

Are we seeing ‘necessity’ or ‘opportunity’ entrepreneurs at large?

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ABSTRACT

Are new business owners attracted or forced to go entrepreneurial? An ‘opportunity’ entrepreneur starts a new business by exploiting an identifiable business opportunity whereas a ‘necessity’ entrepreneur does so in order to survive poverty and/or unemployment. Using the entrepreneurial activity data collected and maintained by the Kauffman Foundation on responses provided by individuals who became new business owners from 2005 to 2010, it is found that the unemployment rate has a positive impact on the number of individuals going entrepreneurial. This relationship remains significant even after controlling for locality, business cycle and seasonality. This suggests that individuals are in general forced to become entrepreneurs after they have become unemployed. In other words, a significant number of the new business owners are likely ‘necessity’ entrepreneurs.

Keywords: entrepreneur, necessity, opportunity, unemployment, economic growth



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INTRODUCTION

There are many reasons why an individual chooses to become a business owner, in other words, an entrepreneur. It could be the need for achievement, a propensity for risk-taking or the need for survival (Benzing & Chu, 2009; Hessels, Van Gelderen, & Thurik, 2008). Specifically, Shane, Kolvereid, & Westhead (1991) identified four factors (recognition, independence, learning and roles) whereas Birley & Westhead (1994) recognized seven factors (need for approval, need for independence, need for personal development, welfare considerations, perceived instrumentality of wealth, tax reduction, and following role models). Carter et al. (2003) extended these factors further and developed six related categories of reasons including innovation, independence, recognition, roles, financial success and self-realization. Job loss has also been commonly quoted as one of the triggering personal events leading to an entrepreneurial venture (Bygrave, 1989).

It has been found that many young people start their own businesses and become entrepreneurs. At the same time, entrepreneurship is often considered the solution to problems such as rising youth unemployment (Chigunta et al., 2005). Young people are increasingly being encouraged to switch from 'job seekers' to 'job creators' (Langevang & Gough, 2012). However, the majority of them are not well equipped and belong to the group of 'necessity' entrepreneurs instead of 'opportunity' entrepreneurs. 'Necessity' entrepreneurs in general do not have much growth ambition in their businesses. Thus, they have only limited impact on the development of the economy. On the other hand, 'opportunity' entrepreneurs start their businesses out of an identified market opportunity. In this way, they are assumed to help build the economy further (Africa Commission, 2009; Chigunta et al., 2005; Garcia & Fares, 2008; Langevang, Namatovu, & Dawa 2012).

Prior research shows that unemployed individuals often found no job opportunities with either big or small companies. This is particularly true during periods of recession. The lack of business opportunities for firms of all sizes necessitates the reengineering of their business processes and the reduction of staff so as to cut costs and survive. This results in the elimination of some key positions and/or large scale layoffs, depending on the individual firm's condition and situation. While unwilling to return to their former companies, which might still be hiring, the newly terminated employees try to exploit other outside opportunities. One such alternative is to go entrepreneurial, switching from a 'job seeker' to a 'job creator' (Carter, 2004).

Using the Kauffman Index of Entrepreneurial Activity Data from 2005 to 2010 and the Poisson regression of the number of individuals who became a business owner each month on the monthly local (state) unemployment rate, it is found that there is a significantly positive association between them. The same relationship exists even when the model is controlled for the business cycle (year), seasonality (month), and locality (state). These findings provide some additional evidence to support the existence of 'necessity' entrepreneurs at large.

This paper is organized as follows. Section 2 gives a detailed account of the previous studies related to the differences between the two types of entrepreneurs – 'necessity' and 'opportunity'. Section 3 presents the hypotheses, data and research method used for this study. Section 4 provides some descriptive statistics for the study sample. Section 5 discusses the findings, followed by the concluding remarks in Section 6.

LITERATURE REVIEW

The distinction between ‘necessity’ and ‘opportunity’ entrepreneurs was originated in the 1980s and became popular in 2001 when the Global Entrepreneurship Monitor (GEM) introduced the terms in its data collection and reporting process (Reynolds et al., 2002). ‘Necessity’ entrepreneurs are those people who are forced to go entrepreneurial for reasons such as poverty and lack of employment opportunities. Starting a business is not their prime consideration until they have exhausted other options. In order to survive over poverty and/or unemployment, they are forced to be entrepreneurs. Or, they might be advised to try self-employment and be entrepreneurs as an alternative to the current life circumstances. On the other hand, ‘opportunity’ entrepreneurs are those who desire to go entrepreneurial to exploit some identifiable business opportunities (such as the perception of a market opportunity, an innovative idea or an existing network to exploit). Thus, ‘necessity’ entrepreneurial activities are commonly observed to occur in the traditional (and informal) sectors whereas ‘opportunity’ entrepreneurial activities occur in the modern sectors (Caliendo & Kiritkos, 2010; McClelland, 1961; Shane et al., 1991; Storey, 1991; Clark & Drinkwater, 2000; Birley & Westhead, 1994; Wagner, 2007; Naudé, 2011; Gries & Naudé, 2010; Desai, 2011).

It is obvious that the opportunity cost to an unemployed individual to become an entrepreneur is significantly lower than an individual who is employed (Amit, Muller, & Cockburn, 1995). Along with this line of thoughts, and based on the definitions mentioned previously, ‘opportunity’ entrepreneurs have, in general, a much higher opportunity cost than ‘necessity’ entrepreneurs. Since ‘opportunity’ entrepreneurs are attracted to self-employment with the identification of some business opportunities, they are more likely to establish new firms in good economic conditions (when the unemployment rate is low). On the other hand, ‘necessity’ entrepreneurs are often driven into self-employment when they become unemployed. Therefore, it is not uncommon to find more ‘necessity’ entrepreneurs in periods of rising and high unemployment (Deli, 2011).

