

# Regulating Capacity in England and Wales

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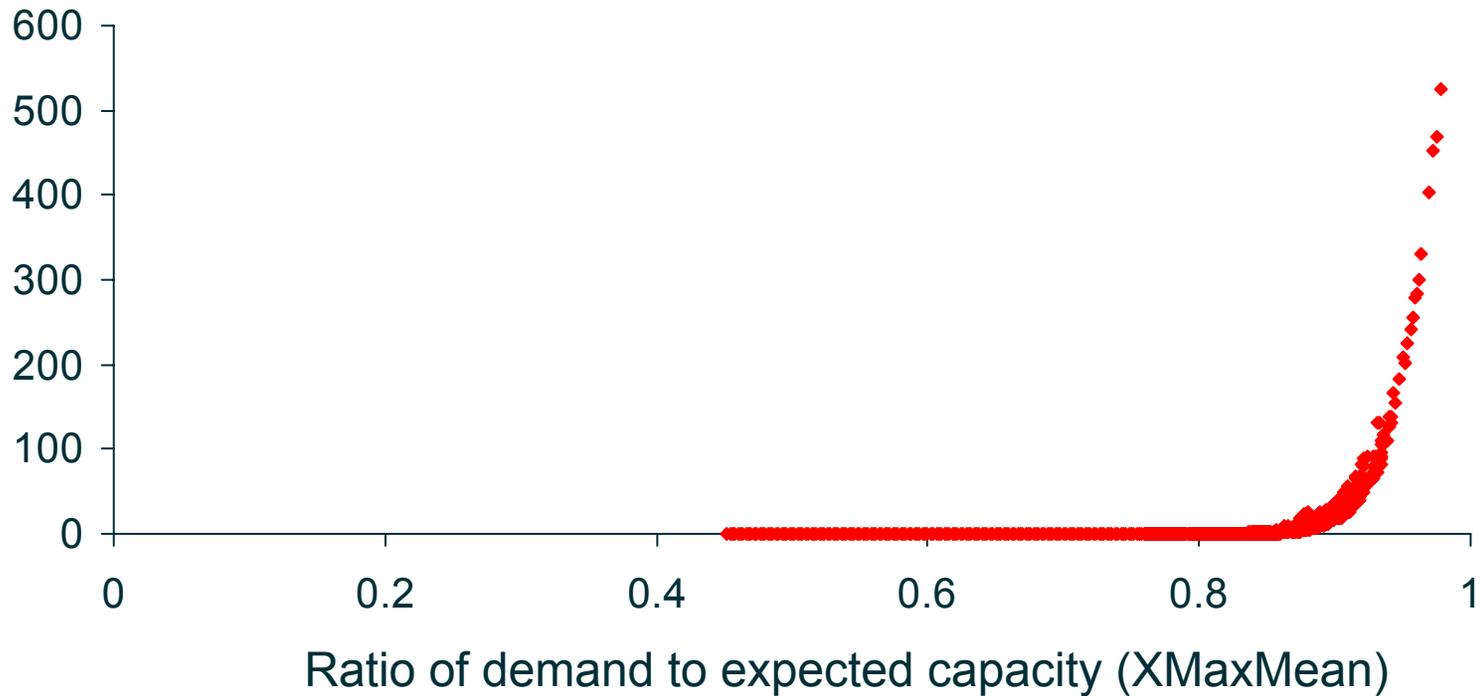
# The Context

- Restructured in 1990
- Two privatised generators owned 80% of capacity (proportion fell over time)
- The Pool was a compulsory daily auction with a uniform energy price in each half-hour
- Capacity Payments were very non-linear in the amount of spare capacity



# Capacity Payments and Demand

Capacity Payment (£/MWh)

