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## Article

# Thinking about starting a franchise business? Think again

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## Thinking about starting a franchise business? Think again

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## Thinking about starting a franchise business? Think again

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### Abstract

This study aims to explain the survival and exit outcomes of franchise startups compared to other types of startups. Small business owners choosing to become franchisees have high expectations about business survival since “franchise is a proven business model that carries less risk.” Using the Kauffman Firm Survey, we examine the survival patterns and M&A exit outcomes of a large sample of U.S. independent and franchise businesses started in 2004 and tracked over time for eight years. Our study provides unique results on the likelihood of survival and M&A exit of franchises relative to other startups. Although franchise businesses start larger, are well-capitalized, and are led by highly educated owners, we find no significant difference in the survival rate between franchises and independent businesses. However, our results show a significant difference between the survival rate of franchises and those businesses started by purchasing “existing” firms. When the outcome is an M&A exit, the results show that franchises are 2.77 times more likely to exit via M&A than independent businesses, whereas “existing” businesses are 1.81 times more likely to exit via M&A than independent businesses. Overall, this study sheds more light on the controversial evidence on the survival and exit prospects of a large cohort of U.S. franchises, independent new businesses, and “existing” businesses.

Keywords: survival, exit, franchise, startups, survey, United States

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## 1. Introduction

The economic impact of franchised firms in the U.S. economy is significant. According to the International Franchise Association (IFA), tens of thousands of opportunities for small business owners and millions of jobs for employees exist in our economy. As of 2022, there were 790,492 small franchise establishments across the country. They directly provided nearly 8,438,640 jobs and added \$825 billion of economic output to the U.S. economy, representing 3 percent of the private nonfarm Gross Domestic Product. The 2023 Franchising Economic Outlook report predicts that the number of franchise establishments will increase to 805,000, and franchising will add approximately 254,000 jobs in 2023.

Despite the economic impact of franchising, there is limited research examining the performance of new franchises relative to that of other types of new, young businesses. Understanding the factors significantly affecting their performance has been challenging in franchising research because most franchise businesses are private companies, and performance data are difficult to acquire. Prior studies on whether franchise businesses carry less risk than independent firms have not reached a definitive conclusion. This was mainly due to the absence of extensive, longitudinal survival data for both franchisees and their non-franchise counterparts. Our study uses the Kauffman Firm Survey (KFS) - the most extensive longitudinal data of U.S. startups launched in 2004 - to analyze three categories of startups: franchises, independent businesses, and those started by buying existing businesses. The Kauffman Firm Survey is the ideal source to extract firm-level and owner-level characteristics that explain the survival or exit outcomes of new franchises and the performance of these types of businesses relative to that of independent startups and those started by buying existing businesses.

Although the previous literature highlighted some of the critical aspects related to franchise and non-franchise businesses, they suffered from serious shortcomings, such as outcome measuring problems and panel data availability, to name a few. Our study addresses these shortcomings by examining the survival/exit outcomes and the factors that influence those outcomes in a large panel of independent and franchise startups established in the U.S. in 2004. First, we analyze the differences in firm and owner startup characteristics among franchises, independent businesses, and existing businesses started by new owners. Second, we examine the difference in survival rates among the three groups of startups. For more than four decades, the International Franchise Association (IFA) has been promoting the idea that small businesses have a much higher rate of discontinuance than franchised small firms. Scholars have criticized the IFA claims that 96.9% of the franchised units were still in operation after five years, arguing that this survival rate information was compiled by surveying franchisors – firms that sell franchises – rather than actual franchisee owners (Bates, 1995 and 1998). Third, we examine whether franchise businesses have a higher probability of a successful exit via acquisition.

Our findings suggest that franchise businesses typically commence operations with a larger initial size and are led by highly educated owners with relatively limited practical work experience. These establishments generally have a comparative advantage and are founded by individuals who are not serial entrepreneurs yet demonstrate a profound commitment to their business. Furthermore, a notable aspect of their financial strategy is the reliance on debt financing, particularly in the form of business debt. Thus, franchise firms exhibit traits that are very conducive to survival. However, the results from the Cox regression-based test for equality of survival curves indicate that there is *no significant difference* in the survival rate between franchises and independent businesses (63 percent versus 60 percent). Still, there is a *significant difference* between the survival rate of franchises and those businesses started by buying existing

firms (63 percent versus 74 percent). Utilizing the parametric analysis of the Cox Proportional Hazard Model, we found no significant differences in the exit rates between franchises and independent businesses. However, when we focus on the exit method (exit through closure versus exit through M&A), the results show that franchises are 2.77 times more likely to exit via M&A compared to independent businesses, whereas “existing businesses” are 1.81 times more likely to exit via M&A compared to independent businesses. Overall, this study presents unique results that shed more light on the controversial evidence on the survival and exit prospects of a large cohort of U.S. franchises, independent new and “existing” businesses.