It has been found by the GEM that the number of ‘necessity’ entrepreneurs existing in a country varies directly with the poverty level of the country (Rosa, Kodithuwakku, & Balunywa, 2006). In other words, compared to rich countries, poor ones are having more entrepreneurs relative to their active working population. Another piece of evidence for this is that entrepreneurs in developing countries are found to be motivated by the desire to increase their incomes and improve their living standards, in addition to gaining personal growth and satisfaction (Benzing & Chu, 2009). Ugandan entrepreneurs are shown to be motivated by the desire to improve their livelihoods and to gain independence brought about by entrepreneurship (Bewayo, 1995; Rosa, Kodithuwakku, & Balunywa, 2006). As ‘necessity’ entrepreneurs are individuals who are forced into entrepreneurship (starting a new business), they are assumed to have little ambition for growing their businesses (Olomi, 2009). These entrepreneurs are also assumed to be pushed into entrepreneurship by life circumstances instead of actively seeking business opportunities (Langevang, Namatovu, & Dawa, 2012).

There have been debates whether start-ups by unemployed individuals belong to the ‘necessity’ end or the ‘opportunity’ end of the spectrum (Bosma & Harding, 2007). These people may not start their own businesses if they can get a job again soon after they become unemployed (Evan & Leighton, 1990; Storey, 1991; Masuda, 2006). ‘Necessity’ entrepreneurs simply hire just themselves and will unlikely create jobs for others. They are not expected to generate innovative ideas either. They are most likely pushed into starting and operating a

business just because they are lacking alternative employment opportunities. They may not even be adequately prepared to launch their businesses (Caliendo & Kritikos, 2010). The fact that they are generally not well prepared before they go entrepreneurial results in a high risk of failure (Carrasco, 1999; Pfeiffer & Reize, 2000; Adersson & Wadensjo, 2007). Even if they survive long-term, they are expected to produce just marginal businesses, invest insignificant amounts of capital, fail to create further jobs and earn minimal incomes (Vivarelli & Audretsch, 1998; Santarelli & Vivarelli, 2007; Shane, 2009; Hamilton, 2000; Andersson & Wadensjo, 2007).

Using a sample of 1,850 unemployed male business founders from West Germany, Caliendo & Kritikos (2010) successfully showed some evidence that the reasons why formerly unemployed individuals become business owners do have an impact on their subsequent entrepreneurial development (mainly manifested itself in terms of 'motivation strongly affect survival'). Both the pull (by an identifiable business idea) and push (by the lack of available employment opportunity) motives by themselves cannot be used to simply classify entrepreneurs into either the 'necessity' or 'opportunity' type. There is no clear association found in the study between previously unemployed entrepreneurs and necessity entrepreneurs. In addition, the combined push-and-pull type entrepreneurs seem to survive significantly better than the push-alone type.

Using data from the Panel Study of Income Dynamics (PSID) and local unemployment rates at the state level in the years 1978-1983 and 1993-1995, Deli (2011) showed a positive (negative) correlation between local unemployment rates and entry into self-employment for low (high)-ability workers. After controlling for firm size, Deli (2001) found that it is actually the effect of the employer size that leads to the positive association between unemployment rates and self-employment among low-ability workers.

From interviewing 34 young entrepreneurs (19 to 34 years old) in Uganda, Langevang, Namatovu, & Dawa (2012) concluded that entrepreneurs do not always fall in one type or the other as in the oversimplified necessity-opportunity dichotomy (Williams, 2008; Rosa, Kodithuwakku & Balunywa (2006).

DATA AND RESEARCH METHOD

This paper seeks to provide some additional evidence in identifying the types of entrepreneurs. The study investigates, using state-level data, whether new business owners are at large 'necessity' or 'opportunity' entrepreneurs.

'Necessity' entrepreneurs are expected to be more likely to start their businesses when the local unemployment rates are high. On the other hand, 'opportunity' entrepreneurs are more likely to become business owners when the local unemployment rates are low (implying good economic conditions). That is, the 'necessity'-entrepreneur hypothesis will be supported by a significantly positive association between the number of new business owners and the local unemployment rate. On the other hand, the 'opportunity'-entrepreneur hypothesis cannot be rejected if there exists a significantly negative relationship between the number of new business owners and the local unemployment rate.

These hypotheses are tested using the observations on a large sample of individuals who responded to the monthly surveys on entrepreneurial activity conducted by the Kauffman Foundation. The observations are matched in each year-month with the local (state) unemployment rates. The entrepreneurial data were downloaded from the Kauffman Foundation website (<http://www.kauffman.org/research-and-policy/kiea-data-files.aspx>). They are included

in the Kauffman Index of Entrepreneurial Activity Data Files. The Kauffman Foundation identifies all those non-business owners who are aged between 20 and 64 inclusively in the initial survey month. They then match the Current Population Survey (CPS) files for the subsequent month to locate the new business owners. After that, interviews are conducted with these new business owners from whom information, including their ages, education backgrounds, total family incomes and business ownership are collected (Fairlie, 2012).

