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# How Do Firms Choose Legal Form of Organization?

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**Abstract:** In this study, we analyze the firm's choice of legal form of organization ("LFO"). We find that only about one in three firms begins operations as a proprietorship, while almost as many begin as limited-liability companies and as corporations. Moreover, this distribution is remarkably stable over the first four years of the firm's life. Fewer than one in ten firms changes LFO during its first four years. Those that do change LFO disproportionately move to a more complex form, primarily from proprietorship to a form with limited liability. Our analysis of the firm's initial choice of LFO reveals that a firm is more likely to choose a more complex LFO when the firm is more complex as proxied by employment size, by offering more complex employee benefit plans, and by offering trade credit. A more complex initial LFO also is more likely when the firm is more highly levered and when its primary owner is more educated; but is less likely when the firm is more profitable, has more tangible assets, uses personal loans for firm financing and when its primary owner is female. Our analysis of the decision to change LFO finds that firms initially organized as LLCs or S-corporations are less likely, while Partnerships are more likely, to change LFO than are Proprietorships or C-corporations. Firms that increase employment or change location between a residence and rented/ purchased space, are more likely to change LFO, as are smaller and more profitable firms. Firms that experience a change in the number of owners (up or down), a decrease in the ownership of the primary owner or a change in industrial classification are more likely to change LFO. Of those firms changing LFO, the choice of a more complex LFO is more likely when the firm has changed location, experienced an increase in the number of owners or the ownership share of the primary owner, but is less likely when the firm has experienced a decrease in the number of owners.

**Key Words:** corporation, entrepreneurship, Kauffman Firm Survey, LLC, legal form of organization, organizational form, partnership, proprietorship, small business, start-up

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## **How Do Firms Choose Legal Form of Organization?**

### **1. Introduction**

Why do entrepreneurial firms initially choose one organizational form over another? When and why do entrepreneurial firms change organizational form, switching, for example, from proprietorship to partnership, LLC or corporation? Do firms grow more quickly under one form of organization than another? These are three fundamental questions about entrepreneurial firms that have largely gone unanswered because the data needed to provide answers did not exist.

With release of the initial Kauffman Firm Survey (“KFS”) and its first four annual follow-ups, this situation has changed. The KFS tracks a panel of 4,928 new businesses established during 2004, providing information about the firm in the year of its inception and, for those firms that survive, providing information about the firm in each of four subsequent years—2005, 2006, 2007 and 2008. It will continue to track these firms for three additional years (2009, 2010 and 2011).

Because the KFS collects information on each firm’s legal form of organization (“LFO”) in each survey year, researchers can use KFS data to identify firms that change their LFO and then to analyze why the owners of these firms choose to make these changes. The financial life-cycle theory of the firm tells us that a firm typically starts out as a proprietorship, which is the simplest LFO. As a firm grows larger, more complex and needs more capital than is available from the proprietor, the proprietor can choose to change the firm’s LFO to a partnership, legal liability company, S-corporation or C-corporation. Each of these alternatives enables the firm to raise capital from outside investors, funds for growth that are unavailable to a proprietorship. However, each of these alternatives involves trade-offs in costs and benefits.

Our analysis reveals that, surprisingly, a firm's choice of LFO is largely set in stone at inception, in contradiction to the life-cycle theory of the firm. Only about one in three firms begins life as a proprietorship, while almost as many begin as limited-liability companies ("LLCs") and as corporations. Moreover, this distribution is remarkably stable over the first four years of a firm's life. Fewer than one in ten firms changes LFO during these first four years, but those that do disproportionately move to a more complex form, primarily from proprietorship to a form with limited liability. So, at least for those firms that do change LFO, we do find support for the life-cycle theory.

Our analysis of the firm's initial choice of LFO reveals that a firm is more likely to choose a more complex LFO when the firm is more complex as proxied by employment size, by offering more complex employee benefit plans, and by offering trade credit. A more complex initial LFO also is more likely when the firm is more highly levered and when its primary owner is more educated; but is less likely when the firm is more profitable, has more tangible assets, uses personal loans for firm financing and when its primary owner is female.

