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TRENDS IN ENTREPRENEURSHIP

This report is part of a series on trends in entrepreneurship by the Office of Advocacy. New businesses are key sources of jobs and innovation, and trends in entrepreneurship have important implications for economic growth. The previous report in the series addresses entrepreneurship among those who have reached the traditional ages of retirement.

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THE ARRIVAL OF THE IMMIGRANT ENTREPRENEUR
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ABSTRACT

Over the last 20 years, the role of immigrant entrepreneurs has grown. The percentage of the self-employed who were born abroad more than doubled between 1994 and 2015, growing from 8.6 percent to 19.5 percent. This report shows that the growth was caused by three changes—an increase in the size of the population born abroad, an increase in self-employment among those born abroad, and a decrease in self-employment overall.

Alexander, known as Aleck to his family, was born in Scotland in 1847 and later immigrated to Canada. His father taught speaking skills to the deaf. In 1871, Aleck began teaching speaking skills to deaf students in Boston. His most famous consultation would be with Helen Keller, who was deaf and blind but became a celebrated speaker and author. She dedicated her autobiography to him.

Aleck also experimented with the electronic transmission of sound. He believed that different tones could be used to send multiple telegraph messages simultaneously over a single wire. Work on a prototype led to the discovery of the potential for transmitting the complex sounds necessary for speech.

In 1876, Aleck, also known as Alexander Graham Bell, patented the resulting invention, the telephone. The Bell Telephone Company was founded a year later and eventually became AT&T. In 1984, when it was divided into several different companies to address the concerns of regulators, AT&T was the largest company in the world, with over a million employees and $70 billion in annual revenue.[1]

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[1] "More about Bell," *PBS.org*, accessed May 3, 2016, www.pbs.org/wgbh/amex/telephone/peopleevents/mabell.html; David Blatty, "From Darkness into Light: Helen Keller & Alexander Graham Bell," *Biography.com*, March 3, 2015, www.biography.com/news/alexander-graham-bell-and-helen-keller; Scott Lewis, Frank Uhle, and Jeffrey Covell, "AT&T Corporation," *International Directory of Company Histories*, 2005, www.encyclopedia.com/doc/1G2-3429500019.html.

Immigrant entrepreneurs like Alexander Graham Bell have founded many other prominent businesses, including Tesla, General Electric, and Google.[2] Over the last 20 years, the role of immigrant entrepreneurs has grown. As Figure 1 illustrates, the percentage of the self-employed who were born abroad more than doubled between 1994 and 2015, rising from 8.6 percent to 19.5 percent.

Figure 1: Percentage of the self-employed who were born abroad, 1994-2015
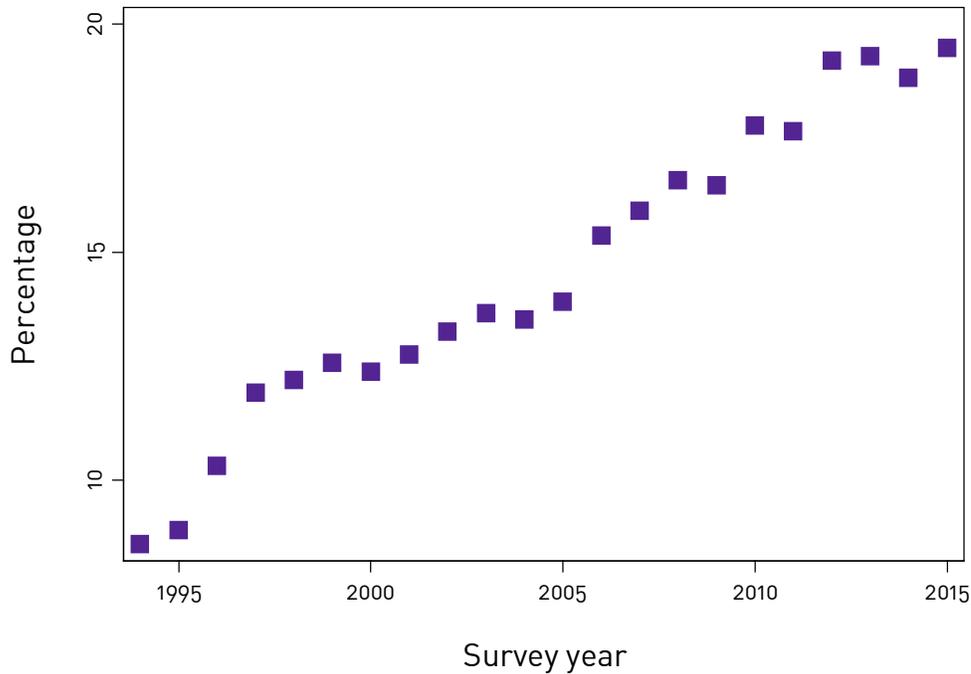
Source: Calculations by the author using data from the Current Population Survey by the US Census Bureau.

