

Higher-for-longer Interest Rates

February 2024

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The current economic outlook has interest rates remaining at elevated levels for the foreseeable future

What do higher-for-longer interest rates mean for the cost of equity capital?

How should regulators like Ofgem and Ofwat calibrate the allowed return on equity in upcoming price reviews?

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1. Long-term interest rates have reverted to pre-GFC levels

The chart opposite plots the yield on 20-year nominal gilts

The current risk-free rate of ~4.6% is broadly in line with the average interest rate seen over the period 2000 to 2007

20-year gilt yields (%)

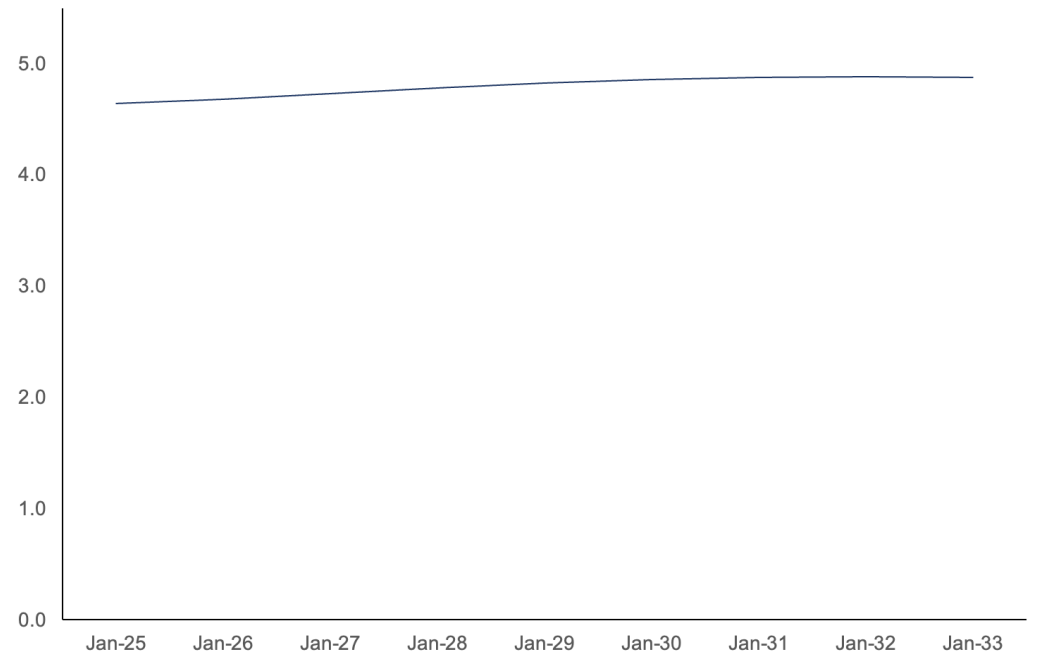


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2. Expectations are that interest rates will remain higher for longer

Forward gilt market rates show no current prospect of a material move down in the long-term interest rates over the next 5-10 years

20-year gilt forward yields (%)



