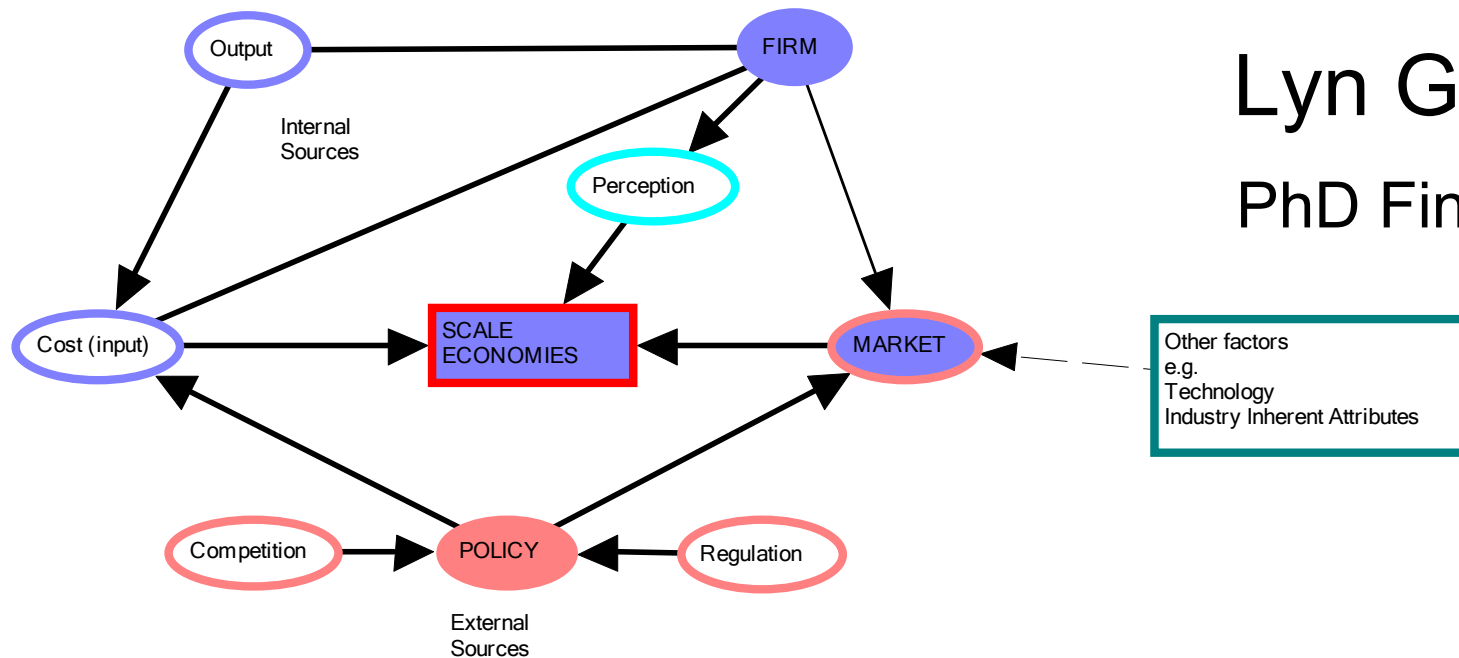


Retail Electricity: Scale Economies, Competition, Regulation Policy

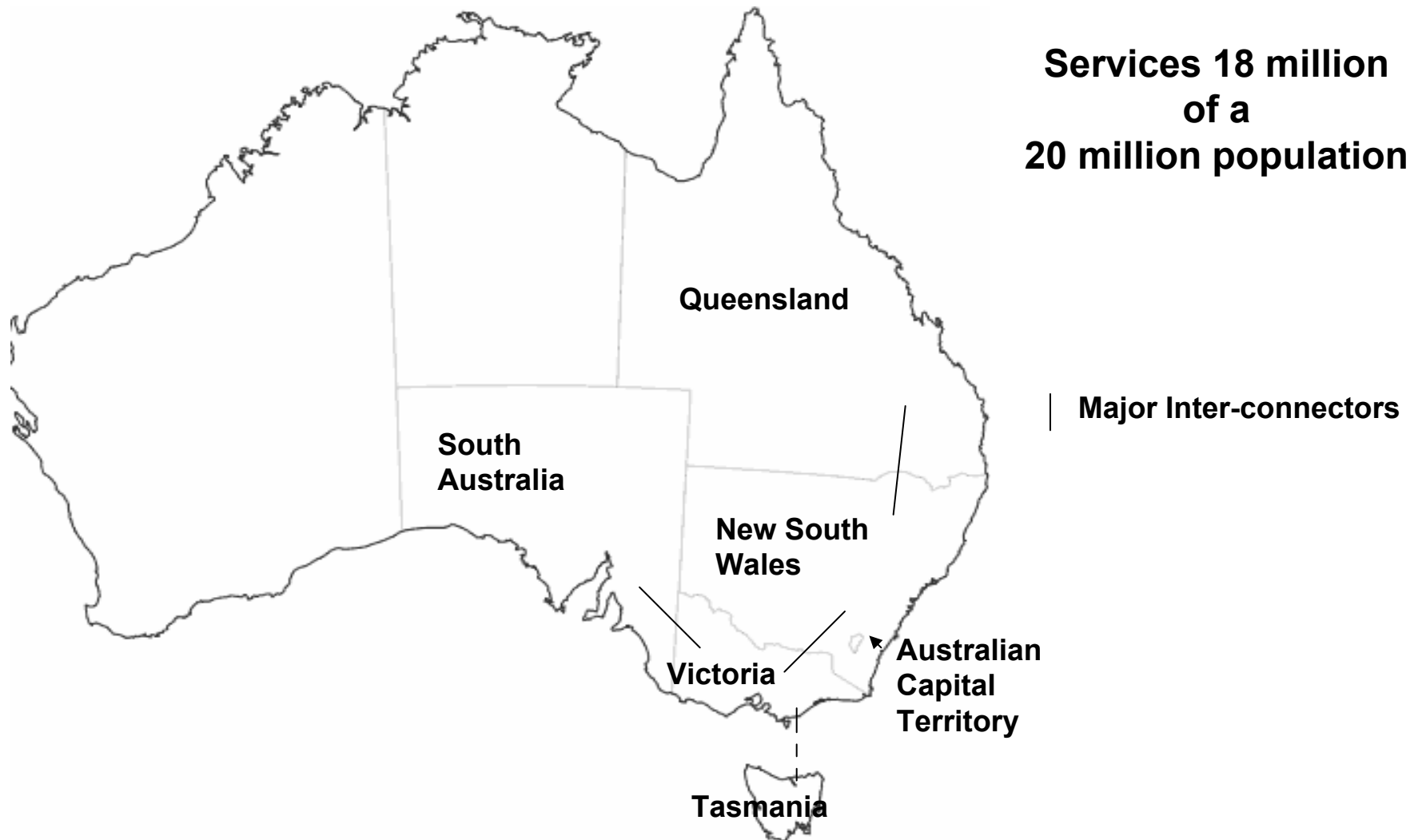
Figure 1.1 Theoretical Framework



Lyn Grigg
PhD Findings

Retail Electricity in the
Australian National Energy Market (NEM)
10yrs of Reforms and Restructure