This report explains that growth by examining changes in the relative sizes of several groups. The next section describes the data, and the third section presents the analysis. The final section concludes the report with a discussion of policy implications and resources for aspiring entrepreneurs.

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[2] "Elihu Thomson: American electrical engineer and inventor," *Encyclopedia Britannica*, accessed May 3, 2016, http://www.britannica.com/biography/Elihu-Thomson; "Sergey Brin biography," *Biography.com*, accessed May 3, 2016, http://www.biography.com/people/sergey-brin-12103333; "Elon Musk biography," *Biography.com*, accessed May 3, 2016, http://www.biography.com/people/elon-musk-20837159.

Analysis

This report explains the increase in the percentage of the self-employed who were born abroad using changes in the relative sizes of four groups—immigrants, self-employed immigrants, all self-employed individuals, and the total population. The relationships between those groups are depicted in Figure 2. Immigrants and self-employed individuals are both subsets of the total population. Self-employed immigrants are a subset of immigrants, a subset of self-employed individuals, and a subset of the total population. The relative sizes of the rectangles in Figure 2 correspond to the sizes of the groups in 1994 for individuals age 15 and over.

Figure 2: Relationships between groups
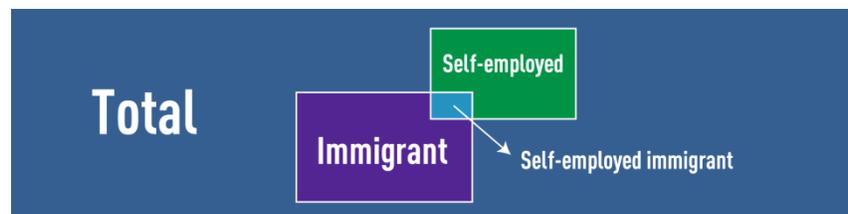
Source: Calculations by the author using data from the Current Population Survey by the US Census Bureau.

The relative sizes of some of the groups can be expressed as proportions.[5] The proportion of the self-employed who were born abroad is the ratio of the light blue rectangle to the green rectangle. The proportion of those born abroad who were self-employed is the ratio of the light blue rectangle to the

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[3] Sarah Flood, Miriam King, Steven Ruggles, and J. Robert Warren, *Integrated Public Use Microdata Series, Current Population Survey: Version 4.0* (Minneapolis: University of Minnesota, 2016).

[4] For example, some respondents who drive as independent contractors for companies like Lyft or Uber may report self-employment while others may report employment by a private company. The appropriate legal classification of such drivers is, in fact, currently under dispute.

[5] Rates may be reported as proportions or percentages, and both are used in this report. The percentage of individuals in a category is equal to the proportion of individuals in that category multiplied by 100.

purple rectangle. The proportion of the total population who were born abroad is the ratio of the purple rectangle to the dark blue rectangle. The proportion of the total population who were self-employed is the ratio of the green rectangle to the dark blue rectangle. Those proportions are related by the equation:

$$\frac{\text{immigrant self-employed}}{\text{total self-employed}} = \frac{\dfrac{\text{immigrant self-employed}}{\text{immigrant}}}{\dfrac{\text{total self-employed}}{\text{total}}} \times \frac{\text{immigrant}}{\text{total}}$$

Figure 1 shows a rapid increase in the percentage of the self-employed who were born abroad. The equation above demonstrates that the increase could have been caused by

(a) an increase in the proportion of the total population who were born abroad,

(b) an increase in the proportion of the immigrant population who were self-employed, or

(c) a decrease in the proportion of the total population who were self-employed.

All three of those changes may have occurred, or changes in one proportion may have offset changes in the others.

Figure 3 shows how the proportion of the total population who were born abroad varied between 1994 and 2015. That percentage increased from 10.6 percent in 1994 to 17.3 percent in 2015. An increase in the size of the population born abroad therefore contributed to the increase in the percentage of the self-employed who were born abroad.

