

February 4, 2016

## TRENDS IN ENTREPRENEURSHIP

This report is the first in a series on trends in entrepreneurship by the Office of Advocacy's Office of Economic Research. New businesses are key sources of jobs and innovation, and trends in entrepreneurship therefore have important implications for economic growth. The next report in the series will consider entrepreneurship among those who have reached the traditional ages of retirement.

# THE MISSING MILLENNIAL ENTREPRENEURS

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## ABSTRACT

Entrepreneurship is lower among Millennials than among prior generations. In 2014, less than 2 percent of Millennials reported self-employment, compared with 7.6 percent for Generation X and 8.3 percent for Baby Boomers. These differences largely reflect the youth of Millennials and the positive relationship between age and entrepreneurship among the relatively young. However, growth with age in the proportion of each generation reporting self-employment has been slower for Millennials than for prior generations. At age 30, less than 4 percent of Millennials reported self-employment in their primary job in the previous year, compared with 5.4 percent for Generation X and 6.7 percent for Baby Boomers. Trends among the age groups Millennials will join in future years suggest that entrepreneurship among Millennials will remain relatively low for decades.

Mark Zuckerberg founded Facebook in 2004 while he was still in college. He dropped out, moved the company to Silicon Valley, and, in 2012, held an initial offering of stock to the public. In 2015, at age 31, he was among the richest people in the world, with wealth of over \$40 billion.<sup>1</sup>

Zuckerberg is a member of the Millennial generation—those who are born in one millennium, from 1982 through 2000, but become adults in another. Other Millennials have achieved great wealth through entrepreneurship, such as some participants in startup accelerators like Y Combinator, which provides funding and mentorship for companies at their earliest stages of development. Y Combinator was founded in 2005 and typically accepts 100 or more applicants per year. Hundreds of other accelerators have also been created since 2005.<sup>2</sup>

<sup>1</sup> Forbes (2015). The richest people in tech: 2015 ranking. *Forbes*. Accessed at <http://www.forbes.com/profile/mark-zuckerberg/> on September 14, 2015.

<sup>2</sup> Frankhauser (2013). The pros and cons of startup accelerators. *Mashable*. Accessed at <http://mashable.com/2013/06/11/startup-accelerator-growth/> on September 15, 2015.

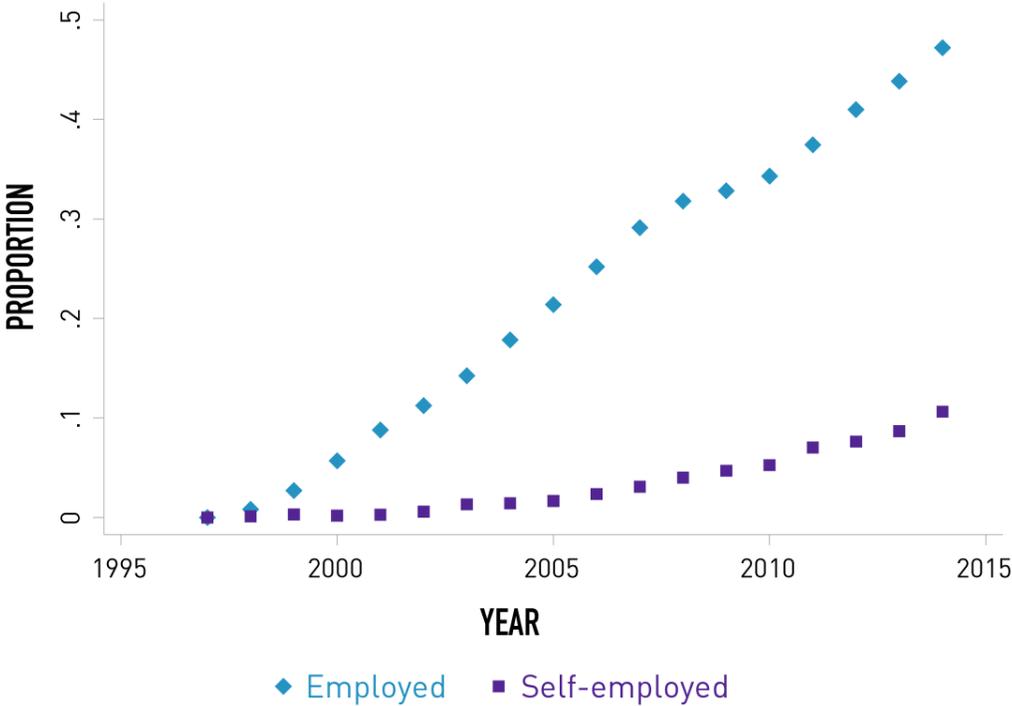
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The spectacular entrepreneurial successes of some Millennials and the proliferation of programs designed to replicate that success together create the impression of a generation in which entrepreneurship is thriving. However, our examination of survey data exposes a different reality. In 2014, less than 2 percent of Millennials reported self-employment, compared with 7.6 percent for Generation X (born 1963 to 1981) and 8.3 percent for Baby Boomers (born 1944 to 1962).

