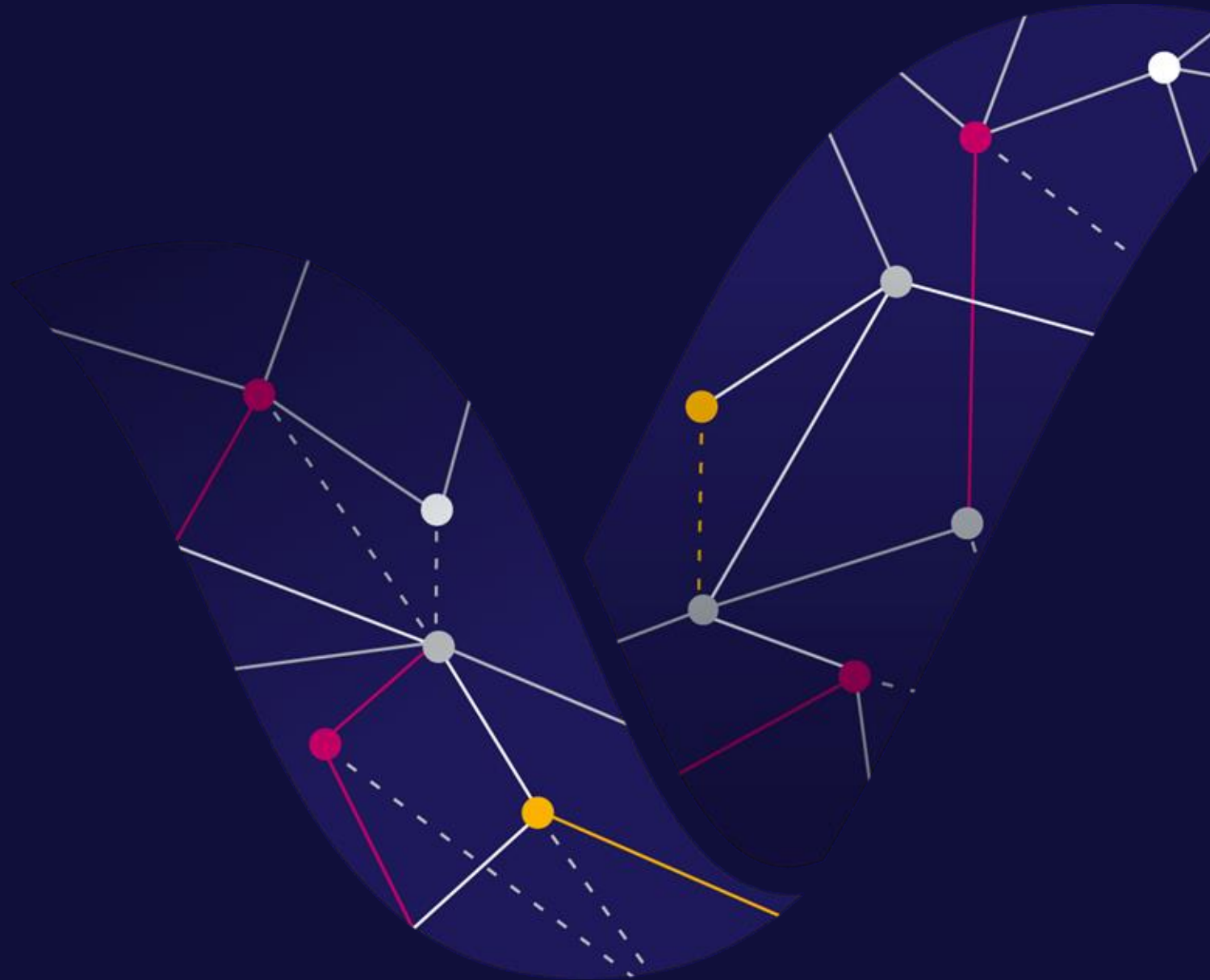




Geopolitical risks and its implications for infrastructure finance

Roundtable, 22nd July 2026

CONFIDENTIAL



Our outlook for 2026: We build the VAPRI risk catalogue and discuss immediate impacts

Preliminary



INFRASTRUCTURE VALUATIONS **THAT MATCH VALUE**

We are building out the unified platform across accounting, CoC, Valuation

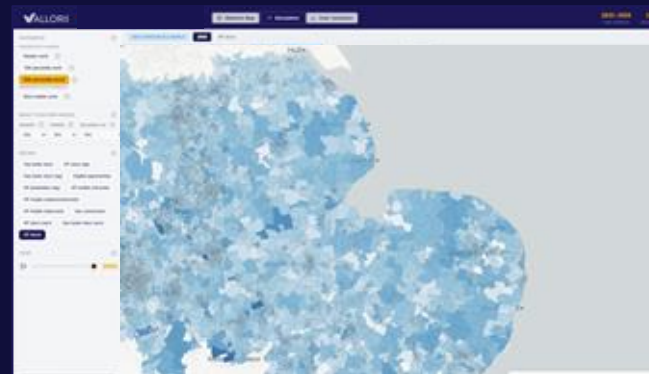
Vallorii Price of Risk Model (VAPRI)

Sector	Asset	CAPM, real (notional company)	VAPRI CoE (actual company)
Electricity Transmission	National Grid		5.4 – 6.8%
	SSE	5.7% (Ogden T3 FD)	7.8 – 8.7%
	SP Energy Networks		7.7 – 8.5%
Electricity Generation	Offshore wind (2025 AR7 CID)	~14% (DESINZ)	9.7 – 10.6% (~10% AR7)
	Hinkley Point C (2015 CID)		13.5 – 15.5%
	Sizewell C (RAB)	5.7 – 7.3%	10.0 – 12.0% (10.6 FID)
Telecoms	5G Auctions	5.5 – 7.9%	10.4 – 13.1%
Water (Sewage)	Beckton Water Recycling DPC	6.3%	9.2 – 9.6%
	HARP & Cheddar II DPC		7.7 – 8.5%
Water (combined)	Anglian	Excluding short-term default risk 5.9% (CMA proc. Appeals decision)	6.7 – 7.5%
	Severn Trent		6.4 – 6.8%
	Southern		7.1 – 7.9%
	South West (Pannon)		6.4 – 6.8%
	Thames		10.3 – 11.9%
	Wessex		7.1 – 7.5%
Airports	Yorkshire		6.8 – 7.2%
	London Heathrow (excl. 3 rd runway)	8.87% (LHR BP)	7.0 – 8.5%
	London Gatwick (excl. 2 nd runway)	8.8% (CoC Lab)	7.4 – 8.9%
	Manchester		7.5 – 9.0%

What is the Cost of Equity, based on bottom-up risk analysis?

- IRR impacts of bottom-up risks
- Risk pricing (Cost of Equity)
- Impacts of the regulatory framework on the Cost of Equity (e.g. risk sharing mechanisms)

Infra Asset Intelligence



What is the future demand for physical infrastructure assets?

- Bottom-up forecasts of future energy/water consumption
- High special accuracy across ~20k UK regions
- Explicit policy comparisons

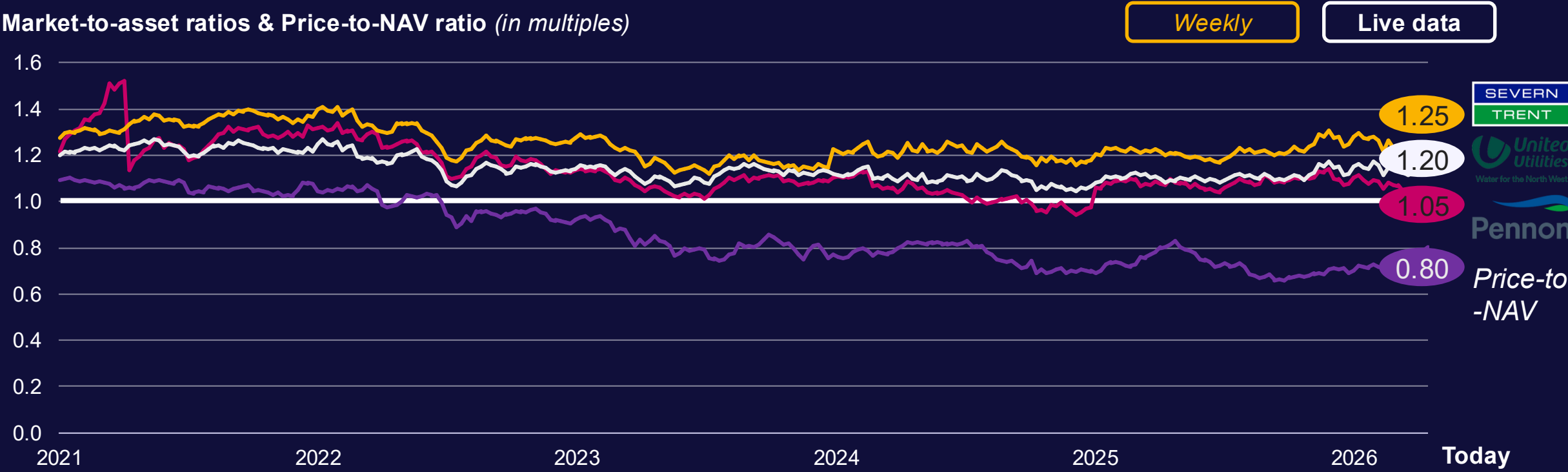
Cost of Capital Lab

Dashboard									
Asset	10 Apr	10 May	10 Jun	10 Jul	Today	10 Aug	10 Sep	10 Oct	10 Nov
COST OF EQUITY (cost of equity)									
REGULATORY DETERMINATIONS (CAPM)									
Anglian - CAPM	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Electricity Transmission - Ogden RND-ET	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Gas - Ogden RND-GAS	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water - OMA-PCOA	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Water - OMA-PCOA	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
ASSET BETA (cost of equity)									
LATEST UTILITIES									
National Grid (excl.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
United Utilities (excl.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Severn Trent (excl.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Anglian (excl.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
RISK FREE RATE (cost of equity)									
ET REGULATORY FRAMEWORK									
Anglian - CAPM	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Electricity Transmission - Ogden RND-ET	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Gas - Ogden RND-GAS	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Water - OMA-PCOA	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Water - OMA-PCOA	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RISK									
Anglian (excl.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
PRICE-TO-BOOK RATIO									
Water Infrastructure Index	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%

What is the regulatory CoE allowance?

