What Can We Learn by Analyzing Business Location Using Establishment and Firm Data?

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The problem with intangibles is that…

…..they're intangible!!

Making intangibles tangible

- How can the data, tools and methods of the CAED help on this front?
  - Direct measurement of investments in intangible assets
    - R&D, patents, advertising…
  - Indirect inference
    - Productivity/Market value

Commonly available data asset: Location as an intangible

- Business decisions concerning location affect firm performance
  - Competitive factors (e.g., retail)
  - Innovation/Productivity factors (e.g., clusters)
- Location typically not a factor in models of firm performance
  - Not of first-order importance
    - Included only to soak up regional variation
  - Data not available
- Network of locations a means of capitalizing on other intangible assets (e.g., Wal-Mart organizational capital/business model)

How can we use “location” to better understand firm performance?

- Analyzing firm performance across regions
  - Clusters, regional characteristics
- Analyzing firm performance within regions
  - The focus of this talk

Illustrative Example: Impact of Big-Box Store Entry

- Does entry of a Big-Box retailer impact mom-and-pop and smaller chain stores in local retail markets?
  - Haltiwanger, Jarmin, Krizan (NBER Working Paper 15348, forthcoming *Journal of Urban Economics)*

Detailed location and retail firm performance

- Retail mantra “Location, Location, Location”
- That is a retail firm’s pattern of location(s) is a critical, first-order part of its overall business strategy.
- How do we best incorporate this into models of retail firm performance?
  - What aspects of location do we need to capture?
  - How do we parsimoniously capture these aspects?

Incorporating Location

- Proximity to customers
  - Number
  - Characteristics
- Proximity to other retailers
  - Substitutes
  - Complements
- Proximity to infrastructure
  - Highways
  - Public Transit

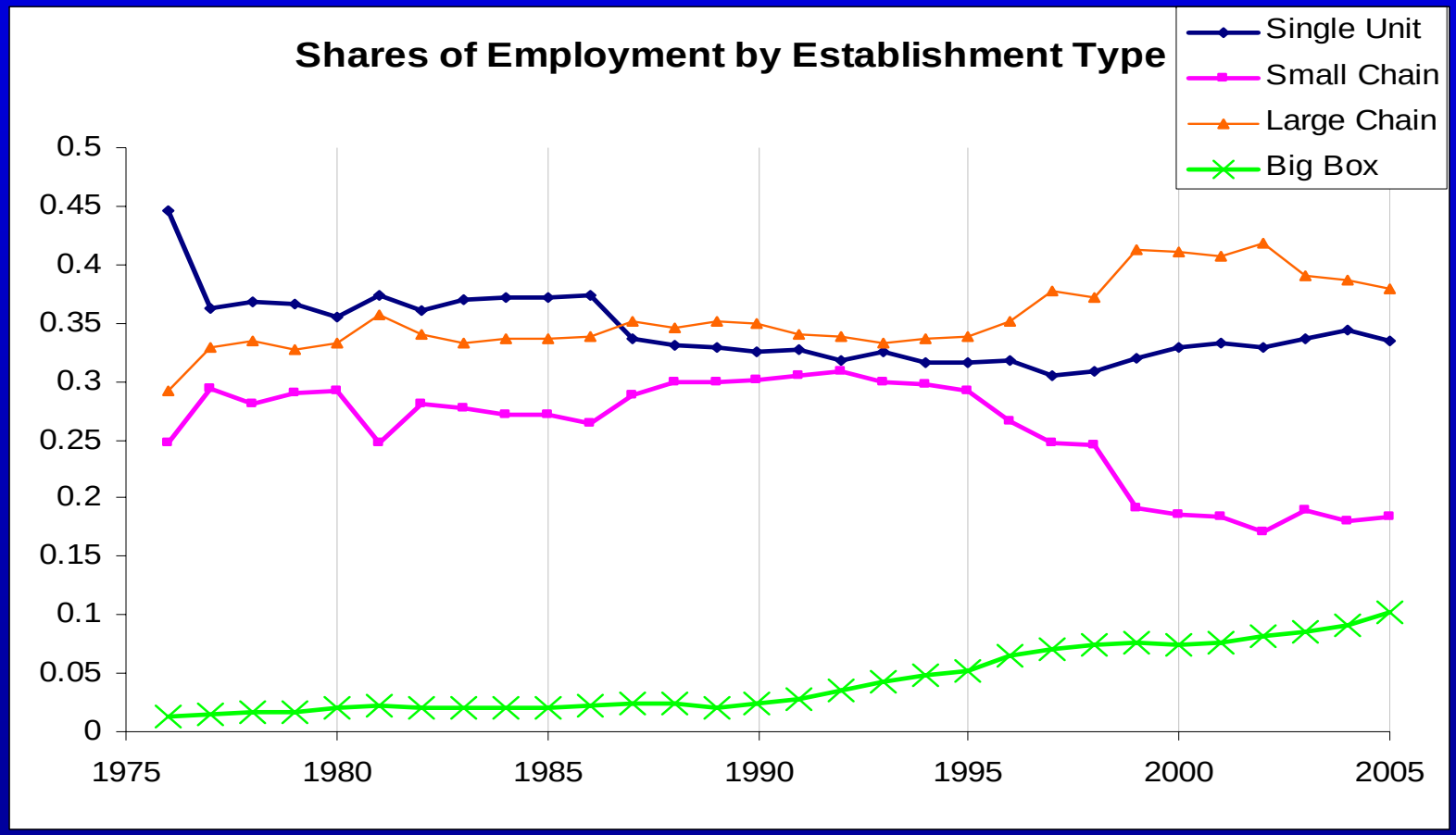
Measuring distance between retail firms within local markets

