

Estimating London's Economic Contribution

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Summary

- Basis in GLA project
- Focus on trade flows particularly within the UK, but also internationally
- Traditional macro models not useful
- Approximate London input-output (I-O) model
- Results of our analysis
- Comparison with other approaches
- Conclusions

Input-Output Tables

- Basis of this work, these show (amongst other things)
 - ◆ Intermediate purchases by industries from other industries within the UK
 - ◆ Intermediate purchases by industries from outside of the UK (rest of the world)
 - ◆ Intermediate purchases by industries within an area (Welsh and Scottish I-O tables) from
 - the rest of the UK
 - the rest of the world
 - ◆ A similar breakdown for final demand
 - ◆ Details of value added and total output
- Used intensively in local impact modelling

Estimating a London Input-Output table

- Full regional I-O surveys expensive and time-consuming
- Approximations adjust UK results using industry shares or concentrations
- Several approaches to estimating from UK figures
 1. Adjust using regional industry share
 2. Multiply by Simple Location Quotients (SLQ) (ratio regional share to national share). Generally use national coefficient if $SLQ > 1$ (assumes no imports from the rest of the UK) or pro-rata if $SLQ < 1$.
 3. Use CILQ (Cross Industry Location Quotient) instead of SLQ.
 4. Use CILQ and regional size adjustment to give FLQ (Flegg-Webber Location Quotient)

Flegg-Weber Location Quotient

$$FLQ_{i,j} = \lambda \cdot CILQ_{i,j}$$

Flegg-Weber Location Quotient

$$\lambda = \log_2(RE_t/NE_t)^{0.3}$$

Regional size adjustment

$$a_{R,i,j} = FLQ_{i,j} \cdot a_{UK,i,j}$$

Regional I-O coefficient

where

$FLQ_{i,j}$ = adjusted CILQ for purchases from industry “i” by industry “j”

$a_{UK/R,i,j}$ = purchases from national/regional industry “i” by industry “j” as a share of gross output or employment

$CILQ_{i,j} = SLQ_i / SLQ_j = (RE_i / NE_i) / (RE_j / NE_j) =$ Cross Industry Location Quotient

$SLQ_i = (RE_i / NE_i) / (RE_t / NE_t) =$ Simple Location Quotient

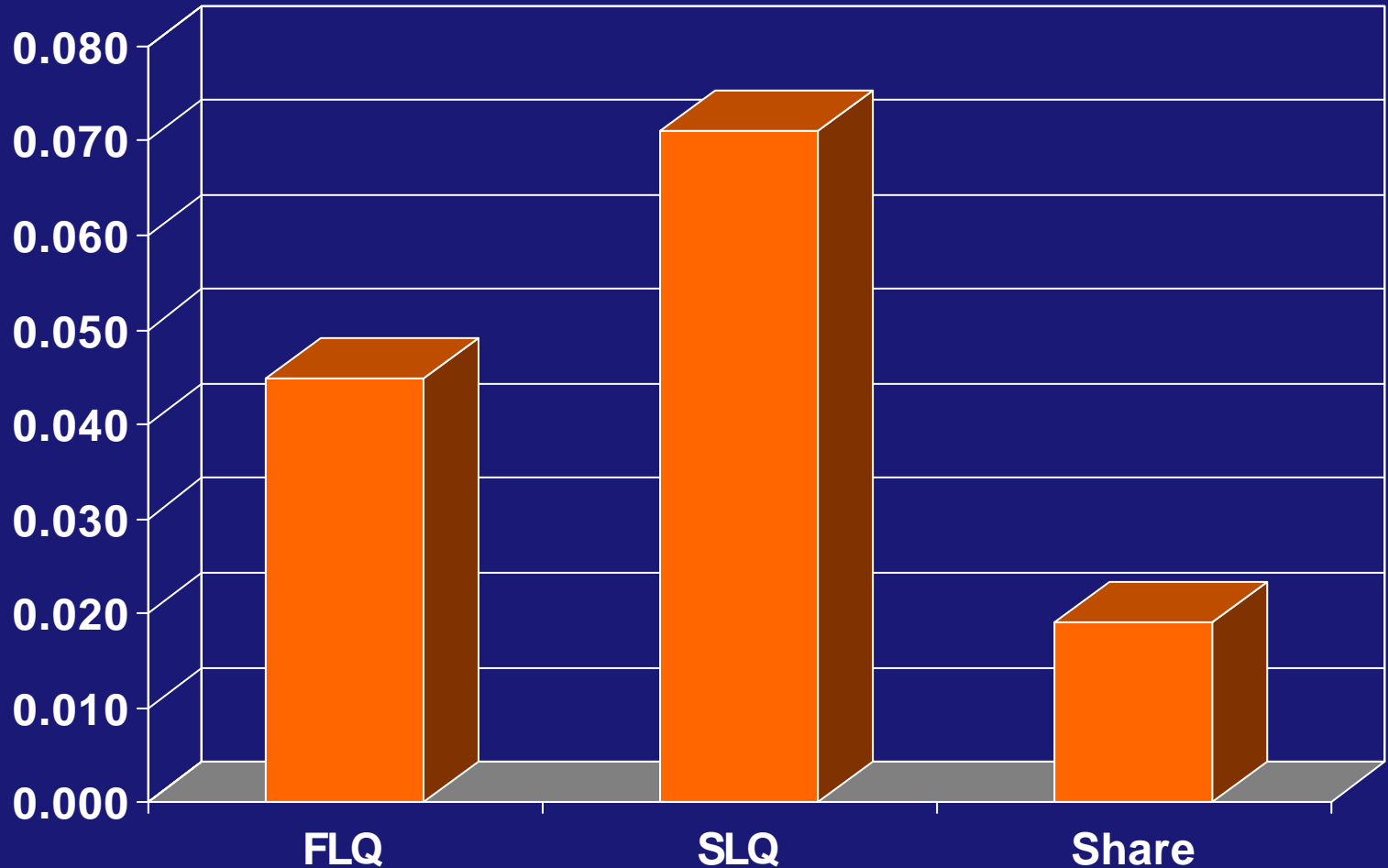
$Re_{t/i}$ = total/industry regional employment