- Regulatory Cost of Capital allowances based on latest stock market dynamics
- Market drivers and regulatory cross-checks (e.g. Multi-factor models)

Cost of Capital Monitor: Vallorii members are receiving our monthly update with live market analytics on regulatory cost of capital



Market-to-asset ratios

Assess live, market-implied valuations for the UK's listed regulated utilities.

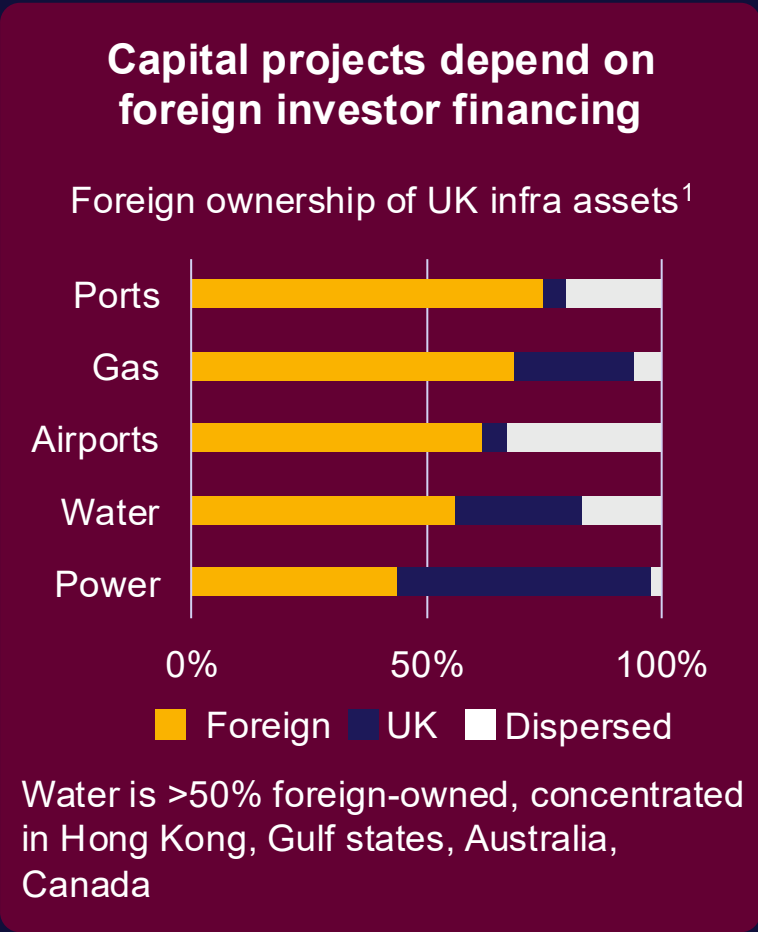
Price-to-NAV premia

Track infrastructure valuations based on Vallorii's infrastructure fund basket.

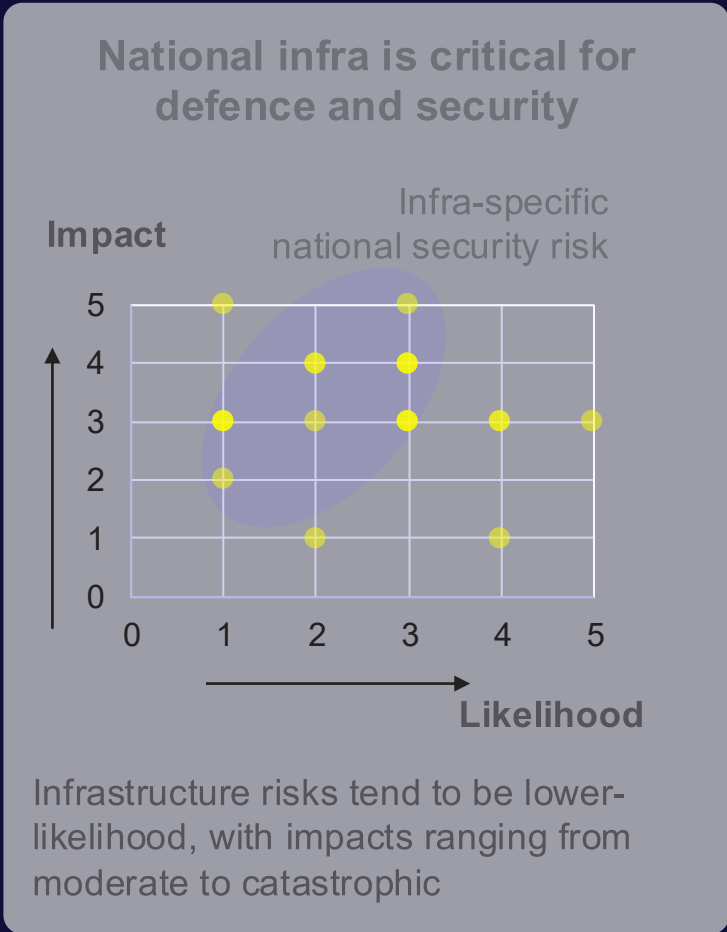
Source: Vallorii Cost of Capital Lab. Basket NAV is the equal-weighted average price-to-NAV of nine listed UK infrastructure funds (HICL, INPP, GCP, Foresight Solar, NextEnergy Solar, Foresight Environmental, Greencoat UK Wind, TRIG, Bluefield Solar). MAR (Market Asset Ratio) is enterprise value / RCV, enterprise value = market capitalisation (live daily) + net debt. RCV is interpolated daily toward the next forecast in the Ofwat PR24 FD, Pennon = South West Water + Bristol Water + SES Water; Severn Trent = Severn Trent Water + Hafren Dyfrdwy;

Why geopolitics matters: UK infrastructure runs on foreign goods and capital, with consequences for both affordability and the cost of equity

Focus of today's discussion



2027 Roundtable



Source: Vallorri analysis of company websites; *Common Wealth, Who Owns Britain?* 2025.; (Box 3) UK National Risk Register (NRR) 2026
Note: (1) 2025 foreign ownership refers to where company shareholders are headquartered. Sector shares weighted by accounting enterprise value (equity + net debt)

Geopolitical risk is pushing security into infrastructure policy and regulation

ofgem



First regulator to consult on **supply-chain provenance reporting**; explicitly defers security policy to government.



GOV | Investment security unit



CKI excluded from Thames Water sale process on security grounds; water now mandatory NSIA sector; China-related deals draw increased scrutiny.



NATIONAL WEALTH FUND

Great British ENERGY



National Infrastructure & Service Transformation Authority



£36bn Government's capital aims to **reduce foreign dependency**, but £725bn investment need still requires foreign capital.



National Protective Security Authority



State sabotage added to Critical National Infra (CNI) threats; Ofwat to restore previously cut cyber security funding.



National Cyber Security Centre



Warns the **CNI threat-defense gap is widening**; China, Russia, Iran are actively targeting UK infrastructure.



Department for Energy Security & Net Zero



£1.7bn for domestic clean-energy supply chains. Chinese inverters & EVs have confirmed remote-disable capability — a potential grid kill-switch.

Agenda

1

How does infrastructure depend on foreign equipment? Trade deficits and import dependency

- *The UK depends on foreign equipment:* UK £205bn trade deficit (−7% of GDP) includes £45bn of imported equipment for infrastructure, increasing exposure to global supply chain and defence risks
- *Direct costs are passed on to consumers:* Regulatory pass-through mechanisms mean that supply chain effects are passed on to consumers with few long-term impacts on companies or investors

2a

How does infrastructure depend on foreign capital? Global markets and their impact on gilts

- *Geopolitics drives UK gilts:* 85% of UK gilt price dynamics are driven by global bond markets, while UK politics only drives 15% of gilt price movement.
- *Prices and stocks move together:* UK infrastructure stock are positively correlated with gilt prices. When gilt prices fall, utility stocks fall. ~43% of utility returns move in line with gilt prices. This adds up to ~95bps to the CoE.

2b

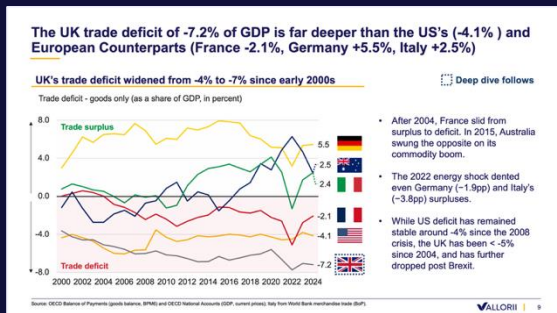
How does infrastructure depend on foreign direct investment?

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How does infrastructure depend on foreign equipment?

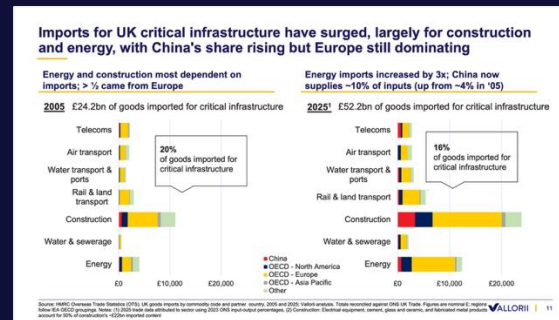
UK trade deficit has increased over time...

How big is the UK deficit compared to other countries?



Imports for infrastructure have similarly increased...

What infrastructure sectors import the most?



