

**Does Formal Institutional Access to Startup  
Funds Matter for the Survivability of Latina-  
Owned Firms?**

by

Rubén O. Martinez and Bette Avila

**Research Report No. 49  
December 2011**

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## ***Abstract***

Using the Kauffman Firm Survey (2004-2009) data, this study examines the type of funding sources Latina-owned businesses utilized during their first year of operation, compares the results with businesses owned by Latinos and women of other racial/ethnic groups, and examines the association of type of startup funds with business survivability. Previous literature suggests that businesses that lack formal funds at startup have more difficulty surviving in the long run. The study sample consists of 4,815 businesses at the baseline year (2004). Overall, the results of the analysis suggest that: (1) Latinos are significantly younger and have fewer years of work experience, on average, compared to White men, while Latinas do not significantly differ compared to White women; (2) Latina-owned businesses represent a larger percentage of businesses within the low technology sector and a smaller percentage of businesses within the medium and high technology sectors compared to White women, while Latinos do not significantly differ compared to White men; (3) Latinos use significantly more informal funds compared to White men, while Latinas do not significantly differ in their use of any type of startup funds compared to White women; and (4) Latino- and Latina-owned businesses are significantly more likely to go out of business compared to White male and female-owned businesses, regardless of the type of startup funds they utilize. This analysis also provides factors at both the owner and firm levels affecting business success. Implications for future research and policy recommendations are discussed.

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# Does Formal Institutional Access to Startup Funds Matter for the Survivability of Latina-Owned Firms?

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# Does Formal Institutional Access to Startup Funds Matter for the Survivability of Latina-Owned Firms?

## Introduction

Latina-owned businesses represent an important component of the U.S. economy and are cited as the fastest growing segment of the women-owned business market (Fitzgerald, 2003). According to the 2007 Survey of Business Owners, Latinas owned 787,914 U.S. firms which generated approximately \$56 million in receipts. Of these, 53,044 were employer firms which employed 363,430 workers in 2007 (U.S. Census Bureau, 2011). The number of Latina-owned businesses increased by 172% between 2002 and 2007, and their employer firms increased by 79.5% during the same period. Those of Latinos (males) increased by 140% and 70.1%, respectively, for the same period. By contrast, increases among White females were 52.9% and 32.4%, respectively. However, Latina-owned firms are not as successful as Latino-owned firms or firms owned by women of other races/ethnicities in terms of total number of firms, receipts, or number of employees. For example, Latinos owned 1,227,485 U.S. firms, generated approximately \$256 million in receipts in 2007, and their 157,448 employer firms employed 1,281,259 employees (U.S. Census Bureau, 2011). Similarly, White women owned 6,359,063 firms, generated approximately \$1 billion in receipts, and their 782,691 employer firms employed 6,682,695 employees in 2007 (U.S. Census Bureau, 2011)<sup>1</sup>.

Several obstacles are cited in the literature that limit Latina business owners' success compared to Latinos and White women, including lower human capital (Taniguchi, 2002; Zucker, Katras, Montalto, & Olson, 2003), their location in vulnerable industries (Lofstrom & Bates, 2009) and a lack of startup capital for their businesses (National Women's Business Council, 2006; Smith-Hunter, 2006).

Using the KFS data Martinez, Avila, Santiago, and Tello Buntin (2011) compared minority to White business owners in terms of the effects of startup capital on business survivability. They found that the type of startup funds minority business owners utilize impacts the long-term survivability of their businesses and that gender was an important individual level (primary owner) predictor of business survivability. Specifically, women-owned firms were significantly more likely to go out of business compared to men-owned firms, controlling for the type of funds utilized at startup and other owner and firm characteristics (Martinez et al., 2011). However, they incorporated gender as a covariate in their analysis,

limiting the extent to which they were able to analyze the potential impact of startup fund types on the differences in business survivability for men and for women by race/ethnic group. In consideration of their previous findings, we narrow our research aim in this analysis to investigate the association between startup fund type and business survivability by race/ethnicity for the separate gender subgroups.

## Background

In this section we summarize the findings of research on Latina business owners and Latina-owned businesses in the U.S., and the factors associated with their success. Unfortunately, while the available literature on Latino business owners is limited overall, the literature on Latina business owners, specifically, suffers from an even greater lack of research. As Lofstrom & Bates (2009) suggest, more research is needed that moves "[b]eyond merely describing traits and performance of Latina entrepreneurs and the firms they own" (p. 428).

Data from the National Foundation for Women's Business Ownership 2000 indicated that Latinas pursue self employment for reasons similar to those of other women, including a desire to be their own boss, own a business, work with family members, and obtain increased income (as cited in Fitzgerald, 2003). Additionally, some analyses have found that self-employed Latinas make less than their wage and salary counterparts, suggesting that Latina business owners are motivated by more than the economic returns of owning their own business (Lofstrom & Bates, 2009; Fitzgerald, 2003). Additionally, researchers have found that racial/ethnic minority women fare worse in terms of their entry rates into business ownership and their success compared to White women and men (Lofstrom & Bates, 2009; Robb, 2002; Taniguchi, 2002). In an analysis of the National Longitudinal Survey of Youth, Taniguchi (2002) found that being Latina was not significantly associated with slower rates of entry into self-employment when controlling for marital status and years of work experience. However, when considering the impact of work experience, Latinas' rate of self-employment significantly declined by 22%. Additionally, in an analysis of the 1992 Survey of Minority- and Women-Owned Business Enterprises (SMOBE) and the 1989-1999 Business Information Tracking Series (BITS) data, Robb (2002) found that

<sup>1</sup>African American women owned 911,728 firms, generated approximately \$36 million in receipts, and employed 245,474 employees. Asian women owned 522,969 firms, generated approximately \$88 million in receipts, and employed 561,031 employees. Interestingly, African American women owned more firms than Latinas but generated less in receipts and employed fewer employees. Furthermore, Asian women owned fewer firms than Latinas, but generated substantially more in receipts and employed more employees, suggesting that they work in more economically lucrative industries (U.S. Census Bureau, 2011).

