

Through our value-for-money work, the NAO reports on whether public bodies have used public money efficiently, effectively and with economy. We do not question the merits of government policy objectives, but examine objectively and independently the value for money with which public bodies implement those policies.



National Audit Office

Economic regulation and indexing the allowed cost of debt

Martin Malinowski

Senior Analyst, Regulation, Consumers & Competition

Introduction:

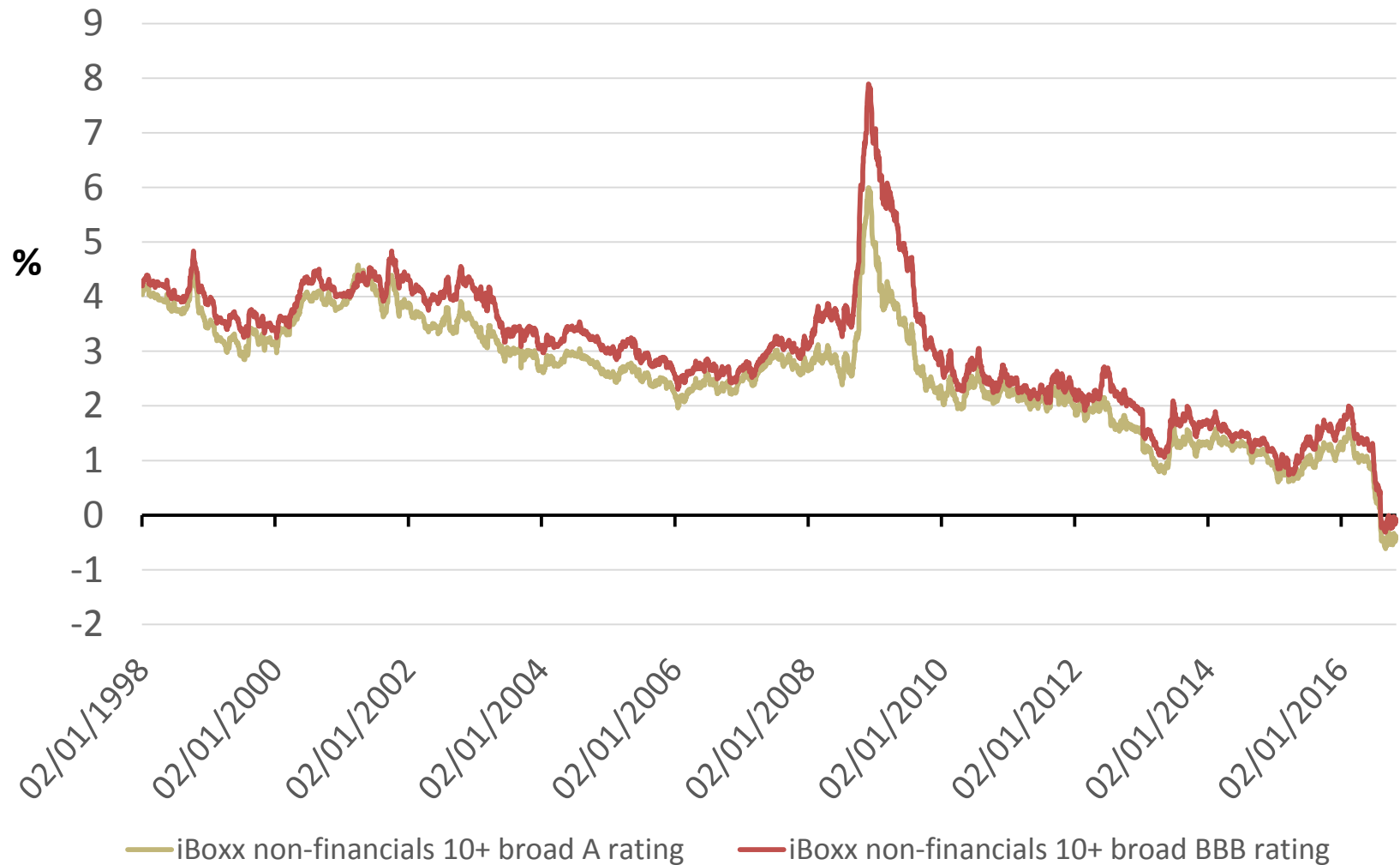
- Role of the NAO & *The economic regulation of the water sector* (2015)
- Relevant issues for choice between *ex ante* debt fixing and indexation:
 - 1) Is interest rate 'risk-sharing' useful for customers, and if so, how should we value it financially?
 - 2) What is the difference in cost to customers between the various options?
 - 3) What behaviours are encouraged in firms by the allocation of interest-rate risk they bear - and what are the likely consequences for customers?