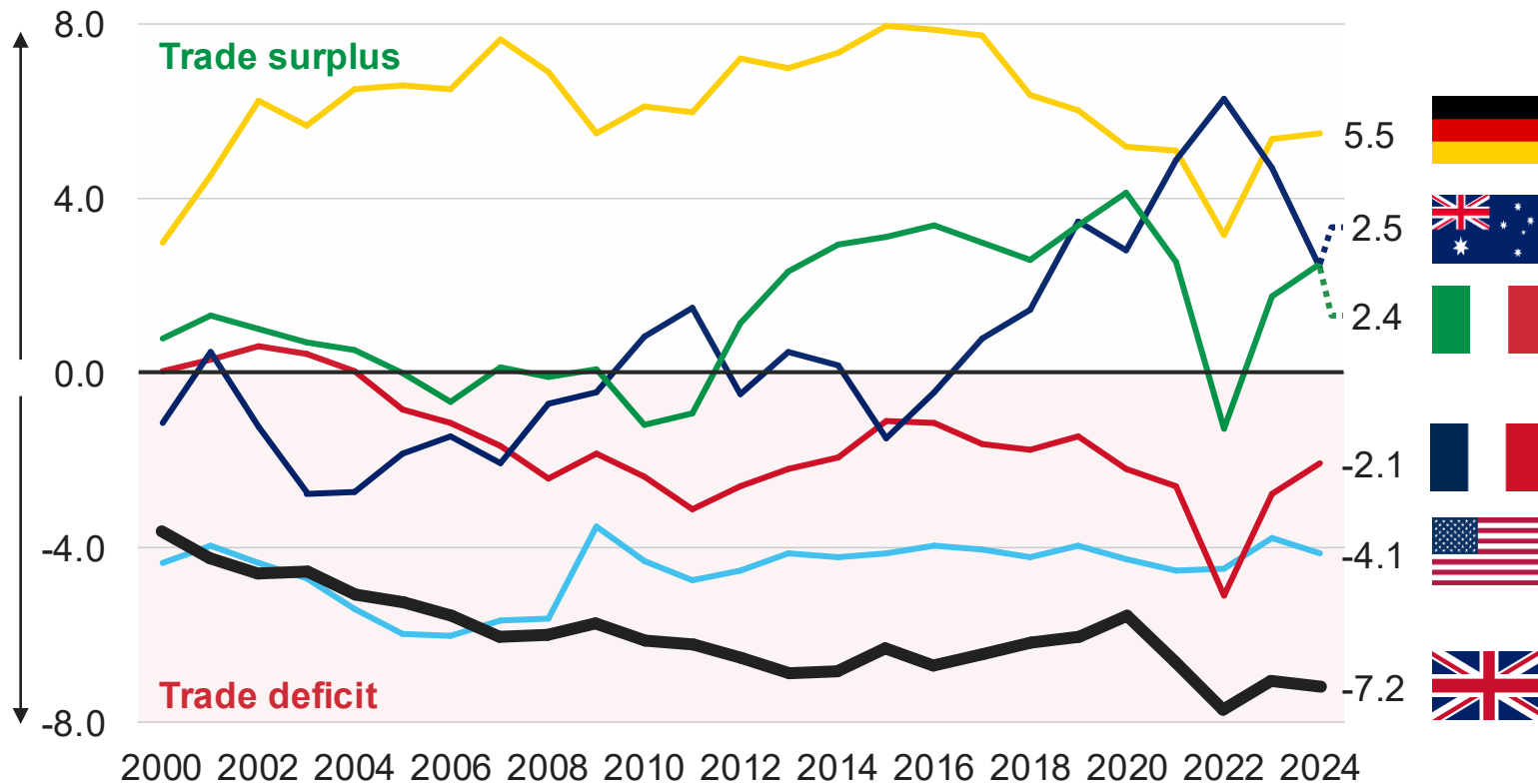
Leading to consumer exposure to geopolitical risks

Do regulatory pass-through push consumer bills?



UK trade deficit for goods & equipment (-7.2% GDP) is deeper than US' (-4.1%) and EU Counterparts (France -2.1%, Germany +5.5%, Italy +2.5%)

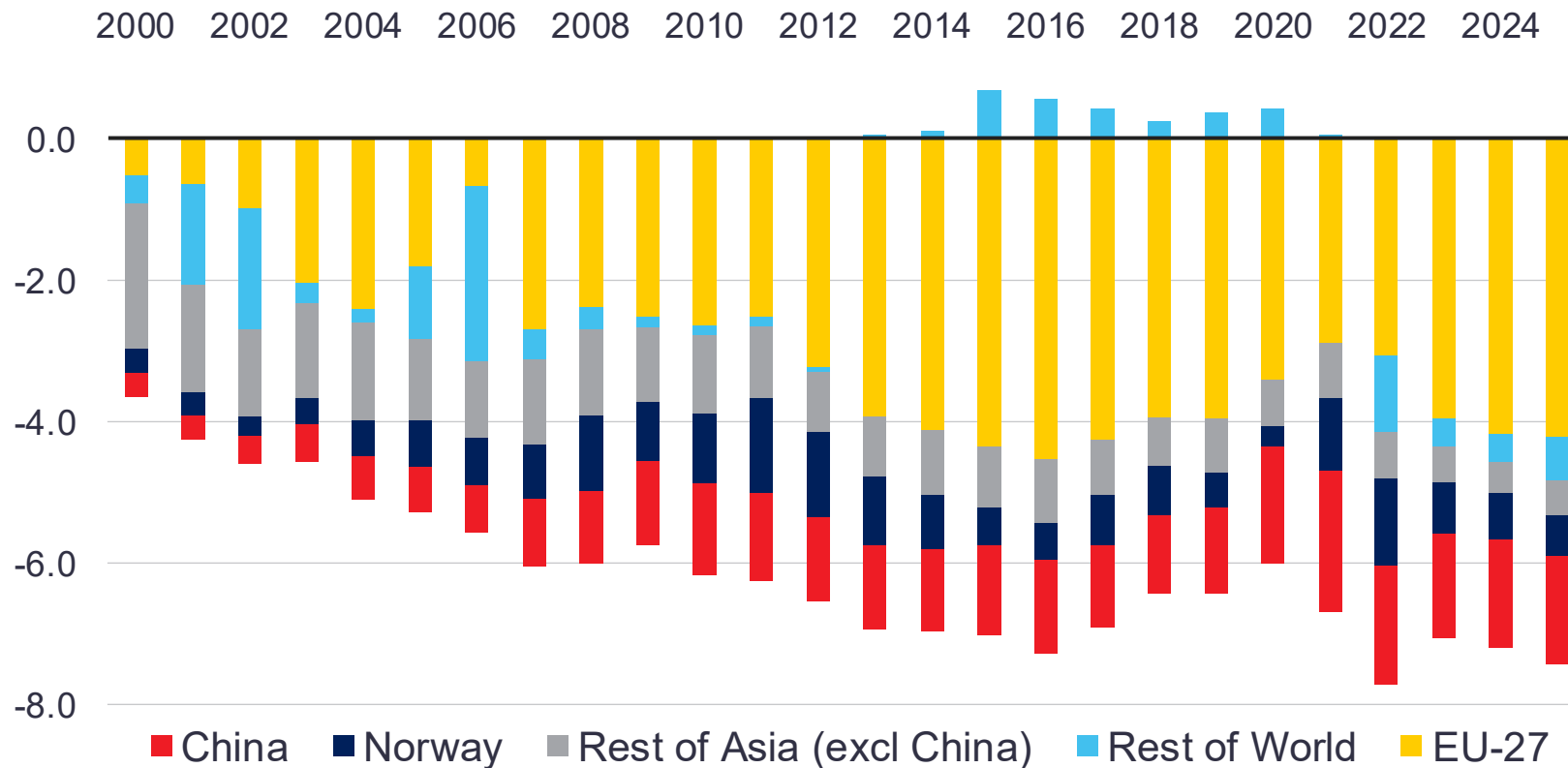
Annual trade deficit – goods & equipment only (% of GDP)



- UK trade deficit slipped **from -4% in 2000 to -7% in 2024** as the economy shifted from manufacturing to services
- European exports were hit by the **2022 energy price shock**, recovery has been slow
- **US deficit has remained stable** around -4% since the 2008 financial crisis

European imports drive the majority of the UK's goods & equipment deficit (4.2% GDP); China deficit has quadrupled since 2000 (1.5% GDP in 2025).

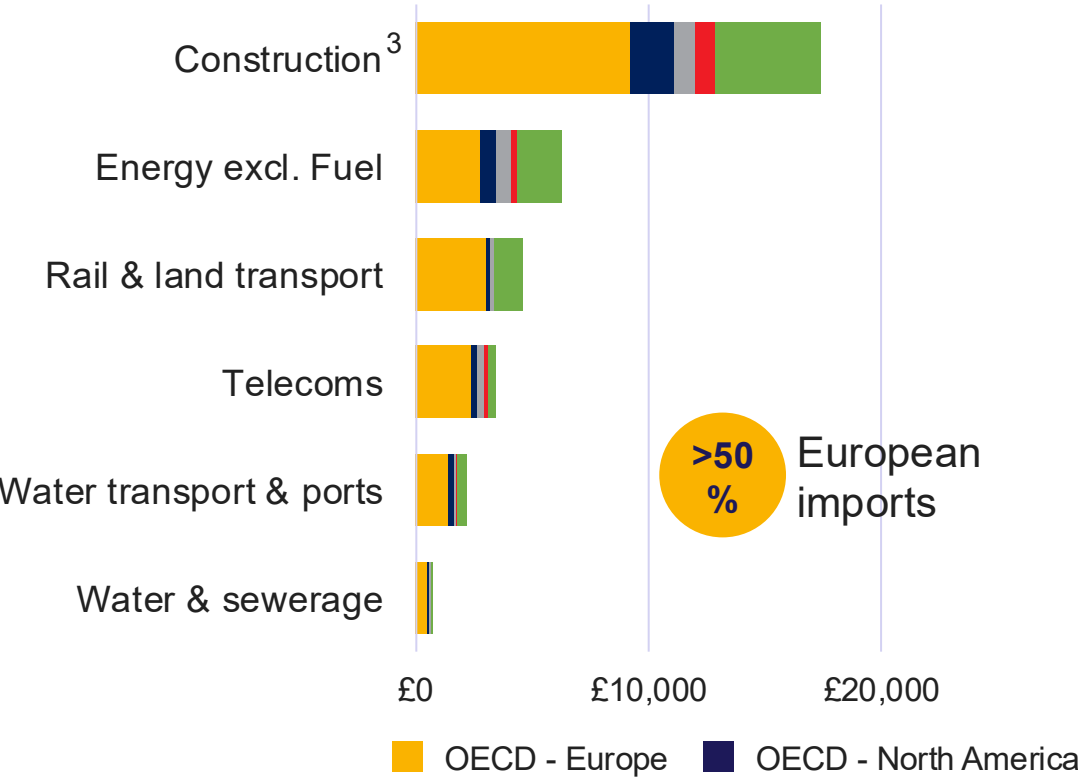
UK annual trade deficit – primary goods & equipment only (% of GDP)