Figure 1 illustrates the relative scarcity of Millennial entrepreneurs. The figure shows the proportion of the employed constituted by Millennials growing over time. In 2014, over 47 percent of the employed were Millennials. The figure also shows the proportion of the self-employed constituted by Millennials growing much more slowly. In 2014, less than 11 percent of the self-employed were Millennials.

Figure 1: Trends in Millennial proportions of the employed and self-employed



Notes: Calculations by the author using data from the Current Population Survey by the US Census Bureau

The analysis presented here explores the forces contributing to low self-employment among Millennials. The probability of self-employment is shown to be strongly related to age, and the low self-employment among Millennials is partly a result of their youth. The probability of self-employment has also been changing over time, and the low self-employment among Millennials is also partly a result of decreasing rates of self-employment among the young. Trends among the age groups Millennials will join in future years suggest that self-employment is likely to remain relatively low among Millennials for decades.

## Data

The data analyzed here were originally gathered through the Current Population Survey (CPS), which is conducted by the Census Bureau on behalf of the Bureau of Labor Statistics. The CPS is the foremost source of data on the labor market in the United States and is used by the Bureau of Labor Statistics to measure employment. The data analyzed here were subsequently processed to facilitate analysis and then made publicly available online.<sup>3</sup>

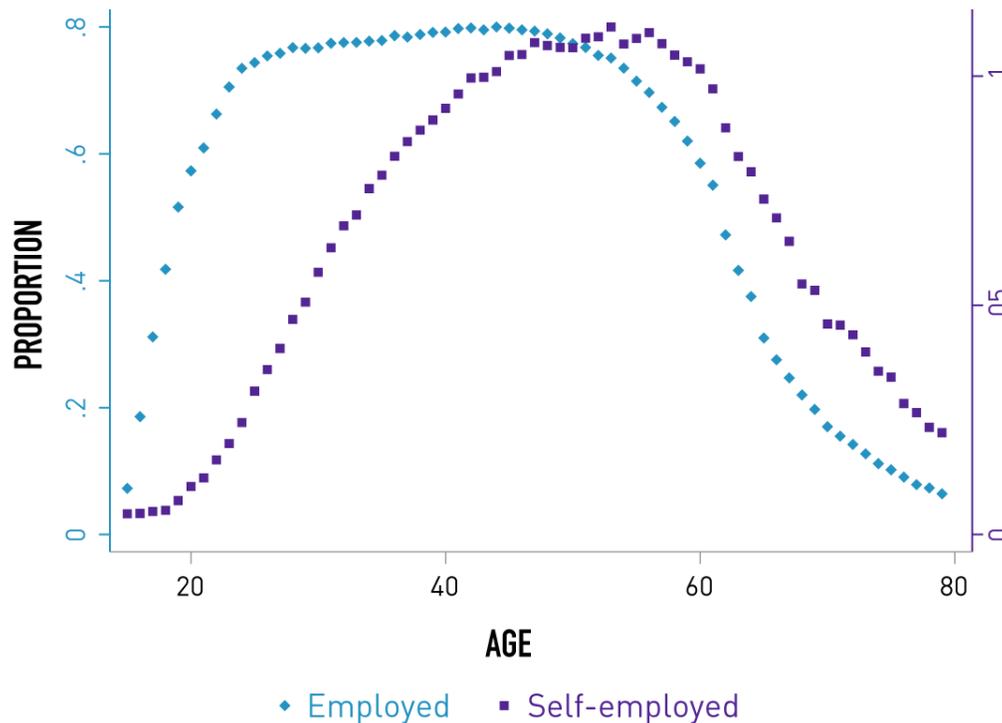
When this analysis was performed, 2014 was the most recent survey year for which data were available. The primary measure of self-employment used here is derived from questions introduced in 1988 about employment during the previous week. Therefore trends from 1988 to 2014 are examined here.