Australian National Energy Market (NEM) States



Pre & Reform Industry Structure

PRE REFROM

REFORM

Regulation: States

Federal & State

Ownership: Public

Public & **Private**

Market: Monopoly/Franchises

NEM
Competitive &
Monopoly/Franchises

Sectors: Generation, Transmission,
Distribution

Plus **Retail**

Structure: Fully vertically integrated,
Generation & Distribution

Separate, Distribution & Retail

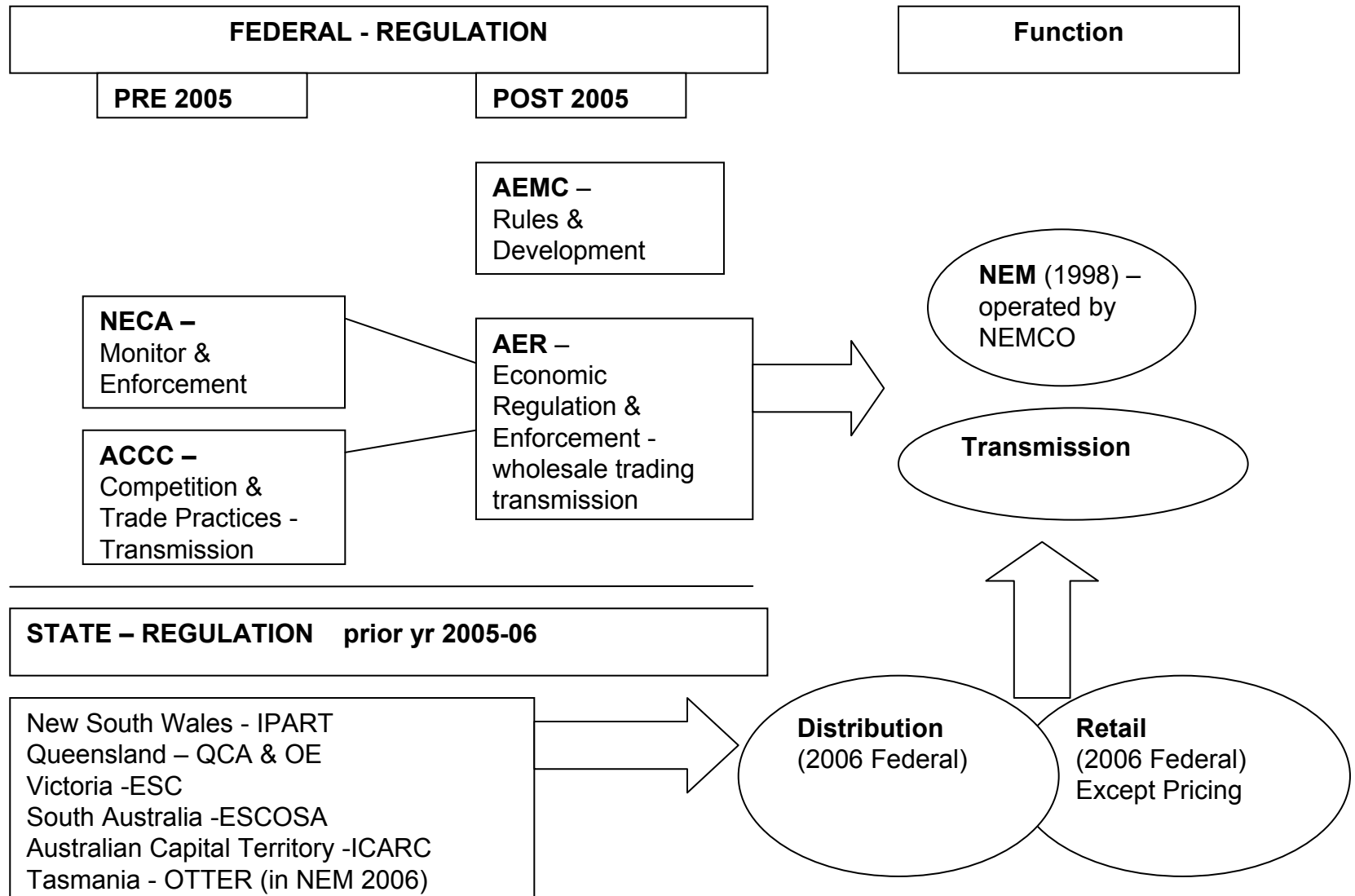
Competitive Market Model

Model	All Jurisdictions	Except
Full Retail Contestability	phased in to 2003	Tasmania 2010 Queensland <100Mwh
Market Contracts	Yes - Transition <160Mwh franchise/regulated To 2007 ACT <100Mwh to 2006	Queensland No < 100Mwh Tasmania 2010
No Retail Price Controls	>100Mwh	Regulated Tariff <100Mwh to 2007
Privatization Retail	Victoria South Australia (100yr lease) ACT (joint)	NSW, Queensland Tasmania
3rd Party Access	Yes varies	Tasmania silent
Auction Wholesale Trading	Yes NEM compulsory	Tasmania fully 2006 NSW and Queensland balancing scheme franchise
Sectors competitive	Yes Generation, Retail	Networks monopoly franchise
Vertical separation all sectors	Victoria South Australia	Ring fenced retail/distribution Separate generation