## **2. Theoretical Foundation, Related Literature, and Hypotheses**

Our research does not propose or evaluate a particular theory of new firm survival or franchising. However, it is essential to discuss the theoretical work on these topics. Several major theories in academic research attempt to explain new firm survival. These theories often come from economics, finance, management, entrepreneurship, and sociology.

The liability of newness and smallness theory highlights the disadvantages that new and small firms face due to lack of experience, established relationships, and financial and human capital. These liabilities increase the risk of failure for new firms. Human capital theory stresses the importance of the skills, knowledge, and experience of the founders and the team in the survival and success of a new firm. The theories of startup capital, which are based on informational asymmetry and credit rationing, focus on the importance of financial resources type (debt versus equity), initial capital, and access to funding available to a new business that determines its chance to survive. In addition, the dynamic capabilities framework theory posits that a firm's ability to adapt, integrate, and reconfigure internal and external competencies is fundamental for its survival; the focus is on external factors like market demand, competition intensity, and industry growth rate, suggesting that these factors significantly influence a new firm's likelihood of survival. Each of these theories provides a different lens through which to view and understand the complex phenomenon of new firm survival, often highlighting the interplay between internal capabilities and external environmental factors.

Two applied theories have dominated academic research in the franchising literature: the agency theory and the resources theory. The agency theory had been developed by Ross (1973), Caves and Murphy (1976), Jensen and Meckling (1976), and Fama and Jensen (1983a and 1983b). This theory suggests that franchising helps to resolve the principal-agent problem. In a typical corporate structure, managers (agents) might not always act in the owners' best interests (principals). Franchising mitigates this issue by making the franchisee (agent) also an owner, thus aligning the franchisee's interests with the franchisor (principal). Studies based on agency theory indicate that entrepreneurs drawn to franchising often seek business opportunities that provide greater security and reduced risk, even if it means sacrificing some degree of independence (Ayling, 1988; Castrogiovanni et al., 1993; Michael and Combs, 2008). Seawright et al. (2013) conducted a comparative study between managers and entrepreneur-franchisees. Their findings suggest that franchisees tend to align more closely with the profile of a traditional manager rather than an independent entrepreneur.

The resources theory suggests that the entrepreneur-franchisees use franchising to access otherwise scarce resources. Franchising may be viewed as combining resources from the franchisee and a franchisor to create a franchise system. The franchisee may provide resources such as low-cost capital, simple entrepreneurial skills, lower labor costs, and local economies of

scale. On the other hand, the franchisor may provide resources in the form of brand name, specialized knowledge, managerial assistance, proven concepts, economics of scale, and other invisible assets.

Franchise survival has been the focus of several studies (Bates, 1998; Stanworth et al., 1998, to name a few). Based on the principle of “proven business model,” the principal tenet of franchising is that it offers the prospective franchisee the opportunity to grow a business with limited risk. Although franchises are better endowed with traits linked to success, their survival rate is lower than that of non-franchise firms and is less profitable (Bates, 1998). On the other hand, franchisee exit was examined by Fraser and Winzar (2005), who found that the amount of capital invested in the franchise explained the likelihood of exit. In their model, franchisees were more likely to abandon the franchise if the amount initially invested was not too high. Their findings indicate that franchisees are concerned with recouping the initial investment, including the franchise fee, especially if the investment is very high.

In a related context, a study conducted by Sardy and Alon in 2007 examined the differences between franchise owners and nascent entrepreneurs by utilizing data from the Panel Study of Entrepreneurial Dynamics (PSED). The study found that, compared to nascent entrepreneurs, franchisees had less industry experience, fewer net assets, and were less well-capitalized. Education, however, was comparable for both groups of entrepreneurs. In terms of their perceptions about experience and confidence, the study shows that previous experience did not matter much for franchisees, and they also lack confidence in making their business a success.

Falbe et al. (2011) use the startup year data of franchise and non-franchise businesses to examine bootstrapping as a financing strategy. Their results show that franchise firms use bootstrapping, which is typical for new entrepreneurs but also a hazardous strategy. In their first year of operations, franchisees are borrowing using credit cards and, therefore, pay a higher interest rate than they would have had if they had access to other types of loans.

While the choice to purchase an established business, as opposed to launching a franchise or an independent startup, has not been explored in academic research, it merits attention for its distinct characteristics. With the availability of the Kauffman Firm Survey (KFS) longitudinal data, we can tackle previously unanswered questions due to data limitations (Farhat et al. (2018)). This data has been instrumental in examining small business survival and entrepreneurial exit strategies. Notable studies on entrepreneurial survival and exit strategies include those by Gai and Minniti (2009, 2014), Welsh, et al. (2011), Coleman, et al. (2013), Harkins and Forster-Holt (2014), Lee and Lee (2014), Shu and Simmons (2017), Cotei and Farhat (2018, 2020), Khurana and Farhat (2021), and Cotei et al. (2021). In addition, Robb and Robinson (2014), Coleman and Robb (2012), Coleman et al. (2014), and Cotei and Farhat (2017) addressed the role of startup capital and the types of capital used by small businesses through their growth cycle using the KFS data.

