

*New Zealand Commerce Commission  
Natural Gas Pipeline Control Inquiry*



Evidence by Horton 4 Consulting

# *Brief presentation of paper*



- Competition analysis
- Cost benefit analyses
- Uncertainties in non-price differences
- Uncertainty of the counter-factual price
- The particular role of asset valuation

# *Competition analysis*

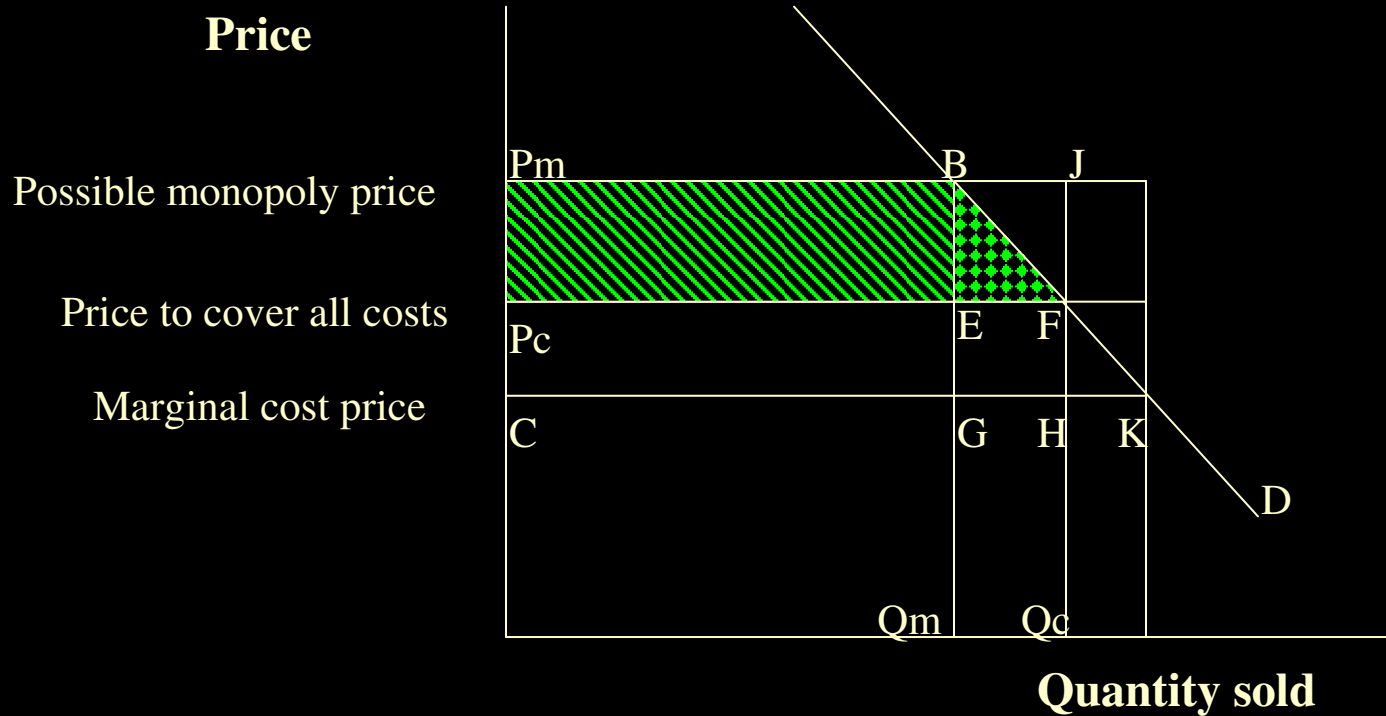
- I am not expert in the New Zealand energy market but note that the standard hypothetical monopolist or SSNIP test defines markets separately when elasticities of substitution, although substantial, operate mainly in the longer term, as is the case in energy
- Although bypass introduces an element of competition it still may be oligopolistic
- However, I understand that where supply is of LPG other means of delivery may be competitive in some markets.

# *Cost benefit analysis*

- **Social**
  - Productive efficiency
  - Dynamic efficiency
  - Regulatory costs
  - Consumer (and producer) surplus resulting from price changes
- **To acquirers** - add transfer payments from price changes
- **To the public** - subtract transfer payments to and from foreigners

# Cost benefit analysis

Allocative efficiency loss (BEF) and transfer from acquirers ( $P_m B E P_c$ )



# *Cost benefit analysis*

- There are three scenarios
  - The present and forecast future
  - “Competitive pricing”
  - Control
- All three need to be constructed and are uncertain
- Many of the comparisons (including the transfer payments, direct regulatory costs and short term productive efficiency) are directly between the first and the last
- The “competitive pricing” scenario is important for allocative and dynamic efficiency

# *Uncertainty of non-price comparisons*

- Direct regulatory costs
  - Revenue determined by regulator so large company effort may be profit maximising
- Productive efficiency
  - Imperfect benchmarking means incentive is reduced for private companies
- Dynamic efficiency
  - Quality regulation
  - Financial capital maintenance (a pricing issue)

