Institute for Energy Economics and Financial Analysis

Power prices can be fairer and more affordable

Action urgently needed to tackle billions in unearned network supernormal profits

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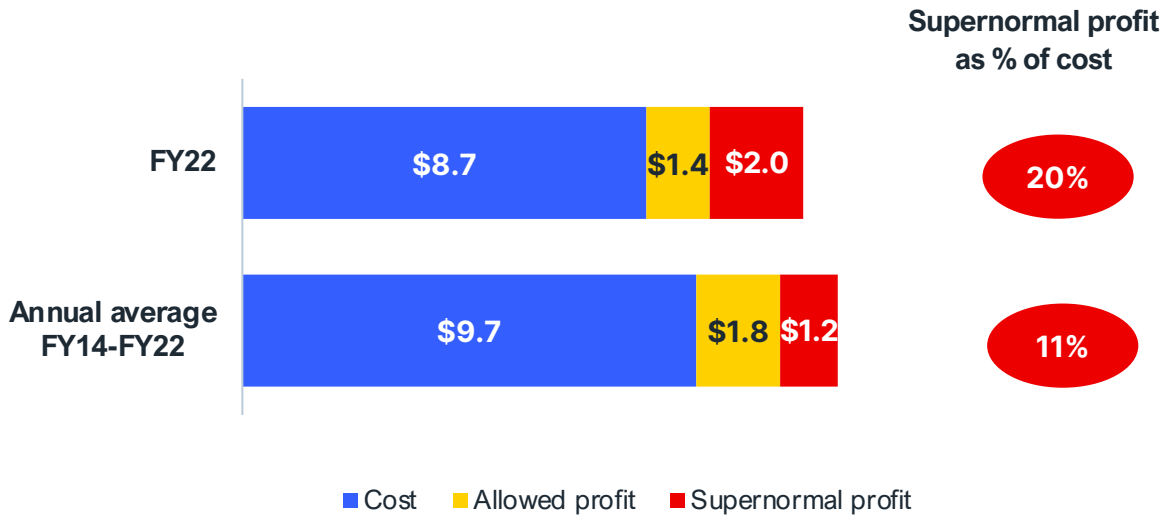
SUMMARY

Governments should commission an independent inquiry into the regulation of electricity networks

- As monopolies, electricity network prices are regulated by the Australian Energy Regulator (AER), to avoid excessive network prices and profits (returns)
- Actual profits networks (NSPs) are reporting have been persistently and materially higher than AER's allowed profits, leading to supernormal profits IEEFA calculated as:
  - 11 billion over FY14-FY22 – on top of 16 billion allowed profit
  - 2 billion in FY22 – on top of 1.4 billion allowed profit (see RHS)
- More than half the profit outcomes are greater than 1.3 times the profit expected under incentive regulation – on average 1.7 times
- It has not been demonstrated that total profits 1.7 times higher than profits sufficient to compensate shareholders for risk are "necessary"
- The higher profits cannot be explained by productivity benchmarking

Network cost and profit outcomes annual ($ billion real)



Source: IEEFA analysis, based on AER Electricity Network Performance Report 2023 data

Monopoly electricity network prices in Australia are regulated to avoid excessive prices and profits

- Electricity network services providers (NSPs) in Australia are natural monopolies - hence the AER controls the prices they can charge consumers
- The AER applies a complex suite of regulatory models to estimate each NSP's total revenue requirement, including profits, based on forecasts of total costs. This is done every five years for the following five-year period
- NSPs must then report actual financial outcomes, in response to AER regulatory information notices (RINs). NSP profitability data are not published, other than via the AER's annual electricity performance reports, but are audited and considered accurate
- Under effective incentive regulation, NSPs can earn supernormal profits from higher performance. However, where supernormal profits reflect forecast errors - not performance - for the following period, forecast costs and prices are corrected to avoid excessive overshooting of forecast costs, prices and profits