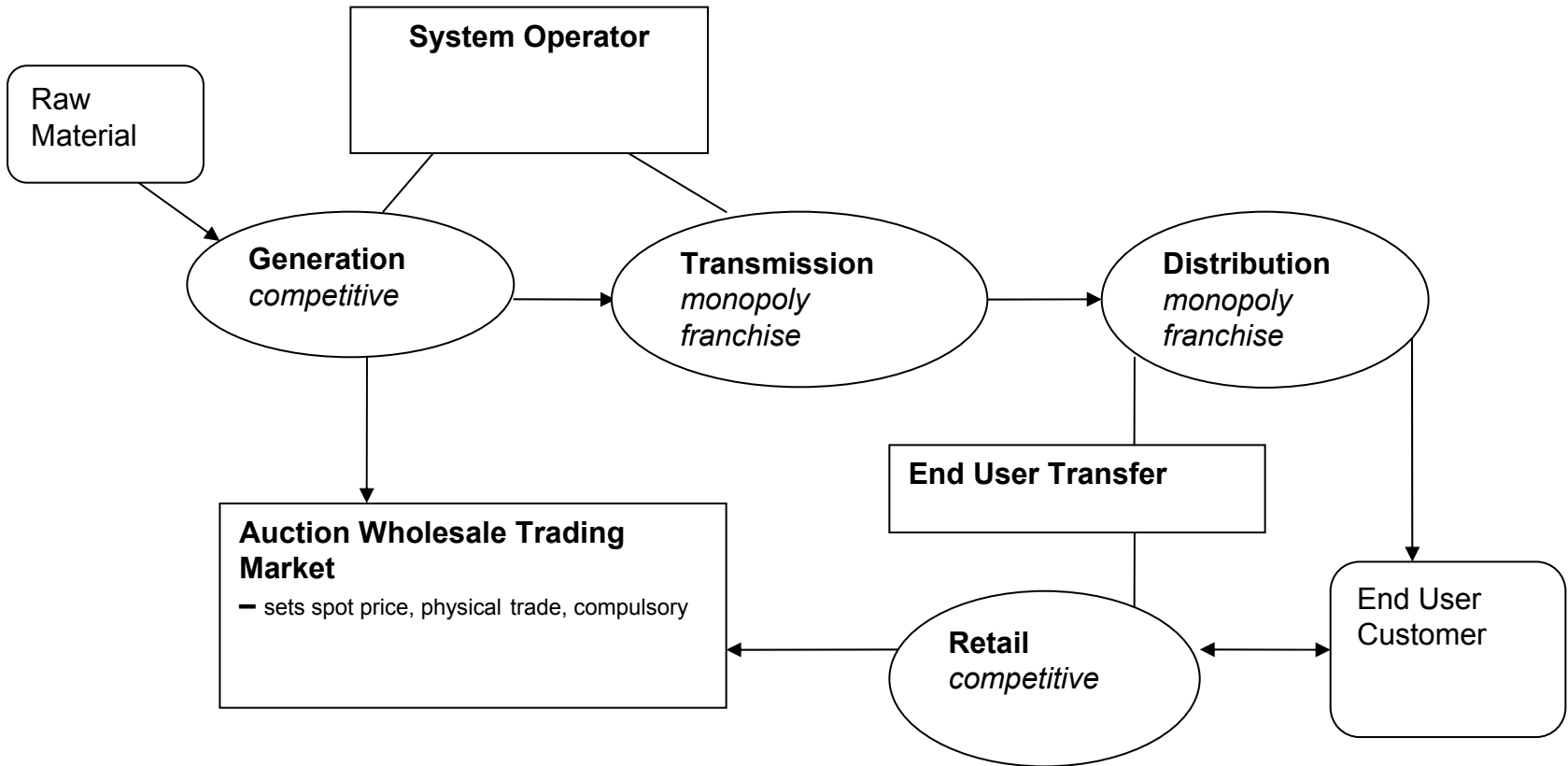
Retail Electricity Firms – control?

	Retail Electricity	Retail Electricity Distribution (some small generation)	Retail Electricity Generation	Retail Electricity & Gas Distribution Generation Exploration Other Utilities	Retail Electricity Distribution Other utilities Water, Sewage, Telecom
Reform 1995 On (17)	1 private	11 public 5 private			
Study No. Firms (16)	2 private	6 public	3 private	3 private 1 private/public	1 public
Current (16) Firm Home state	5 private 2 NSW 3 Victoria	6 public 1 Tasmania 3 NSW 2 Queensland	1 public NSW, Victoria,ACT	2 private 1 private plus part 1 private/public 2 Victoria 1 Victoria/South Australia/ACT	

Regulatory Structure



Australian NEM System



- Wholesale financial trading is outside of the NEM
- Limited - very large industrial end users do negotiate direct with generators/wholesale market

PhD Research Questions

1. How do scale economies affect retail electricity?
2. How does the relationship between inputs and outputs in retail electricity operate?
3. How has competition and regulation policy affected scale economies in retail electricity?

