

# Problems with SoE Regulation

## A Poor Prognosis for Papua New Guinea

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# Problems with SoE Regulation

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- Problem 1
  - Legally binding contract
    - Drafting is crucial
    - Litigious SoEs likely to pursue any point even remotely within realm of possibility because incentive is to ‘game’ rather than ‘perform’ in the public interest
  - Cost of litigation
    - Regulator has very limited resources

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- Problem 2
  - How to implement ‘incentive-based regulation’ when SoE has
    - No incentives for
      - Efficiency
      - Profitability (& dividend to shareholder)
      - Customer responsiveness
    - But only the incentive to increase capex as higher revenue is the reward **and hence higher tariffs? No end in sight**

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- Problem 2 (Cont'd)
  - No effective economic reward/penalty framework over executive remuneration, as in private sector through 'three-strikes' etc
    - Broad Govt policy on SoE remuneration rather than performance-based framework
  - Result is
    - consistent price rises well above CPI
    - Poor performance as ADB report shows

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- Problem 2 (cont'd)
  - Can Building Block Method ('BBM') address the problem?
  - Is it an incentive-based approach?
  - Is an incentive-based approach possible when SoE has no public-interest incentives for efficiency?
  - Reward for capex only - so SoE 'goes hell-for-leather' on capex, whether efficient or not

# Calculation of the building blocks

## Building Block Calculation - Calculating the revenue requirement

(Electricity Company Example)

	Year 1	Year 2	Year 3
1 Annual Operating Costs	100	100	100
2 Return Of Capital	100	110	120
3 Regulatory Asset base value	1000	1100	1199
4 Return On Capital	100	110	120
5 Revenue Requirement	300	320	340
Annual Power Delivered (kWh)	2000	2000	2000
6 Maximum Average Price (Kina / kWh)	0.15	0.16	0.17

1. Annual Operating costs is all the operating expenditure that ABC power incurs in a year. It excludes any capital costs.

2. Return of Capital is the same as the depreciation on capital assets.

3. Regulatory Asset Base Value is the value of the firms assets. Use the opening value each year.

4. Return on Capital is the WACC times the Regulatory asset base value

5. Revenue Requirement = Annual Operating Costs + Return of Capital + Return on Capital

6. Maximum Average Price = Revenue Requirement divided by Annual Power Delivered

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- Problem 2 (cont'd)
  - BBM provides for opex in theory, but no check on proposed opex because 'theoretical incentive' to 'retain gains' is relied upon by regulatory theory, but absent in SoE - is present in commercial enterprise, but that is not the case in PNG SoEs
  - Opex is possible area of significant inefficiency in PNG and problem is not quantified.

# Calculation of the building blocks

		Year 1	Year 2	Year 3
1	Annual Operating Costs	100	200	300
2	Return of Capital	100	110	120
3	Regulatory Asset Base value	1000	1100	1199
4	Return on capital	100	110	120
5	Revenue Requirement (1+2+4)	300	420	540
	Annual Power Delivered (kWh)	2000	2000	2000
6	Maximum Average Price (Rev Req / kWh)	0.15	0.21	0.27