The Building Block Model to Forecast Network Revenue

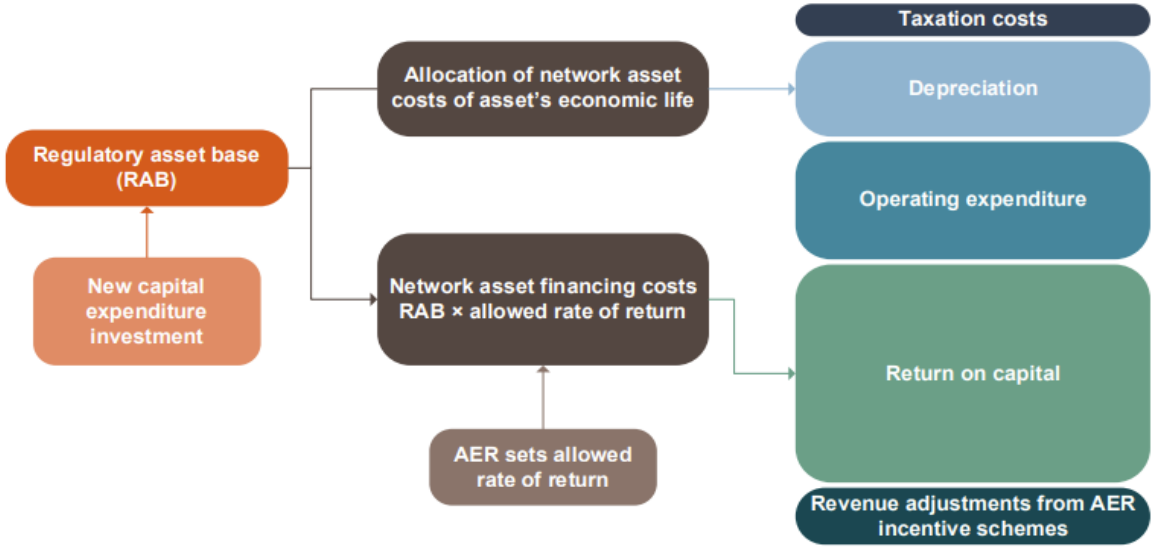


Chart source: AER Electricity network performance report July 2022

AER report shows excessive returns continue

- Allowed return on equity – profits for shareholders – is set as a percentage of the equity-funded portion of regulatory asset bases (RABs)
- The AER chart shows that network-reported realised returns on equity over almost two entire network price control periods have persistently, substantially exceeded the level the AER estimated is necessary to recover total costs including risk-adjusted financing for existing and new investment (the “allowed” return)
- The decline in allowed returns reflects falling financing costs in capital markets until recently
- In 2022 the gap between the allowed and actual return on regulated equity widened. Higher inflation is now reversing previous outcomes where lower-than-forecast inflation reduced inflation-adjusted network profits