- Data requirements
  - Establishment (store) level data
    - Detailed location (either small geography or, better, latitude/longitude coordinates)
    - Retail sub-sector (hardware, clothing…)
    - Firm ownership and characteristics
      - Mom-and-pop (single location)
      - Large chain (15+ states) / Small Chain (<15 states)
      - Big-Box

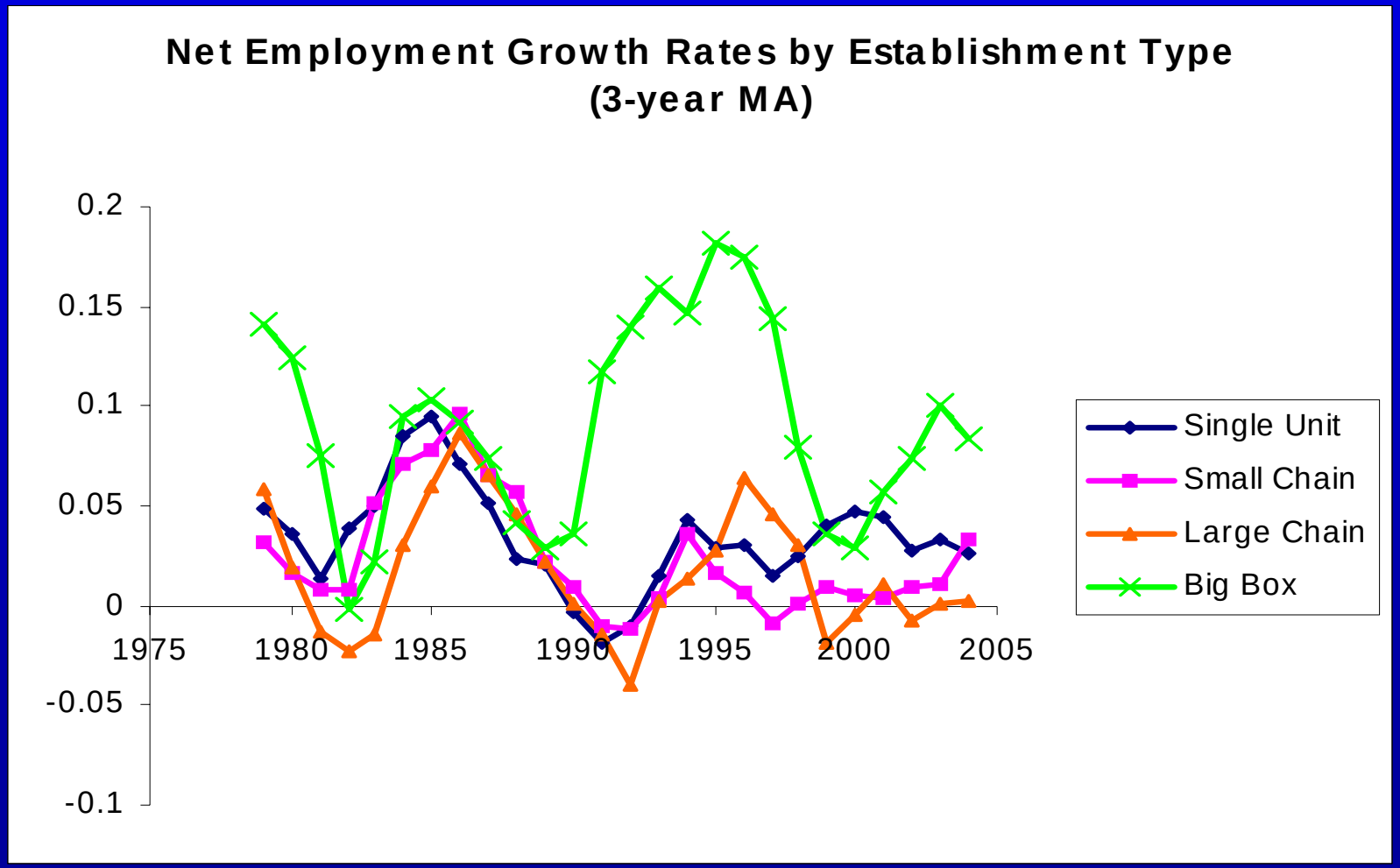
Background

- Primary measure of performance:
  - Employment growth (measured at the establishment level
    - $g_{it} = (X_{it} - X_{it-1}) / ((X_{it} + X_{it-1})/2)$