Previous studies demonstrated that franchising helped new businesses navigate the challenges associated with both the liabilities of “newness” and the liabilities of “smallness” (Cooper et al., 1994; Disney et al., 2003; Headd, 2000; Holmes et al., 2008). This support comes through various means of intangible resources, including leveraging an established brand, benefiting from corporate advertising, accessing pre-established supply chains, implementing a tested business model, and receiving training from the franchisor that enhances human and managerial skills. Franchising also lowers the level of information asymmetry about the new business (Stiglitz and Weiss (1981), allowing these firms to access credit markets and raise more startup capital. Robb and Robinson (2014) documented that startup financing relied extensively

on outside debt, particularly bank loans. Firms that start with more initial capital have the advantage of sustaining their operations over an extended duration. Research conducted by Bruderl et al. (1992), Cooper et al. (1994), Headd (2000), Liao et al. (2004), and Parker and Belghitar (2006) has shown that entrepreneurs who can access more financial resources are less likely to experience business failure. In the case of franchises, one would anticipate that access to more intangible resources and financial capital at startup would improve a firm's chances of survival. We therefore hypothesize that:

H<sub>1</sub>: New franchises have a higher probability of survival compared to starting a new independent business.

Unlike independent businesses, franchises have more options for exit strategies. The franchise owner can sell the franchise to another entrepreneur, sell it back to the franchisor, franchise transfer, and, finally, liquidate the business if the franchise is unsuccessful or the owner cannot find a buyer. It is important to note that the franchise agreement terms will often dictate or heavily influence the available exit strategies. We therefore hypothesize that:

H<sub>2</sub>: Franchises are more likely to have successful exit through M&A compared to businesses started as independent businesses.

An "existing" business, by nature, has a proven track record. Such a business comes with a suite of established operations and an immediate influx of cash flow. It is recognized for its existing brand, benefits from a network of established relationships, and has access to financial and managerial historical data. Furthermore, these businesses present reduced information asymmetry, making them a less risky venture than starting a new business. We therefore hypothesize that:

H<sub>3</sub>: An "existing" business has a higher probability of survival compared to starting a new independent business.

### 3. Data and Methodology

To date, the Kauffman Firm Survey (KFS) is the largest longitudinal survey of U.S. startup businesses. The survey data provide researchers with detailed information on 4,928 businesses started in 2004 and annual tracking of business status and performance through 2011. The criteria to be included in the survey were as follows: new, independent business that was created by a single person or team of people, the purchase of an existing business, or the purchase of a franchise. For each startup included in the survey, the data collected covered business characteristics, business organization, business finances, ownership, and demographics (up to ten active owners), innovation activity and strategy, as well as human resources benefits and work behavior. Unlike other survey data, the KFS database includes various sources and types of capital in the startup year and over time. This detailed data enables us to delve deep into the impact financial resources have on survival or exit on various types of startup businesses. In addition, for each establishment, we have data on intellectual property rights, such as the number of patents, trademarks, and copyrights, to ascertain the innovative activity within each business. Another data point specifies how many employees are dedicated to research and development; this gives us another proxy for innovation, especially the growth in innovation over time. Other firm-level characteristics include physical location, whether the business provides a product, service, or both, revenues, asset structure, sales, employment, and industry.

The survey data contain detailed information on up to ten active owners for each business, including the number of years of work experience, whether the owner(s) has/ve any previous startup experience, the level of education and time committed to the business, personal net worth as well as demographic data such as race, ethnicity, gender, and age. Appendix 1 lists the definitions of all variables used in this study.

#### 4. Survey Methodology

In policy-making surveys, it's not unusual to oversample a specific subgroup, mainly when it is relatively small or of particular interest. This approach was employed by the Kauffman Foundation, which was interested in the dynamics of high- and medium-technology businesses and those owned by women. Consequently, the Kauffman Firm Survey (KFS) stratified its sample at the industrial technology level, intentionally oversampling startups in high- and medium-tech sectors. Stratification involves dividing the population into distinct, non-overlapping groups (strata) based on specific characteristics. This method ensures a more balanced and representative sample, preventing any single part of the population from being overrepresented.

A specific weighting scheme was necessary for the KFS sample to reflect the target population accurately. The theory of design-based inference for probability samples suggests that using the inverse probability of selection can provide unbiased estimates of population statistics. In the baseline survey, initial weights were determined as the inverse of the selection probability in each stratum. However, due to non-responses or unavailability of some businesses in follow-up surveys, these weights underwent further adjustments. A logistic propensity model was used to modify the weights, accounting for the joint conditional probability of a business being selected, located, and responding to the survey.

