Regulation and competition policy for network utilities

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Competition Policy Research Centre Conference
How should competition policy transform itself?
Japan 20 Nov 2003

http://www.econ.cam.ac.uk/electricity

Outline

- Costs and benefits of regulation
- When to delegate regulation of utility services to competition authorities
- The importance of market structure and utility characteristics
- Is *ex ante* regulation only needed to deal with Significant Market Power?

Examples

- Telecoms markets
  - Defining markets
  - designing regulation to mimic competition
- Electricity wholesale markets
  - addressing market power
  - the role of licences
- Gas

Competition policy for utilities

- Principle: separate out natural monopolies:
  - "Competition where possible, regulate where not"
- Should potentially competitive network services be left to competition law?
- Should regulators relinquish their power as competition develops?

Costs of regulation

- Regulation - public or private interest?
- Welfare maximising regulation:
  - conflict between efficiency and rent transfer
  - cost-of-service regulation chills innovation
  - both avoided by competitive markets
- Regulation captured by interest groups
  - protects incumbents, deters entry

Can competition policy replace regulation?

- Evidence from New Zealand is depressing
- Useful presumption that network utilities different unless evidence to contrary
  - hard to return to sector-specific regulation
- *Ex post* intervention is slow, legalistic
- Licence conditions create scope for bargains
  - trade horizontal for vertical integration in ESI

Where to replace regulation?

- Classic network utility:
  - network is natural monopoly
  - capital-intensive
  - provides essential services
  - connected to consumer/voter

Regulation inevitable, state ownership likely

Where to replace regulation?

- Post-modern network utility:
  - facilities-based competition feasible
  - failure of one network not critical
  - services useful, not essential
  - expenditure share modest

Replace regulator by competition law?

Dealing with market power in utilities

- Competition Law: e.g. telecoms
  - rule based approach favoured by EU
  - regulate: yes/no?
- UK License approach: e.g. ESI
  - pragmatic, flexible, MALC problematic
- US Utility Law approach
  - "just and reasonable" prices
  - powers to regulate can distort markets

Competition law-based approaches: Telecommunications

EC Communications Directives

- markets effectively competitive where no operator has Significant Market Power (SMP)
- NRAs can only impose ***ex ante*** regulation if
  - market review finds SMP that is likely to persist
- regulation must be
  - ***justified*** in relation to Directive's objectives
  - ***appropriate, necessary, proportionate***

Suggests regulation that mimics competition?

Significant Market Power- SMP

- defined to be equivalent to dominance:

Undertaking deemed to have SMP if, alone or jointly with others, it has “the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.” (Art. 14 , Directive 2002/21/EC)

Mobile termination as an example

Single dominance criteria

- ***Market shares*** not conclusive but

  < 25% *presumptive* of no SMP

  normally SMP requires > 40%

  > 50% *presumptive* of SMP
- Allow for market shares that are: persistent, emerging, fluctuating, rapidly growing
- Barriers to and ease of entry
  - control of infrastructure, econs of scale/scope, VI