Latina-owned businesses had a survival rate of 39.8%, the second to lowest rate among minority and non-minority men and women. In comparison, African American males and females were the only two groups that had lower rates of business survival. These findings point to the difficulties that Latinas face in becoming business owners, as well as the difficulties they face in sustaining their businesses. It is noteworthy that the barriers to becoming business owners are very similar to those hindering Latinas' continued business success beyond the initial stages of operation.

Several reasons have been provided in the literature as to why Latinas fare worse in their business ventures. First, minority women tend to have relatively low levels of human capital, such as education, work experience, or age (Smith-Hunter, 2004; Taniguchi, 2002) that impact their ability to enter into and successfully operate their businesses. Thus far, a majority of the analyses focused on Latina entrepreneurs and the role of human capital have studied the impact on wage differentials between the self-employed and wage and salary employees (Olson, Zuicker, & Montalto, 2000; Lofstrom & Bates, 2009). Overall, these analyses find that education and work experience are vitally important to business success in terms of profitability for White and minority women. For example, utilizing data from the 1996 and 2001 Survey of Income and Program Participation (SIPP), Lofstrom & Bates (2009) found that education, in particular, greatly affected the earnings differential between self-employed Latinas and White women. Specifically, Latinas in the sample were six times more likely than White women to lack a high school diploma, while White women were over twice as likely to be college graduates. Overall, 100% of the earnings differential between self-employed Latinas and White women was explained by differences in educational attainment. Additionally, length of time owning a business (work experience) and the generally older age of White female business owners also contributed to their higher self-employment earnings compared to Latinas. However, once these characteristics were equalized for self-employed Whites and Latinas, Latinas actually had the potential to earn more than their White counterparts pursuing business success.

Similarly, using 1990 U.S. Decennial Census data, Olsen and colleagues (2000) compared Latinas to Latinos and found that a college degree and the number of hours worked were significantly and positively associated with higher income in the self-employment and wage and salary sectors. Still, being Latino was associated with higher income compared to being Latina, and this was especially the case for the self-employed, as the difference in earnings was greater for Latino entrepreneurs compared to Latina entrepreneurs.

While the previous studies focused on Latina-owned businesses' profitability, evidence from other studies suggests that human capital is also important to business survivability.

Specifically, Lee & Zhang (2010) conclude that business owners with higher education are more likely to survive in the marketplace because of their ability to learn faster and gain access to advantageous sources of financial capital. If education has such a tremendous impact on Latina business owners' ability to profit, it is likely that it also impacts their ability to keep their businesses in operation since profitability is also a key determinant of business sustainability. For example, research has found that survival increases with employment size (Hall, 1987; Jovanovic, 1982) and women- and minority-owned firms are typically smaller than those owned by White men (Robb, 2000). Therefore, to increase employment size, a firm must generate the profits to hire more employees, an area in which racial/ethnic minority women-owned firms struggle compared to White-owned firms, thereby reducing their likelihood of expansion and survival.

A second factor impacting self-employed Latinas' business success is the vulnerable industries in which they are located and their relatively lower net worth compared to White women. Latina-owned businesses are primarily located in the personal services and retail trade industries (Smith-Hunter, 2004; Young & Flores, 2011). This is also true for other minority and non-minority female business owners, and some scholars have argued that this is because these industries are seen as natural extensions of women's roles in the home (Smith-Hunter & Kapp, 2009). However, pursuing entrepreneurship in these industries also tends to require less startup capital and lower human capital (Smith-Hunter, 2004). For example, Bates, Lofstrom, & Servnon (2010) call the more economically lucrative businesses in the professional, managerial, and finance industries "high barrier" due to the large amounts of startup capital needed to fund these ventures and the advanced educational credentials needed to successfully operate businesses. Specifically, Bates, Lofstrom, & Servnon (2010) found that only those individuals with personal net worth of at least \$150,000 or more were able to open businesses in the high barrier industries. In contrast, the personal services, repair, or construction industries are viewed as "low barrier" since they require lower amounts of startup capital and education, but they also offer lower financial returns (Smith-Hunter, 2004; Olson, Zuicker, & Montalto, 2000). Using the Survey of Women-Owned Business Enterprises (SWOBE) data, the National Women's Business Council (2004) found that, compared to firms owned by women of other races/ethnicities, Latina-owned firms were the least likely to survive in all industries except for construction and retail trade. Additionally, the number of Latina-owned firms grew in these two industries between 1997 and 2000 (National Women's Business Council, 2004). Overall, Latinas' lower household net worth, combined with their lower educational attainment compared to White women (Lofstrom & Bates, 2009), make it particularly difficult for

them to enter into the more lucrative “high barrier industries” and generally limit them to the low profitability sectors.

In addition to human and social capital factors, an additional component important to Latinas’ and other women entrepreneurs’ success has to do with difficulties in accessing financial capital. Research findings suggest that financial capital at startup is important to business success and that startup capital for women is usually limited to personal savings and bank loans (Smith-Hunter, 2003). However, other evidence suggests that Latinas use the least amount of bank loans, using instead personal savings, loans from family and friends, and credit cards or personal loans to startup their businesses because of their difficulties in dealing with banks (Smith-Hunter, 2006; Fitzgerald, 2003).

Compared to men, all women face greater challenges in gaining financing from banks, as well as other sources of support such as government programs aimed specifically at helping small businesses (Smith-Hunter, 2003). Previous research also suggests that Latinos, including men and women, typically borrow from sources such as previous businesses they have owned or from home ownership in previous locations, from family capital, and from savings of previous job salaries (Flora, Thompson, Prado-Meza, & Flora, 2010; Martinez et al., 2011). Additionally, Latinos have double the rate of bank loan denials compared to Whites (Cavalluzzo & Wolken, 2005); discrimination in the bank lending process remains even after controlling for credit history, credit rating, characteristics of firms, firm owners, loans, lenders, and regions. Further, discriminatory lending practices lead to higher loan interest rates for Latinos (Blanchard, Zhao, & Yinger, 2008). Finally, Latinos may shy away from borrowing from banks because of other culturally-related obstacles (Steven Shepelwich quoted in Medley, 2010).