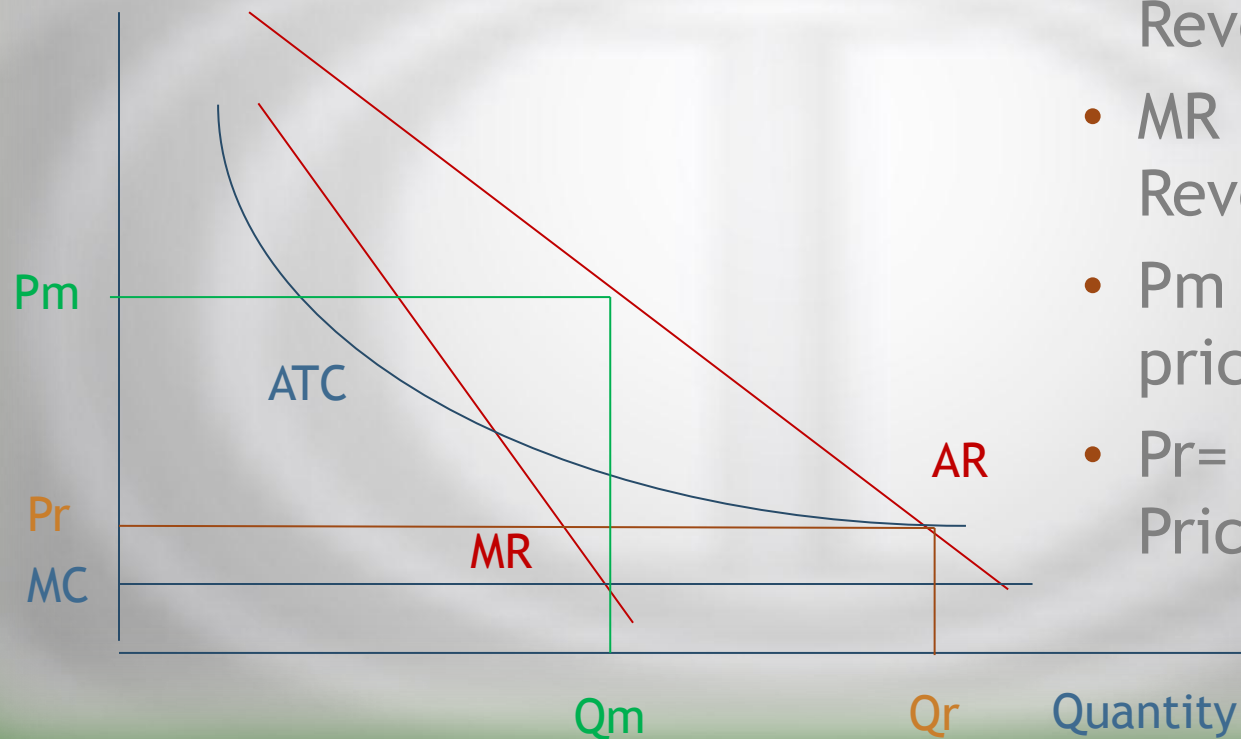
# Problems with SoE Regulation

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- Problem 3
- Demand estimation
  - Demand influences revenue calculation
  - Hitherto Commission has relied on SoE estimates
  - Usually estimate of its own ability to supply, rather than likely actual demand
  - Ignores latent demand
  - Commission could not compel solutions to lack of generation or transmission capacity