The definitions that respondents implicitly use when identifying themselves as self-employed may vary between respondents and may not coincide with all conceptualizations of entrepreneurship.<sup>4</sup> However, self-employment is closely related to entrepreneurship, and the CPS has several characteristics that make it attractive for this analysis. The CPS is representative of the population of interest, large enough to allow the precise measurement of relationships, and has been conducted over a period long enough to allow a meaningful examination of changes over time.

## Analysis

Millennials are the youngest group in these data, and their low rate of self-employment is related to their youth. Figure 2 shows how the proportion of the population that is employed and the proportion that is self-employed vary with age.

Figure 2: Age, employment, and self-employment



Notes: Calculations by the author using data from the Current Population Survey by the US Census Bureau

<sup>3</sup> Flood, Sarah, Miriam King, Steven Ruggles, and J. Robert Warren (2015). Integrated Public Use Microdata Series, Current Population Survey: Version 4.0. Minneapolis: University of Minnesota.

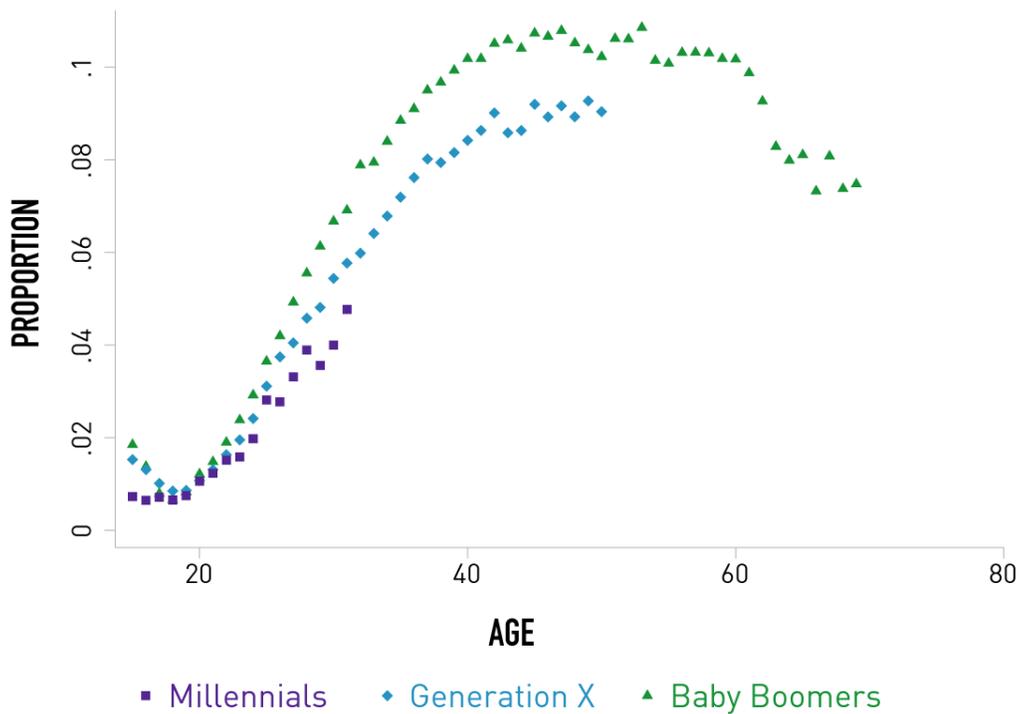
<sup>4</sup> For example, some respondents who drive as independent contractors for companies like Lyft or Uber may report self-employment while others may report employment by a private company. The appropriate legal classification of such drivers is, in fact, currently under dispute.

Figure 2 shows that age is strongly related to both employment and self-employment and that the relationships differ. People move quickly into employment with age, with over 70 percent of the population employed at age 23 and a peak of about 80 percent employment at age 44. Movement into self-employment is much slower, with less than 2 percent of the population self-employed at age 23 and a peak of over 11 percent self-employment at age 53.