Method

Strategy: Industry Case Study

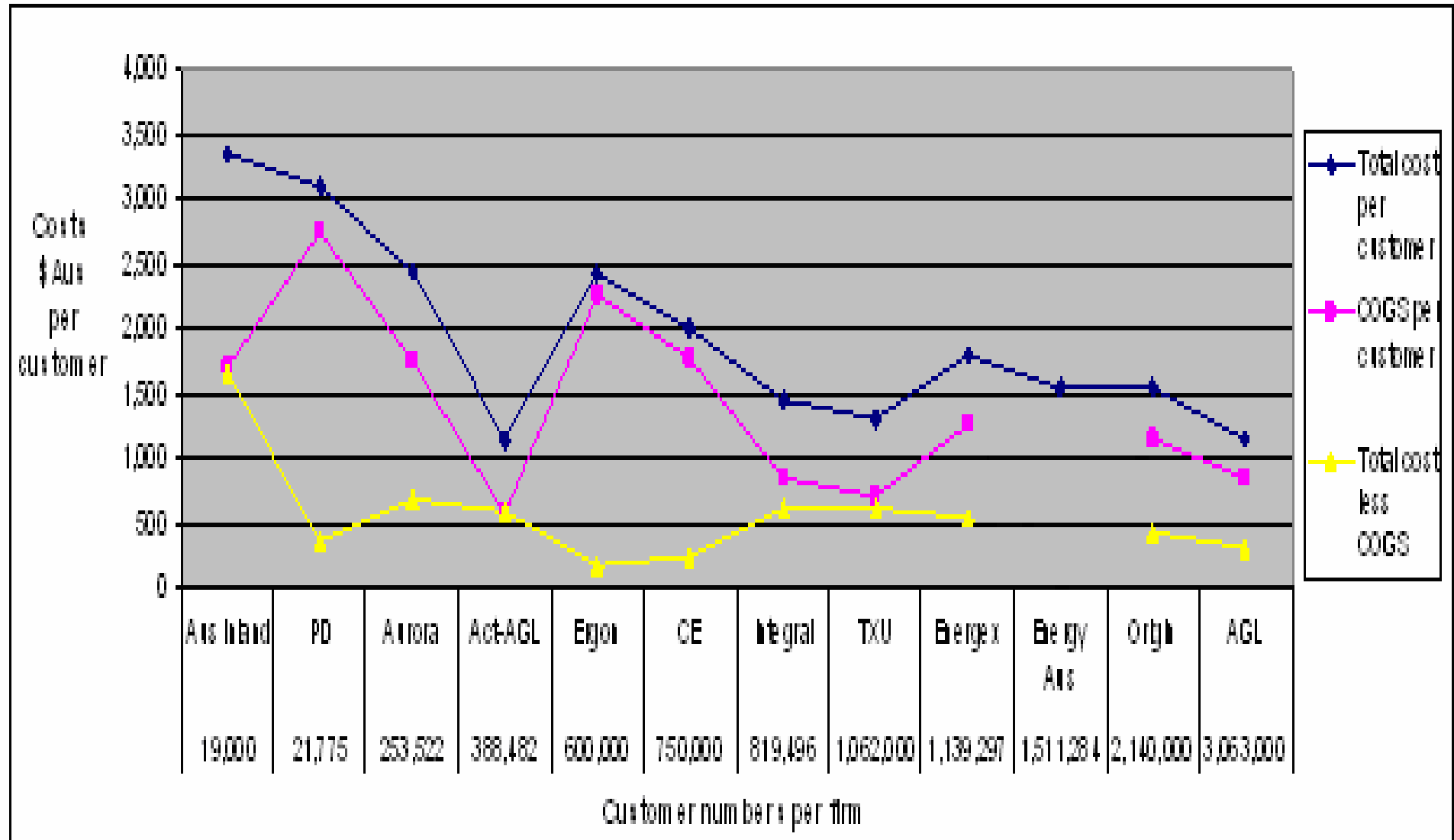
Scope: Pre reform to current - 16 NEM Retailers

Data : Interviews, Questionnaire, Document
Analysis

Participants: 15 Retail Electricity Firms
7 State and Federal Regulators
3 Consultant Firms Retail Electricity