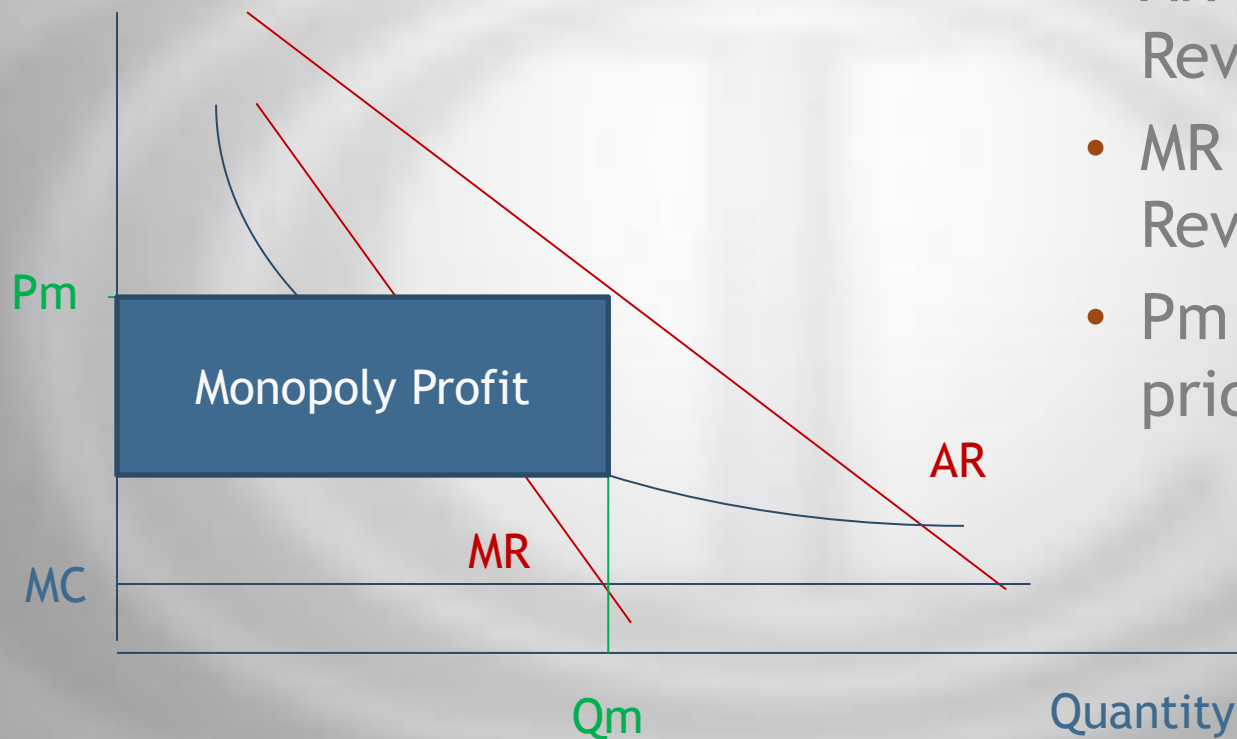
# A natural monopoly

- MC = Marginal Cost
- ATC = Average Total Cost
- AR = Average Revenue
- MR = Marginal Revenue
- $P_m$  = monopoly price ( $MR = MC$ )
- $P_r$  = Regulatory Price ( $AR = ATC$ )



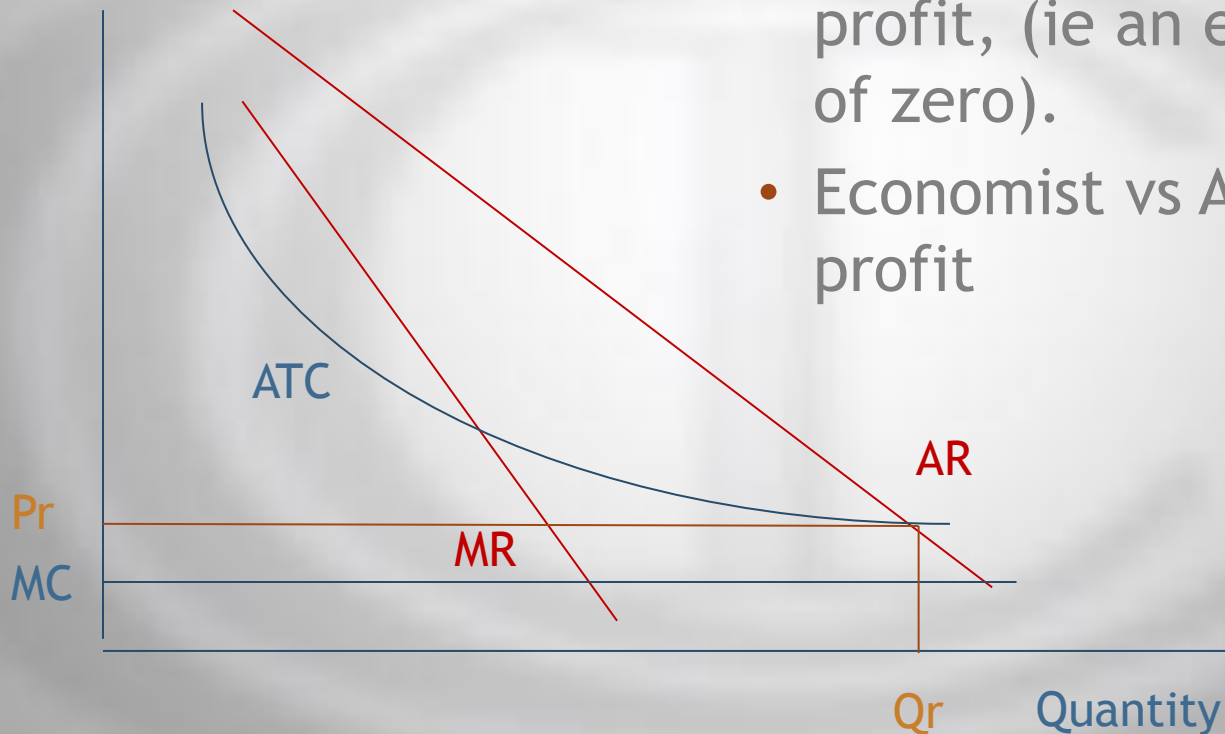
# Profit of an unregulated Natural Monopoly

