Ireland: Growth despite headwinds

Underlying Growth is strong, Government debt service falling and unemployment is below 8%

October 2016

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Index

Summary

Ireland's headline GDP is distorted;
yet underlying growth remains strong

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Ireland’s headline numbers distorted; underlying growth strong but Brexit will slow pace

- **Ireland’s GDP and GNP are exaggerated by new multinational companies’ activity; behind the headline numbers, Ireland is growing faster than every other euro area country**
  - Ireland’s economy grew by 26.3% real and 32.4% nominal in 2015. The National Accounts are distorted by several companies and their assets being reclassified as resident in Ireland.
  - GDP and GNP series have little information content as a result. By all other metrics Ireland’s economy is growing strongly. Underlying nominal domestic demand rose 4.4% in H1 2016 versus H1 2015.
  - At the same time, employment is expanding; unemployment was down to 7.9% in September.
  - Consumer spending and investment have recovered. Car sales rose 19.6% in first nine months of 2016. There is pent up demand for investment e.g. housing supply undershoots demand.

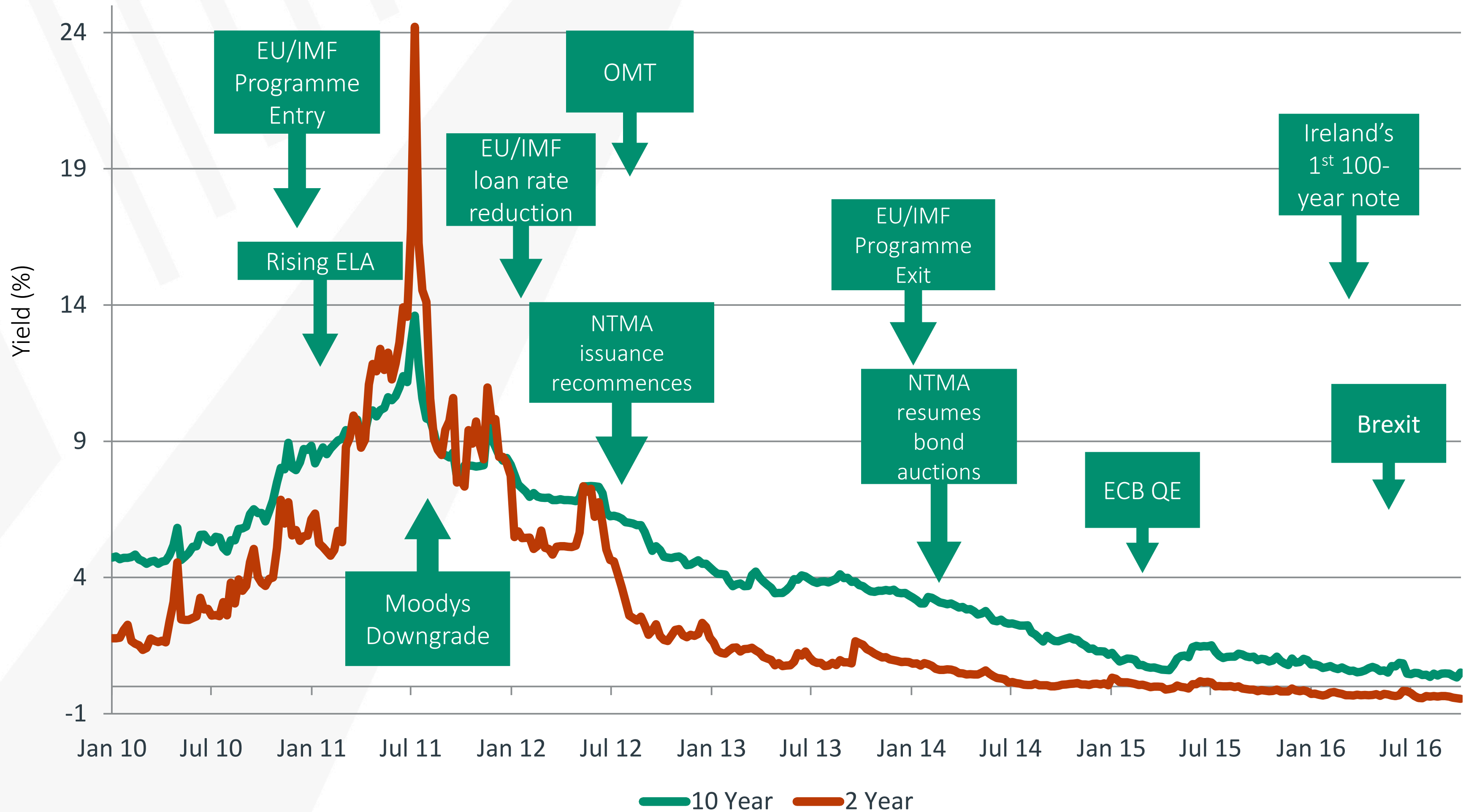
- **Brexit will slow Irish growth in H2 2016, 2017**
  - The UK may enter recession after its vote to leave the EU: for every 1% drop in UK GDP Ireland’s may fall by 0.3-0.8%. Growth this year will not be much affected, 2017 is likely to see the full impact.

- **Government debt and deficit metrics are also distorted by GDP revisions; focus should turn to other measures of Ireland’s debt serviceability**
  - Government debt-to-GDP is expected to fall to 76% in 2016; the GG deficit to 0.9%. The inflated GDP denominator means other metrics of debt serviceability are required.
  - Debt-to-GG Revenue (277%), interest cost as a share of revenue (8.6%) and the average interest rate on Ireland’s debt (3.1%) are more apt measures for comparison with other sovereigns (2016 forecasts).
  - Excluding the distortions, Ireland’s fiscal picture is improving. Ireland is in primary surplus, revenue data to end-Q3 2016 were steady and spending has been restrained with the exception of health expenditure.

Funding was light in 2016; €7.6 of €6-10bn max complete

- **Funding Plan for 2016**
  - NTMA planned to issue €6-10 billion of long-term bonds over the course of 2016
  - Funding was light thanks to the shrinking Exchequer deficit and October 2017 is the next bond redemption
- **€7.6bn issued so far this year**
  - On Jan 7th, the NTMA issued a €3bn 2026 bond via syndication – at a yield of 1.156%. A further €1.75bn of the bond was auctioned in Feb and April below 1%.
  - In May, €750m of the 0.8% 2022 bond was auctioned at a yield of 0.157%
  - In March, the NTMA issued its first ever 100-year bond by private placement. The €100m note yielded 2.35%.
  - In September and October, the 2026 bond was tapped twice for €1bn at yields of 0.33% and 0.495%.
  - The investor base continues to expand: In January international investors bought 88% of the bonds on offer, led by the UK (32%), the Nordics (13%) and Germany (11%).
  - Among investor categories, the bias of the deal was to real money: asset/fund managers took 37%, banks bought 22% and pension funds/ insurance companies bought 17%.
- **2015 was a strong year for the NTMA**
  - The NTMA completed the early repayment of IMF loans in 2015. A total of €18bn worth of loans was refinanced: total interest cost savings could exceed €1.5bn (0.8% of GDP) over five years. The NTMA issued its first ever 30-year bond in February 2015.

Ireland’s bond performance underpinned by ECB action and strong domestic policy



Source: Bloomberg (weekly data)

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Ireland: A grade from all major credit rating agencies

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	Feb. 2016
Moody's	A3	P-2	Positive	May 2016
DBRS	A(high)	R-1 (middle)	Stable	Mar. 2016
R&I	A-	a-1	Positive	Dec. 2015

Section 1: Macro

GDP/GNP is misleading; Employment and consumption best reflect reality

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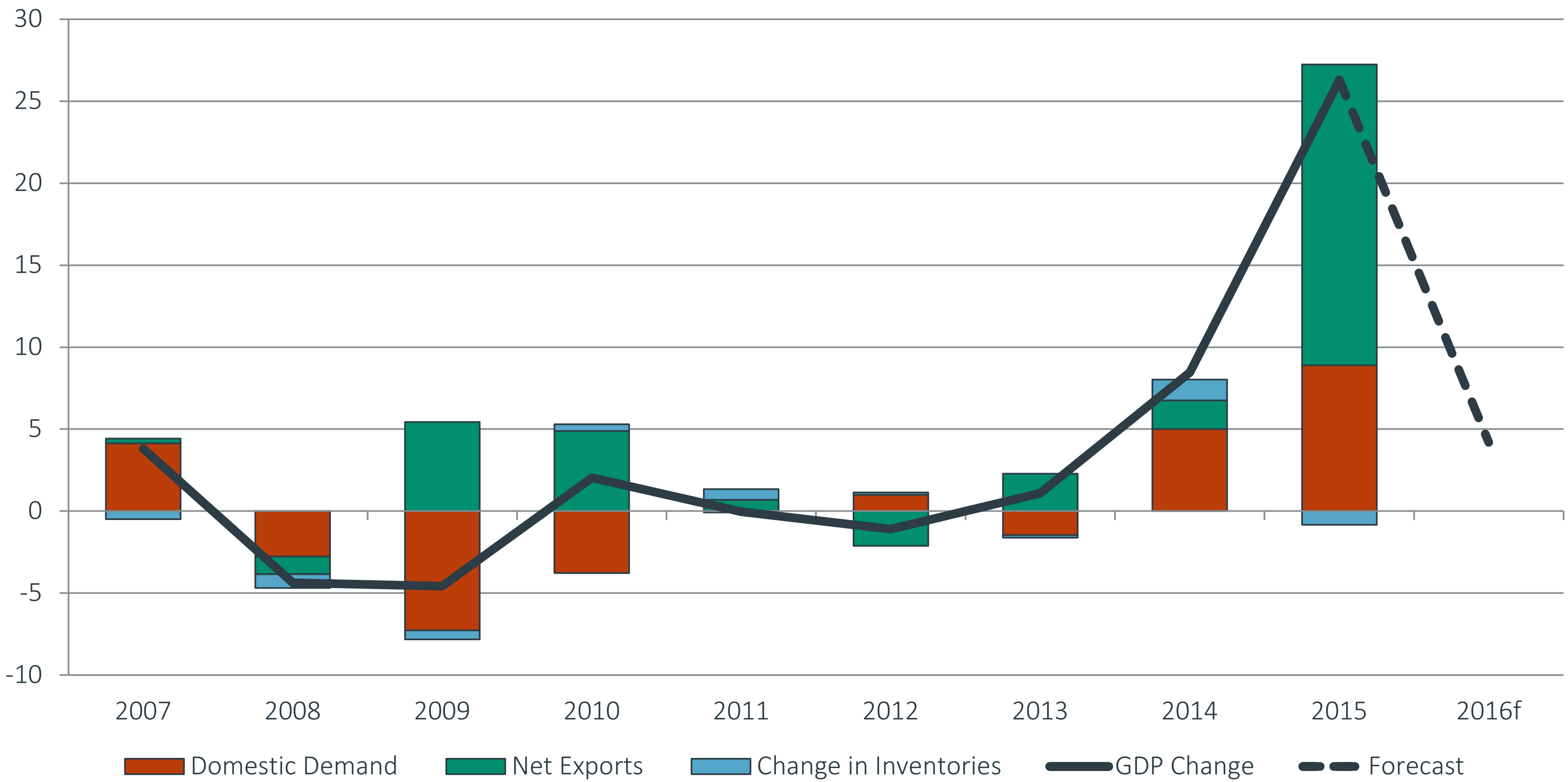
Massive distortions make GDP/GNP poor indicator of economic performance



Source: CSO; Department of Finance

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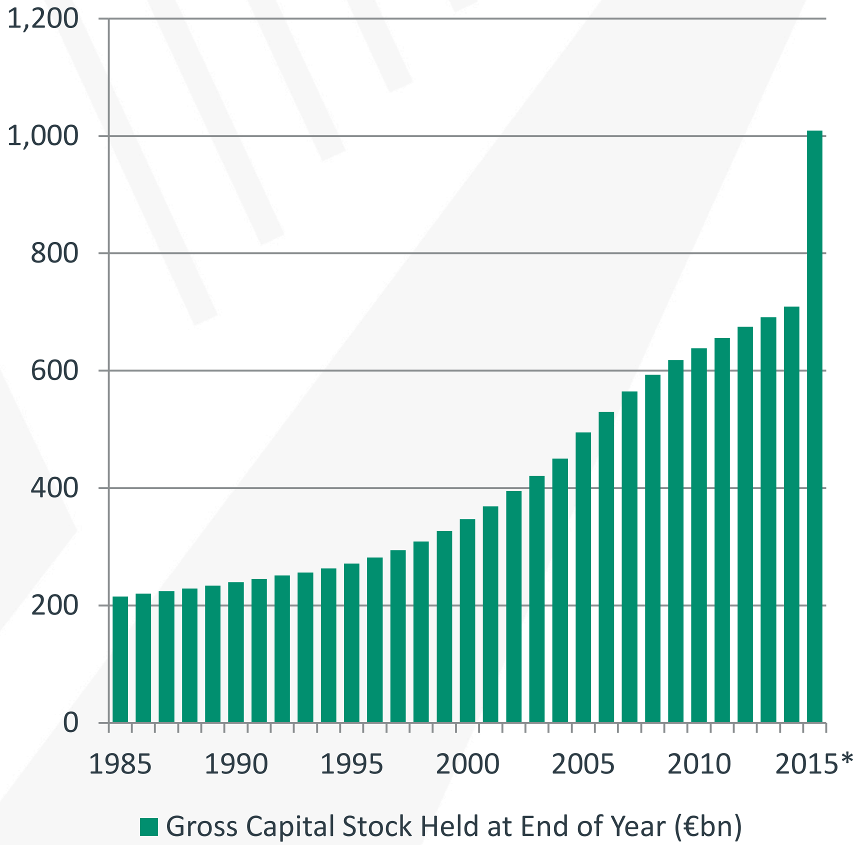
Nominal GDP and GNP (€bn) ballooned in 2015

Source: [CSO](); [Department of Finance]()

Reclassification of several companies and "onshoring" of IP led to step change in capital stock in 2015

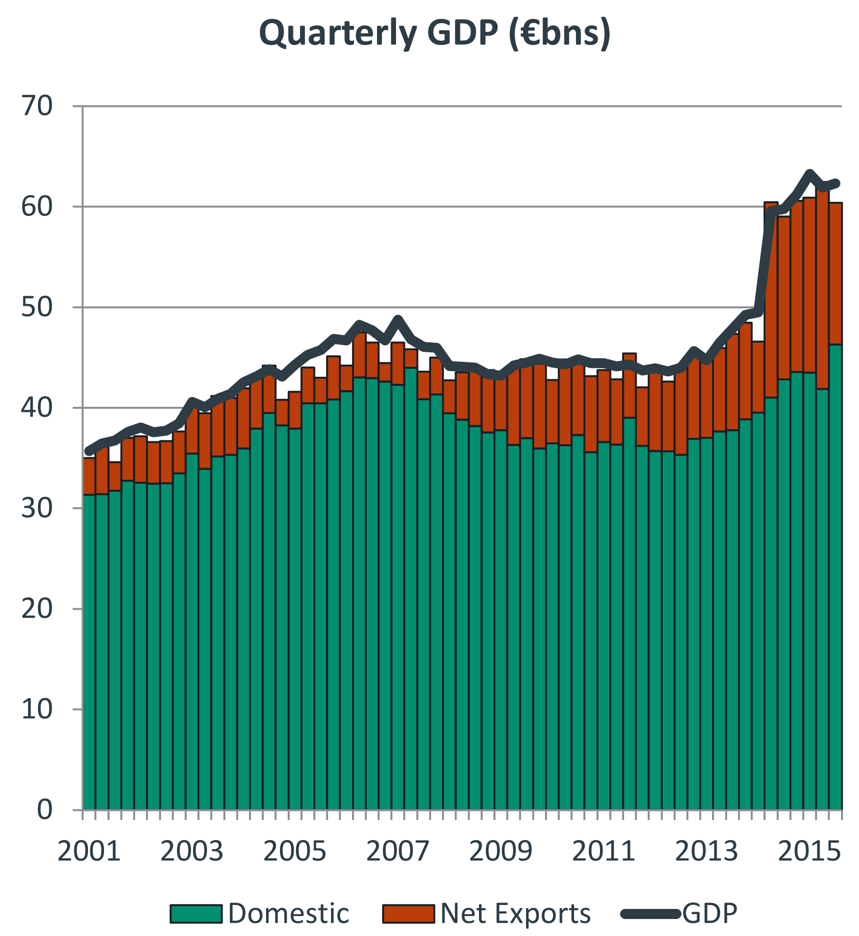


*Source: CSO *preliminary estimate*

- 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 (smaller impact).
- The transfer of whole entities and assets of this size is not something seen before in Ireland.
- It is important to note that the reclassification/onshoring only affects the stock and is not included in the flow data (i.e. investment).
- The capital stock will have likely increased naturally through other investment. The reclassifications/onshoring will have dwarfed this growth however.

Quarterly data shows step-change in exports

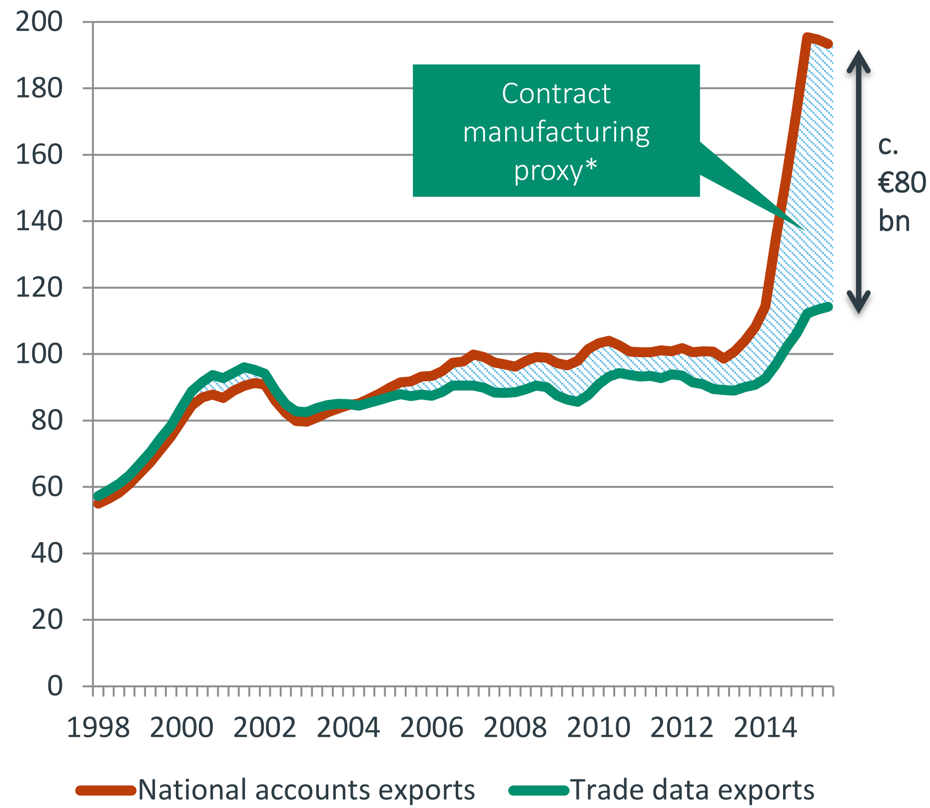
- The goods produced by the additional capital were mainly exported.
- This resulted in a step change in exports in the first quarter of 2015. Export volume grew by 34% in total in 2015.
- Complicating matters, the goods were produced through "contract manufacturing" (explained in detail overleaf).
- The result of contract manufacturing is that extra goods exports are recorded in the Irish Balance of Payments even though they are not produced here. Ireland's GDP is inflated as a result.
- There is little or no employment effect in Ireland from this contract manufacturing.



Source: CSO; NTMA workings

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

- 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 never takes ownership of the product being produced. 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, contract manufacturing did not have a significant net impact on GDP as the company would send royalties back to where the intellectual property (IP) was "owned" - a royalty import. Now that the IP is here, Ireland's GDP is artificially inflated.



Source: CSO, NTMA Calculations

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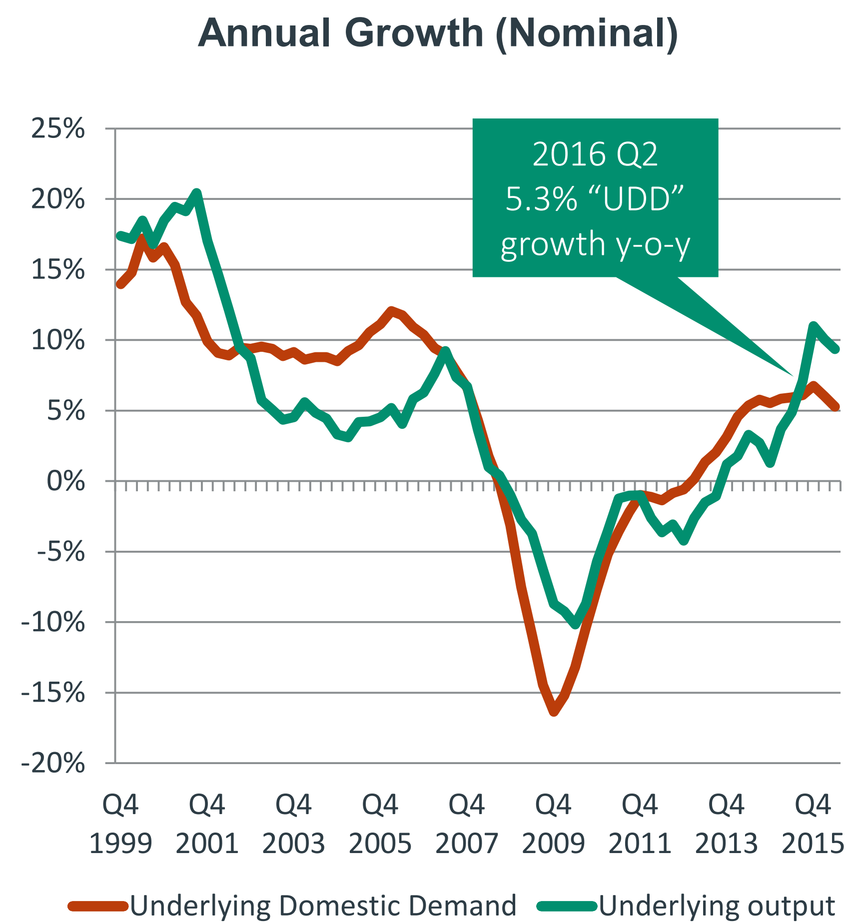
*Contract manufacturing proxy is calculated by taking the difference between the monthly International trade exports statistics and the National Accounts/BOP measure for goods exports. The monthly data is based on the actual volume of goods flowing through Ireland's various ports/airports whereas the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

Better measures of economic activity are necessary – we present "underlying DD" and "underlying output"

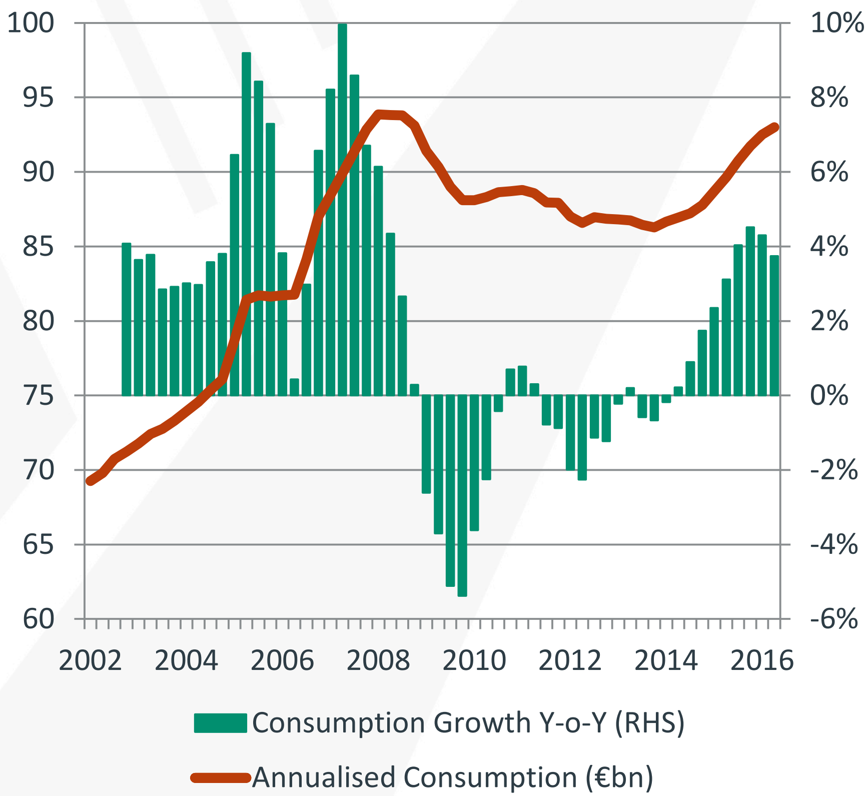
- **Measures are constructed to strip out the distorting effects of MNCs**
- **On a current price basis, underlying domestic demand (UDD) includes:**
  - private consumption
  - government consumption
  - investment less intangibles and transport equipment.
- **Our "underlying output" incorporates a new measure for exports and imports alongside underlying domestic demand**
- **The adapted exports and imports strips out:**
  - a proxy for contract manufacturing
  - operating leasing
  - royalty payments
  - research and development services
  - computer services transactions.
- **This measure pegs nominal growth closer to 9.4% at Q2 2016.**



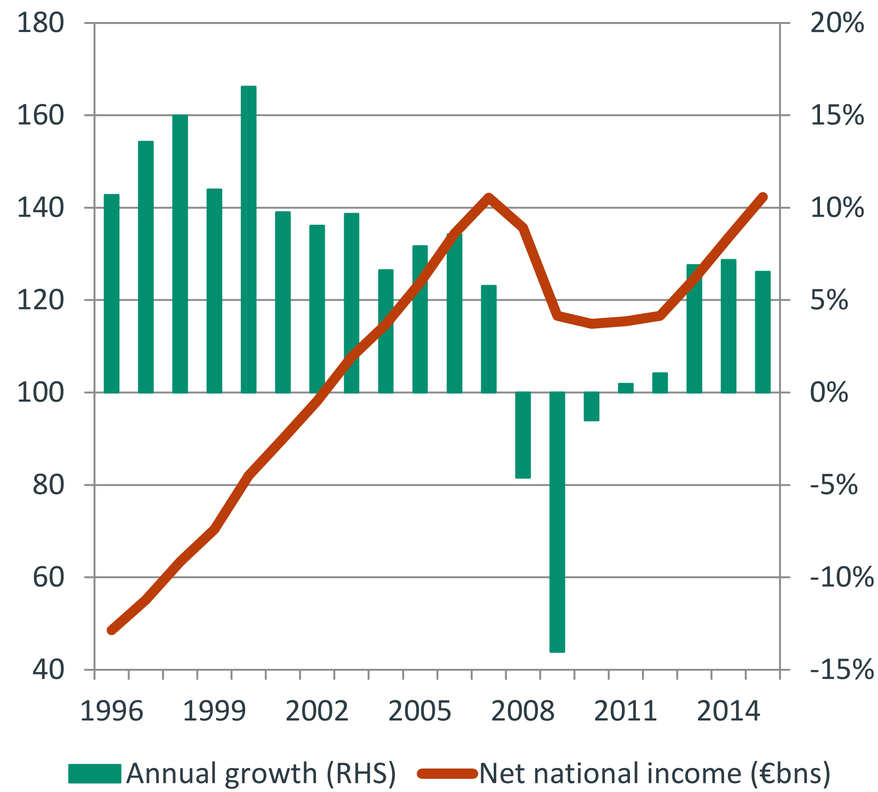
Source: CSO, NTMA calculations

Consumption is now a large contributor to growth – and is unaffected by MNC distortions

Private consumption grew at 3.7% y-o-y in 2016 Q2…



…Net National Income: 6.5% y-o-y in 2015



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Source: CSO, Department of Finance forecasts

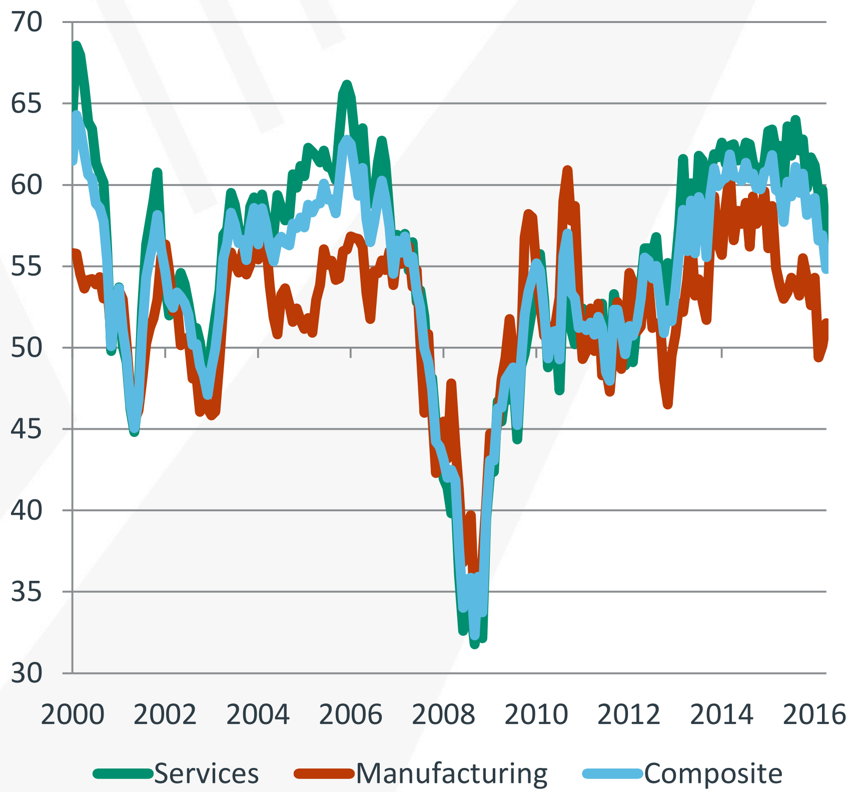
Comparison of economic activity metrics

Measures	Growth rate 2015	Growth rate Q2 2016	EA average Q2 2016
GDP (real)	26.3%	4.1%	2.0%
GNI (real)	18.7%	-	-
Underlying output (nominal, see page 14)	11.0%	9.4%	-
GG Revenue	7.3%	6.1%(Q1 data)	2.7% (Q1 data)
Underlying domestic demand (nominal)	6.8%	5.3%	-
Net National Income	6.5%	-	-
Consumption (real)	4.5%	3.7%	2.0%
Employment	3.1%	2.8%	1.8%