Regulating mobile termination

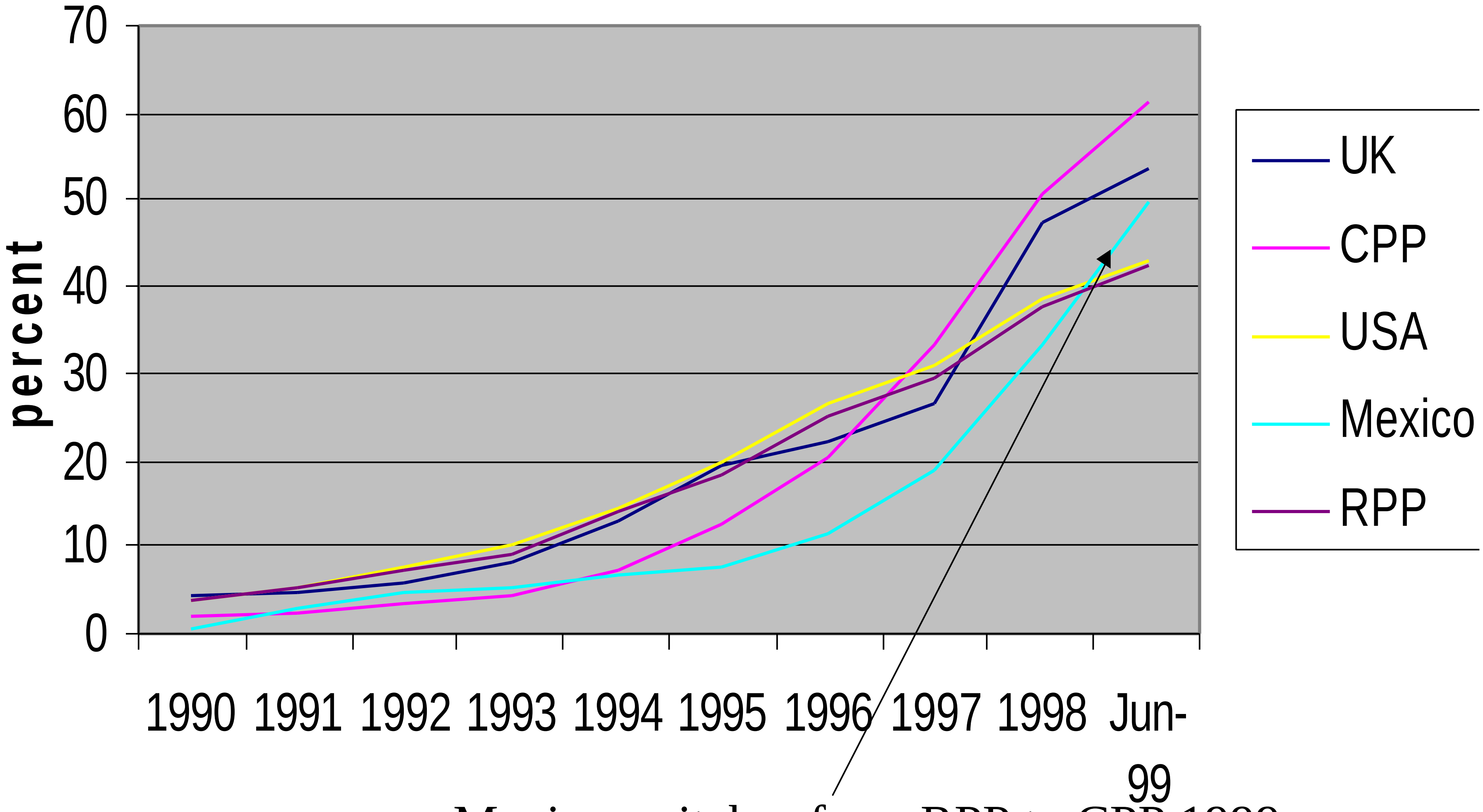
Oftel: Each MNO has SMP in the separate market for voice call termination on its network, and for 3 for wholesale 2G termination because:

- Calling Party Pays (and is insensitive to price)
- Each MNO has 100% of relevant market
- purchasers lack countervailing power
- charges persistently and significantly above cost

Whether to regulate termination

- Initially unregulated: dynamic market
- most MNOs not making profits
- mark-up on termination subsidises handsets
- contrast with receiving party pays (RPP)
  – where termination subject to competitive pressure
- CPP accelerates penetration compared to RPP
  – cross-subsidy addresses network externality

Mobile Subscribers as pecentage of access lines



Mexico switches from RPP to CPP 1999

Setting the termination charge

- To cover share of fixed and common costs
  - must "promote efficiency and sustainable competition and maximise consumer benefits" (Art 13, AD, 2002/19/EC)
- Access and call origination market effectively competitive

$\Rightarrow$ Ramsey mark-up(+externality) on LRIC

Not accepted by CC nor in Judicial Review

Ramsey pricing

- Constrained efficient solution
  - subject to breakeven, recovers F&C costs
  - competitive markets will Ramsey price
  - Ramsey price termination $\Rightarrow$ efficient outcome
  - termination less elastic $\Rightarrow$ markup > EPMU
- Oftel objections:
  - Access/origination not competitive
  - difficult; elasticities hard to estimate
  - "unfair" to fixed line callers