- MC = Marginal Cost
- ATC = ATC
- AR = Average Revenue
- MR = Marginal Revenue
- $P_m$  = monopoly price ( $MR = MC$ )

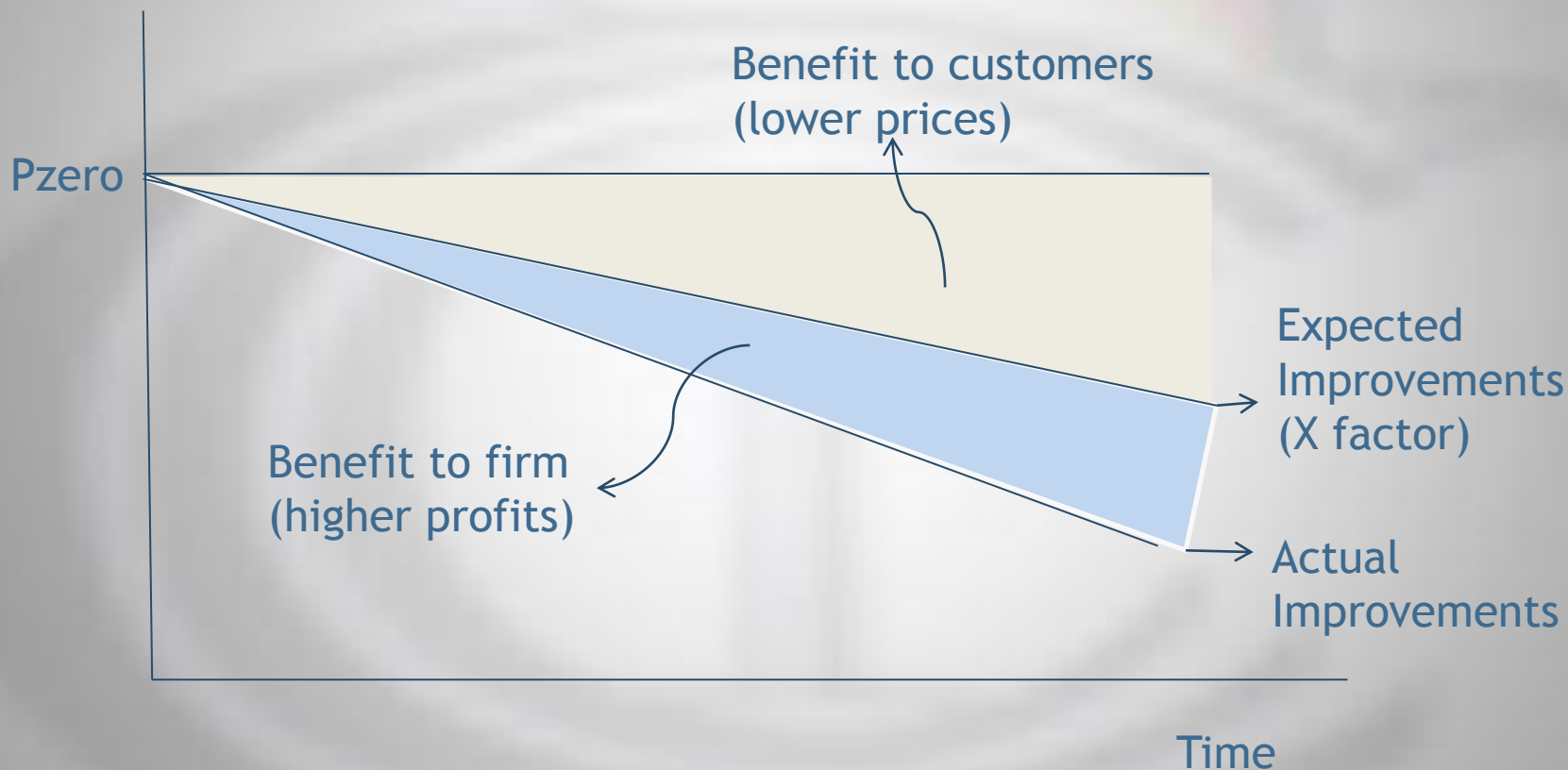


# Profit of a regulated natural Monopoly

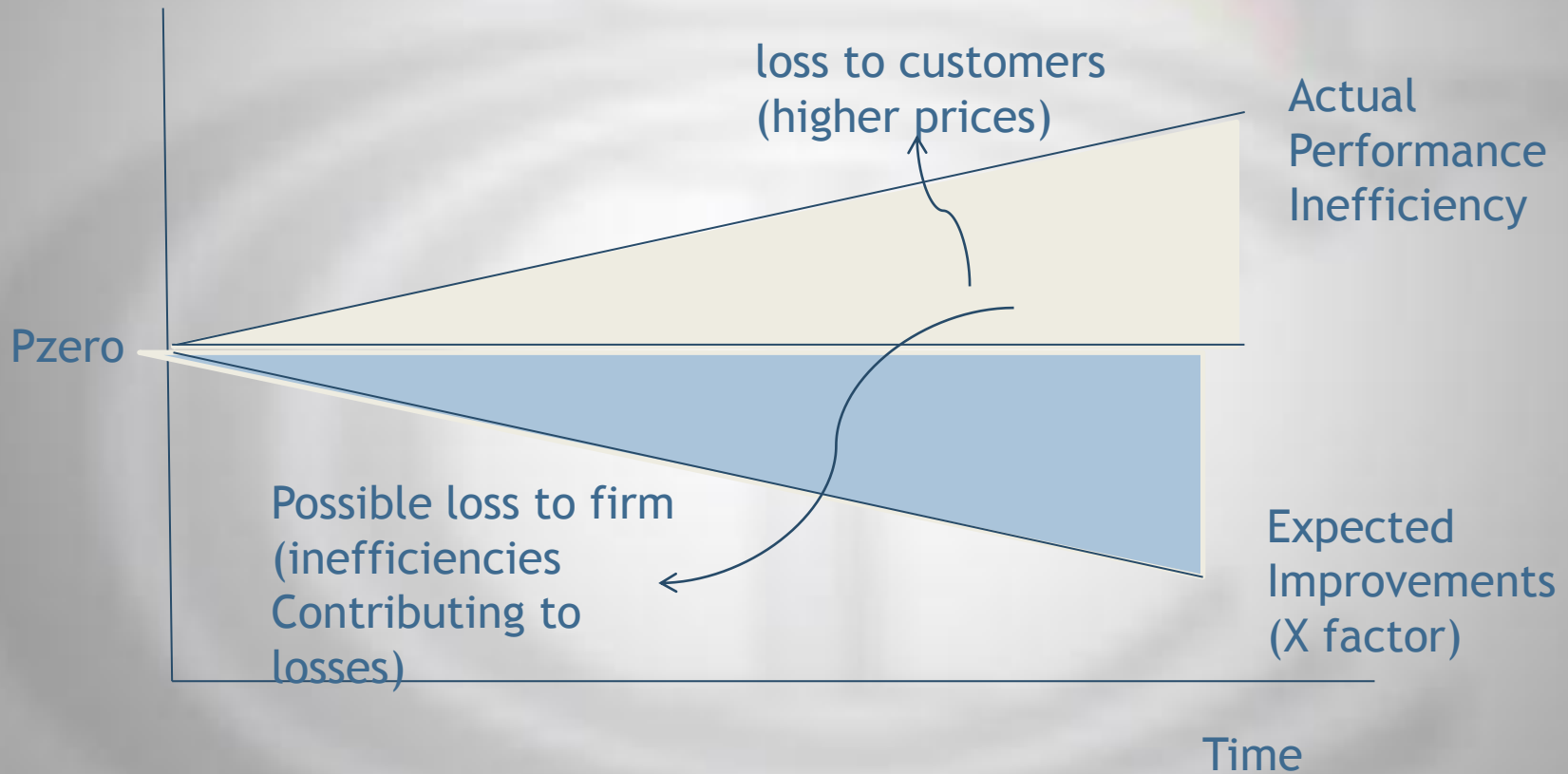
- Because average revenue = average cost a regulated monopoly will make a normal profit, (ie an economic profit of zero).
- Economist vs Accountants profit



The assumption under the Building Block WACC model is that State Owned Natural Monopolies will become more efficient over time



Not the case in our experience to date. In fact the opposite has occurred. No innovation and no significant changes.