- Sample:
  - Washington, DC metro area retail
  - 1976-2005
  - from the Longitudinal Business Database
  - focus on mom-and-pop and small chain stores

Shares of Retail Employment in D.C. Metro Counties by store type



Net Employment Growth by Type



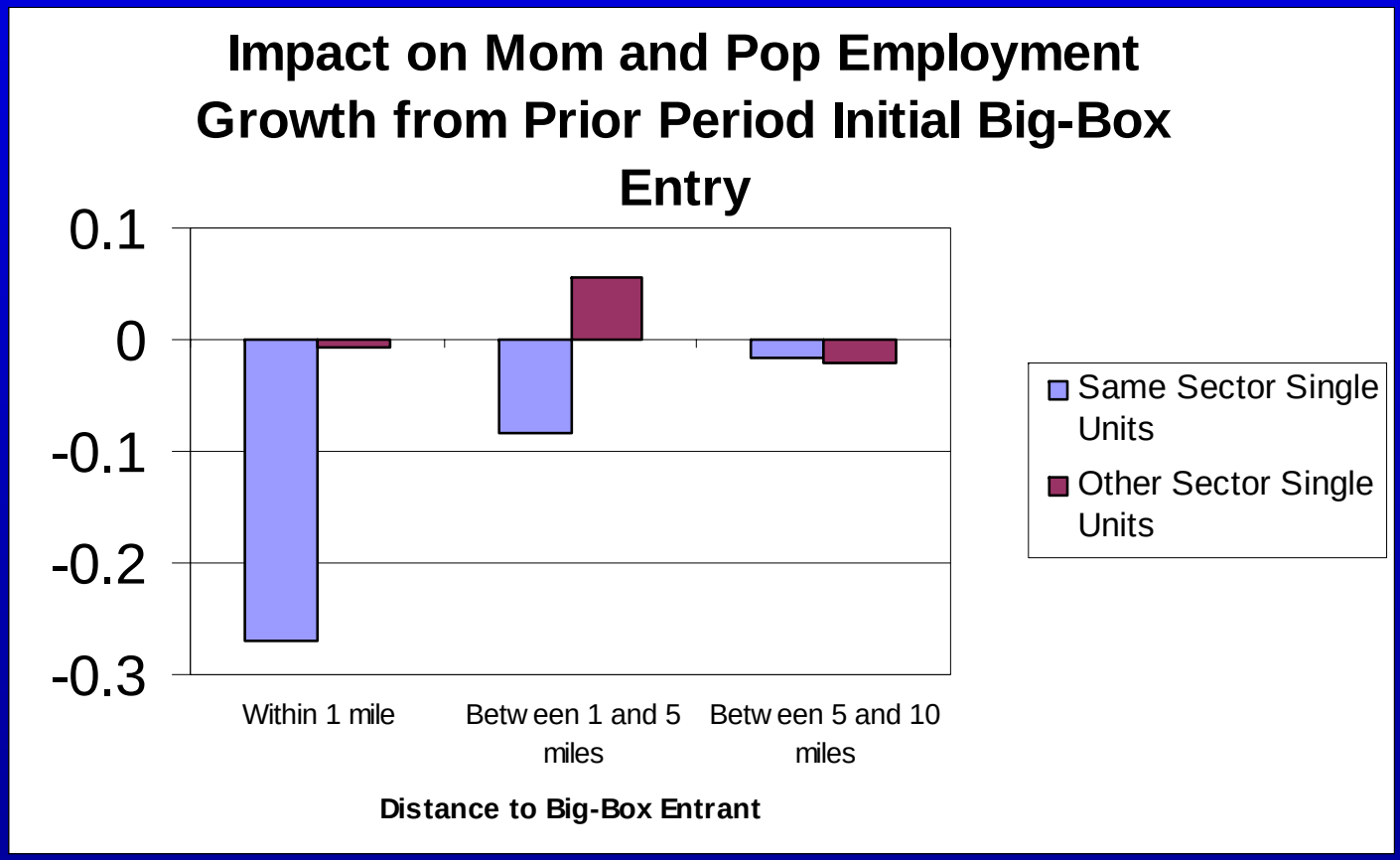
Descriptive Findings

- Large increase in the presence of big-box stores in the DC area during the 1990's
- Small chains appear to be more adversely affected than mom-and-pop stores at the aggregate metro area level.