Figure 3: Percentage of the total population born abroad, 1994-2015
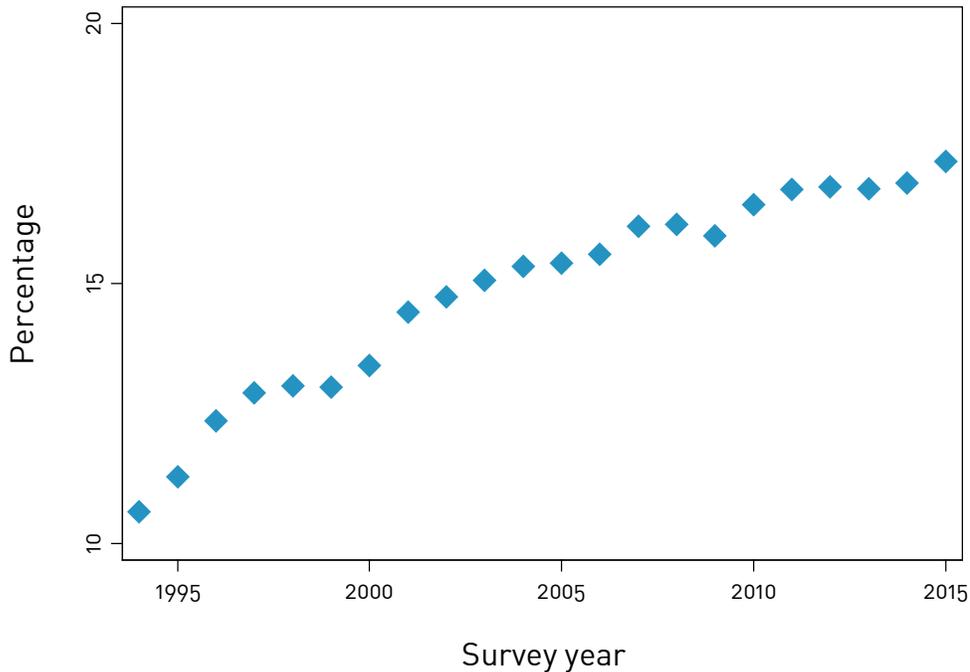
Source: Calculations by the author using data from the Current Population Survey by the US Census Bureau.

Changes in self-employment among those born abroad and among the total population also contributed to the increase in the percentage of the self-employed who were born abroad. Figure 4 juxtaposes the trend in the percentage of those born abroad who were self-employed with the trend in the percentage of the total population who were self-employed. The percentage of the total population who were self-employed decreased from 7.2 percent in 1994 to 5.8 percent in 2015. In contrast, the percentage of those born abroad who were self-employed increased from 5.9 percent to 6.5 percent.

Figure 4: Percentages self-employed, overall and among those born abroad, 1994-2015
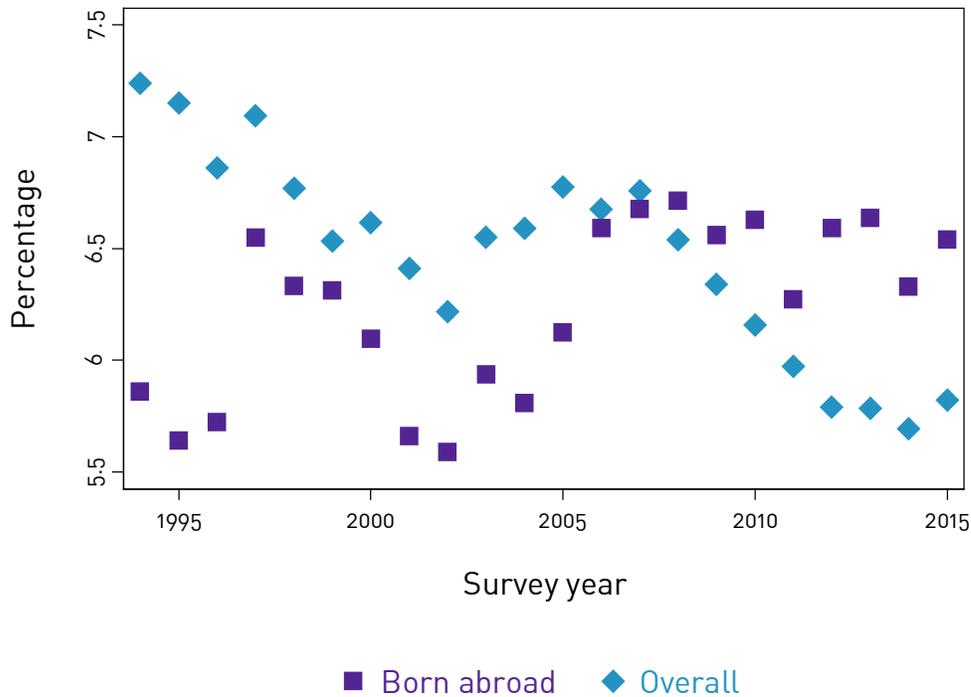
Source: Calculations by the author using data from the Current Population Survey by the US Census Bureau.

