The business density of employer micro firms in the United States

Falih M. Alsaaty
Bowie State University, Maryland

ABSTRACT

The purpose of this paper is to shed light on the business density of micro firms in the United States (i.e., the number of firms with fewer than ten employees per 1000 inhabitants). There is a dearth of scholarly contributions about this class of organizations despite the fact that they comprise more that 78 percent of employer firms in the country. This paper reveals that the country's business density is disturbingly low and needs to be addressed. Low density reflects (and leads to) lower employment, investment, and exports. It also adversely affects the nation's economic performance. From 1999 to 2008, the business density of micro firms declined from 16.1 firms per1000 inhabitants to15.3 firms, a decrease of 5 percent. This trend if persists in the future could significantly weaken the country's ability to generate sufficient employment opportunities to its growing labor supply.

Keywords: micro firms, small business, business density, SME

INTRODUCTION

Research concerned with small and mid-sized enterprises (SMEs) is extensive (e.g., Adams, Khoja, and Kauffman, 2012; Gunasekaran*, Rai*, and Griffin*,* 2011*;* Pereira-Moliner*,* Claver-Cortés, and Molina-Azori, 2011; Brouthers, Nakos, Hadjimarcou, and Brouthers, 2009; Mazzarol and Rebound, 2008; Little, 2005) and the findings are enlightening. A variety of organizational, financial, technological, and strategic aspects of the firms have been underscored, in addition to the emphasis made to their contributions to innovation, employment, investment, and exports (e.g., Kamakura, Ramón-Jeronimo, and Vecino*,* 2012*;* Chemmanur, Krishnan, and Nandy, 2011; Ismail, Poolton, and Sharifi, 2011*;* Dixit & Kumar Pandey, 2011; Cravo, 2010; Arvind, Pranil, and Joyti*,* 2010*;* Juntunen, Saraniemi, Halttu, and Tähtinen, 2010; Forsman, 2009; Premkumer, 2005; Oviatt and McDougall, 1994). In the United States, research publication about the SMEs is largely attributed to the firms' leading role in economic activities and for their enduring impact on technological progress and competitiveness.

Factors that give rise to venture creation (start-ups) have also been discussed in the literature. For example, Anokhin and Wincent (2012) indicated that there is a positive relationship between the rates of start-up and innovation in developed countries. In a study about Austria, Tödtling and Wanzenböck (2003) emphasized that agglomeration advantages and regional structures play a significant role in attracting start-up firms. The authors found out that start-up activities in old industrial and rural regions were considerably lower than the national average rates. In a study about new business creation in Italy, Verheul, Carree, and Santareli, (2009) pointed out that market entry for new firms appeared to be higher in large economically vibrant cities. Naudé, Gries, Wood, and Meintjies, (2008) studied the trends in firm creations in South Africa. They discovered that the main determinants of start-up rates were profit expectations, educational levels, agglomeration, and access to bank financing.

Moreover, Gatewood, Shaver, and Gartner (1995) emphasized the influence of cognitive factors on entrepreneurial decisions to launch new business ventures. Cornelissen and Clarke (2010) believed that inductive reasoning – shaped by prior entrepreneurial experience and the motivation to acquire legitimacy – creates a platform for the creation of business ventures and their commercialization. Witt (2004) explored the network success hypothesis – the relationship between the networking activities of would-be entrepreneurs and their start-up success. He asserted the importance of multiple networks with entrepreneurial teams rather than individual founders' networks. Okamura (2008) studied start-up trends in low-technology and high-technology manufacturing industries in Japan. He concluded that business density, average business size, and weight of the manufacturing sector would greatly influence start-up ratios. Finally, Fritsch and Schroeter (2011, p.396) indicated that, in West Germany, "The positive effects of new business formation on employment growth are more pronounced in high-density areas than in rural regions". In brief, research findings indicate that the creation of new business ventures is influenced by a variety of forces, including economic development, population density, policy initiatives, expected return on investment, as well as a host of other factors.