When employing a complex design sample in statistical analysis, it's important to recognize that most relevant statistics are not straightforward linear functions of the observed data. Consequently, estimating variances requires more sophisticated methods (as discussed in Kish 1965, 1987). The literature outlines two main approaches for computing variance in complex design samples: Taylor series linearization (TSL) of the estimator and repeated re-sampling variance estimation procedures. Among the re-sampling methods, the Jackknife Repeated Replication (JRR) is widely used, with detailed descriptions found in works by Lee and Forthofer (2005), Marsden and Wright (2010), and Lohr (2010).

Given the unique methodology used in the KFS sample, the importance of using proper weights in the statistical analyses is worth noting. Improper use of weights and stratification could lead to skewed results, understating variances, over-representing and/or under-representing the stratum. In addition, to analyze complex sample survey data, special procedures and modules are required<sup>1</sup>. Details of the use of proper weights for the KFS sample are available in Farhat and Robb (2014), and Farhat and Robb (2018). All analyses in this paper are performed using the weights and stratification.

Another issue when using KFS data is the missing observations. Although they are not significant, the Kauffman Foundation has released a “multiply imputed data version” of the KFS data. The method of multiple imputation is frequently used by statistical agencies to account for nonresponse in public use surveys and to reduce measurement errors. This method generates “m” substitute sets for the missing values (Rubin, 1993, 1996, 2003, 2004, 2007). Using the chained

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<sup>1</sup> Most current software packages (e.g., SAS®, SPSS®, and Stata®) have special procedures or modules to analyze complex sample survey data.



equations method (sequential regression multivariate imputation - see Raghunathan, et al., (2001), the missing values were replaced systematically by imputed values. The chained equations method fills in missing values in multiple variables iteratively using chained equations, a sequence of univariate imputation methods with wholly conditional specification of prediction equations. The imputed values are ideally independently drawn from the predictive distribution of the missing values conditional on the observed values. The KFS multiply imputed data includes the original data along with five complete-data imputations ( $m=5$ ). Using special procedures, analyzing multiple imputed data requires estimating the statistical model for each imputed dataset, which is five in the case of KFS (Farhat and Robb, 2014). Once the point and variance estimates for each imputed dataset are computed, the software combines these estimates using formulas developed by Rubin (2004). All analyses in this paper are performed on the KFS multiply imputed dataset. However, the results do not change when we use the original non-complete data. Given the nature of our research question, we utilized the complete longitudinal KFS data that consists of all the firms that responded to each survey during the 2004-2011 sample period. The only restriction we imposed was excluding firms that operated from the owner's home. This allows us to compare startups with franchise businesses incorporated and operated using space outside owners' homes.

## 5. Results and Implications

Table 1 reports the characteristics of franchises (53), independent businesses (1,283), and "existing" businesses (99) in the startup year. We test for differences in characteristics between the three groups: franchises versus independent businesses, franchises versus "existing" businesses, and independent versus "existing" businesses. Several differences are worth noting.

### *Owners' characteristics*

Concerning owner characteristics, we found no differences in gender, age, self-employment, and race between franchise businesses and independent business groups in the startup year. On average, about half of startup owners are self-employed. Franchise business owners are significantly younger and more educated than existing and independent business owners. The independent business owners have significantly more serial entrepreneurs among them relative to franchise and independent business owners.

### *Firm characteristics*

Relative to independent small firms, franchises have significantly more assets, more employees, a limited liability incorporation, and a higher comparative advantage in the startup year. However, compared to those started by buying existing businesses, franchises have similar amounts of assets and more employees. Regarding organizational form, only 9.79 percent of franchises are organized as sole proprietorships, compared to 27.10 percent of independent businesses. About 80 percent of franchise businesses are incorporated as limited liability (LLC) or S-corporations.

As expected, franchises enjoy a higher comparative advantage due to their proven business models and strong brand recognition. Approximately 80% of franchises operate in the retail trade and service industries. About two-thirds of existing and independent businesses are concentrated in these two industries.

### *Sources of financing in the startup year*

Table 2 shows that the amount of startup capital (debt and equity) used by franchises is significantly higher than that used by independent businesses (\$240,570 versus \$195,472). Consistent with the findings related to startup financing (Stiglitz and Weiss, 1981; Robb and Robinson, 2014), franchises and existing businesses rely more on debt financing as they have a lower level of information asymmetry. About 48% of the franchise capital comes from debt, which is only 38% for independent businesses. Out of the total debt used by franchises, 57% comes from personal debt, and 43% comes from business debt; on the other hand, for independent businesses, 67% of total debt comes from personal debt, and 33% comes from business debt. Having a closer look at the credit risk of these firms, it is notable that existing businesses have the lowest credit risk (a high credit score), as those businesses have a longer credit history than newly established firms.

