

SMALL BUSINESS RESEARCH SUMMARY

Establishment Employment Change and Survival, 1992-1996: Analyses Based on a New, Longitudinal Data Base with Special Focus on Information Technology Industries

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Purpose

Small businesses, the service sector, and high-technology businesses are each identified by many sources as major creators of new jobs. But there is disagreement as to how important their roles actually are. This study employs the new Business Information Tracking Series (BITS) to measure the contribution of four sizes of businesses (1-19 employees, 20-99, 100-499, and 500+) to job creation in each year from 1992 to 1996 in three sectors—information technology (IT) industries, other goods-producing firms, and other service-producing firms.

Scope and Methodology

BITS (formerly known as the Longitudinal Establishment and Enterprise Microdata file, or LEEM) is a microdata file containing annual records for nearly every nonfarm private-sector establishment with positive payroll. The U.S. Bureau of the Census created the file with funding from the Office of Advocacy. Each record contains information on an establishment's employment, payroll, location, start year, and four-digit Standard Industrial Classification (SIC) code for each year that it had positive payroll, beginning in 1989. An establishment is a separate physical location at which business activity occurs. For dependent establishments (those that are part of a multi-establishment firm), each record also contains information on the firm's employment, pay-

roll, primary SIC code, and location. This linkage allows establishments to be tracked even if they are part of different enterprises over time. At the time of this research, the file extended through 1996; new years are being added annually to the data base.

IT industries are defined as the 38 4-digit SIC goods- and service-producing industries identified by the U.S. Department of Commerce in "The Emerging Information and Communications Technology Industry" (1998). Goods-producing industries (other than IT goods) include agricultural services, forestry, and fishing; construction; and manufacturing. Service-producing industries (other than IT services) include transportation, communications, and public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services.

In addition to tabulations of establishment employment change, the study presents estimates from multivariate models of establishment employment change and establishment survival. Results are presented for the cohort of establishments started in 1992 and surviving to 1996.

Highlights

- Nonfarm private-sector employment grew by 9.4 million, or 10 percent, between 1992 and 1996. Employment grew by 4 percent in goods-producing industries, 12 percent in service-producing industries, and 19 percent in IT industries. The strongest

growth in each industry group occurred in 1994-1995.

- Service-producing industries accounted for most (84 percent) of the 1992-1996 employment growth. IT's contribution to overall job growth, 0.5 million net new jobs in 1992-1996, may seem small at 6 percent of the total job growth, yet in 1992 IT industries represented just 3 percent of total employment covered by BITS. Employment growth in IT industries burgeoned at the end of the period, accounting for 12 percent of employment growth in 1995-1996.

- Small firms (firms with fewer than 500 employees) accounted for 69 percent of the total 1992-1996 employment change—all of the net employment growth in goods-producing industries, 59 percent of the growth in service-producing industries, and 72 percent of the growth in IT industries.

- The smallest firms generally accounted for the largest share of each industry group's growth. In 1992-1996, firms with fewer than 20 employees accounted for 43 percent of employment growth in all industries, 107 percent in goods-producing industries, and 38 percent in IT industries. In service-producing industries, the under-20-employee firms produced 35 percent of net new jobs; however, firms with 500 or more employees contributed more—41 percent.

- Firms were sorted into four equal groups (quartiles) based on their average establishment employment change in 1992-1996. Thus, the 25 percent of firms with the highest percentage change in establishment employment were placed in the top quartile, those with the lowest (or most negative) change in the bottom.

- In the fastest-growing quartile, it is notable that firms with 1-19 employees contributed 37 percent of the job growth in goods-producing industries. That is a bigger share than in all industries in the IT and service-producing sectors, even though capital-intensive goods-producing industries are often seen as requiring larger size to succeed than firms in other industries. Most of the high-growth IT firms were the largest firms, not tiny startups as might have been expected.

- For establishments started in 1992, the median survival duration was estimated. This statistic represents the number of years until half of the establishments started in 1992 were projected to close. For independent establishments, the median survival duration in all industries was about 4.5 years and increased as the starting employment size increased.

In other words, stand-alone establishments that started large had a better chance of surviving. In contrast, the median survival duration of dependent establishments is negatively related to 1992 employment size of the firm to which they belong, other things being equal; that is, generally, the smaller the owning firm, the longer the survival of its owned establishments.

Conclusions

The BITS is a novel and important source of longitudinal data on firms and establishments, covering virtually all private sector industries. As this report shows, the file has many potential uses.

One of the major reasons for developing the BITS was to track employment growth by firm size for all industries. Indeed, as an annual file, the BITS allows for tabulations of employment growth within annual intervals, an important attribute. Recall, for instance, the finding that virtually all of the 1992-1996 employment growth in IT industries occurred in the 1994-1995 and 1995-1996 intervals.

The BITS can also be used to support multivariate empirical analyses of establishment and firm employment growth and survival. The models presented only hint at the potential of the BITS. The strength of this file and the sophistication of analyses of its contents can be elevated by augmenting it with additional variables, including variables from other sources that can be merged into the BITS by matching on its various industry and geography codes.

Ordering Information

The full text of this report, along with summaries of other studies performed under contract to the U.S. Small Business Administration's Office of Advocacy, is available on the Internet at www.sba.gov/advo/research.

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