Indexation in UK regulation, 2007-2016

- **2007** - CAA reject indexation for Q5 (2008-2014), in part due to anti-indexation views of Competition Commission (BAA were pro at the time).
- **Sep 2007** – CEPA publish report for Ofwat/ORR recommending consideration of an indexation mechanism for cost of debt.
- **Mar 2011** – Ofgem decide to adopt debt indexation with a 10yr simple trailing average for RIIO-GD1 and RIIO-T1 (2013/14 – 2021/22).
- **Mar 2013** – Ofgem decide to adopt debt indexation for RIIO-ED1 with a ‘trombone’ trailing average slowly extending to 20 years.
- **Jul 2013** – Ofwat considers but rejects indexation for PR14 (2015/16-2020/21).
- **Aug 2015** - project license for Thames Tideway Tunnel signed, includes cost of debt indexation mechanism.
- **Sep 2015** – CMA decide in its FD for appeal by British Gas that use of trombone is consistent with objective of promoting efficient financing.
- **Oct 2015** – publication of NAO report.
- **Sep 2016** – Ofwat consultation on approach to setting cost of debt in PR19

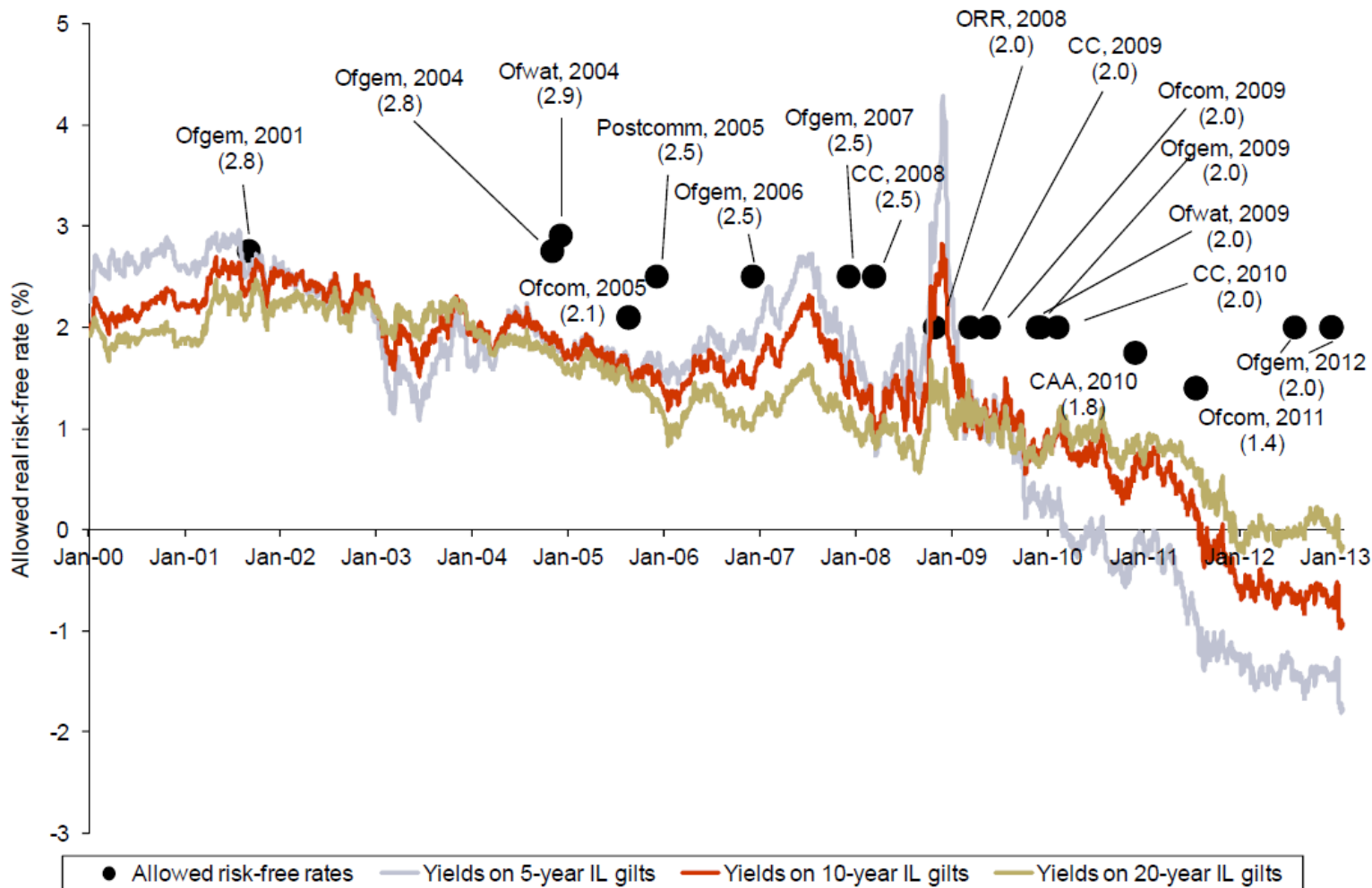
Corporate borrowing costs have declined over time:

