

# Two tier issues and their equity implications in low income country health systems

Barbara McPake  
Institute for International Health and  
Development  
Queen Margaret University

[www.qmu.ac.uk/iibd](http://www.qmu.ac.uk/iibd)

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Health & Development

# Two-tier provision – the concept

- Two tier provision exists where a single provider offers two services or price discriminates in selling one service
- There may be many tiers – at least two
- Can be private sector phenomenon, or private phenomenon within a public sector institution

# Two tier situations – some examples

- Private wards and clinics in public hospitals
- Exemptions to user fees and informal charging systems with two or more levels
- Multiple insurance packages covered by the same provider
- ‘Ramsey pricing’ in pharmaceutical markets

*It is not because of cost that some company or other has open third-class carriages with wooden benches ... what the company is trying to do is prevent the passengers who can pay the second-class fare from travelling third-class; it hits the poor not because it wants to hurt them, but to frighten the rich.*

Dupuit, 19th century

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## Key feature: inter-related demands

- *Quality* central to separating demands for two products
- Two demands linked: protection of high cost market may require constraining the quality of low cost services
- Demand of upper-income group is critical, but affects quality at low-end of spectrum

# Model previously developed to address two-tier provision:

McPake, Hanson, Adam, Journal of Health Economics, 2007, 26: 447-462

- High-cost and low-cost wards in public hospital
- Utilisation is function of price and quality of service used and its alternative (own price; own quality; cross price; cross quality elasticities)
- Hospital reaction function (HRF) defines resource allocations (qualities) to two services in response to prices that maximises profit
- MoH sets prices in knowledge of HRF, to maximise objective function (weighted utilisation of the two services)

# Model predictions

- Predictions about the following variables:
  - Crude quality ratio ( $Q_p/Q_b$ )
  - Relative price ( $P_p/P_b$ )
  - Value for money index  $(P_p/Q_p)/(P_b/Q_b)$
  - Basic service quality

