Characteristics of New Firms: A Comparison by Gender

Third in a series of reports using data from the Kauffman Firm Survey

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This short report uses data from the Kauffman Firm Survey to explore, by gender, various firm, owner, financing, and performance characteristics of new firms. Women-owned firms represent an increasingly important segment of the small-business sector. According to data from the U.S. Census Bureau, there were 6.5 million privately held women-owned firms in the United States in 2002.[1]

These firms generated an estimated $940 billion in sales and employed 7.1 million people. Although women-owned firms still comprise a minority of all firms (28 percent), their numbers have been growing rapidly. The number of women-owned firms increased by 19.8 percent from 1997 to 2002, compared with a growth rate of 10.3 percent for U.S. firms overall. For the same period, the number of women-owned firms with employees increased 8.3 percent, compared with 4.3 percent for U.S. firms overall.

In spite of these impressive gains, women-owned firms have lagged men-owned firms in a number of performance measures. From 1997 to 2002, the revenues for women-owned firms increased by less than 15 percent, compared with 22 percent for all U.S. firms. Similarly, employment by women-owned firms grew by only one percent, compared with a growth rate of 7.2 percent for U.S. firms overall. Finally, payroll grew by 17 percent, compared with 30 percent for all U.S. firms. These Census Bureau statistics reveal that, while the number of women-owned firms grew more rapidly than the number of firms owned by men, their performance in terms of sales, employment, and payroll actually declined for the period of 1997-2002.

A number of studies examine the relative underperformance of women-owned firms in survival (Robb, 2002; Fairlie and Robb, 2008), size (Loscocco et al., 1991), growth (Brush et al., 2001; Cliff, 1998), earnings, and profits (Kepler & Shane, 2007). In general, the studies suggest that women-owned firms are smaller and less growth-oriented than men-owned firms.

The Kauffman Firm Survey (KFS) is a survey of new businesses in the United States. This survey annually collects information on 4,928 firms that started in 2004. This cohort is the first large, national sample of firm startups that will be tracked over time. These data contain detailed information on both the firm and up to ten business owners per firm. In addition to the 2004 baseline year data, two years of follow-up data (2005 and 2006) now are available. Additional years are planned. Detailed information on the firm includes industry, physical location, employment, profits, intellectual property, and financial capital (equity and debt) used at startup and over time. Information on up to ten owners includes age, gender, race, ethnicity, education, work experience, and previous startup experience. For more information about the KFS survey design and methodology, see Ballou et al., (2008). A public-use dataset is available for download from the Kauffman Foundation's Web site and a more detailed confidential dataset is available to researchers through a data enclave provided by the National Opinion Research Center. For more details about how to access these data, see www.kauffman.org/kfs.

1. U.S. Census Bureau. 2006. *Characteristics of Businesses: 2002: 2002 Economic Census, Survey of Business Owners Company Statistics Series,* Washington, D.C.: USGPO.

A subset of the KFS confidential data—firms having data for all three years and those verified as going out of business in either 2005 or 2006—is used in this research. This reduces the sample size to 4,159 businesses. The method for assigning owner demographics at the firm level was to first define a primary owner. For firms with multiple owners (35 percent of the sample), the primary owner was designated by the largest equity share. In cases where two or more owners owned equal shares, hours worked and a series of other variables were used to create a rank ordering of owners to define a primary owner. (For more information on this methodology, see Ballou et al., 2008). Firms with a female primary owner are classified as women-owned firms. Multi-race/ethnic owners are classified into one race/ethnicity category based on the following hierarchy: black, Asian, other, Hispanic, and white. For example, an owner is defined as black, even if he/she is also Hispanic. As a result of the ordering, the white category includes only non-Hispanic white.

Table 1 provides descriptive statistics, by gender, for firms included in the KFS. On average, both women and men firm owners were 44 years old. Men had more years of prior industry experience (13.23 years vs. 9.04 years), however, and devoted more time to the business. In terms of educational level, more women than men attended college (41.7 percent vs. 34.2 percent), but men were more likely to graduate (31.6 percent vs. 27.9 percent). Approximately 18 percent of both went on to obtain a graduate degree.

