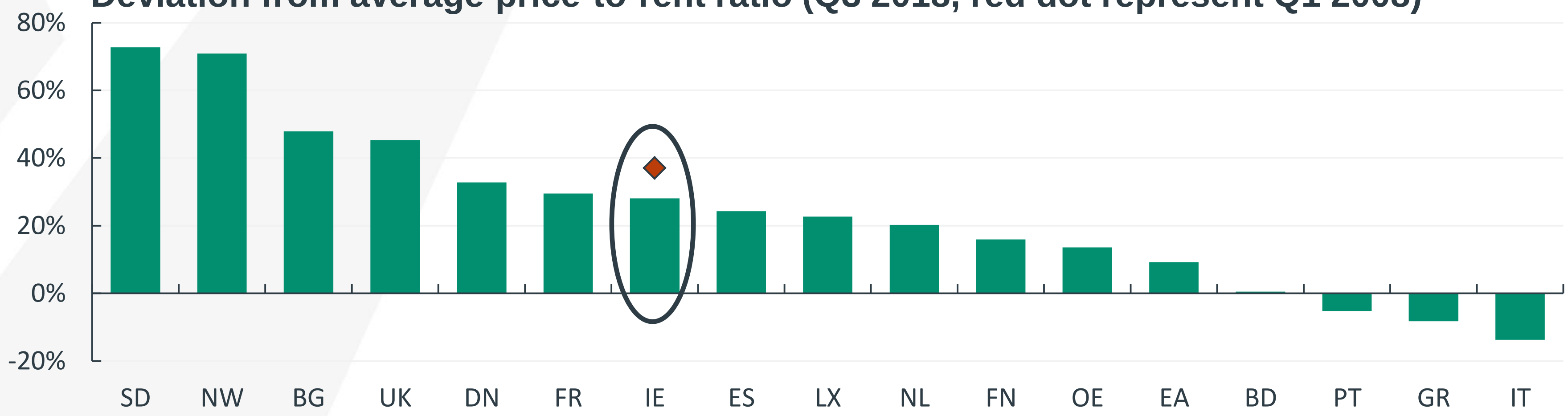
Source: Residential Property Price Register

Irish house price valuation metrics continue to rise but remain below 2008 levels

Deviation from average price-to-income ratio (Q3 2018, red dot represent Q1 2008)



Deviation from average price-to-rent ratio (Q3 2018, red dot represent Q1 2008)



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Source: OECD, NTMA Workings

Note: Measured as % over or under valuation relative to long term averages since 1980.

Section 6: Other data

Worries about contingent liabilities no longer; Ireland now has legacy assets

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Ireland has legacy banking-related assets

- Banking
  - Banks continue to be profitable; income, cost and balance sheet metrics are much improved.
  - Interest rates on mortgages and to SMEs are still high compared to EU thanks to legacy issues and the slow judicial process in accessing collateral.
  - An IPO of AIB stock (28.8%) was completed in June 2017. This returned c. €3.4bn to the Irish Exchequer to be used for debt reduction.

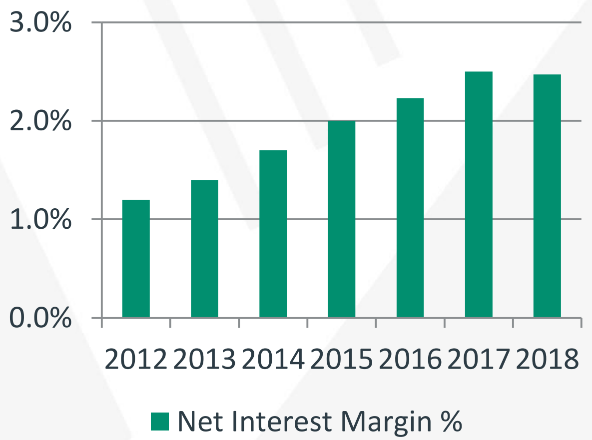
- NAMA
  - NAMA has repaid 100% of its senior debt; it forecasts a profit of €3.5bn subject to market conditions.
  - This is expected to be returned to the Exchequer in the next few years – beginning in 2020.

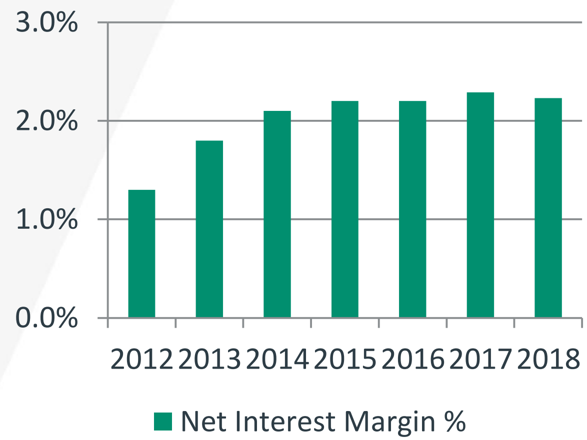
- IBRC
  - Liquidation of the IBRC has returned €1.1bn to the Irish Exchequer.
  - The Exchequer received €870m in 2016-18 with the final payment c.€215m in early 2019.

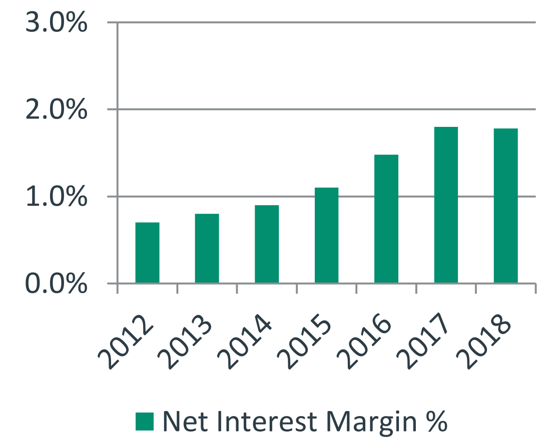
All three pillar banks profitable given enhanced margins

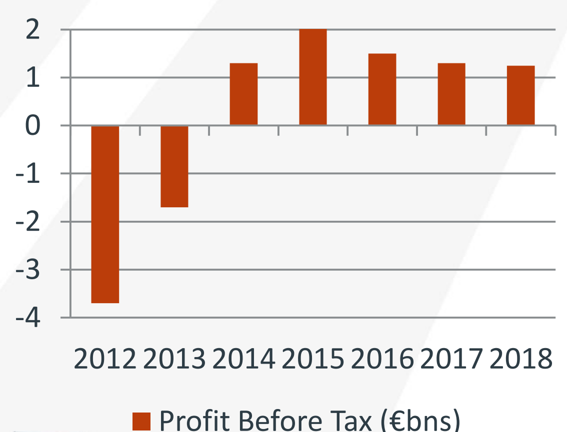
State Ownership

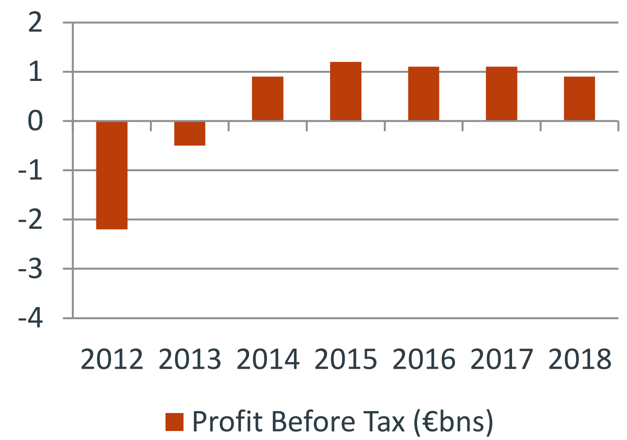
71% owned **Allied Irish Bank**	14% owned **Bank of Ireland**	75% owned **Permanent TSB**

