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Entrepreneurial employees: Are they different from independent entrepreneurs?

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Abstract:

This paper uses individual-level data from the Swedish 2011 Global Entrepreneurship Monitor (GEM) to investigate differences with respect to individual characteristics associated with independent entrepreneurs (nascent entrepreneurship and new business ownership) and entrepreneurial employees. Are there any differences with respect to gender, age, income and education associated with these different forms of entrepreneurship? Furthermore, it can be argued that an entrepreneurial employee differs with respect to attitudes and perceptions about entrepreneurship. Do attitudes and perceptions about entrepreneurship, for example, perceiving entrepreneurship as good career choice, or the fear of failure differ between entrepreneurial employees and independent entrepreneurs? Our empirical findings shows what differs between entrepreneurial employees and independent entrepreneurs are their perceptions about opportunities and capabilities. Moreover, the probability of becoming an entrepreneurial employee increases with the level of education.

Keywords: Entrepreneurial employees; Global Entrepreneurship monitor; Sweden

JEL: L26; D20; J24

1. Introduction

Entrepreneurship research has, until recently, mainly focused on the decision to become an independent entrepreneur i.e., to become a manager-owner of a new venture or self-employed, However, entrepreneurial behaviour can also be found within existing organisations. This type of entrepreneurship is often denoted intrapreneurship (Pinchot, 1985). We know considerably less about entrepreneurship in existing organizations. As both types of entrepreneurship are important for innovation, productivity and economic growth, it is of importance to also enhance our theoretical and empirical understanding about entrepreneurship in existing organisations (Honig, 2001). Earlier research assumes that entrepreneurs and intraprenurs are similar with respect to cognitive styles and risk attitudes (Hisrich, 1990) and Hitt 2002) and human capital (Parker, 2011 and Menzel et. al, 2007). Nevertheless, a recent empirical study by Douglas and Fitzsimmons (2012) find that there are important differences between intrapreneurial and entrepreneurial intentions with respect to, for example, autonomy and risk attitudes. This paper contributes to the empirical literature on the differences of individual characteristics and attitudes between independent entrepreneurs (nascent entrepreneurs and new business owners) and entrepreneurs in existing organizations. In the empirical part of the paper we use the measure of entrepreneurship in existing organization developed by Global Entrepreneurship Monitor (GEM). The purpose of this paper is to investigate if there are any differences with respect to gender, age, and education between entrepreneurial employees activity and independent entrepreneurs? Furthermore we explore differences with respect to attitudes in terms of perceived opportunities and capabilities, fear of failure and status of entrepreneurship. The empirical part of the paper uses individual–level data from the Swedish 2011 GEM-survey to investigate if there are any differences with respect to individual characteristics between independent entrepreneurship (nascent entrepreneurship and new business ownership) end entrepreneurial employees.

According to the 2011 GEM-study Sweden has the highest prevalence of entrepreneurial employees among all 52 countries participating in the GEM-theme on entrepreneurial employee activity. In Sweden 13.5 per cent of the adult population are currently involved in entrepreneurial employee activity (Kelly, Singer and Herrington (2012). The cross-country differences of types of entrepreneurial activities can to some extent be explained by institutional differences. In an influential article Baumol, (1990) argues that:

"The basic hypothesis is that, while the total supply of entrepreneurs varies among societies, the productive contribution of the society's entrepreneurial activities varies much more because of their allocation between productive activities such as innovation and largely unproductive activities such as rent seeking or organized crime. This allocation is heavily influenced by the relative payoffs society offers to such activities." (Baumol 1990, p. 893)

Analogous arguments are valid for the distribution between independent entrepreneurship and entrepreneurship in existing companies. Bager and Schøtt (2012) argues that cross-country differences in entrepreneurial activities among employees can, at least partly, be explained by differences in welfare state models, variations in national and work-place cultures and management traditions. These differences in institutional conditions influence the perceptions of entrepreneurial activity and ultimately which individuals who will be involved in entrepreneurial employees activity and independent entrepreneurship respectively.