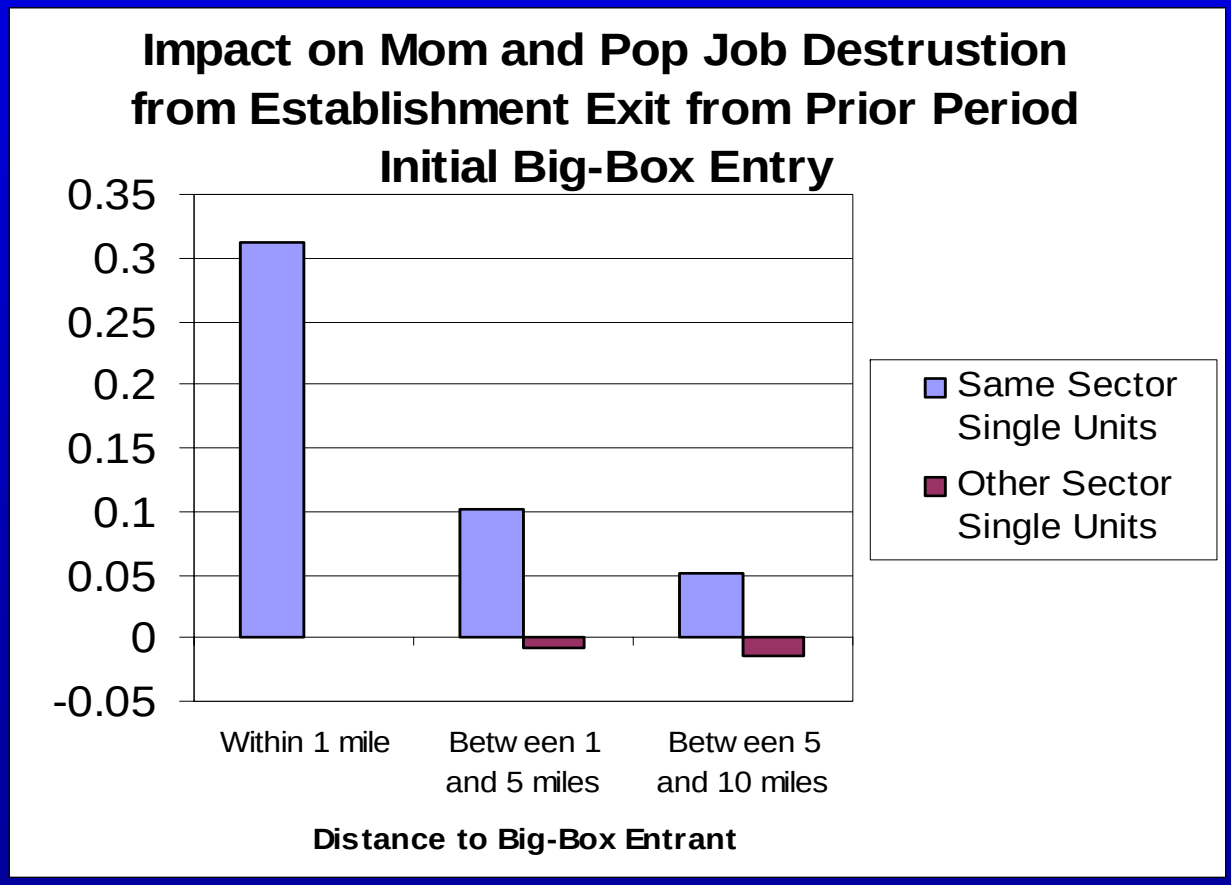
Results from formal analysis

- Single unit (mom-and-pop) and small chain store regressions control for:
  - Local population characteristics (income, age, gender)
  - Proximity to Interstate exits
  - Proximity to Metro stations
  - Establishment (store) age
  - Year effects
  - Retail sector based on detailed industry codes