Nevertheless, Latina business owners’ ability to gain access to startup capital and its impacts on firm survivability is a relatively unexplored topic in the entrepreneurship literature. Much of the literature on entrepreneurship either looks at race differences in accessing startup capital, or gender differences, but rarely at both. Robb (2002) provides a rare analysis that examines the impact of both race and gender on business survivability. However, while Robb’s analysis takes into account firm characteristics, it does not incorporate owner characteristics that are also important determinants of business survivability.

Given previous study findings on Latina businesses, the aims of this study are: (1) to describe the characteristics of Latina owners and Latina-owned businesses, and compare the results with Latinos and women of other race/ethnic groups; (2) to examine the type of startup funds used by Latina-owned businesses and Latinos and women of other race/ethnic groups; and (3) determine if the type of startup funds utilized affected business survivability for Latinas, Latinos,

and women of other race/ethnic groups.

## Data and Study Sample

### Data

To address these research aims we utilized the Kauffman Firm Survey (KFS) (See Robb and Coleman, 2009 for a detailed description of the survey). The KFS data are from an ongoing research project surveying newly established businesses in the United States. The survey keeps track of 4,928 new businesses started in 2004 that were identified through the Dun & Bradstreet database, as well as through federal tax information. Firm owners were contacted through online and automated telephone surveys for details about the firm and owner characteristics, financial structure, and business performance. In April 2010, KFS made three years of follow-up data available (2005-2008) in addition to the 2004 baseline data. In addition, in March 2011, KFS also released the 2009 follow-up data, which we included in our analysis. The KFS is the largest longitudinal dataset of new small businesses currently available. The KFS includes businesses legally identified as sole proprietorships, partnerships, or corporations (including franchises). As such, the survey excludes enterprises that are out-of-business, inherited businesses, and non profits.

The KFS provides detailed information on businesses as well as owner characteristics, including age, gender, education, and previous work experience for up to ten owners of each firm. Moreover, the KFS provides financial information, such as the types of funds utilized to start up and sustain a new business (debt and equity), as well as the sources of the funds (family, friends, non-bank institutions, banks, other businesses, etc.)—information pertinent to accomplishing the research purposes of this study. Finally, the KFS includes an oversampling of minority business owners, including Latinos, African Americans, and Asians. For the purposes of this analysis, we used all the waves of the KFS data, which spanned the years 2004-2009.

### Study sample

The KFS data include a sample of 4,928 businesses. However, the KFS provides information on up to ten owners of each firm. Thus, we utilized syntax provided by Alicia Robb at the Kauffman Foundation that allowed us to extract individual-level information for the primary owner only (<http://www.kauffman>).

org/kfs/KFSWiki/ResearchForum.aspx). According to Robb's classification scheme, if there is more than one owner of a firm, the primary owner is classified as the owner with the most equity in the business. If all owners have an equal share in the business, then the next level of classification is the number of hours each owner worked. However, a majority of the businesses (60%) in the survey have a single owner only (Lee & Zhang, 2010). After selecting characteristics for the primary owner only and keeping only those cases that did not contain missing data for variables needed to construct the primary owner hierarchy, we ended with 4,815 firms. By race, there are 3,722 White-owned firms, 383 African American-owned firms, 244 Latino-owned firms, and 211 Asian-owned firms (an additional 205 firms owned by other races/ethnicities are not displayed in the results of this analysis). In terms of gender, there are 3,574 male-owned firms and 1,233 female-owned firms. A breakdown by race/ethnicity and gender results in a sample of 191 Latinos, 63 Latinas, 261 African American men, 136 African American women, 155 Asian men, 60 Asian women, and 2,879 White men and 946 White women. There were 8 missing cases with no information provided for gender, which is equivalent to less than 1% of the study sample.

## Variables

The variables incorporated in this analysis were taken from our original analysis using the KFS data in Martinez et al. (2011). In order to replicate that original analysis, but looking more closely at the potential gender differences, we included both the owner and firm characteristics that were statistically significant in that analysis, as well as those deemed important to Latinas' business success in the literature on entrepreneurship.

## Dependent variables

### Firm Survival

Our primary research question concerns firm survival. For the purposes of this analysis, we created a binary variable with values representing whether a firm survived or went out of business (0=survived, 1=out of business) for each of the five years of the survey (2004-2005, 2005-2006, 2006-2007, 2007-2008, and 2008-2009).

## Independent variables

Previous research suggests that minority women are constrained in their access to funding and that this impacts their business success (Smith-Hunter, 2006). Following the work of Lee & Zhang (2010), we formulated three types of startup funds: personal, formal and informal. These types of startup funds represent three different variables in the dataset and are not mutually exclusive.

**Personal funds.** Personal funds are defined as owner investments and include money an owner put forth for an ownership share of the business in the form of debt or equity. Personal funds was coded as 0 if the business did not use personal funds its first year of operation, and 1 if the business used personal funds only or in combination with other types of startup funds.

**Formal funds.** Formal funds include any funding from other companies, venture capitalists, or government agencies, either in the form of investments or loans to the business. Formal funds was coded as 0 if the business did not use formal funds its first year of operation, and 1 if it used formal funds only or in combination with other types of startup funds.

**Informal funds.** Informal funds include investments in the business or loans to a business by family, friends, or spouse(s) of the owner(s). Informal funds was coded as 0 if the business did not use informal funds its first year of operation, and 1 if it used informal funds only or in a combination with other types of startup funds.

## Control variables

Based on previous research findings, this analysis controls for the possible effects of individual and business level variables. At the individual level, we controlled for the primary owner's race/ethnicity, age, educational level and years of work experience. At the business level, we controlled for the business technology level, place of business (home based vs. non-home based business), and type of industry (high barrier vs. low barrier industries).