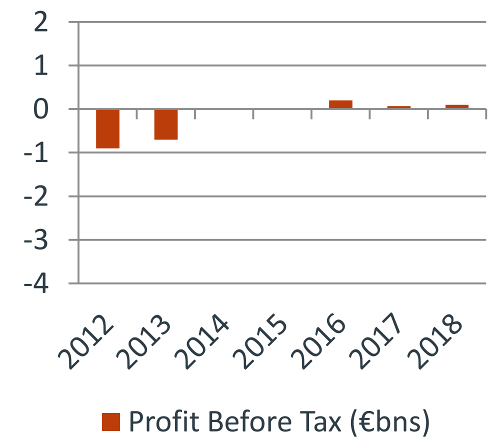








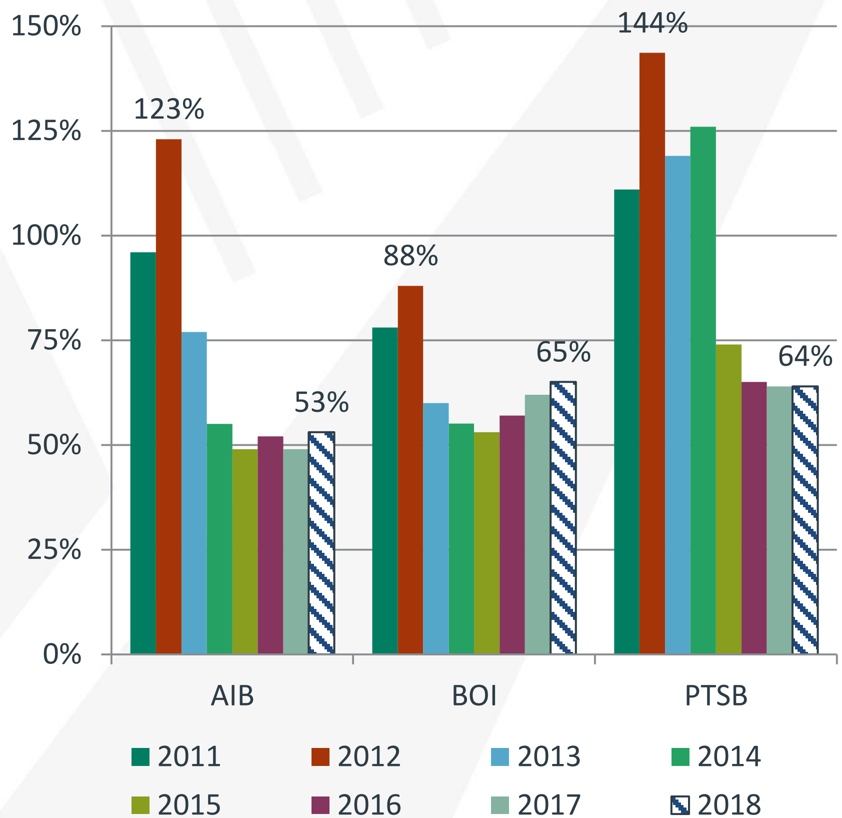




Source: Annual reports of banks - BOI, AIB, PTSB
Profit measures are before exceptional items

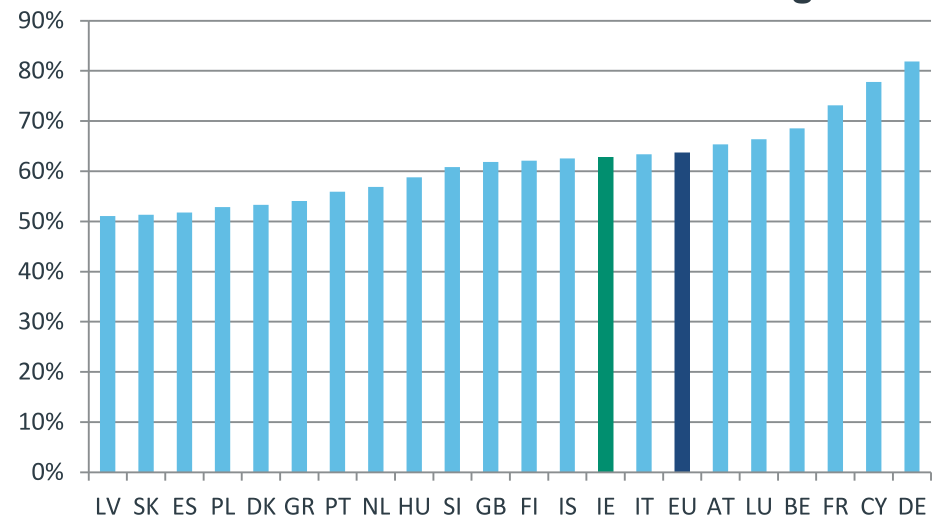
Domestic bank cost base reduced over time

Cost income ratios improve dramatically…

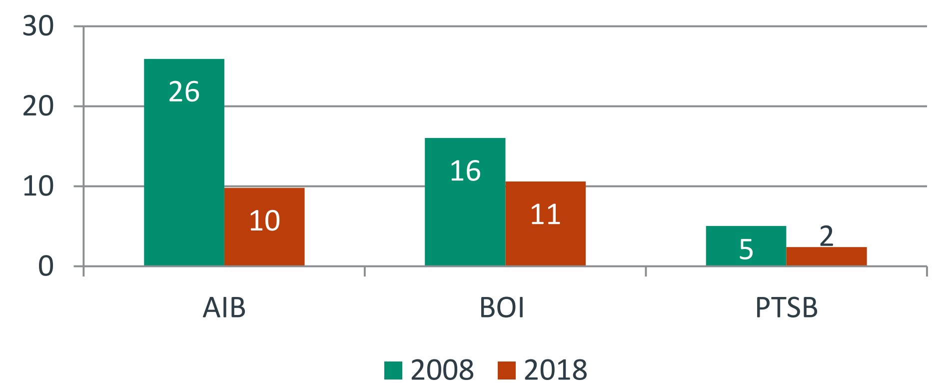


Source: Annual reports of Irish domestic banks

… and IE banks* below to EU average



Staffing (000s) shrunk by c.50% post crisis



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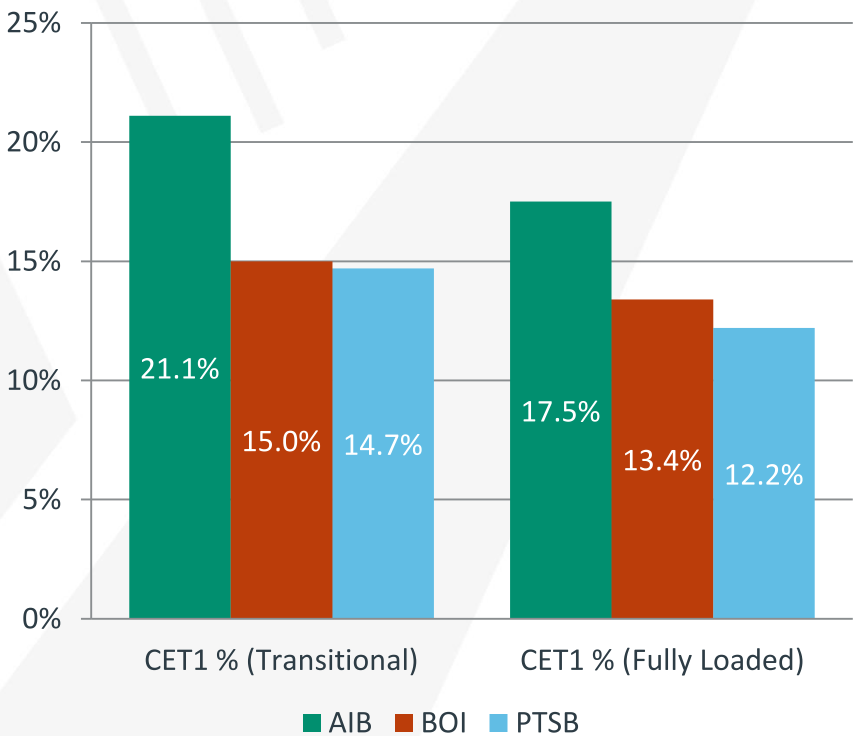
Source: Annual reports of Irish domestic banks, EBA

* EBA data includes three domestic banks as well as Ulster Bank, DEPFA & Citibank.

