Robustness of Walrasian General Equilibrium

Presenter:
Leigh Tesfatsion
Professor of Econ, Math, and Electrical & Comp Eng
Iowa State University
Ames, Iowa 50011-1070
http://www.econ.iastate.edu/tesfatsi/
tesfatsi@iastate.edu

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An Illustrative Exercise

Starting Point:
Two-Sector Walrasian General Equilibrium Economy

Exercise:

- **Remove** all imposed *equilibrium* conditions (e.g., market clearing, correct expectations,...)

- **Introduce** minimal *trader-driven* production, pricing, and trade processes needed to re-establish complete circular flow among firms and consumers

- **Experiment** to see if/when resulting economy is able to attain an “equilibrium” state over time
Starting Point:
Two-Sector Walrasian General Equilibrium Economy

Bean Firms

Fictitious Walrasian Auctioneer

Hash Firms

Consumer-Shareholders

Supply_B(p_B), Div_B(p_B)

Supply_H(p_H), Div_H(p_H)

Demand(p_B,p_H, Div_B, Div_H)

p_B, p_H, Div_B, Div_H
Plucking Out the Fictitious Auctioneer

Bean Firms

B1
B2
B3

Firm-Consumer Connections??

Hash Firms

H1
H2
H3
H4

Consumer-Shareholders
Without the Fictitious Auctioneer...

*Careful attention must now be paid to*

- **Market Organization**
  - Who trades with whom? [e.g. business-to-business (B2B) transactions, business-to-consumer (B2C) transactions, etc.]
  - In what types of market structures does this trading take place? [e.g. double auctions, single-sided auctions, exchanges, bilateral trades, etc.]

- **Learning Behavior and Strategic Interaction**
  - Price/quantity discovery processes
  - Formation of buyer-seller interaction networks
Market Organization

- Two basic forms of trading:
  - **Bilateral** trading
    
    (Seller ↔ Buyer)
  - **Mediated** trading
    
    (Seller ↔ Mediator ↔ Buyer)
Ex.1: Bilateral B2B & B2C Trade

Bean Firms

Container Firms

Hash Firms

Consumer-Shareholders
Ex.2: Mediated Trade
(Producers → Retail Stores → Consumers)
Key Types of Market Mediators

- **Broker**
  - Facilitates trade by matching buyers with sellers
  - Does not take a position in the assets he trades (i.e., does not maintain an inventory of the assets)
  - Earns profits through *commissions* charged to buyers/sellers
  - **Examples:** Stock broker; Real estate broker

- **Dealer**
  - Facilitates trade by matching buyers with sellers
  - *Makes the market* (takes a position in the assets in which he trades)
  - *Sells high and buys low* to earn profits
  - **Examples:** Bond dealer; Car dealer; Retail store owner
Key Types of Mediated Market Forms

- **Auction markets**
  - Centralized facility (clearing house) managed by brokers
  - **Examples:** Art auctions, U.S. Treasury bill auctions, etc.

- **Over-the-Counter (OTC)**
  - Decentralized facility managed by dealers
  - **Examples:** NASDAQ stock market, U.S. gov’t bond market, Foreign Exchange market

- **Exchanges (Hybrid of Auction and OTC)**
  - Centralized facility conducted through specialized broker/dealer intermediaries
  - **Examples:** Retail chain store/franchise, New York Stock Exchange, Wholesale Power Market
Learning Behavior & Strategic Interaction in Markets

- **Price/Quantity Discovery**
  - *For sellers*, seeking to determine the most profitable amount to produce and/or the most profitable price to charge per unit in order to compete for business against rival sellers
  - *For buyers*, seeking to determine what items are available for purchase and which sellers are willing to accept the lowest prices for the items they wish to purchase

- **Buyer-Seller Interaction (Relational Goods)**
  - How to behave in longer-term relationships (e.g., job situations, servicing contracts, loan contracts, repeat purchases from same supplier, etc.)
  - Trust, honesty, punctuality, …
Key Types of Market Procurement Processes that Must Be Carried Out

- **Terms-of-Trade:** Set production and price levels
- **Seller-Buyer Matching:**
  - Identify potential sellers/buyers
  - Compare/evaluate opportunities
  - Make demand bids/supply offers
  - Select specific sellers/buyers
  - Negotiate seller/buyer contracts
- **Trade:** Transactions carried out
- **Settlement:** Payment processing and shake-out
- **Manage:** Long-term seller/buyer relations
Plucking Out the Walrasian Auctioneer: An Illustrative Macroeconomic Study


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