Our analysis of the decision to change LFO finds that firms initially organized as LLCs or S-corporations are less likely, while Partnerships are more likely, to change LFO than are Proprietorships or C-corporations. Firms that increase employment or change location between a residence and rented/ purchased space, are more likely to change LFO, as are smaller and more profitable firms. Firms that experience a change in the number of owners (up or down), a decrease in the ownership of the primary owner or a change in industrial classification are more likely to change LFO.

For those firms that do change LFO, this decision is primarily driven by changes in ownership structure. The choice of a more complex LFO is more likely when the firm has

changed location, experienced an increase in the number of owners or the ownership share of the primary owner, but is less likely when the firm has experienced a decrease in the number of owners.

This study makes important contributions to the literature on entrepreneurship by providing new empirical evidence on (i) a firm's initial choice of LFO at start-up; (ii) the determinants of a firm's initial choice of LFO; (iii) the incidence of changes in LFO during the start-years of a new firm; (iv) the determinant of changes in LFO during the start-up years of a new firm; and (v) differences in growth across organizational forms.

From a policy perspective, this new evidence provides policymakers with a roadmap by which they can encourage the transition of firms to organizational forms that are more conducive to growth and complexity. By targeting such policies towards high-tech firms, for example, policymakers can encourage such transitions in particular industries, or at firms with particular attributes, such as a small number of employees or at particular LFOs, such as proprietorships, which account for the largest share of start-ups.

## **2. Legal Forms of Organization**

Obviously, there are advantages and disadvantages to each organizational form and the entrepreneur must calculate the costs and benefits of these advantages and disadvantages. We explore these tradeoffs below.

### ***2.1 Proprietorship***

The proprietorship is the simplest LFO—one that has no separate legal existence from its owner. A proprietorship is simply a person operating a business under her own name or a trade name (“doing business as”). In general, there are no legal requirements to operate a

proprietorship. As a consequence, the law treats the legal obligations of the proprietorship as those of the owner. Also, because there is no separate legal entity, the profits and losses of the business flow through to the owner, as do any legal liabilities. The owner is personally responsible for all legal obligations of the firm and her personal wealth is at risk. A proprietorship can consist of, at most, two persons—a husband and wife filing a joint tax return. Otherwise, a proprietorship has only one owner, and, therefore, is limited in the amount of equity capital by the personal wealth of the proprietor. The life of a proprietorship is limited by the life of the proprietor; the firm dies with the owner. Finally, partial ownership shares do not exist for a proprietorship; the firm must be bought or sold in its entirety.

## ***2.2 Partnership***

In order to deal with many of the limitations imposed by the proprietorship LFO, the partnership was established as a legal business entity whereby a group of two or more persons enter into a legal contract in which the partners agree to operate a business and share the profits from that business. There must be at least one general partner, who bears unlimited legal liability for the firm's legal obligations, and there may be one or more limited partners, who enjoy limited liability if they do not materially participate in the operation of the business. The partnership enables a firm to raise equity capital in excess of that of a single owner; the equity in a partnership is limited by the combined personal wealth of all partners. As with a proprietorship, the profits and losses of the firm pass through the firm to the partners, but on a pro rata share based upon the partnership agreement. As with a proprietorship, there is a limitation on the life of a partnership; it ends with the death of the last general partner. However, ownership of a partnership is divided into shares that can be bought or sold.

## ***2.3 Corporation***

A corporation is the most complex LFO. A corporation is a separate legal entity from its owner and, as such, is recognized as a “legal person” that can enter into contracts and enjoys all the legal rights of a “natural person.” Consequently, all owners of a corporation enjoy limited liability. In sharp contrast to a proprietorship and partnership, a corporation enjoys an unlimited life. There are two primary types of corporations in the U.S.—the C-corporation and the S-corporation.