Implied real yields on investment-grade, non-financial corporate bonds



All regulators have shown a historical tendency to 'aim-up' on their estimates of the risk-free rate:

Real risk free rate determinations by UK regulators

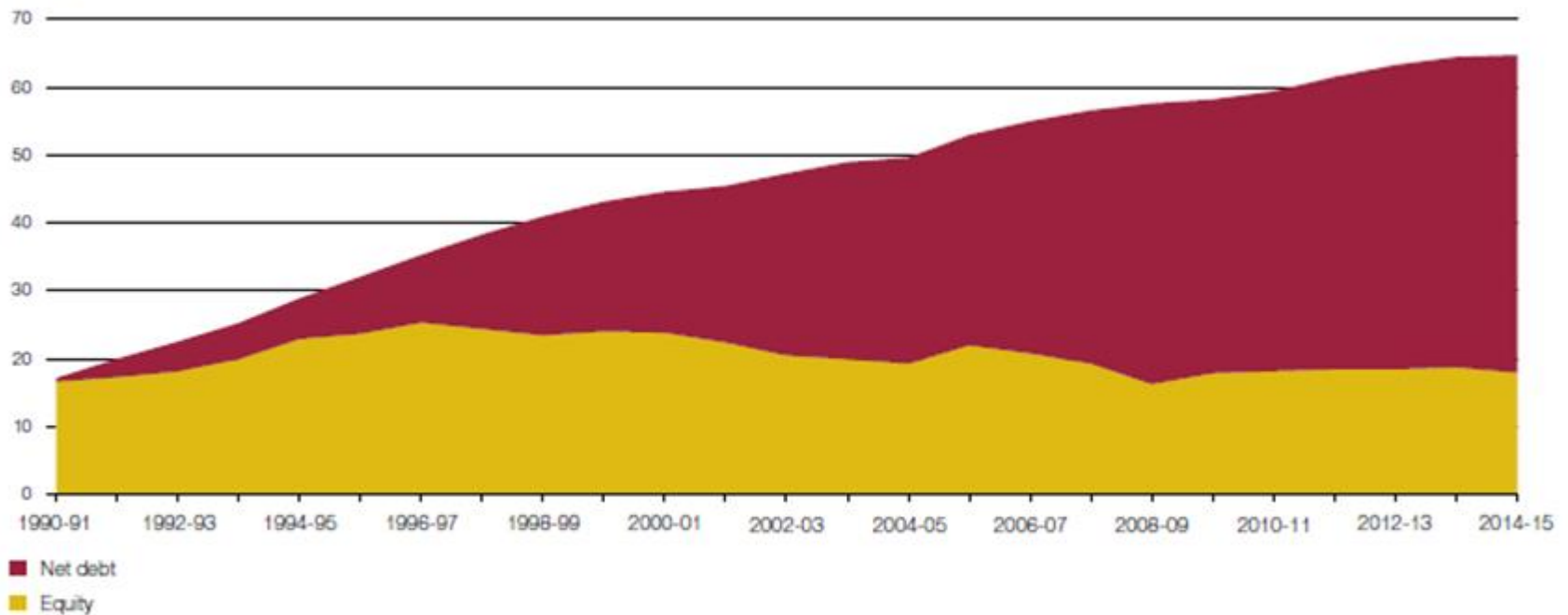


Regulated networks have become increasingly debt-financed:

Debt and equity in the water sector, 1990-01 to 2014-15

Growth in the sector's regulatory capital value has increasingly been financed by debt over time