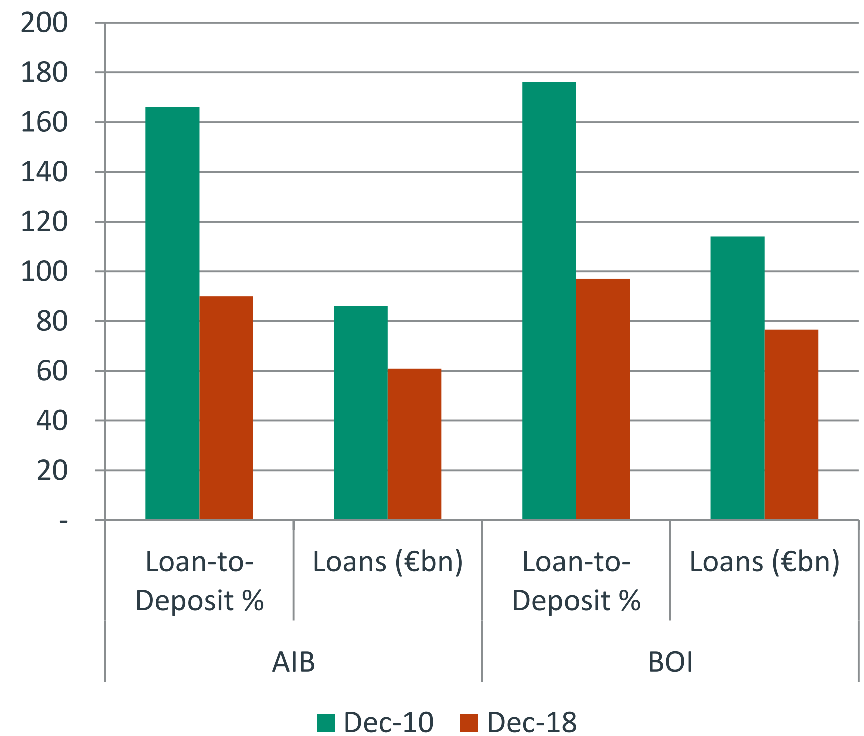
Capital ratios strengthened as banks were slimmed down and consolidated

CET 1 capital ratios (End 2018)



Source: Published bank accounts

Loan-to-deposit ratios have fallen significantly as loan books slimmed down



Source: Published bank accounts

Note: "Transitional" refers to the transitional Basel III required for CET1 ratios
"Fully loaded" refers to the actual Basel III basis for CET1 ratios.

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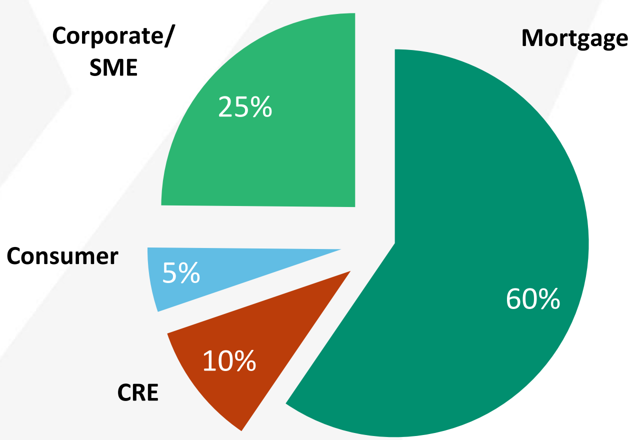
Non-performing loans sold during 2018 as asset quality continues to improve at three pillar banks

All 3 Pillar banks (€bn)	Dec-17	Dec-18
Total Loans	162.4	158.2
Non-performing Exposures	22.0	12.7
(NPE as % of Total)	13.5%	8.0%
Provisions	7.3	4.4
(Provisions as % of book)	4.4%	2.8%
(Provisions as % of Impaired)	33.2%	34.6%

Loan Asset Mix (3 banks Dec 18)



Non-performing exposures % of total loans[1] (loss provision % of NPE)				
		Dec-17	Dec-18	*Book (€bn)*
BOI	Irish Residential Mortgages	11.0(24)	9.5(21)	23.7
	UK Residential Mortgages	1.9(14)	2.3(15)	21.7
	Irish SMEs	15.4(46)	11.2(49)	7.6
	UK SMEs	8.6(42)	6.1(53)	1.6
	Corporate	3.0(69)	2.6(60)	10.3
	CRE - Investment	17.9(43)	10.7(44)	7.7
	CRE - Land/Development	39.4(55)	14.0(54)	0.6
	Consumer Loans	2.1(98)	2.1(140)	5.1
		8.3(36)	6.3(35)	78.4
AIB	Residential Mortgages	14	10.1 (20)	32.3
	SMEs/Corporate	11	5.2 (36)	19.6
	CRE	33	18.0 (29)	7.9
	Consumer Loans	18	11.1 (50)	3.1
		16	9.6	62.9
PTSB	Residential Mortgages	21.7(44)	8.8(39)	12.4
	Buy-to-let Mortgages	21.8(64)	12.9(113)	4.0
	Commercial	30.3(104)	33.3(76)	0.2
	Consumer Loans	15.4(92)	7.5(112)	0.3
		21.7(50)	10.0(64)	16.9

Source: Published bank accounts

1 Non-performing exposures include impaired loans, loans past due greater than 90 days but not impaired, and Forborne Collateral Realisations