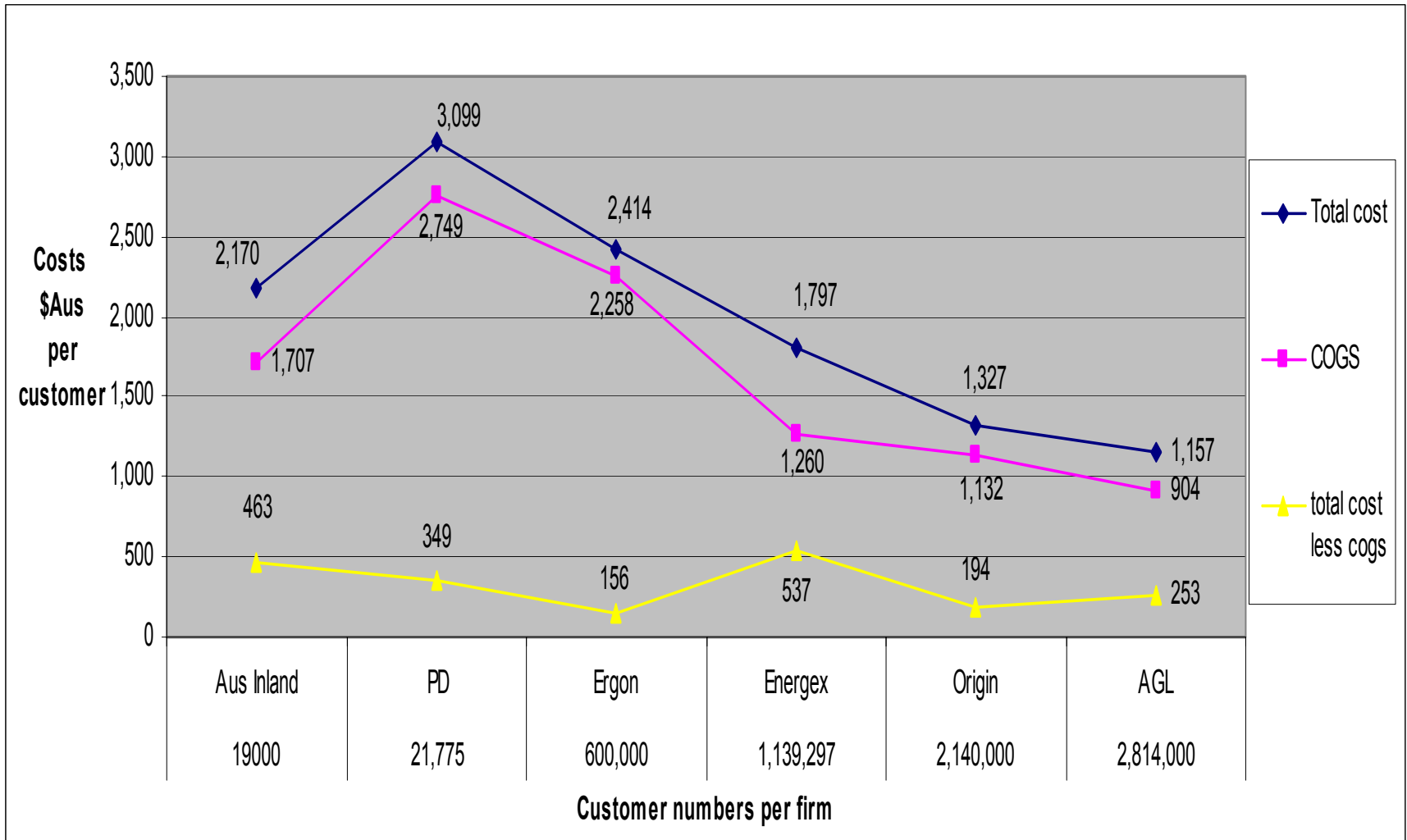
Surveyed: August to December 2004

Scale in Firms = L shape, from COGS