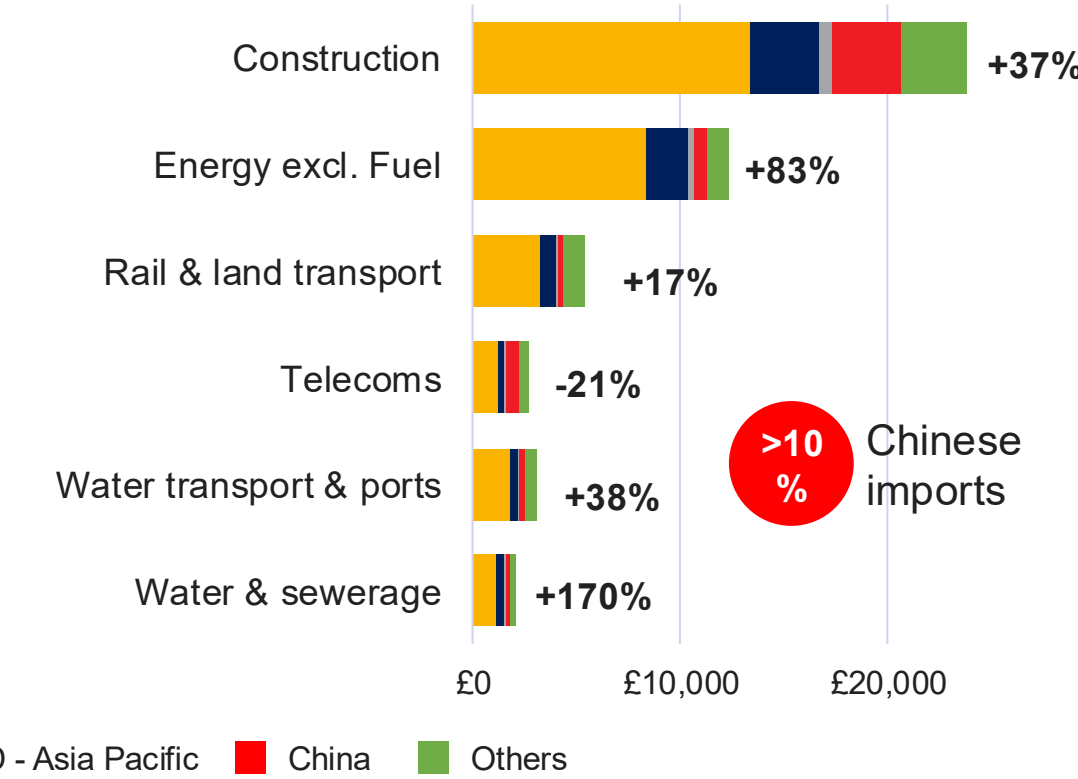
- **EU imports drive 57% of the net deficit**, mainly from cars (27%) and machinery (19%)
- **Chinese deficit has quadrupled** since 2000, up to -1.5% of GDP in 2024
- In turn, **other Asian imports have dropped** from 57% of net deficit in 2000 to less than 7%

Imports¹ for UK infrastructure have doubled since 2005, driven by construction, water, and energy, whilst telecoms is largely unchanged

2005 £30 bn of goods imported² for UK infrastructure sectors, £m real



2025 £45 bn of goods imported² for UK infrastructure sectors, £m real



Pass-through of high domestic production cost means that regulators need to trade-off affordability with domestic growth and supply chain security



Poll #1: Should government steer British-made material and equipment usage in infrastructure?

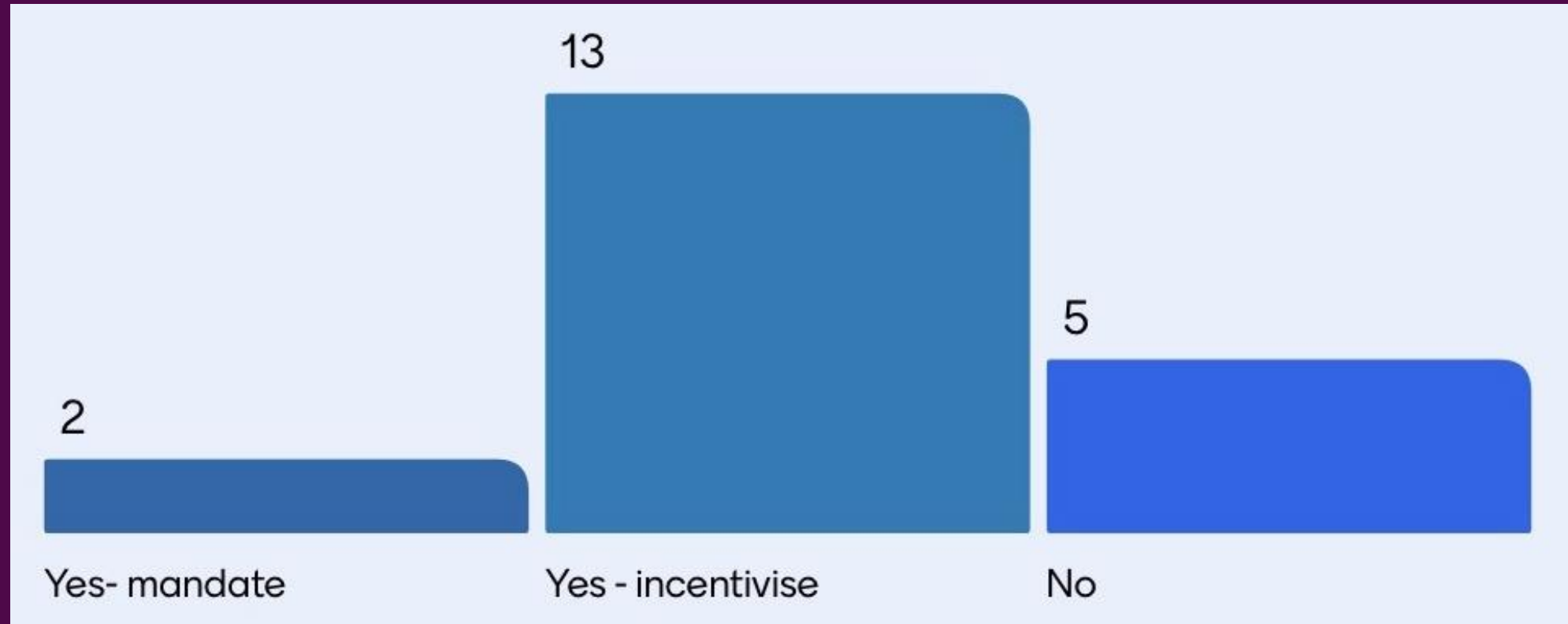
Yes – mandate British-made materials for security and growth

Yes – incentivise British-made through regulatory policy

No – leave to market to find the cheapest options



Results of poll #1: Should government steer British-made material and equipment usage in infrastructure?



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How do global capital markets drive UK infrastructure's cost of capital?

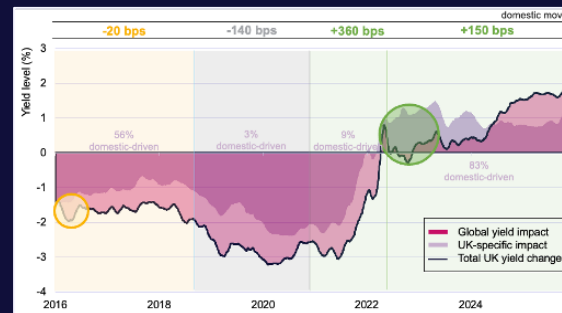
Global treasury markets are driven by geopolitical events...

How big is the impact of geopolitics on global treasury markets?



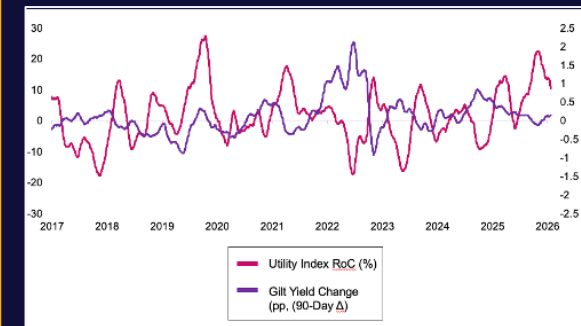
Global treasury makes up 85% of UK gilt movements...

How much of gilt movement is domestic?



Gilt movements have a direct impact on utility stock prices.

What impact does the gilt market have on utility stocks?



Poll #2: How do global interest rates impact UK utilities?

Opportunity costs

Interest rates impact valuations, because investor return requirements change

Financial cash flows

Interest rates impact the cost of debt and profitability

No / Little impact

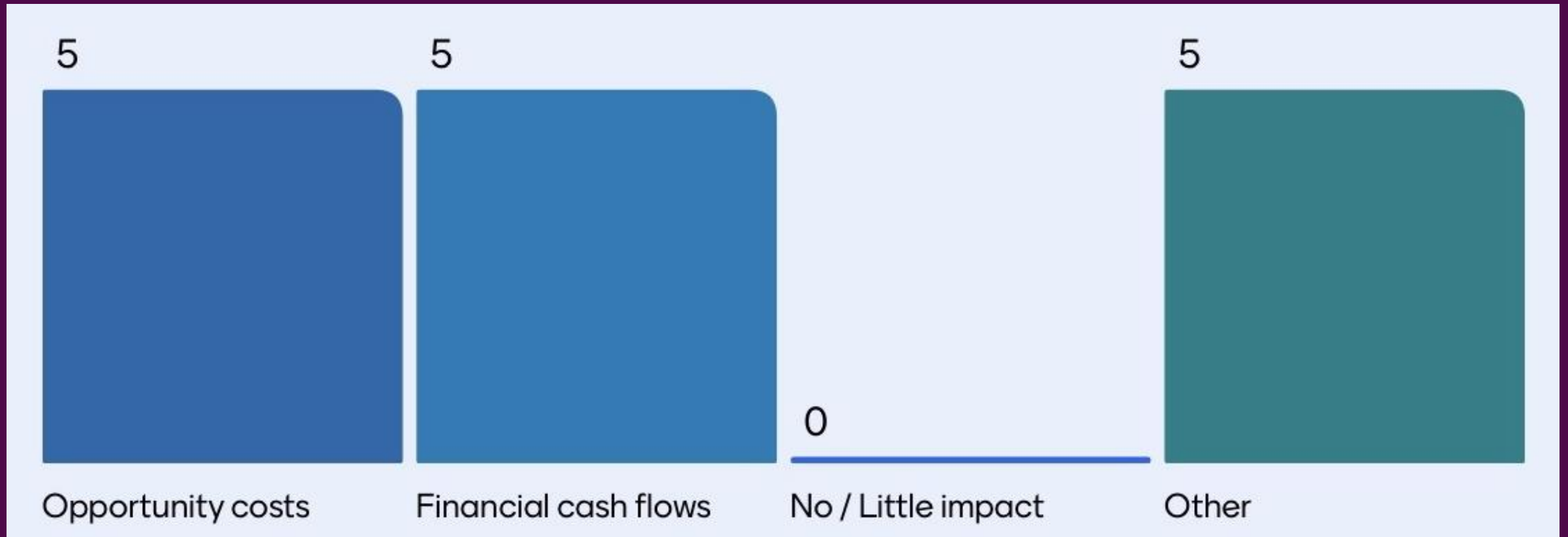
Interest rate changes are mostly passed through to consumers via the regulatory Cost of Capital and Cost of Equity allowances

Other

prepare for a follow-up



Results of poll #2: How do global interest rates impact UK utilities?