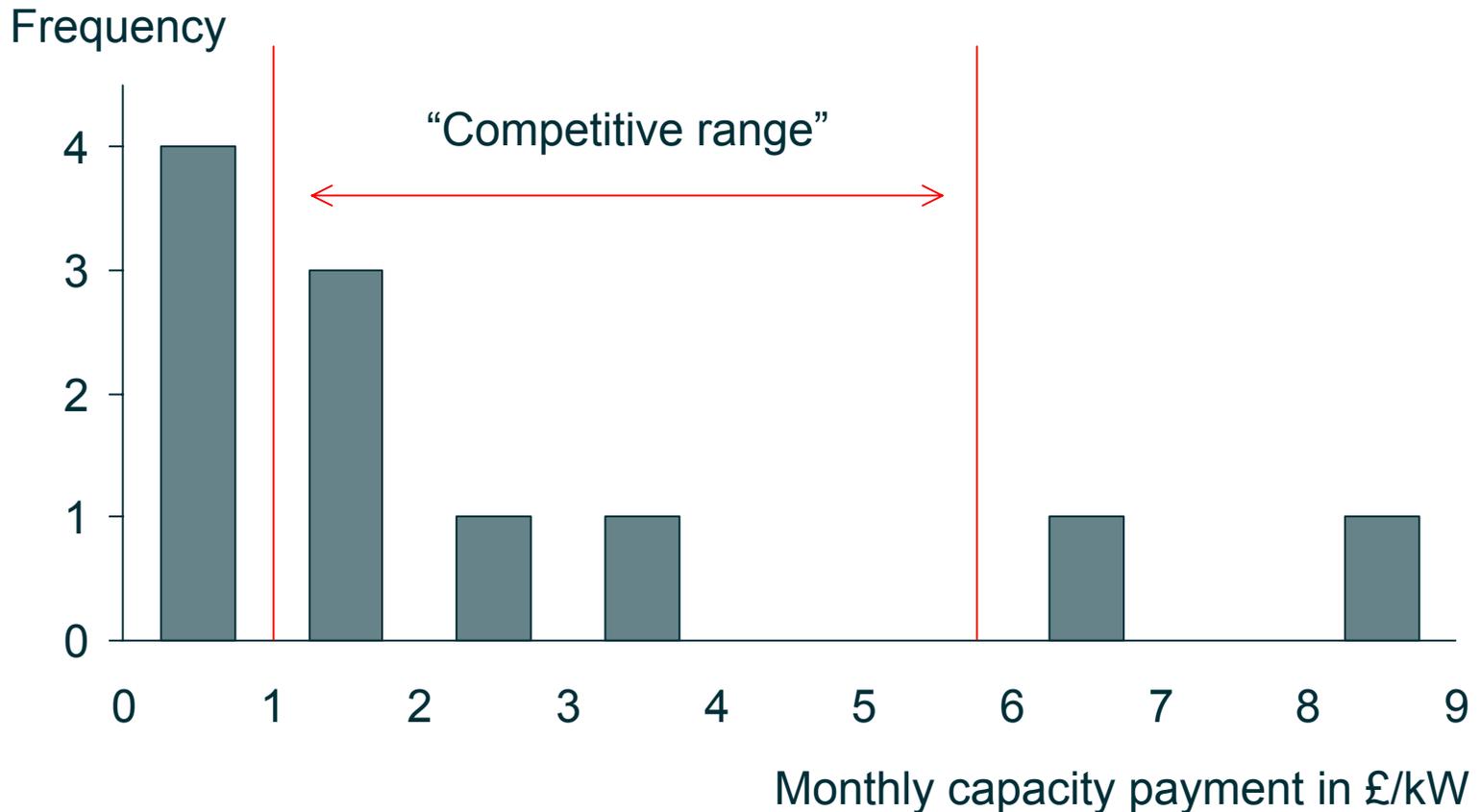


# How to manipulate the market

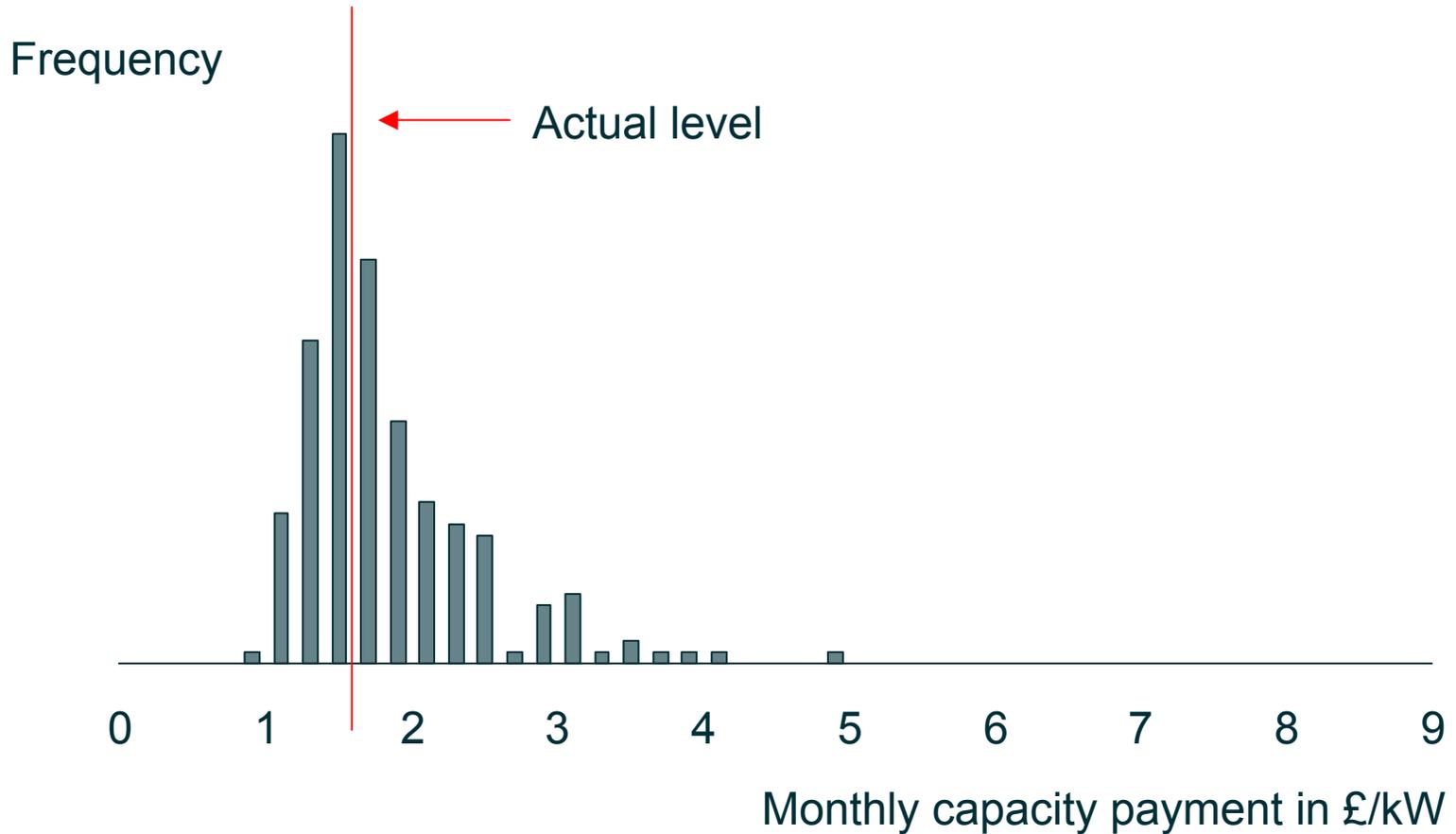
- Withhold plant to raise capacity payments
  - > Summer 1991
  - > Rules changed: 8-day outage needed to affect payments
- Withhold plant to raise energy prices while still bidding at close to marginal cost
  - > Withholding means a higher-cost plant is marginal
  - > Suggested by Wolak and Patrick in 1997
- Competitive behaviour should include shutting plant that is not expected to cover its costs