Making regulation more efficient

- Leveraging regulation into non-SMP markets?
- SMP in termination likely to remain

$\Rightarrow$ price control will need to be revisited

- other price controls rely on contentious theory/econometrics:
  - WACC based on CAPM + econometrics
  - benchmarked X-factors based on econometrics

Ramsey pricing mimics competitive outcome

Conclusions on telecoms

- EU: only regulate if there is SMP

– best of competition policy and regulation?

- Facilities-based competition attractive
  - Cost-benefit test for regulation
- Mobile: confine regulation to termination
  - simulate competitive outcome

Does the Competition Law approach work for electricity?

Collective dominance if:

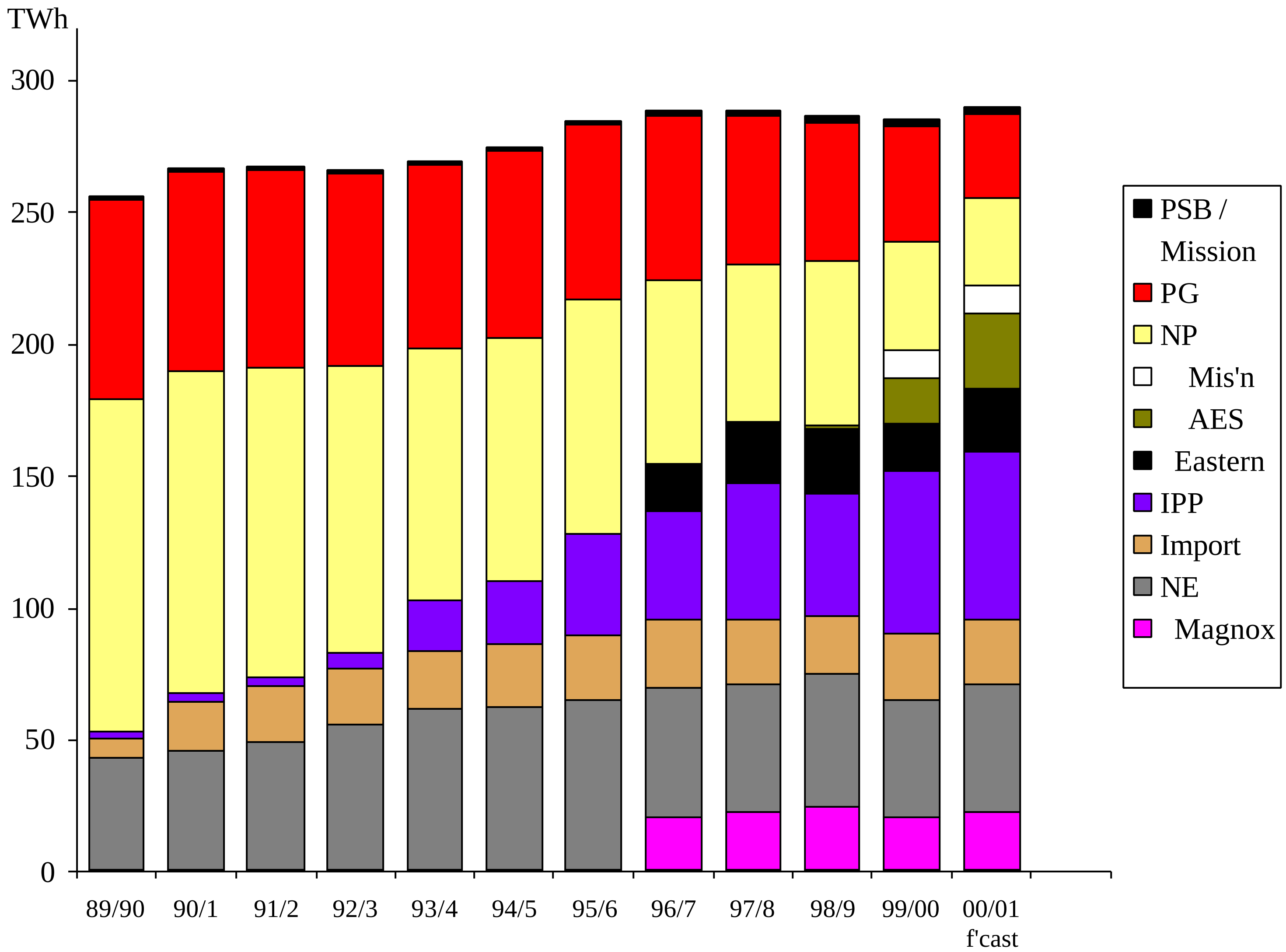
- Market characteristics conducive to tacit coordination, ***and***
- Tacit coordination sustainable:
  - firms lack ability and incentive to deviate, given incentives for retaliation, and
  - Buyers, fringe firms, entrants cannot challenge tacit coordination