Table 2 reveals additional differences between women- and men-owned firms included in the KFS data. Women were more likely to operate a home-based business (52.7 percent vs. 49.6 percent) and were more likely to be organized as a sole proprietorship (45.3 percent vs. 32.9 percent). Conversely, men-owned firms were more likely to have multiple owners (34.9 percent vs. 31.9 percent) and their firms were more likely to be organized as either an LLC or as a corporation. A higher percentage of women than men (63.3 percent vs. 60.7 percent) felt that they had some comparative advantage. Approximately one-fifth of both women- and men-owned firms owned companies that had some type of intellectual property in their first year of operation (patents, trademarks, and/or copyrights).

Table 2 provides valuable insights into differences between women's and men's credit quality. Specifically, a higher percentage of women had "low" business credit scores (38.1 percent vs. 31.6 percent). In turn, a higher percentage of men had "high" business credit scores (12.7 percent vs. 10.5 percent). This important distinction in credit quality could have implications for women owners' ability

Table 1
Primary Owner Characteristics by Gender

	Male	Female
Mean Owner Age	44.80	44.69
Mean Work Experience (years)	13.23	9.04
Mean Hours by Owner (weekly)	43.34	39.98
Mean Number of Previous Business Starts	0.45	0.35
Less than High School Degree	2.6%	0.7%
High School Graduate	13.0%	10.1%
Some College	34.2%	41.7%
College Degree	31.6%	27.9%
Graduate School or Graduate Degree	18.2%	18.9%

Source: Kauffman Firm Survey Microdata.

Table 2
Firm Characteristics by Primary Owner Gender
(Percentage of Firms)

	Male	Female
Home-Based	49.6%	52.7%
Comparative Advantage	60.7%	63.3%
Intellectual Property	19.4%	18.6%
Multi-Owner Firm	34.9%	31.9%
Low Business Credit Score	31.6%	38.1%
Medium Business Credit Score	55.8%	51.4%
High Business Credit Score	12.7%	10.5%
Legal Form		
Sole Proprietor	32.9%	45.3%
Partnership	5.0%	7.0%
LLC	32.9%	25.1%
Corporation	29.2%	22.7%
Start Up Capital		
Less than $2,000	16.0%	19.5%
$2,000–$7,499	16.1%	19.3%
$7,500 –$24,999	23.8%	23.0%
$25,000–$124,999	43.5%	37.9%
$125,000+	21.8%	17.0%

Source: Kauffman Firm Survey Microdata.

to secure financing, particularly in the form of debt, for their firms. Consistent with prior research (Coleman & Robb, 2008), Table 2 also reveals that women started their firms with less capital than men did; 38.8 percent of women used less than $7,500 of startup capital, compared with 32.1 percent of men. Conversely, 65.3 percent of men started their firms with $25,000 or more, compared with 54.9 percent of women. This funding gap, particularly in the early stages of the firm's development, could impact the performance outcomes of women-owned firms in terms of their ability to survive, grow, generate earnings, and hire employees.

Table 3 provides an industry breakdown for firms included in the KFS. As noted in prior research (Anna et al., 1999; Du Rietz & Henrekson, 1999; Kelleberg & Leicht, 1991; Loscocco et al., 1991), women are much more heavily represented in retail (19 percent vs. 12 percent) and "other services" (11.1 percent vs. 8.5 percent) than they are in construction (4.8 percent vs. 13.1 percent). Industry differences may have an impact on the types of capital that female owners seek and are able to obtain.