£ billion



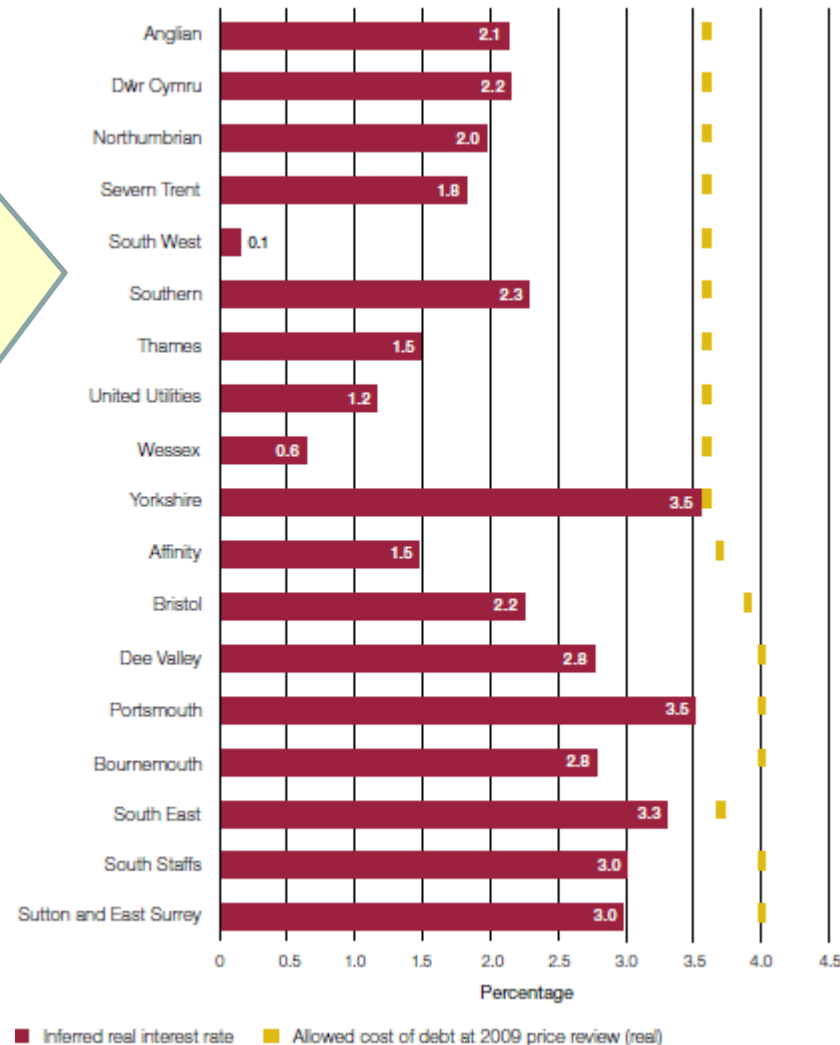
Note

- 1 Equity is defined as regulatory capital value minus net debt.
- 2 Figures are in 2014-15 prices.

Variation in cost of embedded debt complicates the sharing of historical efficiencies in a single WACC

The indicative real cost of debt versus the regulatory allowance, 2010/11 – 2014/15

Main tool for setting embedded cost of debt at PR14 was iBoxx 10yr A / BBB – i.e. same index used by Ofgem's indexation model. Ofwat did not use its estimate of the average real debt cost (2.2%), but rather a point between that implied by the indices (2.8%) and this point; (2.65%)