Collective dominance criteria

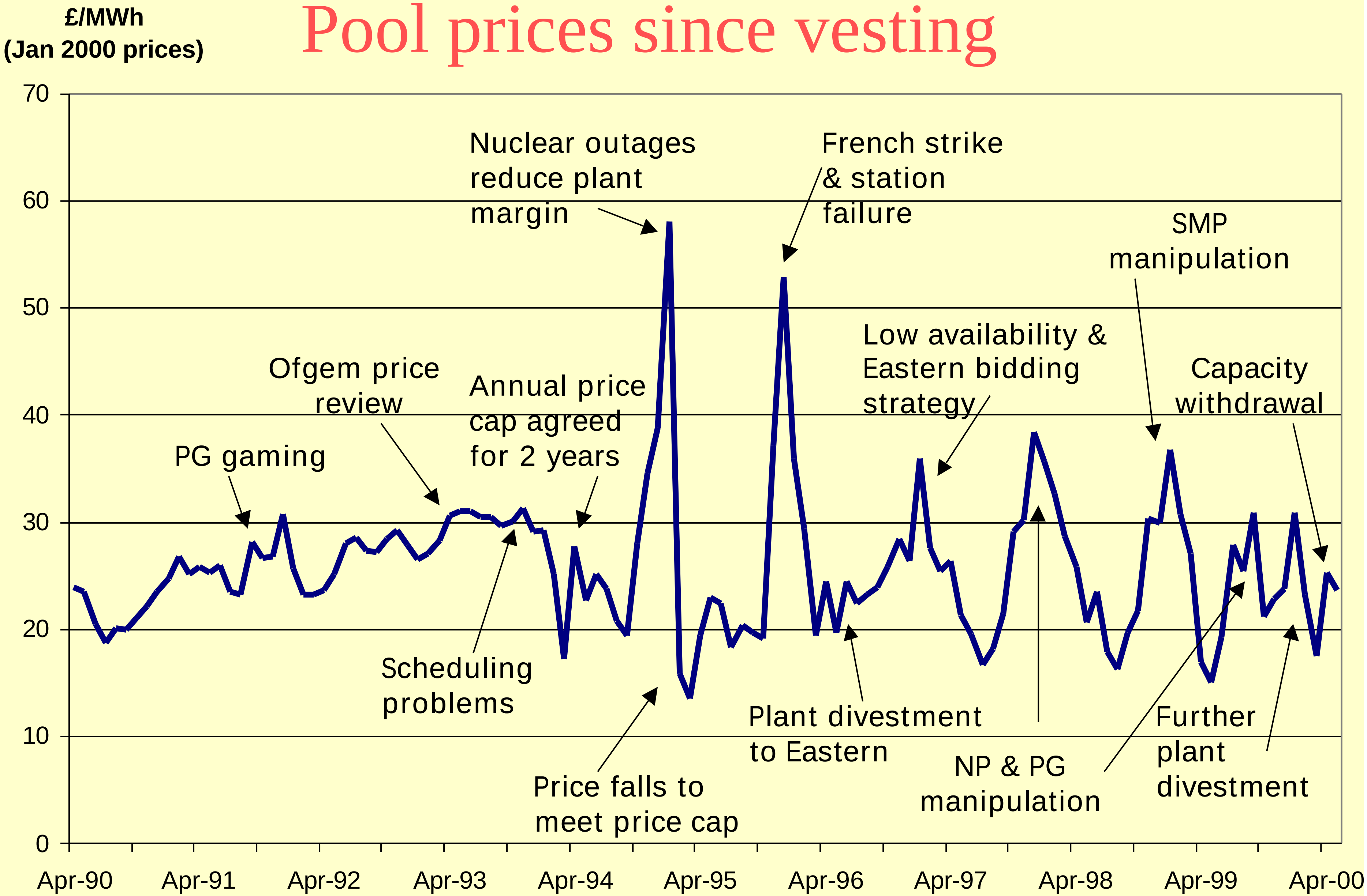
- Markets concentrated, transparent, mature
- Low elasticity of demand
- Homogenous product, similar costs, shares
- Little excess capacity, barriers to entry
- Excess pricing, profit
  - little response to cost fall, barriers to switching