### *2.31 C-corporation*

C-corporations are subject to corporate income tax at both federal and state levels. Any earnings distributed to shareholders as dividends are subject to a second level of taxation at personal income tax rates. Although this double tax often is cited as a reason not to conduct business as a C-corporation, it is just one factor to consider. Others may outweigh it, and careful tax planning can minimize this disadvantage.

One way the corporation can reduce the double taxation of corporate income is to pay large salaries to shareholders who are managers or employees of the firm. Because compensation is a valid business expense, a C-corporation can deduct compensation in its calculation of taxable income, avoiding the corporate tax on these distributions. However, the IRS imposes limitations on this practice by setting rules on what is considered reasonable compensation; excessive compensation can be reclassified by the IRS as a dividend distribution that is subject to the corporate tax plus penalties.

C-corporation shareholders may postpone the double tax if earnings are reinvested in the business rather than paid as dividends. In this case, retained earnings are taxed only at the corporate level. The amount of earnings retained, however, is effectively limited by the accumulated earnings tax. It also is important to remember that shareholders will pay tax if the earnings eventually are distributed or if corporate assets are sold and the corporation liquidated.

When corporate assets are sold, shareholders will pay a capital gains tax on the proceeds of the sale. If a tax-free exchange of stock occurs instead of a sale, owners will not pay tax unless they sell some of the shares received in the exchange. States generally do not offer favorable rates on capital gains.

Because some state corporate income tax rates are higher than individual rates, a business organized as a regular corporation may pay higher state taxes than if it is organized as a partnership or S-corporation. However, this difference may not be significant in the few states that tax unincorporated businesses.

### *2.32 S-corporations*

An S-corporation is a firm that elects special tax status as defined by Subchapter S of the Internal Revenue Code. The S-corporation was created in 1958 to provide tax relief primarily to small privately held firms. An S-corporation requires the same corporate formalities as a C-corporation, including articles of incorporation, a board of directors, an annual shareholders' meeting, corporate minutes and shareholder votes on major corporate decisions.

S-corporations are subject to a number of restrictions that do not apply to C-corporations, including a limit to one class of stock and a limit on the number of shareholders. Originally, this shareholder limit was set at 10, but subsequently was raised to 15 in 1976, to 25 in 1981, to 35 in 1982, to 75 in 1996 and to 100 in 2004. Both new and existing corporations may elect S-corporation status.

The major difference between a C-corporation and an S-corporation is that S-corporation income “passes through” to its shareholders so that it is subject to a single level of taxation—at the personal level. Its income, whether or not distributed, is passed through to shareholders on a pro rata basis and included on their individual tax returns. Because an S-corporation passes



through its income to its shareholders, it avoids the double taxation of corporate income suffered by C-corporations. As a general rule, the higher is the percentage of corporate income to be distributed, the more beneficial is the S election. The S-corporation form is beneficial for an existing profit-making corporation that does not reinvest earnings, or cannot do so because of an accumulated earnings problem, and expects to distribute substantially all of its income to shareholders. For an ongoing business that anticipates an accumulated earnings problem, an S-corporation election may be beneficial, at least during the interim period when earnings are distributed.

Some C-corporations avoid double taxation by paying out salaries and bonuses large enough to reduce corporate net income to zero. The IRS may challenge such compensation as excessive and reclassify part of the compensation as a nondeductible dividend. A business effectively can eliminate the possibility of excessive compensation disputes with the IRS by electing S-corporation status.

In contrast to their C-corporation counterparts, shareholder-managers of S-corporations have incentive to favor dividend distributions over managerial compensation. This result obtains because salary income is subject to a 15.3% payroll withholding tax mandated by the Federal Insurance Contributions Act (FICA), which funds the Social Security (12.4%) and Medicare (2.9%) social insurance programs. Dividend distributions are not subject to the FICA tax, so a shareholder manager avoids the payroll tax to the extent she can shift income from salary to dividends. After the Tax Reform Act of 1982, both salaries and dividends were treated as ordinary personal income, which was subject to federal and state personal income taxes. However, the Jobs and Growth Tax Relief Act of 2003 set the federal personal-income tax rate on qualified dividends at 15% rather than at the taxpayer's marginal tax rate on ordinary income.