This paper is organized as follows. Section 2 discuss the theoretical framework of the paper and provide an overview of previous empirical research. Section 3 describes the data and methodology. Section 4 presents and discusses the empirical findings. Section 5 concludes the paper and provides policy implications and some suggestions for future research.

2. Entrepreneurial employees - theory and previous studies

Entrepreneurship in existing organizations may take many different forms and in the literature different terminologies are used. The literature distinguishes between "top-down process" and "bottom-up" process of entrepreneurial activities among employees. Top-down process refers to management initiatives to foster innovation and development of new businesses among employees (Bosma et. al 2011). The terminology for this type of entrepreneurial activity in existing organizations may include, corporate entrepreneurship, corporate venturing, and strategic renewal (Sharma and Chrisman, 1999). Intrapreneurship is instead used for bottom-up initiatives where innovative and entrepreneurial activities are initiated by employees themselves.

When defining and operationalizing entrepreneurial activities among employees the Global entrepreneurship monitor (GEM) focus on the individual who takes a leading role in the creation and development of new business ventures. This implies that the measure used by GEM can be regarded as both taking a "top-down" and a "bottom-up" perspective (Bosma et.

al 2012). In the GEM-study entrepreneurial employees are defined as: "employees developing new activities for their main employer, such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary" (Bosma et. al., p.53). In the following sections the possible differences between entrepreneurial employees and independent entrepreneurs with respect to individual characteristics and attitudes are discussed respectively.

Individual characteristics

There is now substantial empirical research available regarding the individual characteristics which influence independent entrepreneurial activities. According to Parker (2009), who summarizes a large part of the empirical evidence on individual characteristics associated with entrepreneurship, the probability of becoming an entrepreneur increases with age. The positive relationship between age and independent entrepreneurship can be found due to the fact that the potential entrepreneur, for example, acquires more experience and develop their social network with age. However, it can be argued that the entrepreneurial activities tend to decrease as individuals approaches retirement age. Hence, an inverted U-shaped relationship between age and entrepreneurship can be expected. Regarding entrepreneurial employees Bosma et al (2012) find that the highest frequency of entrepreneurial activity in the category 35-44 years which is slightly higher than for independent entrepreneurs. They also suggest an inverted U-shaped relationship between entrepreneurial employee activity and age. To empirically test this relationship a squared age variable can be introduced in the empirical analysis. Note that the study by Bosma et al (2012) use individual data for all 52 countries included in the GEM 2011 special topic on entrepreneurial employees. However, it should be stressed that the empirical analysis in Bosma (2012) is performed either by comparing group means or correlations. No multivariate regression analysis is performed. Douglas and Fitzsimmons (2012) do not find any statistically significant relationship between intrapreneurial intentions and age.

Regarding gender differences in the propensity to become independent entrepreneurship Parker, (2009) summarize the empirical evidence and conclude that, women are less likely than men to become entrepreneurs. The gender differences in independent entrepreneurship rates may have several explanations. Firstly, occupational choice is influenced by social structures which result in differences between men and women concerning experiences of business activities (Brush, 2006). Secondly, Brush (2006) argues that the socialization of

women may imply that they have different goals and perspectives than men. Hence, the type and extent to which women decide to engage in entrepreneurial activities differs. Finally, it is often claimed that women may have less access to financing. However, there is, according to Parker (2009), few empirical studies that indicate discrimination against women in the credit market. Nevertheless, women may have less access to self-finance since they receive lower wages. For entrepreneurial employees Bosma et al. (2012) find that men have a significantly higher propensity to be entrepreneurial employees. It is hypothesized that lower labour market participation rate among women may be one explanation. Douglas and Fitzsimmons (2012) do not find any statistically significant relationship between intrapreneurial intentions and gender.