Local state-level unemployment rates over the sample period were downloaded from Dave Manuel.com (<http://www.davemanuel.com/historical-state-unemployment-rates.php>) which are, in turn, obtained from the Bureau of Labor Statistics (<http://www.davemanuel.com/historical-state-unemployment-rates.php>). The sample period runs from January 2005 to December 2010 (the most recent full year of data available at the writing of this paper). The Kauffman Foundation had made some revisions in defining the data categories for certain data items between 2003 and 2004. To be consistent in the time series nature of the observations, the study sample using observations starting from January 2005. Thus, the study sample consists of 15,432 observations (non-business owners in the first survey month but turned into business owners in the second survey month).

Poisson regressions are run as in the following, with or without the control variables in turn.

$entnum_{s,y,m} = \alpha + \beta_u unemprate_{s,y,m} [+ \beta_y statedummies + \beta_y yeardummies + \beta_m monthdummies]$ where $entnum_{s,y,m}$ is the number of individuals who entered entrepreneurship in state s , year y and month m $unemprate_{s,y,m}$ is the unemployment rate of state s in year y and month m $statedummies$ include state02 through state51 in which:

- state02=1 and all else 0 represents Alaska
- state03=1 and all else 0 represents Arizona
- state04=1 and all else 0 represents Arkansas
- state05=1 and all else 0 represents California
- state06=1 and all else 0 represents Colorado
- state07=1 and all else 0 represents Connecticut
- state08=1 and all else 0 represents Delaware
- state09=1 and all else 0 represents District of Columbus
- state10=1 and all else 0 represents Florida
- state11=1 and all else 0 represents Georgia
- state12=1 and all else 0 represents Hawaii
- state13=1 and all else 0 represents Idaho
- state14=1 and all else 0 represents Illinois
- state15=1 and all else 0 represents Indiana
- state16=1 and all else 0 represents Iowa
- state17=1 and all else 0 represents Kansas
- state18=1 and all else 0 represents Kentucky
- state19=1 and all else 0 represents Louisiana
- state20=1 and all else 0 represents Maine
- state21=1 and all else 0 represents Maryland
- state22=1 and all else 0 represents Massachusetts
- state23=1 and all else 0 represents Michigan

state24=1 and all else 0 represents Minnesota
state25=1 and all else 0 represents Mississippi
state26=1 and all else 0 represents Missouri
state27=1 and all else 0 represents Montana
state28=1 and all else 0 represents Nebraska
state29=1 and all else 0 represents Nevada
state30=1 and all else 0 represents New Hampshire
state31=1 and all else 0 represents New Jersey
state32=1 and all else 0 represents New Mexico
state33=1 and all else 0 represents New York
state34=1 and all else 0 represents North Carolina
state35=1 and all else 0 represents North Dakota
state36=1 and all else 0 represents Ohio
state37=1 and all else 0 represents Oklahoma
state38=1 and all else 0 represents Oregon
state39=1 and all else 0 represents Pennsylvania
state40=1 and all else 0 represents Rhode Island
state41=1 and all else 0 represents South Carolina
state42=1 and all else 0 represents South Dakota
state43=1 and all else 0 represents Tennessee
state44=1 and all else 0 represents Texas
state45=1 and all else 0 represents Utah
state46=1 and all else 0 represents Vermont
state47=1 and all else 0 represents Virginia
state48=1 and all else 0 represents Washington
state49=1 and all else 0 represents West Virginia
state50=1 and all else 0 represents Wisconsin
state51=1 and all else 0 represents Wyoming
otherwise, Alabama

yeardummies include year06 through year10

in which

year06 = 1 and all else 0 represents year 2006
year07 = 1 and all else 0 represents year 2007
year08 = 1 and all else 0 represents year 2008
year09 = 1 and all else 0 represents year 2009
year10 = 1 and all else 0 represents year 2010
otherwise, year 2005

monthdummies include month02 through month12

in which

month02 = 1 and all else 0 represents February
month03 = 1 and all else 0 represents March
month04 = 1 and all else 0 represents April
month05 = 1 and all else 0 represents May
month06 = 1 and all else 0 represents June
month07 = 1 and all else 0 represents July
month08 = 1 and all else 0 represents August

month09 = 1 and all else 0 represents September
 month10 = 1 and all else 0 represents October
 month11 = 1 and all else 0 represents November
 month12 = 1 and all else 0 represents December
 otherwise, January

The coefficient β_u , if found significantly positive, will indicate that the local unemployment rate does affect the decision of individuals in turning themselves into entrepreneurs in the same direction. That is, the higher the local unemployment rate, the more people are forced to start a business. These individuals had likely lost their jobs and thus are 'necessity' entrepreneurs.

The coefficient β_u , if found significantly negative, will indicate that the local unemployment rate does affect the decision of individuals in turning themselves into entrepreneurs in the opposite direction. That is, the lower the local unemployment rate (implying the better the economic condition), the more people will be attracted to start a business. These individuals likely had identified a sound business idea that they wanted to capture and thus are 'opportunity' entrepreneurs.

To test for the robustness of the aforementioned model, the basic Poisson regression of the number of individuals who entered entrepreneurship (became business owners) on the local unemployment rate is also controlled for the locality (state), business cycle (year) and seasonality (month). The significance of the coefficients to the dummy variables representing the various categories will tell their impacts on this entrepreneurial activity as well.