Electricity as a test case

Generation in England and Wales



Pool prices since vesting



Collective dominance: the Pool

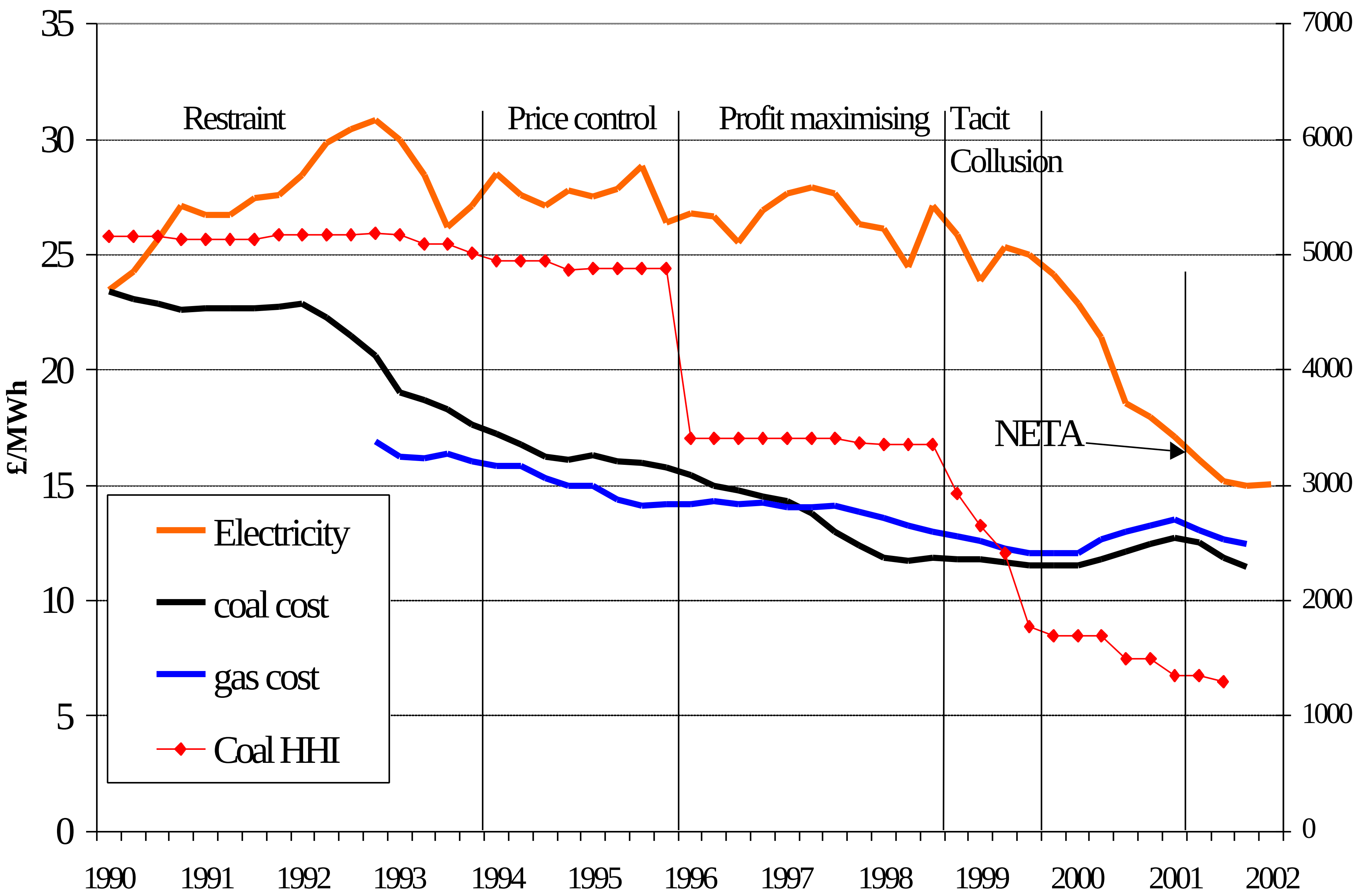
- Markets concentrated, transparent, mature
- Low elasticity of demand
- homogenous product, similar costs, shares
- little excess capacity, barriers to entry **?**
- excess pricing, profit
  - little response to cost fall,
  - barriers to switching **??**