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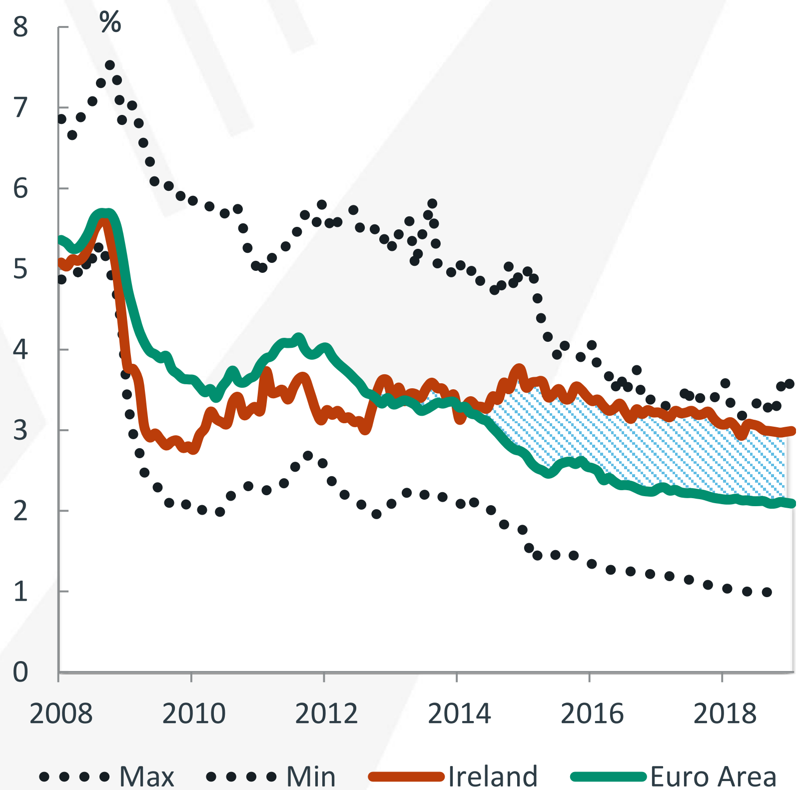
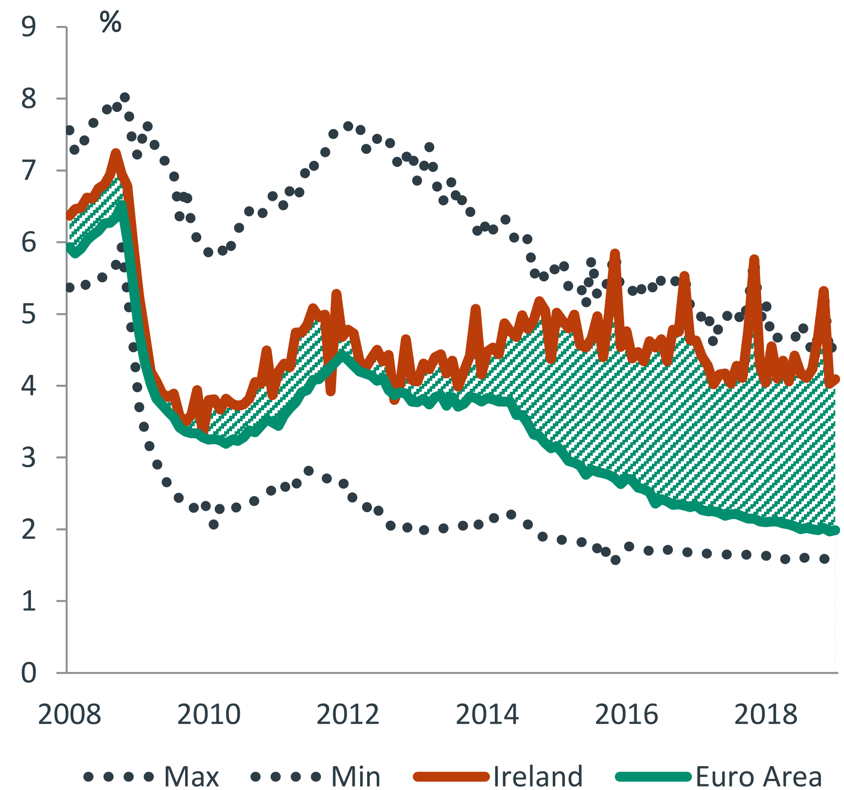
Profitability aided by higher interest rates than EA peers

Ireland's interest rates on lending for house purchase the highest in euro area



Source: ECB

Rates on SME loans* over euro area average



*SME loans proxy of loans <1year and <€1m to Non-Financial Corporates

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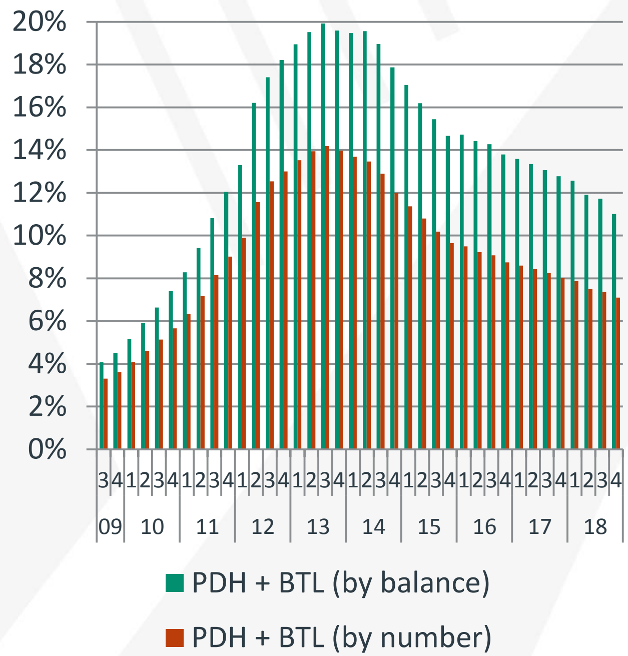
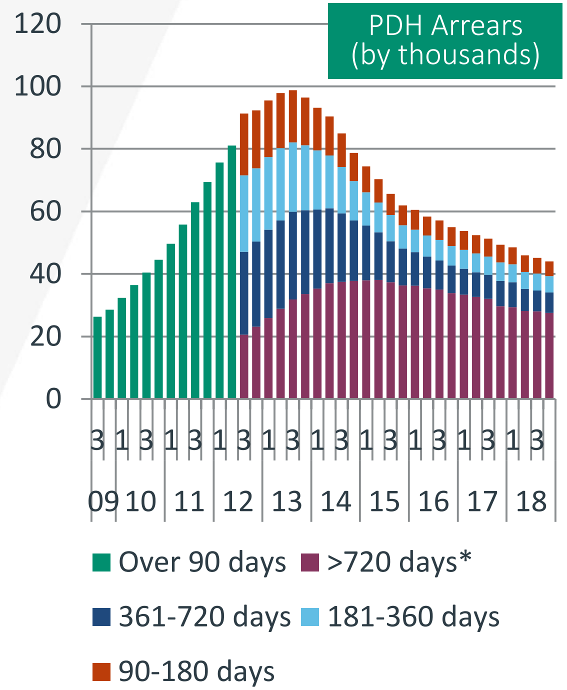
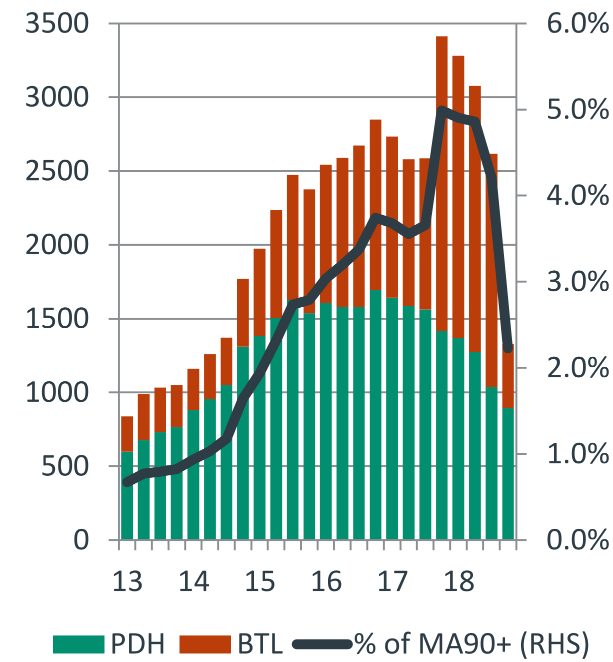
Irish residential mortgage arrears are still improving; but there are complications unrelated to the economy

Mortgage arrears (90+ days)





Repossessions**



Source: CBI

- Non-bank entities now hold 12 per cent of all PDH mortgage accounts outstanding; 8.1 per cent are held by regulated retail credit firms, with the remaining 3.5 per cent held by unregulated loan owners. Unregulated loan owners hold 22 per cent of all PDH mortgages in arrears over 720 days

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* Over 40% of those cases in arrears > 720 days are also in arrears greater than five years.
** Four quarter sum of repossessions. Includes voluntary/abandoned dwellings as well as court ordered repossessions

NAMA: All original senior debt has been repaid; likely to deliver surplus of around €3.5bn from 2020 onwards

- NAMA's operating performance is strong
  - Acquired 12,000 loans (over 60,000 saleable property units) related to €74bn par of loans of 780 debtors for €32bn
  - NAMA continues to generate net profit after impairment charges.