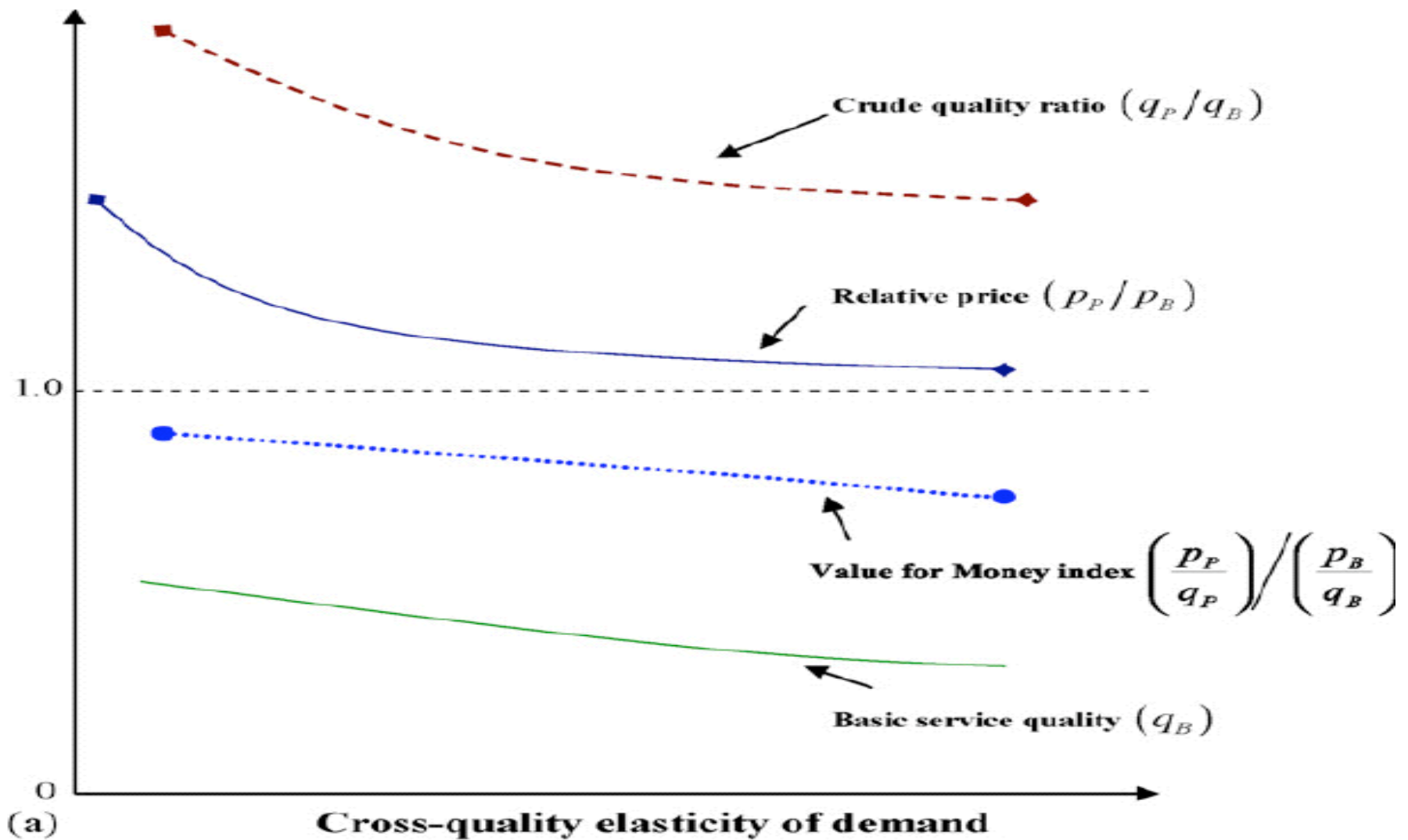
p = premium      b = basic

Q = quality      P = price

What follows are simulation results  
which rely on specific initial values for  
the key variables