But how to test for tacit collusion?

Testing for tacit collusion

- Is each company's bid profit maximising against all other firms' bids?
- C.f. A Sweeting MIT (2001) on Pool:
  - 1990-94 bids too low for profit maximising
  - 1994-96 bid constrained by price cap
  - 1997-8 bids were profit maximising
  - 1999-2000 bids suggest tacit collusion - lower prices and higher outputs would increase profits

Real electricity and fuel costs 1990-2002



Market Abuse Licence Condition

- Similar to prohibition of abuse of dominance
- defines SMP as "the ability to bring about, independently of any changes in market demand or cost conditions, a substantial change in wholesale electricity prices"
  - substantial = +5% for 30 days = £30 million

    = 0.4 % averaged over a year

MALC - 2

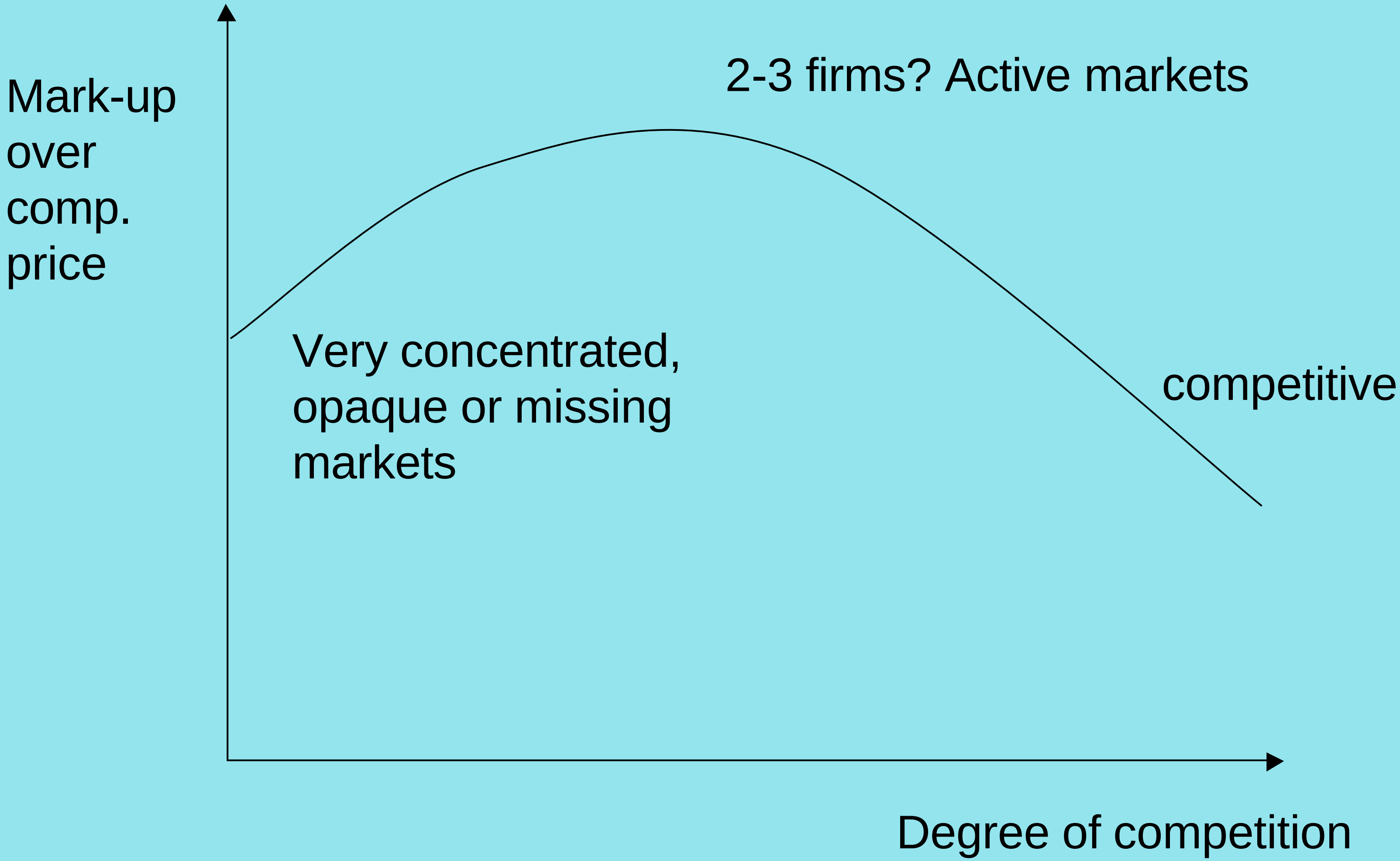
- CC *AES and British Energy* 2000:
  - Ofgem does not define relevant market
  - does not require that price change is profitable
  - CC does not believe Co.s have incentive
  - CC argues that the appropriate response to rule manipulation is to change the rules
  - CC "mindful of the disadvantages of a broad, effects-based prohibition"

Case dismissed

Evolution towards competition

- Market power is legal, *abuse* is not
  - concentrated markets constrained by this
  - less concentrated markets less constrained?
    - dominance “unlikely with less than 25% share”
    - difficulty of defining markets: cf MALC
    - very short term opportunity with non-storable output