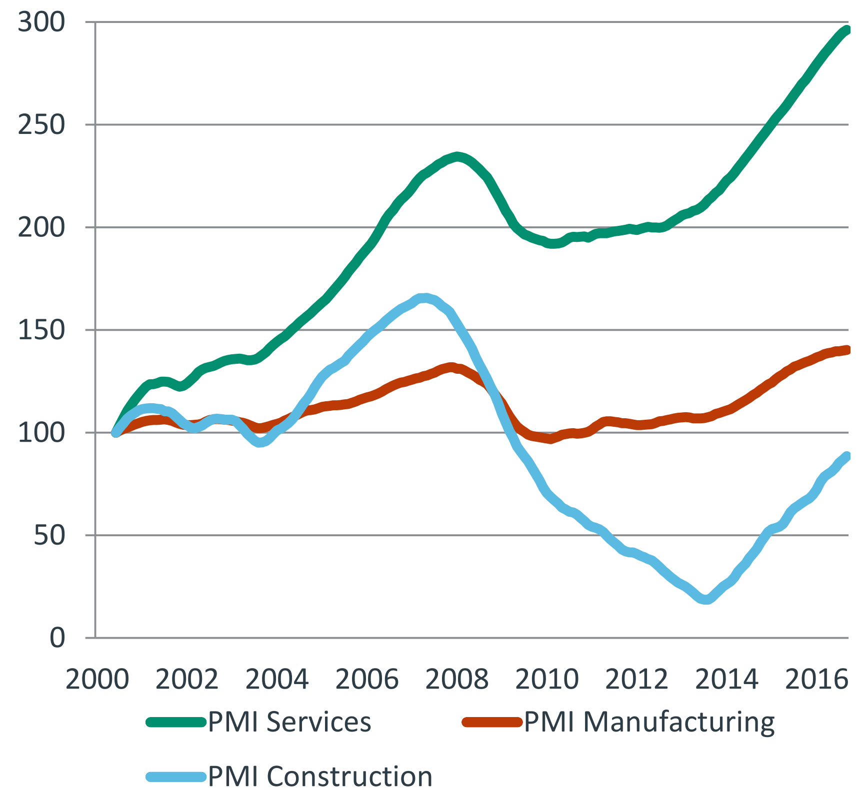
Source: CSO, Eurostat, NTMA calculations (four-quarter sum annual growth rates used)

High frequency indicators also show Ireland's recovery is broad based

Ireland Composite PMI expanding – manufacturing hurt by Brexit



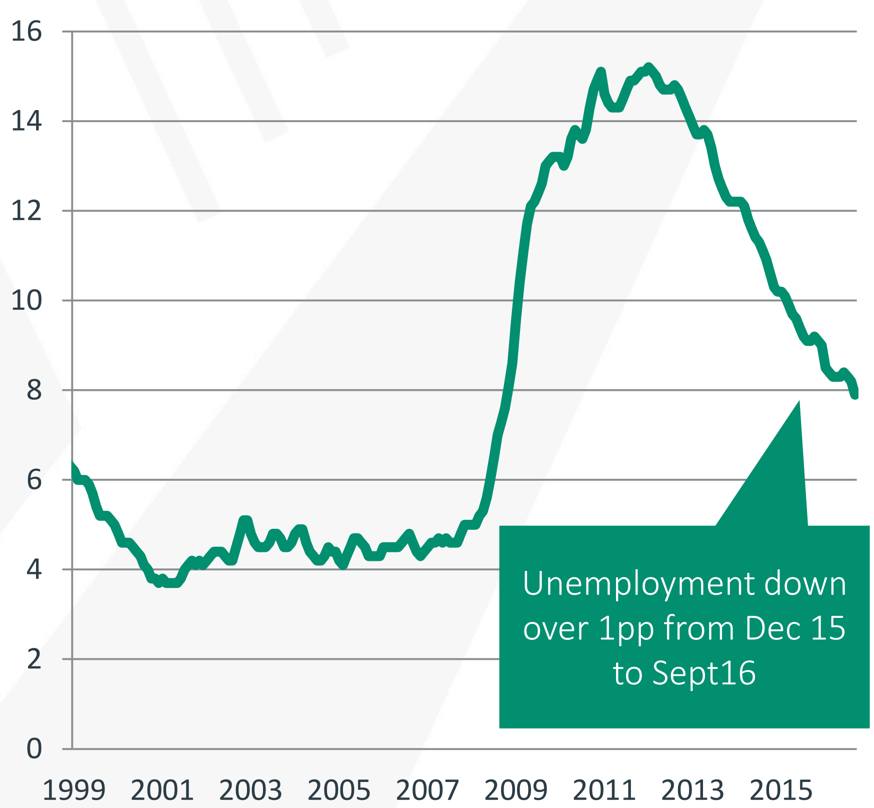
Recovery is broad based (PMI chg. as cumulative index level, June 2000=100)



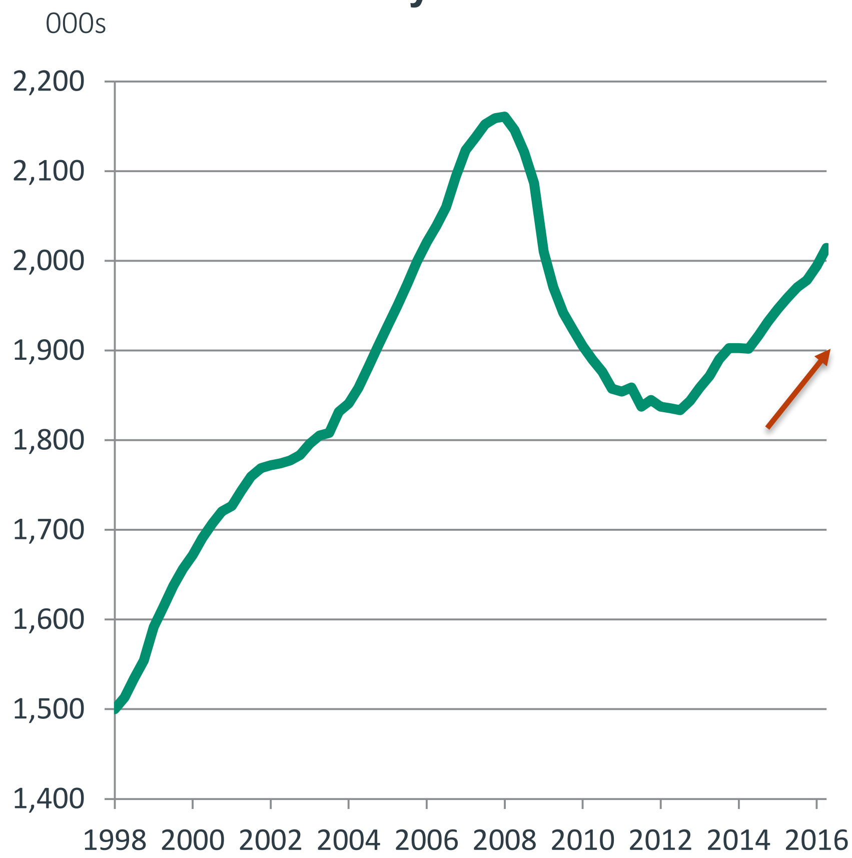
Source: Markit; Bloomberg; Investec ; NTMA workings

Labour market has rebounded since 2012; pace of improvement has slowed in recent months

Unemployment rate at 7.9% in September 2016



Employment up 9.9% from cyclical low



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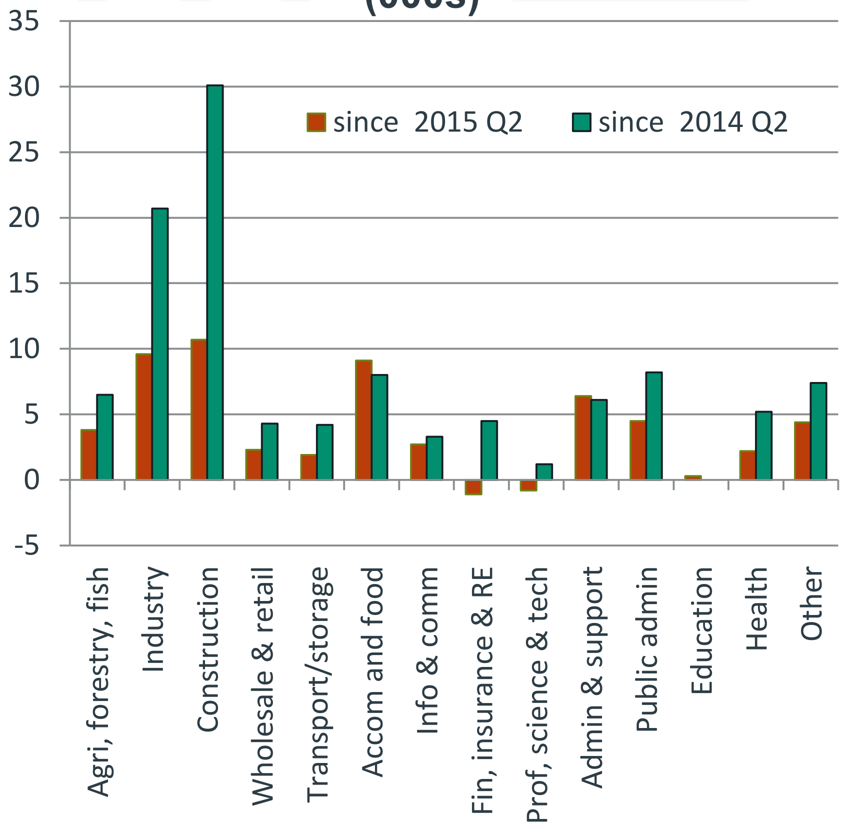
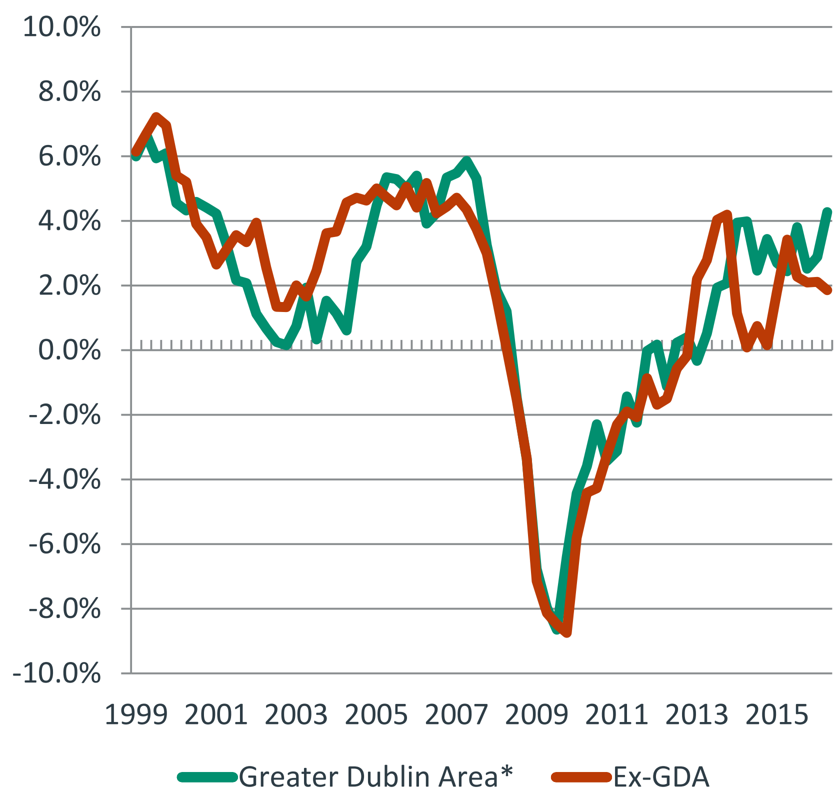
Source: CSO

Employment growth is now broad based by sector and region

Twelve out of 14 sectors have seen employment growth in year to Q2 2016 (000s)



Employment growing across all regions in Ireland – faster in Greater Dublin Area*



* Greater Dublin Area = Dublin, Meath, Wicklow and Kildare

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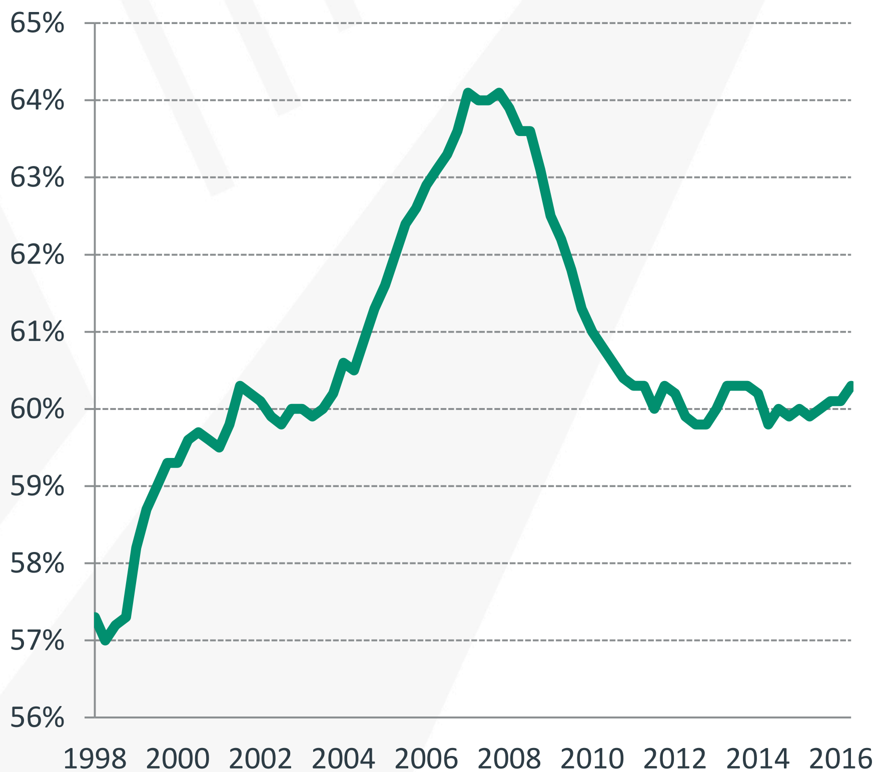
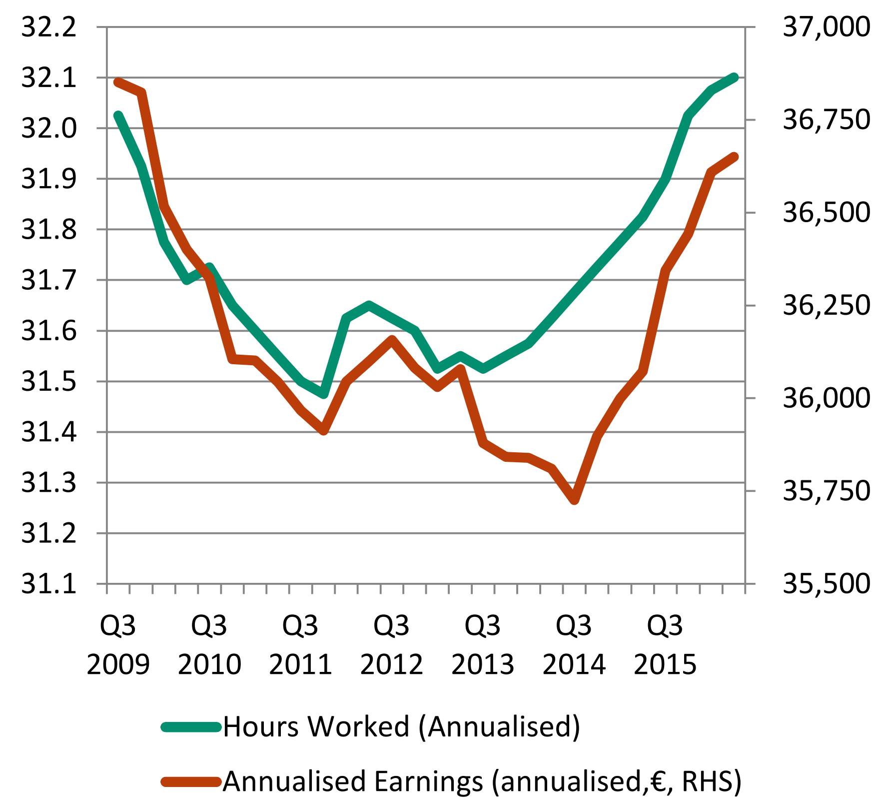
Source: CSO

Labour participation has not yet recovered – similar to US; Wages only now rising, pointing to slack in market

Participation rate hovering around 60%



Wages and hours worked beginning to recover, although pockets of excess capacity remain



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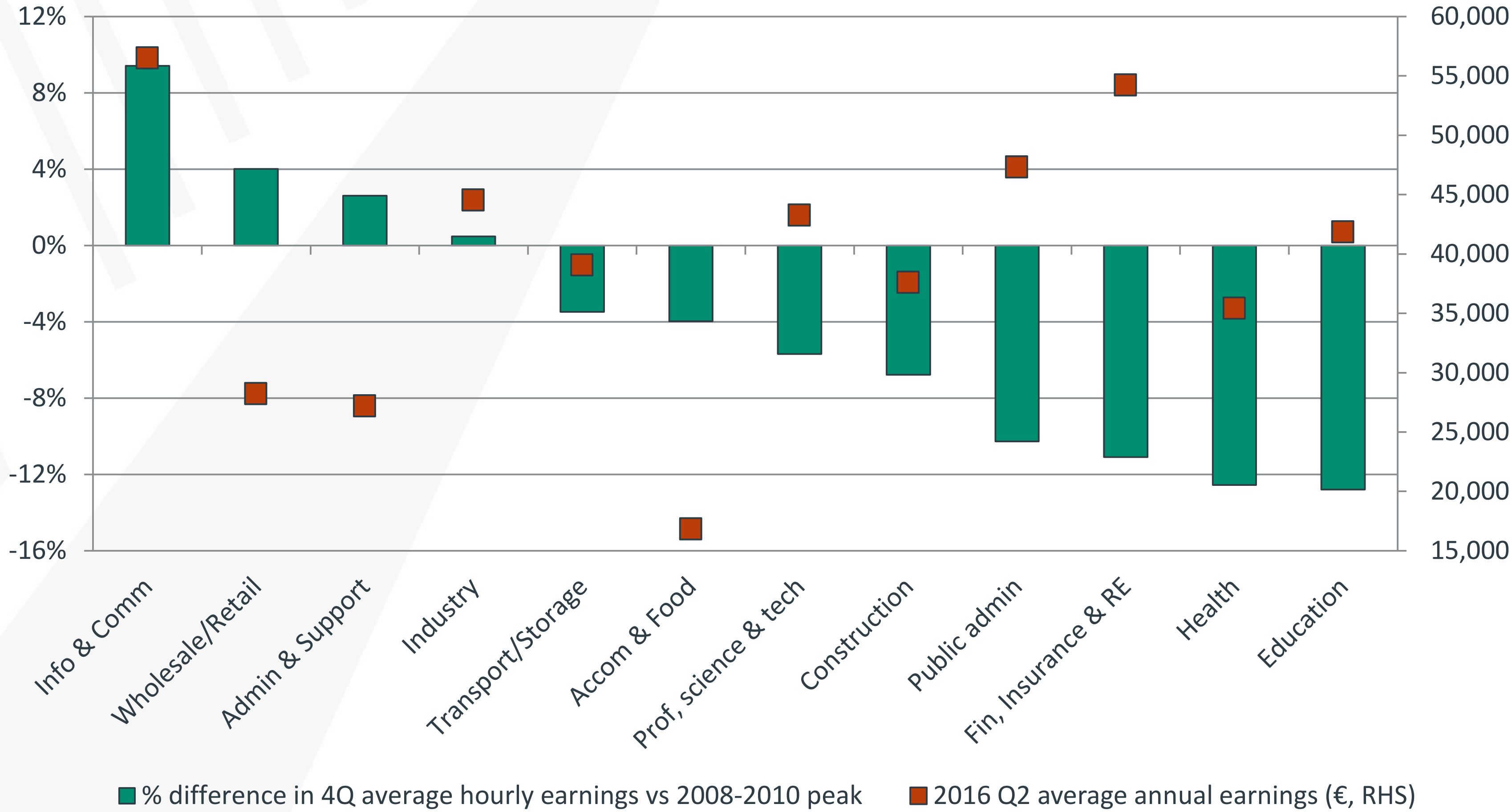
Source: CSO

Wide disparity in wages across sectors



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Source: CSO, NTMA analysis

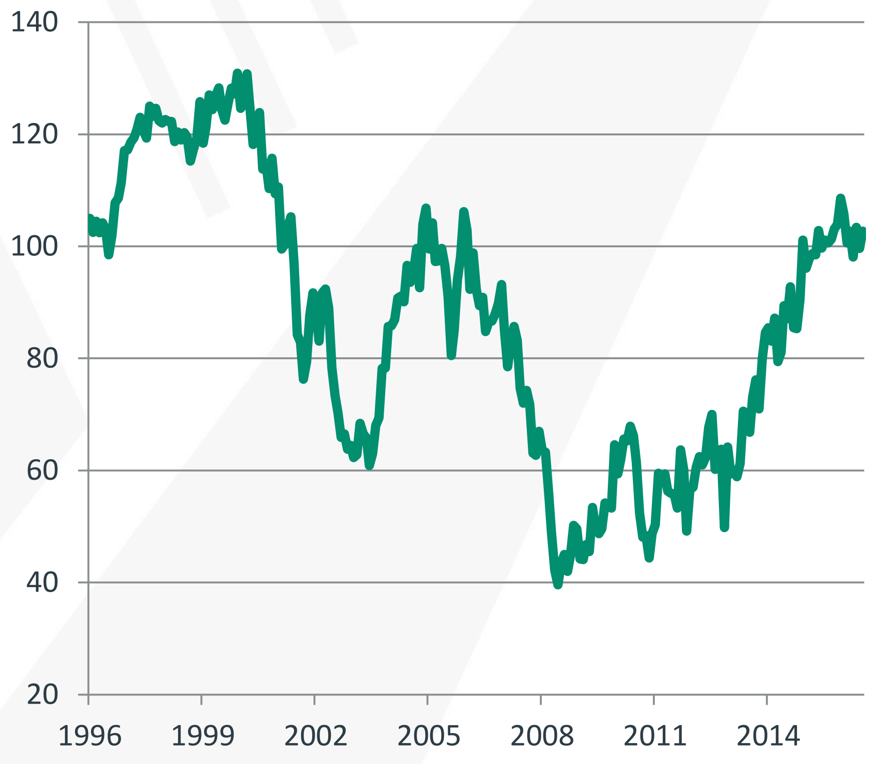
Unemployment falling across Europe; falling faster here

	Q4 2013	Q4 2014	Q4 2015	Q2 2016
Germany	5.0	4.8	4.5	**4.2**
Netherlands	7.5	7.1	6.6	**6.2**
Belgium	8.5	8.6	8.7	**7.9**
Ireland	11.8	10.0	8.7	**8.6**
EU 28	10.7	10.0	9.1	**8.6**
France	10.5	10.9	10.6	**9.6**
Euro area	12.0	11.6	10.6	**10.0**
Portugal	15.5	13.6	12.4	**11.0**
Italy	12.6	13.3	11.9	**11.5**
Spain	25.7	23.7	20.9	**20.0**
Greece	27.8	26.1	24.4	**23.1**

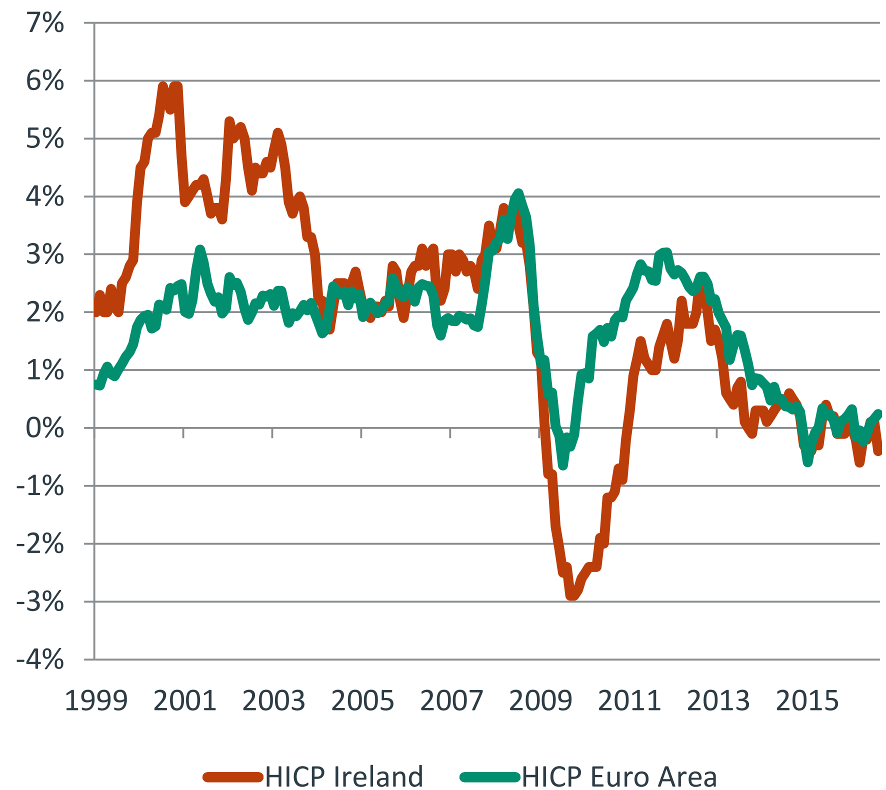
Source: Eurostat

Rising employment and house price rises lift confidence; stagnating consumer prices underpin real income…

Consumer confidence had recovered, though Brexit may have impacted



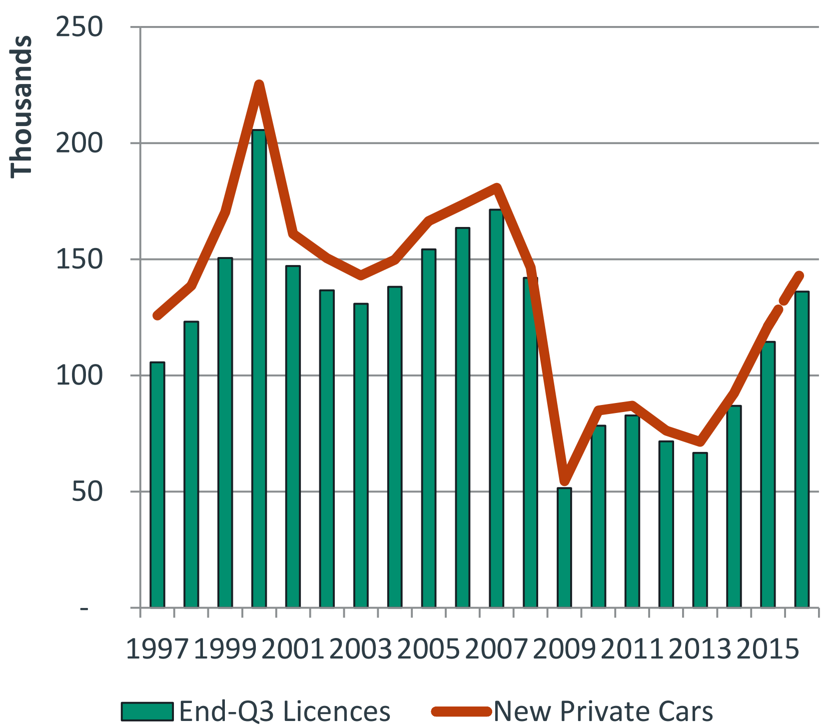
Inflation in Ireland similar to euro area



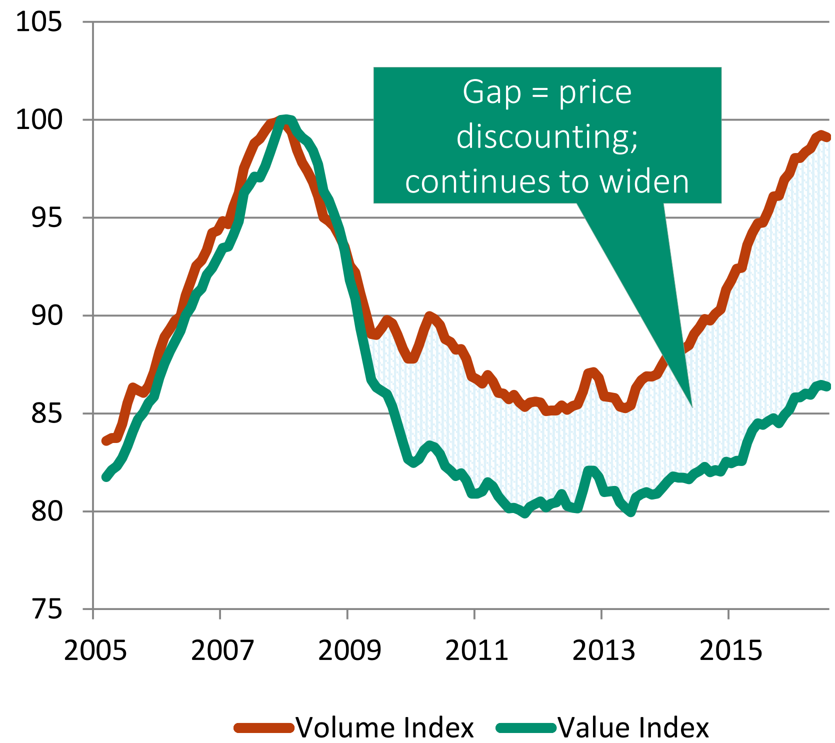
Source: KBC, ESRI, CSO; Eurostat

… car sales and core retail are seeing the benefit

New car licences – 20% increase in first nine months of 2016



"Core"* retail sales jump (peak=100)

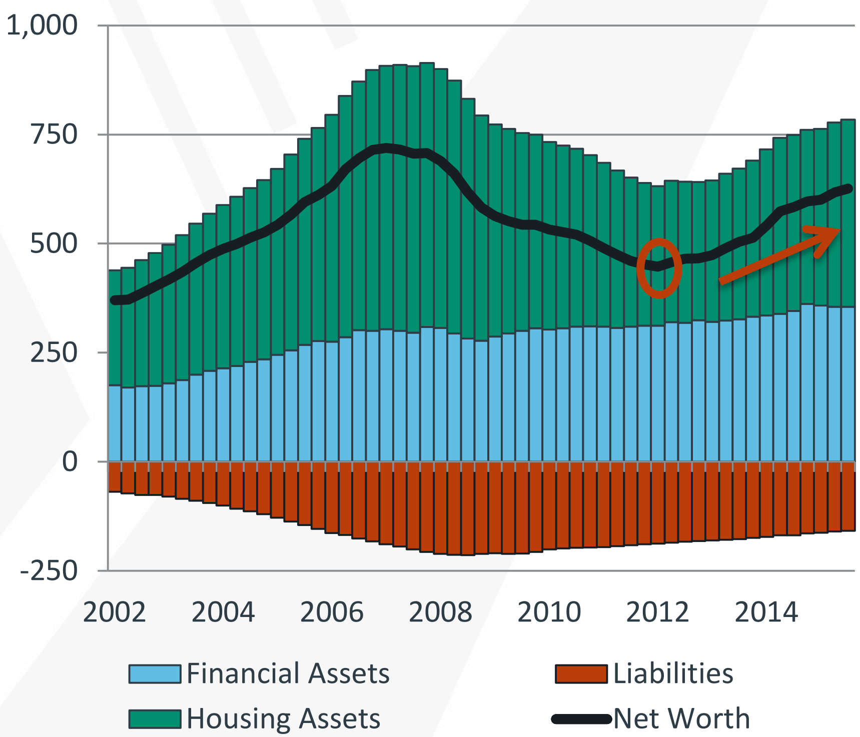


Source: CSO (licences) CSO (retail sales)