**Table 1**

#### **Difference in Firm Characteristics in the Startup Year**

	Franchise (1)	Existing Business (2)	New, Independent (3)	P-Value 1-2	P-Value 1-3	P-Value 2-3
<b>Panel A: Owners Characteristics</b>						
Owner-employee (%)	47.87	48.44	48.75	0.95	0.91	0.96
Time commitment (hours/week)	54.36	51.11	48.40	0.40	0.03	0.34
Work experience (years)	6.15	11.19	12.47	0.01	0.00	0.35
Serial entrepreneur (%)	37.10	41.68	48.81	0.62	0.01	0.04
Age (years)	43.91	47.71	44.79	0.03	0.52	0.01
White (%)	87.7	92.5	81.3	0.03	0.21	0.00
Male (%)	72.19	76.04	70.30	0.65	0.78	0.29
Owner's Education (college or higher) (%)	56.94	47.84	51.57	0.03	0.08	0.09
<b>Panel B: Business Characteristics</b>						
Assets (Ln)	11.06	11.36	9.77	0.49	0.00	0.00
Net Profit (\$)	-17,492	-7,394	-16,329	0.50	0.91	0.53
No. of Owners	1.50	1.47	1.48	0.86	0.85	0.96
No. of employees	10.64	4.99	2.26	0.01	0.00	0.02
Proprietorship (%)	9.79	20.84	27.10	0.08	0.00	0.21
Limited Liability Company (%)	39.89	38.89	32.25	0.92	0.31	0.26
Subchapter S-Corporation (%)	40.35	29.74	24.33	0.04	0.03	0.33
Comparative Advantage (%)	82.41	61.58	63.18	0.01	0.02	0.28
Agriculture (%)	1.20	1.50	2.50	0.90	0.33	0.49
Mining (%)	0.00	0.00	0.20			
Construction (%)	1.00	0.00	2.80		0.13	
Manufacturing (%)	4.90	12.60	6.20	0.01	0.70	0.01
Utilities (%)	4.90	5.20	2.80	0.95	0.58	0.43
Wholesale trade (%)	0.30	8.40	5.40	0.02	0.00	0.10
Retail trade (%)	32.90	33.50	21.70	0.95	0.04	0.06
Finance, insurance, real estate (%)	7.5	7.40	11.70	0.98	0.26	0.17
Services (%)	47.4	31.60	46.70	0.07	0.92	0.01
Sample N	53	99	1283			
Population N	1697	2541	32083			

The sample is KFS longitudinal sample (2004-2011). This table shows the results from t-tests, i.e., the difference in mean characteristics in the startup year (2004) between franchises and existing businesses and between existing businesses and independent businesses. Variable definitions are presented in Appendix 1.

In line with Robb and Robinson's 2014 findings, independent businesses use significantly more personal credit cards to address the issue of information asymmetry about their businesses, while existing and franchise businesses use significantly more business debt, especially bank loans and business credit cards.

**Table 2**  
**Difference in Firm Sources of Financing in the Startup Year**

Sources of Financing	Franchise (1)	Existing Business (2)	New, Independent (3)	P-Value 1-2	P-Value 1-3	P-Value 2-3
Total Financial Capital (\$)	240,570	533,233	195,472	0.08	0.03	0.04
Total Equity (%)	52.19	52.01	62.09	0.98	0.07	0.04
Owner Equity (%)	45.80	44.90	57.66	0.90	0.04	0.01
Insider Equity (%)	2.74	1.17	1.53	0.33	0.40	0.66
Outsider Equity (%)	3.66	5.94	2.91	0.48	0.72	0.22
Total Debt (%)	47.81	47.99	37.91	0.98	0.07	0.04
Insider Personal Debt (%)	7.73	6.38	5.93	0.73	0.59	0.82
Outsider Personal Debt (%)	19.39	21.35	19.48	0.72	0.98	0.61
Personal Bank loan (%)	14.50	13.80	9.30	0.88	0.16	0.11
Personal Credit Card (%)	4.90	7.60	10.20	0.38	0.01	0.09
Other Personal Debt (%)	7.70	6.40	5.90	0.73	0.59	0.82
Total Personal Debt (%)	27.12	27.74	25.40	0.92	0.73	0.57
Insider Business Debt (%)	0.82	4.58	2.92	0.07	0.00	0.43
Outsider Business Debt (%)	19.86	15.68	9.58	0.47	0.04	0.06
Credit line (%)	0.30	2.50	2.40	0.03	0.00	0.93
Business Credit Card (%)	0.40	0.20	1.50	0.46	0.00	0.00
Bank business loan (%)	13.10	11.50	4.40	0.76	0.05	0.02
Other Business Debt (%)	6.10	1.50	1.30	0.10	0.09	0.83
Total Business Debt (%)	20.68	20.26	12.50	0.94	0.09	0.03
Credit score	3.38	3.01	3.37	0.03	0.91	0.00
High credit Risk (%)	45.30	28.00	40.30	0.08	0.52	0.04
Medium credit Risk (%)	44.10	46.90	50.50	0.79	0.42	0.60
Low credit Risk (%)	10.50	25.10	9.30	0.06	0.81	0.00

The sample is KFS longitudinal sample (2004-2011). This table shows the results from t-tests, i.e., the difference in mean characteristics in the startup year (2004) between franchises and existing businesses and between existing businesses and independent businesses. Variable definitions are presented in Appendix 1.