Real returns on regulated equity versus allowed returns on equity –NSPs

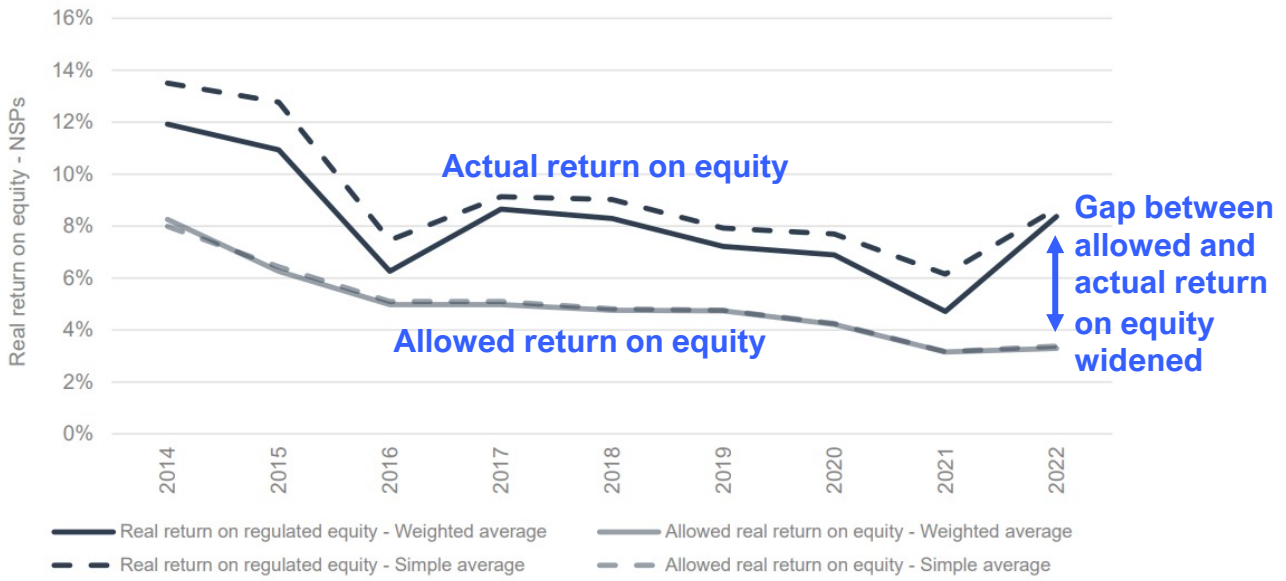


Chart source: AER Electricity Network Performance Report 2023

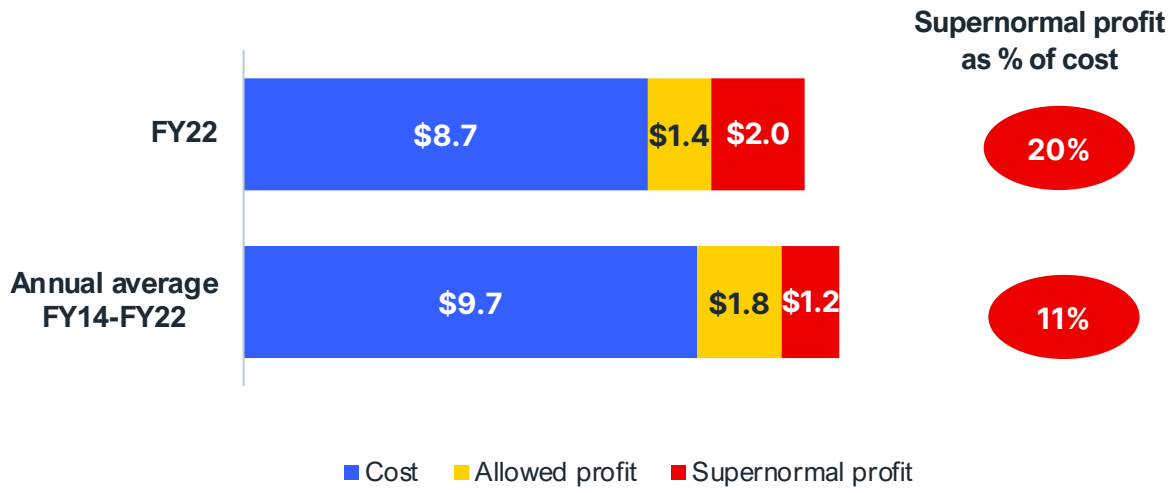
IEEFA has estimated that these excess returns have led to $2 billion in excess profit during FY22

- IEEFA translated the AER percentage data into dollars, to reveal the additional reported percentage return on equity. The result is supernormal profits of more than:
  - $2 billion in FY22
  - $11 billion over FY14-FY22
- In FY 2022, supernormal profits represented 20% of total network costs. Supernormal profits are persistent.

Key calculation assumptions:

- 40% equity ratio (AER benchmark) applied to the RAB (AER data) to calculate allowed profit.
- Actual equity ratio (AER data) applied to the RAB (AER data) to calculate the actual profit.
- Incentive schemes are included in the supernormal profit, but the supernormal profits are excessive even if incentive schemes are excluded entirely
- The AER broadly agrees with the IEEFA estimates for the entire period. However, there is insufficient information disclosure to allow IEEFA to align its estimates exactly with AER's estimates.

Network cost and profit outcomes annual ($ billion real)