Global gilt markets remain high since 2022 due to subsequent geopolitical shocks (Ukraine war, Liberation day, Iran war, ...)

Global gilt index remains 340 bps above its lowest point in 2021

Global real yield index (% real 5-yr forward spot curve, smoothed)



UK gilts generally track the global market; Brexit, Truss and Labour elections drive smaller national deviations

After a decade 2pp below global yields, UK's gilt yield difference to the global market has now closed

UK and Global real yield index (% real 5-yr forward spot curve, smoothed)

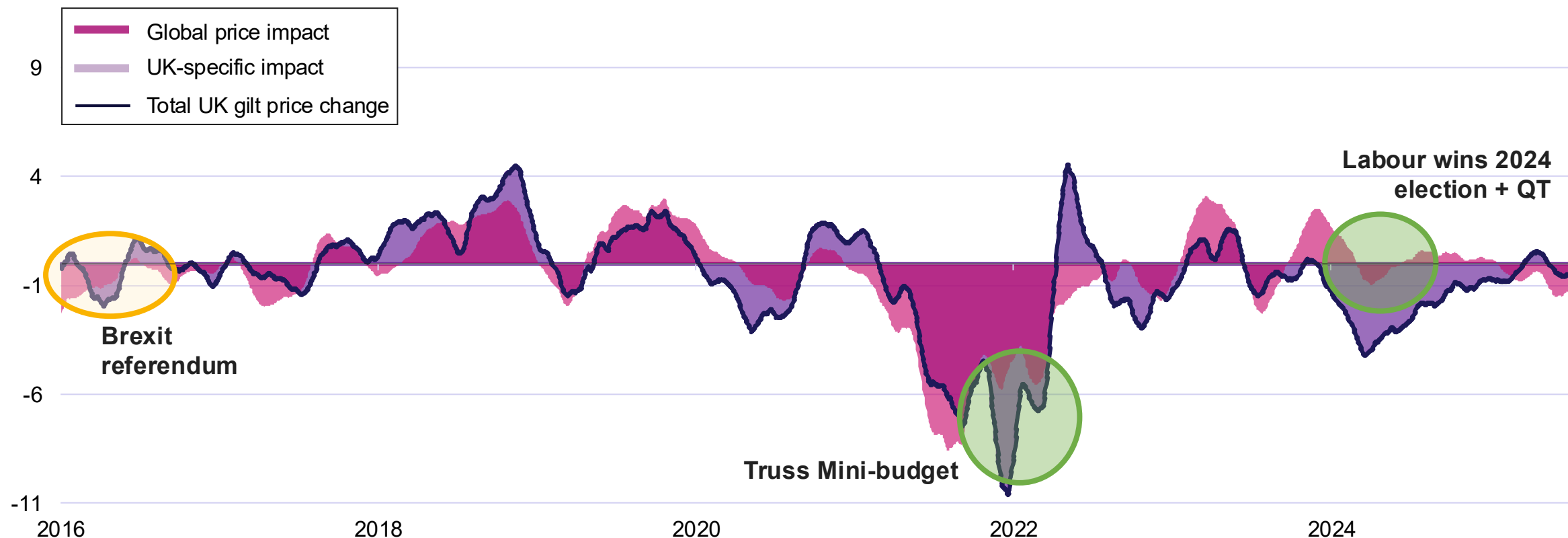


Source: US - FRED series DFII5, 5-year Treasury Inflation-Protected Securities (TIPS) constant maturity yield.EU - ECB AAA-rated 5-year government bond spot rate (nominal), series YC.B.U2.EUR.4F.G_N_A.SV_C_YM.SR_5Y. UK - Bank of England series IUMRILC real instantaneous forward rate at 5-year tenor

85% of UK gilt price movements are due to global dynamics, national effects only impact 15% of gilt price market movements

UK gilt movement is driven by global dynamics

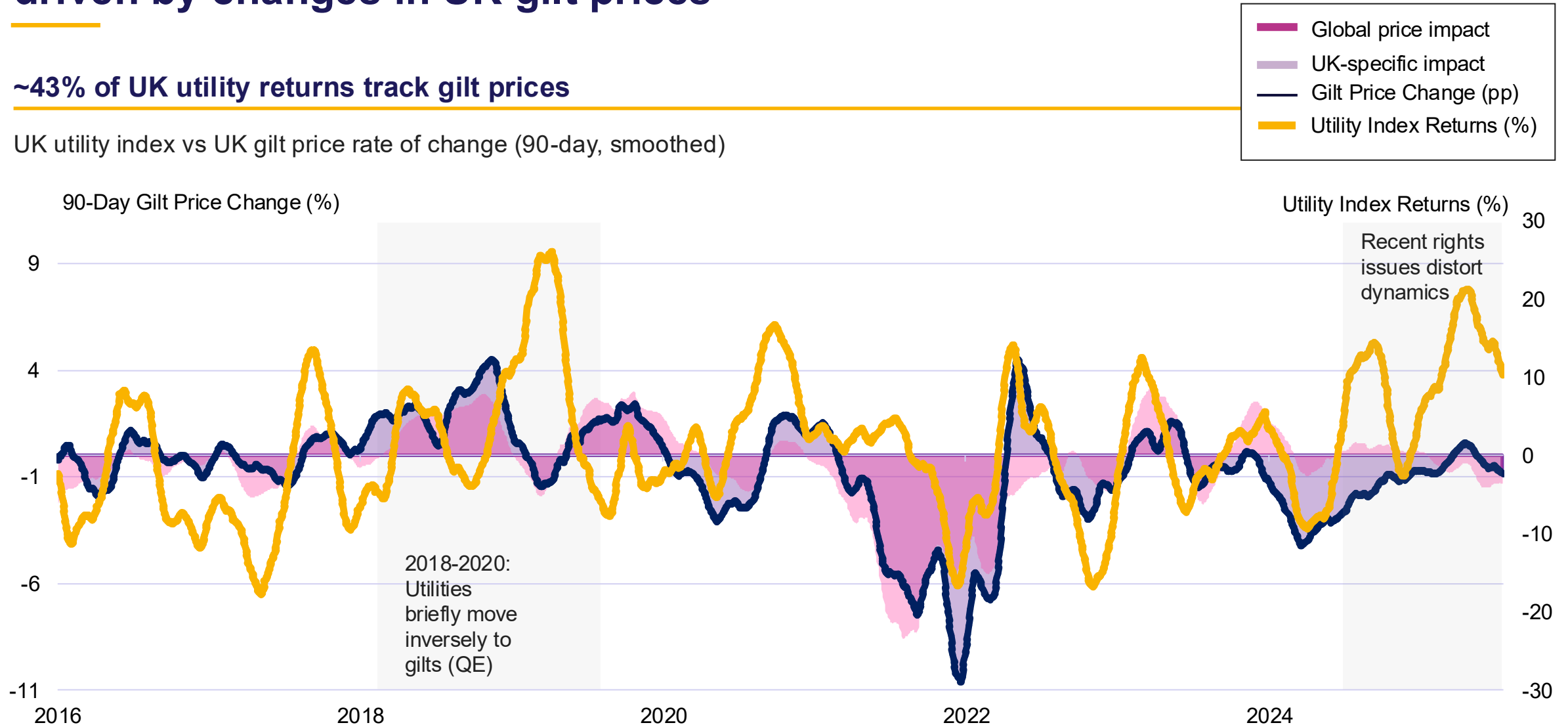
UK gilt price change (90-day): global vs domestic attribution (% real forward spot curve, smoothed)



UK utility stocks move parallel to gilts. 43% of monthly stock returns are driven by changes in UK gilt prices

~43% of UK utility returns track gilt prices

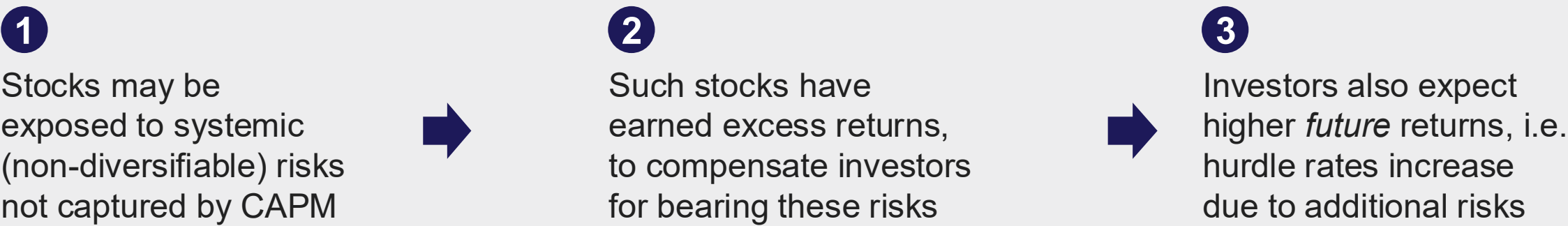
UK utility index vs UK gilt price rate of change (90-day, smoothed)



Source: US - FRED series DFII5, 5-year Treasury Inflation-Protected Securities (TIPS) constant maturity yield. EU - ECB AAA-rated 5-year government bond spot rate (nominal), series YC.B.U2.EUR.4F.G_N_A.SV_C_YM.SR_5Y. UK - Bank of England series IUMRILC real instantaneous forward rate at 5-year tenor; UK utility index includes NG, UU, SVT, PNN, SSE (equal weights)