## Individual Level Variables

### Race/ethnicity.

The primary focus of this analysis is Latina business owners. We constructed a categorical variable with



five race/ethnic categories where 1=Whites, 2=African Americans, 3=Latinos, 4=Asians, and 5=others (including Native Hawaiians, Native Americans, and mixed race) to measure potential differences among race/ethnic groups. We do not report results for individuals in the “other” race/ethnic category because of the wide heterogeneity of the group. For analysis purposes we used Whites as the reference group.

### Age

While Latina business owners tend to be younger than Latinos (Shim & Eastlick, 1998), other research suggests that Latinas are older than their White female counterparts (Robles, 2004).

### Education

Business owners with higher education typically have greater ability to access certain types of financial capital and are more likely to survive in the marketplace because of the ability to learn faster or gain access to advantageous sources of capital (Lee & Zhang, 2010). This analysis incorporates an education variable as Latinas tend to have lower educational attainment compared to White women (Lofstrom & Bates, 2009; Taniguchi, 2002) and Latinos (Zuicker, Katras, Montalto, & Olson, 2003). Education is coded as a binary variable, indicating whether an owner graduated from college or has less than a college degree.

### Work experience

Similar to education, previous research suggests that work experience is also an important factor affecting future business success (Fairlie & Robb, 2007). Specifically, workers with more years of work experience tend to have better access to sources of formal financial capital, such as bank loans (Lee and Zhang 2010). Previous research suggests that Latinas have less work experience than their White women counterparts (Smith-Hunter, 2006) or Latinos (Zuicker, Katras, Montalto, & Olson, 2003). The KFS asked respondents the following question: “how many years of work experience have/has you/

owner had in this industry—the one in which the business operates?” Respondents replied with the number of years of experience. We kept this variable in its original form as a continuous measure of work experience.

## Business Level Variables

### Business technology level

The KFS classified businesses into high, medium, and non-technology strata<sup>2</sup>. Overall, high-tech businesses are more likely to succeed than smaller consumer service businesses or other low-tech businesses, as is evidenced in the literature (Bates, Lofstrom, & Servnon, 2010; Robb, 2002). In addition, poorer minority business owners are less likely to have the personal financial capital to break into higher technology industries because of the high costs to do so (Bates, Lofstrom, & Servnon, 2010). This is even more pertinent for Latina business owners, who tend to cluster in the low-technology services and retail trade industries more so than their White women counterparts (Smith-Hunter, 2006) or Latinos (Zuicker, Katras, Montalto, & Olson, 2003).

### Home-based business

Small “microenterprises” are a common entrepreneurial venture for new business owners, particularly for Latinos (Robles, 2007). Small businesses can include those operated from a storefront. However, many small businesses are considered forms of secondary self employment, or informal economic activities, that don’t occur from a storefront. Latinas face similar problems accessing the mainstream business market as Latinos, such as cultural barriers, poor language proficiency, or structural issues, such as outright racism and an inability to obtain funds for new business ventures. However, Latinas commonly fulfill household obligations that Latinos may not, such as childcare or housework, that limit their ability to participate in self employment from a storefront. Instead, Latinas may perform personal services from their own or others’ homes such as childcare, housecleaning, and laundry,

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<sup>2</sup>Businesses were considered high technology if they had the following Standard Industrial Classification (SIC) codes: (28) chemicals and allied products (35) industrial machinery and equipment, (36) electrical and electronic equipment, and (38) instruments and related products. Businesses were considered medium technology if they had the following SIC codes: (131) crude petroleum and natural gas operations, (211) cigarettes, (229) miscellaneous textile goods, (261) pulp mills, (267) miscellaneous converted paper products, (291) petroleum refining, (299) miscellaneous petroleum and coal products, (335) nonferrous rolling and drawing, (348) ordnance and access, not elsewhere classified, (371) motor vehicles and equipment, (372) aircraft and parts, (376) guided missiles, space vehicles, and parts, (379) miscellaneous transportation equipment, (737) computer and data processing services, (871) engineering and architectural services, (873) research and testing services, (874) management and public relations, and (899) services, not classified. All other SIC codes were considered non- or low-technology.

or in-home crafts and street vending (Raijman, 2001). As other analyses suggest, these niche markets often cater to co-ethnics (Grey, 2006; Zhou, 2004). The Kauffman Firm Survey does not provide a variable measuring co-ethnic neighborhood status. Thus, we constructed a home-based business variable to reflect the tendency of Latina business owners to occupy smaller, niche markets (1=home based, 0=non-home based). The original variable available in the Kauffman Firm Survey asked respondents the following question: “how would you describe the primary location where the business operates?” Respondents chose from the five following categories: 1) a residence such as a home or garage, 2) a rented or leased space, 3) a space the business has purchased, 4) a site where a client is located, and 5) other. We created a dichotomous variable where a business located in a residence such as a home or garage was coded with the value of 1 and all other categories as 0.

### **High barrier vs. low barrier industries**

In an analysis of data from the Bureau of the Census Survey of Income and Program Participation (SIPP), Bates, Lofstrom, and Servnon (2010) found that minority business owners were largely unable to become self-employed in high barrier industries. High barrier industries are those that require large amounts of human and financial capital such as the professional services, finance, insurance, wholesale, and manufacturing industries, whereas low barrier industries are those that require low education and startup capital such as personal services, repair services, or construction. Following the classification scheme of Bates, Lofstrom, & Servnon (2010) we constructed a binary variable representing the barrier level of businesses, with the high barrier industries as the reference group. The barrier level variable is coded as 0= professional services, finance, insurance, wholesale, and manufacturing sectors (high barrier) and 1= personal services, repair services and construction fields (low barrier). We found this variable to be particularly pertinent to firm survival in our previous analysis and incorporate it in this analysis based on other research that suggests that industry selection tends to drive the survivability of firms and that minority business owners tend to cluster in low barrier industries (Robb, 2002).

### **Analytical Strategy**

The aims of this study are: (1) to describe the characteristics of Latina owners and Latina-owned businesses, and compare the results with Latinos and women of other race/ethnic groups; (2) to examine the type of startup funds used by Latina-owned businesses and Latinos and women of other race/ethnic groups; and (3) to determine if the type of startup funds utilized affected business survival for Latinas as well as Latinos and women of other race/ethnic groups.