Education and income can be expected to be positively related to entrepreneurial activity. It can be argued that a certain amount of human capital is required in order to be involved in innovative and entrepreneurial activities. Furthermore, well educated employees, in general, have jobs with more independence which may for instance imply that they have access to social networks required for entrepreneurial activities. On the other hand since education and income are correlated the opportunity cost of leaving an employment for independent entrepreneurship may be high. For entrepreneurship in existing organization this argument is of less importance. Even if the evidence is far from conclusive most empirical studies find a positive relationship between education and independent entrepreneurship (Parker, 2009). Furthermore, it can be argued that this relationship is non-linear. Such patterns may be detected by introducing dummy variables for different categories of education in the empirical analysis. Bosma et. al. (2012) and De Jong et. al. (2011) finds a positive correlation between education level and measures of entrepreneurial employee activity. Douglas and Fitzsimmons (2012) find that individuals with prior doctoral education are less likely to have intrapreneurial intentions. For other levels of education they do not find any statistically significant relationship between intrapreneurial intentions and education.

Attitudes and perceptions

Which risks are entrepreneurial employees exposed to? According to Bosma et. al. (2012) 30 per cent of the entrepreneurial employees in innovation driven countries experience that they take a risk when deciding to get involved in these activities. The risk that they take is primarily loss of status or damages of their career. However, a majority of the entrepreneurial employees experience a strong support from their employees and in most cases the

entrepreneurial activity is strongly related to the technology, product and services of their employers. This indicates that an important part of the entrepreneurial employee activity may be "top-down" processes. Nevertheless, entrepreneurial activities among employees may be one important step towards independent entrepreneurship. According to Bosma et. al. (2012), the share of individuals who have intentions to become independent entrepreneurs is significantly higher among entrepreneurial employees. According to Douglas and Fitzsimmons (2012) self-efficacy is associated to both entrepreneurial and intrapreneurial intentions, while income independence and ownership are positively related to entrepreneurial intentions. They also find that individuals with intrapreneurial intention have less tolerance for risk. Bosma et. al. (2012) find a negative correlation between the perception of entrepreneurship as a good career choice and involvement in entrepreneurial employee activity.

3. Data and Methodology

The Global Entrepreneurship Monitor (GEM) is an international research initiative to measure entrepreneurship activities across countries.[1] In 2011 54 countries participated in the survey. The GEM-survey addresses the individuals' attitudes and perceptions about the conditions for entrepreneurship and their current state of entrepreneurial activity. The GEM-methodology implies that stratified samples of 3,100 Swedish individuals are interviewed either by phone or an internet survey. We focus our study on individuals in the age 18-64 and use weights in our regression analysis to ensure the age representativeness.

As previously mentioned entrepreneurial employees are defined as individuals who currently are involved in the development of new activities for their main employer. In addition to just answering yes or no to the above posed question respondents were also asked to describe the nature of their entrepreneurial activity. The activities mentioned vary of course substantially. The examples of entrepreneurial employee activity varies from relatively incremental improvements such as constructing a new administrative form to high tech products were respondents replied that their activities as entrepreneurial employees was extremely secret so they could not even tell the interviewer. Other examples of entrepreneurial employees' activities mentioned by the respondents include reorganisation, organisation development,

[1] See www.gemconsortium.org for details about the GEM data collection method and to find the questionnaire used in this survey.

involvement in educational activities (internal or external) work environment, acquisitions and develop of new prototypes.

In this paper we use a definition of independent entrepreneurship based on the GEM-methodology. The GEM-measure of entrepreneurship includes nascent entrepreneurship i.e. people who are currently setting up a new business, and very young businesses (up to 42 months). These are business which may not yet be reported in official statistics.[2] As previously mentioned the GEM-survey also measures the perceived knowledge and skills for entrepreneurial activities and attitudes towards entrepreneurship. For this study the questions in the GEM-survey which concerns "attitudes" and "activity" as well as information about the individual characteristics such as gender, age and education are the relevant questions.[3] Table 1 provide definitions of variables and their associated survey questions. When we construct the education dummy variables individuals with primary or first stage of basic education is used as comparison.

