

## The Economic Role of Small Businesses using Large Data Sets: An Analysis of the Contributions of Small Firms to Urban Growth

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### Purpose

In the past, large cities were primarily characterized by downtown centers of employment. Recent decades, however, have seen a proliferation of employment subcenters in areas outside of downtown. The rise of urban employment subcenters also coincides with a revitalization of major cities in the U.S. Thus, the role of small businesses in the formation, maintenance, and growth of employment subcenters provides an excellent window for observing the relative role of small and large firms in economic development.

The research described in this project contributes important new understanding of the role of small businesses in economic growth. It looks at the economic development of different parts of one large city (Houston, Texas) and seeks to determine whether large firms are a significant cause of urban economic growth, or alternatively, whether small firms perform a key role. This is a difficult question because if small firms are successful, they become large. Specifically, the authors examine the current level of employment decentralization in Houston as firms balance agglomeration economies with congestion costs. The authors look at the various employment centers in Houston and their differing levels of development in an attempt to infer how the role of small business changes between the older and well-established centers compared to the newer and emerging subcenters of employment.

### Overall Findings

Small firms play a vital role in maintaining economic growth in urban areas. The authors find that small businesses compete effectively with large firms

for land near the employment centers. While large firms are more likely to be in employment centers in the central business district and more established subcenters surrounding downtown, firm size is less important for newer and emerging subcenters that are farther from downtown.

### Highlights

- Recent research has identified six to eight employment centers in the Houston metropolitan region. In addition to the central business district (CBD) downtown, the subcenters are: the Galleria, Carillon, Greenspoint, Clear Lake, Baytown, LaPorte, and Pasadena.
- Large firms, which are defined in this analysis as being firms more than 45 employees, are significantly more likely to locate in the CBD than elsewhere. Over 84 percent of the employees in the CBD work for large firms.
- In terms of location within the subcenters, large firms are more likely to locate within the Galleria area (sometimes referred to as “Uptown”), which has the largest employment of the subcenters, but small and large firms are equally likely to be within a three-mile radius of an employment center. In addition, there is little evidence that large firms are more likely than small firms to locate actually within the emerging subcenters in Houston.
- Agriculture, mining (which in Houston includes the petrochemical industry), and wholesale trade are the only industries that are less likely to concentrate in a subcenter.
- While not decisive, the results are consistent with the view that small firms may be centrally important for urban development. As a subcenter

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gains momentum and success, small firms might grow relatively quickly. While larger firms are more likely to be within the actual employment center, it is entirely plausible that these large firms were once small entities that grew due to their success.

## Scope and Methodology

In this analysis, a small firm is defined as one with 45 employees or less. The authors attempted varying definitions, including cut-offs at 25 and 60 employees. The empirical results were virtually similar.

The authors use data from Dun & Bradstreet (D&B), which contains information on 123,313 individual business establishments in the Houston metropolitan area. The D&B data is from 1990 and is matched to census information from the same year. The authors use Geographic Information System (GIS) address matching to successfully locate 101,600 of the firms and determine whether they are within one of the employment subcenters. Firms for which D&B reports unknown employment at a specific location are omitted, resulting in a data set with 63,134 individual firms. This process removes all zero-employee firms from the sample. The empirical results are essentially the same with zero-employee firms and without them. Hence, this study reports only the findings for the smaller, higher-quality data sample.

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