In Table 4, we provide descriptive statistics for firm outcomes by gender, revealing that men-owned firms outperformed women-owned firms in every measure examined. Men-owned firms were larger than women-owned firms in terms of both assets and revenues. More than 50 percent of men-owned firms had assets in excess of $50,000, compared with 37 percent of women-owned firms. On average, men-owned firms had assets of $104,313, compared with $57,338 for women-owned firms. Similarly, 32.8 percent of men-owned firms had revenues in excess of $100,000, compared with only 19.8 percent of women-owned firms. Average revenues for men-owned firms were $118,987, compared with $60,264 for women-owned firms. Table 4 also reveals that men-owned firms outperformed women-owned firms in profitability, employment, and survival. More than 20 percent of men-owned firms had profits in excess of $10,000, compared with 12.6 percent of women-owned firms. In fact, men-owned firms were more than twice as profitable as women-owned firms on average ($30,373 vs. $14,549). Men-owned firms were more likely to employ workers aside from themselves (44 percent vs. 36.2 percent), and the average number of employees for a men-owned firm was 3.1, compared with 1.8 for women-owned firms. Finally, men-owned firms had higher survival rates than women-owned firms—81.4 percent of men-owned firms survived through 2006, compared with 76.9 percent of women-owned firms.

Our descriptive statistics reveal that women-owned firms included in the KFS were smaller in terms of assets and revenues, less profitable, and less likely to survive than men-owned firms. Further,

Table 3
2-Digit NAICS Distribution by Primary Owner Gender
(Percentage of Firms)

	Male	Female
Construction	13.1%	4.8%
Manufacturing	6.3%	5.3%
Wholesale	5.2%	6.2%
Retail	12.0%	19.0%
Transportation & Warehousing	3.0%	1.7%
Information	3.8%	2.1%
Finance and Insurance	5.1%	2.4%
Real Estate & Rental and Leasing	5.1%	5.8%
Professional, Management, and Educational Services	18.5%	16.3%
Administrative, Support, Waste Management, and Remediation Services	11.3%	10.6%
Health Care and Social Assistance	2.0%	7.1%
Arts, Entertainment, and Recreation	2.2%	3.7%
Accommodation and Food Services	2.6%	2.0%
Other Services	8.5%	11.1%

Source: Kauffman Firm Survey Microdata.

Table 4
2006 Outcomes by Primary Owner Gender
(Percentage of Firms & Average Outcomes)

	Male	Female
50K+ Assets (2006)	50.4%	37.0%
100K+ Revenue (2006)	32.8%	19.8%
10K+ Profits (2006)	21.1%	12.6%
Employer Firm (2006)	44.0%	36.2%
Survived Through 2006	81.4%	76.9%
Average Employment	3.1	1.8
Average Revenue	$118,987	$60,264
Average Profits	$30,373	$14,549
Average Assets	$104,313	$57,338

Source: Kauffman Firm Survey Microdata.

women-owned firms started with smaller amounts of capital; 61.8 percent of women started their firms with less than $25,000, compared with 55.9 percent of men. Multivariate results[2] (not shown) reveal that performance differences between women- and men-owned firms persist, even controlling for a variety of firm and owner characteristics. Women-owned firms demonstrated significantly lower levels of 2006 assets, revenue, profits, and employment. They also demonstrated lower survival rates than men, although that difference was not statistically significant. Finally, our multivariate results did provide a positive link between startup capital inputs and performance outputs. Our findings reveal that firms that started with higher amounts of capital (>$125K) had significantly higher performance levels in terms of assets, revenue, and employment. Thus, since women-owned firms start with lower levels of startup capital, it is not surprising that they underperform relative to men-owned firms in these performance measures.

Our findings further reveal, however, that even controlling for the amount of startup capital, women-owned firms still underperformed firms owned by men in assets, revenue, income, and profits. This finding leads us to conclude that, although the level of startup capital does impact performance, it is not the only factor determining women-owned firms' performance. Our results suggest that other motivations may be at work. As suggested by prior research, women may place less value on firm size and profits than do men-owned firms. Alternatively, women may have a higher level of risk aversion for the perceived risks associated with firm size, growth, and a possible loss of control. These possibilities provide opportunities for further research into the motivations and performance outcomes of women-owned firms.

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