DESCRIPTIVE STATISTICS

The age of new business owners in the sample was from 20 to 64 years old, with a mean of 43.54 years (Table 1 Appendix). On average, they worked for 37.22 hours each week after they became business owners, approximately two hours less than immediately before that. There were many more males (59.95%) turning themselves into business owners than females (40.05%) (Table 2 Appendix).

State-wise, California (10.74%), Texas (5.46%), New York (4.89%), Florida (4.88%) and Georgia (2.95%) have the most new business owners while South Carolina (1.00%), Mississippi (0.99%), North Dakota (0.95%), West Virginia (0.75%) and Alabama (0.73%) have the least during the sample period (Table 3 Appendix). Region-wise, the southern part of U.S. has the highest concentration (31.37%) of new business owners whereas the Midwest has the lowest (19.67%) in the sample (Table 4 Appendix).

Regarding the distribution of business owners by race, the majority of the new business owners in the sample were white only (84.14%), followed by black only (8.14%) (Table 5 Appendix). The new business owners were mostly natives, born in the United States (79.37%), followed by foreign born, not a citizen of the U.S. (12.09%). Native citizens jointly made up 80.84% of the new business owners while foreign born only 19.16% (Table 6 Appendix).

More than half of the new business owners in the sample were married with a spouse present (60.37%). Over one-fifth of them had never married (21.56%) (Table 7 Appendix). As for education attainment, more than three-quarters (77.15%) of the new business owners had an education level between high school graduate-diploma and bachelor's degree: high school graduates (30.51%), having some college but no degree (17.86%), holding an associate degree –

occupational/vocational (4.58%), associate degree – academic program (4.10%) and a bachelor's (20.10%) (Table 8 Appendix).

About half of the new business owners reported that they worked in the private sector before becoming entrepreneurs: 47.03% of them worked for for-profit companies and 2.59% for non-profit companies. As many as 5% report that they worked for the government, 1.13%, 1.44% and 2.90% at the federal, state and local levels respectively (Table 9 Appendix). About 80% of new business owners in the sample did not incorporate their businesses (Table 10 Appendix). These business owners are mainly attracted (forced) in the case of 'opportunity' ('necessity') entrepreneurs into the construction (20.87%), professional and business services (20%), educational and health services (12.77%) and wholesale & retail trade (10.03%) (Table 11 Appendix). This seems to provide some support for the existence of 'necessity' entrepreneurs in general, according to the findings in the prior research that 'necessity' entrepreneurial activities are commonly observed in the traditional (and informal) sectors.

Based on the labor force code, less than half of the new business owners in the sample were previously employed, being 42.72% employed with working and 2.08% employed with job but not at work (Table 12 Appendix). These percentages increased to 93.75% and 6.25% respectively when they became business owners themselves (Table 13 Appendix).

About half of the new business owners reported that they were previously making a household income of less than the 2010 national median of \$54,442 (after inflation) (Table 14 Appendix). Only 68.45% reported that they were homeowners (Table 15 Appendix). These percentages could be higher or lower if the missing cases were included.

Michigan had the highest mean monthly unemployment rate (9.33%) over the sample period, followed by South Carolina (8.10%), Mississippi (7.97%), California (7.79%) and Rhode Island (7.71%). On the other hand, North Dakota had the lowest mean monthly unemployment rate (3.52%), followed by South Dakota (3.68%), Nebraska (3.75%), Hawaii (4.21%) and Wyoming (4.39%). Nevada had the widest range of monthly unemployment rate of 10.30% (from a minimum of 4.20% to a maximum of 14.50%) whereas North Dakota had the narrowest range of 1.60% (from a minimum of 2.80% to a maximum of 4.40%) (Table 16 Appendix).

DISCUSSION OF FINDINGS

The results of the various Poisson regressions indicate that the local unemployment rate does have a significant impact on the number of individuals becoming business owners (or go entrepreneurial). The coefficients of the local unemployment rate in all the Poisson regression models, with (Model II through Model IV) or without (Model I) controlling for locality (state), business cycle (year) and seasonality (month), are found positive (Table 17 Appendix). Therefore, the higher the unemployment rate, the more individuals start their own businesses. This should lend some support to the 'necessity'-entrepreneur hypothesis.

In Model II (and Model V as well), all the state dummy variables, except those for West Virginia, are significantly positive, but not to the same extent. California, Florida, New York and Texas have particularly high coefficient values. These states may have something in place that can help/force individuals (either employed or unemployed) to become entrepreneurs. The significance in the lower constant value of Model II as compared with that of Model I also indicates that Alabama has a significantly negative impact on entrepreneurial activity. Individuals are less likely to start businesses in this state. All these results suggest that there is a locality effect on entrepreneurial activity.

Model III and Model V show similar effects for the business cycle on entrepreneurial activity. The result of Model III suggests that only 2006 and 2007 (when the economic condition turned bad) have a significantly positive impact on the number of individuals going entrepreneurial whereas 2005 (before the development of the conditions that led to the 2008 economic meltdown), 2009 and 2010 (when the economy picked up again) have a significantly negative impact. Model V seems to suggest that only 2007 (pre-2008 economic meltdown period) has a significantly positive impact on entrepreneurial activity. These findings also provide some evidence to support the “necessity”-entrepreneur hypothesis.

Model IV and V show that November through January of the next year have a significant impact on the number of individuals going entrepreneurial. That the coefficients of month11 (for November) and month12 (for December) are both negative and the constant value of Model IV higher than that of Model I seems to suggest that individuals will put off their plans to go entrepreneurial towards the end of the year and wait until the start of the next year to do so. This can be explained by the tendency that people may not want to start something new at almost the end of the year and not having much time to get their job done before they have to conclude their success or failure for the year. As November and December are in the annual traditional holiday season, potential entrepreneurs may also want to wait until this season is over to start their businesses.