The strong relationships in Figure 2 suggest that, because of differences in age across generations, a direct comparison of self-employment across generations will do little to illuminate trends in self-employment over time. This issue can be addressed by comparing self-employment across generations at each age. However, the data present a difficulty. Baby Boomers are defined in this analysis as those born from 1944 through 1962. The questions about employment in the previous week used to construct the measure of self-employment in Figure 2 were first asked in 1988.<sup>5</sup> Therefore no observations are available for that measure for Baby Boomers under 25.

However, analogous questions about employment in the previous year were introduced in 1976, and an alternative measure can be constructed yielding observations of self-employment for Baby Boomers at age 15, the youngest age considered in this analysis. Figure 3 shows rates of self-employment using the yearly measure for Millennials, Generation X, and Baby Boomers at each age for which observations were available through survey year 2014.

**Figure 3: Age and recent self-employment by generation**



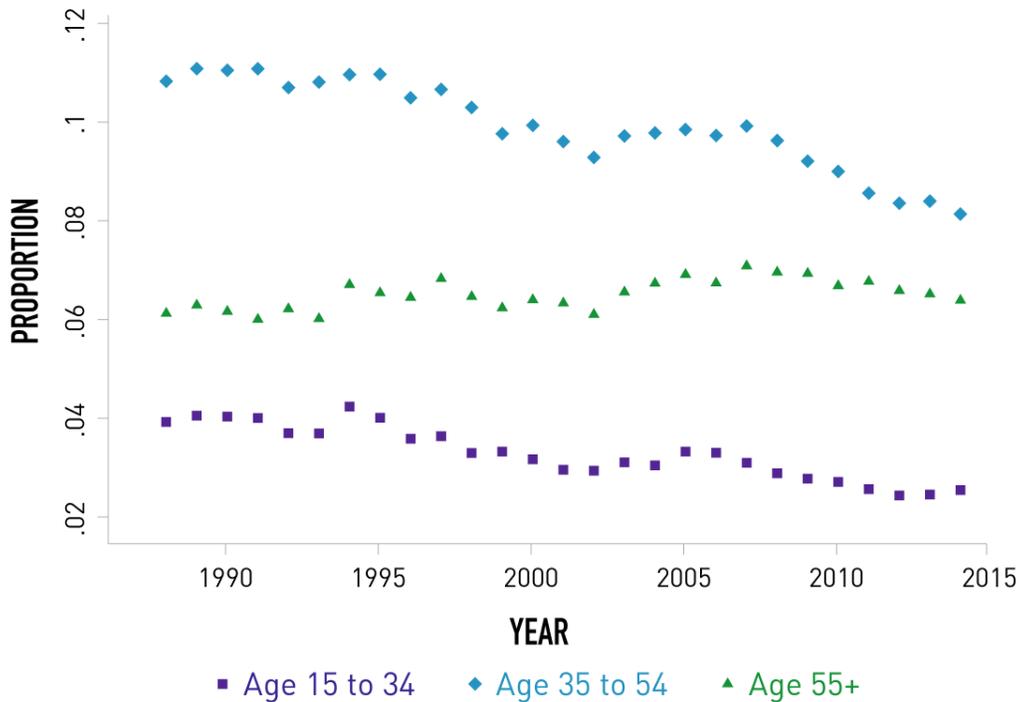
Notes: Calculations by the author using data from the Current Population Survey by the US Census Bureau

<sup>5</sup> Those who are self-employed may use one of several different legal arrangements, and some pay themselves through corporations they own. Questions about self-employment through such corporations in the preceding week were introduced in 1988.

Figure 3 shows that the low rates of self-employment among Millennials are not entirely a result of their relative youth. Rates of self-employment at each age have generally been decreasing since the Baby Boomers. At age 30, less than 4 percent of Millennials reported self-employment in their primary job in the previous year, compared with 5.4 percent for Generation X and 6.7 percent for Baby Boomers.

In 2014, those respondents classified as Millennials were younger than 32 years old. Likely future self-employment among Millennials can be explored by investigating trends over time for older groups. Figure 4 shows trends over time for those age 15 to 34, age 35 to 54, and age 55 and over.