### *Survival rates*

Table 3 reports the survival rates among three different types of startups during the 2004-2011 sample period. By 2011, the last year surveyed, franchises had the lowest survival rate (60 percent), followed by independent businesses (63 percent) and “existing” businesses (74 percent).

Although the characteristics of franchises in the startup year revealed traits conducive to higher survival rates, the results from the Cox regression-based test for equality of survival curves indicate no significant difference in the survival rate between franchises and independent businesses. However, there is a significant difference between the survival rate of franchises and those businesses started by buying existing firms (60 percent versus 74 percent). Our results contradict the anecdotal evidence that franchises have a higher survival rate than independent startups, as we show no significant difference between the survival rate of an independent business and that of a franchise business. We also document that startups established through purchasing an “existing” business have a significantly higher survival rate than independent businesses.

### *Cox proportional hazard model with competing risks*

To estimate the exit probability via M&A or closure (permanently stopped operations) we use survival (duration) analysis with competing risks. Competing risks data analysis is necessary when businesses under study can experience one of multiple (m) events of interest. We observe both the time-to-event and the type of event for each startup business. Importantly, the occurrence

of one type of event removes the possibility of other events, meaning that businesses that close are no longer at risk of being targeted for a merger or acquisition. Therefore, competing risks analysis extends ordinary survival analysis, which typically considers only a single event of interest.

**Table 3**  
**Cox Regression-Based Test for Equality of Survival Curves**

Started as	Independent	“Existing” business	Franchise
Year	Survival rates	Survival rates	Survival rates
2005	0.90	0.96	0.94
2006	0.81	0.93	0.82
2007	0.76	0.88	0.77
2008	0.72	0.84	0.73
2009	0.69	0.80	0.67
2010	0.66	0.75	0.64
2011	0.63	0.74	0.60
Cox regression-based test for equality of survival curves		Independent vs. “existing” business	Independent vs. Franchise
Pr>chi2		0.06	0.83
Wald chi2		3.66	0.04
Sample N	1,283	99	53
Population N	32,083	2,541	1,697

The sample is KFS longitudinal sample (2004-2011). This table shows the survival rates from 2005 through 2011 for each group of businesses and the results from the Cox regression-based test for equality of survival curves.

We use the Cox proportional hazard regression model to estimate the probability of exit via M&A or closure, where the dependent variable is firm exit. Following previous studies of small firm survival (Gai and Minniti, 2009 and 2014; Welsh, et al. 2011; Coleman, Cotei, and Farhat, 2013; Braymen and Neymotin, 2014); Harkins and Forster-Holt, 2014; Lee and Lee, 2014; Shu and Simmons, 2017; Cotei and Farhat, 2018 and 2020); Khurana and Farhat, 2021; and Cotei, Farhat, and Khurana, 2021) we control for firms’ as well as owners’ characteristics. The independent variables include firm size (measured by assets or number of employees), profitability (measured by net income), comparative advantages, as well as owners’ education, experience, time commitment (hours worked/week), race, and gender. In addition, we include financing variables to control for the method of financing and its impact on the mode of firm exit. Due to the high correlations among financing variables and the potential for reverse causality between debt and closure, we present five distinct models by including one financing variable at a time.

The results from the Cox proportional hazard with competing risk model (Table 4) show that the coefficient for the “existing business” dummy is less than one and statistically significant. This suggests that there is a lower probability of closure for businesses started by buying existing firms than for independent businesses. The coefficient indicates that existing businesses are 0.5 times less likely to close than independent businesses. However, the coefficient for the franchise dummy is not statistically significant, indicating that franchises and independent businesses have the same chance of closure. These results are consistent with our findings in Table 3 but contradict our hypothesis that new franchises have a better survival probability than new independent startups. Consistent with previous studies, larger businesses, businesses with comparative advantage, and businesses whose owners have more experience and are highly educated have a lower probability of closure. In addition, businesses started in the retail industry have the highest probability of closure.

**Table 4**  
**Cox Proportional Hazard Model with Competing Risks**

Event of interest: Exit through closure

	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio
	Model 1	Model 2	Model 3	Model 4	Model 5
Existing business	0.50***	0.57***	0.57***	0.56***	0.60***
Franchise	0.96	0.90	0.91	0.90	0.93
Owner-employee	0.99	0.91	0.91	0.90	0.93
Time commitment (hours/week)	1.01	1.00	1.00	1.00	1.00
Minority (%)	1.00	0.97	0.96	0.97	0.95
Owner's Education (=>college)	0.79**	0.85	0.86	0.85	0.90
Work experience (years)	0.99*	0.99*	0.99*	0.99***	0.99*
No. of employees	0.67***	0.63***	0.63***	0.64***	0.66***
Assets (Ln)	0.94***	0.92***	0.93***	0.93***	0.94***
Net Profit	1.00***	1.00***	1.00***	1.00***	1.00***
Male	0.87	0.93	0.94	0.92	0.90
Comparative Advantage	0.78**	0.75***	0.75***	0.76***	0.76***
Total Debt (%)		1.42***			
Total Personal Debt (%)			1.38***		
Total Business Debt (%)				1.23	
Credit Risk					1.35***
Agriculture (%)	0.74	0.82	0.83	0.81	0.86
Construction (%)	0.92	1.05	1.05	1.03	0.96
Manufacturing (%)	1.20	1.19	1.20	1.20	1.22
Utilities (%)	1.18	1.24	1.26	1.19	1.23
Wholesale trade (%)	0.99	0.96	0.96	0.97	1.02
Retail trade (%)	1.50***	1.58***	1.59***	1.59***	1.54***
Financial (%)	0.97	0.79	0.79	0.78	0.81
Sample N		1,435			
Population N		36,321			