**Excluding motor trade; 3 month average used*

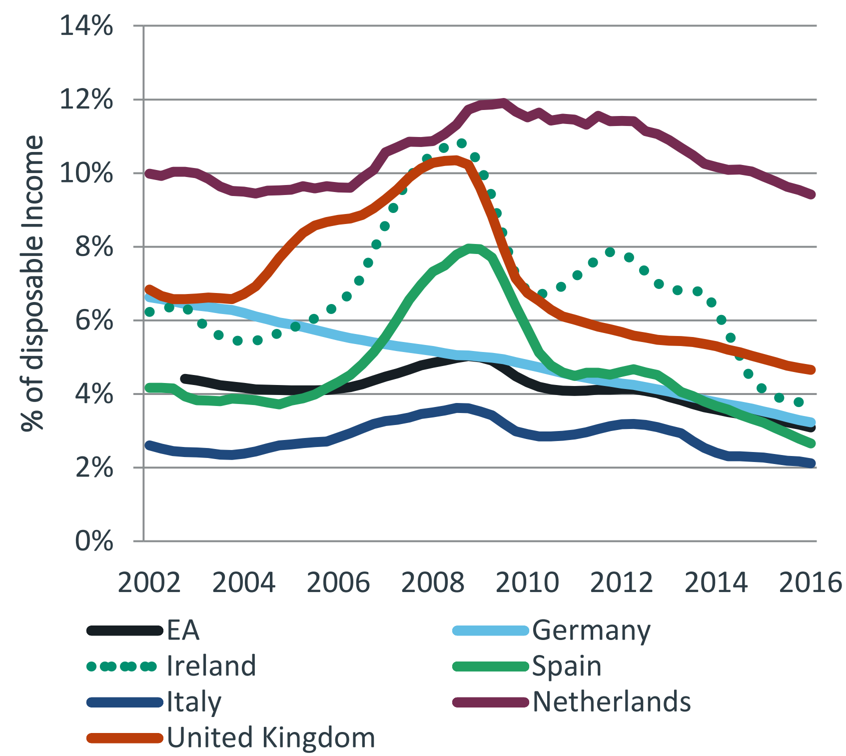
Household deleveraging continues, but at slow pace; Rising house prices bolster HH balance sheets

Household net worth (€bn) improved since 2012 underpinning consumer spending



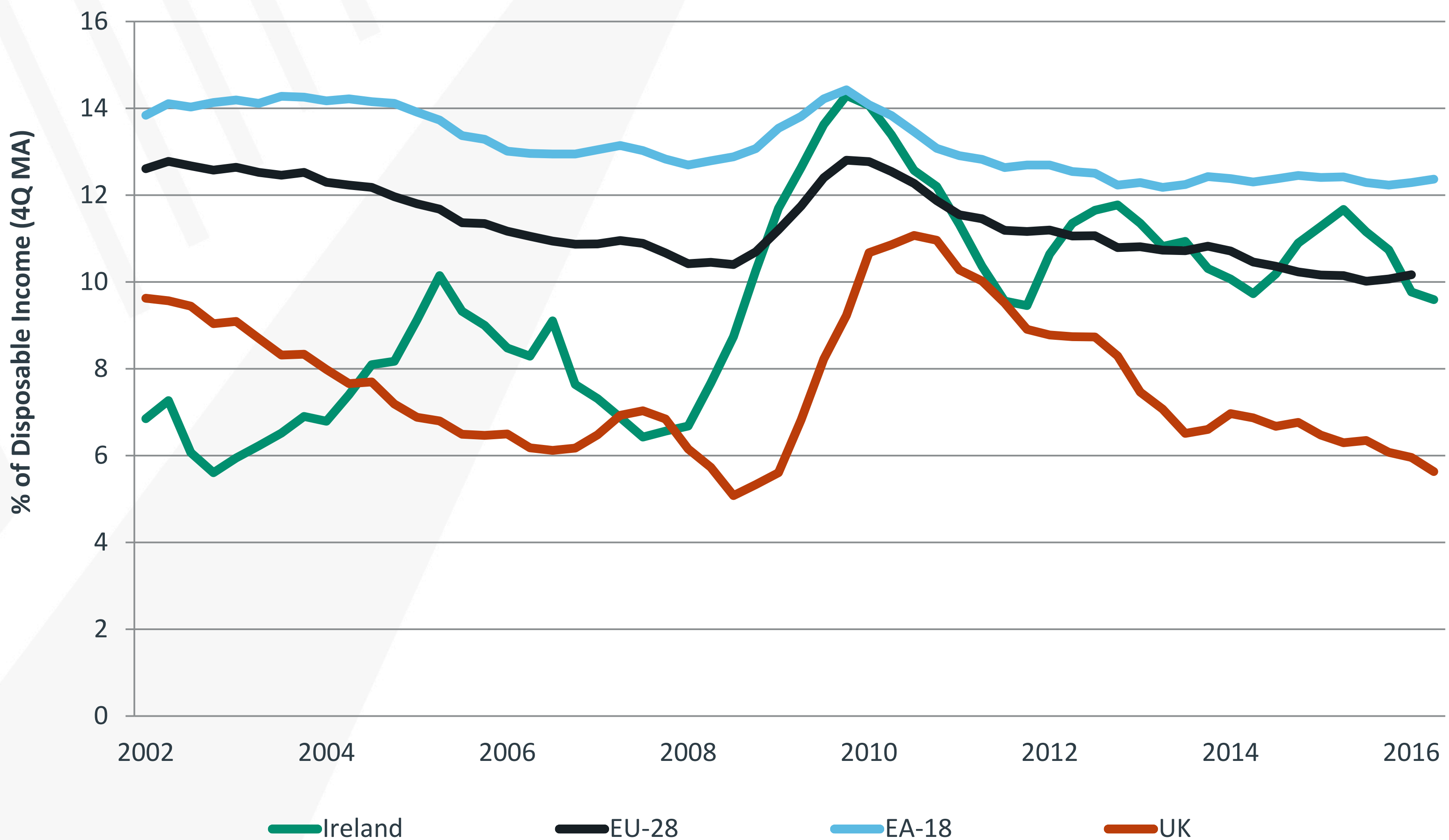
Source: CBI, NTMA Calculations

Interest burden on households suppressed by tracker mortgages and ECB



Source: CBI, NTMA calculations
Note: Non-trackers bare 80% of the interest burden

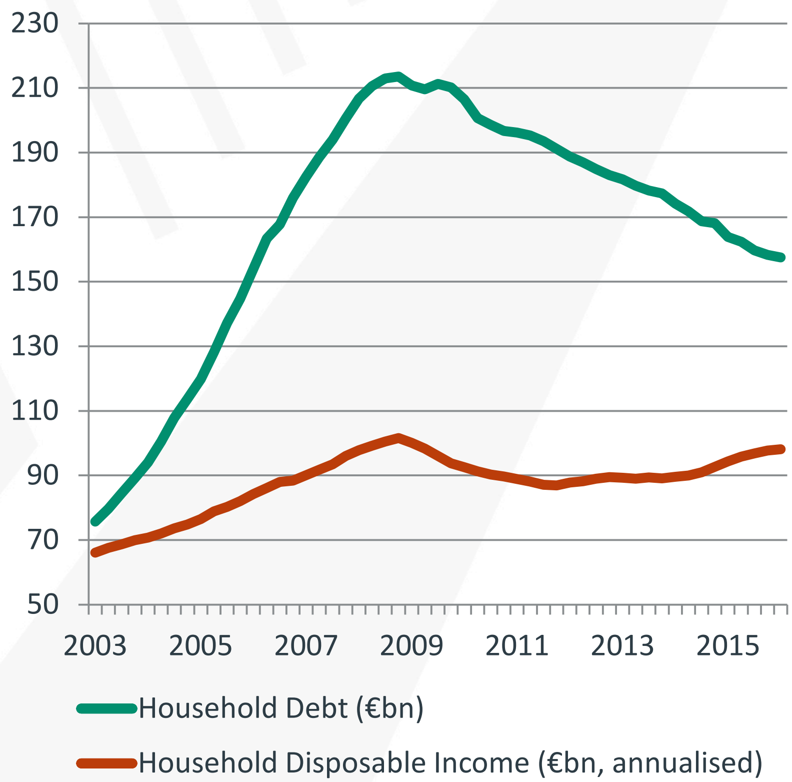
Gross household saving rate close to EU average



Source: [Eurostat](), CSO

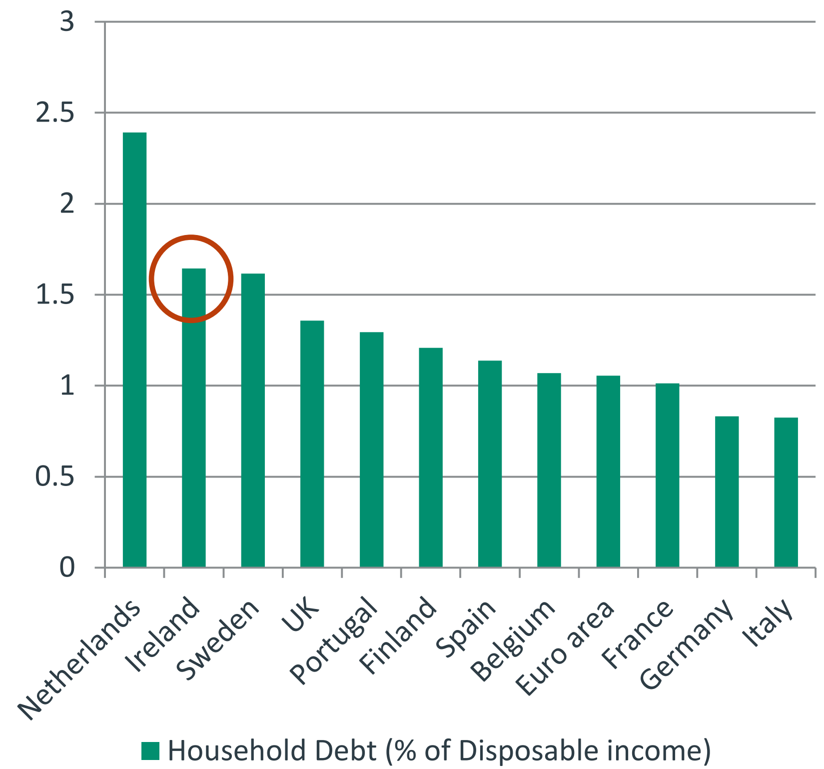
Private debt levels are high but improving

Household debt down €50bn from peak



Source: CBI

Debt to after-tax income* improving (160%) but among highest in Europe



Source: Eurostat

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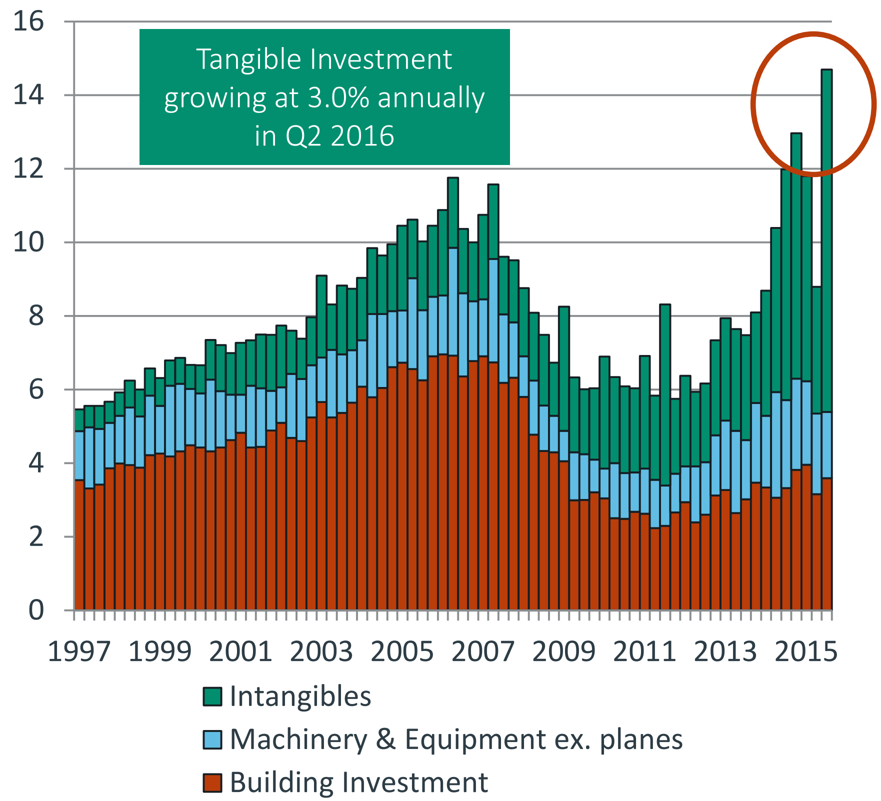
*Measure includes both loans and other liabilities.Excluding other liabilities, debt-to-income ratio is 151%

Investment (in €bns) above pre-bubble levels; composition is different however

- Investment in recent quarters above the pre-crisis level, mainly due to intangibles.
- Building investment is now a much smaller part of overall investment - in 2016 Q2 it was c.55% of the unsustainable 2007 level.
- Intangible investment has become a much larger component of Ireland's investment picture as Ireland has become an ICT hub.
- Some of this is legitimate but the recent sharp increase in intangibles investment overstates Ireland's underlying investment position.

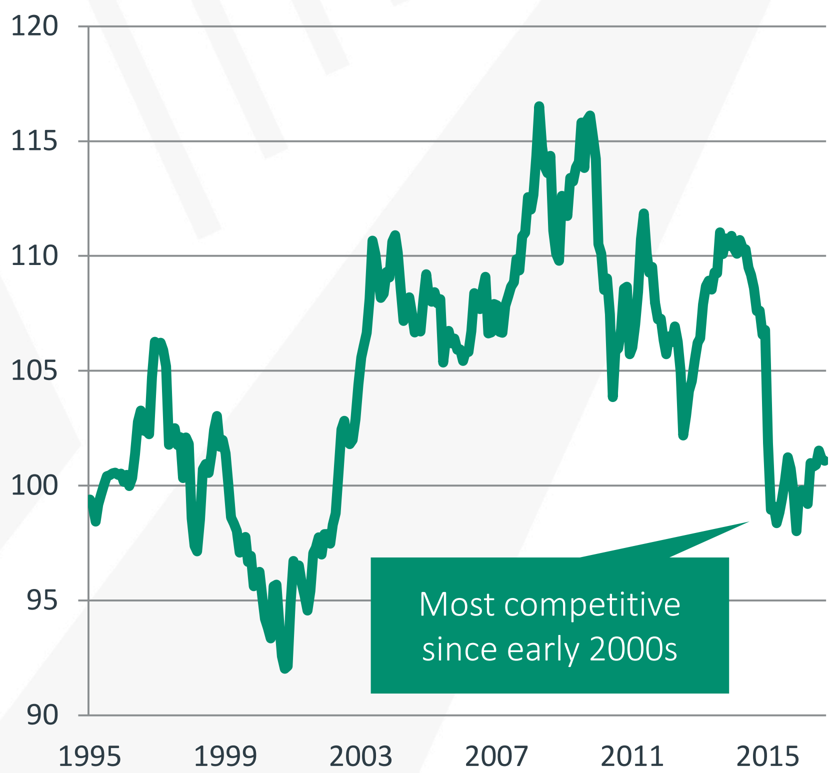
Quarterly Investment (€bns)



Source: CSO, NTMA analysis
Please note that this quarterly data is volatile and not as reliable as the published annual data.

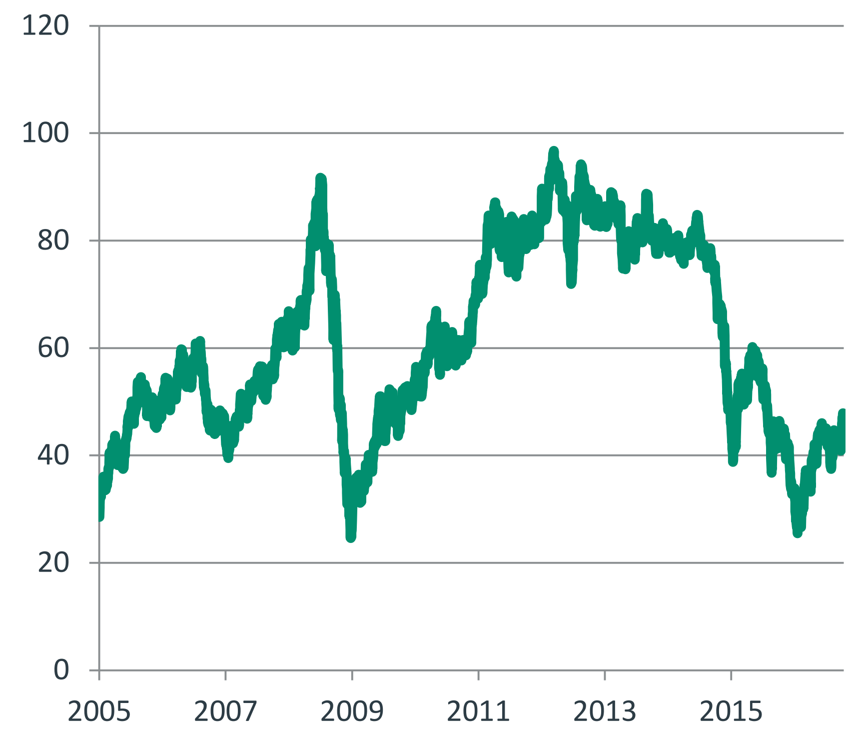
External factors boosted underlying growth in 2015; but Brexit and oil headwind likely in next 12-18 months

Real Harmonised Competitiveness Indicator



Source: CBI, NTMA workings

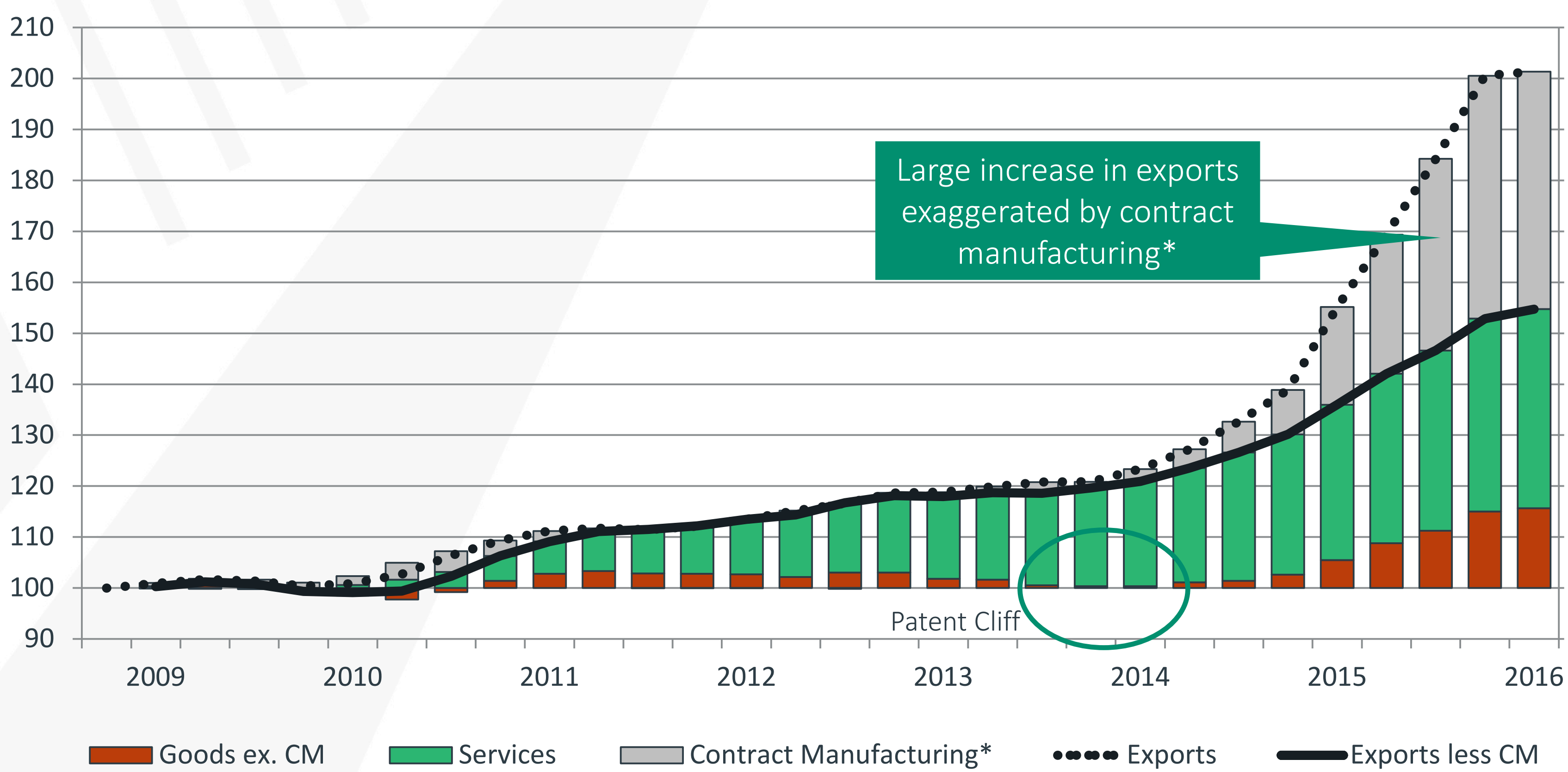
Brent Oil rising (€ / barrel)



Source: Bloomberg

Services exports very strong post-crisis; Goods exports excluding contract manufacturing slower

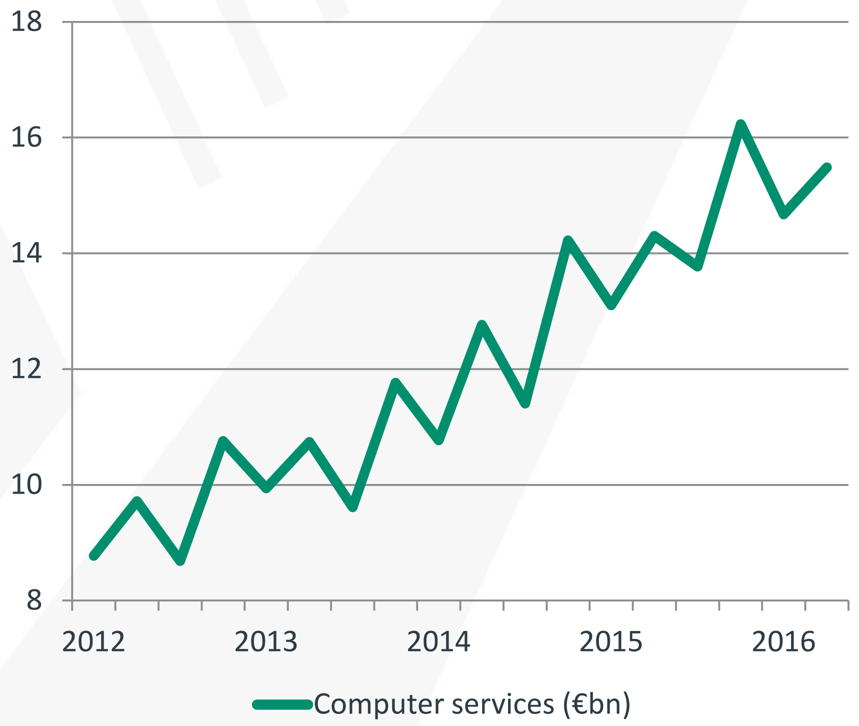
Cumulative post-crisis exports (4Q sum to end-2008 = 100, current prices)



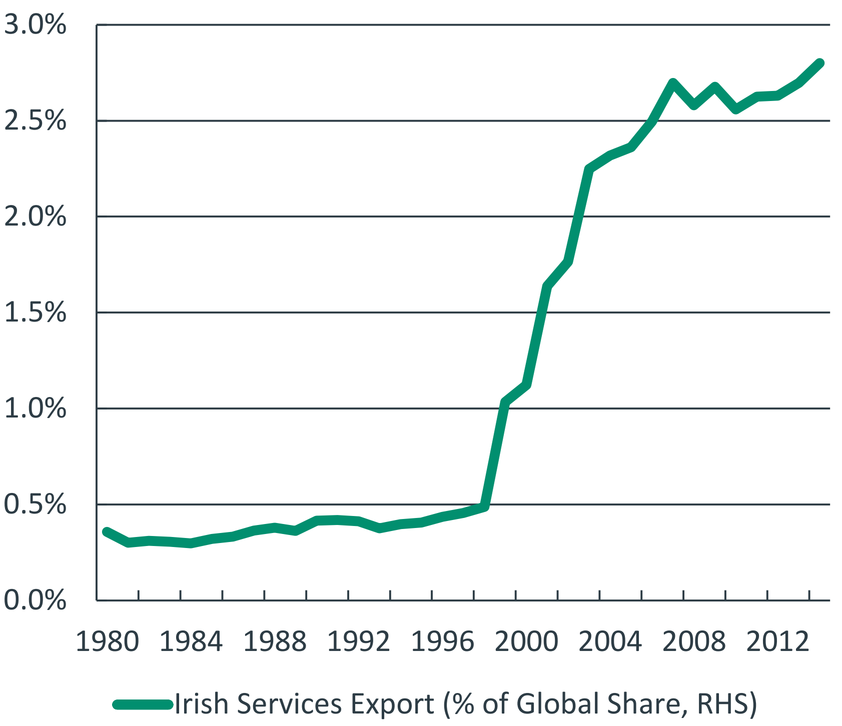
*Source: CSO, NTMA calculations | * Contract manufacturing proxy used*

Services exports driven by strong growth in IT services

IT services exports have grown strongly as major firms have relocated to Ireland



Ireland has tripled its share of global service exports in the last 15 years



Source: CSO; World Trade Organisation

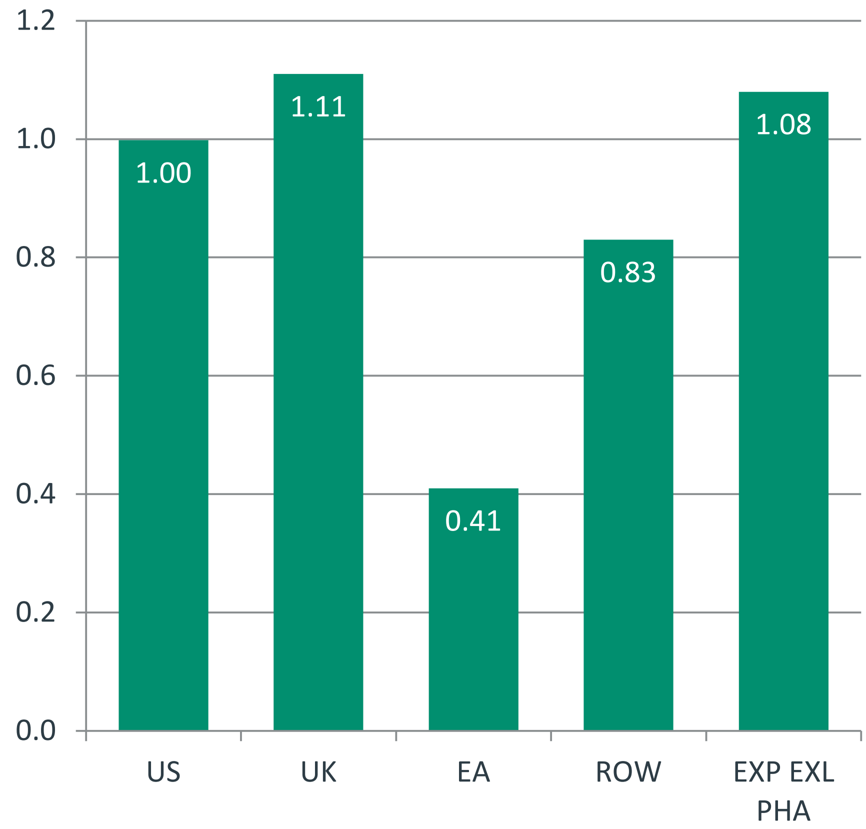
Ireland's goods exports respond vigorously to euro movements – in both directions

- 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

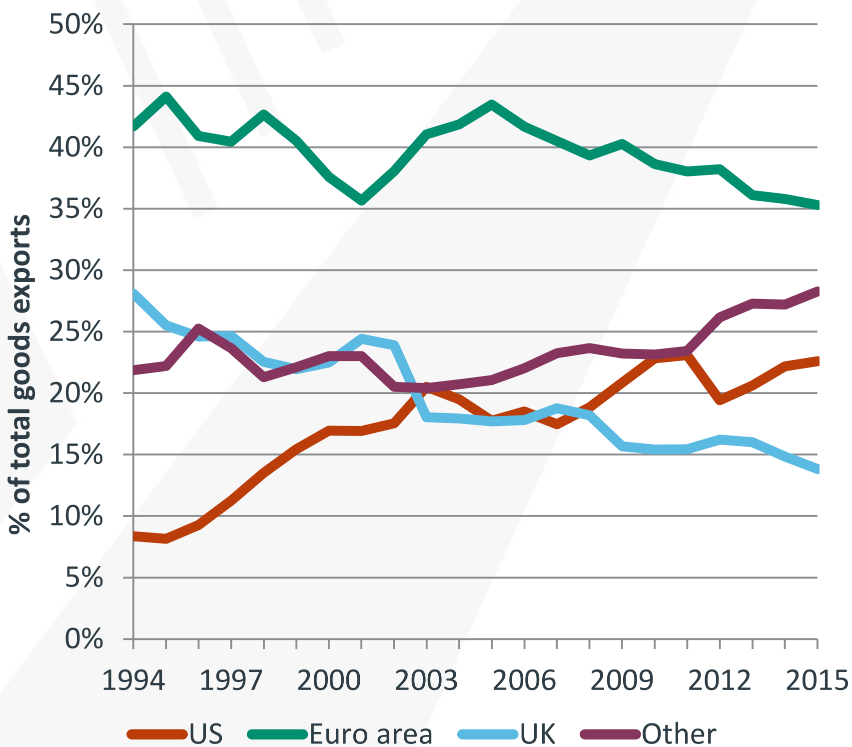
Note: All coefficients significant at 99% level; not affected by contract manufacturing. Time period is 1998 to 2016 Q2. For longer time periods, the UK elasticity is smaller (closer to 0.4-0.5 for 1981 onwards).