In the first stage of our analysis, we generated descriptive statistics for the individual-level (primary owner characteristics) and firm (business characteristics) variables for the two sub-samples (men and women). Bivariate analyses were conducted to test for differences among race/ethnic groups for each of the sub-samples (gender) using t-test and Chi-square as appropriate, with Whites as the reference group in each instance. We also ran frequencies for each type of startup fund by race/ethnic group to examine the type of startup funds that Latinas and Latinos used in comparison to women and men of other races/ethnicities.

In the second stage of our analysis, we used Cox Proportional Hazards models for survival analysis to test for an association between type of startup fund and business survivability over the first five years of operation, controlling for individual (owner) and firm characteristics. The Cox Proportional Hazards model is a statistical technique used to model the expected time to an event (Lane, Looney, & Wansley, 1986). In this analysis, business closure is the event. The Cox Proportional Hazards model is also useful in this instance because it allows for the inclusion of covariates and measures whether the event of interest varies systematically with the incorporation of one or more covariates into a model (Bewick, Cheek, & Ball, 2004). Our covariates include the type of startup fund(s) utilized and the individual (owner) and firm characteristics. The significance level was set at the conventional  $p < .05$  for all the statistical tests.

### **Findings**

#### **Descriptive Statistics**

Tables 1 and 2 (page 8) present selected characteristics of the study sample by gender subpopulation. In general, compared to all other races/ethnicities at

baseline (2004), Latinos in the male subpopulation had the lowest percentage of business owners with a college degree or above (82.4%), the second lowest percentage of businesses within the high technology sector (10.4%), the lowest percentage of businesses in the medium technology sector (26.8%), the highest percentage of businesses within the low technology sector (77.0%), and the highest percentage of businesses within the low barrier sector (35.1%).

Moreover, the descriptive statistics also suggest that Latino business owners significantly differ in terms of years of work experience and mean age and the distribution levels across the technology levels of business compared to Whites (Table 1). Specifically, Latinos had significantly fewer years of work experience, on average, compared to Whites (12.8 years vs. 14.5 years). Similarly, Latinos were significantly younger, on average, than White primary owners (41.8 years old vs. 45.8 years old). Latinos also represented a significantly lower percentage of the home-based businesses compared to Whites (41.5% vs. 49.9%).

By comparison, at baseline (2004) Latinas in the female subpopulation had the lowest percentage of business owners with a college degree or above (88.5%), the highest percentage of businesses within the low technology sector (77.0%), the highest percentage of businesses within the low barrier sector (42.6%), and the lowest percentage of home-based businesses (44.3%). Furthermore, Latinas also tend to be older (44.7 years old), on average, than African American (42.4 years old) or Asian (41.2 years old) female primary owners, although they are younger than White female primary owners (45.8 years old). Similarly, Latinas also have fewer years of work experience (7.7), on average, than White (14.5 years), African American (11.9 years), or Asian (10.5 years) female primary owners.

The descriptive statistics also suggest that Latinas had significantly lower percentages of businesses within the high and medium technology sectors compared to Whites (Table 2), although this information was suppressed in order to maintain the confidentiality of respondents in the KFS data due to small case size.

Overall, Latino and Latina business owners share some characteristics when comparing them with White male and female business owners. For example, Latinos and Latinas both have lower educational attainment than their White counterparts. They also tend to own more businesses within the low barrier, low technology

sectors compared to Whites. However, Latinos appear to be significantly younger and have significantly fewer years of work experience, on average, than their White male counterparts. Additionally, Latinos operate more home-based businesses compared to White men. Latinas, on the other hand, do not appear to differ significantly from their White female counterparts in these respects.

In terms of startup funds, Latinos were significantly more likely to utilize informal funds compared to White men. In contrast, Latinas did not significantly differ in their use of any type of startup funds compared to White women.

In looking at the female primary owners of other races/ethnicities, the descriptive statistics suggest that African American women represent a significantly larger percentage of those women with a college degree or above compared to White women (93.1% vs. 89.6%). They also operate a significantly larger percentage of home-based businesses compared to White women. Finally, African American women were significantly younger, on average, than their White female counterparts (41.4 years old vs. 45.5).

Asian American women also represented a significantly larger percentage of those with a college degree or above compared to White women (96.6% vs. 89.6%). However, they did not significantly differ in any other respects compared to White women business owners.

Generally, African American and Asian women are better educated than Latinas. They are less likely to own low technology businesses and businesses within the low barrier sectors. However, they also tend to own more home-based businesses. Finally, they tend to be younger and have more years of work experience.

In terms of startup funds, a smaller percentage of African American and Asian women utilized formal funds and a larger percentage utilized informal funds at startup compared to Latinas. Specifically, African American and Asian women utilized significantly fewer formal funds and significantly more informal funds compared to White women.

**Table 1. Primary Owner and Firm Characteristics at Baseline by Race/Ethnicity for Male Subpopulation (2004)**

Primary Owner Characteristics by Race/Ethnicity	Population		White <sup>1</sup>		African American		Latino		Asian	
	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)
College Degree <sup>2</sup>	86.5		85.9		90.4		82.4		96.7***	
<b>Business Characteristics by Race/Ethnicity</b>										
<i>Technology Sector</i>										
High Technology	16.1		17.1		6.8***		10.4		16.4	
Medium Technology	27.3		27.0		29.9***		26.8		34.2	
Low Technology	56.6		55.9		63.4***		62.8		49.3	
<i>Barrier Level to Entering Industry</i>										
Low Barrier <sup>3</sup>	33.8		34.0		34.6		35.1		26.4	
Sector										
<i>Home-based Business</i> <sup>4</sup>	49.4		49.9		59.8**		41.5**		38.8***	
Mean Years of Work Experience	14.1	.18	14.5	.21	11.9	.62***	12.8	.79*	10.5	.75***
Mean Age	45.2	.19	45.8	.21	42.4	.65	41.8	.80	41.2	.82***
<b>Fund Types</b>										
Formal Funds	69.0		70.1		54.6***		67.2		72.4	
Informal Funds	15.8		14.6		21.5**		24.0***		19.7	
Internal Funds	80.6		80.6		84.5		77.6		79.6	