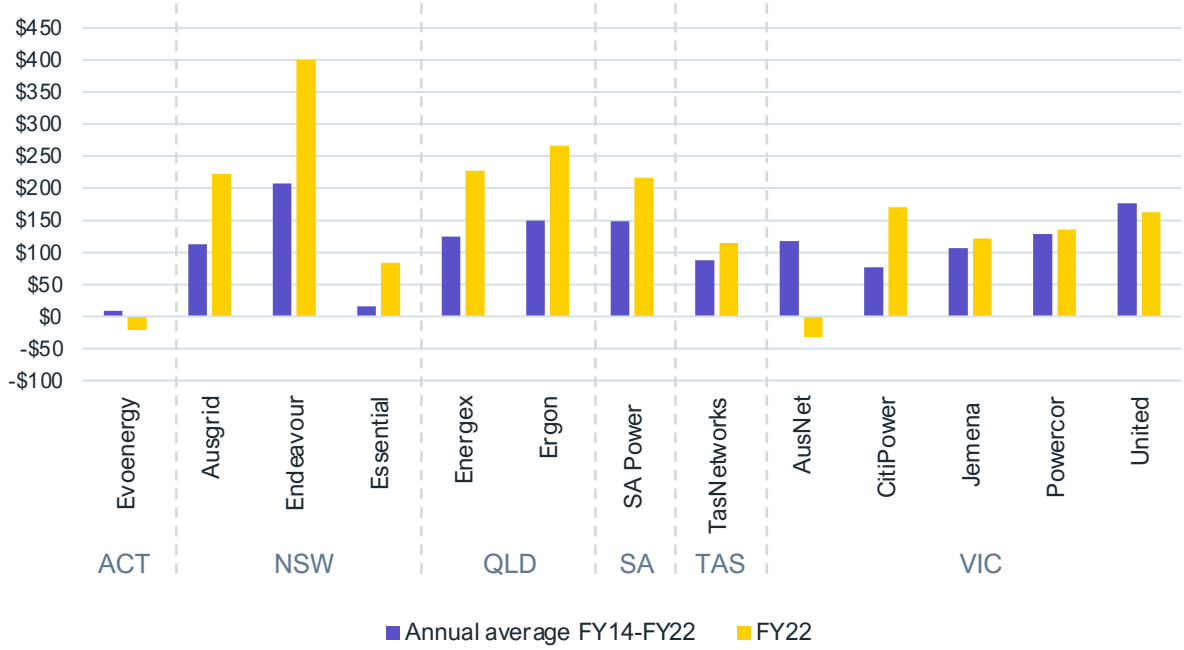


Source: IEEFA analysis, based on AER Electricity Network Performance Report 2023 data

Addressing supernormal profits could have averted significant price increases for consumers

- Supernormal profits of the level experienced in FY22 result in $80-$400 of unnecessary bill costs per consumer (including very large consumers), depending on their area
- If excessive supernormal profits were addressed, regulated network prices would be lower, and 14%-69% of the 2023 retail reference (VDO & DMO) price rises could be avoided
- If governments took action to reduce supernormal profits caused by excessive regulated network prices, this would alleviate the price shocks experienced by consumers and contribute to mitigating inflation

Estimated supernormal profits per customer (transmission and distribution profits combined), by distribution network area FY22



Source: IEEFA analysis based on AER data reporting network financial RIN returns classified as confidential
Note: The results are subject to variation to the extent that individual NSP gearing ratios diverge from the aggregate weighted averages provided by the AER. The IEEFA results under-estimate AER reported values.

In FY22, excess supernormal profits were due to multiple parameters being different to expectations

Actual vs expected

- **Capital structure:** higher actual debt
- **Cost of debt:** lower actual debt costs
- **Incentive schemes** provided additional revenues and increased returns
- **Opex:** lower opex
- **Actual inflation:** higher inflation increases debt financing allowance and actual profits
- **Capex outperformance:** lower capex