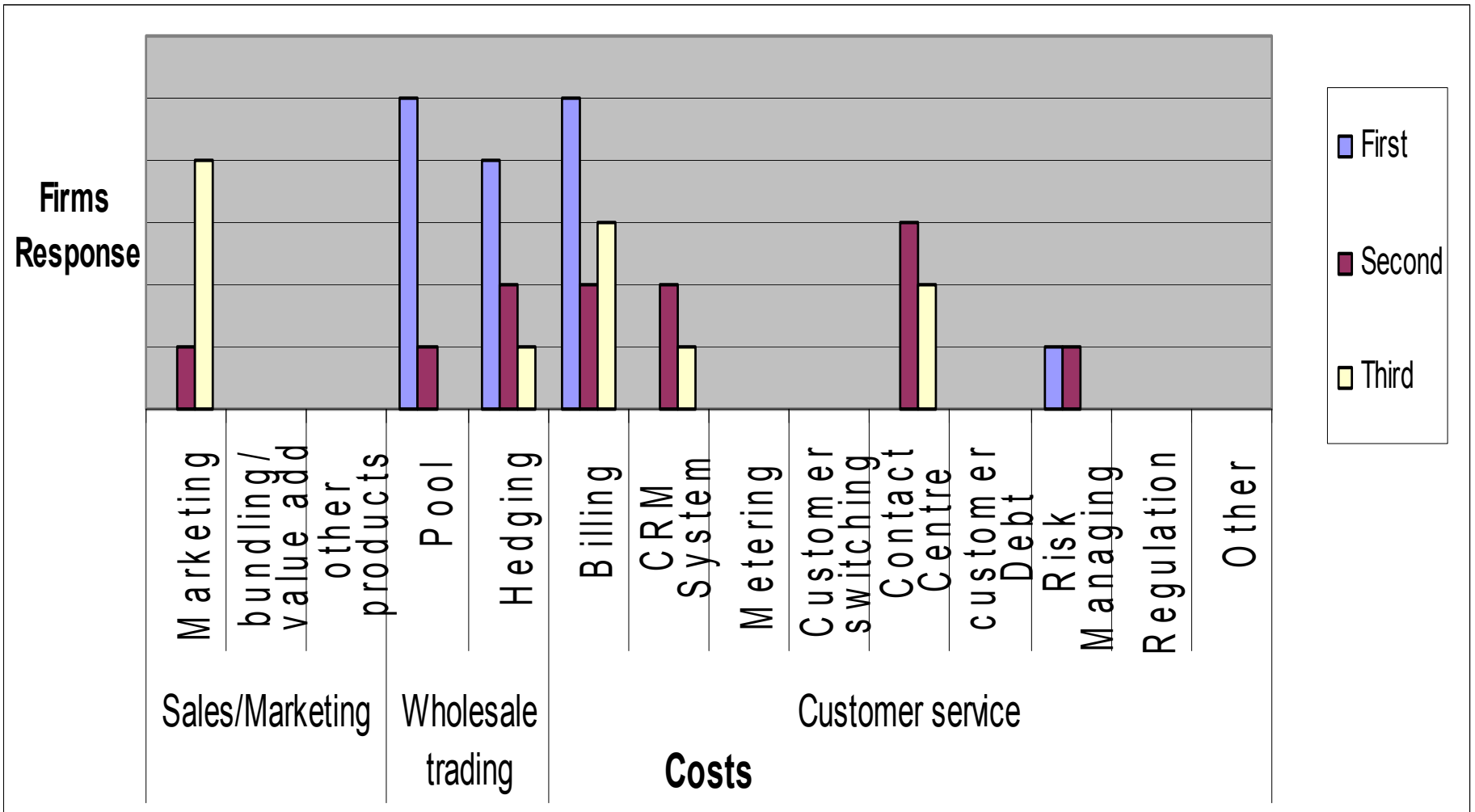


Scale in Retail Sector Firms

= L slope - COGS, S slope – Op Costs