Investors require compensation for systemic risks. Going beyond CAPM, we find UK gilt correlation raises hurdle rates for utility investors by 60-70 bps

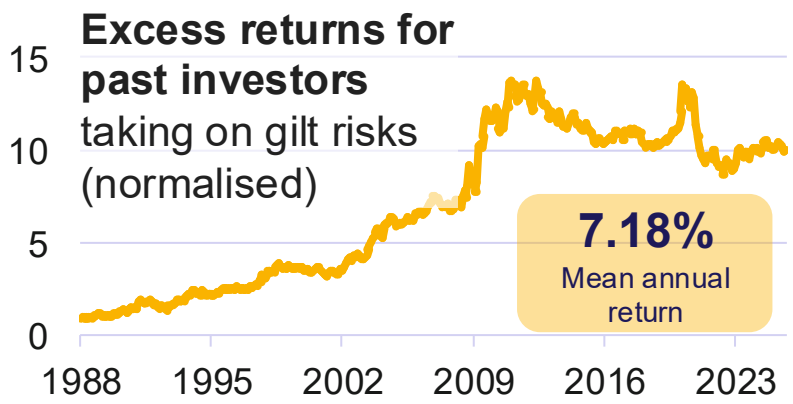
Arbitrage Pricing Theory (APT)



UK utility risks



Utility stocks are exposed to risks such as changes in future gilt rate expectations



60-70bps
Estimated increase in investor hurdle rates for UK utilities due to uncertain exposure to future gilt yields

Source: Ross (1976) on APT; Vallorii analysis of UK and EU stocks

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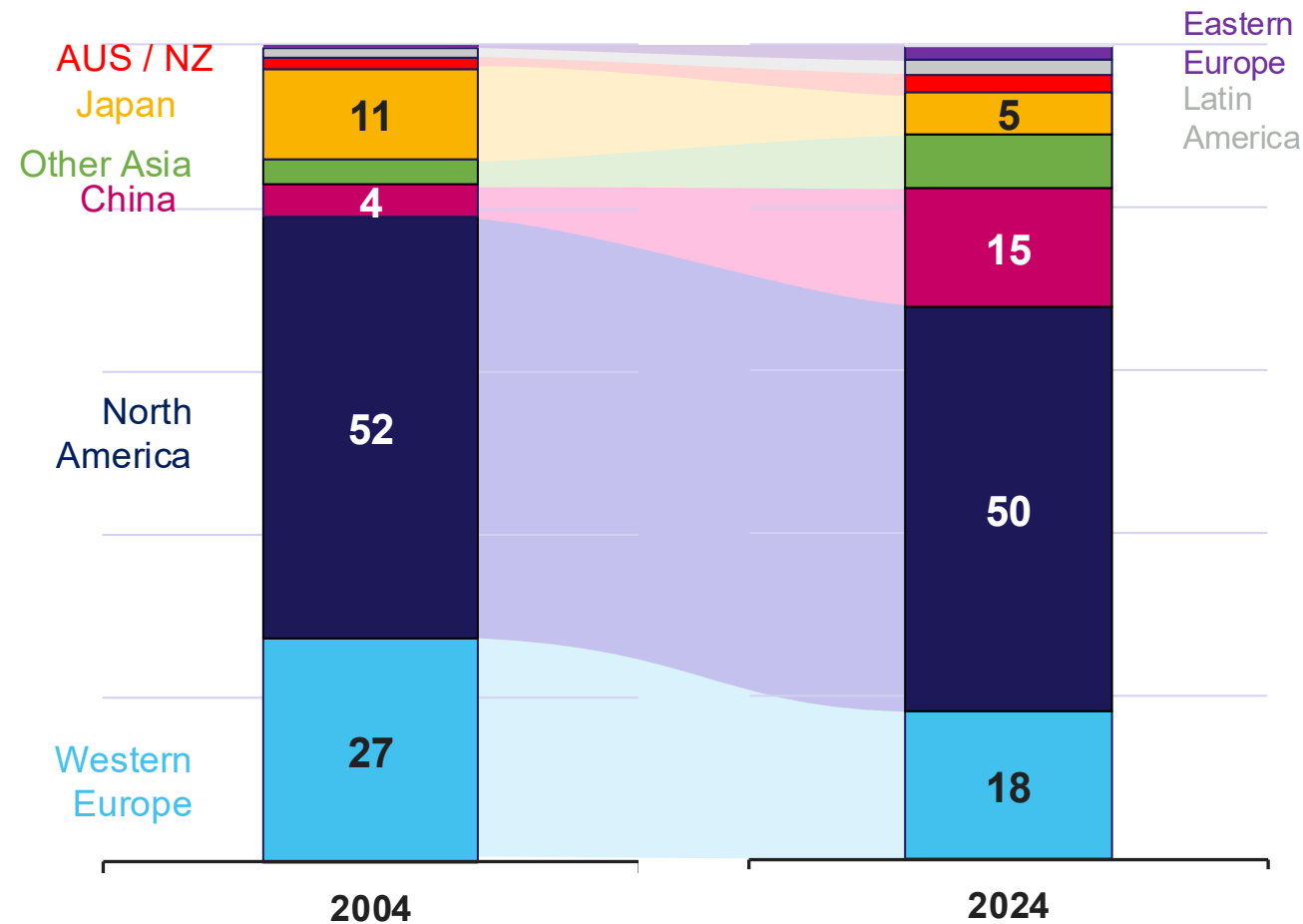
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Europe's share in global financial wealth has declined from 27% in 2004 to 18% in 2024, while China's has grown from 4% to 15% in the same period

National shares of global financial asset base, %



3x

Growth in total financial wealth between 2004 and 2024
€95tn → €270tn



Growth in **China exceeded the global average**, increasing their share in financial wealth by 11p.p.



Growth in **US matched the global average**, leaving their share of global financial wealth constant



Growth in **Europe fell below the global average**, with stable total wealth and falling global shares

Source: Source: Allianz Global Wealth Report 2025 (gross financial assets, private households, 2024 EUR)

UK-based funds have systematically exited UK equities over the past decade, with UK exposure reducing from 40% to 18% (2015-2025)

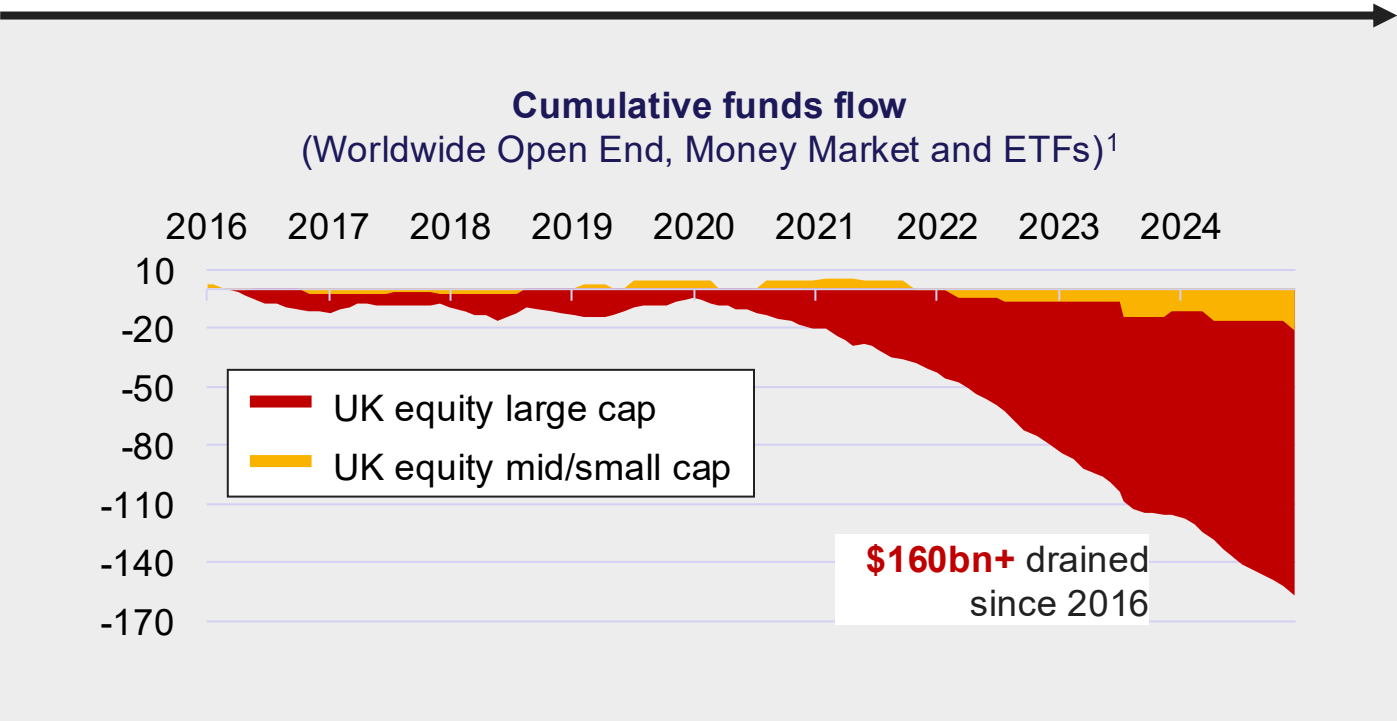
Average UK-equity weight in GBP allocation category

2015

40%

2025

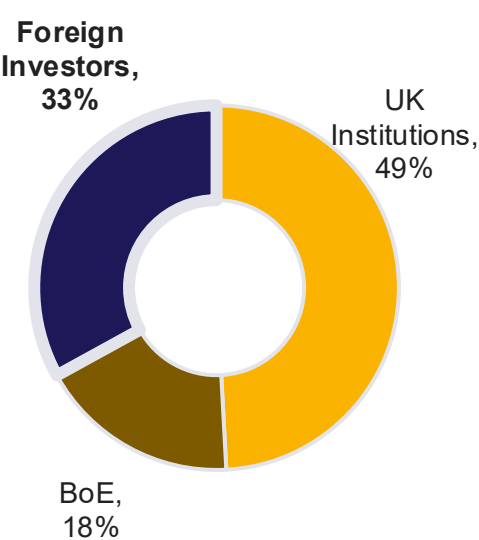
18%



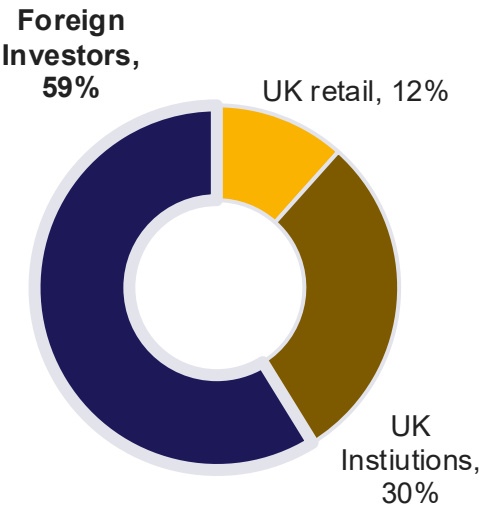
Source: Brexit's Impact on the UK Market," Morningstar Business Insights (blog)
Notes: (1) excl. Funds Of Funds and Feeder Funds