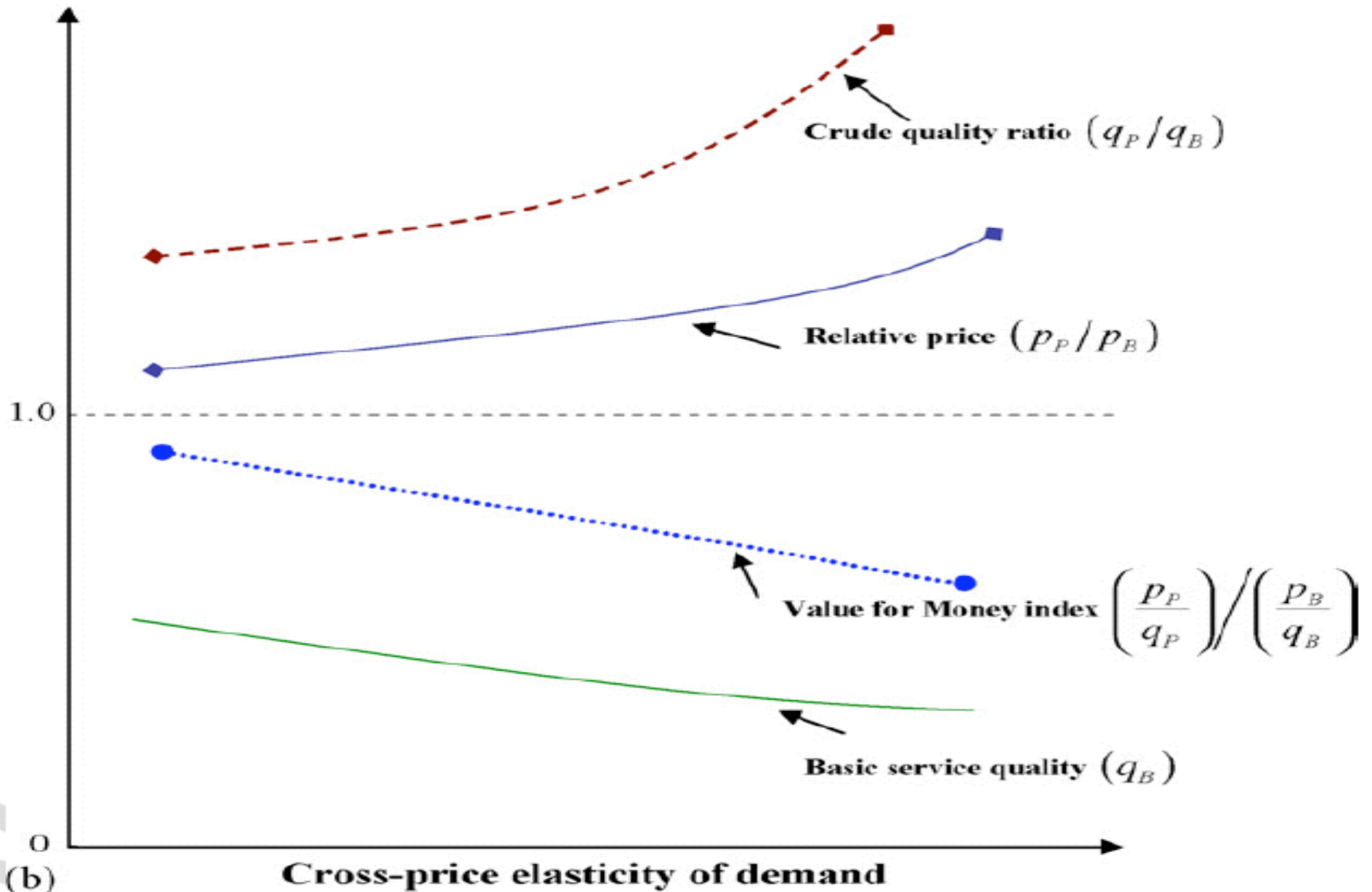
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As cross quality elasticities increase proportionately (as the system gets more sensitive to cross quality effects...