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- Problem 4
  - Veracity of information provided by SoE
    - No provision for authentication
    - Inaccuracies found in past returns
    - No remedy in the past

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- Problem 5
  - Service standards
    - Current examples are ‘best endeavours’ for Post PNG; ‘provide adequate berthing and hard stand facilities’ for PNG Ports; some objective existing objectives are for PNG Power - connection times beyond agreed service standards rebate lead to user rebates; and percentage ‘on time’ letter delivery for Post PNG (but survey done by them)
    - General absence of meaningful ‘performance’ KPIs such as ‘average berth occupancy’; ‘crane rates’ ; ‘gate efficiency’; (for ports) ‘reliability - SAIDI and SAIFI measures’ (for electricity)



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- Problem 6
  - SoE introduces new services; or raises prices for existing services that fall outside contractual definition of ‘regulated services’
  - Examples are PNG Ports contracts specifies ‘berthing services’; berth reservation services’; and ‘wharfage services’; but exemplified ‘storage services’; ‘pilotage services’; and ‘stevedoring services’ as ‘contestable services’ when no competition is possible in the first and highly unlikely in the second.
  - Charges for pilotage and storage increased substantially

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- Problem 7
- No control over procurement procedures
- Any lack of competitive tendering cannot be addressed
- Big problem in developing country SoEs (and government generally) because of possibility of (a) corruption; (b) incompetence; or (c) political interference

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- Problem 8
  - Regulator inherited contracts signed by Minister of the day before creation of regulator
- Problem 9
  - Selection of board and top management
    - Could be result of nepotism;
    - Appointees could be incompetent
- Problem 10
  - Objectives and funding of SoEs
    - Some activities are extraneous to generally perceived 'essential services' and 'cross subsidies' difficult to detect

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- Problem 11
  - Funding of, or provision of concessional loans for Capex by Govt or donors bypasses regulated return Capex not adjusted for Govt donor funding
- Problem 12 - Incremental Approach to Regulation: identifying problems one by one, dealing with 'gaming' on every one.

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- Problem 12 - Incremental Approach to Regulation: identifying problems one by one, dealing with 'gaming' on every one (cont'd)
- Is incremental approach currently attempted by Commission (because of lack of alternatives) to resolve problems effective?
- After 10 years of regulation:
  - What have we got to show for it?
  - Prices have risen consistently
  - Service standards have generally fallen, with some exceptions
  - Regulator seen as 'approving price rises'

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- Problem 12 - Incremental Approach to Regulation: identifying problems one by one, dealing with 'gaming' on every one (cont'd)
- 'Gaming' problem getting worse:
  - Inaccurate information
  - 'Deep pockets' to hire highly paid lawyers and regulatory consultants to produce reports that suit SoE
  - Commission cannot match such expenditure
  - Yet, has 'taken them on'
- Is it sustainable without adequate budgetary support?
- Clearly not!

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- Problem 12 - Incremental Approach to Regulation: identifying problems one by one, dealing with 'gaming' on every one (cont'd)
- Information Asymmetry
  - Even in well-funded regulators with highly skilled staff, problem exists
  - In PNG, small staff 'learning the ropes', it is a tall order
  - AusAID funded advisers since early 2013 have made a difference
  - 'Putting out bushfires' has prevented implementing meaningful strategies for change

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- Desperate situations demand drastic remedies
- Immediately introduce competition where possible (MVIL, Post PNG)
  - Look at the benefits of mobile telephone competition
- Remove exclusive licensing of all SoEs (PNG Power; PNG Ports; Post PNG; MVIL etc)
- Structurally separate SoEs (e.g. individual ports, individual electricity grids; then each grid from generation, retailing)
- Privatise or part privatise SoE or component elements
  - Look at BSP now; Bemobile going the same way



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- Desperate situations demand drastic remedies (cont'd)
- Franchise bidding with lowest weighted average end-price as competitive criterion
- Has been done by British Rail and a new round in progress

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- Desperate situations demand drastic remedies (cont'd)
- All these alternative approaches are outside the powers of the Commission to introduce
- They are entirely the prerogative of Government