The cycle of births and deaths of U.S. employer micro firms

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ABSTRACT

The vast economy of the United States entices a large number of would-be entrepreneurs to take advantage of market opportunities by establishing business ventures. Despite ample chances for success, data show that the annual rate of small firms' survival is alarmingly lower than the annual rate of their creation. This is particularly true for micro firms, that is, enterprises that each employs fewer than twenty individuals. The great majority of these firms are forced out of the market largely because of their owners' misidentification of opportunities, misallocation of resources, or mismanagement. This situation amounts to waste of national resources on a massive scale. This paper discusses the cycle of births and deaths of micro firms, and recommends survival guidelines for business owners. Recommendations include the adaptation of a systematic approach to opportunity recognition as well as matching one's skills and resources with the requirements of targeted opportunities.

Keywords: Micro firms, entrepreneurial firms, opportunity recognition, survival rate, business ventures, innovation

INTRODUCTION

The US economy, unlike many other economies of industrial countries, is an enormous platform for launching and growing small firms. It is a highly attractive destination for would-be entrepreneurs and other individuals as evidenced by the number of firms that enter the market annually. Employer micro firms – defined in this paper as enterprises that each employs fewer than 20 persons – comprise about 89 percent of all employer firms in the country. They constitute a significant economic and social force to be reckoned with. The number of firms increased from 4.5 million in 1990 to 5.4 million in 2007, a jump of 19 percent. The attraction of the firms to the economy can be attributed to a many factors, including the following:

- ✓ The sheer size of the economy. In 2010, for instance, the country's gross domestic product (GDP) was estimated at $14.7 trillion.
- ✓ Huge demand for consumer goods and service which are the firms' main output. In 2010, personal consumption spending was $10.4 trillion, or 71 percent, of the nation's GDP.
- ✓ The country's impressive past economic performance especially in terms of aggregate demand growth.
- ✓ The country's abundant skills, technology, and other strategic inputs that comprise the source of strength and growth for the firms concerned.
- ✓ The stability of the country.

Despite the prevalence of micro firms in the United States, there is a dearth of publications in recent years about their births-deaths cycle. As a matter of fact, micro firms have not noticeably been distinguished from the rest of small business organizations or studied as a distinctive group. The purpose of this paper is to investigate the firms' cycle and to provide guidelines that could help their owners and would-be entrepreneurs to compete in a dynamic and challenging global environment. To underscore the need for such a study, Maital (2010) pointed out that massive medical research is underway to find cure for diseases, but similar research is not undertaken to discover the causes of 50 million worldwide business deaths every year.

Unlike previous studies, this paper analyzes the births and deaths cycle in terms of survival rate defined as firm survival divided by firm birth, while firm survival is defined as firm birth minus firm death during the same period of time. As far as micro firms are concerned, survival rate is a better measure than mortality rate for the following reasons:

- Survival rate conveys an unambiguous picture of potential risk involved in establishing a micro venture. This is especially true during periods of economic slowdown.
- It relates the number of firm deaths to the number of firm births during the same year.
- It magnifies the plight of micro firms in our economy because of its sensitivity to the number of firm deaths.
- It encourages would-be entrepreneurs to think carefully about, and prepare fully for, a planned business venture.
- It signals the need for official policy response as the rate becomes negative, indicating the decline in the number of micro firms in the economy.

LITERATURE REVIEW

From academic viewpoint, the subject of organizational birth (founding) and organizational death (mortality) has been of interest especially to scholars in the fields of organizational ecology, institutional theory, and organizational theory. Scholars (e.g., Stinchcombe, 1965; Hannan and Freeman, 1989; Hager et al, 2004) have contributed to the introduction and /or development of a number of approaches to the analysis of organizational cycle of births and deaths, a subject widely known as organizational mortality. Many approaches have been developed including: the liability of newness, the liability of smallness, density dependence, population dynamics, fitness set theory, and resource partitioning (Singh and Lumsden, 1990). The main thrust of the analysis is based on the assumption that the rates at which organizations are created and die out are governed by environmental forces particularly competition and legitimation (Nickel and Fuentes, 2004).