[2] See e.g. Glancey and McQuaid, (2000) or Wennekers and Thurik (1999) for a discussion on various definitions of entrepreneurship.
[3] It would also be interesting to study if there are any differences across sectors. However, there are no consistent indicator for industry sector for both independent entrepreneurship and entrepreneurial employee activity.

Table 1: Description of variables

Variable name	Description	Question asked in GEM
ENTEMP	1 if entrepreneurial employee; 0 if independent entrepreneur	*Entrepreneurial employee activity:* In the last three years, have you been involved in the development of new activities for your main employer? Combined with: And are you currently involved in the development of such new activity? [4] *Independent entrepreneur:* Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others? Combined with: Are you, alone or with others, currently the owner of a business you help manage, self-employed, or selling any goods or services to others? Combined with: The business should be up to 42 months old i.e. if they are involved in total early-stage entrepreneurial activity.
Individual characteristics		
AGE	Continuous variable	What is your current age (in years)?
AGESQ	Continuous variable	Age squared
GENDER	1 if female; 0 if male	What is your gender?
EDULOWSEC	1 if lower secondary or second stage of basic education; 0 otherwise	What is the highest level of education you have completed? (UN harmonized educational attainment)
EDUUPSEC	1 if upper secondary education; 0 otherwise	What is the highest level of education you have completed? (UN harmonized educational attainment)
EDUPOSTSEC	1 if post-secondary non-tertiary education; 0 otherwise	What is the highest level of education you have completed? (UN harmonized educational attainment)
EDUTERT	1 if tertiary education; 0 otherwise	What is the highest level of education you have completed? (UN harmonized educational attainment)
Attitudes and perceptions		
KNOWENT		Do you know someone personally who started a business in the past 2 years?
OPPORT	1 if yes; 0 if no	In the next six months, will there be good opportunities for starting a business in the area where you live?
SUSKILL	1 if yes; 0 if no	Do you have the knowledge, skill and experience required to start a new business?
FEARFAIL	1 if yes; 0 if no	Would fear of failure prevent you from starting a business?
EQUALINC	1 if yes; 0 if no	In my country, most people would prefer that everyone had a similar standard of living.
GOODCAREER	1 if yes; 0 if no	In my country, most people consider starting a new business a desirable career choice.
STATUS	1 if yes; 0 if no	In my country, those successful at starting a new business have a high level of status and respect.
MEDIA	1 if yes; 0 if no	In my country, you will often see stories in the public media about successful new businesses.

[4] Note that entrepreneurial employees may simultaneously be involved in nascent entrepreneurship. This is the case for 28 entrepreneurial employees.

Table 2 present the descriptive statistics for all variables. The correlation matrix reported in Appendix A does not indicate any strong correlations between the independent variables. Hence, we do not expect any problems with multicollinerity. Since the dependent variable has a binary outcome (yes/no) a logit-model is estimated.[5] The estimation is corrected for heteroscedasticity by using robust standard errors.[6] In order to be able to interpret the size of the effects marginal effects are calculated.

Table 2: Descriptive statistics

Variable	N	Mean	Std. Dev.	Min	Max
ENTEMP	365	0.852	0.355	0	1
GENDER	365	0.512	0.500	0	1
AGE	365	45.619	10.082	18	64
EDUPRIM	365	0.011	0.1042	0	1
EDULOWSEC	365	0.019	0.137	0	1
EDUUPSEC	365	0.312	0.464	0	1
EDUPOSTSEC	365	0.118/	0.323	0	1
EDUTERT	365	0.540	0.499	0	1
KNOWENT	365	0.542	0.499	0	1
OPPORT	365	0.827	0.378	0	1
SUSKILL	365	0. 529	0.500	0	1
FEARFAIL	365	0.321	0.467	0	1
EQUALINC	365	0.548	0.498	0	1
GOODCAREER	365	0.490	0.501	0	1
STATUS	365	0.699	0.459	0	1
MEDIA	365	0.653	0.473	0	1