CONCLUSION

Entrepreneurs are widely considered as individuals who will introduce innovations, bring in competition, enhance rivalry and as a result lead to economic growth. In due course, they are expected to establish new firms and create new jobs. However, not all entrepreneurs demonstrate the same kind of behaviors. An ‘opportunity’ entrepreneur starts a new business by exploiting an identifiable business opportunity and is expected to help develop the economy. On the other hand, a ‘necessity’ entrepreneur does so in order to survive over poverty and/or unemployment, and thus can hardly contribute much to the economic development. Using the entrepreneurial activity data collected and maintained by the Kauffman Foundation on responses provided by individuals who became new business owners from 2005 to 2010, it is found that the unemployment rate has a positive impact on the number of individuals going entrepreneurial. This relationship remains significant even after controlling for locality, business cycle and seasonality. This result suggests that individuals are in general forced to become entrepreneurs after they become unemployed. In other words, a significant number of the new business owners are likely ‘necessity’ entrepreneurs who might not be able to contribute much to economic growth.

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APPENDIX

Table 1. Mean, standard deviation and range of age, work hours of new business owners

Variable	Number of Entrepreneurs	Mean	Standard Deviation	Minimum	Maximum
Age (years)	15,432	43.54	11.74	20	64
Total hours worked in the week before survey	6,592 (8,840*)	40.55	14.94	1	160
Usual weekly hours at main job in the first survey month	6,861 (8,571**)	39.25	13.03	0	99
Usual weekly hours at main job in second survey month	15,432	37.22	14.08	15	99

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010. There are altogether 15,432 observations. The discrepancy results from the ‘valid skip’ responses to the data items in the Kauffman survey. *not working last week; ** without job last week.

Table 2. Gender distribution of the new business owners

Gender	Number of Entrepreneurs	Percent
Male	9,251	59.95
Female	6,181	40.05
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 3. State distribution of the new business owners

Practicing State	Number of Entrepreneurs	Percent	Practicing State	Number of Entrepreneurs	Percent
Alabama	113	0.73	Montana	187	1.21
Alaska	249	1.61	Nebraska	183	1.19
Arizona	245	1.59	Nevada	253	1.64
Arkansas	177	1.15	New Hampshire	314	2.03
California	1,658	10.74	New Jersey	324	2.10
Colorado	400	2.59	New Mexico	170	1.10
Connecticut	367	2.38	New York	754	4.89
Delaware	166	1.08	North Carolina	253	1.64
District of Columbus	257	1.67	North Dakota	147	0.95
Florida	753	4.88	Ohio	342	2.22
Georgia	456	2.95	Oklahoma	209	1.35
Hawaii	235	1.52	Oregon	230	1.49
Idaho	198	1.28	Pennsylvania	288	1.87
Illinois	406	2.63	Rhode Island	213	1.38
Indiana	214	1.39	South Carolina	155	1.00
Iowa	260	1.68	South Dakota	214	1.39
Kansas	160	1.04	Tennessee	224	1.45
Kentucky	176	1.14	Texas	843	5.46
Louisiana	159	1.03	Utah	200	1.30
Maine	321	2.08	Vermont	294	1.91
Maryland	363	2.35	Virginia	269	1.74
Massachusetts	235	1.52	Washington	220	1.43
Michigan	330	2.14	West Virginia	115	0.75
Minnesota	316	2.05	Wisconsin	254	1.65
Mississippi	153	0.99	Wyoming	201	1.30
Missouri	209	1.35	Sub-total	6,856	44.44
Sub-total	8,576	55.56	Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 4. Location distribution of the new business owners

Region	Number of Entrepreneurs	Percent
Midwest	3,035	19.67
Northeast	3,110	20.15
South	4,841	31.37
West	4,446	28.81
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 5. Race distribution the new business owners

Race	Number of Entrepreneurs	Percent
2 or 3 races	2	0.01
4 or 5 races	1	0.01
Alaskan-Asian	1	0.01
American Indian, Alaskan Native only	186	1.21
Asian only	695	4.50
Asian-Hawaiian	9	0.06
Black only	1,256	8.14
Black-Alaskan	6	0.04
Black-Asian	2	0.01
Hawaiian/Pacific Islander only	53	0.34
White-Asian- Hawaiian/Pacific Islander	12	0.08
White-Black-Alaskan	4	0.03
White only	12,985	84.14
White-Alaskan	138	0.89
White-Asian	32	0.21
White-Black	40	0.26
White-Hawaiian	10	0.06
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 6. Citizenship of the new business owners

Citizenship	Number of Entrepreneurs	Percent	Cum. Percent
Native, born in the United States	12,249	79.37	79.37
Native, born in Puerto Rico or U.S. outlying area	67	0.43	79.81
Native, born abroad of American parent	160	1.04	80.84
Foreign born, U.S. citizen by naturalization	1,090	7.06	87.91
Foreign born, not a citizen of the United States	1,866	12.09	100.00
Total	15,432	100.00	

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 7. Marital status of the new business owners