MICRO FIRMS AND SMALL FIRMS

Although there is a lack of a widely acceptable definition, the term 'small and mid-sized enterprises' often used to imply business organizations with fewer than 500 employees – a highly diverse group of firms. The group consists of entities that differ in terms of size, age, resource

capability, organizational structure, and strategies, to mention a few variables. By aggregating these entities together for analysis, researchers have inadvertently overlooked a significant and unique subset of the group, that is, the micro firms (i.e., firms with fewer than 10 employees). Micro firms, like other small firms, play an important role in the economy because they comprise more than 78 percent of all employer firms in the United States. In 2008 for instance, micro firms provided employment to about 13 million people or 11 percent of total employment by the private sector. Micro firms therefore merit separate investigation to identify their density, distribution, strategies, alliances, obstacles, and so on.

The purpose of this paper is to explore an aspect of this class of organizations: the business density of micro firms, that is, the number of enterprises per 1000 inhabitants. Trends in density could reveal the future health of the economy, because the creation of new business ventures is a major determinant of the nation's sustainable economic growth and affluence. Largest states in terms of population – states with 5 million or more inhabitants in 1999 – were selected in order to identify the firms' business density and their geographic distribution. This approach led to the inclusion of twenty states in the sample (Table 2). The population of the states in the sample amounted to 77.4 percent and 75.7 percent of the country's total population in 1999 and 2008, respectively. Furthermore, the ratio of micro firms in the sample to total micro firms in the country was 74.5 percent and 74.7 percent in 1999 and 2008, respectively. The samples size (for the states and firms) implies that the current analysis conveys a comprehensive picture of micro firms' business density in the United States. The 1999-2008 period was selected because of data consistency and accessibility.

NEW VENTURE CREATION

Micro firms are prevalent in the United States and their impact is far reaching. They are found in almost all sectors of the economy, though they tend to be concentrated in a few 'traditional' industries. For illustration purposes, table 1 below provides a bird's-eye-view of sector distribution of newly created business ventures in 2008. As the Table indicates, of the 388,000 ventures, 184,000 firms (47 percent) were in the service sector, 94,000 firms (24 percent) in retail, and 33,000 firms (9 percent) in finance, insurance, and real estate. Many micro firms operate as direct providers of goods and services as is the case in medical service, legal service, automotive service, and fast food. Other firms operate either as direct providers of output or as subcontractors to other firms as is the case in construction, technical services, telecommunication, and consulting activities.

Table 1 - Sector Distribution of Newly Established Business Ventures in the United States, 2008 (In thousands)

Economic Sector	Number of New Ventures	As % of Total Ventures*
Agriculture	10	0.03
Mining	2	0.01
Construction	19	0.05
Transportation, communication, and utilities	17	0.04
Wholesale	18	0.05
Manufacturing	11	0.03
Retail	94	0.24
Finance, insurance, and real estate	33	0.09
Services	184	0.47
Total	388	100.00

*Total may not add up due to rounding.
Source: U.S. Department of Commerce, Statistical Abstract of the United States, 2012, p. 505.

Regardless of the nature of their business activities or the delivery mode, new ventures have become in recent years the main source of job creation in the United States. Consequently, the greater the number of new ventures is, everything else being constant, the higher is the rate of national employment. As long as the net rate of births (births minus deaths) of new ventures exceeds in the long-term the rate of population growth, the business density of micro firms will increase. Otherwise, the country will suffer a lack of adequate employment opportunities for its growing population.

NATIONAL DENSITY

The business density of micro firms in the United States had been low and disappointing. This occurred despite the vast opportunities afforded to small firms in a country with the largest gross domestic product (GDP) in the world[*]. As shown in Table 2 below, from 1999 to 2008, the number of employer micro firms increased from 4.4 million, or 78.5 percent of total employer firms in the country, to 4.7 million, or 78.6 percent of the total. While the number of firms increased by 5.9 percent, the country's population jumped by 11.6 percent during the same period of time. As a result, the business density of micro firms decreased from 16.1 firms per 1000 inhabitants in 1999 to 15.3 firms per 1000 inhabitants in 2008, a decline of 5 percent.

