

Comments on Wanwiphang Manachotphong's The Generalized Composite Commodity Theorem: Aggregation of Grocery Items at Firm Level

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Outline

1 Demand Analysis

2 The Comments



Aggregation of Commodities

Two group of solutions:

- 1 The Composite Commodity Theorem (Hicks 1936, Leontief 1936) and The Generalized Composite Commodity Theorem (Lewbel 1996)
- 2 The Separability Theorem (Leontief 1947, Sono 1961), Weak Separability Theorem (Gorman 1959) and Latent Separability Theorem (Blundell and Robin 2000)



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The Generalized Composite Commodity Theorem

Two (crucial) assumptions:

- 1 The disaggregated demand functions $g_i(\mathbf{r}, z)$ are rational.
- 2 The relative price of each individual product ρ_i are independent of **all** the aggregated price indices R_j and income z (mutually exclusive)



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- Zero Correlation does **not** imply independence (except some special cases)
- Correlation/Cointegration test is necessary but **not** sufficient
- Test of Independence (if possible) requires very large sample
- Cointegration test also requires large sample for good power
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- Leads to analyzing competitiveness among firms, market power and structures



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The Results

Validity of assumptions

- The relative prices ρ_i^x and ρ_i^y is likely to correlated, so should ρ_i^x and R^y . The GCCT is unlikely to be used.
- Surprisingly, the tests accept “no correlation” in most of the series

Possible explanations

- Low power of cointegration test because of limited sample
- Clouding: The more items aggregated into the category, the less correlation ?



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Next Episode

Estimating model to choose

- Conditionally Linear Systems (Blundell and Robin 1999)
- Generalized Leontief Model (Diewert 1971)
- Basic Translog Model (Christensen et al. 1975)
- Almost Ideal Demand System (AIDS) (Deaton and Muellbauer 1980)
- Full Laurent Model (Barnett 1983)
- Quadratic AIDS (QUAIDS) (Banks et al. 1997)
- Fourier Model (Gallant 1981)
- Asymptotically Ideal Model (AIM) (Barnett and Jonas 1983, Barnett and Yue 1988)



Next Episode (Continued)

Inferences

- Elasticities
- Weak Separability Tests
- Market power and structures (if possible)
- Welfare analysis (if possible)



Reference I



Wanwiphang Manachotphong

Unpublished paper.



Arthur Lewbel

The American Economic Review,

Vol. 86, No.3 (Jun.,1996), pp.524-543