Today, UK investors own less than 7% of the equity in UK regulated infrastructure, weighted by enterprise value

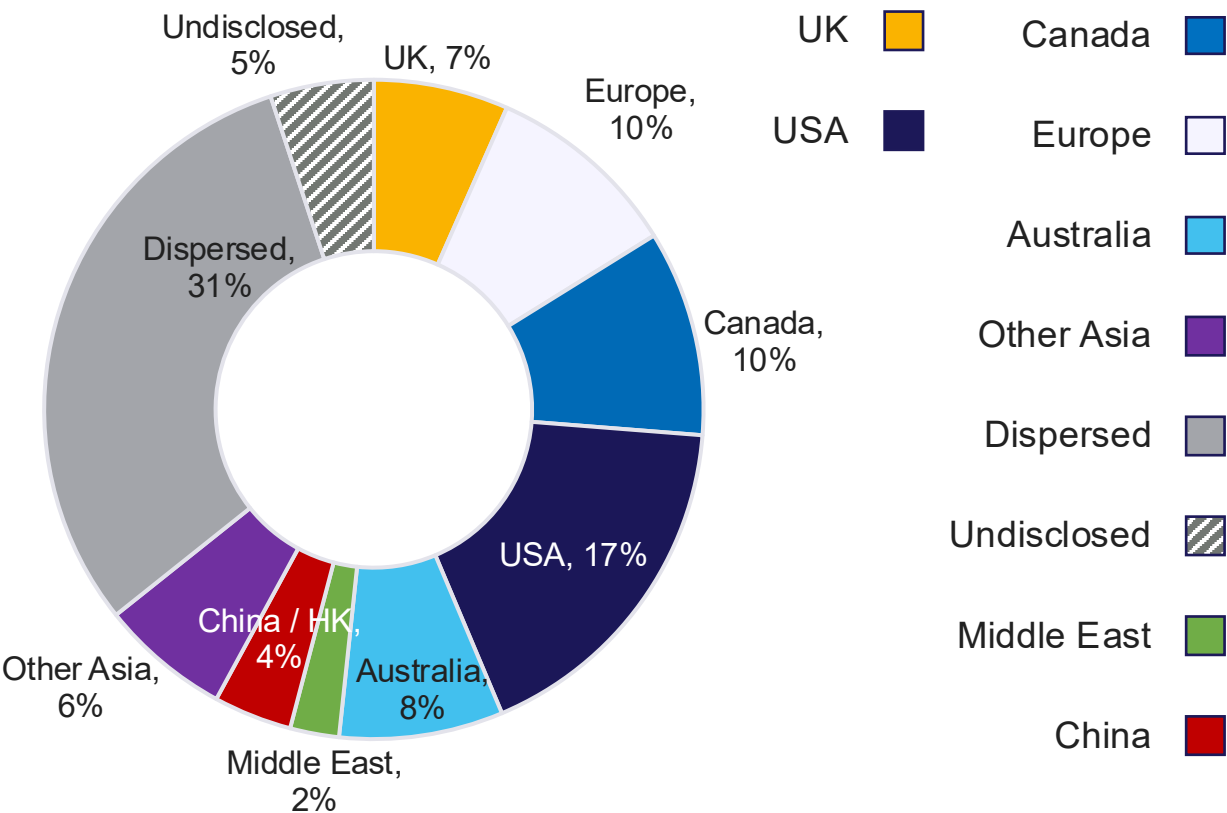
UK gilt owners



UK listed share owners

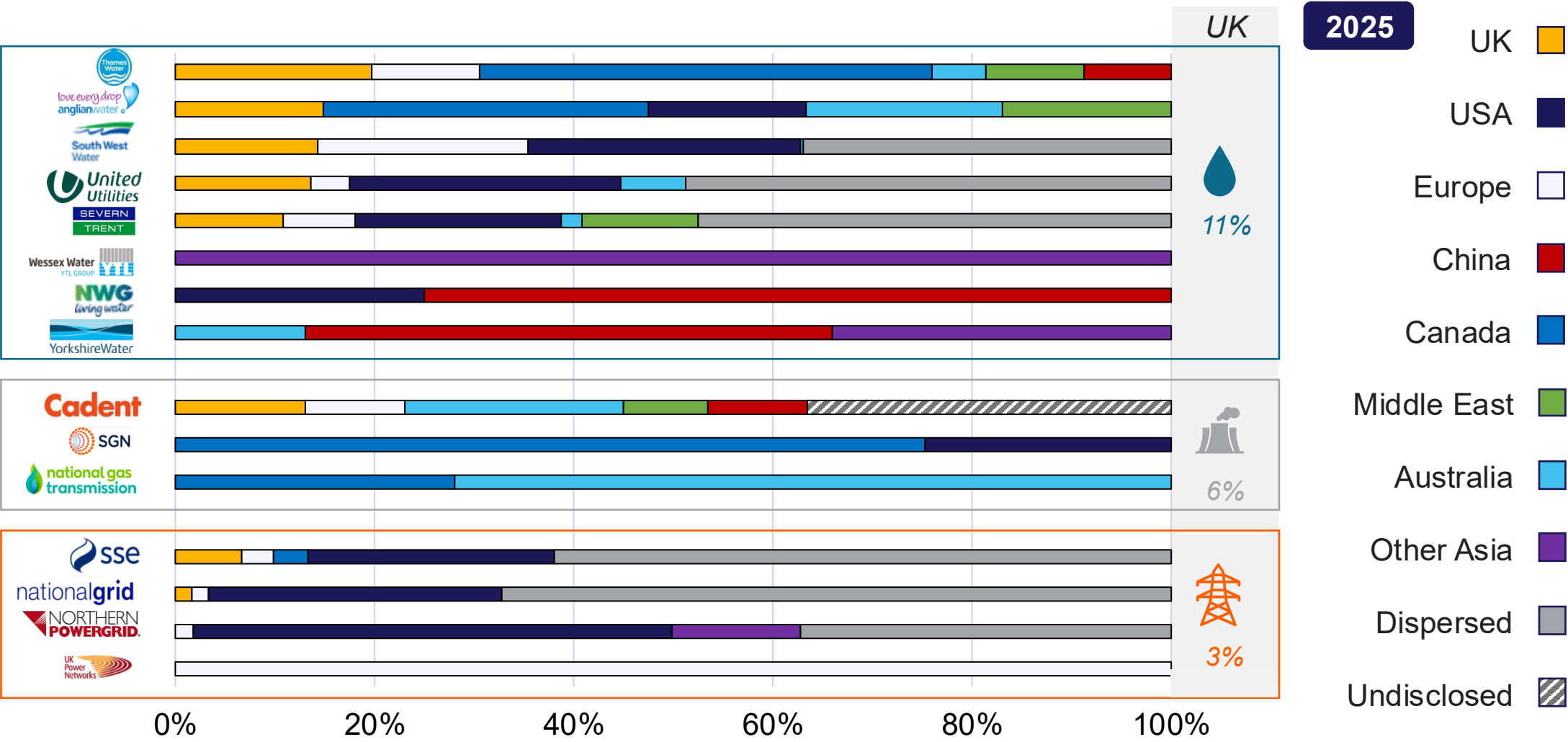


UK infrastructure equity management¹



Source: Vallorri analysis of company websites; *Common Wealth, Who Owns Britain?* 2025, UK Debt Management Office; ONS (2026)
Notes: (1) average ownership weighted by enterprise value (calculated as revenue + net debt); companies included: Thames Water, Anglian Water, South West Water, United Utilities, Severn Trent, Wessex Water, NWG, Yorkshire Water, Cadent, SGN, National Gas Transmission, SSE, National Grid, Northern Powergrid, UK Power Networks

UK-based investors never hold more than 20% in UK regulated utilities, while Asian investors own up to 100% controlling shares



Poll #3: Do foreign direct investments have a different hurdle rate than domestic investments?

Yes - Foreign capital costs more

UK's "beggar" position forces it to offer a premium to compete

Yes - Foreign capital is cheaper

Diversified pools and lower return hurdles stabilise RAV

No - Nationality is irrelevant

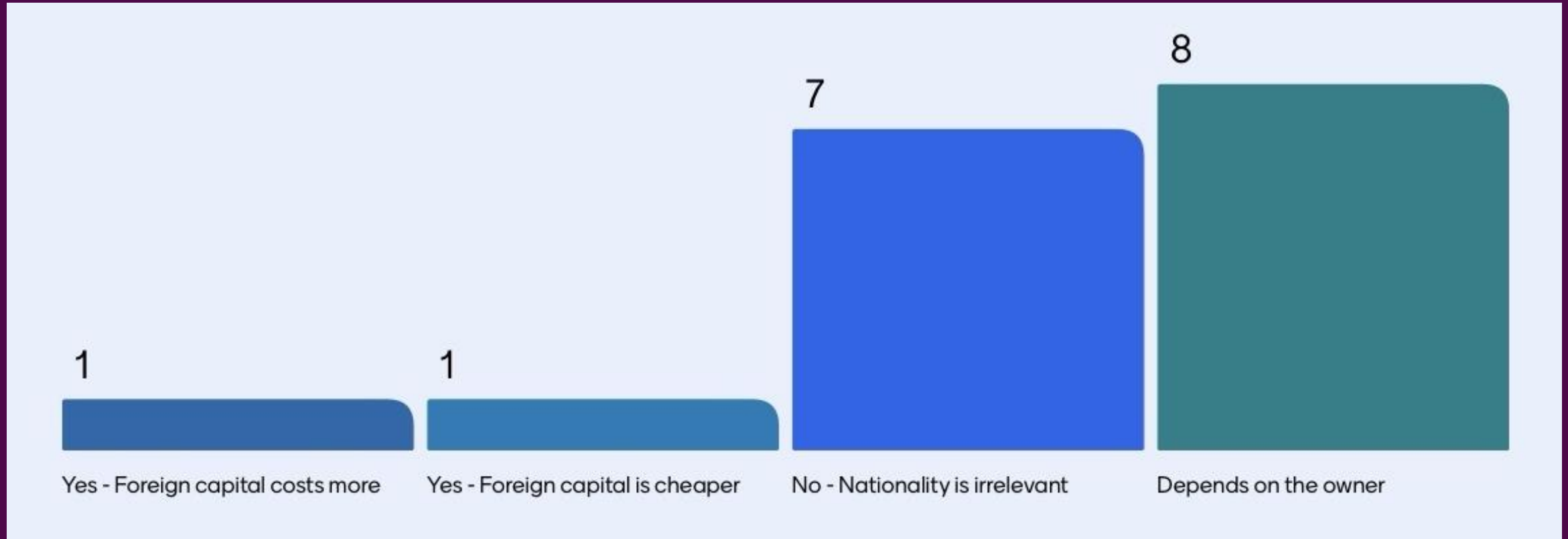
In efficient global capital markets CoC is set by the asset's risk