Contributions to real* returns on regulated equity – NSP simple average

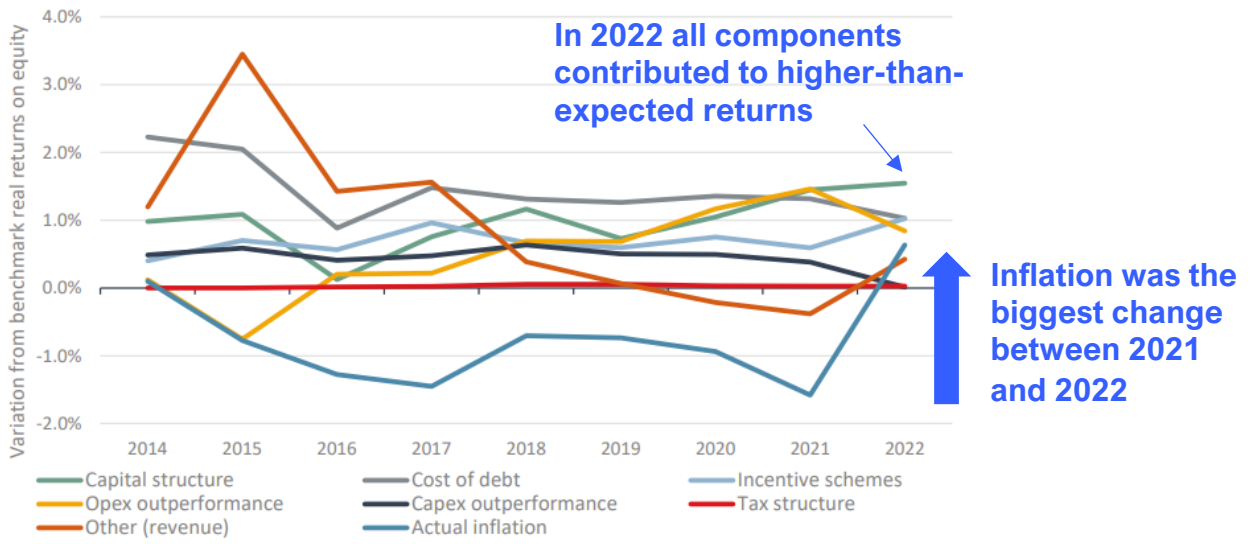
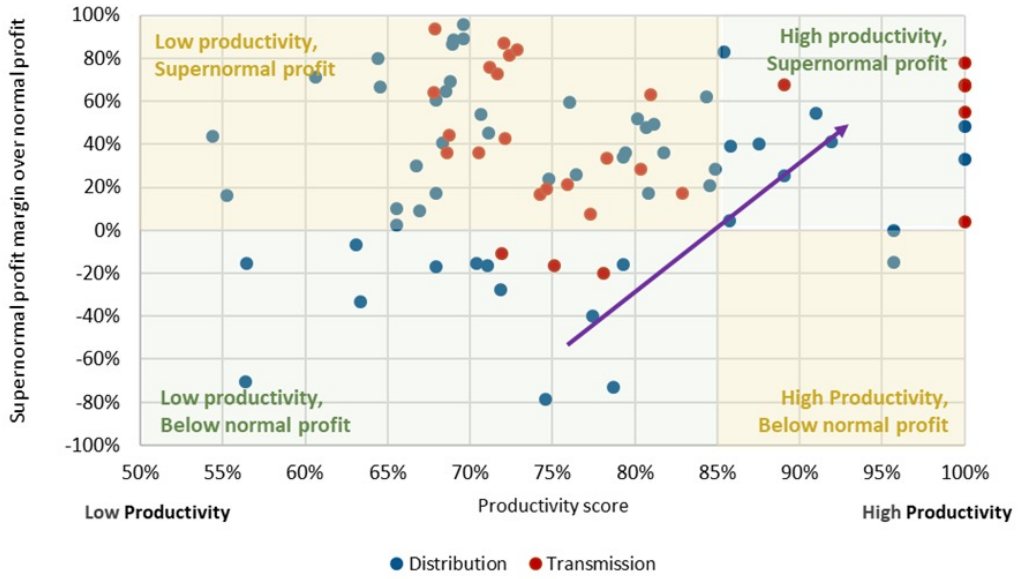


Chart source: AER Electricity Network Performance Report 2023 – Our comments in blue

Supernormal profits not explained by higher productivity, per effective incentive regulation

- Under incentive regulation, NSPs have an opportunity to **earn** supernormal profits by improving performance (productivity) at a higher rate than reasonably forecast by the regulator
- However, comparing the AER's productivity data with NSP profitability data shows there is no relationship between profit and productivity
- NSPs with average and even below-average productivity are getting unearned supernormal profits because costs are over-estimated, and after these errors are reported by NSPs, the regulator does not adequately correct its cost forecasts
- Despite modest improvements in recent years, according to the AER, sector-wide productivity in 2021 remains well below that in 2006 when national NSP regulation was introduced