% Response of Irish goods exports to 1% depreciation of the euro



Ireland's openness has been critical to Irish success; Brexit obviously hinders export-led growth

Ireland benefits from export diversification by destination



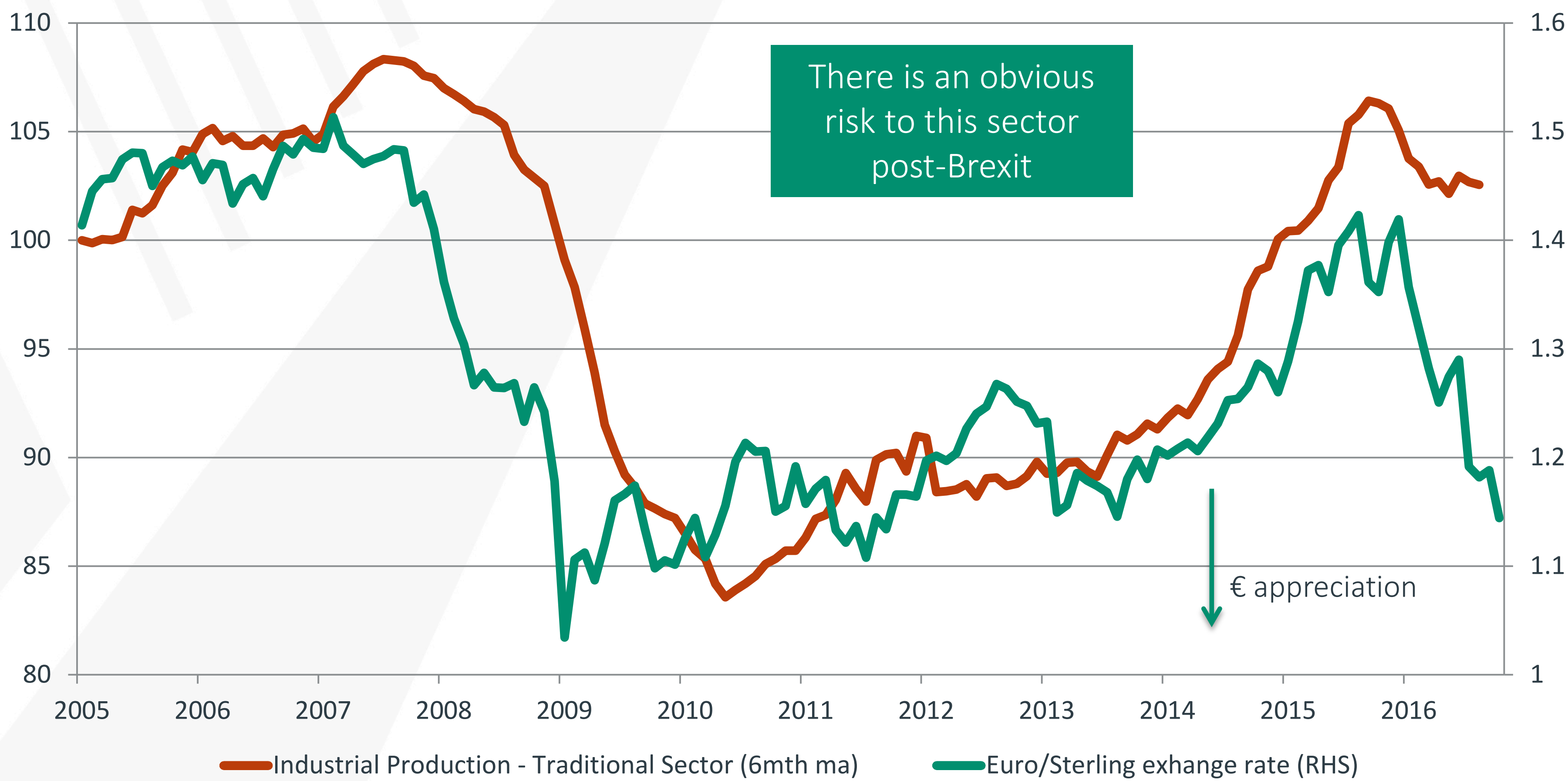
Source: [CSO]

Breakdown of Irish trading partners % of total

	Goods		Services		Total	
2014	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
US	22.0%	13.5%	8.3%	25.9%	14.9%	21.5%
UK	14.8%	28.7%	19.8%	10.4%	17.4%	17.0%
EA	35.4%	25.1%	31.8%	30.9%	33.7%	28.8%
China	2.3%	5.7%	1.3%	0.3%	1.9%	2.2%
Other	25.5%	26.9%	38.7%	32.5%	32.2%	30.5%

Source: CSO (2014); Data not affected by contract manufacturing

Traditional manufacturing sector has slowed in face of euro appreciation; much more to come



Source: CSO; DataStream

Traditional Sector includes all manufacturing excluding chemicals and pharmaceuticals, computer, electronic, optical and electrical equipment, reproduction of recorded media and medical and dental instruments and supplies

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Section 2: Fiscal & NTMA Funding

Fiscal performance is steady; GDP revisions mean we need to look beyond usual measures

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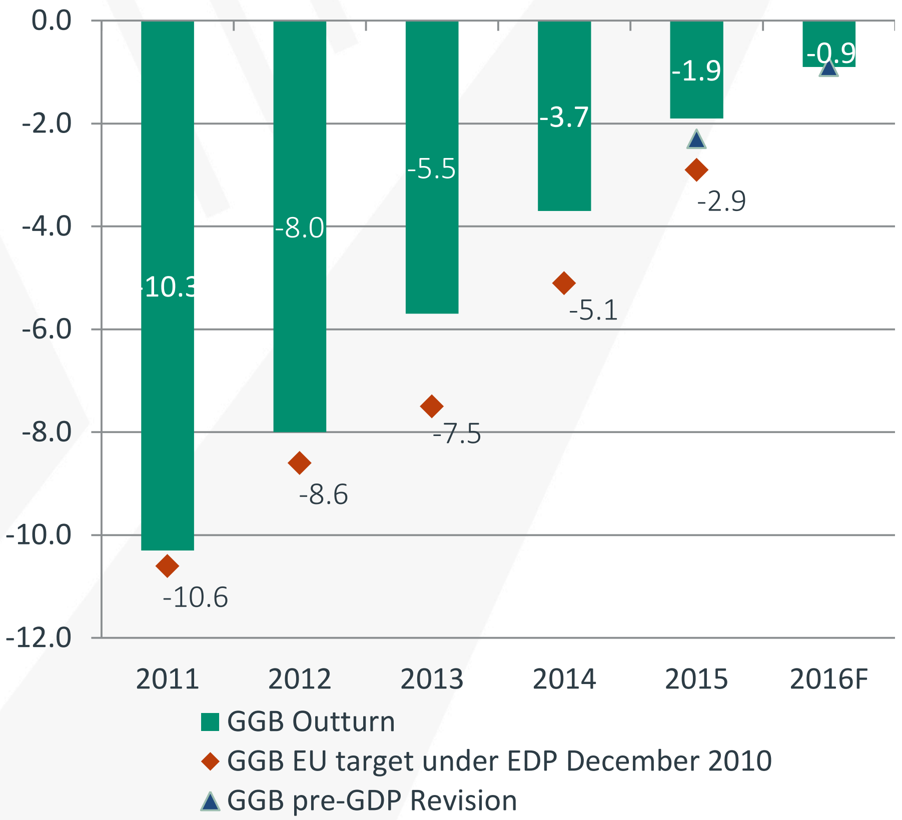
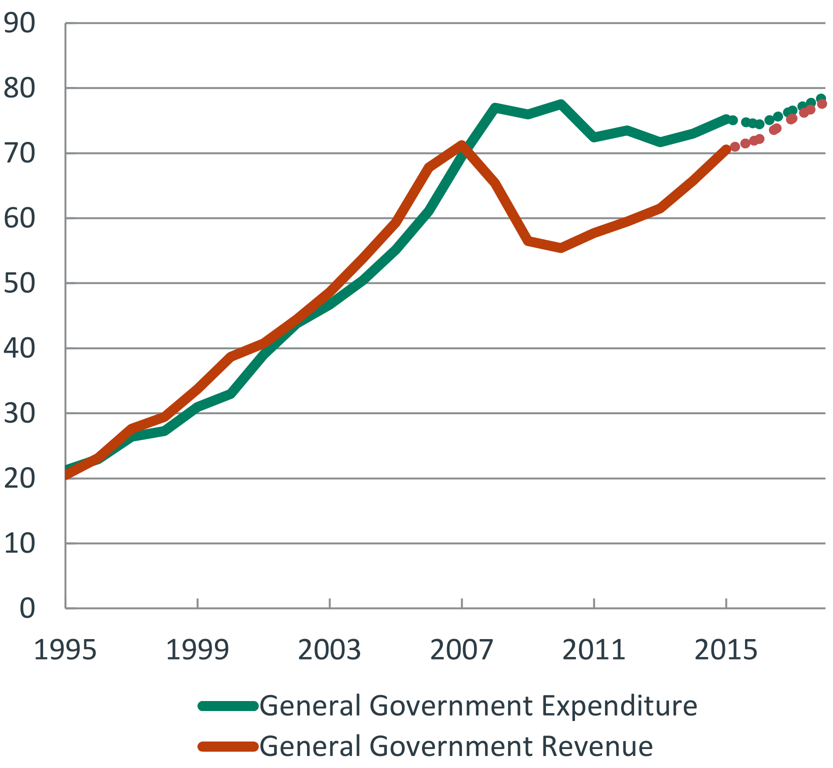
Irrespective of GDP moves, Ireland has had five straight years of fiscal outperformance

General Government Balance (% of GDP)



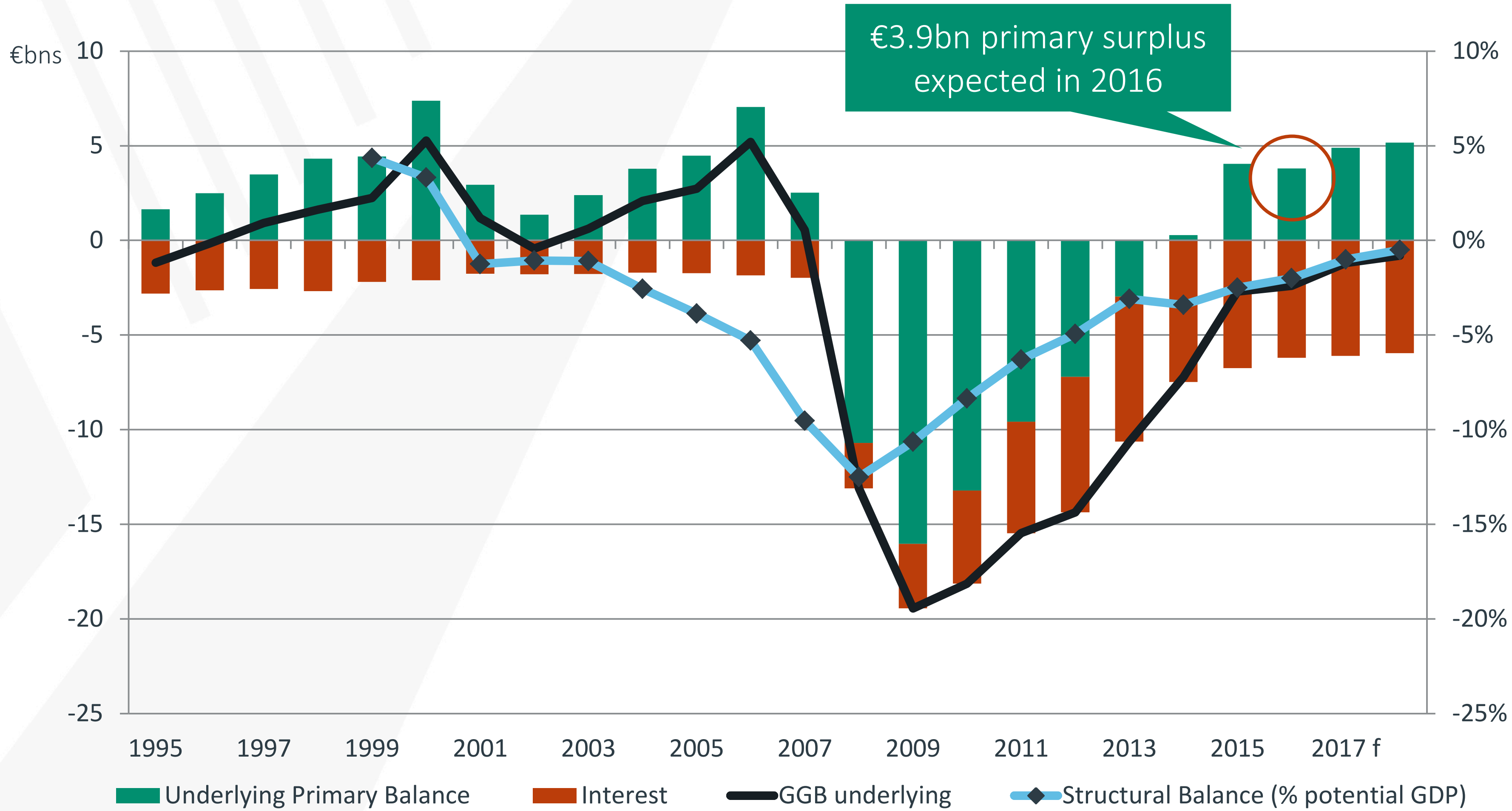
Deficit forecast to be fully closed by 2018 (€bn)



Source: Department of Finance, CSO

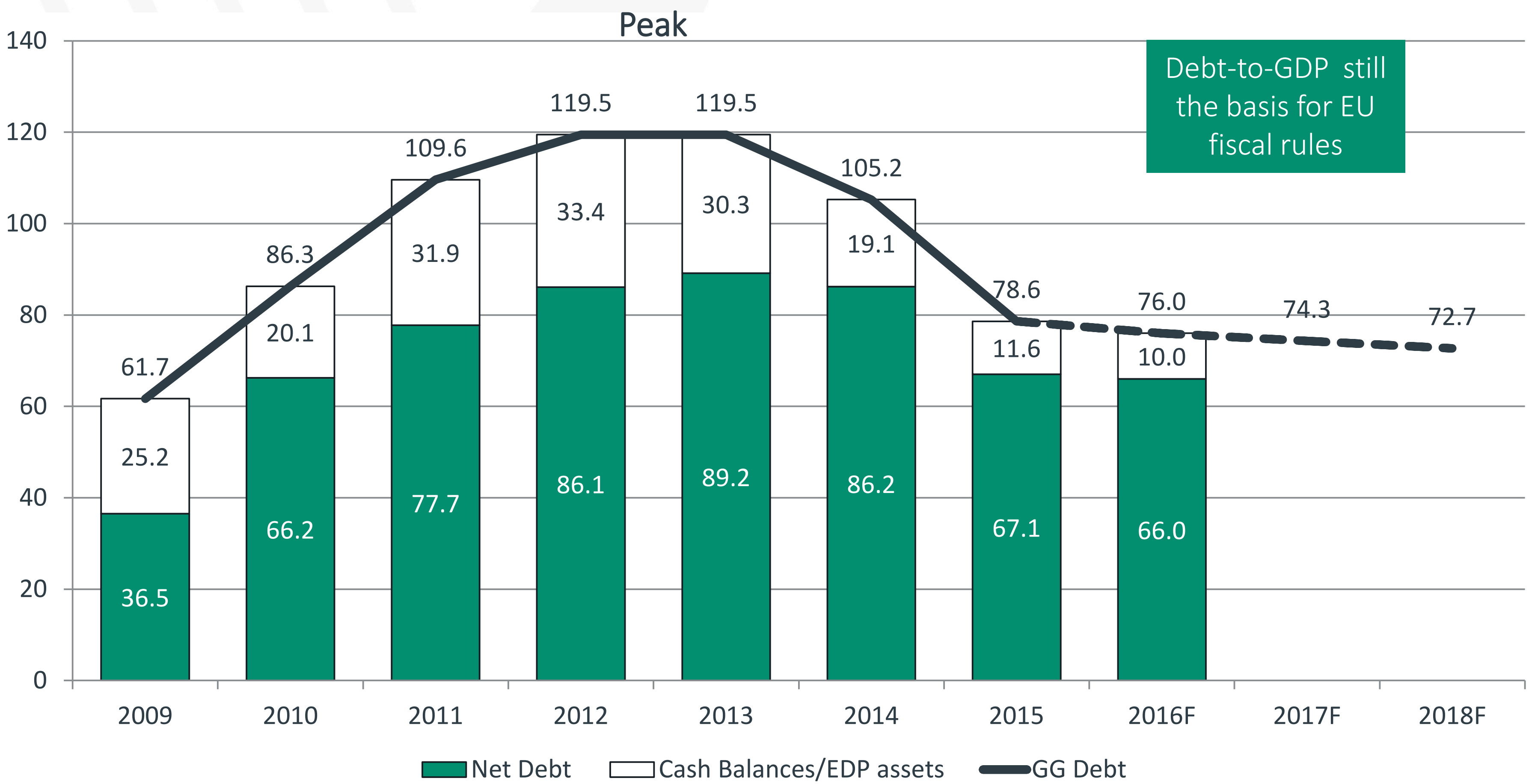
*2016 = DoF forecast

Ireland has confirmed debt sustainability: debt is falling naturally through "snowball" effect



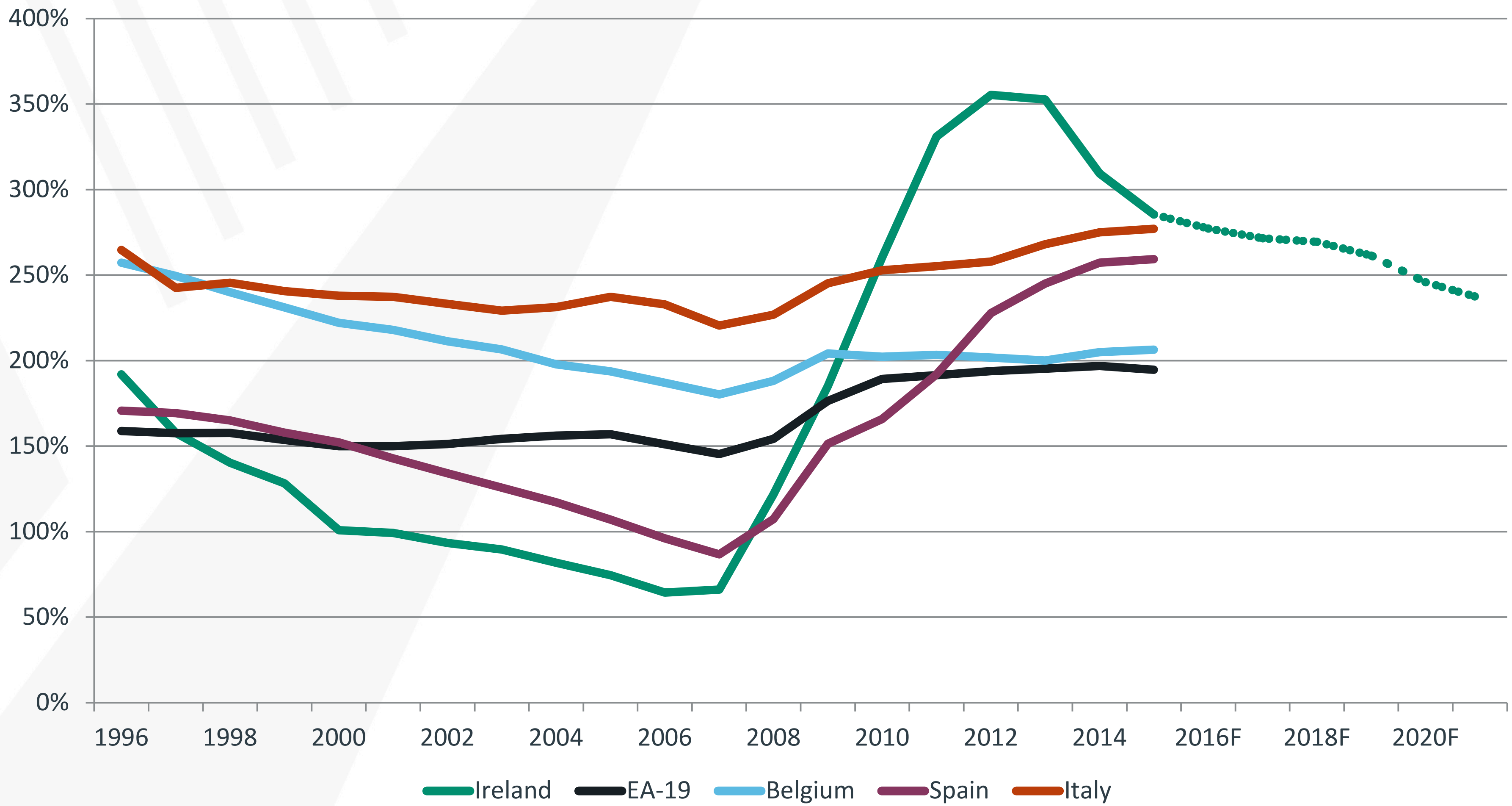
Source: CSO; Eurostat; IMF

Gross Government debt fell to 78.6% of GDP by the end of 2015 due to inflated GDP



Source: CSO; Department of Finance

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



Source: CSO; Department of Finance

Debt serviceability metrics 2015

	Gross GG debt to GDP %	GG debt to GG revenue %	GG interest to GG revenue %	Net Debt to GG Revenue %
Greece	176.9	367.9	7.9	
Portugal	129.0	294.1	10.4	257.6
Ireland*	78.7 (76.0)	285.5 (277.2)	9.6 (8.6)	243.1 (240.6)
Cyprus	108.9	278.8	7.3	231.0
Italy	132.7	277.0	8.7	251.4
Spain	99.2	259.3	8.0	223.5
UK	89.2	227.3	6.1	137.0
Belgium	106.0	206.4	5.7	181.5
EA19	90.7	194.7	5.2	
EU28	85.2	189.3	5.1	
Slovenia	83.2	184.5	6.6	29.0
France	95.8	179.9	3.8	163.3
Austria	86.2	170.6	4.7	99.4
Germany	71.2	159.5	3.6	114.9
Netherlands	65.1	151.3	2.8	123.5
Slovakia	52.9	124.0	4.2	103.8
Finland	63.1	113.7	2.2	32.6

Source: Eurostat, NTMA calculations

** Ireland's projected 2016 figures in brackets*

EU fiscal rules set the “tramlines” for Ireland’s fiscal policy

2011 – 2015 EDP

Objective:
Deficit reduction in nominal terms

2016 – 2019 Preventive Arm

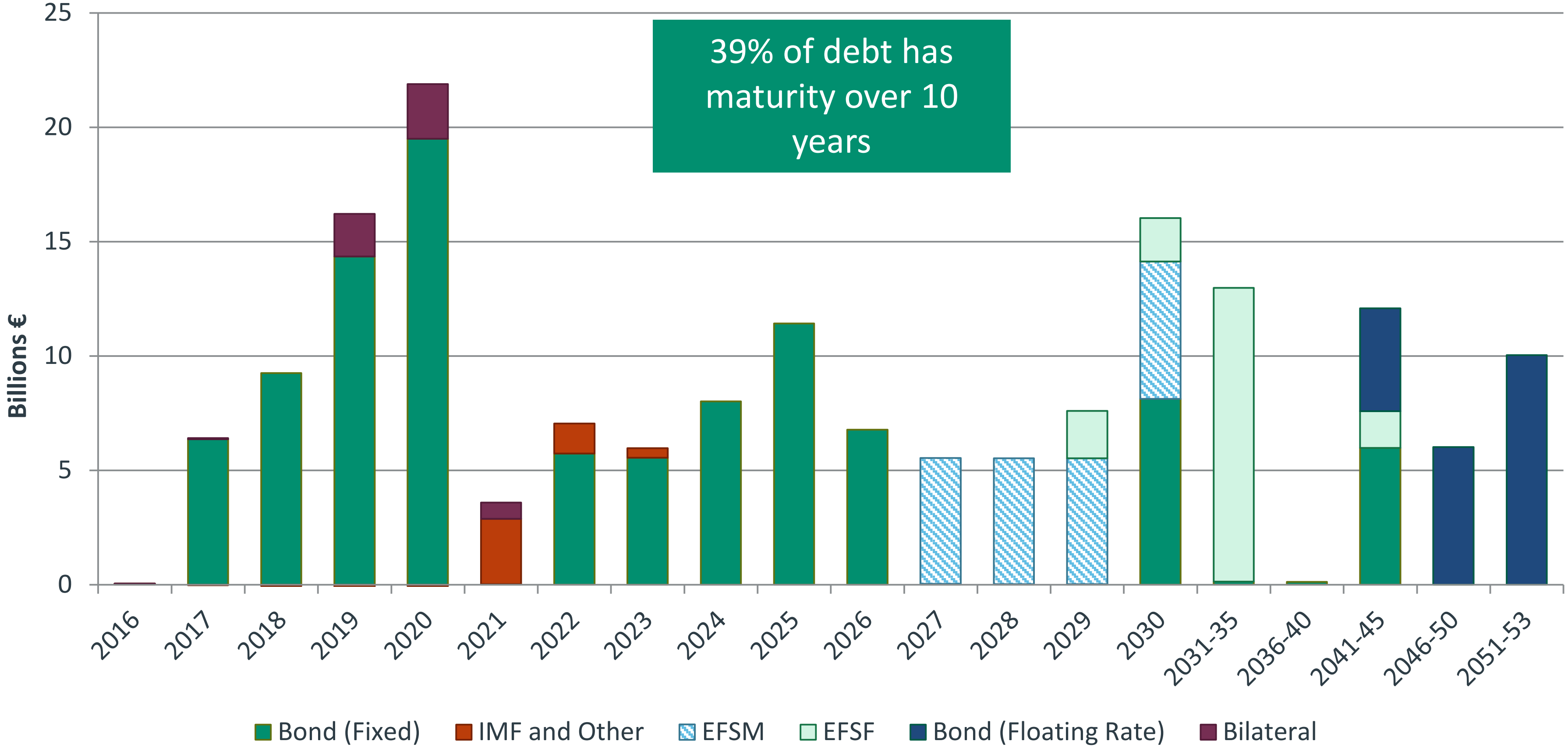
Objective:
Balanced budget in structural terms

Requirements of Preventive Arm

1. Ireland must improve its structural balance by 0.6% of GDP in 2016 and meet its medium-term objective of -0.5% of potential GDP structural balance by 2018.
2. Ireland must comply with the Expenditure Benchmark. The Benchmark explicitly sets the rate at which public expenditure can grow in the absence of revenue-raising measures.

Adherence to these rules will be judged ex-post. The revised GDP data may hamper the judgement of Ireland’s performance under the SGP

Maturity profile – modest refinancing in 2017 and 2018

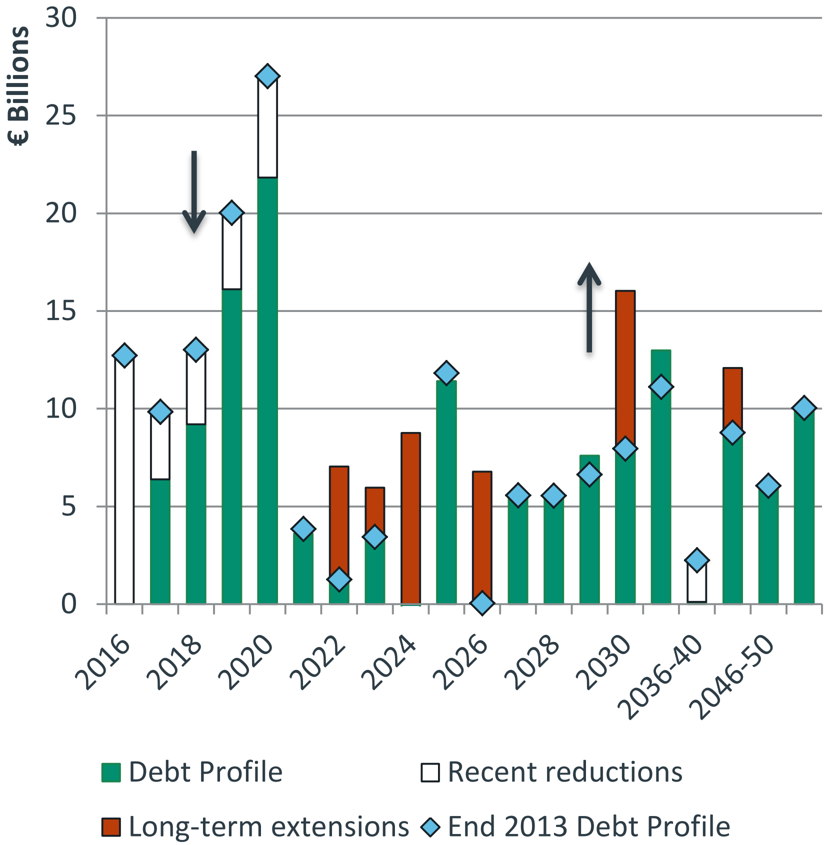


Source: NTMA

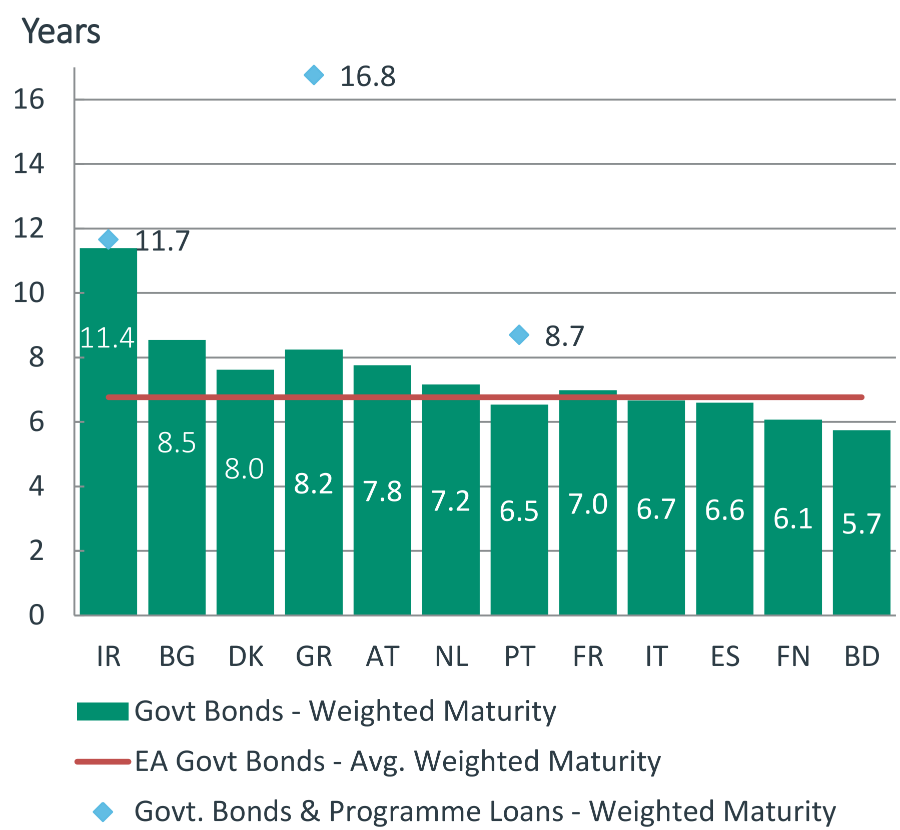
Note: EFSM loans are subject to a 7-year extension that will bring their weighted-average maturity from 12.5 years to 19.5 years. It is not expected that Ireland will refinance any of its EFSM loans before 2027. As such we have placed the EFSM loan maturity dates in the 2027-31 range although these may be subject to change.

We improved our 2016-2020 maturity profile significantly in recent years

Various operations since 2013 have led to an extension of maturity…



…with Ireland comparing favourably to other European countries

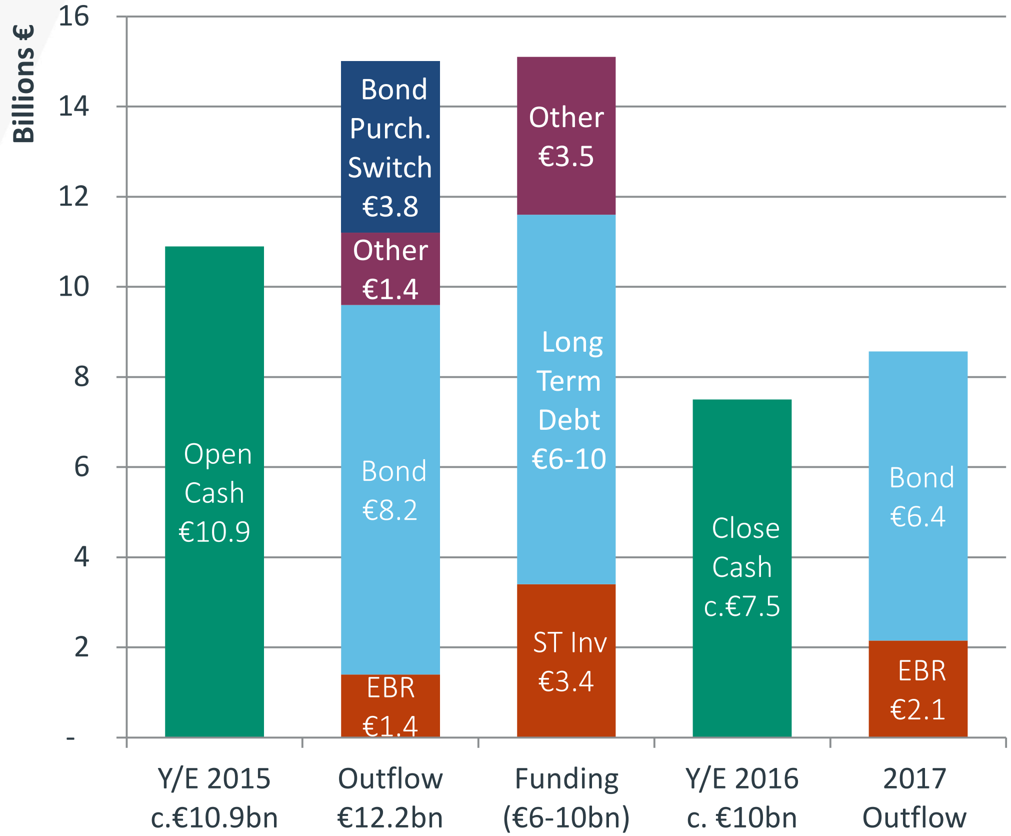


Source: NTMA; ECB, NTMA calculations - August 2016 figures

NTMA funded approximately three to four quarters in advance; Less issuance needed in 2016

- With only two major redemptions in 2016/17 issuance is lower in 2016 than in recent years.
- Our next bond redemption will be in October 2017 - €6.4bn.
- NTMA expected to issue €6-10bn worth of long term bonds in 2016. €7.6bn has already been issued.
- Exchequer Cash Balance at end 2016 is likely to be below €8bn.