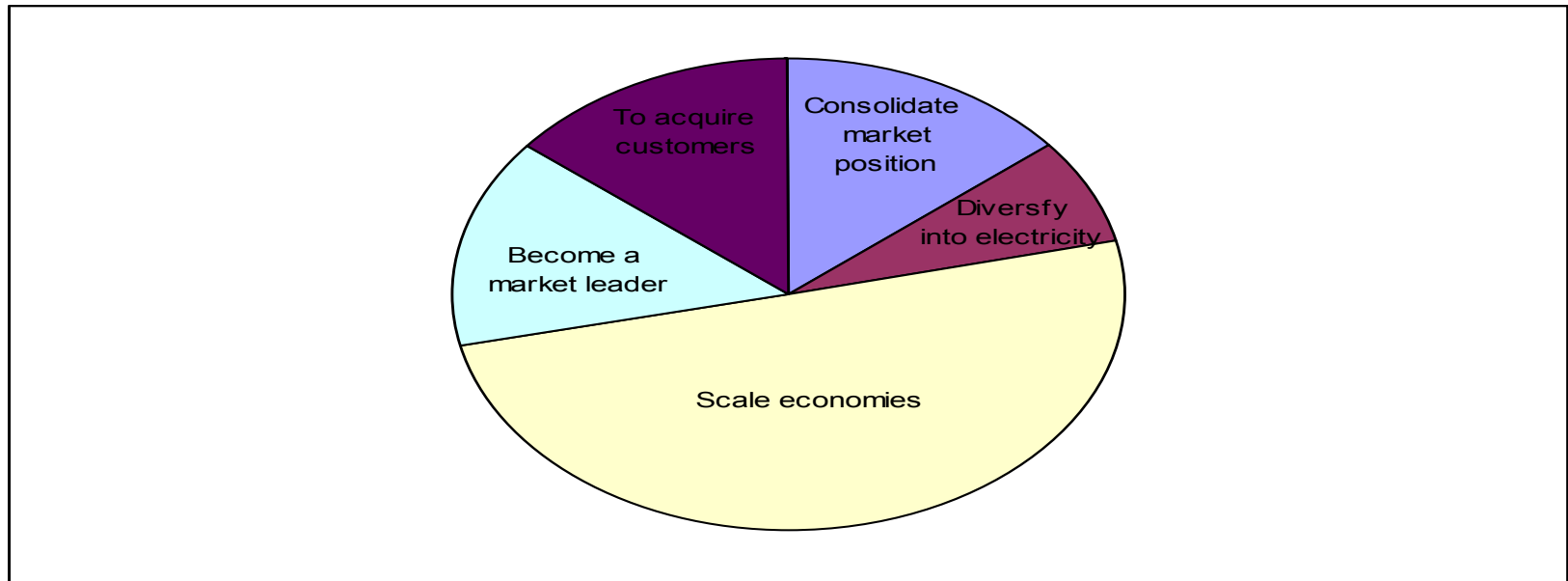
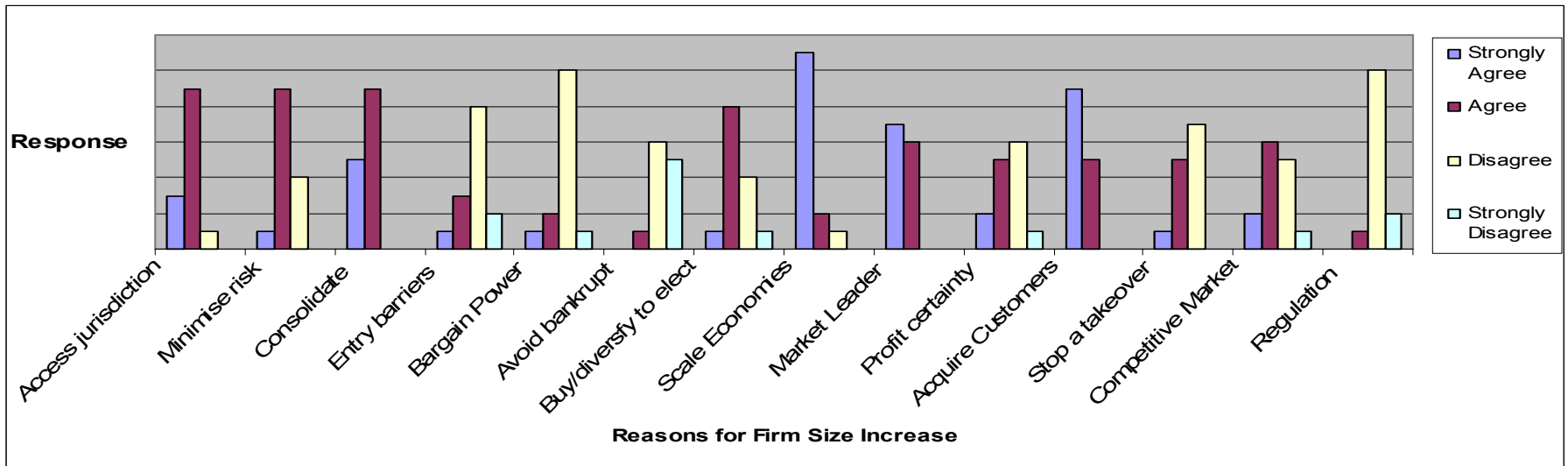
Costs with Greatest Impact