# *Uncertainty of price comparisons*

- Elasticity
- Efficient operating costs
- WACC
- Asset value
  - Marginal (or efficient e.g. Ramsey-Boiteux) cost pricing
  - Financial capital maintenance
- Depreciation profile

# *Asset values and marginal cost*

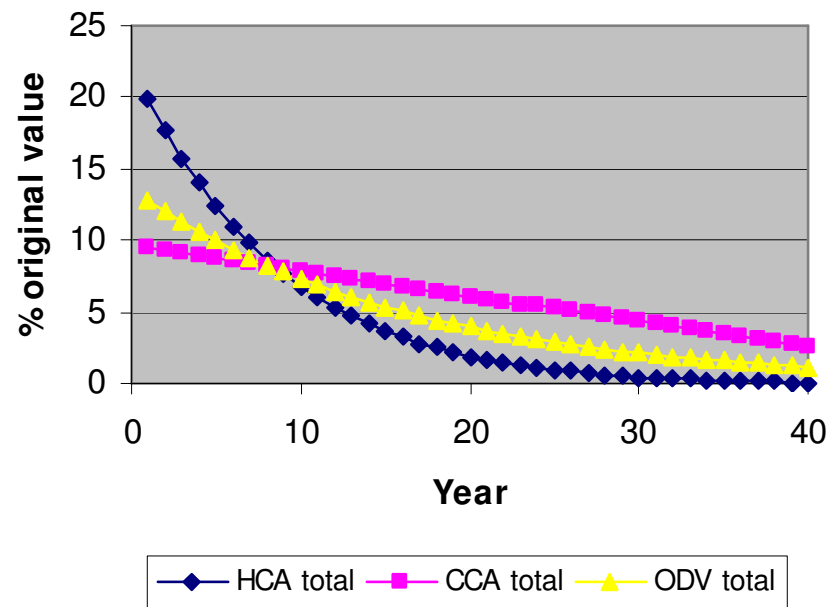
- HCA - Clearly not reflective of present costs
- Indexed HCA (CCA) - Misses relative price changes
- MEA - Values equipment that would be used but possibility of error in doing so
- ODV - annuity - Values notional competing system, not what will happen
- ODV - depreciated - Inconsistent

# *Asset values and FCM*

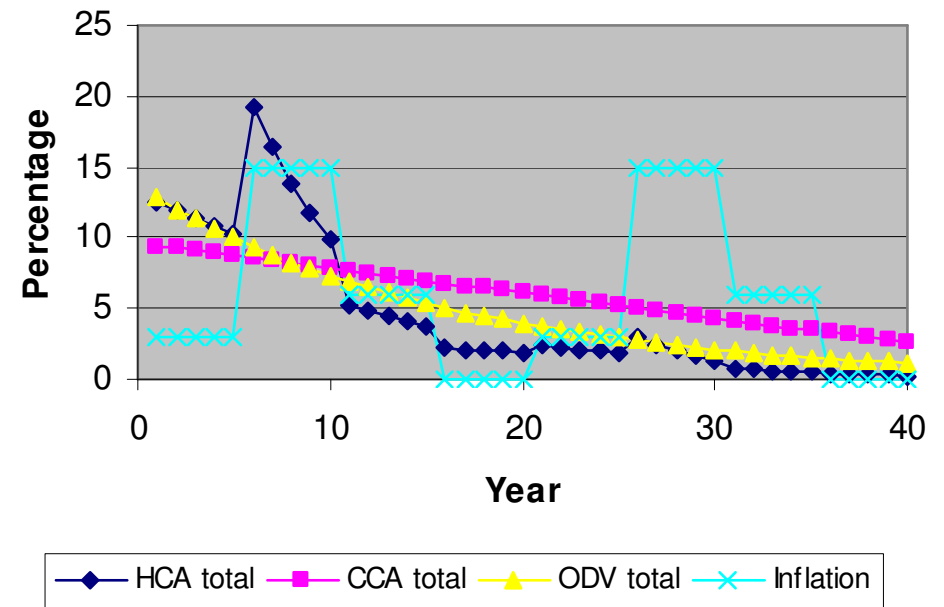
- HCA - assumes front-loaded depreciation has already been recouped, and more rapidly at times of high inflation
- Indexed HCA (CCA) - assumes some depreciation path
- MEA - assumes revaluations and depreciations have been passed through P&L and to past prices
- ODV - annuity - assumes revaluations and depreciations have been passed through P&L and to past prices
- ODV - depreciated - assumes competitor can enter with equipment that has already enjoyed front-loaded returns

# *Different implicit past - examples*

## Returns with 10% inflation



## Returns with varying inflation



## *The assessment is uncertain*

- Methods of asset valuation presuppose a profit history that may not be true: the more so if recent purchase values are ignored
- Uncertainty could be illustrated by using ranges of the key variables, perhaps in Monte Carlo analysis