\*\*\*, \*\* and \* indicate the significance at 0.01, 0.05 and 0.10 levels. The sample is KFS longitudinal sample (2004-2011). This table shows the results from Cox Proportional Hazard Model with Competing Risks. A ratio > 1 indicates a higher probability of exit through closure. Variable definitions are presented in Appendix 1.

The financing variables (total debt, personal debt) significantly impact the probability of closure. Higher levels of total debt (personal and business) combined with high credit risk increases the hazard rate, indicating that startups with higher debt levels in their capital structure are more likely to exit via closure. While the coefficient of personal debt is greater than one and highly significant, the coefficient for business debt is not. This implies that a higher level of business debt is not associated with the probability of closure. Thus, entrepreneurs who can access formal sources of business finance are less likely to fail as their business is subjected to more scrutiny by financial institutions when business debt is approved (Bruderl et al., 1992; Cooper et al., 1994; Headd, 2000; Liao et al., 2004; Parker and Belghitar, 2006). On the other hand, personal debt depends on the owner's credit score and is not related to the business's true performance. Thus, personal debt may serve as a substitute for business debt by low-performing firms.

The clear implication is that personal debt is associated with higher closure rates. The relationship between initial financial capital and business failure was first explained by Bates (2005). Firms with greater debt financing face higher sunk costs when shutting down. At startup, owners typically have more optimistic expectations about their business outcomes. However, as the reality of running the venture turns out to be negative, startups are more likely to experience unsuccessful closures. In summary, higher levels of personal debt and high business credit risk

increase the hazard rates.

**Table 5**  
**Cox Proportional Hazard Model with Competing Risks**

Event of interest: Exit through M&A

	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio	Hazard Ratio
	Model 1	Model 2	Model 3	Model 4	Model 5
Existing business	1.81**	1.23	1.24	1.25	1.27
Franchise	2.77***	1.91*	1.93*	1.93*	1.92*
Owner-employee	0.73*	0.69*	0.69*	0.69*	0.69*
Time commitment (hours/week)	0.99	0.99	0.99	0.99	0.99
Minority (%)	1.19	0.98	0.99	0.98	0.97
Owner's Education (=>college)	1.44	1.17	1.17	1.17	1.18
Work experience (years)	0.99	0.99	0.99	0.99	0.99
No. of employees	0.83	1.03	1.03	1.03	1.03
Assets (Ln)	1.07*	1.08*	1.08*	1.08*	1.08*
Net Profit	1.00***	1.00*	1.00*	1.00*	1.00*
Male	1.05	1.08	1.08	1.09	1.09
Comparative Advantage	1.09	1.18	1.18	1.17	1.17
Total Debt (%)		0.74			
Total Personal Debt (%)			0.81		
Total Business Debt (%)				0.85	
Credit Risk					1.06
Agriculture (%)	0.42	0.31	0.31	0.32	0.31
Construction (%)	0.43	0.30	0.29	0.30	0.29
Manufacturing (%)	2.11*	1.73*	1.71*	1.72*	1.7*
Utilities (%)	1.49	1.47	1.47	1.49	1.49
Wholesale trade (%)	1.47	1.04	1.03	1.02	1.02
Retail trade (%)	1.65*	1.45*	1.44*	1.44*	1.41*
Financial (%)	0.36*	0.23	0.25	0.26	1.29
Sample N		1,435			
Population N		36,321			

\*\*\*, \*\*, and \* indicate the significance at 0.01, 0.05 and 0.10 levels. The sample is KFS longitudinal sample (2004-2011). This table shows the results from Cox Proportional Hazard Model with Competing Risks. A ratio > 1 indicates a higher probability of exit through closure. Variable definitions are presented in Appendix 1.

When the event of interest is M&A exit rather than closure (Table 5), the results show that being a franchise increases the probability of exiting via M&A by 177%, whereas “existing businesses” have an 81% increase.

In all models, we control for firms’ characteristics, owners’ characteristics, and financing variables. M&A exit has long been viewed as a successful harvest strategy for business owners, and our result indicates that franchisees are more successful in their exit strategy than other business owners. The hazard rates for total, personal, and business debt are less than one and not statistically significant, implying that carrying higher debt levels does not impact the probability of exiting via M&A.