Parallel to the contributions outlined above, the deaths and births cycle of small firms has also been discussed in the literature. For instance, McGarry (1947) studied the retail trade industry in Buffalo, New York and Pittsburgh, Pennsylvania. The author found out that the mortality rates of grocery stores in these cities were very high (e.g., 19.8 in 1942 and 29.6 in 1919). He attributed that to the following:

- Ruthless competition;
- Ill-equipped entrepreneurs; and
- Low cost of entry.

In analyzing survival rates in different economic sectors, Phillips and Kirchhoff (1989), found out that on average about 40 percent of new firms survive six or more years. They also reported that survival rates vary among U.S. industries with manufacturing as having the greatest rate (50 percent) while construction as having the smallest rate (35 percent). The authors concluded that only ten percent of the firms achieve growth during the first four years of their inception. In studying the survival and longevity of newly born business firms, Knaup (2005) discovered that 66 percent of new establishments were still in existence two years after their birth, and 44 percent were still in existence 4 years after. Knaup also noted that the information industry had the lowest 2-and 4-year survival rates, 63 percent and 38 percent, respectively. In the same line of investigation, Agarwal (1998) indicated that small firms enjoy a greater probability level of survival in high-technology activities and in products that are more technically oriented.

Kangasharju and Moisio (1998) investigated the cycle of births and deaths of Finish firms. The authors discovered that firm deaths caused subsequent firm births, firm births caused firm births, and that firm births did not cause firm deaths. In a study about U.K. small firms, Fotopoulos and Spence (2001) found out that regions with relatively higher levels of industrial concentration are likely to be associated with lower levels of both firm births and deaths. In investigating Portuguese manufacturing sector, Carreira and Teixeira (2011) revealed that the marketplace often forces low-productivity firms to exit. Kalleberg and Leicht (1991) investigated the relationship between gender and business failure. They demonstrated that women-owned businesses were not more likely to fail, or become less successful, than firms headed by men.

Everett and Watson (1998) classified the causes of business failure into three categories:

- Economy-based failure;

- Industry-based failure; and
- Firm-based failure.

The authors argued that external forces especially economic factors accounted for between 30 to 50 percent of the failure. External forces such as recession and interest rates are undoubtedly beyond the control of business owners. Wichmann (1983) attributed the failure of small firms largely to the following factors:

- Poor management (e.g., incompetence, inexperience);
- Lack of knowledge about accounting (e.g., use of accounting information, cash control); and
- Lack of knowledge about marketing (e.g., pricing, advertising and promotion).

In the same vein, a study conducted by Wu and Young (2002) showed that lack of skills in the following areas constituted the most significant problem confronted by small firms:

- Marketing the product or service;
- Human resources management;
- Accounting; and
- Financial liquidity.

To facilitate the execution of management functions and, therefore, to achieve success, Clyman (2004) recommends small business owners to utilize specialized software applications such as Intuit's Quick Books. In conclusion, a review of the literature reveals that a large number of small firms are forced to exit the marketplace for various internal and external reasons. The rate of business discontinuity is also believed to differ from industry to industry, from market to market, and from region to region.

SMALL FIRMS, INNOVATION, AND GROWTH

The contributions of small firms to innovation especially in the United States and European countries is widely discussed in the literature (e.g., Freel and Harrison, 2006; Mazzarol and Reboud, 2008; Tan et al., 2009; Çakar and Ertürk, 2010). Moreover, the firms' role in economic growth through increased investment, employment, output, and exports is well documented. As the firms create wealth through investment, employment, and production, they exploit market opportunities and, consequently, expand the horizon of the business to include international operations. In the process, the firms face stiff competition. Some of them change the rules of the game with innovative products or technologies. They then achieve rapid growth. Some 'go global' and attain remarkable success. However, the majority of newcomers are doomed and liquidated for various reasons.

At any rate, the scene of the micro firms in the United States is enlightening. According to recently published data shown in Table 1 below, the number of employer firms in the United States increased from 4.5 million in 1990 to 5.4 million in 2007, a jump of 19 percent. The figures are translated to an annual increase of 51,411 firms, or an average daily birth rate of 141 firms. Micro firms can be found in almost all sectors of the economy despite their small size and limited resources.

From 1990 to 2007, the ratio of micro firms to total firms in the country remained the same at 89 percent, indicating the relative strength and vitality of the economy to attract a continuous stream of new business ventures. It also shows the enthusiasm and willingness of thousands of individuals to enter the world of business every year as owners and employers. On the basis of sheer micro firm numbers, the US economy appears to be overwhelmingly a small business economy.