$Ne_{t/i}$ = total/industry national employment

Example 1: Purchases from Business Services by Transport

Based on FLQ		Based on Industry Share	
UK Coefficient	.071	UK Coefficient	.071
λ	.632	Share	.268
Min (1, CILQ)	1		
Estimated London Coefficient	.045	Estimated London Coefficient	.019

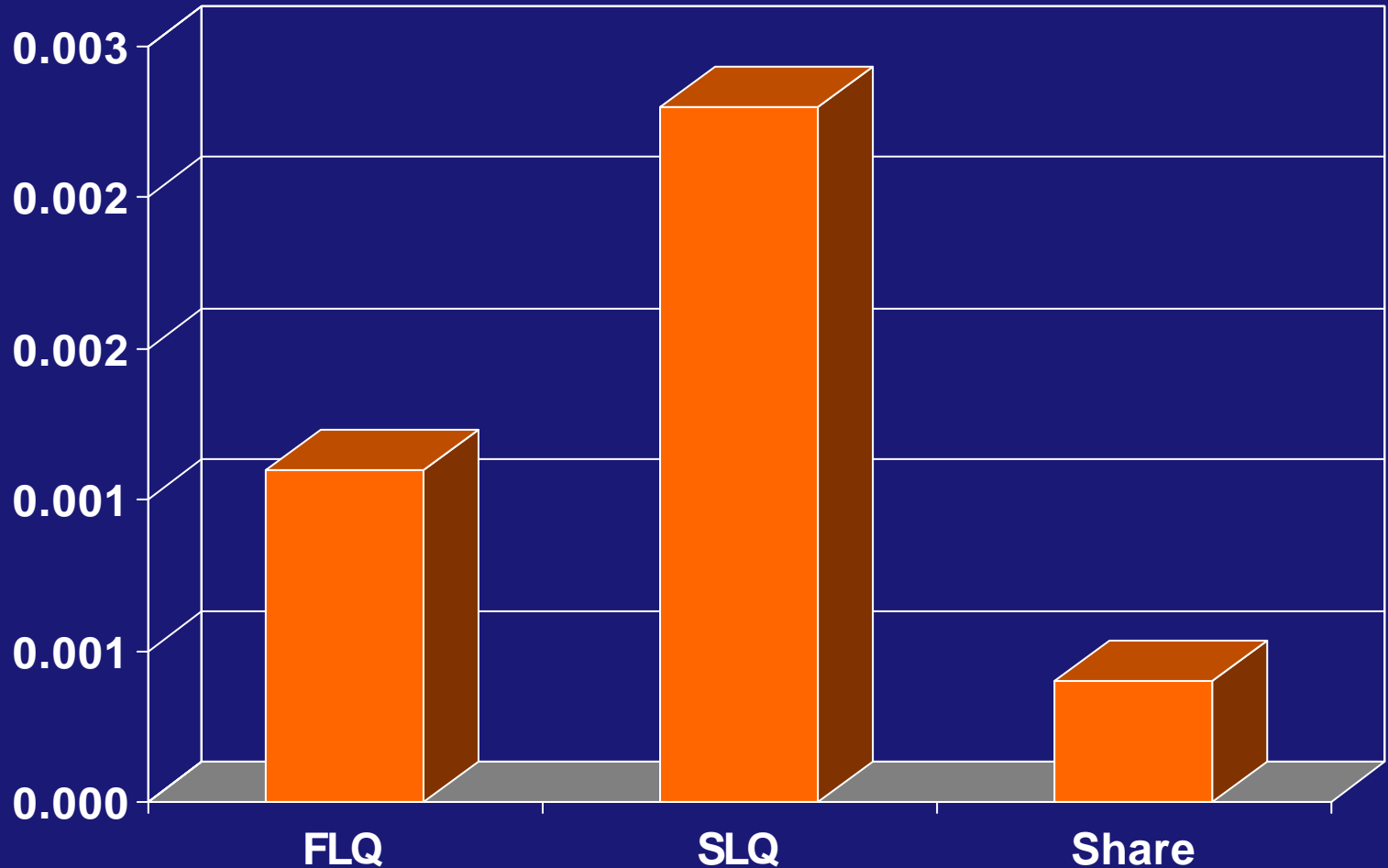
Purchases from Business Services by Transport in London (as a share of gross output)