It might be expected that the firms' density in larger population states as a group to be greater than that of smaller population states as a group. This is because of the belief that larger states, in general, offer more business opportunities than their smaller counterparts. The data, however, demonstrated that this belief has not always been true. While in 1999 the overall business density of the larger population (twenty) states was 15.5 firms per 1000 inhabitants, the

[*] During the time frame of this study, the U.S. GDP increased in nominal terms from $9,354 billion in 1999 to $14,369 billion in 2008, an increase of 54 percent.

density of smaller states was 18.2 firms (Table 2). Moreover, in 2008, the business density of the larger states was 15.1 firms as compared to 16.0 firms for the smaller states.

DENSITY ANALYSIS

The disparity in density of micro firms between large and small states can be attributed to many variables, including the following:

- ✓ Number of mid-sized and large firms in a state. Mid-sized and large companies often pave the way for the creation and growth of new ventures. In many cases, micro firms are established to be, or perform as, sub-contractors for larger firms. As the number of larger firms increases in a state, so will be the number of micro firms. For instance, Prashanthan and Brikinshaw (2008) pointed out that small firms' partnership with multi-national corporations can help them to survive and grow globally.

- ✓ Natural resources. It is likely that the greater the availability of natural resources in a state (e.g., petroleum, gold, fertile land), everything else being equal, the greater is the attraction to the establishment of new business ventures. Resource-rich states offer relatively more business opportunities than resource-poor states, because the former states possess greater influence on supply/demand creation.

- ✓ Economic development. It is likely that states with higher level of economic development as measured by real growth rate of the state's economy will, everything else being equal, be able to entice the start-ups of more new ventures in their territories than states with lower rate of development.

Table 2 - Business Density of Employer Micro Firms in the United States, 1999 and 2008 (Population and number of firms are in thousands)

	1999	**2008**	**% increase (decrease)**
Total population	**272,691**	**304,375**	**11.6**
Selected states	210,927	230,555	9.3
Other states	61,764	73,820	19.5
Micro firms	**4,402**	**4,662**	**5.9**
Selected states	3,278	3,483	6.3
Other states	1,124	1,179	4.9
Overall business density	**16.1**	**15.3**	**(0.05)**
Selected states	15.5	15.1	(0.03)
Other states	18.2	16.0	(0.12)
Total firms	**5,608**	**5,930**	**5.7**
Employer micro firms as % ot total firms	**78.5**	**78.6**	**0.0**

Source: Calculations are based on the Census Bureau data, http://www.census.gov/
Data retrieved in March 2012.

- ✓ Tourists' attractions. States with greater variety of tourists' attractions would, everything else being equal, encourage the establishment of more micro firms than states with less variety of attractions. For example, in a study about Italy, Verheul, Carree, and Santareli (2009) found out that the tourism helped the creation of new hotels and restaurants.

- ✓ Educational institutions. It is possible that states with more per capita educational institutions that attract a larger number of out-of-the state students will, everything else being constant, be in a better position to induce the creation of more new ventures than other states. The assumption is that students' demand for goods and services is partially directed toward outputs provided by micro firms.

- ✓ State programs. States that allocate larger annual resources to small business development programs (e.g., training, incubators, loan guarantees) would, everything else being constant, lure the formation of more new ventures than states with less resource allocation for the programs.

- ✓ Entrepreneurial orientation. Studies have shown that would-be entrepreneurs differ in terms of personality and other attributes such as skills, motivation, education, risk aversion, financial ability, and social ties (e.g., Gartner, 1985; Herron and Sapienza, 1992; Little, 2005). Some small business owners in their search for business opportunities tend to move to other states or geographic locations. Others favor to engage in business activities in their own locality or state to be close to the human and natural environment they have accustomed to.