It depends - On the type of owner, not the country

Horizon and mandate drive the CoC



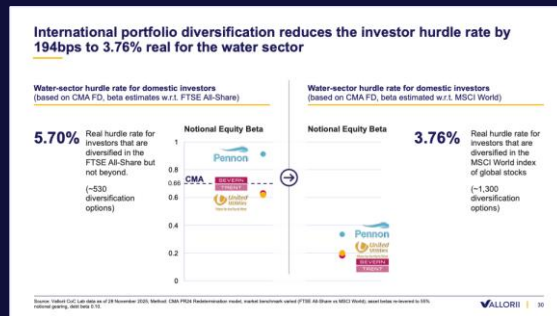
Results of poll #3: Do foreign direct investments have a different hurdle rate than domestic investments?



Foreign investors hurdle rates are reduced by diversification benefits, and increased due to additional political risks in critical infrastructure

Portfolio diversification

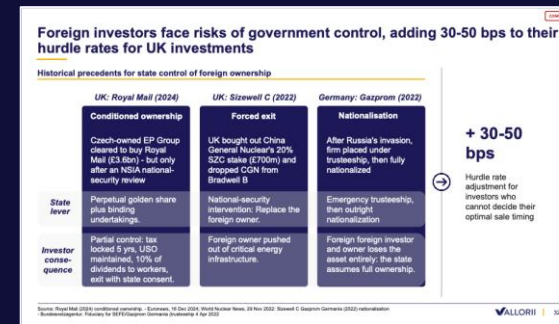
Does my portfolio benefit from market & currency diversification?



Diversification lowers hurdle rates

Political risks in infrastructure

Do local governments exert control over critical infrastructure?



Political risks increase hurdle rates

International portfolio diversification reduces the investor hurdle rate by 194bps, from 5.70% to 3.76% real for the water sector

 **Water-sector hurdle rate for domestic investors**
(beta estimates w.r.t. FTSE All-Share)

5.70%
real hurdle rate

for investors that are diversified in the FTSE All-Share but not beyond.

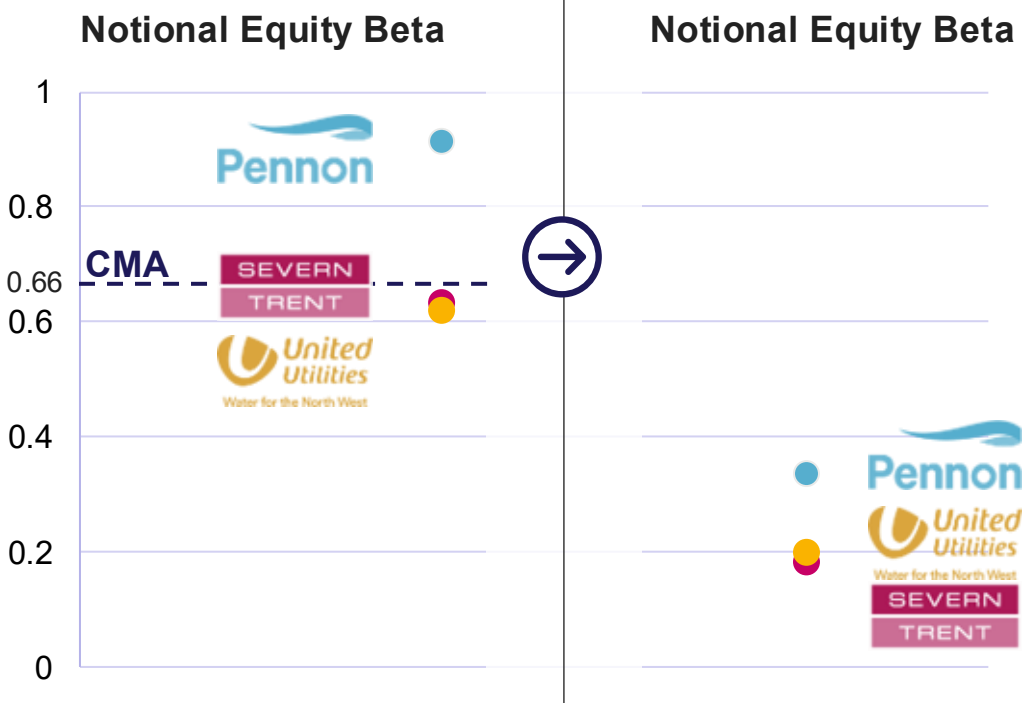
(~530 diversification options)

 **Water-sector hurdle rate for domestic investors**
(beta estimated w.r.t. MSCI World)¹

3.76%
real hurdle rate

for investors that are diversified in the MSCI World index of global stocks

(~1,300 diversification options)



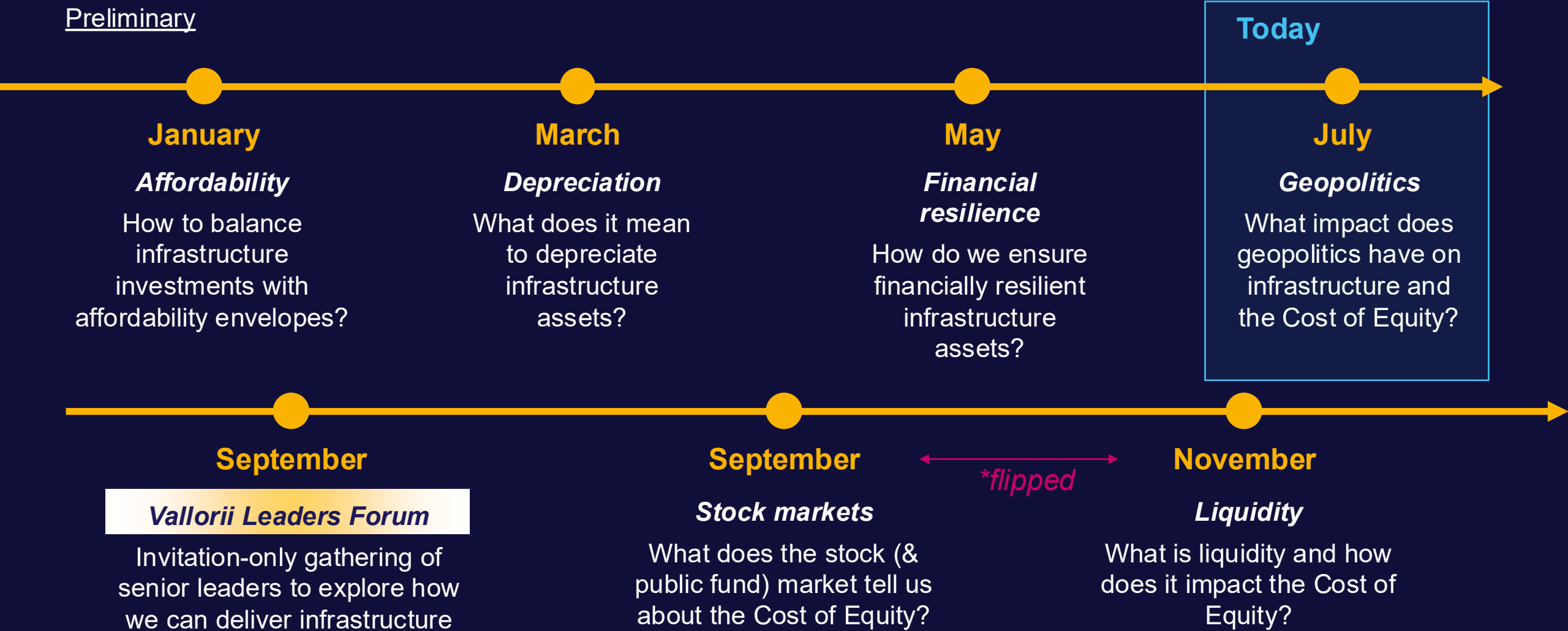
Foreign investors face risks of government control, adding 30-50 bps to their hurdle rates for UK investments

Historical precedents for state control of foreign ownership

	UK: Royal Mail (2024)	UK: Sizewell C (2022)	Germany: Gazprom (2022)	
	Conditioned ownership Czech-owned EP Group cleared to buy Royal Mail (£3.6bn) but only after a NSIA national-security review	Forced exit UK bought out China General Nuclear's 20% SZC stake (£700m) and dropped CGN from Bradwell B	Nationalisation After Russia's invasion, firm placed under trusteeship, then fully nationalized	+ 30-50 bps → Hurdle rate adjustment for investors who cannot decide their optimal sale timing
State lever	Perpetual golden share plus binding undertakings.	National-security intervention: Replace the foreign owner.	Emergency trusteeship, then outright nationalization	
Investor consequence	Partial control: tax locked 5 yrs, USO maintained, 10% of dividends to workers, exit with state consent.	Foreign owner pushed out of critical energy infrastructure.	Foreign foreign investor and owner loses the asset entirely: the state assumes full ownership.	

Our outlook for 2026: We build the VAPRI risk catalogue and discuss immediate impacts

Preliminary





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