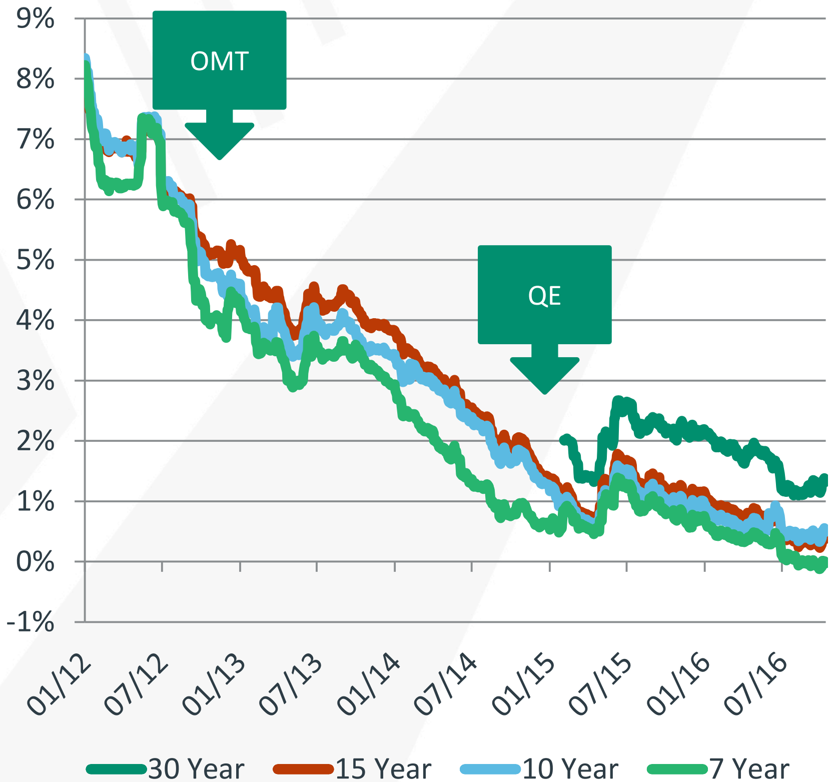
Source: NTMA



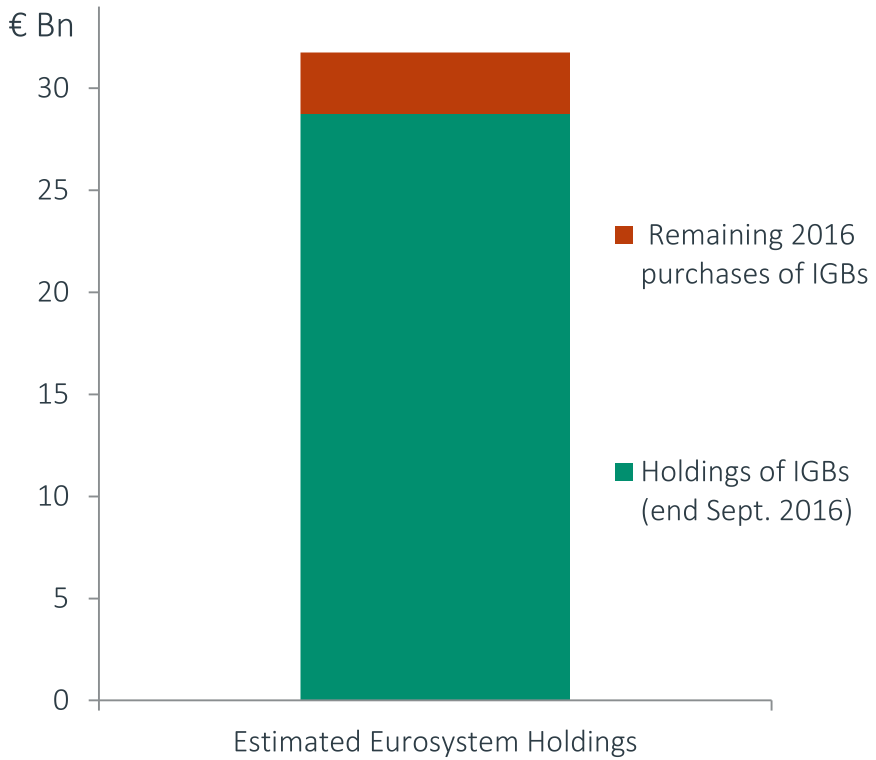
- EBR is the Exchequer Borrowing Requirement
- Cash balances excludes Housing Finance Agency (HFA) Guaranteed Notes and CSA Collateral Funding balances of €2.4 billion and €0.2 billion respectively as these asset classes are deemed non-liquid and are not readily realisable.
- Other outflows includes contingencies.
- Other Funding includes European Investment Bank (EIB) loans, Medium-Term Note and rebate of pre-paid margin deducted from EFSF drawdown of February 2011. Also includes Retail.

ECB action has helped Ireland's bond performance

OMT and QE (PSPP) have both helped Ireland and other EA sovereigns



Eurosystem purchasing c. €1bn a month of Irish Govt. bonds under PSPP



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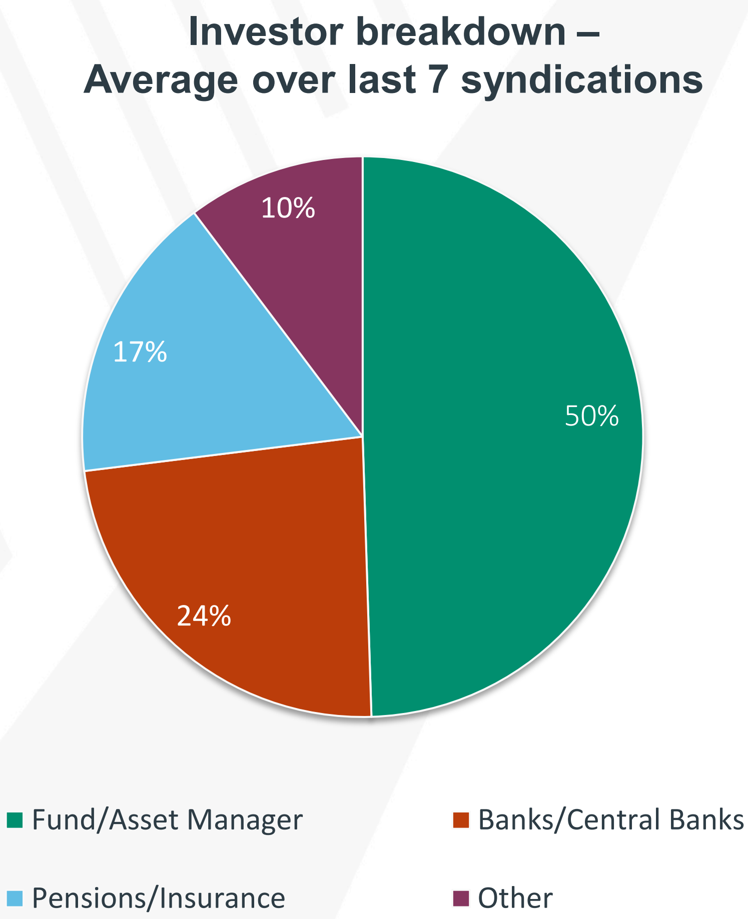
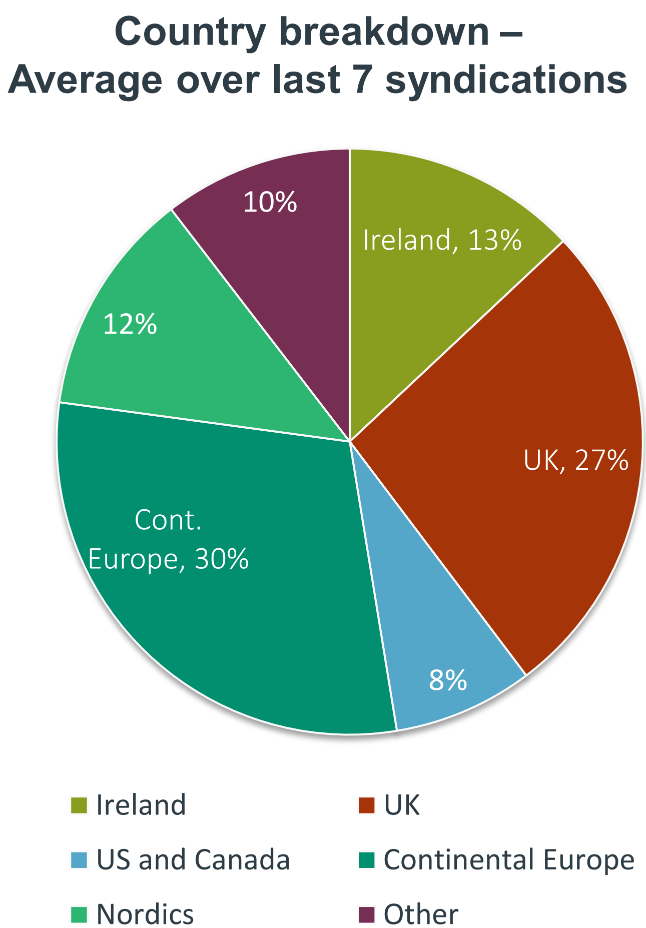
Source: Bloomberg; ECB, NTMA Analysis

Investor base for Irish government debt is wide and varied





Source: NTMA

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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 that allowed stateless companies to book sales and production in this State. This provision was closed on December 31st 2014.
- Although the ruling centres on tax guidance dating back as far back as 1991, Apple will only pay the taxes forgone for the period 2003-14 inclusive: EC law means the ruling only applies to the ten years preceding its first enquiry (2013) into Apple's tax affairs.
- **Apple is appealing the ruling as will the Irish Government.** We expect this process to be lengthy. Pending the outcome of the appeal, Apple will have to pay up to €13bn plus interest to the Irish Government, which will sit in escrow and could be managed by the NTMA.
- This case has nothing to do with Ireland's corporate tax rate. It relates to advice regarding one element of the corporate tax code which has since been eliminated. In its press release the EC stated: **"This decision does not call into question Ireland's general tax system or its corporate tax rate".**
- The NTMA has made no allowance for these funds. In any case, if the appeal is unsuccessful it is possible that other EU countries where Apple makes sales would seek a share of back tax.

Greater geographic balance in holdings of Irish Government Bonds (IGBs)

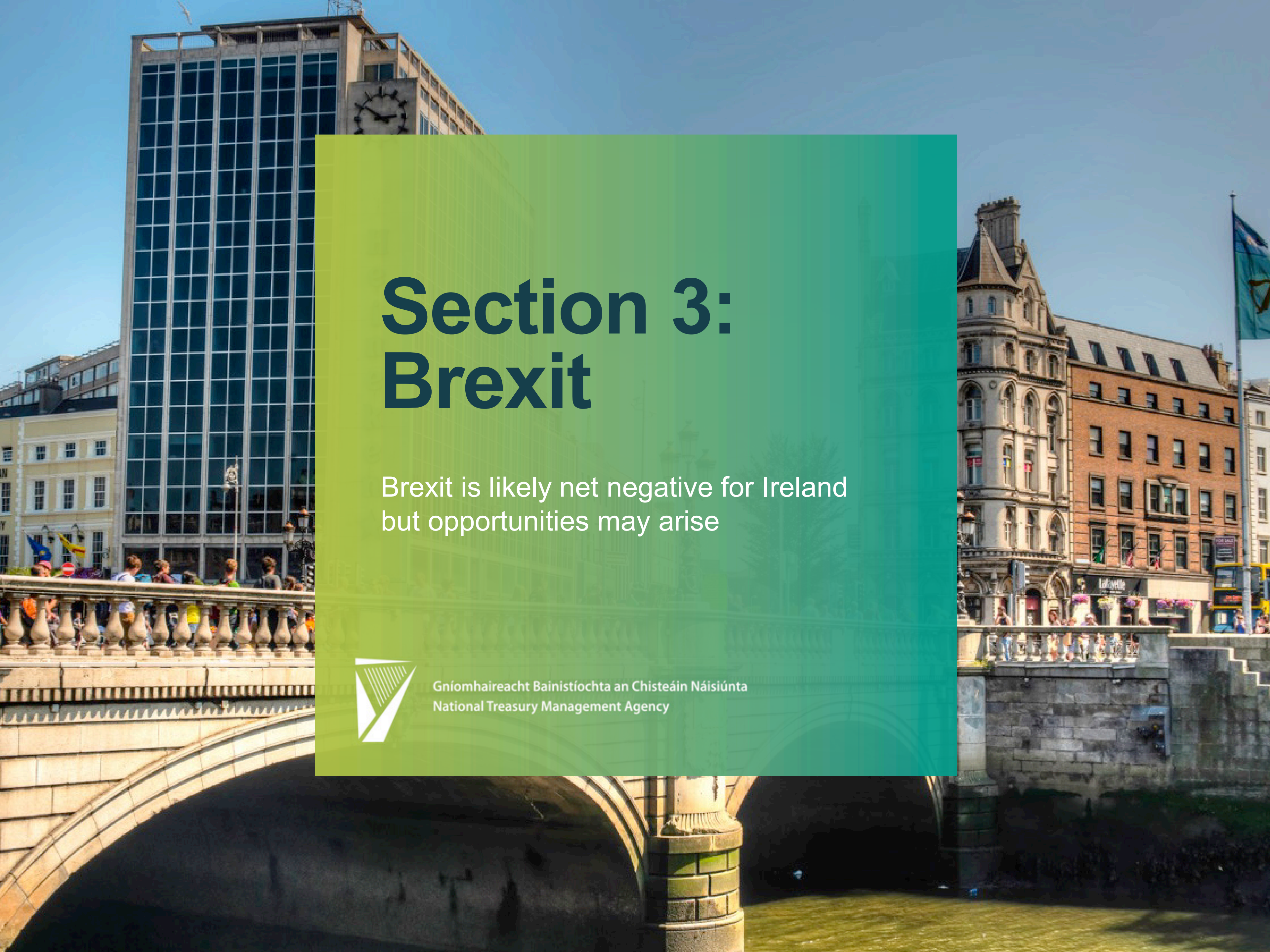
€ Billion				
End quarter	Dec 2013	Dec 2014	Dec 2015	**Aug 2016**
1. Resident	51.7	50.8	50.8	**52.9**
(as % of total)	(46.6%)	(43.7%)	(40.6%)	**(43.9%)**
– Credit Institutions and Central Bank*	49.2	45.9	46.9	**49.1**
– General Government	2.2	1.6	0.8	**0.6**
– Non-bank financial	-	2.9	2.8	**2.9**
– Households (and NFCs)	0.4	0.4	0.3	**0.3**
2. Rest of world	59.3	65.5	74.2	**67.6**
(as % of total)	(53.4%)	(56.3%)	(59.4%)	**(56.1%)**
Total MLT debt	111.0	116.3	125.1	**120.5**

Source: CBI

Breakdown of Ireland's General Government debt

€ Billion	2011	2012	2013	2014	2015	2016 H1
Currency and deposits (mainly retail debt)	58.4	62.1	31.4	20.9	20.7	21.1
Securities other than shares, exc. financial derivatives	94.0	87.3	112.7	119.1	125.6	124.1
- Short-term (T-Bills, CP etc)	3.8	2.5	2.4	3.8	1.2	3.5
- Long-term (MLT bonds)	90.2	84.8	110.3	115.3	124.4	120.5
Loans	37.3	60.6	71.3	63.3	54.9	54.9
- Short-term	0.6	1.9	1.4	1.3	1.1	0.7
- Long-term (official funding and prom notes 2009-12)	36.8	58.7	69.8	62.0	53.8	54.2
General Government Debt	189.8	210.0	215.3	203.3	201.1	200.1
EDP debt instrument assets	55.2	58.7	54.6	36.8	29.6	*27.8*
Net Government debt	134.5	151.3	160.7	166.5	171.5	172.3

Source: CSO (Q2 2016)



Section 3: Brexit

Brexit is likely net negative for Ireland but opportunities may arise

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National Treasury Management Agency

Negative for the Irish economy: each 1% drop in UK GDP may lower Ireland's GDP by between 0.3-0.8%

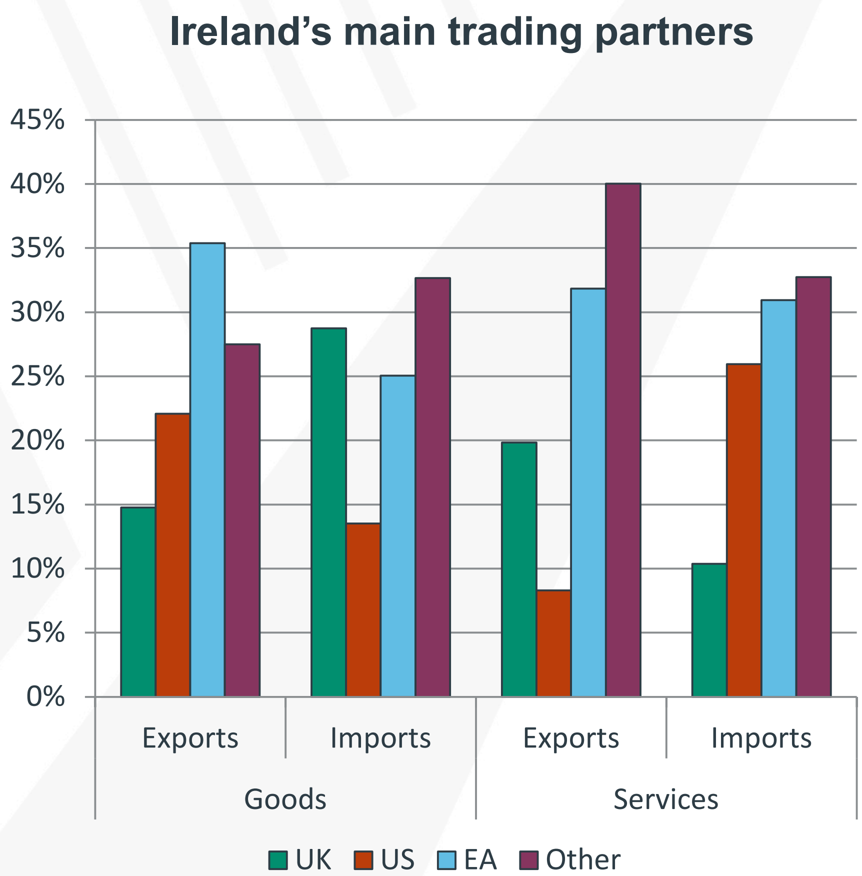
Cons

- Trade
  - Lower demand from UK/ tariffs
  - FX: £ lower v € (1% annual avg. move = 0.5% hit to Irish exports to the UK)
  - British market as test-bed less feasible
- Higher import prices possible in long-term: tariffs may outweigh FX benefit
- EU political situation may deteriorate
- Banking sector likely to suffer because of its UK operations
- Political economy (border?, corporate tax ally though still have others in EU)
- UK-based cash house buyers gone?

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

Trade channel is likely to be negatively impacted



Source: CSO (2014)

- **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 30% 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 16-17% of Ireland's total exports, but Ireland is more dependent than that, when you consider the employment related to those exports
- **SMEs (particularly agri-food and tourism) likely to be more affected than larger companies by the introduction of tariffs and barriers to trade**

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FDI: Ireland may benefit

FDI Channel – possibly positive impact

- Foreign firms in the UK might consider relocation following Brexit. This may be especially pertinent for firms who use the UK as a base for its EU operations.
- Ireland could be a beneficiary from this displaced FDI. The chief areas of interest are financial services, business services and IT/ new media. Dublin is likely to compete with Frankfurt, Paris and Amsterdam for financial services, if the UK (City of London) loses EU passporting rights on exit. There may be opportunities too in the clearing of trades in €.
- Ireland's FDI opportunity will depend on the outcome of post-exit trade negotiations.

Energy Market – likely negative

- Ireland's energy market is heavily reliant on the UK. 90% of Ireland's gas imports are sourced from the UK. A tariff might apply on this trade post-Brexit.
- Differences in regulatory environments in the UK versus the EU may see Ireland stuck trying to serve two sets of regulations. This could mean higher costs in the medium-term.

Migration/labour flows might be affected by Brexit

- In the past, large migratory flows from Ireland to the UK have occurred. This has helped normalize the Irish labour market in times of stress.
- For example, approximately 60,000 people moved from Ireland to the UK between 2011-13.
- If the UK labour market was closed off to Irish emigrants following Brexit, the likely result is upward pressure on unemployment rates and downward pressure on wage rates.
- The ESRI (Irish economic think-tank) estimated the effect of an inflow of 60,000 labour force participants in Ireland i.e. 'non-outflow' due to migration restrictions, shows that unemployment would rise by 0.4% and wages in Ireland would fall by almost 4%.

ESRI simulation in which 60,000 person are added to Irish labour force

	Low-skilled unemployment adjustment	Low-skilled wages adjustment
	% Change	
Average wage	-3.9	-3.7
High-skilled	-5.0	-4.8
Low-skilled	0.0	0.8
Unemployment rate	-0.4	0.0

Source: ESRI Brexit Report

Section 4: Long term fundamentals

Fundamentals in place but retaining competitiveness is crucial

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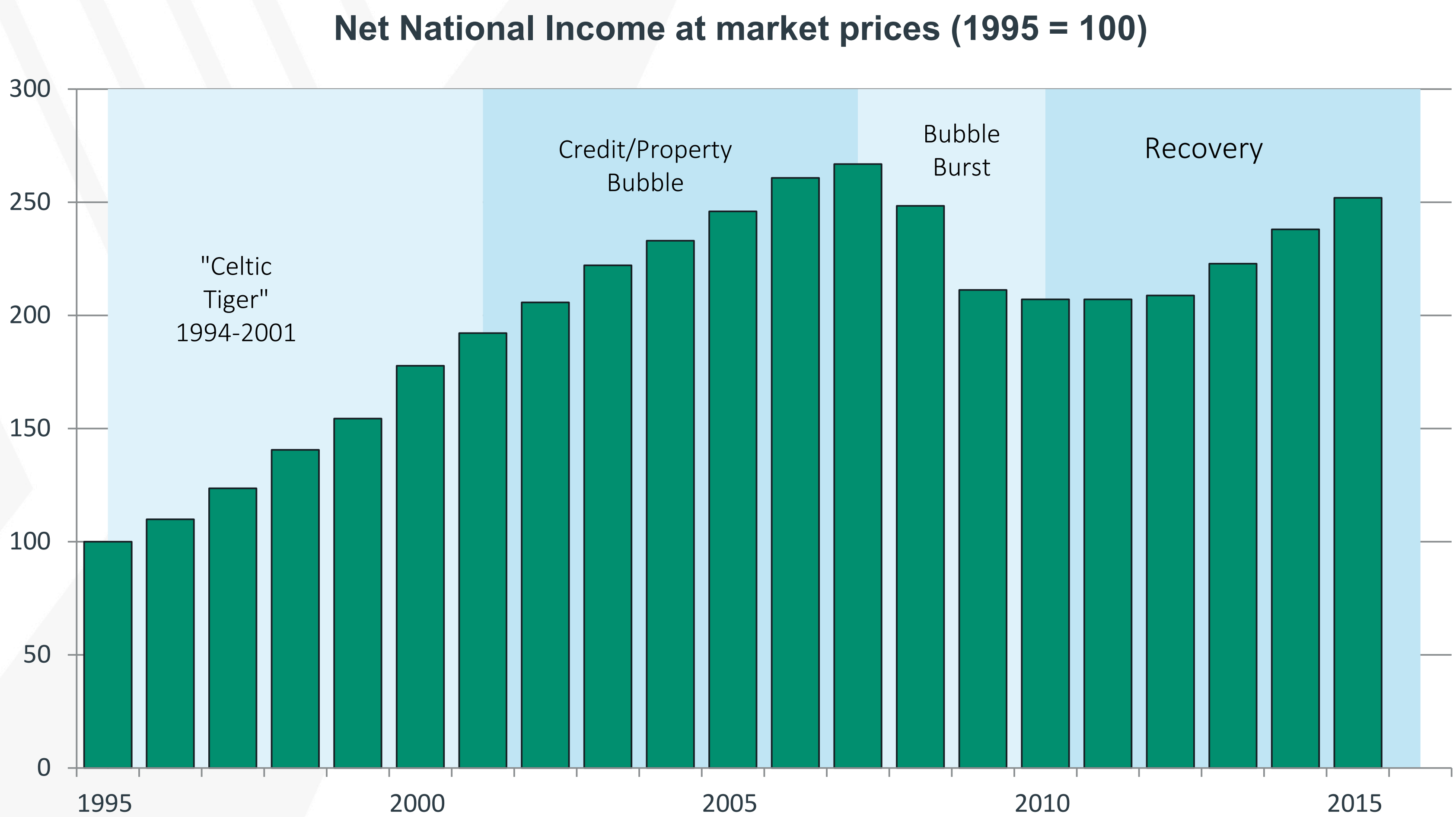
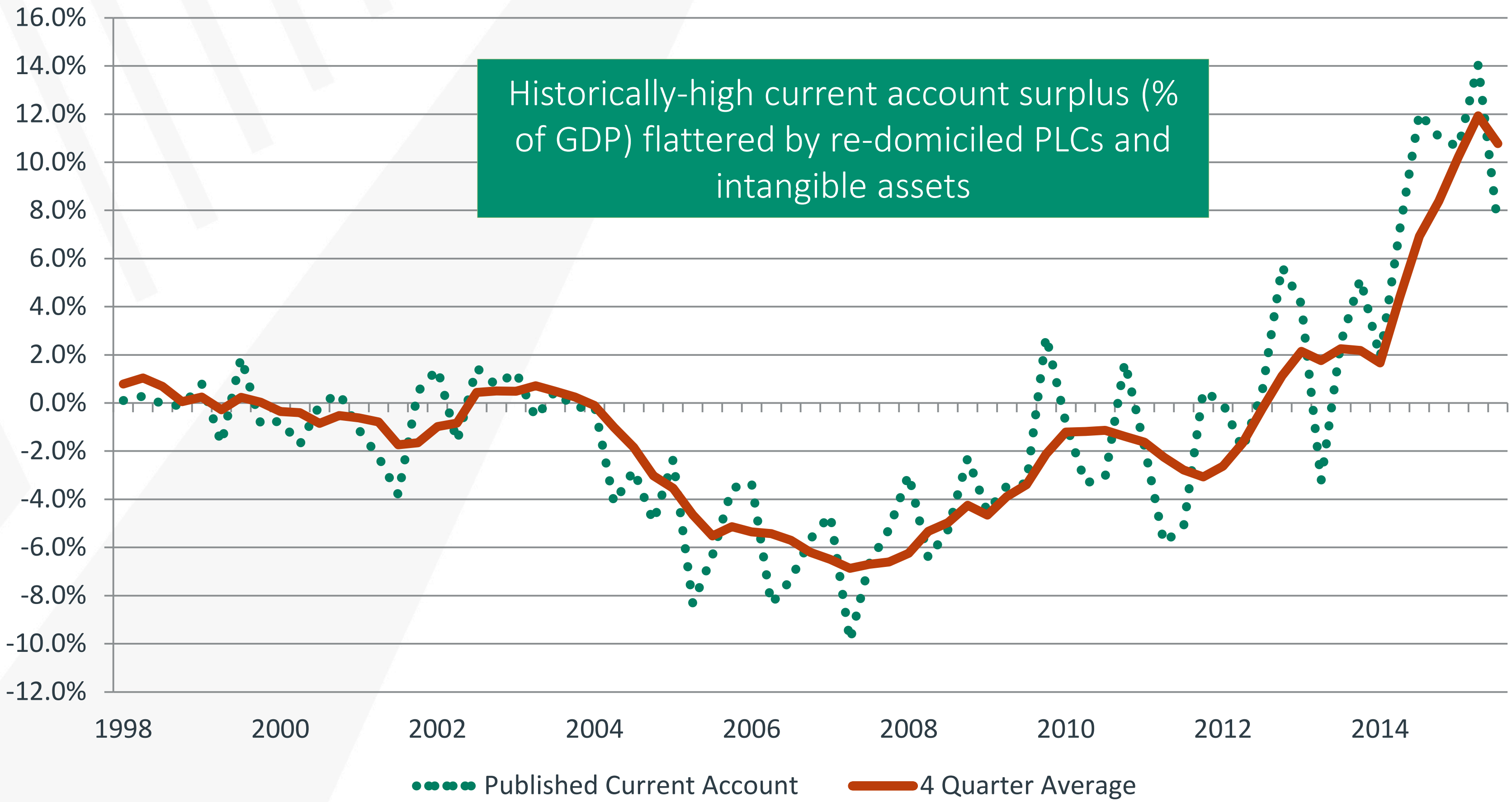
National Treasury Management Agency

Much rebalancing has taken place; NNI per capita surpassed 2005 levels in 2015



Source: CSO

Ireland's current account in surplus but heavily affected by MNC activity and re-domiciled PLCs



Source: CSO

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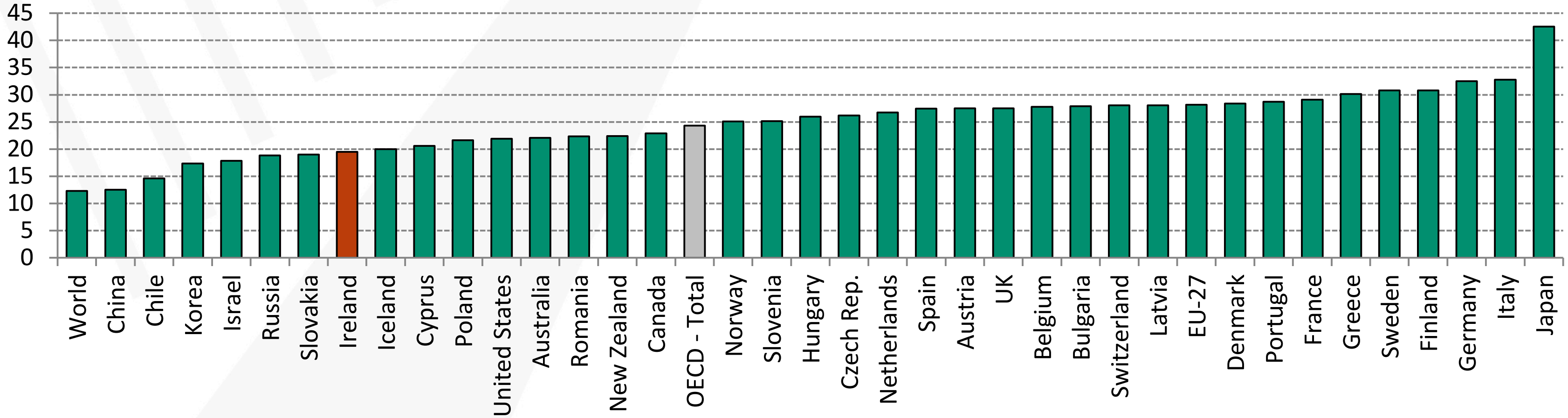
* For discussion on the undistributed profits of redomiciled PLCs see Fitzgerald, J. (2013), 'The Effect of Redomiciled PLCs on GNP and the Irish Balance of Payments'

