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Technology and Entrepreneurship: A Cross-Industry Analysis of Access to Computers and Self-Employment

By Robert Fairlie, Ph. D
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Purpose

The personal computer is one of the most important technological innovations in the twentieth century. Numerous studies have focused on the relationship between IT investment and productivity, but little has been done to learn more about the role of personal computers in business creation. This report examines whether computer ownership in the home influences self-employment or entrepreneurship or the types of businesses created by entrepreneurs.

Overall Findings

Trends over the past two decades provide evidence of a positive relationship between home computers and entrepreneurship. Male and female computer owners were more likely to become entrepreneurs than non-computer owners, and the study indicated that entrepreneurs with prior access to home computers are starting many different types of businesses.

Highlights

- For both men and women, entrepreneurship rates increased in the early 1980s, dropped in the 1990s, and increased to higher levels in recent years based on estimates from the Current Population Survey (CPS). Over the entire time period, entrepreneurship rates appear to have increased for both men and women while home computer ownership rates increased dramatically.
- The time-series evidence is somewhat inconsis-

tent, but an analysis of individual-level data reveals a positive relationship between computer ownership and subsequent business creation. Male computer owners are 0.6 percentage points more likely than non-computer owners to become an entrepreneur, and female computer owners are 0.7 percentage points more likely to become an entrepreneur than non-computer owners.

- Entrepreneurs who had prior access to home computers create a large variety of types of businesses and not only those in the IT industry. For example male entrepreneurs with prior access to home computers were much more likely to create businesses in Finance, Insurance, and Real Estate (F.I.R.E), professional services, and business and repair services than entrepreneurs without prior access to home computers. This finding suggests that industry differences exist between the two groups, and the estimates indicate that entrepreneurs with prior access to home computers are starting many different types of businesses.
- Female entrepreneurs with and without prior access to home computers create businesses in similar industries with the exception that women with access to home computers create businesses in the F.I.R.E. industry at a higher percentage while a lower percentage of them create businesses in personal services.
- For both men and women, regression estimates do not provide evidence of an independent effect of Internet access on entrepreneurship.
- The average rates of business formation from 1980 to 1982 were 2.2 percent for men and 1.2 percent for women, and by 1999 to 2001, the rates for entrepreneurship had increased to 2.7 percent for

men and 1.5 percent for women.

- Estimates from regressions that control for race, age, education, family income, home ownership and other individual characteristics are also used to test whether having access to a home computer increases the likelihood that an individual becomes an entrepreneur. The evidence suggests that having access to a home computer is associated with the probability of becoming an entrepreneur.

- In 2001, 53.9 percent of self-employed business owners indicated they used a computer at work, which is lower than the 56.7 percent of employed adults that reported using a computer at work.

Scope and Methodology

The data used for analysis are the matched Computer and Internet Usage Supplements (CIUS) files, and the Outgoing Rotation Group (ORG) to the Current Population Survey (CPS). The CPS micro-data includes incorporated and unincorporated businesses along with those who are employers or non-employers. One of the limitations to this dataset is that it does not provide information on when individuals started their businesses. Both surveys are conducted regularly by the U.S. Bureau of the Census and the Bureau of Labor Statistics, and they represent the entire population and contain observations for over 130,000 people.

The years examined from the CIUS files were: 1997, 1998, 2000 and 2001. Entrepreneurship rates were created by matching the CPS and CIUS files for these years to subsequent CPS Outgoing Rotation Group (ORG) files thereby creating longitudinal data. Longitudinal data was created by linking the

CPS files over time. To measure entrepreneurship all individuals who did not own a business when first surveyed were identified in the follow-up survey.

This report was peer-reviewed consistent with Advocacy's data quality guidelines. More information on this process can be obtained by contacting the Director of Economic Research at advocacy@sba.gov or (202) 205-6533.

Ordering Information

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