To illustrate further the role of micro firms, they in 1990 employed 18.9 million individuals (20 percent of total employment by the business community as a whole). In 2007, they employed 21.8 million (18 percent of the total). The low employment contribution of the firms – relative to their large numbers – is due to several interrelated factors such as their limited resources, narrow market domain, and constrained output. In general, the bulk of the firms focus their attention on a very small market segment to the exclusion of wider domestic and international opportunities.

UNIQUENESS OF MIRCO FIRMS

A question that might come to mind is: what does distinguish a micro firm from a mid-sized or large firm? A micro firm (a business enterprise that employs less than 20 individuals) is a unique and fragile entity. As compared to a larger, resourceful, and more experienced firm, the uniqueness of the micro firm stems from the fact that it is characterized by the following:

Table 1
Total Employer Firms and Micro Firms in the United States, 1990-2007
(Thousands)

Year	Total Firms In the Economy	Employer Firm Size (Micro Firms)			Subtotal of Micro Firms	Micro Firms as % of Total Firms
		1 - 4	5 - 9	10 -19		
1990	5,074	3,021	952	563	4,536	89
1995	5,369	3,250	981	577	4,808	90
2000	5,653	3,397	1,021	617	5,035	89
2003	5,767	3,504	1,025	620	5,149	89
2004	5,886	3,580	1,043	633	5,256	89
2005	5,984	3,678	1,050	630	5,358	90
2006	6,022	3,670	1,061	647	5,378	89
2007	6,050	3,705	1,060	645	5,410	89

Source: US Census, Statistical Abstract of the United States, 2011, p. 504

- ✓ A micro firm is typically a young and vulnerable entity. Thus, it might not be able to withstand an unfavorable sudden shock in the business environment.
- ✓ It is normally impoverished in strategic resources such as funds, business networks, and knowledgeable staff.

- ✓ It is constrained in its geographic outlook as a result of its focus on a narrow market niche mainly because of its resource scarcity as well as lack of awareness of broader national and international opportunities. Certainly, there are some micro firms that are 'globally-born', that is, they engage in business activities beyond the national border.
- ✓ The firm is usually under intense competitive pressure from rival firms – large and small, domestic and international - unless it is created to offer innovative, desirable new technologies, products, or services. And even in this case, the firm's sustainable competitive advantage may erode in the long-term if it remains a micro organization.
- ✓ The founder(s) of the firm is often a first-time owner/entrepreneur with limited experience, if any, in the fields of marketing, management, accounting, and finance.

FIRM BIRTHS AND DEATHS

The births and subsequent growth of firms in the United States, as a market-oriented free enterprise society, should be considered as a natural phenomenon, because the ingredients for launching and succeeding (e.g., robust consumer demand) are readily available. The motives of individuals to establish a business enterprise are many and diverse. They include economic, social, psychological, and demographic reasons. For instance, the achievement of personal goals such as financial independence, self-satisfaction, and self-actualization are often mentioned in the literature to be among the important motives. In many cases, the influence of family members or friends also plays a role in one's decision to become a business owner. Still, in other cases, the loss of one's job could be the driving force for the individual to adopt entrepreneurial activities by establishing a business venture in hope to generate a steady income.

Indeed, market opportunities - the demand for goods and service - give rise to the emergence and sustainability of firms. The lure of potential profit encourages individuals to undertake additional risks in the course of creating new firms. Moreover, opportunities provide the necessary impetus for the owner to seek the expansion of his/her business enterprise. It is expected that the great majority of firms – large and small, newly established and old – to be able to succeed for a long periods of time, because the U.S. economy as pointed out earlier is enormous and growing. Unfortunately, the data suggest that micro firms in particular, and for various reasons, are squeezed out of the market in massive numbers every year.

