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Overview



- Introduction
- ☐ Review of research
- ☐ Models and methods
- Data
- Results
- Conclusions

Introduction



- □ Previous studies (Swinand 2004) have looked at the provision of additional QoS in post from the production side
- Quality of service both a 'production' and 'demand'
- An Post and Irish regulator (ComReg) have recently consulted on the costs and benefits of additional QoS for standard mail in Ireland
- An Post therefore asked LE to look at both consumer side and production side of QoS equation
- ☐ This study looks at consumers' WTP for QoS

Review of research

Table 2.1.3: Valuation for Changes in Advertised Day of Mail Delivery (pence).

Day 1 0.0 0.0 0.0 5.6 1.9 3.6 Day 3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Day 4 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
Day 2 -6.8 -4.0 -7.3 5.6 1.9 3.6 0.0 Day 3 -5.6 -1.9 -3.6 -8.9	lailsort 3
Day 2 -6.8 -4.0 -7.3 5.6 1.9 3.6 0.0 Day 3 -5.6 -1.9 -3.6 -8.9	
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Day 3 0.0 0.0 0.0 0.0 Day 4 -5.6 -1.9 -3.6 -8.9	
Day 3 0.0 0.0 0.0 0.0 Day 4 -5.6 -1.9 -3.6 -8.9	
Day 4 -5.6 -1.9 -3.6 -8.9	
Day 5	
Day 5	
Day 5	
Day 6	0.9
Day 7	0.0
Day /	0.0
Day 8	-0.9



Source: PostWatch





- Econometric approach estimate demand as a function of several variables
- ☐ Postal demand can take price as 'exogenous'
- $\Box \text{ Equation 1: } \ln Q = \sum_{i} a_{i} + b_{1} \ln P + b_{2} \ln w + b_{3} \ln I + b_{4} \ln qs + e$

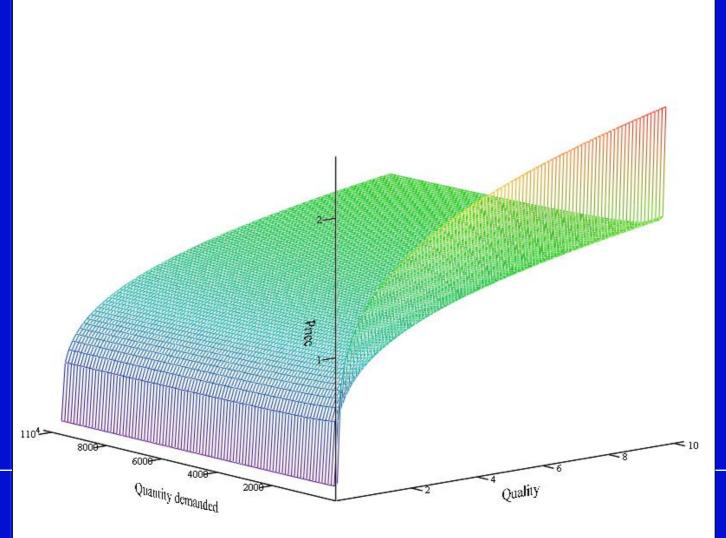
☐ Equation 2:

$$\ln P = \frac{1}{b_1} \ln Q - \sum_{i} \frac{a_i}{b_1} - \frac{b_2}{b_1} \ln w - \frac{b_3}{b_1} \ln I - \frac{b_4}{b_1} \ln qs + e$$