Favourable population characteristics underpin debt sustainability over longer term

Old age dependency ratio (65+ : ages 15-64) compares well against OECD countries

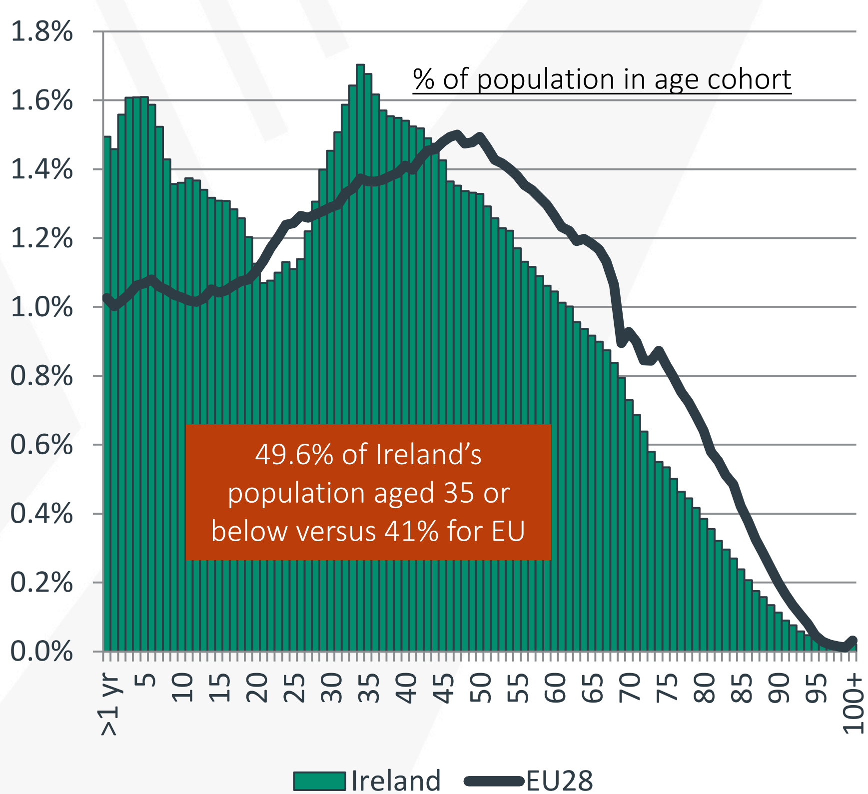


Fertility rates in Ireland are above typical international replacement rates

Source: *World Bank WDI (2013)*; *OECD (2014)*

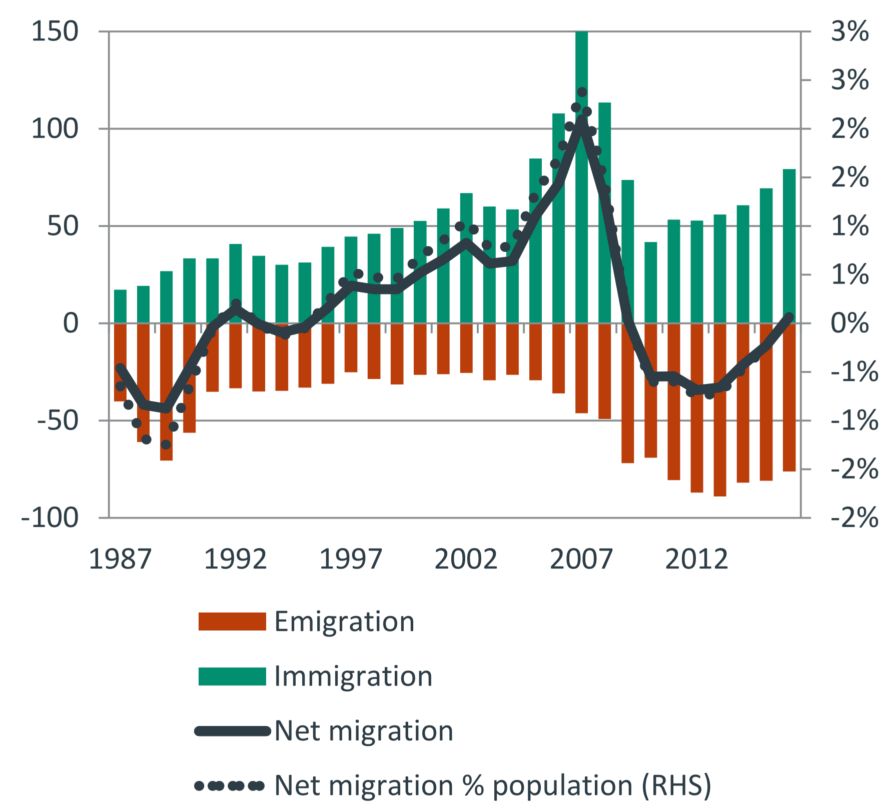
Ireland's population: 4.75m in 2016 – up 170,000 on the 2011 Census

Ireland's population profile healthier than the EU average



Source: Eurostat (2015); CSO

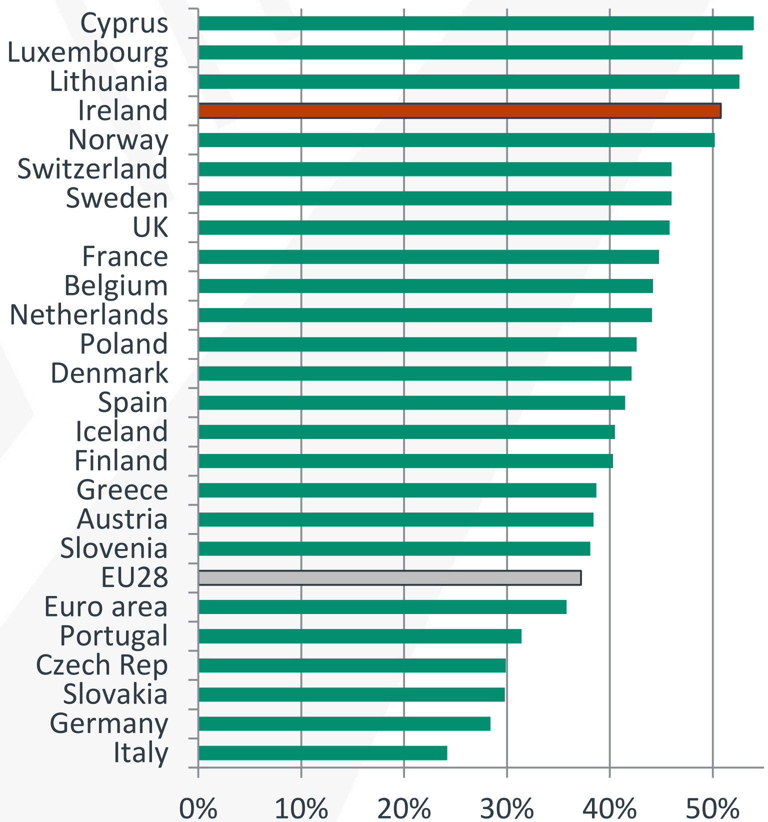
Net migration (000s) negative in recent years but improving alongside economy*



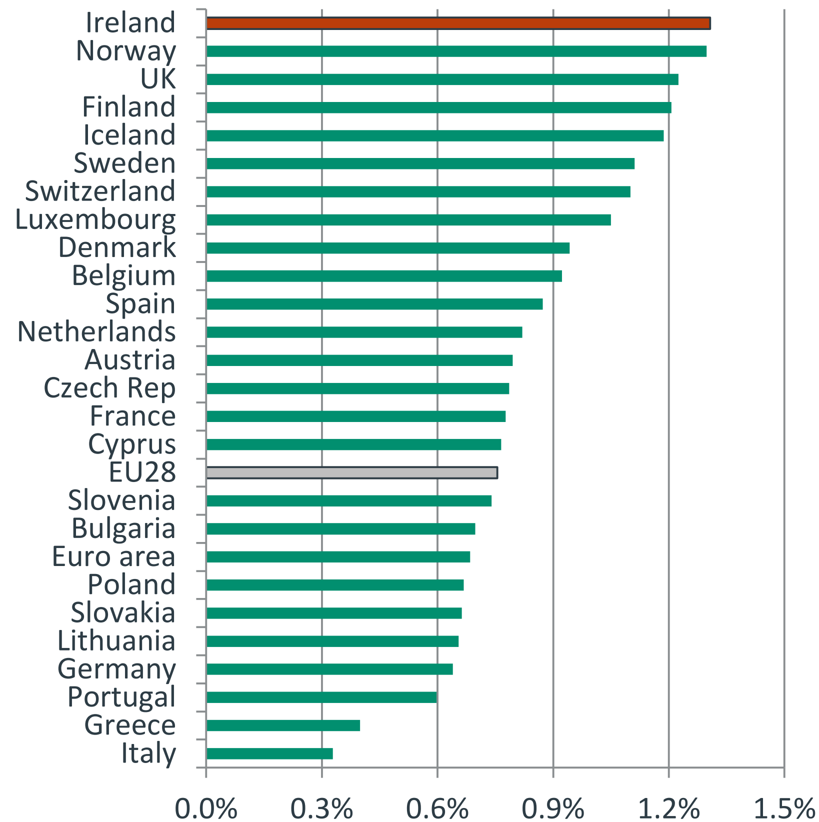
- Preliminary Census 2016 data suggest net migration might have been much lower in 2011-12 than these figures indicate. Revisions are expected in the coming months.

Workforce is young and educated - especially so in IT sector

Ireland has one of the largest % of 25-34 years old with a third-level degree…



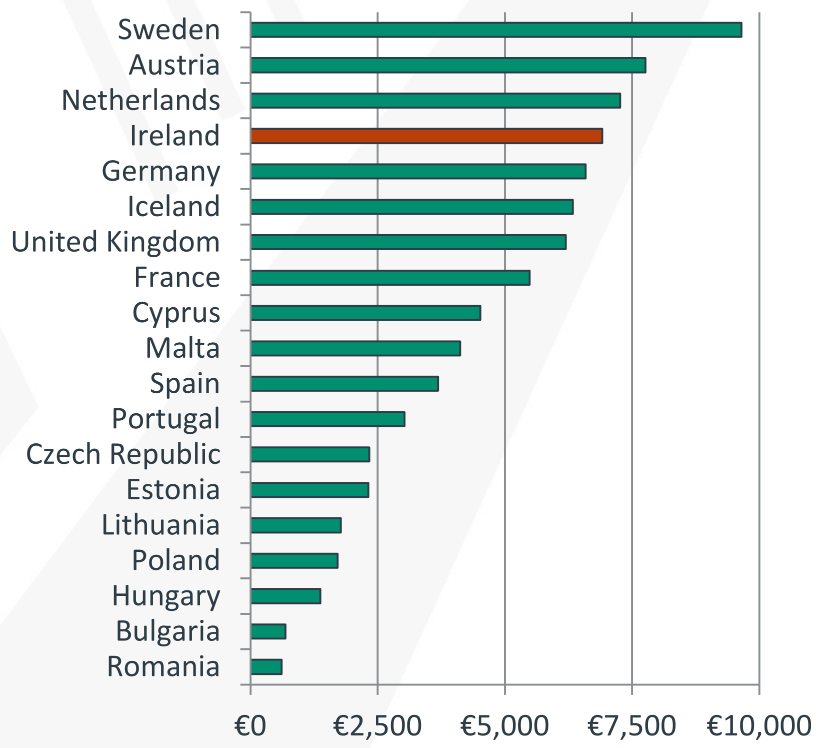
…and the highest % of population working in IT with a third-level degree



Source: Eurostat

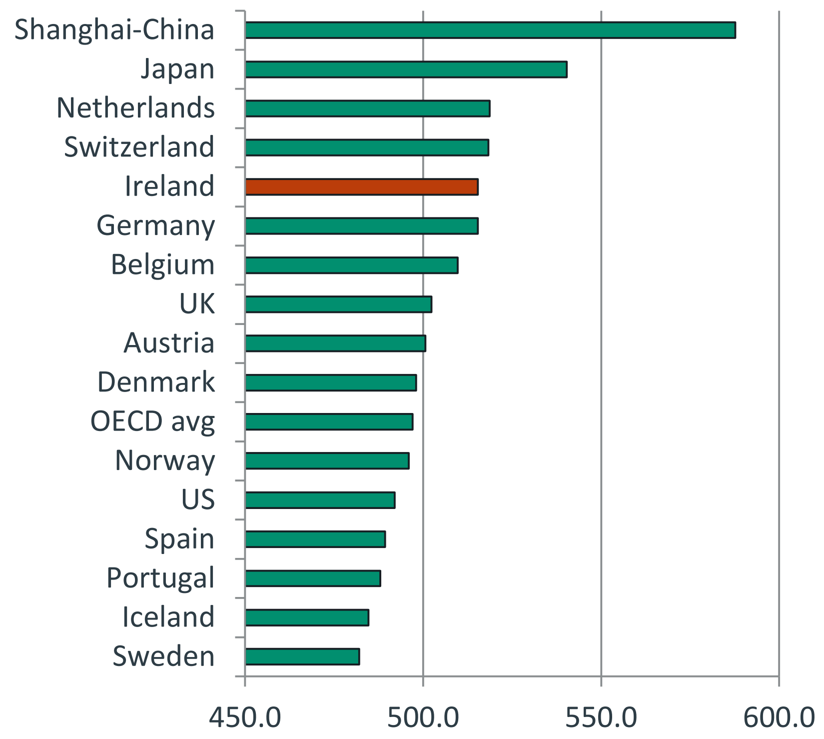
Ireland's education expenditure close to top in Europe – qualitatively competitive also

Public Education Expenditure per person aged less than 23



Source: Eurostat (2012), - Selected European Countries

Average PISA score for selected countries across maths, reading and science



Source: OECD (2012)

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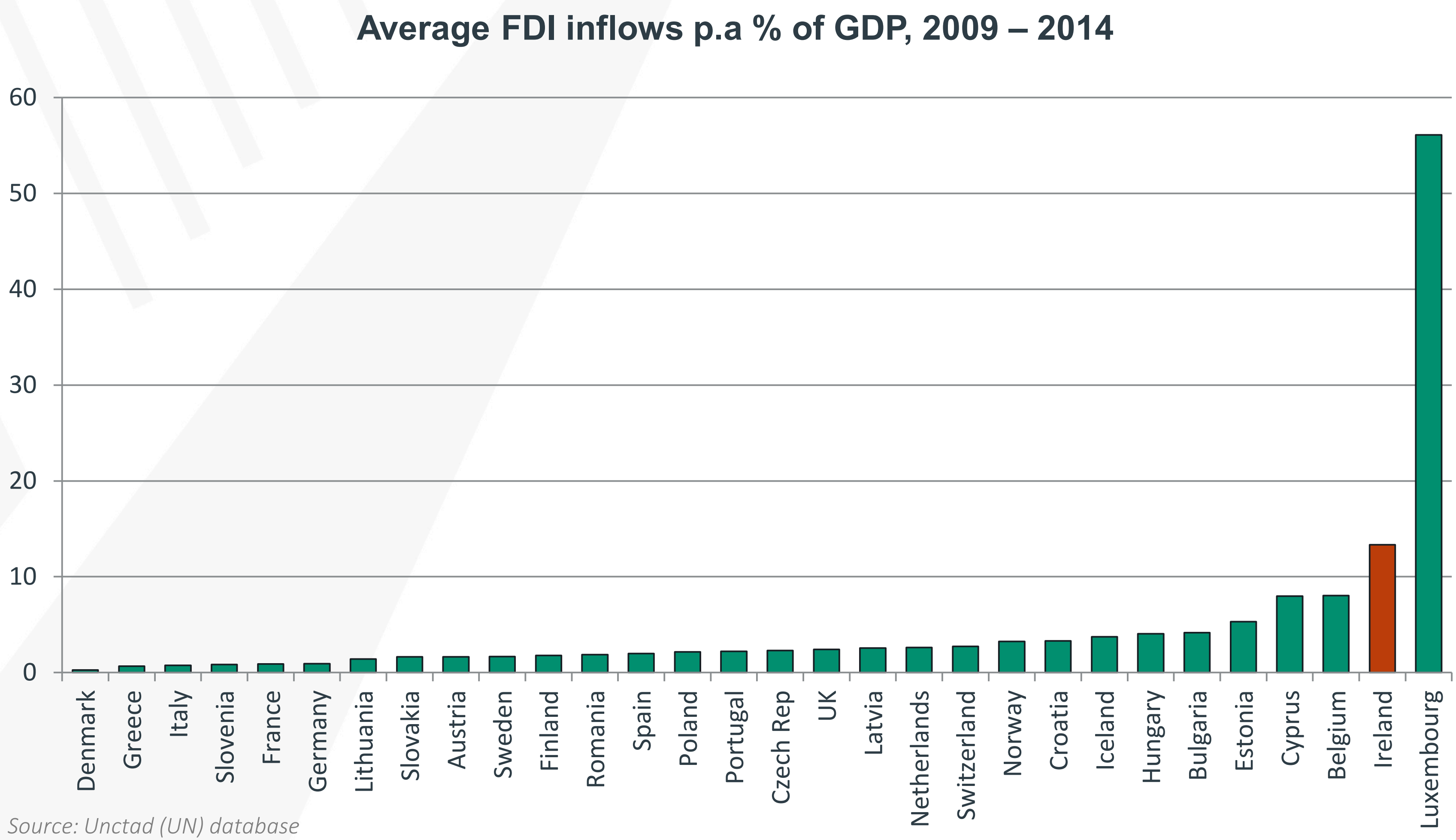
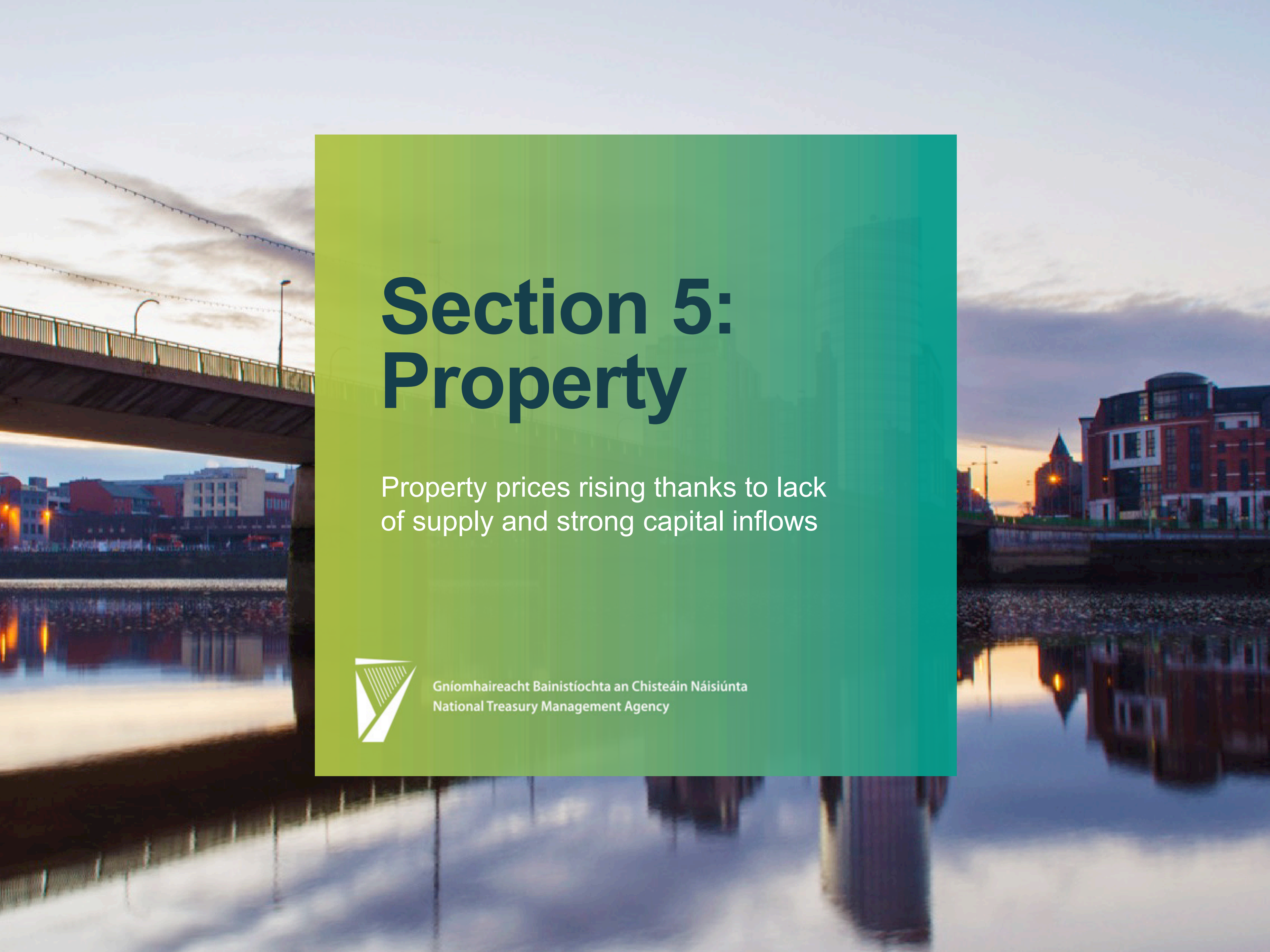
Ireland continues to attract foreign investment



Source: Unctad (UN) database



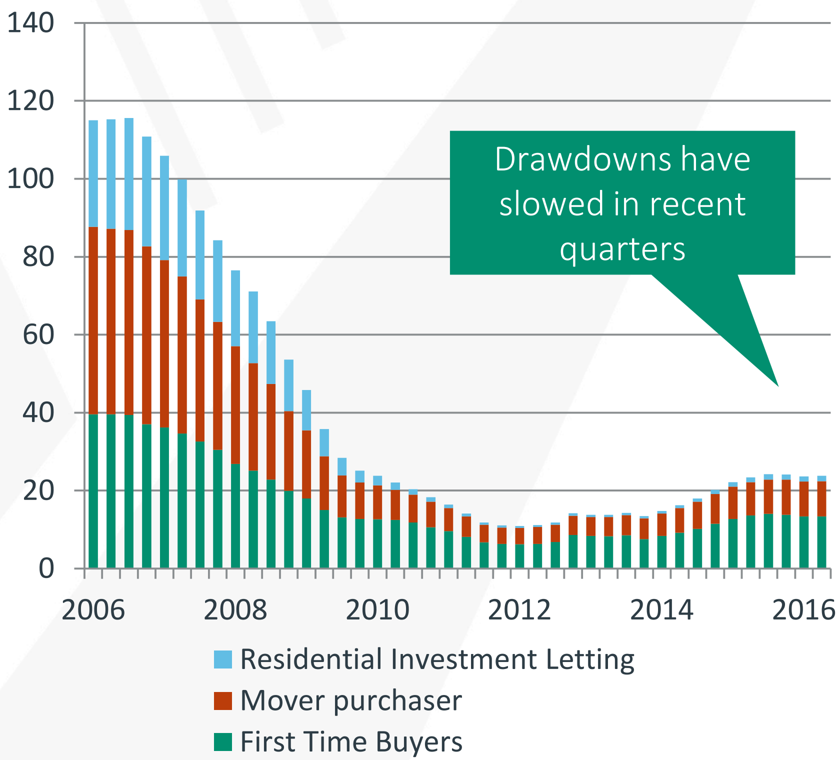
Section 5: Property

Property prices rising thanks to lack of supply and strong capital inflows

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

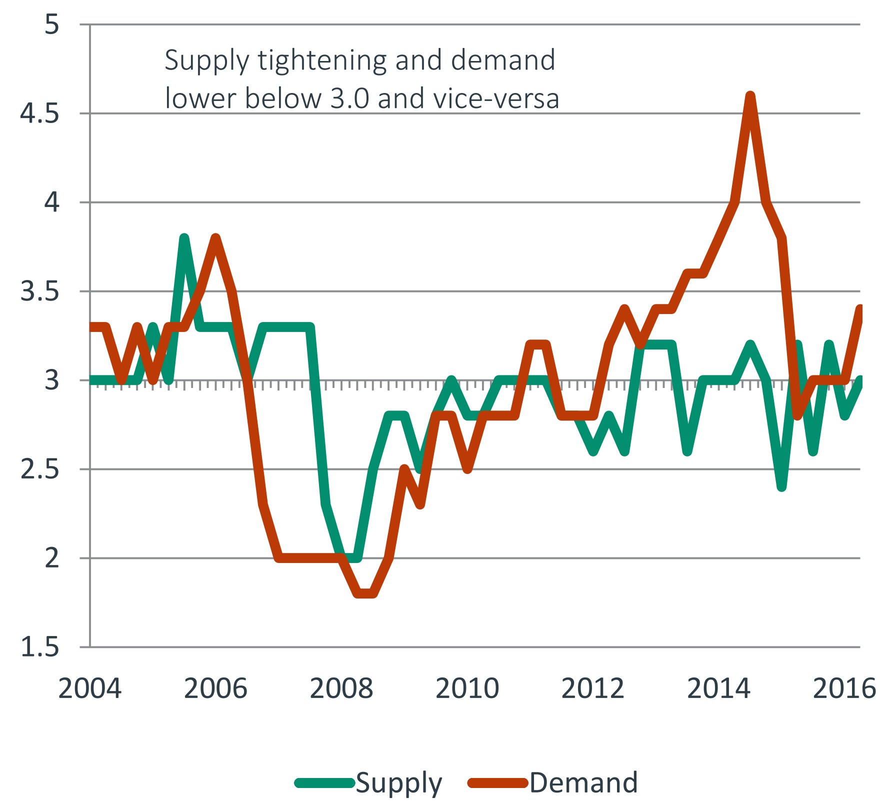
New CBI mortgage rules impacting demand

Mortgage drawdowns rise from deep trough ('000s)



Source: BPFI

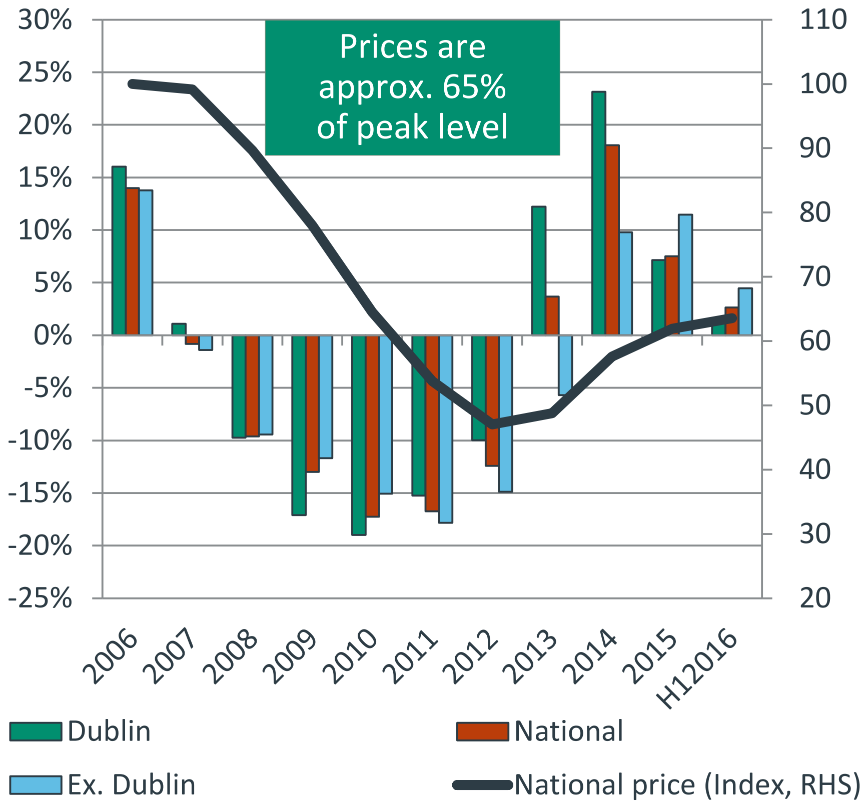
Demand increased in Q2 2016 after period of restraint following CBI rules



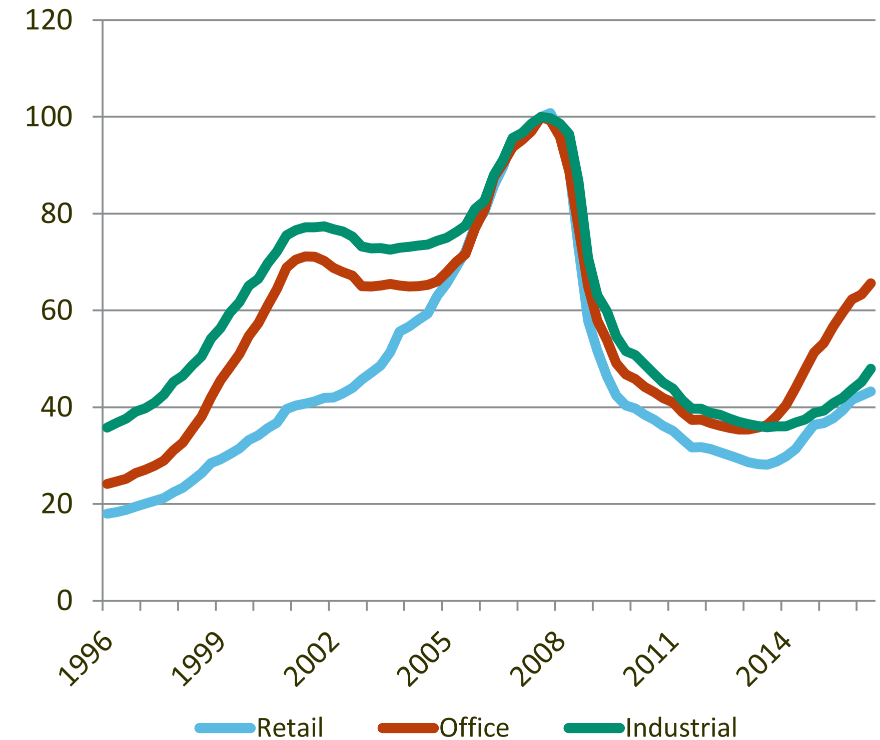
Source: ECB and CBI (Bank lending survey)

Property prices have rebounded since 2012 (peak = 100 for all indices)

House price recovery has slowed in 2015 and 2016 (y-o-y % change)