This increased the incentive of a shareholder-manager in a high tax bracket to shift salary income to dividends. Not only would the dividend income avoid the payroll taxes, it also would be taxed at a lower rate than ordinary income, which includes salary.

For the most part, the incentive to shift salary income to dividends applies only to manager-shareholders earning less than the Social Security Wage Base, which was \$60,600 in the early 1990s, but is indexed to inflation and, subsequently, has increased to \$106,800 as of tax year 2009. Salary income above this cap is subject only to the Medicare Hospital Insurance portion of FICA, which is only 2.9%.

The IRS imposes a requirement of “reasonable compensation” at S-corporations to limit avoidance of the payroll tax just as it imposes a requirement at C-corporations to limit avoidance of the corporate tax. Manager-shareholders must pay themselves a “reasonable” salary based upon what comparable non-shareholder managers working comparable hours are paid at other firms of similar size operating in the same industry. The IRS may reclassify dividends as salary if it deems managerial compensation to be “unreasonably” low. This has led many accounting firms to recommend a “60/40” rule: pay out at least 60% of earnings as salary and only 40% as dividends.

Most states follow the federal example, exempting S-corporations from the corporate income tax. However, some states, most notably California and New York, recognize the pass-through nature of S-corporations but still impose a tax at the entity level. Others do not recognize S status and treat all corporations operating in their jurisdictions as regular corporations, subjecting the entity to a corporate tax and its shareholders to a personal income tax on any dividends received from the corporation.

The S-corporation provides a significant advantage over a regular corporation if a business is operating at a loss, particularly if most or all of the owners are in the highest tax brackets. If the losses are not generated by passive activities, shareholders can use those losses to shelter other personal income.

In contrast, the C-corporation does not provide an immediate tax benefit from operating losses unless it can use an optional provision permitting carry-back of losses against profits during the three most recent tax years. However, if a new business loses money in the first years of operation, the carry-back provision does not provide any current benefit. Losses not used in the current tax year or carried back can be carried forward and used to offset profits in future years, but several years may pass before the firm's profits are large enough to realize the full tax benefit of the early losses.

#### ***2.4 Limited-Liability Company***

The limited-liability company ("LLC") is a relatively new business structure allowed under most state laws, but not recognized as an LFO by the IRS, that is, in essence, a hybrid between the partnership and the S-corporation. Owners of an LLC enjoy limited liability, ease of transfer of ownership shares, pass-through of income to the owners, and less administrative burden than faced by owners of a corporation. For example, an LLC is not required to have a board of directors or officers, and, typically, is required to file much less burdensome paperwork with the government. However, like a corporation and unlike a partnership, an LLC enjoys an unlimited life.

Many of the LLC's disadvantages arise from its short history. Some states do not treat LLCs as offering limited liability, and some lenders may be hesitant to lend to an LLC because of difficulty in determining who actually has the authority to enter into a contract on behalf of

the LLC. For federal tax purposes, an LLC must choose to be treated as a partnership, a corporation, or, for single-owners, a proprietorship.<sup>1</sup>

### **3. Literature Review**

The literature on determinants of LFO is extremely sparse because, as previously noted, there was no suitable source of data for analyzing this issue prior to the KFS. Consequently, most of the literature on organizational form is theoretical, dating back to Adam Smith (1776). Much of this theory focuses on finances and human resources. Berle and Means (1932), Jensen and Meckling (1976), Fama and Jensen (1983a, 1983b), Jensen (1983), Williams (1985) and others point to the separation of ownership and control and control mechanisms such as the board of directors that have evolved to limit agency costs as one of the reasons why most large firms are organized as C-corporations.