Graphical intuition



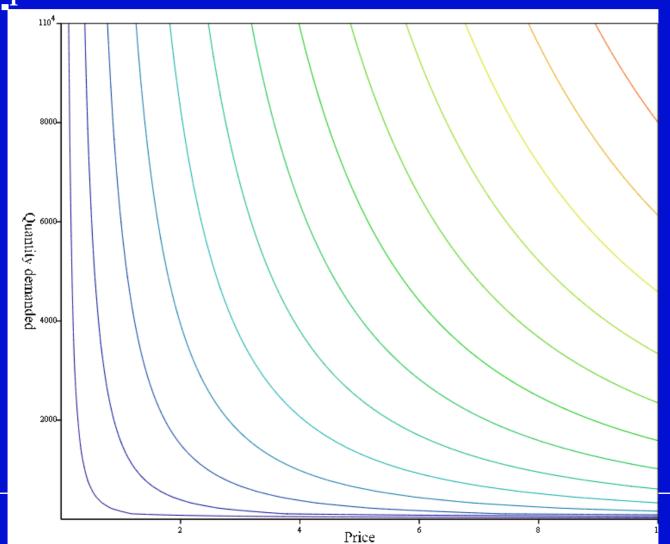




Models and methods



☐ Graphical intuition



Data

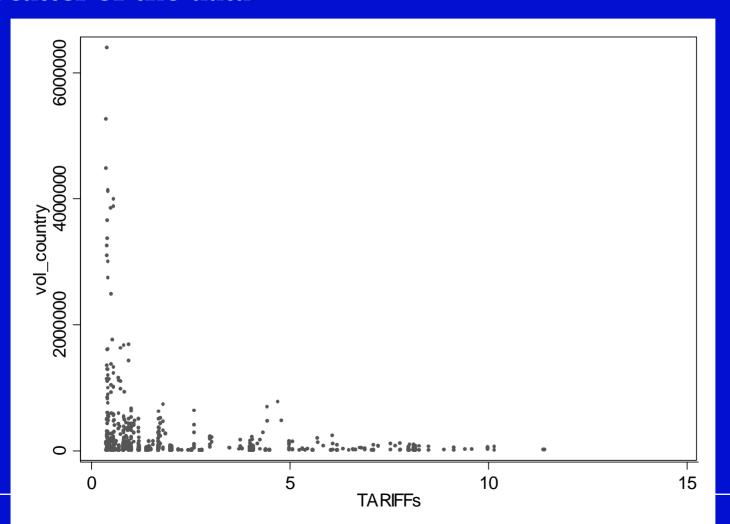


- Data presented a problem: An Post only offer a single class service
 - How to get variation by prices, quantities and QoS?
 - Postal prices, quantities and QoS do not vary much over time
- Data solution
 - Use international outbound domestic data: 1999-2003
 - Used UNEX and UPU and An Post data on QoS
 - QoS levels differ by country and time and by product, weight, etc
 - Psuedo-'panel' (countryxtime) with 3626 observations

Data

LONDON ECONOMICS

☐ Scatter of the data



Results

- LE LONDON ECONOMICS
- Quality variable (lnavg_m_std) significant and expected sign
- □ Variables on price, income, wgt, significant and expected sign

Table 5.1: Regression results: Model 3.6

 $R^2 = 48\%$

lnvolco	Coe	ef.	Std. Err.		t		P> t		[95% Conf.		Interval]	
dflat	-	0.54	(0.11	-	4.97		-	-	0.75	-	0.32
dlet	-	1.82	(0.15	-	12.12		-	-	2.11	-	1.52
dqual		7.69	(0.22		34.24		-		7.25		8.14
Inprice	-	3.79	(0.17	-	22.72		-	_	4.11	-	3.46
lnwgt		2.56	(0.12		21.66		-		2.33		2.79
lninc		4.01	(0.54		7.45		-		2.96		5.07
lnavg_m_st												
~d	-	3.57	(0.25	-	14.20		-	_	4.07	-	3.08
_cons	- 4	52.27	(5.33	-	8.26		-	-	64.68	-	39.85

Source: LE

Conclusions

- London
- Econometric approach to valuing quality of service successful
- ☐ Consumers' willing to pay small amounts to increase QoS by about 20%
 - Models estimated showed significant impacts and expected signs
 - Results corroborate previous research and more qualitative-style standard market research
- Future research could focus on combining production and consumer evidence
 - Is +QoS from regulatory or commercial viewpoint?