Marital Status	Number of Entrepreneurs	Percent	Cum. Percent
Married, spouse present	9,316	60.37	60.37
Married, armed forces spouse present	34	0.22	60.59
Married, spouse absent (excl sep)	279	1.81	62.40
Separated	379	2.46	64.85
Widowed	226	1.46	66.32
Divorced	1,871	12.12	78.44
Never married	3,327	21.56	100.00
Total	15,432	100.00	

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 8. Education attainment of the new business owners

Education Attainment	Number of Entrepreneurs	Percent	Cum. Percent
<first grade	69	0.45	0.45
1st, 2nd, 3rd, or 4th grade	153	0.99	1.44
5th or 6th grade	283	1.83	3.27
7th or 8th grade	332	2.15	5.42
9th grade	271	1.76	7.18
10th grade	328	2.13	9.31
11th grade	398	2.58	11.88
12th grade, no diploma	242	1.57	13.45
High school graduate - diploma or equivalent (GED)	4,709	30.51	43.97
Some college but no degree	2,756	17.86	61.83
Associate degree - occupational/vocational	707	4.58	66.41
Associate degree - academic program	632	4.10	70.50
Bachelor's degree (example: BA AB BS)	3,102	20.10	90.60
Master's degree (example: MA MS MEng Med MSW)	970	6.29	96.89
Professional school degree (example: MD DDS DVM LLB JD)	286	1.85	98.74
Doctorate degree (example: PhD EdD)	194	1.26	100.00
Total	15,432	100.00	

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 9. Work class distribution of the new business owners (before going entrepreneurial)

Class of Worker Before Owning a Business	Number of Entrepreneurs	Percent	Cum. Percent
Government-federal	174	1.13	1.13
Government-state	222	1.44	2.57
Government-local	447	2.90	5.47
Private, for profit	7,257	47.03	52.50
Private, nonprofit	400	2.59	55.09
Self-employed, incorporated	152	0.98	56.07
Self-employed, not incorporated	1,023	6.63	62.70
Without pay	31	0.20	62.90
Missing (provide no response in the survey)	5,726	37.10	100.00
Total	15,432	100.00	

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 10. Work class distribution of the new business owners (after going entrepreneurial)

Class of Worker After Owning a Business	Number of Entrepreneurs	Percent
Self-employed, incorporated	3,187	20.65
Self-employed, not incorporated	12,245	79.35
Total	15,432	100

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 11. Industries that draws in the new business owners

Major Industry for Main Job in Second Survey Month	Number of Entrepreneurs	Percent
Agriculture, forestry, fishing, hunting	1,141	7.39
Construction	3,221	20.87
Educational and health services	1,971	12.77
Financial activities	996	6.45
Information	234	1.52
Leisure and hospitality	1,092	7.08
Manufacturing	551	3.57
Mining	34	0.22
Other services	1,008	6.53
Professional and business services	3,086	20.00
Transportation and utilities	550	3.56
Wholesale & retail trade	1,548	10.03
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 12. Labor Forces Code of the new business owners (before going entrepreneurial).

Monthly Labor Force Recode	Number of Entrepreneurs	Percent
Employed: Working	6,592	42.72
Employed: With job, not at work	321	2.08
Unemployed: Layoff	738	4.78
Unemployed: Looking	2,091	13.55
NILF: Retired	1,036	6.71
NILF: Disabled	380	2.46
NILF: Other	4,274	27.70
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010. *NILF stands for Not in the Labor Force.

Table 13. Labor Forces Code of the new business owners (after going entrepreneurial).

Monthly Labor Force Recode in Second Survey Month	Number of Entrepreneurs	Percent
Employed: Working	14,468	93.75
Employed: With job, not at work	964	6.25
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 14. Household income distribution of the new business owners

Total Family Income	Number of Entrepreneurs	Percent	Cum. Percent
<\$5,000	397	2.57	2.57
\$5,000-7,499	255	1.65	4.22
\$7,500-9,999	295	1.91	6.14
\$10,000-12,499	420	2.72	8.86
\$12,500-14,999	334	2.16	11.02
\$15,000-19,999	573	3.71	14.74
\$20,000-24,999	705	4.57	19.30
\$25,000-29,999	690	4.47	23.78
\$30,000-34,999	855	5.54	29.32
\$35,000-39,999	688	4.46	33.77
\$40,000-49,999	1,020	6.61	40.38
\$50,000-59,999	1,080	7.00	47.38
\$60,000-74,999	1,180	7.65	55.03
\$75,000-99,999	3,436	22.27	77.29
Missing (including those 'refused', 'don't know' and 'blank' in the survey response)	3,504	22.71	100.00
Total	15,432	100.00	

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 15. Homeownership distribution of the new business owners

Homeowner	Number of Entrepreneurs	Percent
Yes	10,563	68.45
No	4,070	26.37
Missing (with 'blank' response)	799	5.18
Total	15,432	100.00

Statistics computed from responses to the monthly surveys on entrepreneurial activity conducted by Kauffman Foundation over the 6-year period from 2005 through 2010.

Table 16. Unemployment rate by state

State	Monthly Unemployment Rate (%) over January 2005 to December 2010			
	Mean	Std. Dev.	Min.	Max.
Alabama	6.01	2.99	3.30	11.10
Alaska	7.00	0.81	5.90	8.60
Arizona	6.20	2.34	3.70	9.70
Arkansas	5.95	1.12	4.70	7.90
California	7.79	3.11	4.80	12.60
Colorado	5.68	1.67	3.60	8.80
Connecticut	6.12	1.87	4.30	9.20
Delaware	5.44	2.19	3.30	9.20
District of Columbus	7.50	2.19	5.30	12.00
Florida	6.65	3.44	3.30	12.30
Georgia	6.75	2.35	4.30	10.50
Hawaii	4.21	1.86	2.30	7.00
Idaho	5.30	2.50	2.70	9.50
Illinois	7.08	2.40	4.40	11.50
Indiana	6.79	2.35	4.50	10.60
Iowa	4.80	1.18	3.50	6.90
Kansas	5.22	1.10	3.90	7.20

Statistics computed from the state unemployment rates over the 6-year period from 2005 through 2010, downloaded from Dave Manuel.com.