Fama and Jensen (1983a, 1983b) argue that firms choose their organizational form base upon a tradeoff between the costs and benefits of financial risks and decision making. As firms grow larger and more complex, corporations become more efficient relative to proprietorships because the owner must be wealthy enough to bear all of the firm's financial risk as well as possess the expertise to run the firm. Separating financing from control enables the firm to operate more efficiently by allowing separate persons to specialize in bearing risk and managing the firm. The cost of this separation is the divergence of interests between owners and managers so that corporations must develop governance mechanisms for minimizing these agency costs.

Allen and Sherer (1995) develop a theory of organizational form where the proprietorship fosters quality, whereas the corporation fosters efficiency. Proprietors are tied to their firm

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<sup>1</sup> For more information on the tax treatment of LLCs, go to the IRS website:  
<http://www.irs.gov/businesses/small/article/0,,id=98277,00.html>

through both their financial and human capital, so that they suffer directly the consequences of poor quality. Corporate managers, on the other hand, are not tied to the firm by their financial resources. Consequently, Allen and Scherer's theory predicts that corporations will be the dominant form for firms that can guarantee quality in ways other than the dedication of the owner, such as through the provision of warranties.

Easterbrook and Fischel (1985) argue that most of the advantages of corporation, including limited liability, can be achieved by proprietorships and partnerships through contracting with their customers, creditors and suppliers, so that the corporation is largely irrelevant.

Another group of papers, including Harberger (1966), Shoven (1976), Ballard et al. (1985), Gravelle and Kotlikoff (1988, 1989, 1993), Gordon and Mackie-Mason (1990, 1994, 1997) and Goolsbee (1998, 2004), focus on taxes as the key issue in choosing organizational form. In the U.S., C-corporations are taxed at a different, higher rate than other LFOs, so taxes are expected to influence a firm's organizational decision, inducing them to shift out of the C-corporate form. Goolsbee (2004), for example, exploits cross-sectional variation in corporate taxes at the state level to explore this issue. He finds strong evidence that higher corporate tax rates reduce the incidence of C-corporations relative to other LFOs.

A couple of more recent empirical studies look at organizational form and firm growth. Harhoff et al. (1998) analyze a sample of 11,000 firms in Germany and find that incorporated firms grow faster than unincorporated firms. Demircuc-Kunt et al. (2006) analyze a cross-sectional sample of firms from 52 countries and find that the incidence of corporations is higher in countries with higher measures of corporate governance and that incorporated firms grow faster than unincorporated firms in countries with better corporate governance.

## **4. Data and Methodology**

### ***4.1 Data***

#### *4.11 The KFS*

Our study uses data from the Kauffman Firm Survey (“KFS”). The KFS tracks a panel of 4,928 new businesses established during 2004, providing information about the firm in the year of its inception and, for those firms that survive, providing information about the firm in each subsequent year. As of year-end 2010, data were available for four follow-up samples, providing information for 2005, 2006, 2007 and 2008, as well as the initial year of 2004. In addition, the KFS has received funding to continue tracking these firms for three additional years—2009, 2010 and 2011. The KFS is the largest longitudinal database on new businesses ever created, and the most comprehensive longitudinal database on small U.S. firms of which we are aware.

Like the Federal Reserve Board’s Survey of Small Business Finances (“SSBF”), the KFS uses the Dun & Bradstreet (“D&B”) database as a sampling frame, selecting a stratified random sample of 4,928 firms from the frame of approximately 258,000 firms that started during 2004. High-tech firms were oversampled, while wholly-owned subsidiaries of existing firms, inherited businesses and not-for-profit firms were excluded from the sampling frame. The initial survey was conducted between July 2005 and July 2006 using a computer-assisted telephone interview (“CATI”) with the principal of the firm. In an attempt to improve response rates, respondents were paid \$50 for a complete interview. The weighted response rate for the initial survey was 43%.