Regulation, Competition and Scale Findings

- Regulation was NOT a source of scale economies.
 - Cost greatest impact environment, 3rd party access these costs increase with customers.
- Competition is a source of scale economies
 - Design of competitive market model
 - Customer choice – Systems
 - Auction wholesale trading – Risk mitigation

Perception-Reasons for growth of Firm Size



Sources scale – structure

Horizontal & Scope

- Horizontal 73% reduce costs
 - Scope 50% reduce costs & 30% increase cost
 - Outcomes are:
 - Bundling
 - Value adding such as Dual fuel
 - Market position increase customer base
 - **BUT**
- Does a decrease in average costs actually occur?
- System compatibility restricts these cost savings

Sources of scale - Structure

Vertical Integration

- Financial support from large asset based sectors
- Reduction in transaction cost
 - Distribution
 - Contact centers, 3rd party access and administration
 - but not significant to show scale economies benefits
 - Generation
 - Reduces risk of transacting in the wholesale trading market Also, supports Transaction Cost Economies Theory

Sources of Scale - Resources

- Most significant are retail operating costs found in customer services such as:
 - Billing, Contact Center, CRM
- Technology Gaps are identified as creating the biggest unrealized potential
 - System incompatibility creating data migration & integration issues
 - Multiple legacy systems

Conclusion

- Believe there are scale economies
- Significant costs – *Result, Technology Gap*
 - wholesale trading, customer services-billing, contact center & customer relations system
- Competition – *Result, Scale and TCE*
 - Introduced customer choice, disaggregation, spot market increased the complexity of transacting, risk & cost.
- Regulation – *Result, Capture theory*
 - was not considered a source of scale economies.

Scale Economies

- *Theory* Production Function– Relationship inputs and outputs over time
- *Result* average costs of output declines as output increases
- *Graphically* U, L, W shape on cost/output axis
- *Dominate influential Costs* Fixed
- *Sources of Scale* Resource–Assets, labor
Firm structure

Sources of Scale Economies

Figure 1.2 Sources of Scale Economies Retail Electricity