There is no relationship between NSP profit and productivity

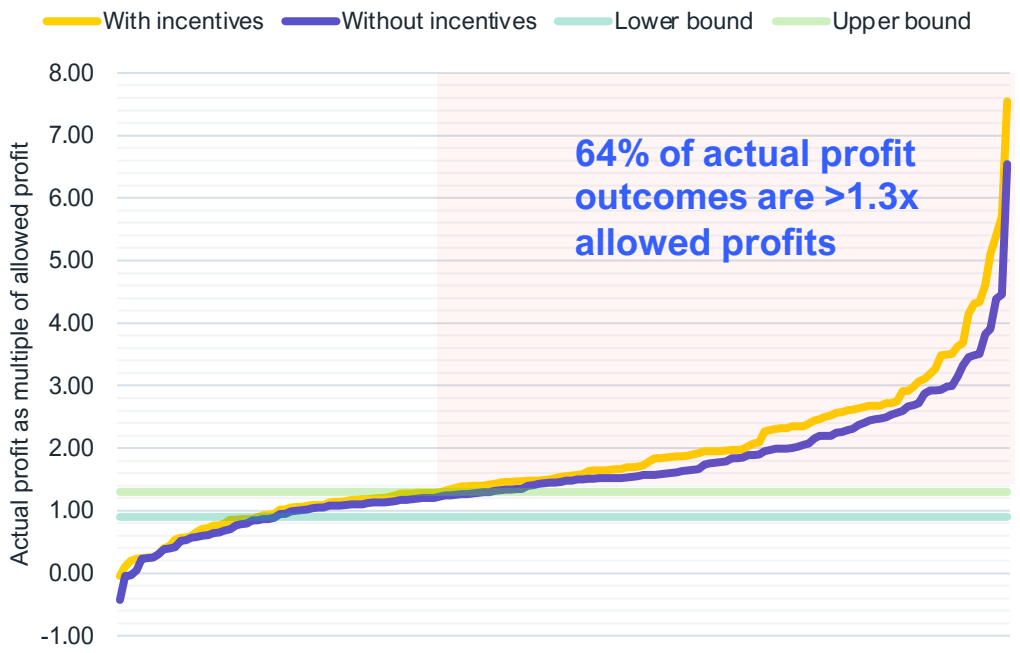


Source: section 5.1 ***Regulated electricity prices are higher than necessary****, October 2022, combining AER productivity benchmarking data with NSP reported profitability*

Network profit outcomes well outside the expected range under incentive regulation

- Price regulation is challenging, and regulators cannot be expected to set revenue exactly equal to networks' (changing) actual costs in each price control period
- Based on Dr Darryl Biggar's analysis* of what is a reasonable range of returns (prepared for the 2018 rate of return review), IEEFA suggests that actual profit outcomes could be reasonable if they were within 0.9 to 1.3 times the allowed profit
- With incentive scheme profits included, only 20% of outcomes over FY14-FY22 are within the reasonable 0.9 to 1.3 range
- While some outcomes are below the range (16%), 64% of outcomes are more than 1.3x the allowed profit (these are excessive supernormal profits)
- In FY22, actual profits were 2.5 times their allowed levels and from FY14-FY22 they were 1.7 times on average across all networks
- The exclusion of additional profits from incentive schemes makes no material difference to the conclusion (purple line in chart)

Distribution of actual profit as multiple of allowed profit FY14-FY22



*Darryl Biggar. Understanding the role of RAB multiples in regulatory processes. 20 February 2018.

Source: IEEFA analysis, based on AER Electricity Network Performance Report 2023 data

Excess returns are making the energy transition more costly and less efficient

Grid decarbonisation requires substantial new investment in transmission and distribution to connect renewables in new locations and to meet additional demand as fossil fuels are replaced.

This will require an expansion in regulated network investment. NSW, QLD and VIC also intend to invest in new non-regulated transmission to create Renewable Energy Zones.

If current supernormal profits continue, the total cost to consumers related to the regulated electricity networks will remain significantly higher than required. Over the expected life of major assets, returns to shareholders are around double the AER's estimated efficient level of returns.

Suggested independent inquiry and governance changes to network regulation

Problems	Solutions
Lack of transparency over the effectiveness of monopoly regulation, including absence of data on leverage and net profit after tax	**Full disclosure of actual network net profit after tax** and leverage, and timely consolidated reporting on this by AER.
Inadequate governance of AER performance in constraining monopoly network pricing power	Establish outcomes **performance evaluation framework** for monopoly network regulation by the AER. **Amend revenue and pricing principles in the National Electricity Law** to: • Clarify that actual - and not forecast - return on equity is the relevant performance metric for assessing regulatory outcomes and the AER's performance. • Define a clear benchmark for defining when supernormal profits are excessive – any outcome is compatible with "commensurate".
Flawed rate of return instrument	**Amend the rate of return instrument** to ensure consistency with revised revenue and pricing principles.
Lack of transparency over interaction between incentive schemes and supernormal profits, meaning networks may be over-compensated	**Improve transparency regarding overlaps between incentive schemes and "outperformance"** and consider rebasing thresholds for incentive scheme revenues, drawing on supernormal profits data.
No safeguard mechanism to address persistent and excessive supernormal profits	**Introduce a safeguard mechanism** so that excessive, structural supernormal profits that are inconsistent with effective incentive regulation can be returned to consumers.

An independent inquiry should be established to test the IEEFA analysis and consider the recommendations

Thank you

Simon Orme

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