An increase in the size of the population born abroad, an increase in self-employment among those born abroad, and a decrease in self-employment among the total population all contributed to the increase in the percentage of the self-employed who were born abroad. The equation relating the proportions can be used to explore the contributions of each change individually. If the proportion of the total population who were born abroad had increased while the other proportions remained constant, the percentage of the self-employed who were born abroad would have increased by 5.5 percentage points.[6] If the proportion of those born abroad who were self-employed had increased while the other proportions remained constant, the percentage of the self-employed who were born abroad would have increased by 1.0 percentage points. If the proportion of the total population who were self-employed had decreased while the other proportions remained constant, the percentage of the self-employed who were born abroad would have increased by 2.1 percentage points. Simultaneous changes in all of the proportions caused the percentage of the self-employed who were born abroad to

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[6] Numbers in this paragraph may differ slightly from those that would be produced through calculations using the rounded numbers from previous paragraphs.

increase by 10.9 percentage points. The simultaneous changes interacted in a way that amplified their effects.

Discussion

The changes contributing to growth in the percentage of the self-employed who were born abroad may have broader implications for the economy. The benefits of entrepreneurship to society exceed the benefits of entrepreneurship to entrepreneurs. Entrepreneurship is an important source of jobs and innovation.[7] A healthy population of businesses also keeps prices low through competition for customers and wages high through competition for employees.[8]

Changes in the prevalence of self-employment contributed to growth in the percentage of the self-employed who were born abroad. Although self-employment increased among those born abroad, self-employment decreased overall. Federal policies affect businesses in many ways, and the decrease in self-employment can be addressed through policies that encourage entrepreneurship. Policymakers can encourage entrepreneurship by enhancing the legal and physical infrastructure, improving the terms and availability of funding for businesses, and reducing the negative impacts of taxes and regulations on businesses.[9]

Growth in the population born abroad also contributed to growth in the percentage of the self-employed who were born abroad. Figure 4 suggests that changes in the size of the population born abroad may also affect the prevalence of entrepreneurship. Figure 4 shows that self-employment has risen among those born abroad, and, by 2015, self-employment was substantially higher among those born abroad than among those born in the United States. However, the effect of changes in the size of the population born abroad on the prevalence of self-employment depends on why self-employment became higher among those born abroad. The next report in this series will explain the rise in self-employment among those born abroad.

Immigrants like Alexander Graham Bell have founded many successful businesses. The future founders of other successful businesses are likely now among the immigrant population in the United States. Several resources for them and other aspiring entrepreneurs are available from the Small Business Administration at www.sba.gov/MadeItInAmerica.

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[7] Zoltan J. Acs and Pamela Mueller, "Employment effects of business dynamics: Mice, gazelles, and elephants," *Small Business Economics* 30 (2008): 85-100; John Haltiwanger, Ron S. Jarmin, and Javier Miranda, "Who creates jobs? Small versus large versus young," *The Review of Economics and Statistics* 95 (2013): 347-361; John A. Hansen, "Innovation, firm size, and firm age," *Small Business Economics* 4 (1992): 37-44.

[8] "Benefits of competition and indicators of market power," *Council of Economic Advisers*, April 2016, www.whitehouse.gov/sites/default/files/page/files/20160414_cea_competition_issue_brief.pdf; "Justice Department requires eBay to end anticompetitive 'no poach' hiring agreements," *United States Department of Justice*, May 1, 2014, www.justice.gov/opa/pr/justice-department-requires-ebay-end-anticompetitive-no-poach-hiring-agreements; Steven A. Morrison, "Actual, adjacent, and potential competition: Estimating the full effect of Southwest Airlines," *Journal of Transport Economics and Policy* 35 (2015): 239-256.

[9] Miriam Segal, "Peer-to-peer lending: A financing alternative for small businesses," *SBA Office of Advocacy*, September 10, 2015, www.sba.gov/sites/default/files/advocacy/Issue-Brief-10-P2P-Lending_0.pdf; Victoria Williams, "Small business lending in the United States 2013," *SBA Office of Advocacy*, December 2014, www.sba.gov/sites/default/files/2013-Small-Business-Lending-Study.pdf; For a description of federal efforts to limit the negative impact of regulations on small businesses, see SBA Office of Advocacy, "A guide for government agencies: How to comply with the Regulatory Flexibility Act," *SBA Office of Advocacy*, May 2011, www.sba.gov/sites/default/files/rfaguide_0512_0.pdf.

Previous reports in this series

- "The missing Millennial entrepreneurs," February 4, 2016, www.sba.gov/sites/default/files/advocacy/Millenial_IB.pdf.

- "The ascent of the senior entrepreneur," August 17, 2016, https://www.sba.gov/sites/default/files/advocacy/Ascent-Senior-Entrepreneur.pdf.

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