To be eligible for the initial survey, a firm had to report in the affirmative to having performed one of the following during 2004, but performed none of the four during prior years: (i) paid state unemployment taxes; (ii) paid FICA taxes; (iii) used an employer Identification Number (EIN); or (iv) used Schedule C to report business income on a personal tax return.

The first follow-up survey was conducted during June 2006 - January 2007, resulting in 3,998 complete interviews and identifying 369 firms as out-of-business. This translates into a weighted response rate of 88%.

The second follow-up survey was conducted during May - December 2007; 3,390 firms completed the second follow-up, which identified 777 firms as out-of-business, including 369 identified during the first follow-up. This translates into a weighted response rate of 82%.

The third follow-up survey was conducted during June - December 2008, and obtained 2,915 complete interviews for a response rate of 78%. During the third follow-up, 1,171 firms were identified as out of business, including 635 identified during the first or second follow-ups.

The fourth follow-up survey was conducted during June – December 2009 and obtained 2,606 complete interviews for a weighted response rate of 83%. During the four follow-ups, a total of 1,483 firms were identified as permanently out of business, including 1,124 identified during the first three follow-ups.

The KFS is ideal for this study. Unlike the SSBF, it captures a firm's initial decision to choose an organizational form. This enables us to model the firm's decision as a function of variables pre-dating the decision. In addition, the KFS tracks the firm's organizational form over time, enabling us to identify firms that change organizational after their initial formation. This enables us to model the firm's decision to change organizational form and, conditional on that decision, to model its choice of a more, or less, complex organizational form.

#### *4.12 Analysis Variables*

Our primary variable of interest is the firm's legal form of organization. For the initial survey and each follow-up, the KFS includes information on each firm's LFO as of that point in

time. Hence, we can use this information both to identify initial LFO and to identify subsequent changes in LFO.

For explanatory variables, we utilize information from the KFS about the characteristics of each firm and each firm's primary owner. We are primarily interested in measures of firm complexity, as the life-cycle theory posits that firms change to more complex LFOs as they grow more complex over time. The KFS provides information on seven legal forms of organization: Proprietorship, General Partnership, Limited Partnership, Limited Liability Company ("LLC"), S-corporation, C-corporation and Other. We collapse the number of LFOs to five in order to make our analysis more tractable by deleting 14 firms that reported "other" as their initial LFO, and by combining firms that reported that they were general partnerships or limited partnerships into a single partnership category. We follow convention in ordering organizational forms by complexity with Proprietorship being the simplest, followed by Partnership, LLC, S-corporation and, as most complex, C-corporation.

We include two measures of firm size: total employment and a categorical representation of total assets.<sup>2</sup> Total employment is simply the number of firm employees as of the survey's reference year. It is important to note that over half of the firms report zero employees. This is because the owner(s) of a firm is not necessarily an employee of the firm. When a firm hires its first employee, it becomes much more complex, especially from a tax viewpoint. The firm must begin keeping records of salary expense, withholding FICA taxes and paying state unemployment taxes. Consequently, we expect that total employment should be positively related to complexity of LFO.

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<sup>2</sup> Unlike the SSBF, the KFS does not provide imputed values for missing information. Instead, the KFS collected information on ranges of values when the respondent refused to supply an actual value for a continuous variable.



Total assets, like most of the variables denominated in dollars, is only reported in a categorical format. There are nine ranges of value: “0” for zero dollars; “1” for \$500 or less; “2” for \$501- \$1,000; “3” for \$1,001 - \$3,000; “4” for \$3,001 - \$5,000; “5” for \$5,001 - \$10,000; “6” for \$10,001 - \$25,000; “7” for \$25,001 - \$100,000; “8” for \$100,001 - \$1 million; and “9” for more than \$1 million. Typically, a firm’s complexity on a wide range of dimensions grows with the value of total assets, so we view asset size as a generic measure of firm complexity and expect that it should be positively related to complexity of LFO.