- It has repaid 100% of €30.2bn of original senior debt
  - NAMA exceeded its senior debt redemption targets well ahead of schedule. It remains on course, subject to market conditions, to redeem its small amount of subordinated debt by 2020.

- NAMA could deliver a surplus for Irish taxpayers of about €3.5bn, according to its management team - if current market conditions remain favourable.

- NAMA initiative to develop up to 20,000 housing units by 2020 – <u>subject to commercial viability.</u>
  - Progress has been strong so far with 9,700 units completed from 2014 – 2018;
  - Another 3,000 under construction or have had funding approved;
  - A further 6,400 have planning permission granted.

The European Commission's ruling on Apple's tax affairs does not change the NTMA's funding plans

- The EC has ruled that Ireland illegally provided State aid of up to €13bn, plus interest to Apple. This figure is based on the tax foregone as a result of a historic provision in Ireland's tax code. This was closed on December 31st 2014.
- **This case has nothing to do with Ireland's corporate tax rate.** In its press release the EC stated: "This decision does not call into question Ireland's general tax system or its corporate tax rate".
- **Apple is appealing the ruling, as is the Irish Government.** This process could be lengthy. Pending the outcome of the appeal, Apple has paid approximately €13bn plus EU interest into an escrow fund.
- Bank of New York Mellon has been selected for the provision of escrow agency and custodian services to hold and administer the fund.
- Amundi, BlackRock Investment Management (UK) Limited and Goldman Sachs Asset Management International have been selected for the provision of investment management services for the fund.
- As the funds will be held in escrow pending the outcome of the appeal, **the NTMA has made no allowance for these funds.**

Irish Sovereign Green Bond Framework aligned with the ICMA Green Bond Principles

Use of Proceeds

Sustainable Water, Clean Transportation, Energy Efficiency, Climate Change Adaptation & others

Project Evaluation and Selection Process

Working Group established by Government: NTMA, DPER, DCCAE & DFIN

Management of Proceeds

Pending its allocation to Eligible Green Projects, Ireland will temporarily hold proceeds in its Central Fund.

Reporting

Annual Allocation Report & Biennial Eligible Green Project Impact Report

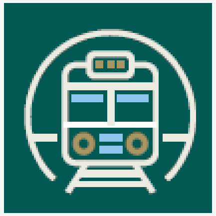
External Verification

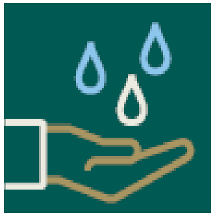
Source: NTMA
Further details are available at ntma.ie

Government’s NDP outlines green projects; aim to cut CO_2 emissions by at least 80% by 2050

1 in 5 euros in the NDP to be spent on green projects

Sustainable Mobility	Sustainable Management of Water and Environmental Resources	Transition to a Low carbon and Climate Resilient Society	
€8.6 billion	€6.8 billion	€7.6 billion	Total:€23 billion (13% of GNI*)





Further details are available at ntma.ie

Source: National Development Plan 2018-2027

Annex

Explanatory charts about the distortions to Ireland's National Accounts

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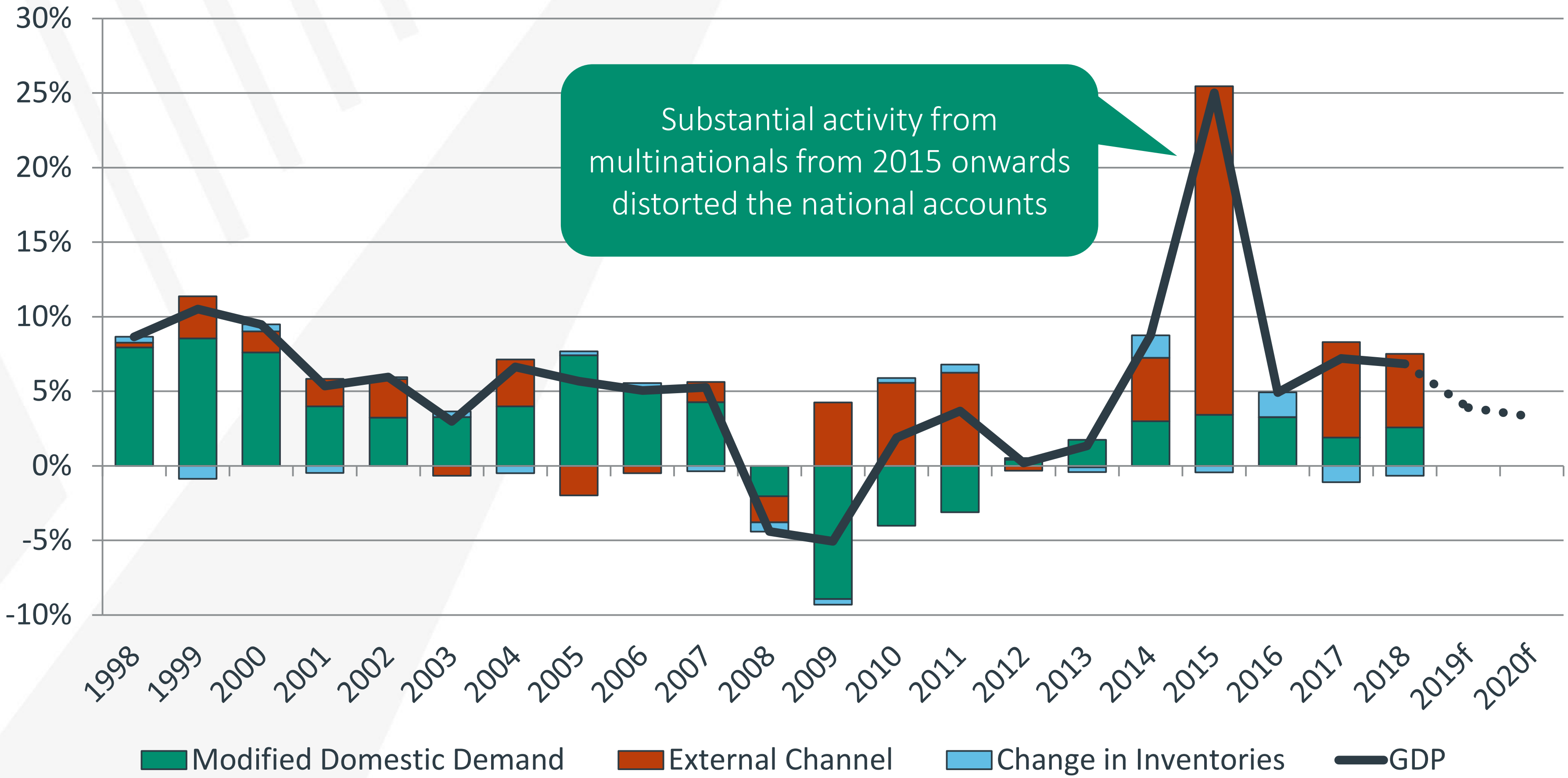
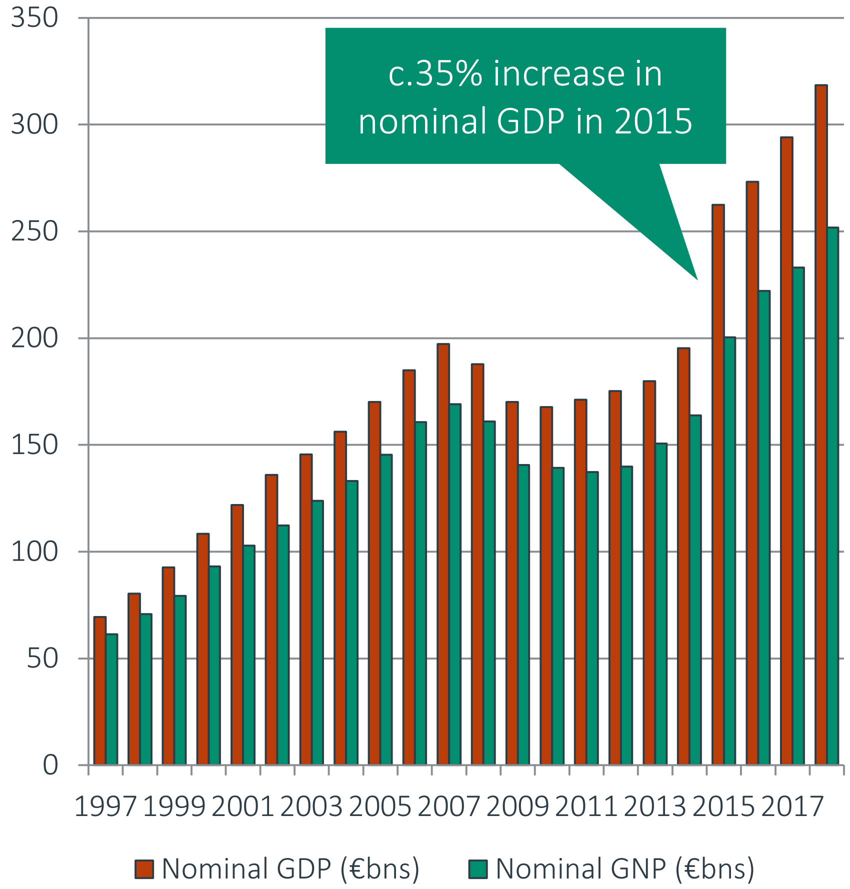
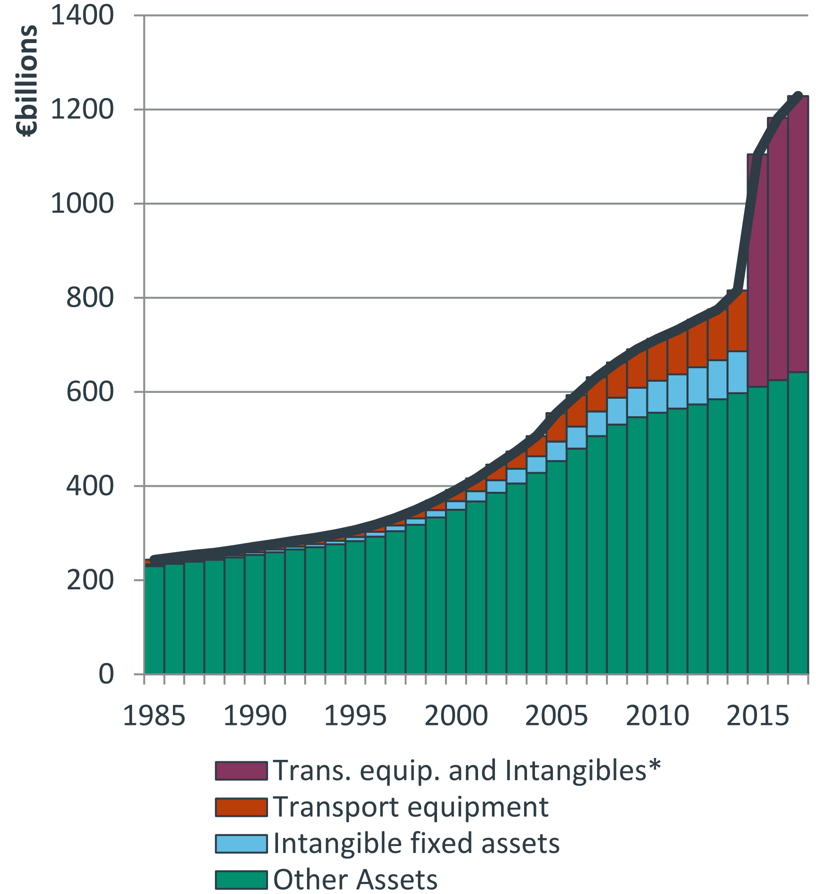
Distortions to GDP/GNP make them sub-optimal indicators of economic performance