<sup>1</sup>White = reference category; <sup>2</sup><college degree = reference category; <sup>3</sup>High barrier sector = reference category;

<sup>4</sup>Non home-based business = reference category

**Table 2. Primary Owner and Firm Characteristics at Baseline by Race/Ethnicity for Female Subpopulation (2004)**

Primary Owner Characteristics by Race/Ethnicity	Population		White <sup>1</sup>		African American		Latino		Asian	
	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)
College Degree <sup>2</sup>	90.3		89.6		93.1*		88.5		96.6*	
<b>Business Characteristics by Race/Ethnicity</b>										
<i>Technology Sector</i>										
High Technology	9.6		10.2		9.2		---**		---	
Medium Technology	25.3		25.3		30.5		---**		---	
Low Technology	65.0		64.6		60.3		77.0**		69.5	
<i>Barrier Level to Entering Industry</i>										
Low Barrier <sup>3</sup>	36.1		34.8		39.8		42.6		35.2	
Sector										
<i>Home-based Business</i> <sup>4</sup>	53.8		53.8		60.3*		44.3		45.8	
Mean Years of Work Experience	9.6	.27	9.9	.31	8.6	.73	7.7	1.0	9.1	1.2
Mean Age	44.7	.29	45.5	.33	41.4	.89***	44.7	1.2	39.3	1.1
<b>Fund Types</b>										
Formal Funds	67.6		70.8		51.2***		70.5		57.6*	
Informal Funds	17.3		15.4		22.9**		18.0		27.1**	
Internal Funds	81.8		81.5		83.2		83.6		83.0	

<sup>1</sup>White = reference category; <sup>2</sup><college degree = reference category; <sup>3</sup>High barrier sector = reference category;

<sup>4</sup>Non home-based business = reference category

## Cox Survival Analyses

Tables 3, 4, and 5 present the results of the Cox Survival analyses by startup fund type on firm survival for years 2004-2009 for the separate gender subpopulations. Our findings suggest that for males, the factors that were associated with business survival included formal startup funds, education (as compared to having less than college degree), work experience, and being White. Specifically, those businesses with a male primary owner that utilized formal funds (e.g., funding from other companies, venture capitalists, or government agencies) alone or in a combination with other funds at startup were approximately 11% less likely to go out of business before their fifth year of operation (2009) than those that did not use formal funds at start up, after controlling for owner and business characteristics (Table 3). In comparison, those businesses with a male primary owner that utilized informal funds (investments in the business or loans to a business by family, friends, or spouses of the owner(s) alone or in a combination with other type of funds in their first year of operation had an approximately 20% higher likelihood of going out of business before or in their fifth year of operation, after controlling for owners and business characteristics (Table 4). Finally, personal funds (owner investments, including money an owner put forth for an ownership share of the business in the form of debt or equity) did not significantly affect the survival rate for businesses with a male primary owner in the first five years of operation, after controlling for owner and business characteristics (Table 5).

In comparison, our study findings suggest that for females, the factors that were associated with business survival included age, education, work experience, and being White. However, the type of startup funds that female primary owners utilized at baseline (2004) had no significant impact on the survivability of their businesses.

Our models suggest that at the individual level (primary owner characteristics) race/ethnic group, education, and years of work experience are associated with business survival during the first years of operation for businesses with a male primary owner. Additionally, the models also suggest that at the business level, the type of industry (high vs. low barrier) influenced the likelihood of staying in business during the first five years

of operation for businesses with a male primary owner. For businesses with a female primary owner, at the individual level (primary owner characteristics) race/ethnic group, age, education, and years of work experience are associated with business survival. At the business level, the type of industry (high vs. low barrier) influenced the likelihood of staying in business during the first five years of operation for businesses with a female primary owner.

### Race/ethnicity

Focusing on the differences between businesses owned by Whites and businesses owned by racial/ethnic minorities reveals some important results for each of the gender subgroups. First, businesses with a Latino primary owner were 1.2 times more likely to go out of business compared to White male-owned businesses, controlling for type of startup funds and primary owner and business characteristics. Interestingly, this result was only significant when controlling for formal fund startup type. By comparison, businesses with a Latina primary owner were 1.9 times more likely to go out of business compared to White female-owned businesses, controlling for type of startup funds and primary owner and business characteristics. This result was significant regardless of the type of startup fund utilized at baseline (2004).

The results for businesses with an African American male and female primary owner were not significantly different from each other after controlling for formal startup funds and owner and business characteristics (Table 3) and personal startup funds and owner and business characteristics (Table 5). However, businesses with an African American female primary owner were 1.3 times more likely to go out business after controlling for informal startup funds and owner and business characteristics (Table 4), although this difference was insignificant for businesses with an African American male primary owner.

The survivability of businesses with a male or female Asian owner were not significantly impacted in any of the three models after controlling for startup fund type and owner and business characteristics (see Table 3 through Table 5).

### Age

One of the predictors that was significantly and positively associated with business survival for female

primary owners was age. Specifically, the results suggest that for every one year increase in age of a female primary owner, the likelihood that the business survived increased by approximately 1%. By contrast, age was not a significant predictor of business survival for male primary owners.

### Education and years of work experience

Those businesses owned by someone with a college degree or more were significantly less likely to go out of business than those with less than a college degree, after controlling for startup fund type and business and owner characteristics for both male and female primary owners. These results suggest that the effect of education was comparable for both male and female primary owners, reducing their likelihood of going of business by approximately 22% and 21%, respectively. This finding demonstrates the dramatic effect of the primary owner's education on firm survival, regardless of gender. In addition, work experience was also associated with busi-

ness survival. For example, after controlling for startup fund type and the primary owner and business characteristics, there was a significant and positive association between years of work experience and business survivability for businesses owned by male or female primary owners. Specifically, for every one year increase in work experience, there was a corresponding 1% decrease in the likelihood that a business would fail in the first five years of operation.