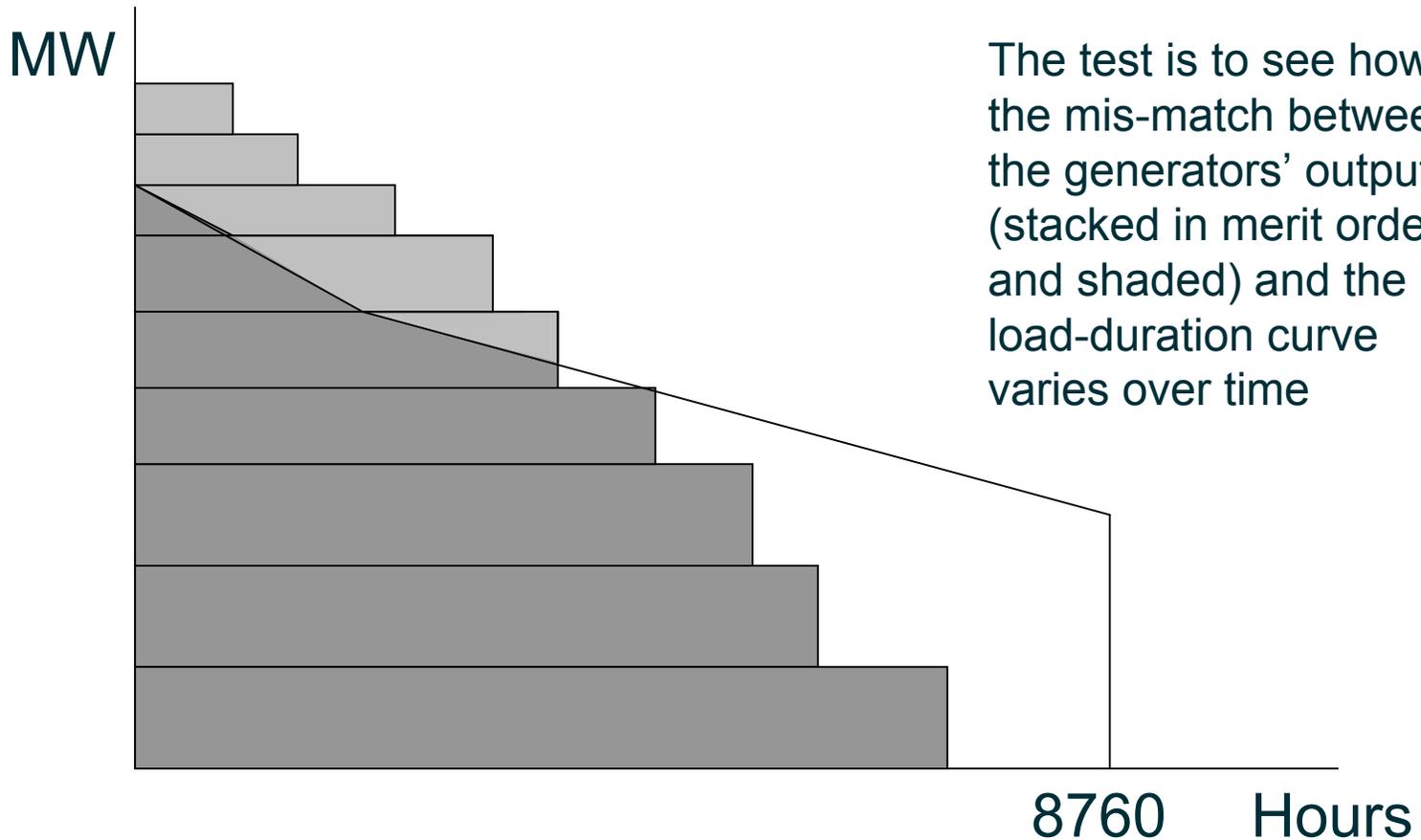
# Average monthly capacity payments in winter