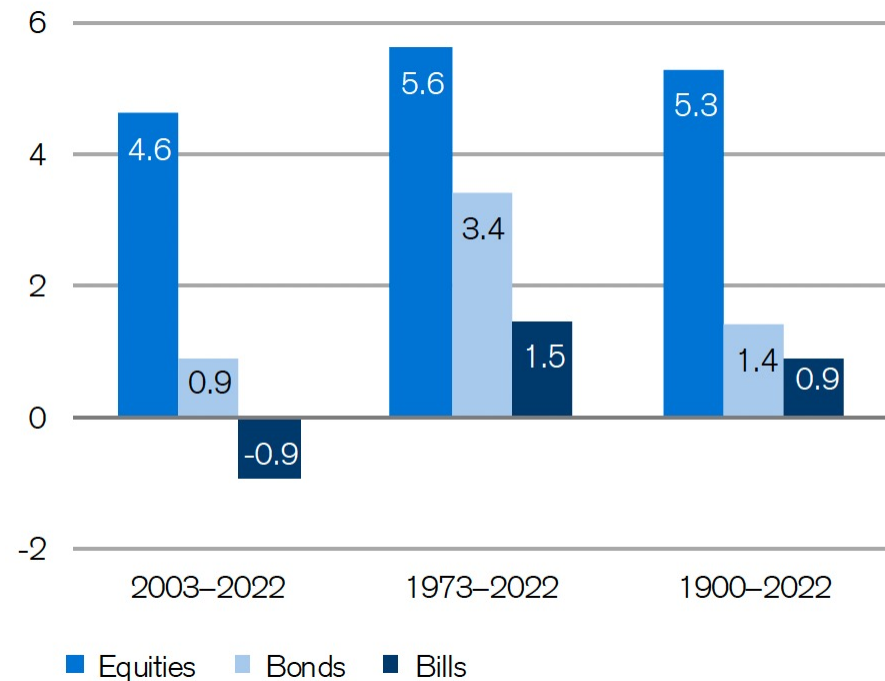
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3. “Higher” in higher-for-longer looks like it means above long-term historical averages

Dimson, Marsh & Staunton’s work suggests that long-dated gilts have historically yielded average real returns of 1.4% per annum

A nominal risk-free rate of ~4.6% is equivalent to a real risk-free rate of ~2.5%, which is above the long-term DMS average

Annualised real returns, UK (%)



Source: Credit Suisse Global Investment Returns Yearbook 2023

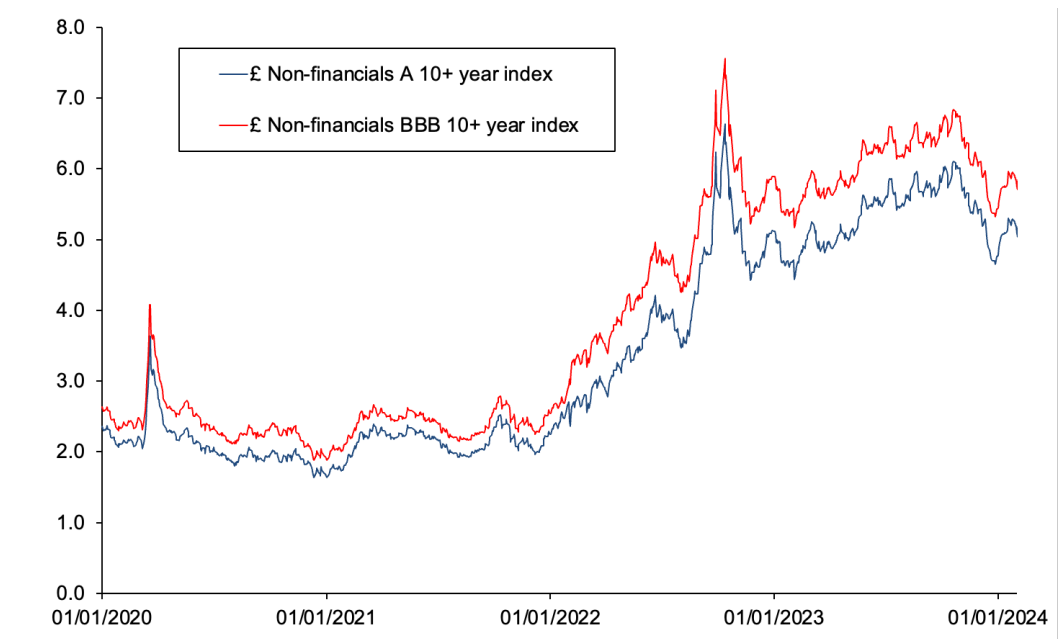
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4. A higher risk-free rate affects returns on all asset classes

We can directly observe the effect that a higher risk-free rate has been having on the cost of debt

We can also see expected returns on other asset classes – e.g. hybrid debt instruments, infrastructure funds – moving up in the face of higher interest rates

iBoxx benchmarks (%)