Table 16. Unemployment rate by state (cont.)

	Monthly Unemployment Rate (%) over January 2005 to December 2010			
Kentucky	7.47	2.14	5.50	10.90
Louisiana	5.51	1.88	3.60	11.20
Maine	5.91	1.51	4.40	8.30
Maryland	5.05	1.60	3.50	7.70
Massachusetts	6.10	1.89	4.40	9.50
Michigan	9.33	3.05	6.70	14.50
Minnesota	5.55	1.51	3.90	8.40
Mississippi	7.97	1.75	6.00	11.60
Missouri	6.67	1.98	4.60	9.70
Montana	4.73	1.51	3.20	7.40
Nebraska	3.75	0.75	2.80	5.00
Nevada	7.67	3.91	4.20	14.50
New Hampshire	4.51	1.29	3.40	7.10
New Jersey	6.27	2.30	4.10	10.00
New Mexico	5.48	1.83	3.40	8.80
New York	6.05	1.73	4.30	8.90
North Carolina	6.97	2.58	4.50	11.20
North Dakota	3.52	0.45	2.80	4.40
Ohio	7.34	2.19	5.30	11.00
Oklahoma	4.92	1.27	3.20	7.00
Oregon	7.46	2.49	5.00	11.60
Pennsylvania	6.04	1.85	4.20	9.30
Rhode Island	7.71	3.01	4.90	12.70
South Carolina	8.10	2.52	5.50	12.50
South Dakota	3.68	0.76	2.70	5.00
Tennessee	7.14	2.34	4.50	10.90
Texas	5.91	1.51	4.30	8.30
Utah	4.59	1.77	2.50	7.60
Vermont	4.78	1.31	3.30	7.30
Virginia	4.52	1.69	2.80	7.30
Washington	6.40	1.94	4.40	9.50
West Virginia	5.81	2.03	3.90	9.60
Wisconsin	5.94	1.72	4.30	8.90
Wyoming	4.39	1.71	2.70	7.60

Statistics computed from the state unemployment rates over the 6-year period from 2005 through 2010, downloaded from Dave Manuel.com.

Table 17. Results of Poisson regression of number of entrepreneurs on local unemployment rate.

$$\text{entnum}_{s,y,m} = \alpha + \beta_u \text{unemprate}_{s,y,m} + \beta_s \text{statedummies} + \beta_y \text{yeardummies} + \beta_m \text{monthdummies}]$$
 where $\text{entnum}_{s,y,m}$ is the number of individuals who entered entrepreneurship in state s , year y and month m
 $\text{unemprate}_{s,y,m}$ is the unemployment rate in state s , year y and month m
 statedummies include state02 through state51
 yeardummies include year06 through year10
 monthdummies include month02 through month12

	Model I	Model II	Model III	Model IV	Model V
Dependent variable					
entnum (Number of entrepreneurs)					
	Coef.	Coef.	Coef.	Coef.	Coef.
Independent variable					
unemprate (Local unemployment rate at state level)	5.560 (17.69)***	2.40 (6.68)***	10.147 (20.32)***	5.684 (18.05)***	3.648 (4.16)***
state02 (Alaska)		0.768 (6.77)***			0.757 (6.66)***
state03 (Arizona)		0.770 (6.77)***			0.769 (6.76)***
state04 (Arkansas)		0.452 (3.76)***			0.454 (3.77)***
state05 (California)		2.643 (27.13)***			2.621 (26.62)***
state06 (Colorado)		1.274 (11.96)***			1.279 (12.00)***
state07 (Connecticut)		1.177 (10.94)***			1.177 (10.94)***
state08 (Delaware)		0.400 (3.27)***			0.407 (3.34)***
state09 (District of Columbus)		0.787 (6.97)***			0.770 (6.78)***
state10 (Florida)		1.880 (18.63)***			1.872 (18.52)***
state11 (Georgia)		1.378 (13.11)***			1.370 (13.01)***

Note: The effects of Alabama, 2005 and January are reflected in the change in the corresponding constants in the models. z-scores are shown in brackets beneath the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 17. Results of Poisson regression of number of entrepreneurs on local unemployment rate. (cont.)