Source: CSO; Department of Finance

Reclassification of several companies and "onshoring" of IP led to step change in GDP & capital stock





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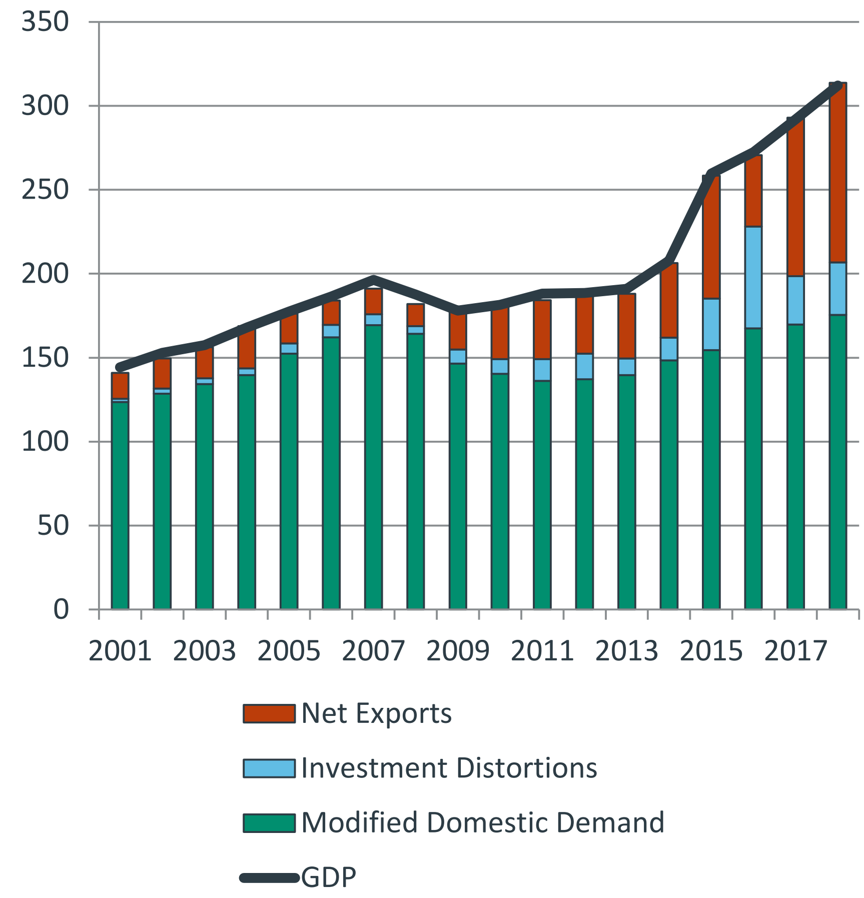
Source: CSO; Department of Finance
**due to confidentiality some sector data for 2015 has been restricted*