- ✓ Population growth. States with rapid population growth rate are expected, everything else being constant, to suffer a decrease in business density over time relative to states with lower rate. In the sample states, for example, the population of larger states as a group increased by 9.3 percent from 1999 to 2008, while the population of small states as a group jumped by 19.3 percent (Table 2). States with high population growth rate as a group exhibited a relatively larger decline in their business density, form 18.2 firms per 1000 inhabitants in 1999 to 16.0 firms in 2008, a decline of 12 percent. On the other hand, the density of micro firms in larger states as a group declined from 15.5 firms in 1999 to 15.1 firms in 2008, a decrease of 3 percent.

STATES DENSITY

The business density of micro firms in the United States (and elsewhere around the globe) is influenced by a multiplicity of local, national, and international environmental factors. Therefore, the density is bound to change from year to year, state to state, and industry to industry. As shown in Table 3 below, the density for the sample states ranged from 13.5 firms per 1000 inhabitants (Tennessee) in 1999 to 19.0 firms (New Jersey). In 2008, on the other hand, the density ranged from 11.9 firms (Tennessee) to 18.6 firms (Florida).

Of the twenty states in the sample, sixteen experienced a decline in density from 1999 to 2008. Only four states (California, Florida, New York, and Virginia) managed to increase their density. Illinois succeeded to maintain its density constant. The data indicate that would-be en-

trepreneurs faced strenuous circumstances for founding new ventures and growing them during the period under consideration. Key factors that appear to have played a key role in depressing the business density of micro firms in past years include the following:

First, the country's weakening economic performance. The United States experienced a steady deterioration in its economic environment as a result of growing trade and federal budget deficits. From 1999 to 2008 for example, merchandise trade deficit increased from $348 billion to $830 billion, an increase of 139 percent. On the other hand, the federal budget deficit increased from $126 billion to $459 billion, a jump of 264 percent, during the same period of time. Deficits are typically bridged by domestic and international borrowing. Although this paper is not centered around the analysis of trade and budget deficits or their economic ramification, suffice it to point out that chronic federal deficit has a 'crowding-out' effect particularly on micro firms by making borrowing and, hence, conducting business activities more daunting.

Table 3 - Micro Firms, Population, and Business Density of Selected States, 1999 and 2008 (Population in thousands)

State	Population (1999)	Population (2008)	Micro Firms (1999)	Micro Firms (2008)	Business Density (1999)	Business Density (2008)
Arizona	5,024	6,499	68,099	82,298	13.6	12.7
California	33,499	36,580	499,547	557,811	14.9	15.2
Florid	15,759	18,424	284,418	342,826	18.0	18.6
Georgia	8,046	9,698	120,870	137,578	15.0	14.2
Illinois	12,359	12,843	190,955	198,439	15.5	15.5
Indiana	6,045	6,388	85,351	84,417	14.1	13.2
Maryland	5,255	5,659	78,762	83,501	15.0	14.8
Massachusetts	6,317	6,544	110,796	106,844	17.5	16.3
Michigan	9,897	10,002	145,071	138,728	14.7	13.9
Missouri	5,562	5,956	89,363	90,204	16.1	15.1
New Jersey	8,360	8,663	158,646	158,473	19.0	18.3
New York	18,883	19,468	336,545	357,301	17.8	18.4
North Carolina	7,949	9,247	123,547	133,166	15.5	14.4
Ohio	11,335	11,528	156,921	145,774	13.8	12.6
Pennsylvania	12,264	12,523	178,423	176,925	14.5	14.1
Tennessee	5,639	6,240	76,286	74,131	13.5	11.9
Texas	20,558	24,304	279,115	297,941	13.6	12.3
Virginia	7,000	7,795	104,432	116,739	14.9	15.0
Washington	5,843	6,566	106,070	116,473	18.2	17.7
Wisconsin	5,333	5,628	84,895	83,771	15.9	14.9
Sub-total	210,927	230,555	3,278,112	3,483,340	15.5	15.2
Sub-total as a % of total	77.4	75.7	74.5	74.7	15.5	15.2
% of other states	22.6	24.3	25.5	25.3		
All states total	100.0	100.0	100.0	100.0		

Source: Calculations are based on the Census Bureau, http://www.census.gov/
Data retrieved in March 2012.