### High vs. low barrier industries

Businesses within the low barrier industries were 1.2 times more likely to go out of business within the first five years of operation compared to businesses in the high barrier industries, controlling for startup fund type and primary owner and business characteristics. This finding was significant for businesses with a male or female primary owner and resulted in a 20% increase in the likelihood that a business would fail in the first five years of operation.

Table 3. Hazard Ratios for Firm Survival by Formal Fund Type (2004-2009)

	Subpopulation Males Only		Subpopulation Females Only	
	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)
<b>Fund Type</b>				
<i>Formal Funds</i>	.89	.04**	.93	.07
<b>Primary Owner Characteristics</b>				
Age	1.0	.00	.99	.00**
Education	.78	.05***	.77	.08**
Work Experience	.99	.00***	.99	.00**
<b>Business Characteristics</b>				
<b>Barrier Level to Entering Industry</b>				
Low Barrier Sector	1.2	.06**	1.2	.09**
<b>Home-based Business</b>	.97	.04	.97	.06
<b>Technology Sector</b>				
Medium Technology	.93	.06	.93	.12
Low Technology	1.1	.07	1.1	.14
<b>Races/Ethnicities</b>				
African Americans	1.1	.10	1.2	.15
Latino/as	1.2	.11*	1.9	.26***
Asians	.82	.12	1.1	.18

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; robust standard errors reported

<sup>1</sup>college degree = reference category; <sup>2</sup>High barrier sector = reference category;

<sup>3</sup>Non home-based business = reference category; <sup>4</sup>Whites = reference category

Table 4. Hazard Ratios for Firm Survival by Informal Fund Type (2004-2009)

	Subpopulation Males Only		Subpopulation Females Only	
	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)
<b>Fund Type</b>				
<i>Informal Funds</i>	1.2	.07**	1.1	.09
<b>Primary Owner Characteristics</b>				
Age	1.0	.00	.99	.00**
Education	7.8	.05***	.77	.08**
Work Experience	.99	.00***	.99	.00**
<b>Business Characteristics</b>				
<b>Barrier Level to Entering Industry</b>				
Low Barrier Sector	1.2	.06**	1.2	.09**
<b>Home-based Business</b>	.98	.04	.93	.07
<b>Technology Sector</b>				
Medium Technology	.95	.06	.93	.12
Low Technology	1.1	.07	1.2	.14
<b>Races/Ethnicities</b>				
African Americans	1.1	.10	1.3	.15*
Latino/as	1.2	.11	1.9	.26***
Asians	.80	.12	1.2	.18

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; robust standard errors reported

<sup>1</sup>college degree = reference category; <sup>2</sup>High barrier sector = reference category;

<sup>3</sup>Non home-based business = reference category; <sup>4</sup>Whites = reference category

Table 5. Hazard Ratios for Firm Survival by Personal Fund Type (2004-2009)

	Subpopulation Males Only		Subpopulation Females Only	
	Percent (%)	Mean (SE)	Percent (%)	Mean (SE)
<b>Fund Type</b>				
<i>Personal Funds</i>	.95	.05	1.3	.13***
<b>Primary Owner Characteristics</b>				
Age	1.0	.00	.99	.003**
Education	.78	.05***	.76	.08**
Work Experience	.99	.00***	.99	.00**
<b>Business Characteristics</b>				
<b>Barrier Level to Entering Industry</b>				
Low Barrier Sector	1.2	.06**	1.2	.09**
<b>Home-based Business</b>	.96	.044	.91	.06
<b>Technology Sector</b>				
Medium Technology	.94	.06	.91	.12
Low Technology	1.1	.07	1.2	.13
<b>Races/Ethnicities</b>				
African Americans	1.2	.10	1.2	.15
Latino/as	1.2	.11	1.9	.26***
Asians	.81	.12	1.1	.18

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; robust standard errors reported

<sup>1</sup>college degree = reference category; <sup>2</sup>High barrier sector = reference category;

<sup>3</sup>Non home-based business = reference category; <sup>4</sup>Whites = reference category

## Discussion

The results of this analysis reveal several interesting findings in terms of the characteristics of Latino and Latina owners, and support some of the findings of previous research. Overall, we find that Latinas are significantly younger, on average, than their White female counterparts (Smith-Hunter, 2004; Taniguchi, 2002). Similarly, we also find that Latinos are significantly younger, on average, than their White male counterparts (Fairlie, 2005). Latinos have significantly fewer years of work experience, on average, compared to their White male counterparts (Fairlie, 2005). In contrast, Latinas did not significantly differ in terms of mean number of years of work experience compared to White women (Smith-Hunter, 2004; Taniguchi, 2002). Finally, neither Latinos nor Latinas differ significantly from White men or women in terms of having a college degree or not.

Interestingly, we find that Latinos owned significantly fewer home-based businesses compared to White men, but Latinas did not significantly differ in the percentage of home-based businesses they owned compared to White women (Delgado, 2006; Granier, 2006; Grey, Rodriguez, & Conrad, 2004). We argue that because all women tend to represent a larger percentage of home-based businesses compared to men (Loscocco & Smith-Hunter, 2004), Latinas do not differ significantly in their representation in home-based businesses compared to White women. Additionally, the small sample size of Latinos overall, which was further exacerbated by the breakdown by gender, could also contribute to these unexpected findings for Latinas.