We include a single measure of profitability in our model, but this measure is constructed from three KFS variables: an indicator for whether the firm was operating at a profit or loss, and two categorical range indicators for the amount of profit or loss, where the ranges are the same as defined for total assets. This results in a profitability measure with a range of values from -9 to +9. We expect a negative relation between profitability and complexity of LFO because we expect that more complex start-ups are associated with greater start-up costs and longer periods of time until output can be ramped up and customers brought on board; consequently, they are more likely to incur larger losses from which the owners would like to be protected by the limited liability offered by more complex LFOs.

As a related variable, we include a dummy variable indicating positive sales. We expect that a more complex firm takes longer to generate initial output and bring customers on board resulting in any sales revenues, so we expect a negative relation between positive sales and complexity of LFO.

We include a series of six dummy variables that indicate whether or not the firm reported having any amount of six categories of assets: Accounts Receivable, Inventory, Equipment, Vehicles, Land/Buildings, and Other Assets; we exclude the seventh category, which is Cash.

Within this set of variables, we are primarily interested in Accounts Receivable and Other Assets. A firm with a positive value of Accounts Receivable is a firm that is offering trade credit to its customers. By functioning as a financial intermediary, as well as performing its primary function, the firm, by definition, is more complex and more likely to choose an LFO offering limited liability in order to protect the personal assets of the owner. We are interested in Other Assets because this category includes intangible assets. A firm reporting intangible assets, such as patents or trademarks, is more complex than a firm with standard assets, such as inventory and equipment, and is hypothesized to be more likely to choose a more complex LFO. We expect that a firm with more standard assets, including inventory and equipment, would be less likely to choose more complex LFO.

From information on how the firm is financed, we include total liabilities (in the standard KFS nine-category range format) and a dummy variable indicating whether the firm obtained personal loans for the purpose of financing the firm from (1) personal credit cards, (2) personal bank loans, or (3) personal loans from family and friends. Here, our focus is on limited liability rather than complexity; we expect that a firm with limited liability will be more likely to rely upon debt than equity and less likely to rely upon personal credit than business credit. Consequently, we expect that complexity of LFO will be positively related to total liabilities and negatively related to the use of personal loans for business financing.

We include two measures of employee benefits as proxies for firm complexity: dummy variables indicating whether or not the firm provided health care or a retirement plan for employees. As proxies for firm complexity, we expect each to be positively related to complexity of LFO.

We include a single measure of firm location as a proxy for firm complexity—a dummy variable indicating that the firm was located in the personal residence of the firm’s owner. While there were five categories for location (residence, rental, purchased space, client’s space, other space), more than 90 percent of the firms responded that they were either in a residence or a rental space, so we combine the last four categories into “other than residence” and collapse this into a binary variable. We expect that more complex firms would seek space outside of the owner’s residence; consequently, we expect a negative relation between organizational complexity and residential location.

Finally, as control variables, we include a set of 15 dummy variables for industrial classification based upon two-digit NAICS code: Agriculture (10); Construction (21, 22, 23); Manufacturing (31, 32, 33); Wholesale Trade (42); Retail Trade (44, 45); Transportation (48, 49); Information Services (51); Finance (52); Real Estate (53); Professional Services (54, 55, 61); Business Services (56); Health Services (62); Arts & Entertainment (71); Food Services (72); and Other Services (81).

From information on the primary owner of the firm, we include a series of variables that provide information on the age, education, experience, race, ethnicity and gender. Age is a range variable with seven categories: “1” for 18-24 years; “2” for 25-34; “3” for 35-44; “4” for 45-54; “5” for 55-64; “6” for 65-75; and “7” for 75 or more years. Experience is simply in years. Education is a range of ten categories that we collapse into four: High School or less; Some College; College Degree; and Graduate Degree. Race, ethnicity and gender are binary indicator variables; there are four categories of race—Asian, Black, White, and Other. We expect that older, better educated and more experienced primary owners will choose more complex LFOs. We have no expectations regarding race, ethnicity and gender, but include these as general

control variables. Finally, we include a variable that indicates whether or not the primary owner is an employee of the firm. We expect that owners only become employees when the firm is more complex so we expect a positive relation with complexity of LFO.