On the other hand, the country's large and chronic merchandise trade deficits imply intense international competition for domestic firms, a situation that made it difficult for at least some potential ventures to enter the market and/or for small firms to stay viable in the market for an extended period of time. Moreover, outsourcing of production of goods and delivery of services to low-wage countries such as China, India, and the Philippines made it more arduous for the establishment of new ventures in many sectors of the economy, because of the constraints imposed on the availability of domestic business opportunities. It is also highly likely that similar harmful effects had been realized as a result of rapid outflows of U.S. direct investment to, or joined ventures in, other countries.

Second, population growth rate. The United States has experienced a huge influx of immigrants especially in recent years mainly due to natural and man-made disasters in many countries around the world. As a result, the nation's population jumped from 273 million in 1999 to 304 million in 2008, an increase of 11.6 percent. The growth in the creation of new ventures had not mirrored the rate of growth in population which, in turn, caused a decrease in business density of the micro firms under discussion.

Third, inadequate government support. Shortage in government (federal, state, and local) revenue relative to expanding national needs had forced drastic cuts in spending in what was perceived to be 'less vital' programs, including the funds designated for the purpose of small business development.

Fourth, imprudent decisions made by entrepreneurs/business owners who established unsustainable enterprises that subsequently were forced out of the marketplace. For example, the number of micro firms that exited the market from 2005 to 2007 was estimated by the U.S. Department of Commerce to have reached 1.07 million firms, an astonishingly huge number of deaths for young organizations.

The decline in business density of micro firms is an indication of the economy's inability to generate sufficient new job opportunities to absorb the flow of newcomers to the labor market. Should this trend persist in the future, the United States will likely face a chronic case of elevated level of unemployment coupled with enormous social ills. The situation could easily be exacerbated by policy makers if they decide to continue to downsize governmental departments and agencies drastically.

CONCLUSION

The business density of employer micro firms in the United States is the focus of this paper. It is found that the density declined by five percent from 1999 to 2008 as a result of a drop in the business density of firms in many states. A chronic decline in density could significantly erode the country's international competitiveness. This outcome will be realized as a result of a relative decline in business formation as well as high level of unemployment. A confluence of factors played a role to depress the density. Key among them were (i) the country's weakening economic environment, (ii) inadequate government support for the creation and development of small business firms, and (iii) imprudent decisions made by entrepreneurs/business owners who established unsustainable enterprises that subsequently were forced out of the marketplace.

Improvement in business density requires the intensification of efforts by society's leaders to further encourage the establishment of small ventures, and facilitate their growth. For example, legislation is needed to provide incentives for the creation of new ventures, and for hiring employees. Of course, it is also the responsibility of would-be entrepreneurs to exert more efforts

in analyzing potential opportunities in order to avoid launching of economically fruitless projects. Lack of effective actions could lead to severe shortage of employment opportunities for the nation's increasing supply of labor force.

The subject of micro firms – as they are defined in this paper – has often been overlooked in small business literature. It certainly deserves more attention because the firms constitute a significant part of the United States' private sector. Areas that need further analysis include (a) the identification of issues that affect the structural foundation of micro firms, (b) the firms' economic impact in terms of employment, investment, innovation, and output, (c) the firms' contributions to the nation's exports of goods and services, (d) the firms' cycle of births and deaths, (e) the firms' tendency to be concentrated in certain sectors, and (f) the quantification of major factors that influence the firms' density in different states and industries.

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