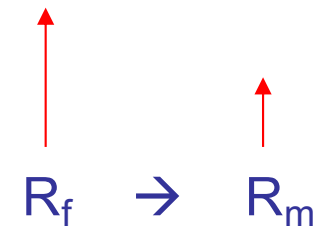


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5. The cost of equity is not immune from the same effects

There is a consensus among economists that the market-wide cost of equity is not invariant in the face of changes in the risk-free rate

In the language of the CAPM, the value of R_f affects the value of R_m , albeit not 1-for-1



$$\text{Cost of equity} = R_f + \beta \cdot (R_m - R_f)$$

A diagram illustrating the components of the CAPM equation. Red arrows point upwards from R_f , R_m , and the β term. A red arrow points downwards from R_f in the parentheses, indicating that an increase in R_f has a negative effect on the market return component of the cost of equity.

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6. UK regulators have, however, ostensibly been trying to take a 'through-the-cycle' approach to equity returns

In a 2018 report, Wright, Burns, Mason & Pickford recommended that UK regulators should treat R_m as a constant

All regulators – and the CMA – have embraced this approach in recent decisions

“We recommend that regulators should continue to base their estimates of R_m on long-run historic averages ...

That is, the best means – one that satisfies the twin criteria of implementability and defensibility – to estimate R_m is to assume that it is constant, and to look at realised historic real returns in a range of stock markets and over long samples.”

Wright, Burns, Mason & Pickford (2018),
Estimating the cost of capital for implementation
of price controls by UK regulators

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7. UK regulated companies have supported this approach

There was obvious benefit for shareholders in anchoring R_m to long-term historical averages at a time of unprecedentedly low interest rates

(Unsurprisingly, market-to-asset ratios were very healthy up to 2022)

“There is no market evidence to support a decline in either realised or expected returns, and indeed recent market evidence is consistent with a broadly constant TMR over time.”

Energy Networks Association, 2019

”The most robust approach to estimating TMR is to use long-run historical ex post returns (from 1900 to the present day) as a proxy for investors’ forward-looking expectations of TMR.”

Appellant water company, 2020

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8a. In reality, regulators did however bring returns down as part of a deliberate response to low interest rates

Regulators knew that a straight application of a 'constant TMR' approach would result in high returns

This impacted the range of judgments that regulators have had to make as they calibrated their CAPM calculations

“There is inherent uncertainty in estimating CAPM parameters that are not directly observable, therefore we decided early on that cross-checks would be a valuable supplement to our CAPM work ...

This seemed particularly important in the wider financial environment: Since RIIO-1 (it is now nearly 10 years since that price review took place), there has been sustained evidence that the cost of capital is now lower than previously determined ...

RIIO-2 had to respond to the current evidence and financial environment. ”


Ofgem director, 2021

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8b. In reality, regulators did however bring returns down as part of a deliberate response to low interest rates (cont'd)

The panel opposite depicts the key issues that Ofwat looked at in its PR19 and early PR24 work

In the vast majority of cases, Ofwat picked low-end values from admissible ranges

Risk-free rate proxy		<hr/>
R_m deflator		<hr/>
R_m averaging		<hr/>
Beta estimation period		<hr/>
Debt beta / gearing		<hr/>
Aiming up?		<hr/>
Cost of embedded debt		<hr/> 
Cost of debt halo		<hr/>
Return formula		<hr/>

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8C. In reality, regulators did however bring returns down as part of a deliberate response to low interest rates (cont'd)

As a consequence of such choices, regulators' current estimates of required returns are materially lower than when interest rates last stood at current levels

Ofgem, allowed cost of equity for a transmission network business

2006 TPCR decision	9.5%
2024/25 RIIO-2 rate of return	7.5%
Change	↓ 2%

Key question: What should regulators do now if interest rates have flipped to a higher-for-longer outlook?