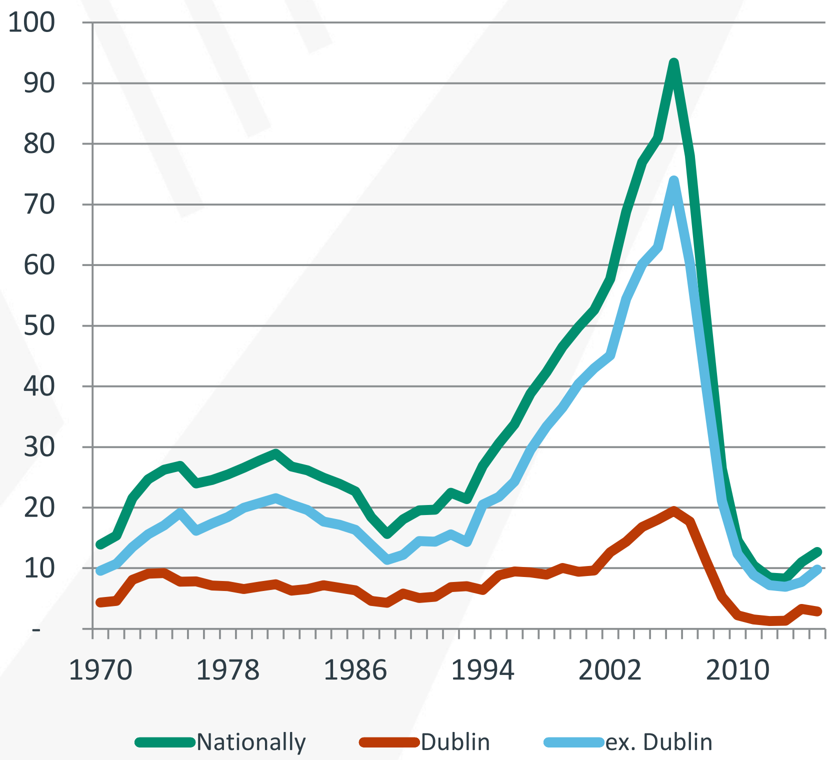
Office leads commercial property



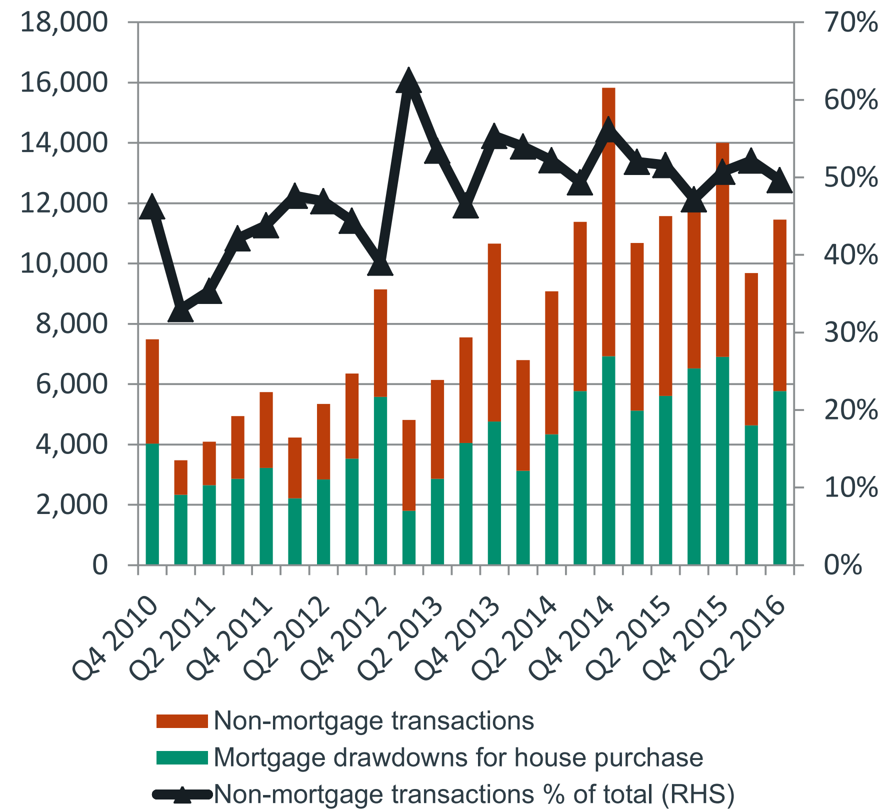
Source: CSO; IPD

Residential market continues to be boosted by non-mortgage purchasers

Housing Completions (000's) improving but very low historically



Non-mortgage transactions roughly 50% of all property transactions



Source: DoHPCLG, BPFI; Property Services Regulatory Authority

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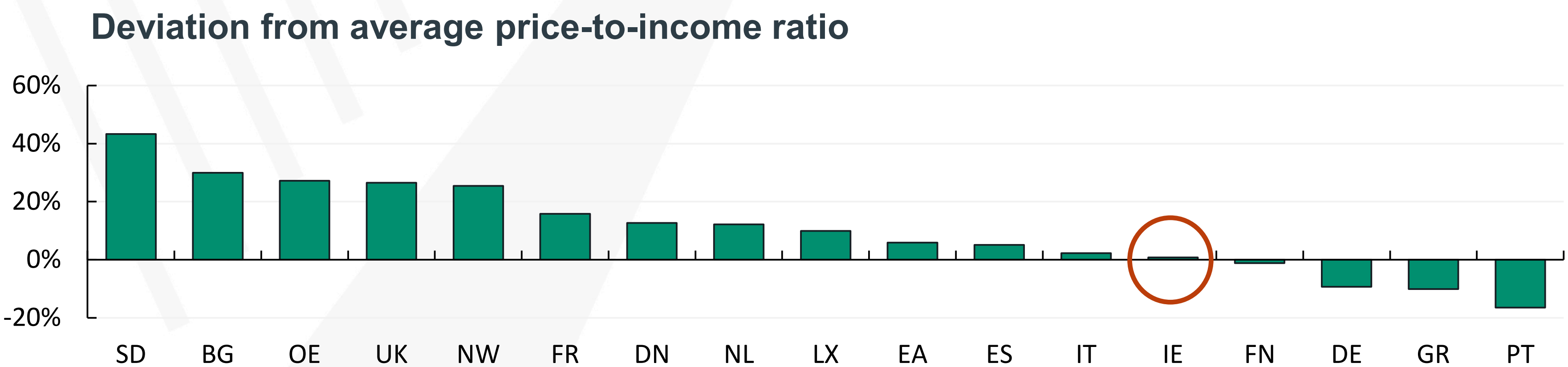
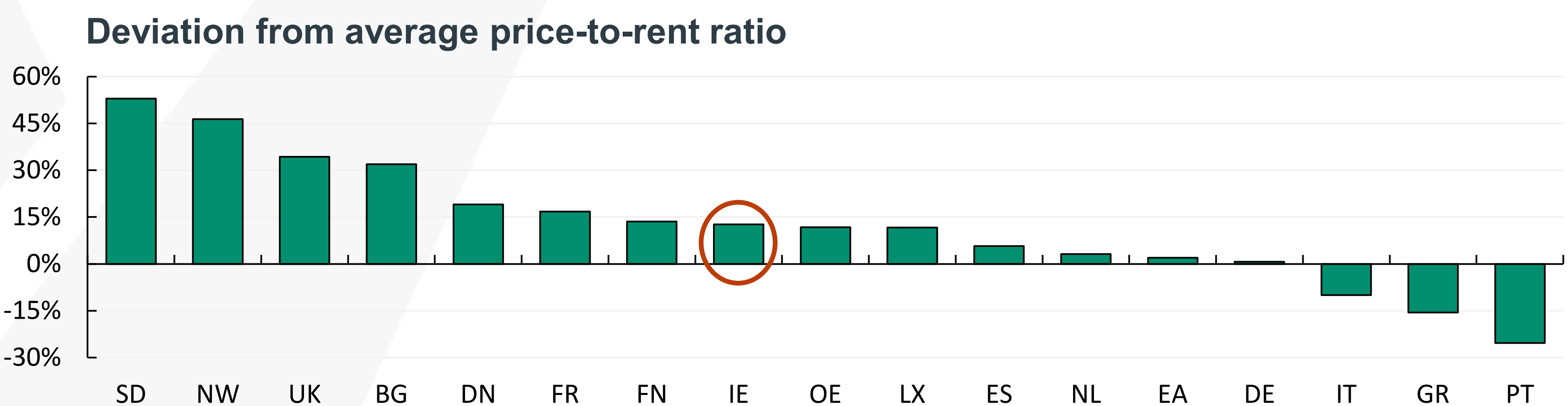
Note: Non-mortgage transactions are implied by difference between total transactions on property price register and BPFI mortgage data

Irish house price valuation is still attractive on income basis versus European countries

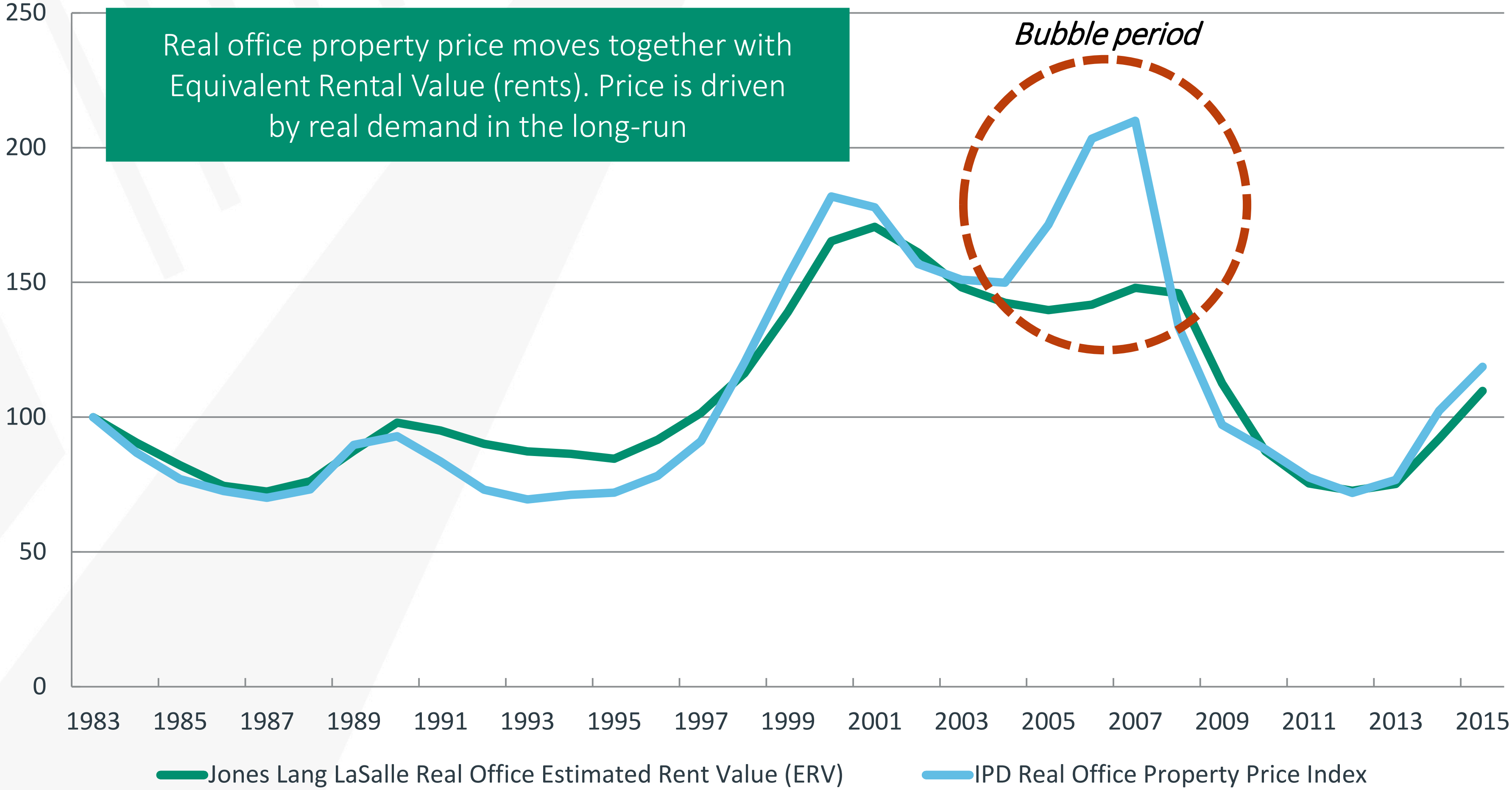




Source: OECD, NTMA Workings

Note: Measured as % over or under valuation relative to long term averages since 1980. All data updated to Q4 2015

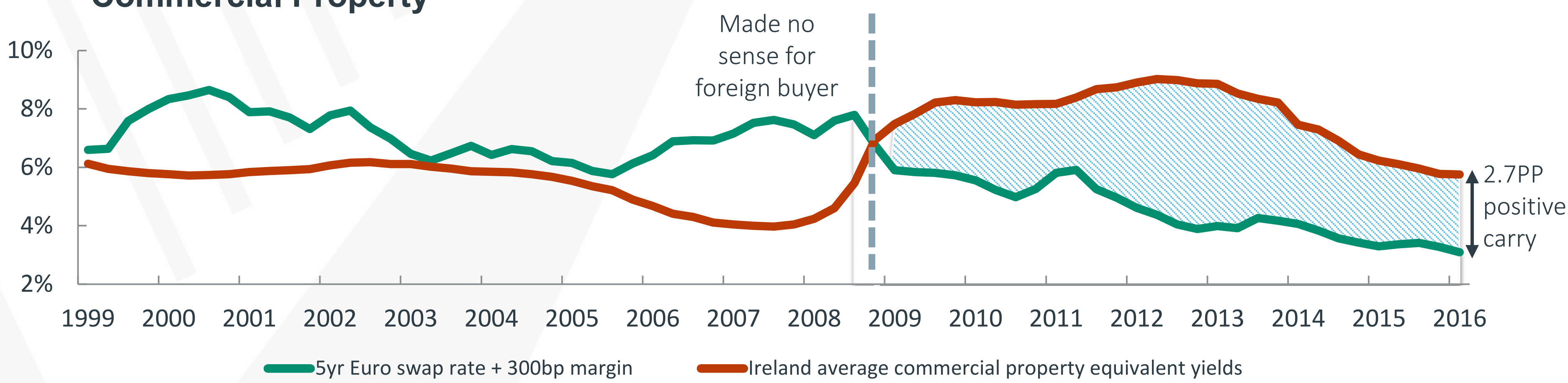
Real commercial property prices down 52% from peak (index 1983 = 100)



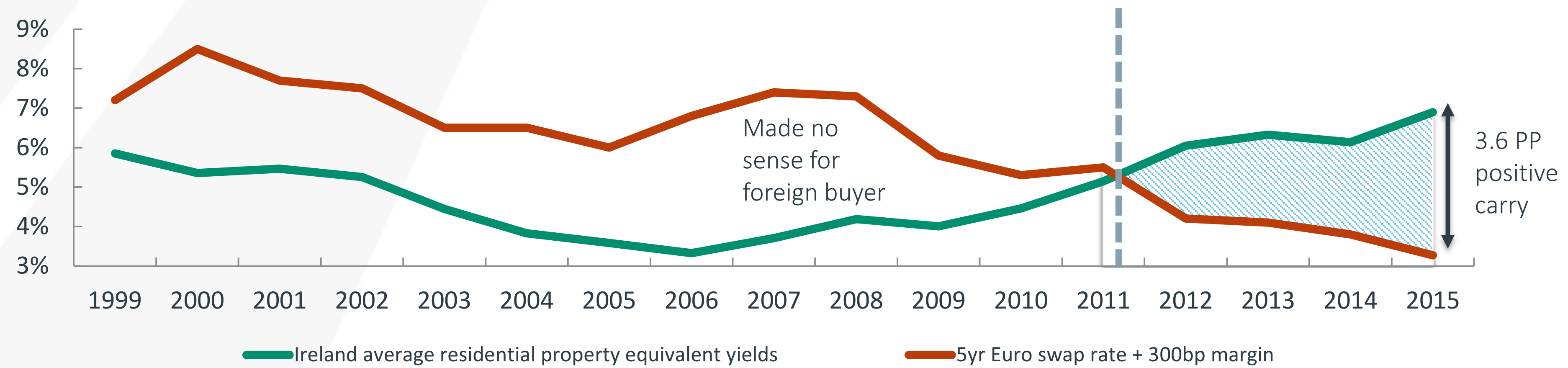
Source: IPD; NTMA

Investors interested on "carry trade" grounds

Commercial Property



Residential Property



Source: IPD; NTMA

Section 6: NAMA

NAMA is set to make a profit of up to €2.3bn on wind-up – subject to market conditions remaining favourable

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

NAMA: 88% of its original debt repaid

- **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.

- **Repaid €26.6bn (88%) of €30.2bn of original senior debt**
  - NAMA is meeting its senior debt redemption targets ahead of schedule. The Agency has already met its end-2016 target of redeeming at least 80% of its senior debt and is firmly on course to meet its ultimate target of redeeming all of its senior debt by 2018.

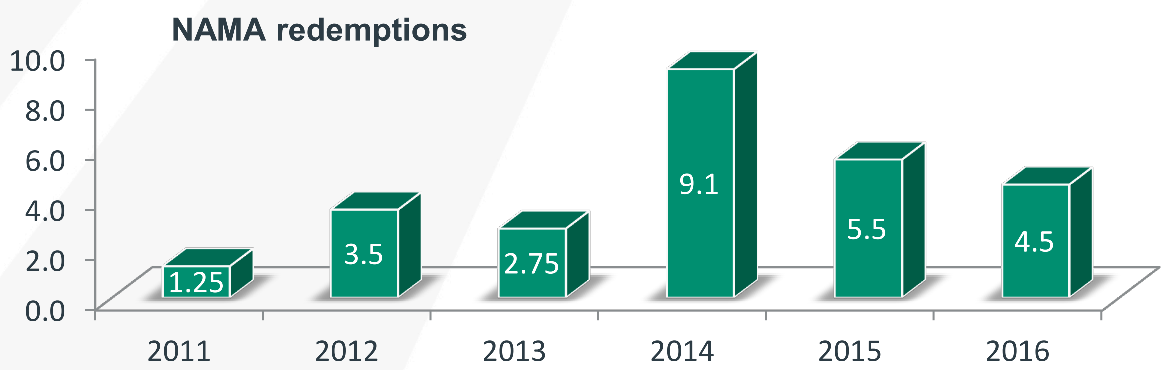
- **NAMA may realise a surplus, currently estimated within a range of €1.6 billion to €2.3 billion, according to its management team - if current market conditions remain favourable**

- **In October 2015, NAMA announced a new initiative to develop up to 20,000 housing units by 2020 – subject to commercial viability**

NAMA: 2011 – 2015 financial results

€m	2011	2012	2013	2014	2015
Net interest income	771	894	960	642	393
Operating profit before impairment	1,278	826	1,198	680	1,769
Impairment charges	(1,267)	(518)	(914)	(170)	86
Profit before tax and dividends	11	308	283	510	1,854
Tax (charge)/credit and dividends	235	(76)	(70)	(52)	(28)
Profit for the year	246	232	213	458	1,826

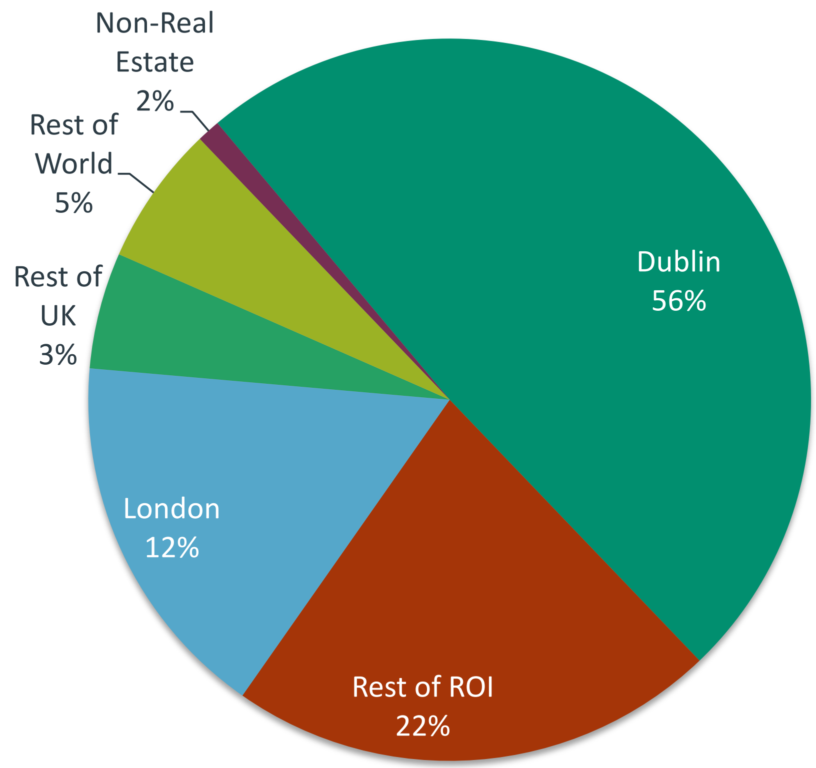
Source: NAMA



- NAMA continues to generate net profit after impairment charges.
- 2015 operating profit and impairment charges much improved than previous years
- €4.5bn of NAMA senior bonds redeemed in 2016 bringing total amount redeemed to €26.6bn (88% of its senior debt liabilities)
- All of €30.2bn in NAMA senior bonds expected to be redeemed by 2018

Breakdown of remaining NAMA portfolio is Dublin-centric

- At end-June 2016, NAMA's remaining portfolio contained €7.2bn worth of assets.
- Vast majority of remaining portfolio in Ireland is in Greater Dublin Area or in other urban centres.
- NAMA's exposure to Brexit is minimised as majority of UK assets disposed of in previous years.



Source: NAMA

NAMA's residential development funding programme

- **In reaction to the lack of housing supply, NAMA hopes to bring up to 20,000 housing units to the market by 2020 subject to commercial viability**

- **The focus will be on starter homes and will be concentrated in the Greater Dublin Area**
  - 75% of units will be houses, 25% apartments
  - 93% of units in Greater Dublin Area (Dublin, Wicklow, Kildare & Meath)

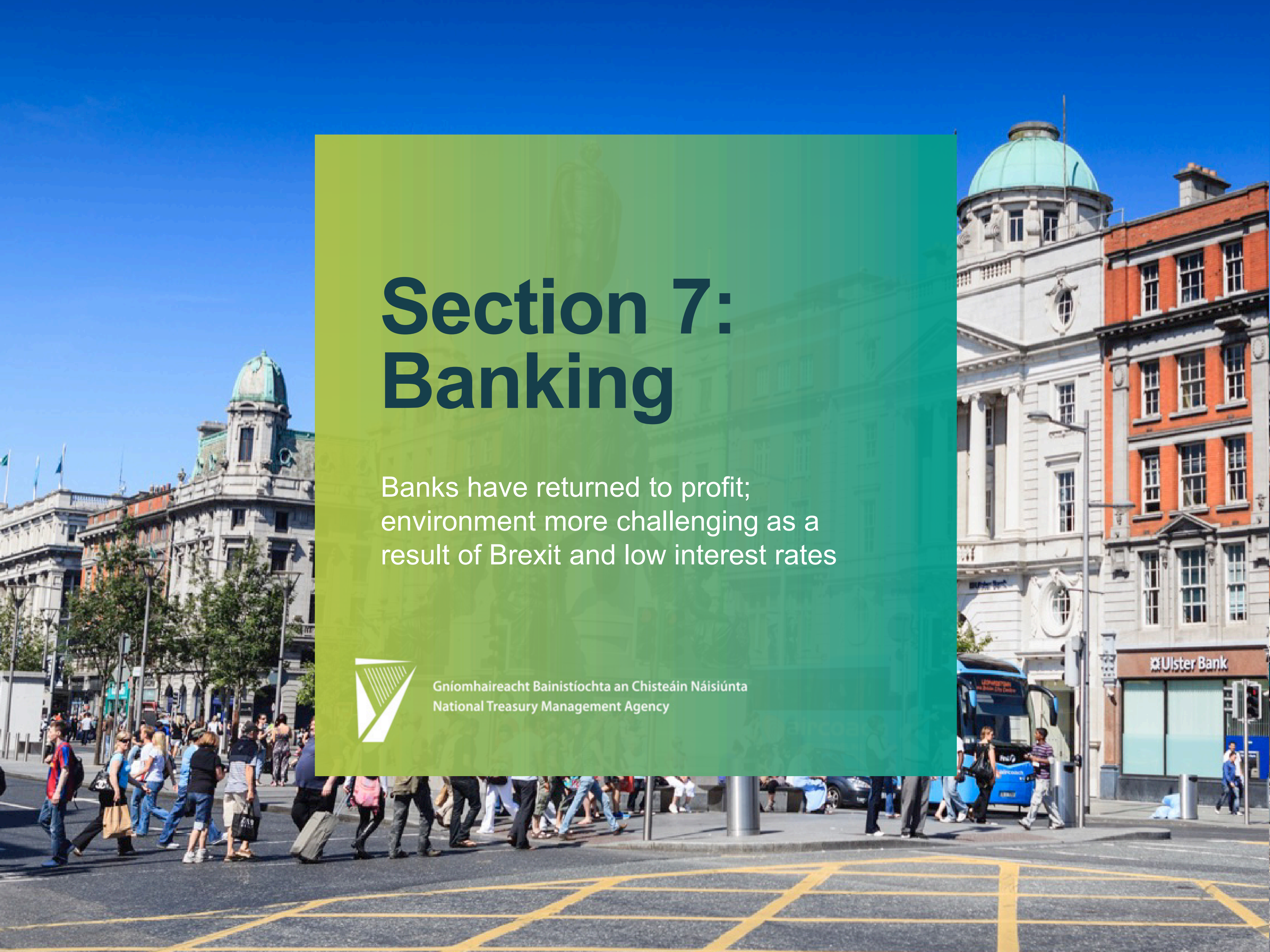
- **Building progress has been strong so far**
  - 3,180 units completed since the start of 2014
  - Another 3,600 are under construction
  - Planning permission have been granted for another 6,500
  - Planning applications have either lodged or will be lodged within 12 months for a further 9,595 units

- **Existing NAMA commitments are unaffected by this new programme**
  - Plans for all senior debt to be repaid by 2018 and subordinated debt repaid by March 2020 are still in train

NAMA: Other strategic initiatives also progressing

- **Dublin Docklands Strategic Development Zone (SDZ):**
  - A core objective of NAMA's development funding is to facilitate the delivery of Grade A office accommodation in the SDZ.
  - NAMA has an interest in 15 of the 20 development blocks identified in the SDZ and has developed detailed strategies for these blocks.
  - It is estimated that up to 3.8m sq. ft. of commercial space and 2,000 apartments could be delivered in all sites.
  - 47,500 sq. ft. of construction completed with another 1.4m sq. ft. of construction commenced. Planning has been granted on another 1.5m sq. ft.

- **Social Housing:**
  - A SPV – NARPSL – was established by NAMA to expedite social housing delivery. It acquires residential units from NAMA debtors and receivers and leases them directly to approved housing bodies (Department of the Environment, Community and Local Government; and the Housing Agency).
  - By end-June 2016, 2,644 have been confirmed as suitable by local authorities while 2,135 of those having been delivered.



Section 7: Banking

Banks have returned to profit; environment more challenging as a result of Brexit and low interest rates

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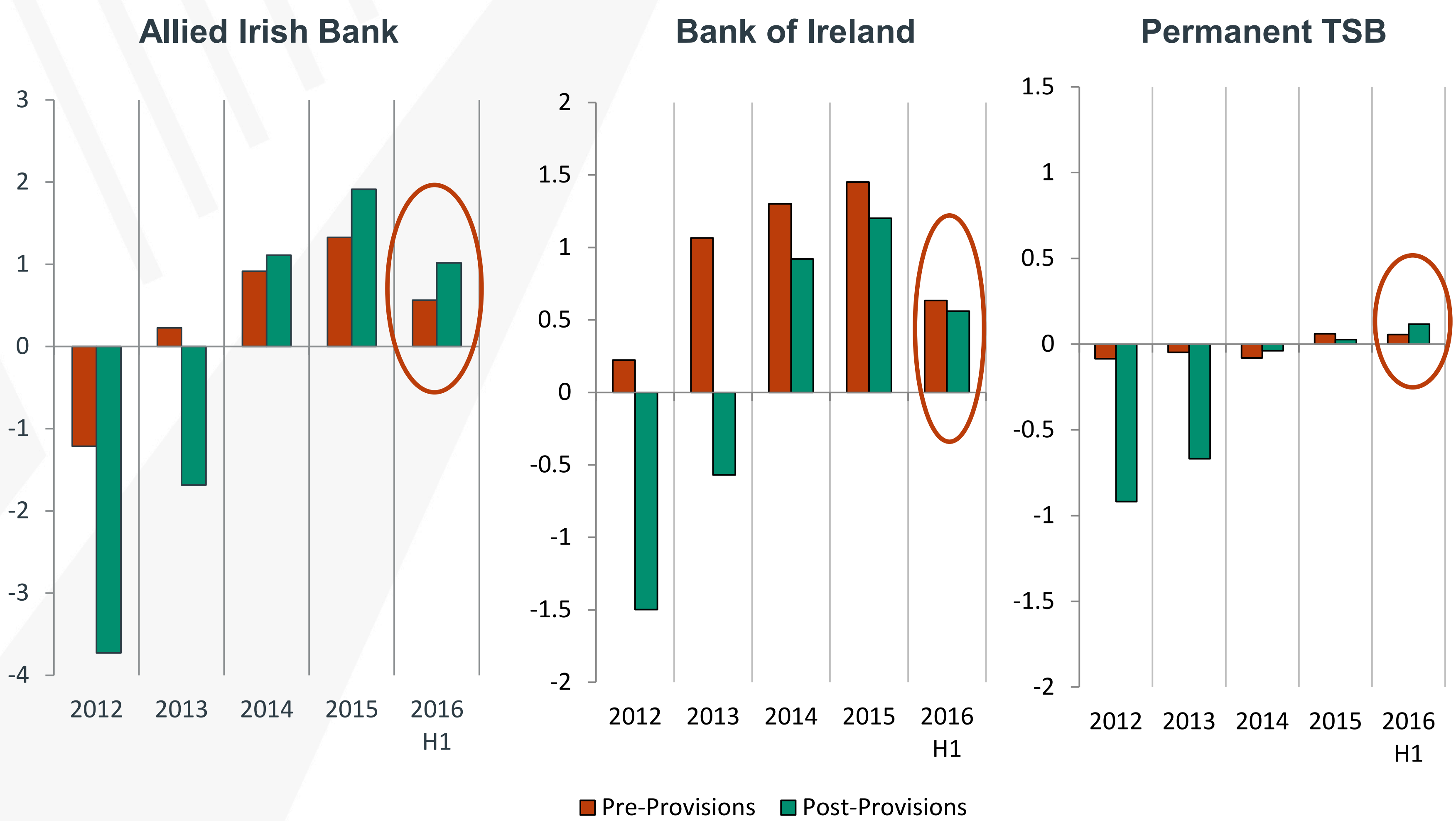
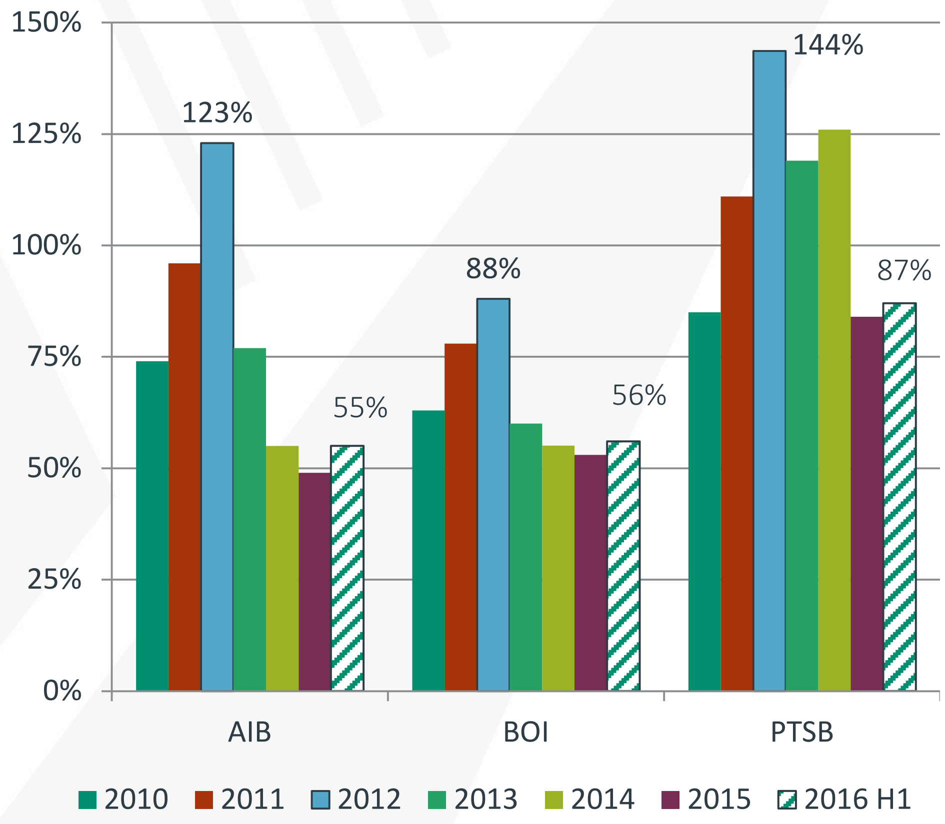
All three pillar banks in profit in first half of 2016