We provide some support for the hypothesis forwarded by Bates, Lofstrom, & Servnon (2010) regarding personal net worth and the ability of potential entrepreneurs to enter into high barrier or high capital intensity industries. For example, Bates, Lofstrom, & Servnon argue that businesses within higher technology sectors typically require large investments in expensive equipment or inventory and therefore only those individuals with personal net worth of at least \$150,000 or more are able to open businesses within these industries. Because Latinos and African Americans tend to have lower levels of personal wealth and a lessened ability to borrow from formal funding sources compared to Whites, they have more difficulty opening businesses within the higher technology sectors (Fairlie & Robb, 2008; Cavalluzzo & Walken, 2005). However, this relationship was only supported for Latinas

in this study sample, as our analysis suggests that Latina-owned businesses are concentrated in the low technology sector, and represent a significantly smaller percentage of businesses within the high and medium technology sectors (the actual percentages are not shown in the tables due to confidentiality restrictions of the KFS Data), as compared to businesses owned by their White female counterparts (Smith-Hunter, 2004; Young & Flores, 2011). We did not find that Latino-owned businesses were concentrated in the low technology sectors compared to White men-owned businesses, or represented a significantly smaller percentage of businesses within the high or medium technology sectors (Bates, Lofstrom, & Servnon, 2010). Additionally, we did not find that Latino-owned businesses represented a significantly larger percentage of businesses within the low barrier sectors as compared to the high barrier sectors, relative to White men-owned businesses (Bates, Lofstrom, & Servnon, 2010).

Our findings contradict those of previous studies on the types of startup funds that business owners utilize, but also reveal important gender differences. For example, we do not find evidence to suggest that Latinos or Latinas are significantly less likely to use formal funds compared to White men or women (Haynes, Onochie, & Lee, 2008; Cavalluzzo & Wolken, 2005; Granier, 2006; Blanchard, Zhao, & Yinger, 2008). Instead, our results show that African American men are significantly less likely to utilize formal funds compared to White men, and African American and Asian women are also less likely to utilize formal funds compared to White women. We did find, however, that while Latinas do not significantly differ in their use of any type of startup funds compared to White women, a significantly larger percentage of Latinos utilize informal funds compared to White males. This finding was larger than that for African American (21.5%) and Asian (19.7) male primary owners compared to White men (14.6%), although these results were also significant.

The results of the Cox survival analysis suggest that both Latinos and Latina-owned businesses are at the greatest risk of going out of business as compared to White male and female-owned businesses, regardless of the type of startup funds that they utilize. However, Latina business owners are disparately impacted by this effect compared to Latinos. Specifically, Latina-owned businesses were at a 90% greater risk of going out of business compared to White female-owned businesses, controlling for owner and firm characteristics and the type of startup fund utilized, while Latino-owned businesses were at a



20% greater risk of going out of business compared to White male-owned businesses, controlling for owner and firm characteristics and the type of startup fund utilized. Furthermore, consistent with the findings of previous research, education and work experience of owners are critical to business success (Bates, Lofstrom, & Servnon, 2010; Fairlie, 2005). Interestingly, age is also an important predictor of business success for women, but not for men (Smith-Hunter, 2004; Taniguchi, 2002). Finally, owning a business within the low barrier sector is also predictive of going out of business for both male and female primary owners (Bates, Lofstrom, & Servnon, 2010).

### **Study Limitations**

The primary limitation of this study is the relatively small number of cases for Latino/as. As Martinez et al. (2011) found using the KFS data, Latino/as represent a very small number in the sample (n=244 for primary owners). Breaking these numbers down by gender results into an even smaller sample for Latinas (n=61) and Latinos (n=183). In addition, we could not analyze potential social capital factors cited in the literature as pertinent to female business owners' success, such as the availability of social networks or mentorship by other female business owners (Vallejo, 2009); nor could we analyze the variables identified as predictive factors in the previous literature that we described in our first analysis such as region, industry, or the location of a business within an ethnic enclave.

### **Lessons for Scholars and Practitioners**

This analysis is an important first step toward moving "[b]eyond merely describing traits and performance of Latina entrepreneurs and the firms they own" (Lofstrom & Bates, 2009, p. 428). Rather than providing basic descriptive statistics on Latina entrepreneurs and their businesses, we demonstrate the impact of startup funds and the individual level (primary owner) and firm characteristics on the survivability of Latina-owned businesses. Additionally, we contribute to the research on entrepreneurship by providing an important race and gender comparison. To our knowledge, this is the first analysis focused specifically on Latinas using the KFS data. Unfortunately, this study's findings cannot be generalized because of the small number of Latina cases in the overall sample. A much stronger analysis would emerge from dataset with a larger sample of Latinas.

We argue that startup capital is important to overall business success. Without the financial resources to start-up businesses, we can hardly expect that business owners will be able to survive and thrive in myriad industries that require varying levels of inventory and technological infrastructure. At best, business owners may be able to open up small, low technology businesses that require little startup capital but never have the resources to move (break) into more lucrative industries. At worst, even these small, low technology businesses will falter without the proper financial support.

This study also highlights the importance of race and gender specific research and demonstrates that other types of capital are vital to business survivability as well. For example, formal and informal types of startup capital were not significantly associated with business survival in our female-only model. In contrast, formal funds were associated with an 11% decrease in the likelihood that a male-owned business failed and informal funds were associated with a 20% increase in the likelihood that a male-owned business failed.

Our Cox survival analysis results suggest education is significant to business survival, as this single factor alone reduced the likelihood that a female-owned business failed by 23% and by 24% in the model controlling for personal startup funds. Our models also suggest that education is important for the success of male-owned businesses, as businesses with a male primary owner with a college degree or more reduced the likelihood of business failure by 22%. However, these findings run contrary to other analyses that suggest that educational attainment impacts the success of male-owned businesses more than female-owned businesses (Zucker, Katras, Montalto & Olson, 2003).

### **Future Research Directions**

Similar to the conclusions reached by Martinez et al. (2011), interventions are needed to improve Latinos' and Latinas' access to formal sources of capital, but more research is needed to identify the particular obstacles that these groups face. This is a particularly important point for Latinas, for as the body of research literature on women business owners continues to grow, the quantity and quality of available literature on Latina business owners continues to lag behind. Systematic research is needed that goes beyond the basic descriptive characteristics of Latina-owned businesses and probes into the specific factors impacting their capacity to grow, profit, and survive (Lofstrom & Bates, 2009).

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