- Intermediate concentration problematic?
- Highly competitive electricity insecure??

Evolution to a competitive market



Difficulties with US approach

- Re-regulation if prices not "just and reasonable"
- How then to encourage investment?
  - Peaking power may run a few hours/year
  - High prices needed to induce adequate reserves
  - threat of price caps leads to underinvestment
- Standard Market Design to force suppliers to contract ahead for capacity

Regulation to offset regulatory failure

Conclusions

- Competition Law - where markets are either competitive or need regulation
- Licences have advantages for imperfectly competitive markets
  - require market surveillance
  - mechanism to ensure adequate information
- Reducing the potential for tacit coordination may require structural reforms

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Acronyms-1

CC: Competition Commission

CEC: Commission of European Communities

EPMU: equi-proportional mark-up

ESI: Electricity supply industry

IPP: Independent Power Producer

LRIC: Long run incremental cost

MALC: market abuse licence condition

MNO: mobile network operator

MMC: Monopolies and Mergers Commission, now CC

Acronyms-2

NRA: National Regulatory Authority

NP: National Power

PG: PowerGen

REC: Regional Electricity (Distribution) Company

rTPA: regulated Third Party Access

SMP: Significant Market Power

WACC: weighted average cost of capital

2G, 2G: 2^{nd}, 3^{rd} generation mobile