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

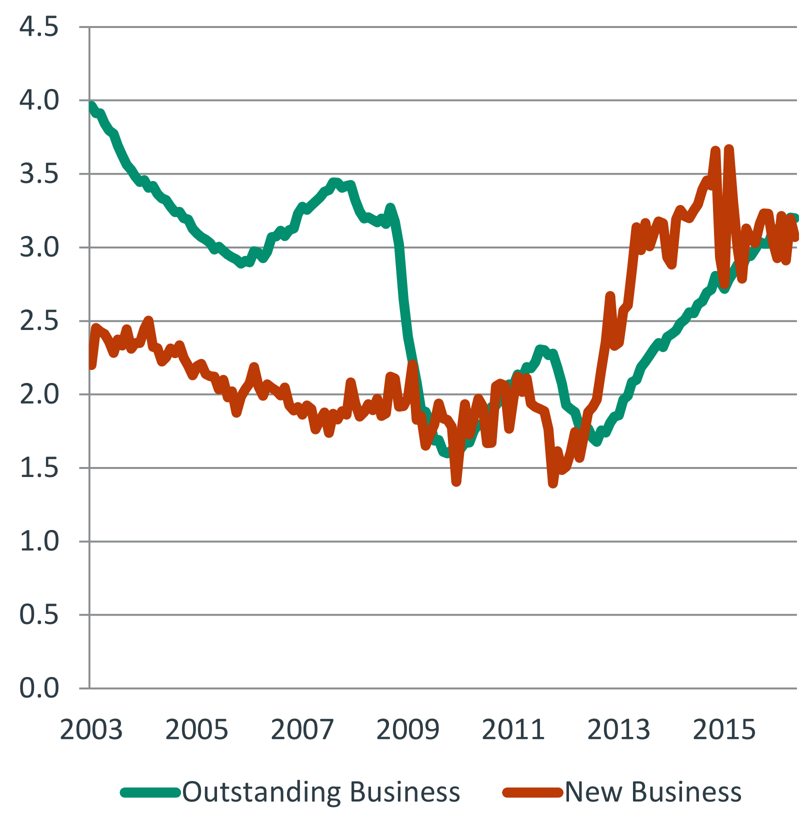
Banks fundamentally rebuild profitability

Cost income ratios improve dramatically



Source: Annual reports of Irish domestic banks

Net interest margins recover %

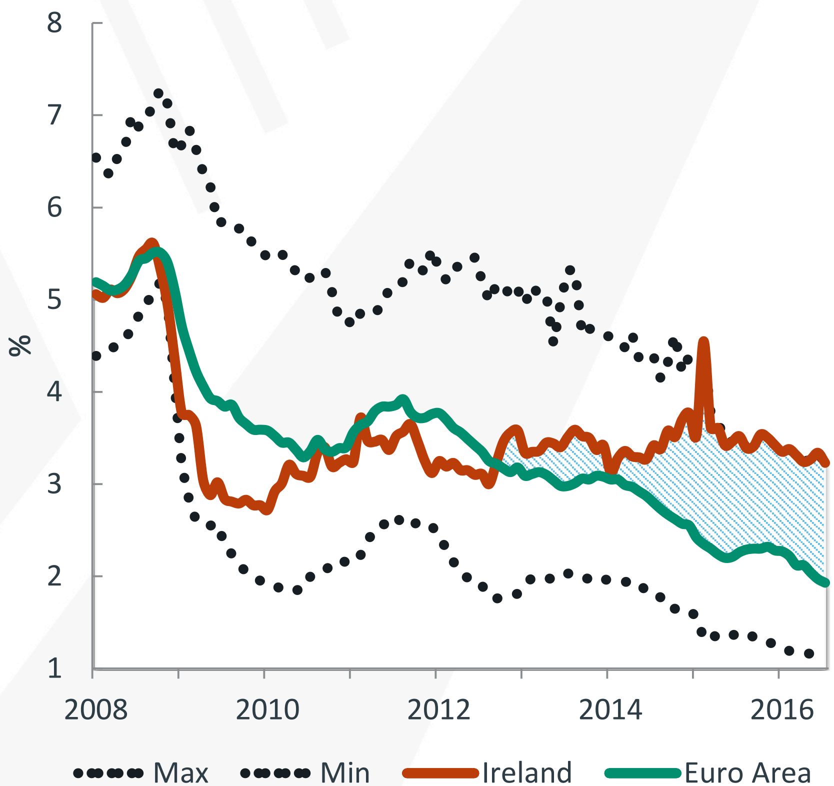


Source: CBI, NTMA Calculations

Note: Margins are derived from weighted average interest rates on loans and deposits to and from households and non-financial corporations

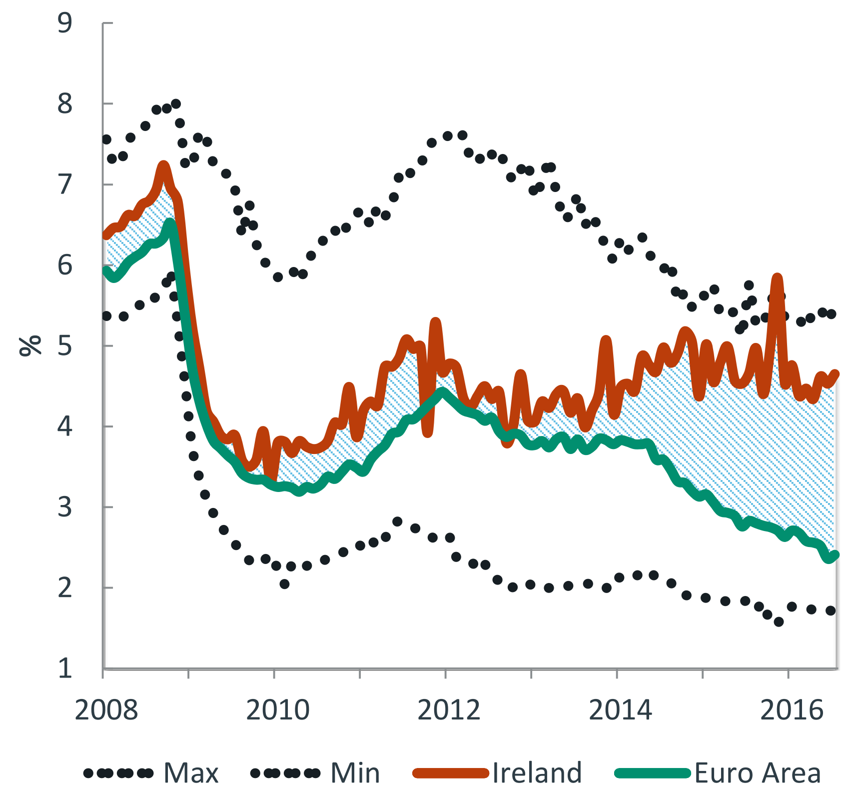
Profitability aided by higher interest rates than EA peers

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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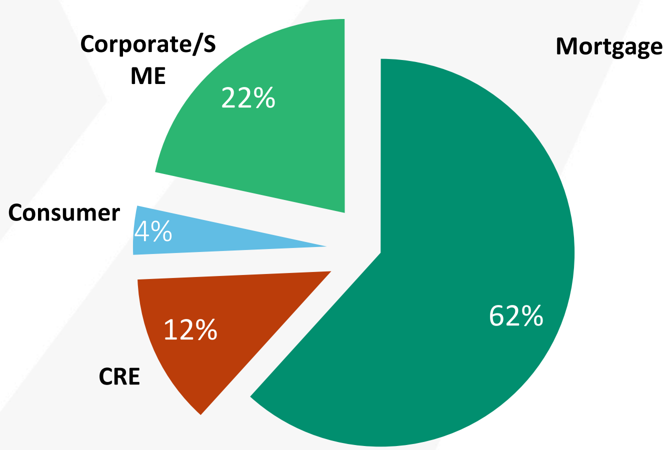
Asset quality continues to improve; impaired loans and provisions fall in 2016

All 3 PCAR Banks (€bn)	Dec-14	Dec-15	Jun-16
Total Loans	197.1	186.5	176.9
Impaired	43.1	29.0	26.2
(Impaired as % of Total)	21.9%	15.5%	14.8%
Provisions	23.5	14.7	12.7
(Provisions as % of book)	12.0%	7.9%	7.2%
(Provisions as % of Impaired)	54.5%	50.6%	48.5%

Loan Asset Mix (3 banks Jun 16)



Source: Published bank accounts

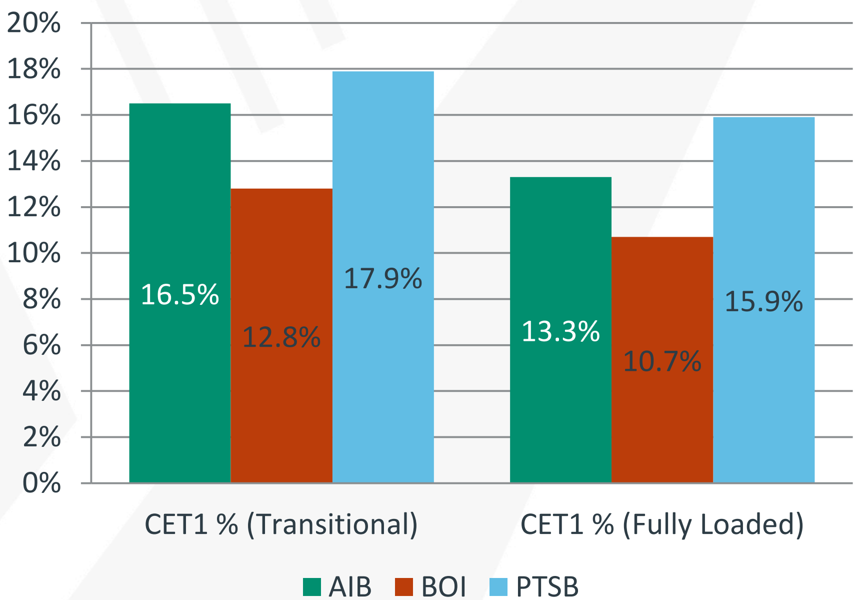
Impaired Loans % (Coverage %)[1] by Bank and Asset

		Dec-14	Dec-15	Jun-16	*Book (€bn)*
BOI	Irish Residential Mortgages	12.6(46)	9.3(52)	10.7(40)	24.6
	UK Residential Mortgages	2.0(23)	1.6(22)	3.7(8)	24.8
	Irish SMEs	25.6(51)	21.9(52)	20(53)	9.2
	UK SMEs	16.9(44)	11.1(51)	8.8(50)	2.1
	Corporate	5.6(54)	4.6(59)	4.2(62)	9.1
	CRE - Investment	37.2(46)	28.5(53)	26.4(54)	10.3
	CRE - Land/Development	89.5(74)	84.8(76)	78.9(75)	1.5
	Consumer Loans	6.4(98)	4.1(105)	3.3(106)	3.6
		18.2(50)	**11.6(56)**	**11.7(49)**	**85.1**
AIB	Irish Residential Mortgages	22.6(40)	16.6(38)	15.0(41)	33.8
	UK Residential Mortgages	11.6(59)	10.8(50)	10.6(51)	2.0
	SMEs/Corporate	21.4(68)	11.5(63)	10.4(55)	17.6
	CRE	56.9(62)	37.4(61)	33.7(56)	10.5
	Consumer Loans	27.2(69)	19.9(70)	19.3(64)	3.3
		29.2(51)	**18.6(47)**	**16.8(47)**	**67.1**
PTSB	Irish Residential Mortgages	25.5(46)	23.6(49)	22.5(50)	21.1
	UK Residential Mortgages	1.5(60)	3.9(39)	3.6(50)	3.1
	Commercial	74.0(60)	35.8(69)	33.7(96)	0.3
	Consumer Loans	29.7(94)	27.0(93)	26.6(86)	0.3
		24.5(51)	**21.1(49)**	**20.3(51)**	**24.7**

[1] Total impairment provisions are used for coverage ratios (in parentheses)

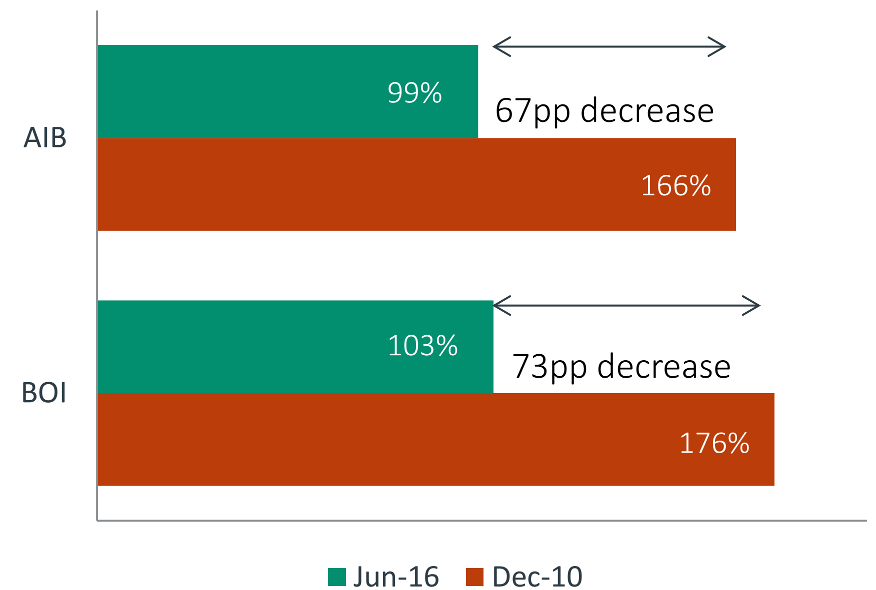
Capital and loan-to-deposit ratios strengthened

CET 1 Capital Ratios (Jun-16)



Source: Published bank accounts

Loan-to-Deposit Ratios (Dec-10 to Jun-16)



Source: Published bank accounts

- Common equity tier 1 capital ratios at the PLAR banks remain well above minimum requirements.

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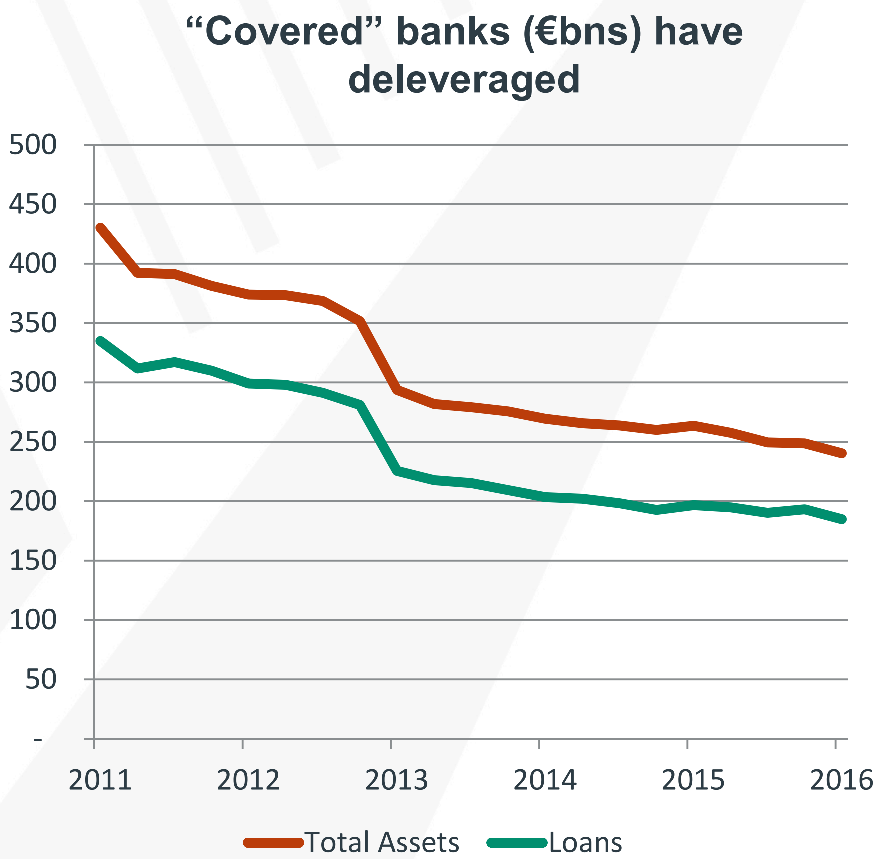
Note: "Transitional" refers to the transitional Basel III required for CET1 ratios which came into effect 1 January 2014. "Fully loaded" refers to the actual Basel III basis for CET1 ratios.
* The fully loaded CET1 ratios exclude the 2009 preference shares.

Aggregated balance sheet of the "Covered" banks much slimmer and more solid



Aggregated Balance Sheet end Q1 2016 €bn	
Assets	240.4
• Loans and receivables	184.7
• Cash & other liquid assets	41.1
• Other	14.6
Liabilities	216.7
• Deposits	175.1
• Other Liabilities	41.7
Equity & Minority Interest	23.7

Source: CBI

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Note: Banks included in this measure are outlined here; Balance sheet calculated on consolidated basis

Irish banks have exposure to UK market; challenging environment following Brexit

BofI UK exposure

	End-2015	% of Group Total
Total Income	c. €820m	25.0%
Credit Outstanding	€39.8bn	44.0%
Operating Profit	€284m	19.6%
Impairment charge	(€139m)	47.0%

AIB UK exposure

	End-2015	% of Group Total
Total Income	€347m	13.2%
Credit Outstanding	€11.5bn	16.3%
Operating Profit	€185m	13.9%
Impairment charge	€44m	4.7%

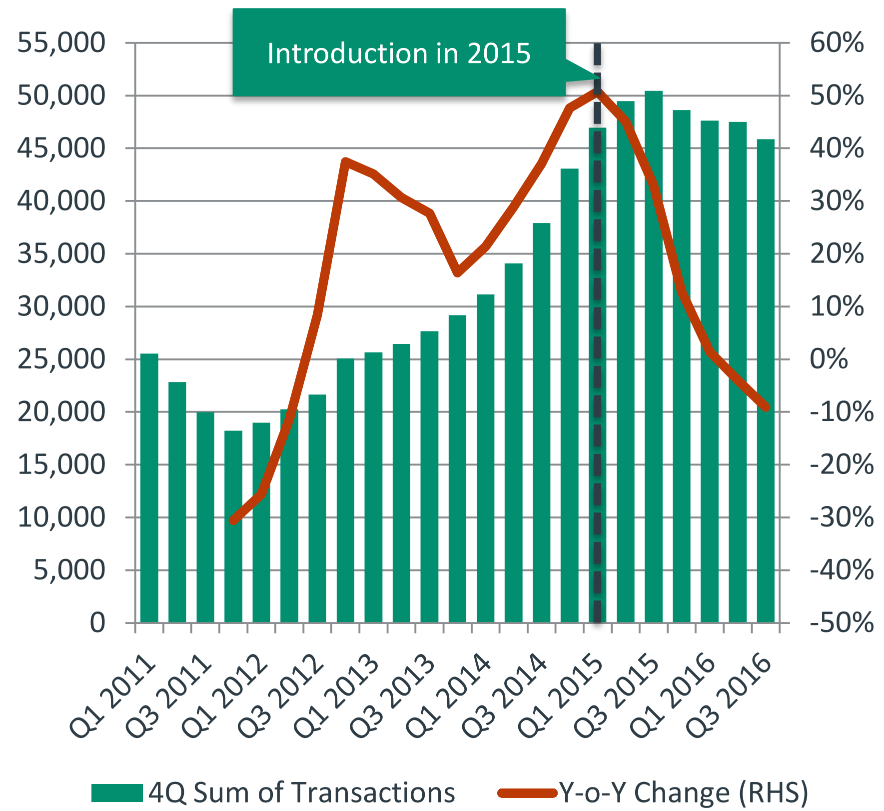
Source: Published bank accounts

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

Key Points regarding CBI macro-prudential rules

- Banks must restrict lending for primary dwelling purchase above 80 per cent LTV to no more than 15 per cent of the aggregate value of the flow of all principal dwelling loans.
- First time buyers can borrow 90% of the first €220,000 and 80% of the remaining property value
- Bank must restrict lending for primary dwelling purchase above 3.5 times LTI to no more than 20 per cent of that aggregate value
- Banks must limit Buy-to-Let loans (BTL) above 70 per cent LTV to 10 per cent of all BTL loans.

CBI rules have cooled the market



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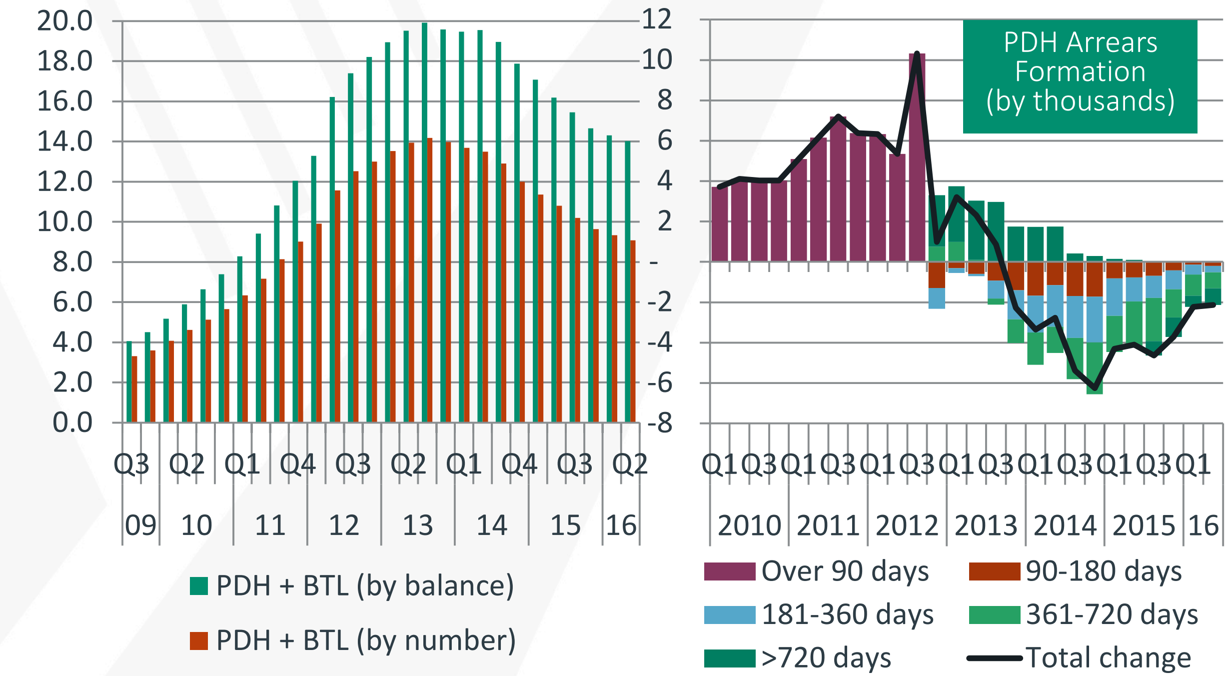
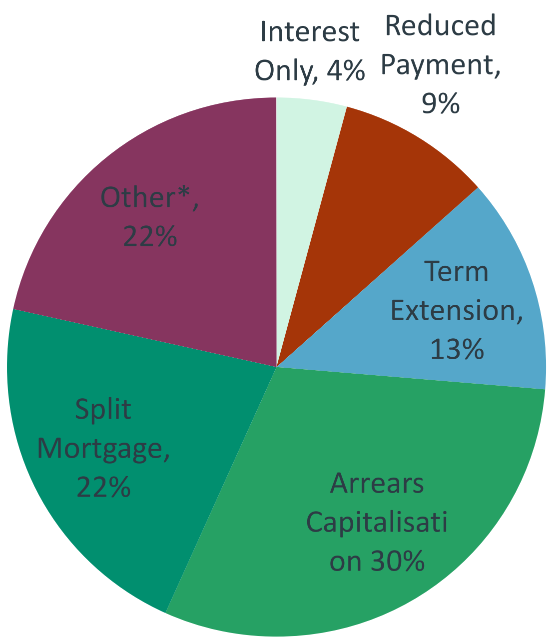
Source: [Residential Property Price Register]

Irish residential mortgage arrears – improving across all duration categories; still challenging environment

Mortgage Arrears (90+ days)



Total Restructurings

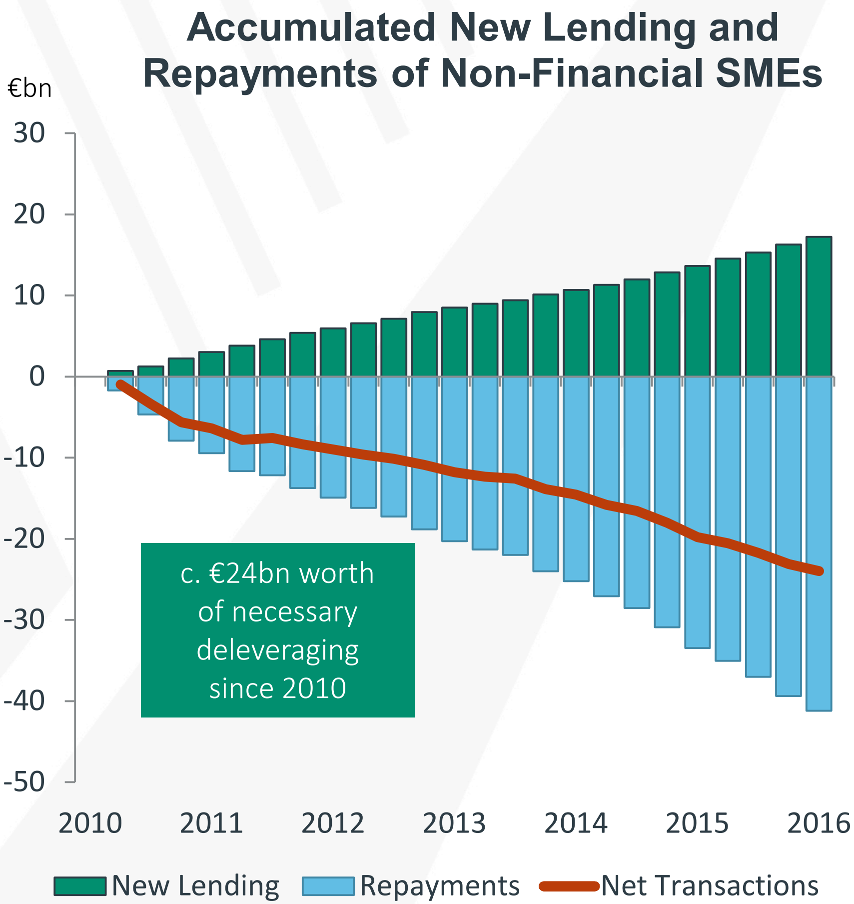


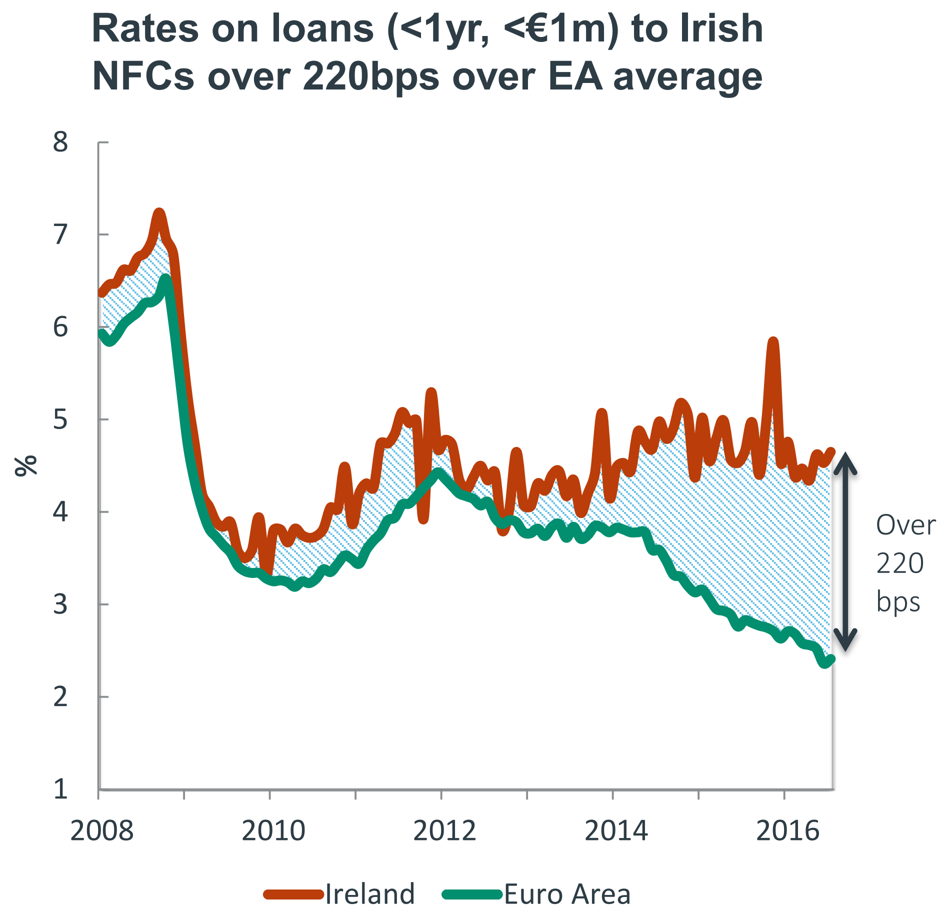
Source: CBI

- PDH mortgage arrears have fallen steadily for 11 quarters. The smaller BTL market (c. 25% of total) has higher arrears but also saw declines in the same period.
- 121K PDH mortgage accounts were classified as restructured at end-June 2016. Of these restructured accounts, 88% were meeting the terms of the restructured arrangement.

* 'Other' comprises accounts offered temporary Interest rate reductions, payment moratoriums and long-term solutions pending six months completion of payments.

SME deleveraging continuing as dispersion in interest rates persists across EA





Source: CBI; ECB

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Note: Annualised Agreed Rate is defined by the ECB as 'the interest rate that is individually *agreed* between the reporting agent and the NFC for a loan, converted to an annual basis and quoted in percentages per annum. The rate shall cover all interest payments on loans, but no other charges that may apply.'

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