

# SMALL BUSINESS

Office of Advocacy

U.S. Small Business  
Administration

# RESEARCH SUMMARY

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## Measuring Contribution of Small Business to Industry Job Growth by Data in Business Association Directories

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### Purpose

In this pilot project, trade association directories from two major trade associations—the Software Publishers Association (SPA) and the American Electronics Association (AEA)—were used to calculate the employment contributions of firms that remained small during a relatively short time period. This pilot project better documents small firm contributions in a more timely way than is possible using any conventional government data—particularly for the high-tech industries. The Office of Advocacy of the U.S. Small Business Administration (SBA) is grateful to both trade associations, as well as the Corporate Technology Corporation for access to their information, which was used to verify the trade association information. It is hoped that private directories of firms will help fill-in the gaps left by limited government data.

### Scope and Methodology

Three random samples of 100 companies each were drawn from the 1997 AEA directory, and two additional samples were drawn from the 1996 SPA directory. Employment data was drawn from the AEA directories for 1994, 1995, and 1997. Similar employment data was drawn from the SPA directories for 1994 and 1996. Efforts were made to limit the samples to small firms with fewer than 500 employees in the base year and to eliminate foreign subsidiaries, non-profit organizations, and those companies with businesses in other industries. In the AEA directories,

214 companies sampled out of 300 companies had the information required for this study. From the SPA directories, 110 companies out of 200 had the necessary data needed for this project.

The data from the samples was also augmented using the Corporate Technology directory of technology based firms for 1994. By using the latter source, additional employment data was found for the companies from the trade association directories. Augmenting the trade association directory data with the information from the Corporate Technology directories, 252 out of 300, or 84 percent, of the AEA companies had data for at least two years; and 124 out of 200, or 62 percent, of the SPA samples had employment data for pairs of years.

Using these samples, employment growth calculations were compared using both static and dynamic counting methods. With the static method, a firm is observed at whatever size it happens to be when the observation is made. Therefore, a small firm that becomes a large firm is counted for job creation purposes as being a large company when static data is used. Conversely, if dynamic analysis is used, a small firm is allowed to remain small even if it becomes large by the end of the observation period.

## Highlights

- Estimates based upon longitudinal data (tracking individual firms over time) showed that 39 percent of the employment increase from approximately 1994 to 1997 was accounted for by small high-technology firms in the samples of the AEA. These companies, which accounted for 25 percent of the total employment in various high-tech sectors during the base years, clearly grew rapidly from 1994 to 1997. Small firms in these samples contributed about 1.5 times their employment share.
- Small companies in the SPA directories accounted for 20 percent of employment in the base years, but accounted for 30 percent of the employment growth in the companies covered in the SPA directories. These firms contributed about 1.3 times their employment share of new jobs.
- Many of the fastest growing firms were “boundary crossers,” which crossed the 500 employment size boundary and grew to be large firms during the observation periods covered by the AEA and SPA samples. The contribution of these firms would be missed using conventional government data.
- The average age of small companies that grew to be large was higher, on average, than that of companies that remained small.

## Conclusion

This research illustrates the value of tracking firms over time. To continue efforts of tracking firms, the Office of Advocacy, in cooperation with the Bureau of the Census, has developed the Longitudinal Establishment and Enterprise Microdata or LEEM file to study business dynamics. The LEEM file, which currently extends from 1988 to 1996, allows a researcher to study the same companies over time. The Office of Advocacy has already studied job creation from 1990 to 1995 and the effect of mergers and acquisitions on job creation from 1990 to 1994 using the LEEM file.<sup>1</sup> Future applications include the study of high-technology small firms, the growth of women-owned and minority-owned firms, and the growth of firms by sector in rural and urban areas.

## Ordering Information

The complete report, along with research summaries of other studies performed under contract to the SBA Office of Advocacy, is available on the World Wide Web at: [www.sba.gov/advo/research](http://www.sba.gov/advo/research)

Printed copies are available from:

National Technical Information Service  
U.S. Department of Commerce  
5285 Port Royal Road  
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<sup>1</sup> These studies may be downloaded from Advocacy’s Web-site: <http://www.sba.gov/advo/stats>. For access to the LEEM file, contact the Office of Advocacy directly at 202-205-6530.