Although franchises' survival rate after eight years is only 60%, their probability of a successful M&A exit is almost three times higher than that of independent businesses. It is worth noting that manufacturing businesses are 2.11 times more likely to exit via M&A, and those in the retail trade sector are 1.65 times more likely to exit via M&A than those in the service sector.

## 6. Conclusion

This study presents unique results that shed more light on the controversial evidence on franchises' survival and exit prospects compared to independent new businesses and those established by purchasing "existing" businesses. Our analysis is based on the Kauffman Firm Survey data of startups established in 2004 and tracked over time for eight years.

Although the characteristics of franchises in the startup year revealed traits conducive to higher survival rates, we find no significant difference in the survival rate between franchises and independent businesses. Our results do, however, reveal that franchise businesses have a higher probability of exiting via M&A relative to independent small businesses. These results are important, especially for practitioners who have long believed that a proven business model would increase the probability of survival of their business. It is also worth noting that business performance is often measured by a harvest strategy such as an M&A. Although we lack information about the value of the M&A deal, we can assume that the M&A exit is a financially rewarding strategy for the business owners. Thus, our findings that franchises are more likely to exit via M&A than small, independent businesses are important for practitioners who typically plan an exit strategy when deciding to invest in an entrepreneurial venture.

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### Appendix 1 Variable Description

Owners Characteristics	Description																		
Owner-employee	Equals 1 if the primary owner is paid employee in the business, =0 otherwise																		
Time commitment (hours/week)	The number of hours worked weekly by the primary owner																		
Work experience (years)	Work experience of the primary owner (in years)																		
Serial entrepreneur	Equals 1 if the primary owner had started other businesses, =0 otherwise																		
Age (years)	Average age of the primary owner (in years)																		
White (%)	Equals 1 if the primary owner is white (non-Hispanic), =0 otherwise																		
Minority	Equals 1 if the primary owner is not white (non-Hispanic), =0 otherwise																		
Male (%)	Equals 1 if the primary owner is male, =0 otherwise																		
Owner's Education (college or higher) (%)	Equals 1 if the primary owner has at least college degree, =0 otherwise																		
Business Characteristics																			
Assets (Ln)	The logarithm of (total assets (\$) + 1) in the start-up year (2004)																		
Net Profit	Net Profit reported in \$																		
No. of Owners	Number of owners of the business																		
No. of employees	Number of employees of the business																		
Proprietorship	Equals 1 if the business legal status is Proprietorship, =0 otherwise																		
Limited Liability Company	Equals 1 if the business legal status is LCC, =0 otherwise																		
Subchapter S-Corporation	Equals 1 if the business legal status is S-Corporation, =0 otherwise																		
Comparative Advantage	Equals 1 if business report having a comparative advantage, =0 otherwise																		
Credit Risk Class																			
Credit Score Risk Class variable is categorized as shown below:																			
Credit score	<table><tr><th>Credit Score Risk Class</th><th>Credit Score Percentile</th><th>Commercial Credit Score</th></tr><tr><td>1</td><td>91-100</td><td>536-670</td></tr><tr><td>2</td><td>71-90</td><td>493-535</td></tr><tr><td>3</td><td>31-70</td><td>423-492</td></tr><tr><td>4</td><td>11-30</td><td>376-422</td></tr><tr><td>5</td><td>1-10</td><td>101-375</td></tr></table>	Credit Score Risk Class	Credit Score Percentile	Commercial Credit Score	1	91-100	536-670	2	71-90	493-535	3	31-70	423-492	4	11-30	376-422	5	1-10	101-375
	Credit Score Risk Class	Credit Score Percentile	Commercial Credit Score																
	1	91-100	536-670																
	2	71-90	493-535																
	3	31-70	423-492																
	4	11-30	376-422																
5	1-10	101-375																	
High credit Risk	Equals 1 if business has Risk Class >3, =0 otherwise																		
Medium credit Risk	Equals 1 if business has Risk Class =3, =0 otherwise																		
Low credit Risk	Equals 1 if business has Risk Class <3, =0 otherwise																		
Sources of Financing																			
Total Financial Capital	Sum of Personal equity, Personal credit card balance, Personal bank loan, Personal other loan, Business credit card balance, Business credit line, Business bank loan and other Business other loan																		
Total Equity %	% of Total equity to Total Financial Capital																		
Owner Equity	% of Owner Equity to Total Financial Capital																		
Insider Equity	% of Insider Equity to Total Financial Capital																		
Outsider Equity	% of Outsider Equity to Total Financial Capital																		
Total Debt	% of Total Debt to Total Financing																		
Insider Personal Debt	% of Insider Personal Debt to Total Financial Capital																		
Outsider Personal Debt	% of Outsider Personal Debt to Total Financial Capital																		
Total Personal Debt	% of Total Personal Debt to Total Financial Capital																		
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