Figure 4: Trends in self-employment by age group



Notes: Calculations by the author using data from the Current Population Survey by the US Census Bureau

Figure 4 shows that self-employment has decreased for those age 15 to 34, falling from about 3.9 percent in 1988 to about 2.6 percent in 2014. The decrease was larger for those age 35 to 54, falling from about 10.8 percent to about 8.2 percent. However, for those age 55 and over, self-employment increased slightly, rising from about 6.1 percent to about 6.4 percent. These results suggest that Millennial self-employment may continue to lag that of preceding generations for decades before perhaps matching and exceeding it at higher ages.

## Discussion

New businesses are important creators of both jobs<sup>6,7</sup> and innovation.<sup>8</sup> Low entrepreneurship among Millennials implies fewer new businesses and may therefore have negative implications for economic

<sup>6</sup> Acs, Zoltan J., and Pamela Mueller (2008). Employment effects of business dynamics: Mice, gazelles, and elephants. *Small Business Economics*, 30, 85-100.

growth. Furthermore, trends among older groups suggest that low self-employment among Millennials is part of a broader decline that encompasses preceding generations.

The close relationships between entrepreneurship, employment, and economic growth suggest that trends in entrepreneurship warrant further consideration. This report is the first in a series on trends in entrepreneurship. The analysis presented here revealed that, while self-employment has decreased for those under 55, it has increased at higher ages. Older entrepreneurs are sometimes called “encore entrepreneurs” because they have already reached the traditional retirement ages. The next report in the series will explore the rise of encore entrepreneurship.

Federal policies affect small businesses in many ways and therefore influence the attractiveness of starting new businesses. The cost of compliance with a given regulatory requirement is often largest relative to revenues for small businesses, and therefore new regulations may harm the viability of small businesses if business size is ignored when establishing requirements.<sup>9</sup> Trade agreements can encourage entrepreneurship by expanding markets.<sup>10</sup> Federal policy also affects entrepreneurs by shaping the physical and legal infrastructure<sup>11</sup> and by influencing the terms and availability of funding.<sup>12, 13</sup> Careful policymaking in each of these areas can encourage entrepreneurship and economic growth.

Although entrepreneurship has been relatively rare among Millennials, some, like Mark Zuckerberg, have already achieved spectacular success. For others, success may be waiting in the future. Several resources for aspiring entrepreneurs are available from the Small Business Administration at <https://www.sba.gov/thinking-about-starting>.



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<sup>7</sup> Haltiwanger, John, Ron S. Jarmin, and Javier Miranda (2013). Who creates jobs? Small versus large versus young. *The Review of Economics and Statistics*, 95(2), 347-361.

<sup>8</sup> Hansen, John A. (1992). Innovation, firm size, and firm age. *Small Business Economics*, 4, 37-44.

<sup>9</sup> For further discussion, see the Small Business Administration (SBA) Office of Advocacy’s guide for federal compliance with the Regulatory Flexibility Act, available at [https://www.sba.gov/sites/default/files/rfaguide\\_0512\\_0.pdf](https://www.sba.gov/sites/default/files/rfaguide_0512_0.pdf).

<sup>10</sup> Delehanty, Patrick. (2015). Small Businesses Key Players in International Trade. SBA Office of Advocacy. Accessed at <https://www.sba.gov/sites/default/files/advocacy/Issue-Brief-11-Small-Biz-Key-Players-International-Trade.pdf> on December 31, 2015.

<sup>11</sup> Porat, Jonathan. (2015). Patenting and Innovative Startups: Putting the America Invents Act in a Broader Economic Context. SBA Office of Advocacy. Accessed at <https://www.sba.gov/sites/default/files/advocacy/Issue-Brief-9-AIA-Patents-Small-Biz.pdf> on December 31, 2015.

<sup>12</sup> Segal, Miriam. (2015). Peer-to-Peer Lending: A Financing Alternative for Small Businesses. SBA Office of Advocacy. Accessed at [https://www.sba.gov/sites/default/files/advocacy/Issue-Brief-10-P2P-Lending\\_0.pdf](https://www.sba.gov/sites/default/files/advocacy/Issue-Brief-10-P2P-Lending_0.pdf) on December 31, 2015.

<sup>13</sup> Williams, Victoria. (2014). Small Business Lending in the United States 2013. SBA Office of Advocacy. Accessed at <https://www.sba.gov/sites/default/files/2013-Small-Business-Lending-Study.pdf> on December 31, 2015.