4. Empirical results

Table 3 present the results of the logit-estimation. The empirical results show a statistically significant positive relationship between the higher levels of education and the probability of being involved in entrepreneurial employee activity. This is in line with our hypothesis that

[5]See e.g. Greene, (2003) for further details about logit-models.
[6] The Huber/White/sandwich estimate of variance is used.

the level education will influence the potential for entrepreneurship, but for entrepreneurial employees an expected lower opportunity cost of being an independent entrepreneur isn't relevant since they keep their salary from their paid work. These findings are in line with the previously mentioned findings by Bosma et. al. (2012) and De Jong et. al. (2011). More specifically the marginal effects seem to increase with the level of education and hence the largest effect can be seen for individuals with tertiary education.

Contrary to Bosma et. al. (2012) the results do not indicate any gender differences. One possible explanation is that the labour market participation rate is relatively high among Swedish women.[7] Neither do we find any statistically significant relationship between age and the probability of being involved in entrepreneurial employee activity.[8]

If we turn to differences in attitudes and perceptions, the results do not indicate any statistically significant differences between entrepreneurial employees and independent entrepreneurs with respect to the three measures of societal attitudes; entrepreneurships is perceived as a good career choice, perceptions about high status to successful entrepreneurs and media attention for entrepreneurship. What really distinguish entrepreneurial employees from independent entrepreneurs are their perceptions about opportunities and capabilities. Entrepreneurial employees do think that there are good opportunities for starting a business. However, they to a lesser extent than independent entrepreneurs perceive that they have the knowledge, skill and experience required to start a new business. In addition, the fear of failure to a larger extent than independent entrepreneurs prevents them for starting a business. If we have a look at the size of the effects, the lack of perceived capabilities seems to be the most important difference between independent entrepreneurs and entrepreneurial employees. Finally, there is also a difference between entrepreneurial employees and independent entrepreneurs with respect to the perception of if they perceive that most people would prefer that everyone had a similar standard of living

[7] The female employment rates were in the age 25-64 in 2008 was almost 80 per cent which ranks Sweden top tree among OECD countries. (OECD, 2012)

[8] Note that if we run the regression without using the age weights we find that age is statistically effect and in addition the squared age variable has a negative sign. Hence if weights are not used our findings would confirm the previous mentioned pattern of an inverted U-shaped relationship between age and entrepreneurial employee activity.

Table 3: Logit-estimation results

	Marginal effect	Robust Std. Err.
Individual characteristics		
GENDER	-0.058	0.430
AGE	0.018	0.131
AGESQ	$-2.157*10^{-4}$	0.001
EDULOWSEC	0.096	1.131
EDUUPSEC	0.201	0.856**
EDUPOSTSEC	0.216	1.011**
EDUTERT	0.283	0.849**
Attitudes and perceptions		
KNOWENT	-0.073	0.485
OPPORT	0.088	0.527*
SUSKILL	-0.298	0.738***
FEARFAIL	0.113	0.577**
EQUALINC	-0.087	0.433**
GOODCAREER	-0.033	0.440
STATUS	0.014	0.480
MEDIA	-0.011	0.520
N=365		
Pseudo R2= 0.278		

Marginal effects are reported in the table.

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

5. Conclusions and suggestions for future research

In this paper we have explored the differences with respect to individual characteristics, attitudes and perceptions associated with entrepreneurial employees and independent entrepreneurs (nascent entrepreneurship, and new business ownership). In the paper individual-level data on entrepreneurial employees from the Swedish 2011 Global Entrepreneurship Monitor is used. Our empirical results show that there are important differences between independent entrepreneurs and entrepreneurial employees with respect to their perceptions of capabilities. Entrepreneurial employees do think that there are good

opportunities for starting a business. However, they to a lesser extent than independent entrepreneurs, perceive that they have the knowledge, skills and experience required to start a new business. In fact, this lack of perceived capabilities seems to be the most pronounced difference between independent entrepreneurs and entrepreneurial employees. In addition, the fear of failure to a larger extent than independent entrepreneurs prevents them for starting a business. The level of education is also a distinct difference between independent entrepreneurs and entrepreneurial employees. The probability of becoming an entrepreneurial employee increases with the level of education.

