Producer Dynamics in the U.S. Retail Trade Sector

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Structure of the talk

- Features of the retail trade sector
- Brief review of the literature
- Data infrastructure
- Basic results on the dynamics of retail markets
  - Industry Component
  - Geographic Component
  - Establishment Level Entry and Exit Statistics
  - Firm Level Entry and Exit Statistics
Features of the Retail Trade Sector

• Large growth
  – Absolute terms
  – Share of total U.S. economic activity

• Technological change
  – Information technology
  – Transportation infrastructure

• Complex Establishment and Firm Dynamics
  – High rates of turnover
  – Substantial changes in market structure

• Local Markets
Local Markets

• Retail establishments serve local demand
• E-commerce?
  – Only 1.9% of all retail sales in the 4th Quarter of 2003*
  – This component is growing much more rapidly than overall retail sales

*Source: Census Bureau Monthly Retail Trade Survey
Technological Factors

• Transportation
  – Demand side: greater consumer mobility (strip and regional malls, fast food joints)
  – Supply side: interstate highway system permits modern logistics

• Information Technology
  – Computers used to monitor demand and manage inventory
  – Heterogeneous response to technology – large retailers invest more, in general, and on IT specifically.
Recent Empirical Work

• Role of IT
  – Doms, Jarmin and Klimek (2004) show that large (national chain) retailers benefited more from IT investments, in terms of productivity growth, over the 1990’s.

• Role of Entry and Exit
  – Foster, Haltiwanger and Krizan (2002)
Our Current Empirical Strategy

- Provide a rich set of descriptive statistics using newly available longitudinal establishment data.
- Examine the role of plant and firm experience for entry and exit.
- Extend the measures of entry and exit to include geographic markets.
Data Infrastructure

- Longitudinal Business Database (LBD)
  - Research dataset developed at the Census Bureau’s Center for Economic Studies [see Jarmin and Miranda (2002) for detailed description].
  - Primary Source data
    - Business Register (SSEL)
      - Primarily administrative records from the IRS
      - Other sources include SSA and BLS
    - Economic Censuses
LBD – Basic Features

• Longitudinal database of U.S. business establishments with employees
• Firm (enterprise) identifiers available
  – Firm IDs are not longitudinal
LBD – Basic Features (cont.)

- LBD contains basic information on establishment
  - Employment
  - Payroll
  - Industry (SIC and in recent years NAICS)
  - Location (state and county)
  - Firm ownership
  - Rich set of flags describing establishment status (e.g., linkage types, CBP in scope)
  - Numeric linkages to other Census Bureau establishment and firm level datasets
Measuring Retail Producer Dynamics
Part II: Within Local Retail Markets

• Market defined as a county
• Core Based Statistical Areas
  – CBSA-Metropolitan Areas
    • based on urbanized areas of 50,000 or more population
  – CBSA-Micropolitan Areas
    • based on urban clusters of at least 10,000 but less than 50,000 population
  – Non-CBSA Rural Areas
Map of the US: CBSA-Metro, CBSA-Micro, and Non-CBSA rural
Nationwide Market
“Local” vs. “Chain” Store Employment

Retail Employment: By SU/MU (logs)
“Local” vs. “Chain” by CBSA Type

Retail Employment: Metro by SU/MU (logs)

Retail Employment: Micro by SU/MU (logs)

Retail Employment: Rural by SU/MU (logs)
Multi Unit Establishments (i.e., Chain Stores) Increasingly Dominate Retail Activity

- The share of retail employment associated with multi units has increased by 12% in the last several decades. In the late 1990s, MU firms account for over 60% of retail employment.

- Compared to Metro areas, the share of retail employment associated with multi units remains lower in Rural and Micropolitan areas but the growth is higher. Over the last 25 years the share of MU employment has increased by close to 20% in these areas.
Ratio of “Local” to “Chain” Stores and Companies: Nationwide

Ratio of SU/MU Establishments

Ratio of SU/MU Firms

Year

Proportion

US CENSUS BUREAU
Absolute Drop in Number of “Local” Stores

- The absolute number of single unit establishments has gone down.
  - Between 1976 and 2000 the number of SUs has dropped by 2.53%.
- Marked differences across CBSAs.
  - Metro areas increased by 1.62% but Micropolitan and Rural areas experienced a drop of 12.40% and 17.65% respectively.
Large Growth in Number of “Chain” Stores

- The growth of MUs establishments is considerable, 60.11% between 1976 and 2000. Growth is stronger in Micropolitan areas followed by Metro:
  - micro = 63.24%, metro = 60.81%  rural = 46.17%
- In 2000, approximately 37% of all retail establishments in Metro areas belong to MUs. Up from 27%. Micro and Rural areas are following similar trends.
  - micro = 21% to 33%  rural = 16% to 25%
Establishment size distributions by CBSA Type

Establishment Size Statistics: Metro

Establishment Size Statistics: Micro

Establishment Size Statistics: Rural
Firm Size Distributions by CBSA Type

Firm Size Statistics: Metro

Firm Size Statistics: Micro

Firm Size Statistics: Rural
Significant Growth in Average Firm and Establishment Size

- Firm size has increased considerably over this period. On average firms were 55% bigger in 2000.
- Firm growth is considerably higher in Rural and Micropolitan Areas. Firm size is still smaller but approaching that of firms in Metro areas.
  - Firm growth: metro =33%, micro= 65%, rural=89%
  - Firm growth su/mu: metro= 32/33%, micro=46/71%, rural=49/95%
- Firm growth is most important for MUs but also significant for SUs.
Firm entry and exit into local markets

• Same exercise as in the case of industry
  – Does a retail firm have an establishment in given local market (i.e., county)?
  – Distinguish between chain stores and local stores
Overall entry and exit rates

Firm Entry and Exit: Avg over CBSA

Year

F_ER
F.XR
Employment share of entrants and exiters

Firm Entry and Exit Share: Avg over CBSA

Year

F_ESH
F_XSH
Firm entry and exit rates by CBSA type: “Local” vs. “Chain”
Just a start...

Aggregate dynamics are interesting, but the focus of our work will be to untangle the behavior of firms and establishments at the micro level.

Now we want to exploit heterogeneity in local market conditions and firm characteristics to model firm behavior.
Main findings

- Chain stores increasingly dominate retail activity
- Marked differences in establishment and firm dynamics across different types of CBSA's.
- Significant growth in average firm and establishment size
- Differences in entry and exit rates, marked differences across CBSA areas.