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Gross, net, and new job creation by entrepreneurs☆

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ABSTRACT

Using a dataset with over 24 million year-employment observations and the universe of more than 230,000 entries into entrepreneurship in one economy we analyze the gross (including the founders), net (excluding the founders), and new (jobs to the former unemployed or those outside the labor force) job creation by entrepreneurs two and six years after start-up. These novel measures of job creation show that the average entrepreneur does not create any jobs for any other than him/her-self, and typically arrives from having another job. Thus, short term job creation by entrepreneurs involves a reshuffling of jobs from older to new firms rather than creating new jobs.

1. Introduction

Over the past decade, policy makers have embraced entrepreneurship as an opportunity to create new jobs. Indeed, recent studies of aggregate employment growth show that most new employment is created by young companies that start small, often in new industries (Anyadike-Danes et al., 2015; Haltiwanger et al., 2013; Heyman et al., 2013; Fairlie and Miranda, 2016). A large portion of the recent shift in employment has thus been due to entrepreneurs.

Nevertheless, data limitations typically prevent computing how many employees entrepreneurs hire and from where the entrepreneurs and their hires come from since prior work history is often not observable. These data limitations can lead to serious errors in statistical inferences made and associated policy recommendations. For example, if most entrepreneurs arrive from prior employment and they tend not to hire anyone else, then there is no job creation, but simply a reshuffling of jobs from old to new firms. Yet, if their origin is not accounted for, the jobs by entrepreneurs in new firms may seem to policy makers like new to the economy.

In addition, there are various programs trying to create employment for the unemployed through entrepreneurship. These programs have sometimes met with success (Caliendo and Künn, 2011; Hombert et al., 2016). While these programs might (at least temporarily) move some unemployed into employment, it is not clear from prior studies how large a fraction of entrepreneurs that originates from unemployment. If this fraction is large, then such programs may make a big dent in unemployment. By recording the origin of entrepreneurs and their employees and by creating a precise measure of job creation for these contra other types of hires, we in this paper are able to show the importance of entrepreneurship for creating jobs for the prior unemployed.

Another major difficulty has been that owners of sole proprietorships are often not recorded as employees. Job creation analysis

has therefore been limited to employment growth in firms reporting at least one non-owner employee. This overstates employment growth if used to infer growth among all new businesses. Past studies can therefore only provide suggestive evidence of gross employment by all entrepreneurs (Davis et al., 2007; Shane, 2008; Parker, 2009; Hurst and Pugsley, 2011; Fairlie and Miranda, 2016).

This paper fills a void by suggesting three separate measures of job creation: the gross (including the founders), net (excluding the founders) and new (jobs to the former unemployed or from outside of the labor force) job creation per each entrepreneur. We use measures of job creation per founder because we want to avoid double-counting jobs created precisely when there are more than one founder in the firm. The idea is that in multiple-founder firms (say with 2 founders), an additional hire is allocated in equal fractions (here half) to each of the (two) founders. If we did not do so, the additional hire would be counted twice, once for each of the founders, and job growth would be overstated. We provide summary statistics using 24 million year-employment observations and the universe of more than 230,000 entries into entrepreneurship in Sweden and differentiate between sole proprietors and those starting incorporations.

We show that the average entrepreneur does not create any jobs for any other than him/her-self. Job creation for others is almost non-existent among sole proprietors, and a trivial number of sole proprietors reform into corporations. Further, the average entrepreneur typically arrives from having a job so that even for herself there is no new job created, but simply a reshuffling of jobs from older to new firms. Finally, the aggregate gross number of jobs created by sole proprietors is consistently higher than those created by incorporated firms simply because there are more than five times as many new sole proprietors as there are owners of incorporated firms. These data show some startling lack of new job creation by entrepreneurs in the short run.

2. Measures of job creation

Consistent with Swedish tax authorities we define an individual as entrepreneur if she derives the majority of her taxable income from a business she owns in full or in part. We further define an individual as entering entrepreneurship in any given year if the following criteria are simultaneously fulfilled:

1. *Occupied in own business.* An individual is classified by Statistics Sweden as working in her own company in the current year.
2. *New place of work.* The individual's current firm and establishment identifiers are both different from those of the previous year, and
3. *New firm.* No individual in our sample worked for the firm in the previous year.

Statistics Sweden further distinguishes between incorporated firms and sole proprietorships. A sole proprietorship is a business owned and run by a person in which there is no legal distinction between the owner and the business, and the owner pays personal income tax on profits from the business. Incorporation involves limited liability and a separate legal identity with stricter reporting and auditing rules, and an upfront cash contribution of SEK 100,000 deposited into an escrow account.

To measure gross employment created by each entrepreneur we use the total number of employees including owners two years after the firm's founding, and divide by the number of entrepreneur-owners at the firm at founding. Specifically, at time $t + s$ gross employment equals:

$$G_{t+s} = \frac{E_{t+s}}{F_t}$$

(1)

where G_{t+s} is gross jobs at $t + s$, E_{t+s} is employment at the firm at $t + s$, F_t is the number of founding entrepreneurs, and s measures the number of years since founding. Thus, $s = 0$ is the first year of operation of the business, and we use $s = 2$ in our main specification. For the earliest available cohort in the sample we use $s = 6$ and study job creation over a six year period.

We define net job creation for others in the following way. Net jobs measures employment growth in the firm two years after founding while subtracting the number of entrepreneurs at the firm in that year (and dividing by the number of entrepreneurs at founding). Specifically, at time $t + s$ net employment equals:

$$N_{t+s} = \frac{E_{t+s} - F_{t+s}}{F_t}$$

(2)

where N_{t+s} is net jobs at $t + s$, E_{t+s} is total employment at the firm at $t + s$, and F_t is the number of entrepreneurs at the firm at t, and s measures the number of years since founding.

To measure new job creation we use the number of employees including owners which originated from non-employment prior to entering the firm. We define non-employment as not having a firm-affiliation and it thus includes, for example, unemployed, students, those arriving from abroad, and stay-at-home parents. Specifically, at time $t + s$ new employment equals:

$$J_{t+s} = \frac{U_{t+s}}{F_t}$$

(3)

where J_{t+s} is new jobs at $t + s$, U_{t+s} is employment at the firm at $t + s$ originating from non-employment in $t - 1$, and F_t is the number of entrepreneurs at the firm at t, and s measures the number of years since founding .