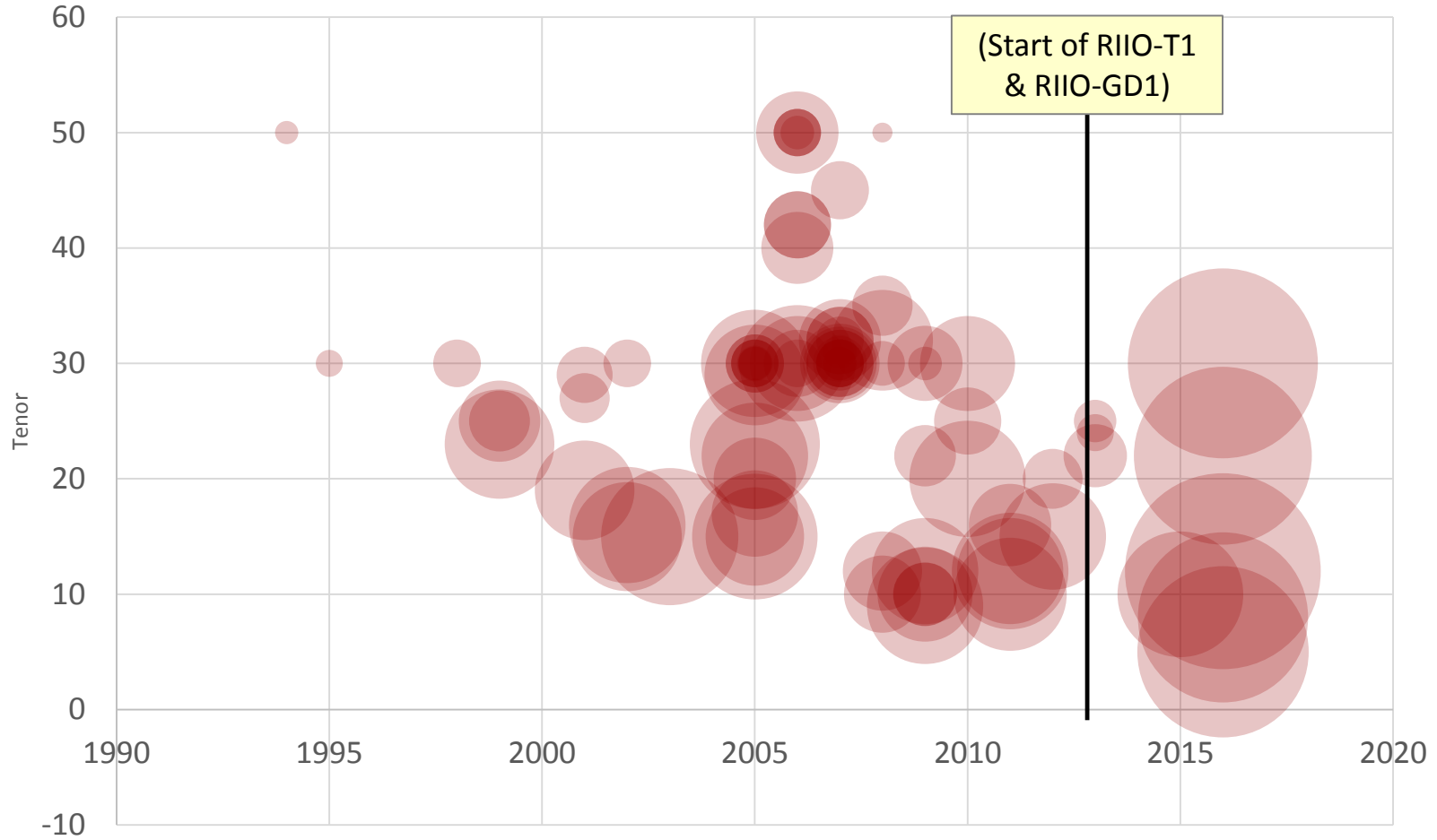
The use of an Ofgem-style counterfactual for PR09 could have led to gains of £840m for customers.

The notional customer impact of applying an Ofgem-style 'trombone' cost of debt to the period 2010-11 to 2014-15

	2010-11	2011-12	2012-13	2013-14	2014-15	Total
Ofwat's 2009 cost of debt allowance	3.60%	3.60%	3.60%	3.60%	3.60%	
Counterfactual cost of debt	3.36%	3.25%	3.14%	3.03%	2.90%	
Difference	0.24%	0.35%	0.46%	0.57%	0.70%	
Notional gearing assumed at 2009 price review	57.50%	57.50%	57.50%	57.50%	57.50%	
Regulatory Capital Value	51,828	55,831	59,394	62,547	64,509	
Cash impact on customers (£m)	70	113	158	206	259	806
Real terms impact (£m, 2014-15 prices)	80	122	166	210	259	836

Financing behavior before and after RIIO:

EUR/GBP-denominated, fixed-term bond issuance for energy networks¹



Source: NAO analysis of Bloomberg data.

1) Companies featured are National Grid (all PLCs), Northern Gas Networks, Southern Gas Networks, Wales & West Utilities

2) Size of bubbles is proportional to size of bond issue.

Concluding thoughts

- It is likely that customers of RPI-X sectors in the UK have historically paid billions more than necessary to remunerate actual debt costs due to 'aiming-up' and a fixed debt allowance.
- Indexation can benefit regulators & customers in terms of being able to set a more accurate cost of debt allowance without needing to 'aim up'. There is still an incentive to beat the index.
- More research on offtaker & customer attitudes to taking on interest rate risk is desirable - as current picture is unclear.
- Potential mitigations to higher bill volatility from indexation exist via long-period moving averages and retail products (e.g. multi-year fixes to satisfy customer risk preference).
- If index-shadowing is happening, can the likely cost to customers be quantified?