Table 2 below shows the number of micro firm births, deaths, and survival rates (i.e., the ratio of firm births minus firm deaths divided by firm births) for several years. The average survival rate of a firm from 1989/1990 to 2006/2007 was 9.7 percent. This means that the probability of a micro firm to exit the market at any given time during the year is more than 90 percent. The survival rate was the lowest during the period 1999-2002 because of the stock market crash. In 2001/2002 in particular, more firms (15,617 firms) exited the market than were created. As the data illustrate, the challenge of survival of micro firms is colossal. It is important to emphasize that not all firms that were considered by government surveys to have been ceased to exist were actually 'vanished'; some of them could have been acquired by, or merged with, other firms. Unfortunately, no data are available to show the number or industrial affiliation of such firms

From 1989/1990 to 2006/2007, the ratio of micro firm deaths to total small firm deaths in the economy increased slightly from 94.6 percent to 95.2 percent (not shown in the Table). This implies that the probability of survival is positively related to the firm's size: the larger the size of the firm, the lower is the probability of its being squeezed out of the market. Size does matter in this context by empowering the firm to become more resilient in facing adverse market condi-

tions. Because of the excessively high probability of market failure of micro firms, would-be owners must carefully pay attention to a number of essential issues such as:

- ✓ Assessment of risk involved in launching a business venture;
- ✓ Estimation of expected sales;
- ✓ Understanding the nature of the good or service to be offered; and
- ✓ Learning about market forces that affect the firm such as consumer demand, competition, regulations, and cost of doing business.

Table 2
Micro Firm Births, Deaths, and Survival Rates, 1989/1990-2006/2007
(Firms employing less than 20 individuals)

Year	Firm Births	Firm Deaths	Firm Survival (Births minus Deaths)	Survival Rate (Firm Survival divided by Firm Births)
1989/1990	558,478	502,685	55,793	10.0
1995/1996	572,442	485,509	86,933	15.2
1999/2000	548,030	514,242	33,788	6.2
2000/2001	558,037	523,960	34,077	6.1
2001/2002	541,516	557,133	(15,617)	(2.9)
2002/2003	585,552	514,565	70,987	12.1
2003/2004	601,927	515,031	86,896	14.4
2004/2005	616,019	539,061	76,958	12.5
2005/2006	640,710	573,302	67,408	10.5
2006/2007	639,110	564,345	74,765	11.7
Total 1089/1990 - 2006/2007*	10, 234,928	9,241,075	993,853	9.7%

Source: Small Business Administration, Office of the Advocacy: http://www.sba.gov/sites/default/files/files/dyn_us_tot.pdf. Data retrieved on July 1, 2011.
Not all years are shown in Table 2.

As alluded to earlier, economic theory predicts that micro firms are, in aggregate, more prone to fail than their larger brethren. In addition, one should expect that the survival rates of firms are expected to vary from industry to industry, from market to market, and from month to month in the same industry. For instance, in 'crowded' sectors – markets characterized with intense competition – the survival rate is deemed to be lower than the rate in less crowded sectors, say, under oligopolistic market structure. By the same token, the survival rate for innovative firms is likely to be higher than that for non-or- less innovative firms. Moreover, supporting arguments for survival can be made in favor of well-managed, well-positioned firms as opposed to mediocre or poorly managed firms.

The Bureau of Labor publishes data about firm births/deaths for several economic sectors. The data for the months of April through December 2010, for instance, show that the best

performing sectors were leisure & hospitality, professional & business services, education & health services, trade, transportation, and utilities. For the same period, on the other hand, the least performing economic sectors included manufacturing, mining, logging, and construction.

Table 3 - Survival Rates of Employer Firms for Selected States, 2007

State	Firm Births	Firm Deaths	Firm Survival (Births minus Deaths)	Survival Rate (Firm Survival divided by Firm Births)
Arizona	18,208	16,019	2,189	0.12
California	113,829	143,591	(29,762)	(0.26)
Colorado	23,035	23,080	(45)	0.00
Florida	75,533	60,724	14,809	0.20
Georgia	30,062	29,517	545	0.02
Illinois	30,013	33,213	(3,200)	(0.11)
Indiana	13,863	12,826	1,037	0.07
Maryland	20,168	20,835	(667)	(0.03)
Massachusetts	18,427	21,695	(3,268)	(0.18)
Michigan	23,168	20.359	2,809	0.12
Minnesota	12,313	12,004	309	0.03
Missouri	15,510	19,422	(3,912)	(0.25)
New Jersey	36,381	34,183	2,198	0.06
New York	67,577	65,500	2,077	0.03
North Carolina	29,042	23,570	5,472	0.19
Ohio	21,900	23,434	(1,534)	(0.07)
Pennsylvania	34,558	34,528	30	0.00
Tennessee	17,619	17,602	17	0.00
Texas	55,865	55,269	596	0.01
Virginia	22,174	21,726	448	0.02
Washington	33,191	35,077	(1,886)	(0.06)
Wisconsin	12,663	12,920	(257)	(0.02)
Total	725,099	737,094	(11,995)	(0.02)

Source: US Census, Statistical Abstract of the United States, 2011, p. 507

HOW DO INDIVIDUAL STATES FARE?