The change in capital stock resulted in large increase in net exports

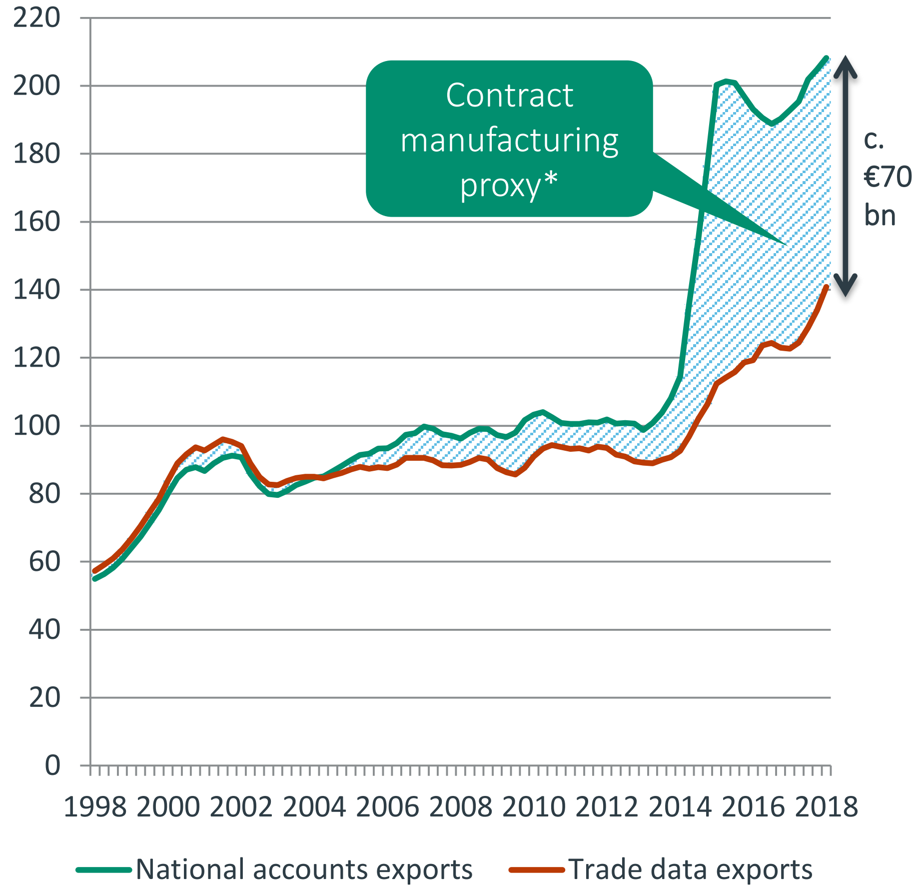
- The capital stock expanded in 2015 by c. €300bn or c. 40%. This is due to:
  - Re-domiciling/inversions of several multinational companies
  - The "onshoring" of IP assets into Ireland by multinationals
  - The movement of aircraft leasing assets in Ireland.
- The transfer of whole entities and assets of this size is not something seen before in Ireland.
- Goods produced by the additional capital were mainly exported. Complicating matters, the goods were produced through "contract manufacturing" (explained in detail overleaf).
- Little or no employment in Ireland results from this contract manufacturing.



Source: CSO

Contract manufacturing (CM) overstates the extent of goods export growth in the last three years

- Contract manufacturing (CM) occurs where a company in Ireland engages another abroad to manufacture products on its behalf.
- Crucially, the foreign contract manufacturer supplies a manufacturing service to the Irish entity but the overseas contractor never takes ownership of the product. When the product is sold abroad, a change of *economic* ownership takes place between Ireland and the country where the product is sold.
- **This export is recorded in Ireland's statistics even though it was never produced in Ireland.**
- Previously, CM did not have a significant net impact on GDP as the company would send royalties back to where the intellectual property (IP) was "owned" – it was a royalty import. Now that the IP is here, Ireland's GDP is artificially inflated.

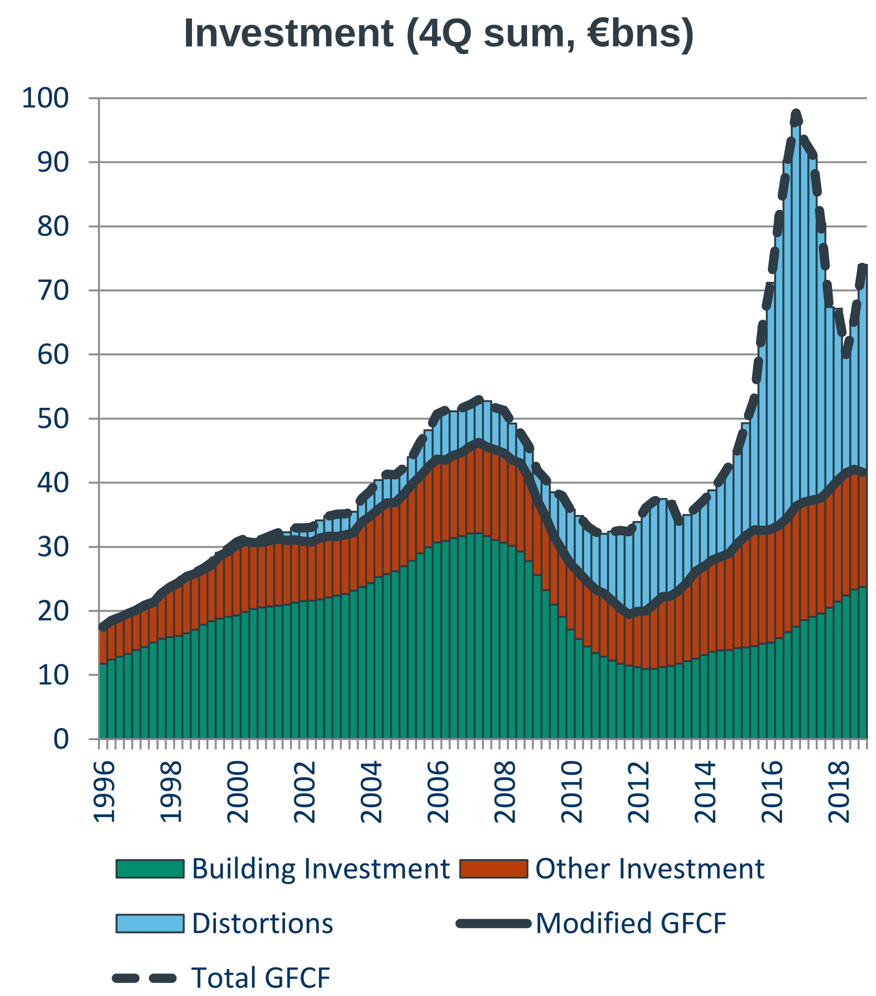


Source: CSO, NTMA Calculations

*Contract manufacturing proxy is calculated as the difference between the monthly International trade exports statistics and the National Accounts/BOP measure for goods exports. The monthly data is based on the actual volume of goods flowing through Ireland's various ports/airports whereas the national accounts/BOP makes adjustments for, among other items, contract manufacturing.

Investment distorted by multinationals importing intellectual property (IP) into Ireland

- Investment is above the pre-crisis level due to MNCs importing intangibles into Ireland.
- Ireland has become an ICT hub in recent years with this investment impacting the real economy.
- However the recent sharp increase in intangibles investment overstates Ireland's position and should be discounted accordingly.
- Building investment grew by 15.7% y-o-y in 2018 versus 2017 highlighting pent up demand for housing.