Example 2: Purchases from Transport Equipment by Transport

Based on FLQ		Based on Industry Share	
UK Coefficient	.0086	UK Coefficient	.0086
λ	.632	Share	.0431
Min (1,CILQ)	.2047		
Estimated London Coefficient	.0011	Estimated London Coefficient	.004

Purchases from Transport Equipment in London by Transport in London (as a share of gross output)



Our Approach

- Used 30 industry summary of larger UK I-O table
- Work is based on 1995 UK version
- Separate DUM and IUM not available for 2000 and updated CUM does not identify distributors margins
- But our estimated DUM and IUM updated to reflect 2003 import totals (assuming 1995 output-to-value added ratios)
- International exports taken from 2000 updated to reflect 2003 levels
- Greater detail (48 sectors) for exports gives estimates for trade

Our results

London's Trade Linkages in 2003				
£bn	2000 prices			
		Rest of UK	Rest of World	Total
London	Exports	86.8	54.3	141.1
	Imports	97.0	48.7	145.7
	Balance	-10.3	5.6	-4.6
	<i>Commuters</i>	-12.0		-12.0
	<i>Adj. Balance</i>	-22.3		-16.6
		London	Rest of World	Total
Rest of UK	Exports	97.0	218.0	315.0
	Imports	86.8	265.3	352.0
	Balance	10.3	-47.3	-37.0
	<i>Commuters</i>	12.0		12.0
	<i>Adj. Balance</i>	22.3		-25.0
			Rest of World	Total
UK	Exports	-	272.3	272.3
	Imports	-	314.0	314.0
	Balance	-	-41.7	-41.7

Our results

London's Internal Trade		£bn 2000 prices			
			Exports	Imports	Balance
Paper, printing & publishing			5.1	4.3	0.9
Other Manufactures & Other Goods			8.9	36.3	-27.4
Distribution, Hotels & catering			7.6	9.8	-2.2
Transport			7.6	6.3	1.3
Communications			2.0	3.4	-1.3
Financial Services			18.4	6.7	11.7
Business Services			28.6	16.0	12.7
Other			8.5	14.4	-5.9
Total			86.8	97.0	-10.3

Comparisons with other approaches

- OEF work for Corporation of London uses combination of survey approach and judgement
- Figures not directly comparable
- Magnitudes similar to our work, but
 - ◆ Imports of financial and business services much higher in OEF, around 40% compared with 23%
 - ◆ Net service exports much stronger in OEF estimates
 - ◆ OEF projects surplus with rest of UK against our deficit
- Note problems with using survey data
 - ◆ If companies deal with wholesalers, local purchases will be over-recorded
 - ◆ Overstates purchases from wholesale and retail
- FLQ verified against (survey-based) Scottish I-O Tables

Conclusions

- Using FLQ method allows us to quantify trade flows from UK I-O tables
- Method appears to give realistic estimates
- London is a net importer of manufacturers from the rest of the UK and a net exporter of services
- London runs a deficit on goods and services with rest of UK and a surplus with rest of the world
- More work needed on modelling, notably
 - ◆ Include fiscal transfers
 - ◆ Examine impact of commuting
 - ◆ Broaden industry coverage
 - ◆ Examine export assumptions