How do different states of the United States fare in terms of their business survival? Table 3 above shows the survival rates of employer (micro and non-micro) firms for selected states for 2007. States with populations of five million or more inhabitants in 2007 were included in the Table. Twenty-two states (representing seventy-seven percent of the country's population) satisfied the specified threshold. Although the Table provides data for a single year, it nevertheless reveals important information about the situation facing small firms throughout the country.

As can be seen in the Table, the year 2007 was a difficult period of time for the private sector in the United States. As a result, the overall survival rate of firms in the selected states was

negative (more firm deaths than births). Moreover, firms in the states of California, Missouri, Massachusetts, Illinois, Ohio, and Washington encountered very difficult business environment, as evidenced by negative survival ratios. On the other hand, business firms in the states of Florida, North Carolina, Arizona, Michigan, and New Jersey experienced more conducive environment than in many other states. Therefore, they had a relatively high survival rates.

What does account for the differences in survival rates of business firms in various states? Influencing factors could include the following:

- Size of the state in terms of population.
- Budget situation of the state (i.e., the magnitude of the surplus or deficit).
- Intensity of the state's industrial (or service) base.
- Level of economic development of the state as measured by such indicators as the state's output of goods and services.
- Strength of the state's business ties with the rest of the world as reflected, for example, in the state's magnitude of trade surplus or deficit with rest of the world.
- Technological and innovative base of the firms in the state.
- Incentives offered to domestic and international business firms.
- The attraction of the state as tourists' destination.

ENHANCING THE PERFORMANCE OF MICRO FIRMS

A question that needs to be addressed is: What is to be done to enhance the performance of micro firms? In other words, what is needed on the part of individual firms to increase the probability of their survival? The Business Review Weekly (2010), for example, argues that the survival of a small firm depends mainly on its ability:

- To establish quality customer relations;
- To ward off other competing firms; and
- To innovate.

In addition, we believe that individuals who plan to start a business enterprise need also to consider the following issues:

- ✓ The adaptation of a systematic approach to recognize opportunities and to match one's skills, experience, and funds with the requirements of targeted opportunities. There are a number of useful sources of information about potential opportunities. Among them are personal contacts, trade publications, and one's own work experience. Furthermore, software analysis has been introduced to assist individuals and firms to identify lucrative demand for goods and services. Gourley (2011), for example, believes that Quid semantic-clustering analysis software is a remarkable technique in this regard.
- ✓ The establishment of a firm to engage in unfamiliar business activities might be a tantamount to embarking on excessive and unwarranted risks.
- ✓ The cost and benefit of creating a business entity (including the emotional ramification of failure) should be taken into consideration.
- ✓ Selection of business partners, investors, and employees should be should be on the basis of well-defined criteria.

- ✓ Crafting a business plan. The plan should address such aspects as:

    - The business Opportunity.
    - A vision for the enterprise.
    - Two or three key goals.
    - Target customers.
    - Geographic domain of the enterprise.
    - Major competitors with emphasis on their marketing strategies.
    - Key personnel and skills needed.
    - A two-year forecasting of revenue and cost.
    - Listing of significant potential obstacles.
    - Availability and sources of needed funds.
    - An outline of future innovative initiatives
    - Exit strategy.

CONCLUSION

The survival probability of a micro firm in the United States is about 10 percent. The probability differs among states, industries, and entrepreneurs. Moreover, the chance of market endurance for the firm could be much lower during periods of economic slowdown as has witnessed by the economy for the past few years. Unlike their more resourceful and larger brethren, micro firms are fragile and unable to withstand intense competition or adapt to rapid technological change. The great majority of the firms operate in 'traditional' industries that have been invaded by countless other businesses much of which are nowadays confronted with international competition especially from China. To improve the chances of survival, owners/entrepreneurs of micro firms ought to meticulously indentify potential market opportunities and then match their skills, resources, expertise with the requirements of the planned business venture.

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