Source: CSO,

GNI* is a better measure of underlying economic activity than GDP/GNP

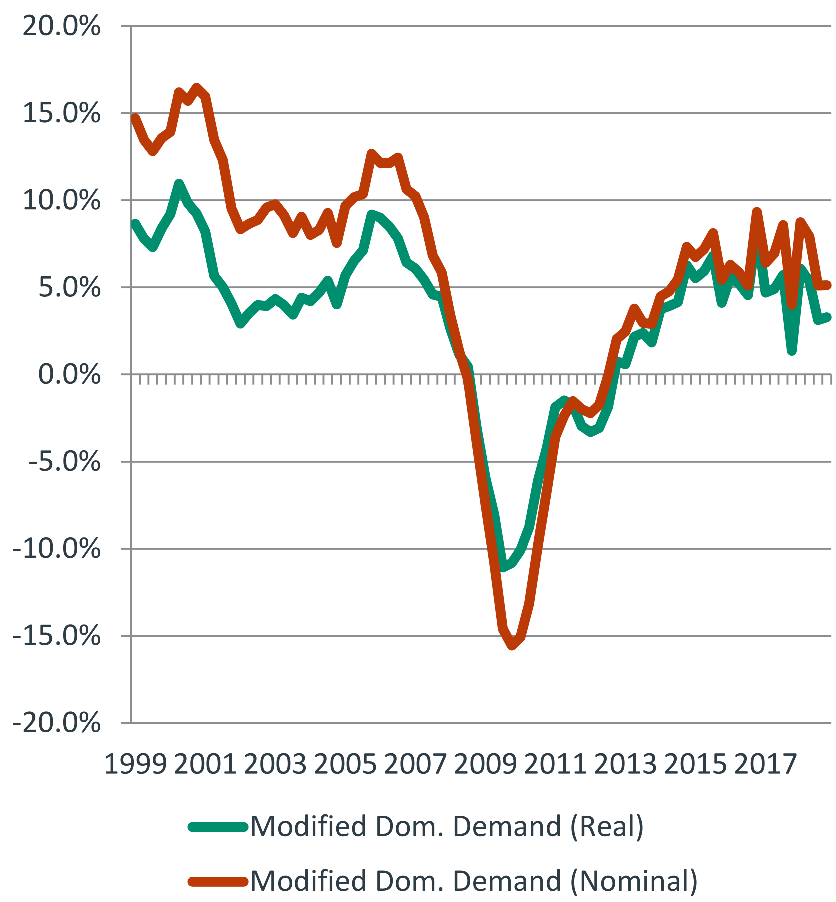
- GDP headline numbers do not reflect the "true" growth of Ireland's income due to MNCs.
- Reasons for 2015-17 MNC distortions:
  - Re-domiciling/inversions of several multinational companies
  - The "onshoring" of IP assets into Ireland by multinationals
  - The movement of aircraft leasing assets in Ireland.
- By modifying GNI to take account of these factors, GNI* gives us a better understanding of the underlying economy.
- GNI* only available in nominal terms at present.
- In time, GNI* will be published on a constant price basis.

National Account – Current Prices (Euro, y-o-y growth rates)	2015	2016	2017
Gross Domestic Product (GDP)	262.4bn (34.4%)	273.2bn (4.1%)	294.1bn (7.6%)
minus Net Factor Income from rest of the world			
= Gross National Product (GNP)	200.4bn (22.2%)	222.2bn (10.8%)	233.1bn (4.9%)
add EU subsidies minus EU taxes	1.2bn	1.0bn	1.1bn
= Gross National Income (GNI)	201.7bn (22.3%)	223.2bn (10.7%)	234.2bn (5.0%)
minus retained earnings of re-domiciled firms	-4.6bn	-5.8bn	-4.6bn
minus depreciation on foreign owned IP assets	-31.0bn	-36.7bn	-43.1bn
minus depreciation on aircraft leasing	-4.6bn	-4.9bn	-5.1bn
= GNI*	161.4bn (8.6%)	175.8bn (9.0%)	181.2bn (3.0%)

Source: CSO

Modified Domestic Demand (MDD) – which ignores exports - is best cyclical indicator

- GNI* is useful but not timely. MDD is released on a quarterly and real basis.
- MDD ignores the net exports channel. It also omits aircraft leasing and IP imports from investment to give a modified measure of domestic demand.
- The measure includes:
  - private consumption
  - government consumption
  - building investment
  - elements of machinery & equipment investment
  - elements of intangible asset investment
  - value of physical changes in stock
- This measure pegs real growth at 3.3% in 2018. Since 2014, annual growth has averaged just under 5% when looking at MDD.



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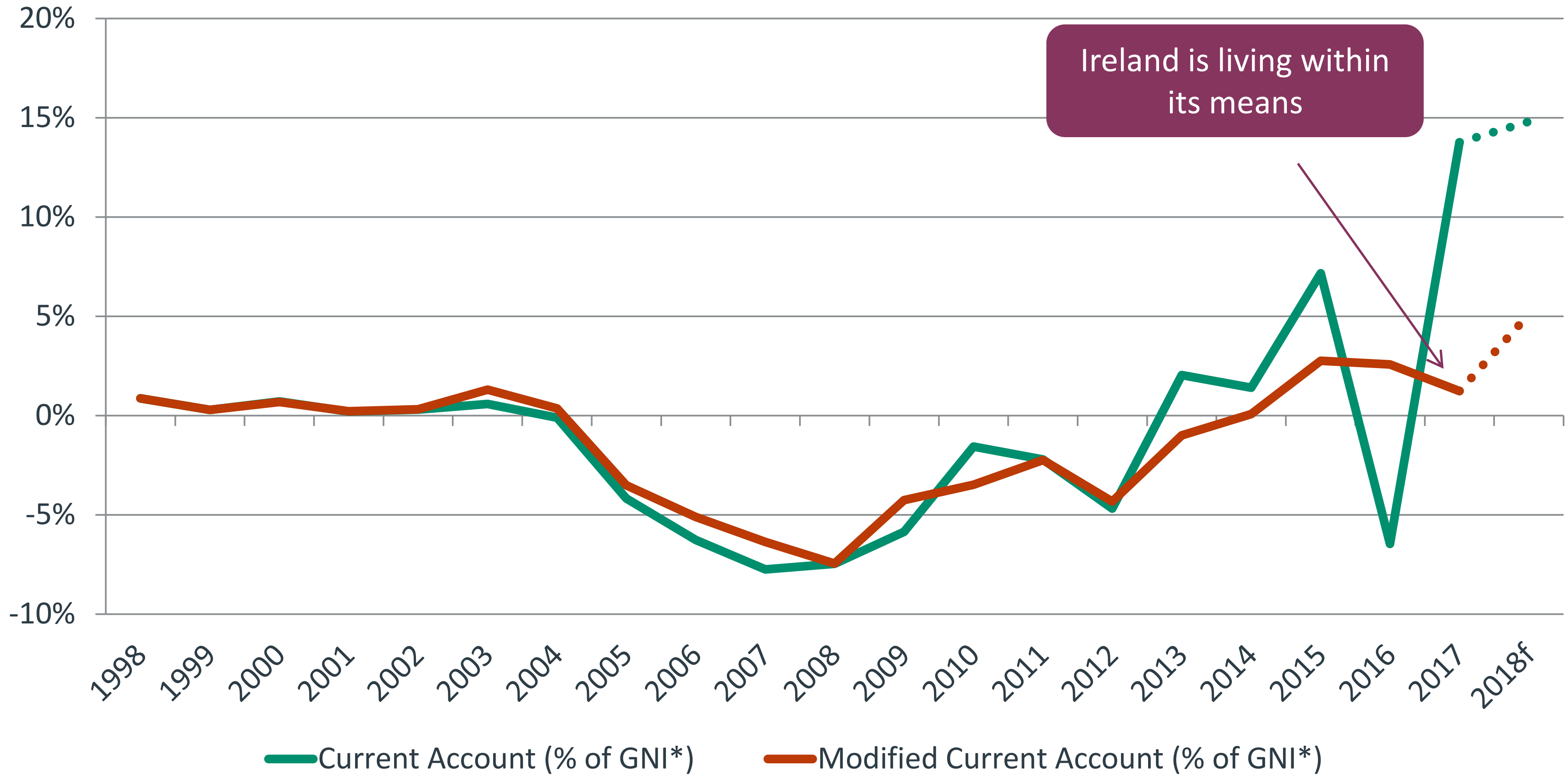
Source: CSO, four quarter sum growth rate used to strip out substantial quarterly volatility. Note MDD includes inventories. Large inventories in Q4 2016 added a further degree of volatility into MDD data.

The current account (CA) is distorted heavily by actions of MNEs – CSO has modified CA to be consistent with GNI*



Source: CSO, NTMA calculations
Modified CA=CA less (IP Depreciation + Aircraft Leasing Depreciation + Redomiciled Incomes + R&D Services Exports) adding back (Imports of related to Leasing Aircraft + R&D related IP and services Imports). Significant caution should be exercised when viewing Ireland's current account data. MNC's action distort metrics heavily.

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