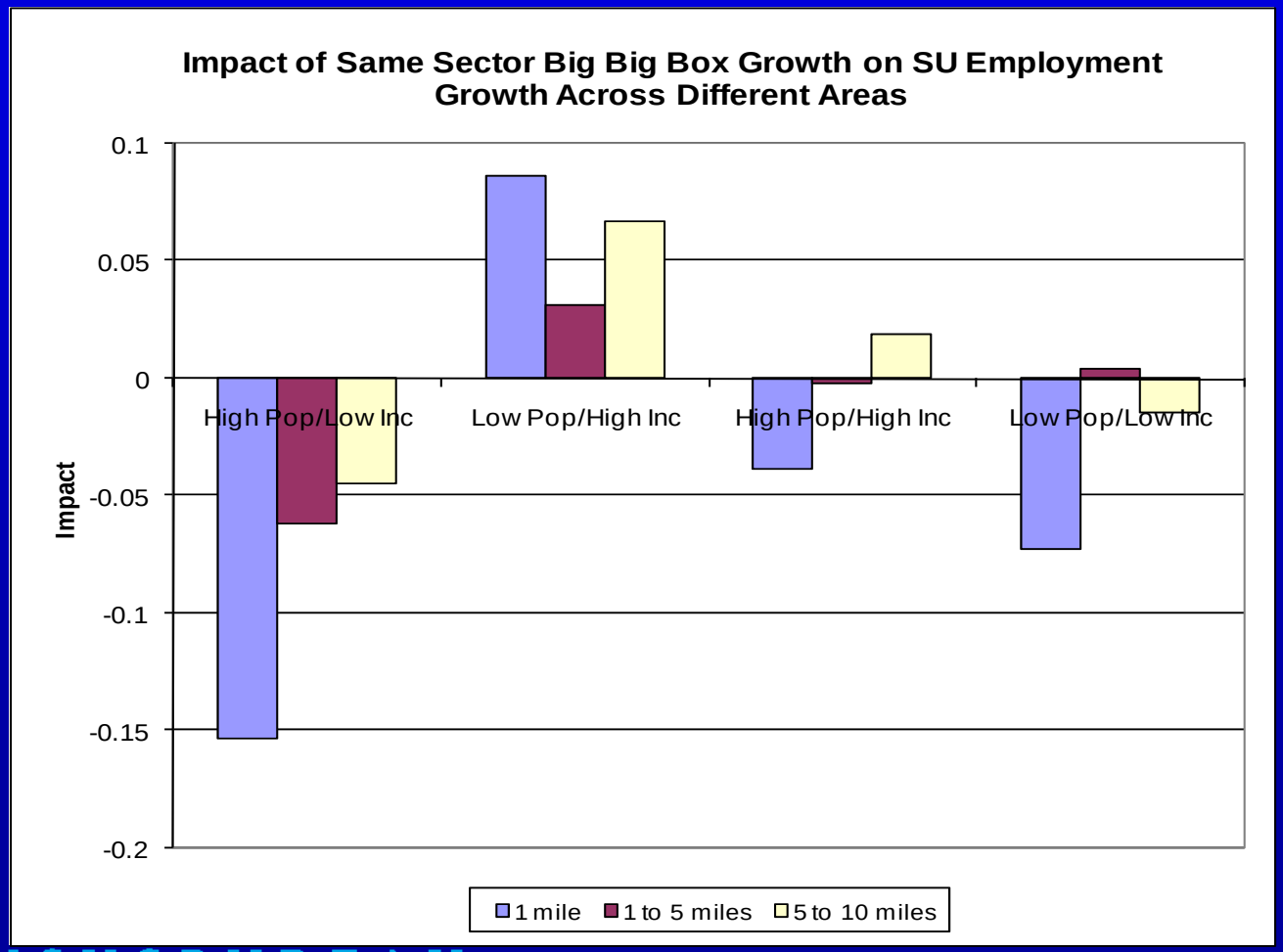
Base results for Mom-and-Pop Stores



Impact felt largely through store closings



Impact differs by type of area



Summary of results

- Impact of Big-Box entry and growth on mom-and-pop and small chain stores limited to those in the same retail industry and in close proximity to the Big-Box.
- Store exit is the primary margin of adjustment.
- Impacts vary across the DC area according to income and population density.

Implications for future work

- At least for some sectors (e.g., retail, services), detailed location is critical to understanding firm performance.
  - In the DC retail example, to understand why some mom-and-pops perform better than other requires knowing their relative proximity to other types of stores.

Implications (continued)

- Detailed location (geography) is often available on establishment level data
- Yet it is under-utilized.
- Geocoded establishment data can easily be linked to other geocoded datasets to add addition covariates to analyses of firm performance.
- By adding detailed location, CAED data, tools and methods can be applied to broad range of literatures (e.g., economic development, urban economics, entrepreneurship).