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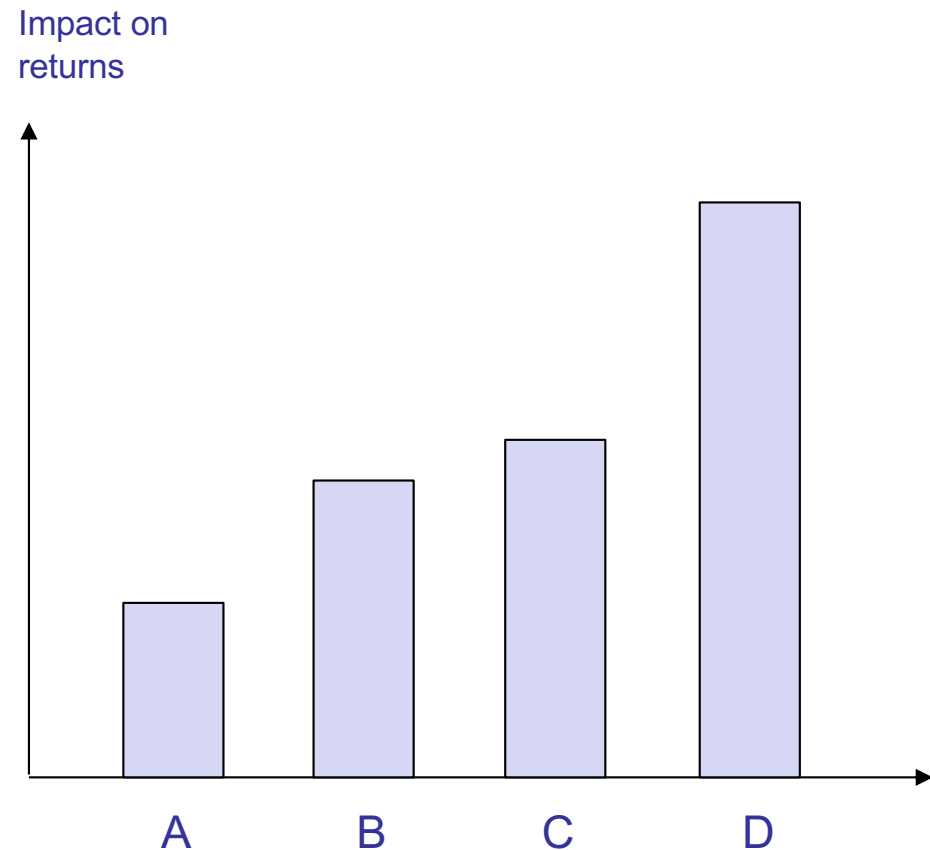
9. There are several possible stances that regulators could take

Option A: Maintain established approach in full, save for a move up in R_f

Option B: Maintain a constant R_m but unwind the 'erring down' that occurred when interest rates were low

Option C: Allow for the true relationship between R_f and R_m

Option D: Provide from now on for a fixed equity-risk premium rather than a fixed R_m



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10. Different considerations pull in different directions

Ideally, there should be:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
- a compatibility with the underlying economics of equity returns		?	✓	
- preservation of regulated companies' incentive to invest		?	✓	✓
- a degree of consistency with past decisions	✓	✓	?	
- future proofing, given the scope for interest rates to lurch up or down again		?	✓	
- implementability	✓	?	?	✓

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11. Option A does not look workable

We saw this very clearly last summer, when Ofwat guided water companies to insert a return on equity into PR24 business plans that was/is objectively too low going into a period of very significant new investment

20-year gilt yields *	4.6%
BBB rated bond yields *	5.8%
Ofwat's early view of the required return on equity	6.2%

* Data as at February 2024

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12. If I were a regulator, I would favour a combination of Options B and C

If regulators squeezed down on returns when interest rates were low, it is only right that regulators release this squeeze now that interest rates look like they are going to be higher-for-longer

Thereafter, recognition of the 'true' relationship between R_f and R_m would make future price reviews more straight-forward (and more honest)

The question is whether anyone – regulators or regulated companies – are prepared to take on and accept the realities of a time-varying R_m