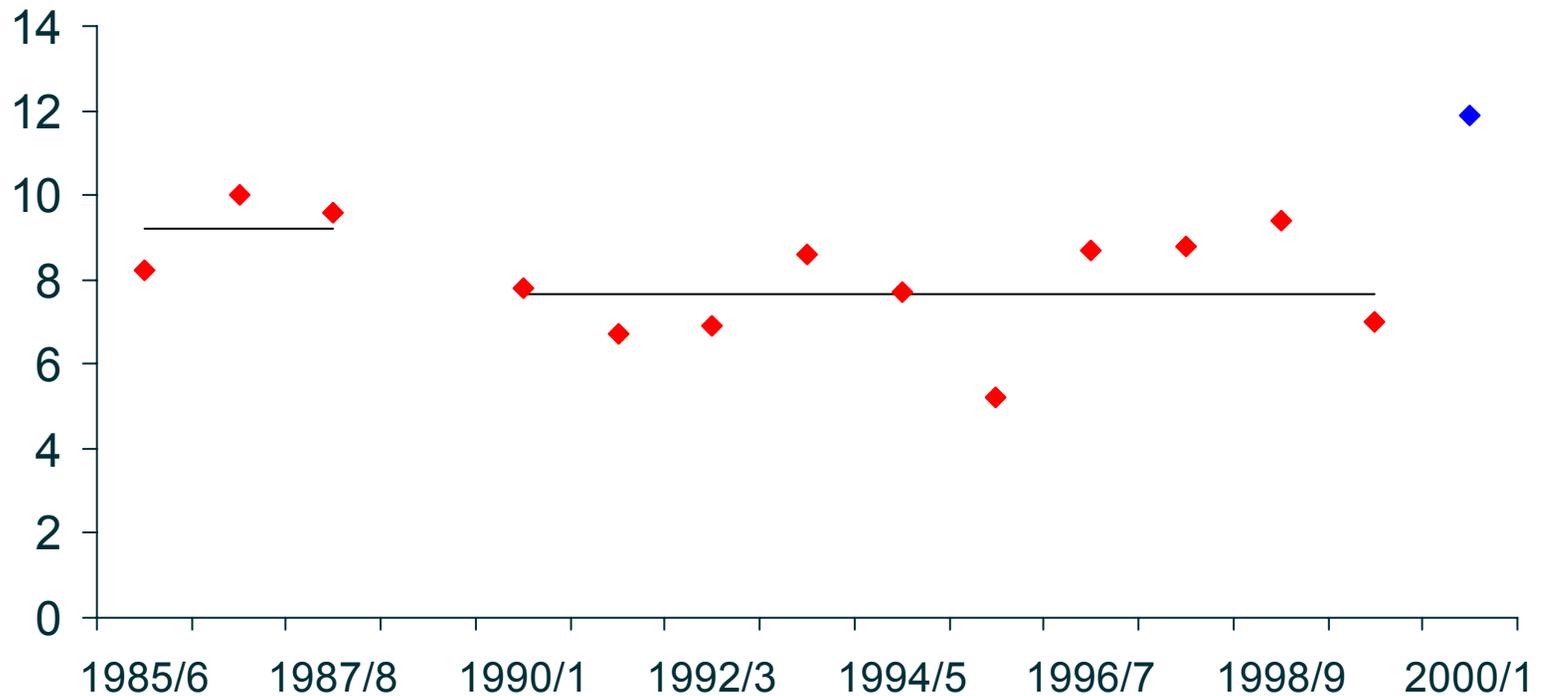
# Average monthly capacity payments – simulated 97/8



# Fitting generation to demand



# “Truly excess output” before and after 1990



Source: R.J.Green “Did English Generators Play Cournot?” from HEPG web site



# Withholding in practice

- Small-scale withholding was (anecdotally) common (prolong maintenance outages)
- Actual annual capacity payments not inconsistent with expected payments at a competitive level
- Generation became a better fit to the load-duration curve after reform – no sign of withholding there!



# Regulating capacity

- Condition 9A introduced into big generators' regulatory licences in early 1992
- Tell regulator their policy on availability
- Produce forecast and actual data
- Tell regulator about plans to close plant
- Regulator could appoint independent assessor to decide if plans were reasonable



# 1993 Assessor's Report

- NP and PG each wanted to close several small stations
- Touche Ross concluded that those stations' costs exceeded their predicted revenues
- Generators had not tried hard to find buyers
- Touche Ross did not believe buyers would have been found
- Regulator published summary, not report



# 1998 Assessor's Report

- NP and PG each wanted to close units at stations which would remain open
- Merz & McLellan agreed units had costs > revenues at expected output levels
  - > Some would be economic at higher load factors
- Partial closure usually not cost-effective
- Selling individual units would be impractical
- Tolling contracts should have been explored



# Later events

- Regulator criticised short-notice closures
  - > Unable to take effective action against the company for what had become a past breach of its licence
- A general report on Pool Prices and market power paved the way for (more) divestitures
  - > NP/PG each agreed 4GW and sold more plant voluntarily
- Generation now fragmented & “competitive”
- Condition 9A (now 18) has been disapplied



# Conclusion

- NP and PG shut 22 GW of plant (of 50 GW)
- Little evidence of large-scale uncompetitive impact on prices
- Regulator applied pressure on capacity decisions, via requests for information
- Did not affect style of closures
- Maybe evidence leading to divestitures and greater competition from 1999 onwards