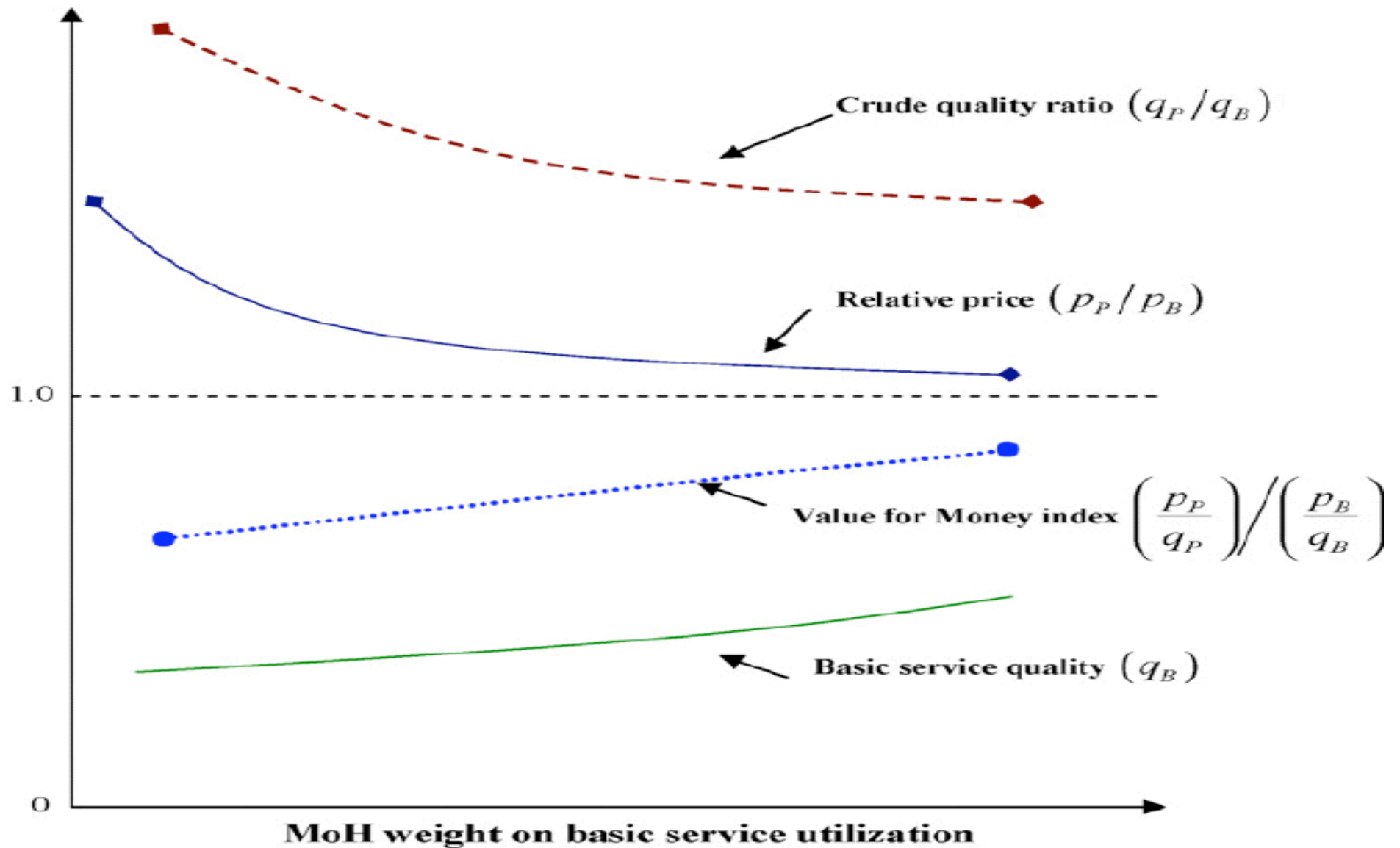




As cross price elasticities increase proportionately (as the system gets more sensitive to cross price effects...



As the Ministry of Health's weight on basic service utilisation increases...



# The impact of alternative payment mechanisms on service price, quality and value for money

	Lump-sum subsidy	Per-unit subsidy
Solution properties		
Quality of basic service	0.15	0.33
Quality of premium service	0.42	0.94
Relative price (premium: basic)	1.31	3.03
Crude quality ratio (premium: basic)	2.80	1.94
Quality-adjusted price of basic service	6.67	3.03
Quality-adjusted price of premium service	3.12	3.22
Value for money index	0.47	1.06
Service utilisation		
Basic	78.95	97.35
Premium	51.15	46.75
Total	130.10	144.10

## Conclusions from this application of the model

- Cross-subsidy from premium service to basic service users cannot be assumed
- Factors that should influence price setting by central authorities are complex
- In two-tier provision scenarios, allocating subsidy on the basis of the utilisation rate of the basic service appears an effective way of driving a more equitable outcome.

# Applicability of the model to other problems:

## (1) Exemptions to user fees

- Here prices vary by user but services are not supposed to
- However if the same underlying incentive structure is responded to, service qualities will diverge

# Evidence that service qualities do diverge under exemption?

- Limited evidence on this
- In most cases exemptions not applied or not applied to those intended who cannot effectively claim
- Where effective claim unavoidable, evidence that service quality can respond – prisoners in Uganda

# What insights can the model offer?

- An exemption policy requires not only an effective mechanism to allow those intended to be exempted to claim – widely understood
- But also an effective mechanism to protect service quality of the exempted – not widely understood because not the problem that typically presents

# Informal charges

- Unlike in model, informal charges not set by external agent
- Provider more like monopolist/oligopolist who sets prices, quantities and qualities – no reaction function
- Appears similar to air transport, car production and other industries where multiple quality and price products are offered
- Models not available for these industries that are concerned with distribution of qualities
- New model needed



# Multiple insurance packages covered by the same provider

- Traditional Latin American health systems matched insurers and providers and quality diverged across institutions
- Newer models – eg. Colombian, Brazilian, Chilean allow insurers to negotiate with multiple hospital types and hospitals to deal with multiple insurers
- Hence, privately (with different benefit packages) and socially insured (sometimes also with different benefit entitlements) seek to access care in same institutions

# Implications of the model

- Some differences in entitlement are formal and offer or deny access to specified services
- Do providers respond in quality terms to different prices paid for the same service?
- Not clear what the mechanisms would be where there is not a geographical separation of client populations (high-cost/low-cost ward)
- Might these be emerging in some hospitals?
- Empirical work needed

# 'Ramsey pricing' in pharmaceutical markets

- Argued that if pharmaceutical companies can separate markets they can price according to local demand characteristics – lower prices where there is lower WTP – with pro-equity consequences
- Not clearly what is observed when drug prices are compared internationally
- Separation of markets is key (difficulties probably explain clear evidence of Ramsey pricing)

# Implications of model

- If markets effectively separated, cross quality and cross-price elasticities not applicable
- Quality differentiation might assist separation of markets and allow greater scope for Ramsey pricing
- To some degree it occurs – understood as assisting market separation
- Under what conditions is the best price and quality combination predicted for LICs? (eg. how quality elastic must demand be in HICs and how affected by world recession?)

# Conclusions

- Most equity analyses assume the same service is received from the same provider (eg. BIA – though a study in Bangladesh re-estimated BIA given gender differentiated service receipt)
- Most quality of care analyses assume the unit of analysis is the provider institution (eg. Donabedian)
- Important to give further attention to the factors that cause intra-facility quality differentiation
- Important to consider supply side incentives emerging in new forms of PPM