Which implications do these findings have? Should entrepreneurial employees be encouraged to become independent entrepreneurs? This is not necessarily the case. It may be the case that the societal benefits from the entrepreneurial activities within an organisation are larger than they would be in independent entrepreneurship. It could for example be mentioned that Bosma et. al. (2012) finds that entrepreneurial employees have significantly higher expectations about employment growth than independent entrepreneurs. Furthermore it would be interesting to more specifically study which skills and capabilities the independent entrepreneurs experience that they lack. Moreover, it would be interesting for future research to study under which circumstances entrepreneurial employees decide to become independent entrepreneurs.

Knowledge about the characteristics and perceived obstacles of entrepreneurial employees should be of great interests to policymakers. The empirical literature on the characteristics of independent entrepreneurs and the relationship between independent entrepreneurship and productivity, employment and economic growth is quite substantial (see e.g. van Praag, & Versloot, 2007, Nyström, 2008 and Parker, 2009 for literature overviews). We know considerably less about the societal effects of entrepreneurial employees. However, Bosma et al. (2012) find a positive and statistically significant correlation between entrepreneurial employee activity and economic development as measured by GDP per capita. The access to internationally comparable data available from GEM 2011 on entrepreneurial employees' activity will most definitely result in further empirical knowledge about the characteristics and importance of entrepreneurial employees.

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Appendix A Correlation table

	ENTEMP	AGE	GENDER	EDUPRIM	EDULOWSEC	EDUUPSEC	EDUPOSTSEC	EDUTERT	KNOWENT	OPPORT	SUSKILL	FEARFAIL	EQUALINC	GOODCAREER	STATUS	MEDIA
ENTEMP	1.000															
AGE	-0.0027	1.000														
GENDER	0.0875	0.0382	1.000													
EDUPRIM	0.1044	0.0693	-0.0552	1.000												
EDULOWSEC	0.1105	0.0132	-0.0234	-0.0147	1.000											
EDUUPSEC	-0.0355	0.0356	-0.1231	-0.0709	-0.0942	1.000										
EDUPOSTSEC	-0.0632	0.0231	-0.0855	-0.0385	-0.0511	-0.2463	1.000									
EDUTERT	0.1261	0.0000	0.1877	-0.1140	-0.1514	-0.7298	-0.3957	1.000								
KNOWENT	-0.1503	-0.1729	-0.0489	0.0438	-0.0320	-0.0574	-0.0566	0.0566	1.000							
OPPORT	-0.0270	-0.0274	-0.0395	0.0481	-0.0419	-0.0051	0.0320	-0.0145	0.1044	1.000						
SUSKILL	-0.3470	0.0068	-0.2732	-0.0061	0.0920	-0.0507	0.1407	-0.0679	0.2237	0.1933	1.000					
FEARFAIL	0.1705	-0.0953	0.0829	-0.0723	-0.0532	0.0185	-0.0689	0.0571	-0.0998	-0.0902	0.2924	1.000				
EQUALINC	-0.0684	-0.0251	0.1601	0.0956	-0.0335	-0.0055	-0.0437	0.0227	-0.0607	-0.1527	-0.1406	0.0695	1.000			
GOODCAREER	-0.0389	0.0692	-0.0297	0.0547	0.1026	-0.0107	0.1685	-0.1387	-0.0671	0.0275	-0.0181	0.1012	0.0321	1.000		
STATUS	0.0963	-0.0764	0.0520	0.0118	0.0048	-0.1371	0.0548	0.0883	-0.0039	0.0002	-0.1535	0.1185	0.0447	-0.2502	1.000	
MEDIA	-0.0359	0.1475	0.0350	-0.0363	0.0152	-0.0323	0.0268	0.0161	-0.0149	0.0271	0.0353	-0.0195	0.0512	0.1081	0.1633	1.000