	Model I	Model II	Model III	Model IV	Model V
	Coef.	Coef.	Coef.	Coef.	Coef.
state12 (Hawaii)		0.777 (6.78)***			0.800 (6.92)***
state13 (Idaho)		0.579 (4.91)***			0.588 (4.98)***
state14 (Illinois)		1.254 (11.79)***			1.241 (11.63)***
state15 (Indiana)		0.621 (5.34)***			0.612 (5.25)***
state16 (Iowa)		0.865 (7.67)***			0.881 (7.78)***
state17 (Kansas)		0.369 (3.00)***			0.380 (3.09)***
state18 (Kentucky)		0.409 (3.39)***			0.392 (3.24)***
state19 (Louisiana)		0.355 (2.88)***			0.362 (2.94)***
state20 (Maine)		1.048 (9.58)***			1.050 (9.60)***
state21 (Maryland)		1.192 (11.06)***			1.205 (11.15)***
state22 (Massachusetts)		0.732 (6.39)***			0.731 (6.39)***
state23 (Michigan)		0.992 (9.05)***			0.950 (8.42)***
state24 (Minnesota)		1.041 (9.50)***			1.048 (9.55)***
state25 (Mississippi)		0.258 (2.07)**			0.234 (1.87)*
state26 (Missouri)		0.601 (5.14)***			0.594 (5.08)***
state27 (Montana)		0.536 (4.50)***			0.554 (4.62)***
state28 (Nebraska)		0.539 (4.49)***			0.568 (4.68)***
state29 (Nevada)		0.764 (6.74)***			0.743 (6.50)***

Note: The effects of Alabama, 2005 and January are reflected in the change in the corresponding constants in the models. z-scores are shown in brackets beneath the regression coefficients. Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 17. Results of Poisson regression of number of entrepreneurs on local unemployment rate. (cont.)

	Model I	Model II	Model III	Model IV	Model V
	Coef.	Coef.	Coef.	Coef.	Coef.
state30 (New Hampshire)		1.060 (9.65)***			1.080 (9.76)***
state31 (New Jersey)		1.048 (9.59)***			1.046 (9.57)***
state32 (New Mexico)		0.423 (3.48)***			0.430 (3.54)***
state33 (New York)		1.898 (18.82)***			1.899 (18.83)***
state34 (North Carolina)		0.784 (6.92)***			0.772 (6.81)***
state35 (North Dakota)		0.325 (2.59)***			0.357 (2.81)***
state36 (Ohio)		1.076 (9.92)***			1.061 (9.73)***
state37 (Oklahoma)		0.643 (5.51)***			0.658 (5.61)***
state38 (Oregon)		0.677 (5.88)***			0.659 (5.70)***
state39 (Pennsylvania)		0.936 (8.44)***			0.937 (8.44)***
state40 (Rhode Island)		0.593 (5.09)***			0.572 (4.87)***
state41 (South Carolina)		0.267 (2.15)**			0.241 (1.93)**
state42 (South Dakota)		0.697 (5.97)***			0.726 (6.15)***
state43 (Tennessee)		0.658 (5.70)***			0.645 (5.57)***
state44 (Texas)		2.014 (20.10)***			2.016 (20.12)***
state45 (Utah)		0.607 (5.15)***			0.625 (5.28)***
state46 (Vermont)		0.988 (8.91)***			1.004 (9.02)***
state47 (Virginia)		0.905 (8.06)***			.924 (8.18)***
state48 (Washington)		0.658 (5.69)***			0.654 (5.65)***

Note: The effects of Alabama, 2005 and January are reflected in the change in the corresponding constants in the models. z-scores are shown in brackets beneath the regression coefficients.

Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 17. Results of Poisson regression of number of entrepreneurs on local unemployment rate. (cont.)

	Model I	Model II	Model III	Model IV	Model V
	Coef.	Coef.	Coef.	Coef.	Coef.
state49 (West Virginia)		0.024 (0.18)			0.027 (0.21)
state50 (Wisconsin)		0.813 (7.19)***			0.815 (7.21)***
state51 (Wyoming)		0.617 (5.24)***			0.637 (5.38)***
year06 (2006)			0.066 (2.31)**		0.034 (1.17)
year07 (2007)			0.091 (3.17)***		0.049 (1.69)*
year08 (2008)			0.014 (0.50)		0.041 (1.40)
year09 (2009)			-0.255 (-7.54)***		-0.022 (-0.51)
year10 (2010)			-0.279 (-8.02)***		-0.028 (-0.60)
month02 (February)				0.004 (0.10)	0.006 (0.14)
month03 (March)				0.010 (0.27)	0.013 (0.34)
month04 (April)				0.008 (0.20)	0.011 (0.29)
month05 (May)				-0.038 (-0.97)	-0.034 (-0.85)
month06 (June)				0.018 (0.47)	0.023 (0.60)
month07 (July)				0.028 (0.73)	0.034 (0.88)
month08 (August)				-0.012 (-0.32)	-0.006 (-0.15)
month09 (September)				-0.022 (-0.57)	-0.014 (-0.35)
month10 (October)				-0.034 (-0.89)	-0.026 (-0.66)
month11 (November)				-0.136 (-3.39)***	-0.127 (-3.13)***

Note: The effects of Alabama, 2005 and January are reflected in the change in the corresponding constants in the models. z-scores are shown in brackets beneath the regression coefficients.

Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

Table 17. Results of Poisson regression of number of entrepreneurs on local unemployment rate. (cont.)

	Model I	Model II	Model III	Model IV	Model V
	Coef.	Coef.	Coef.	Coef.	Coef.
month12 (December)				-0.221 (-5.37)***	-0.212 (-5.10)***
_cons	1.09 (50.50)***	0.303 (3.14)***	0.870 (26.88)***	1.114 (33.13)***	0.241 (2.26)**
Obs	3,672	3,672	3,672	3,672	3,672
pseudo R ²	0.0140	0.2933	0.0207	0.0173	0.2966

Note: The effects of Alabama, 2005 and January are reflected in the change in the corresponding constants in the models. z-scores are shown in brackets beneath the regression coefficients.

Asterisks *, ** and *** indicate significance at 10%, 5% and 1% respectively.