#### **4.2 Methodology**

Our study uses the following research design. First, we model the firm's initial decision to choose a legal form of organization using a multinomial logistic-regression model, where the dependent variable takes on one of five values—one for each organizational form: Proprietorship, Partnership, LLC, S-corporation or C-corporation.

*Initial LFO*<sub>*i*</sub> =

$f(\text{Firm Characteristics}_i, \text{Owner Characteristics}_i, \text{Industrial Classification}_i)$  (1)

Where:

*Initial LFO*<sub>*i*</sub> is an indicator variable for organizational form for firm *i* that takes on a value of 1 through 5, with each value corresponding to one organizational form in the order of increasing complexity: Proprietorship, Partnership, LLC, S-corporation and C-corporation.

*Firm Characteristics*<sub>*i*</sub> is a vector including location, financing and ownership structure, business strategy, income and expenses, assets and liabilities. These variables are defined in Panel A of Appendix Table 1.

*Owner Characteristics*<sub>*i*</sub> is a vector including information on the primary owner, including race, gender, ethnicity, age, experience, and education. These variables are defined in Panel B of Appendix Table 1.

*Industrial Classification*<sub>*i*</sub> is a vector of 15 dummy variables indicating industrial classification based upon two-digit NAICS code.

For the firm's subsequent decision to change organizational form, we estimate the following selection model:

$$\text{Change LFO}_{i,t} = f(\text{Firm Characteristics}_i, \text{Owner Characteristics}_i, \text{Industrial Classification}_i) \quad (2)$$

Where:

*Change LFO<sub>i,t</sub>* is a binary indicator variable that takes on a value of one if firm *i* changed legal form of organization form during year *t*, and zero otherwise.

*Firm Characteristics<sub>i</sub>* and *Owner Characteristics<sub>i</sub>* and *Industrial Classification<sub>i</sub>* are vectors of explanatory variables as described above and defined in Appendix

Table 1. However, we augment those variables with several related variables that measure changes in these characteristics from the base year to the fourth follow-up.

These include change in employment, change in industry, change in the number of owners and change in location of the firm.

Conditional upon the selection model (using the standard model of Heckman (1979)), we estimate the following logistic regression model:<sup>3</sup>

$$\text{More Complex LFO}_{i,t} = f(\text{Firm Characteristics}_i, \text{Owner Characteristic}_i, \text{Industrial Classification}_i) \quad (3)$$

where:

*More Complex LFO<sub>i,t</sub>* is a binary indicator variable for the new organizational form for firm *i* in year *t* that takes on a value of one if the firm moved to a more complex LFO and zero if the firm moved to a less complex LFO.

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<sup>3</sup> We also attempted to estimate a multinomial logit model analyzing determinants of which new LFO was chosen, but there are too few observations to obtain meaningful results for the five categories.

*Firm Characteristics*<sub>*i*</sub> and *Owner Characteristics*<sub>*i*</sub> and *Industrial Classification*<sub>*i*</sub> are vectors of explanatory variables as described above and defined in Appendix Table 1.

## **5. Results**

### ***5.1 Choices of and Changes in Legal Form of Organization***

Table 1 presents information on the choices of legal form of organization recorded by the initial Kauffman Firm Survey and each of the four currently available follow-ups. Perhaps the most surprising finding from this table is that only 35.76 percent of firms newly established in 2004 chose the simplest legal form of organization—the proprietorship. The life-cycle theory of the firm suggests that the vast majority of new firms should begin life as proprietorships.

Also surprising is the finding that 30.50 percent chose to organize as LLCs. This suggests a relatively high level of financial sophistication among this latter group of firms, as the LLC is a relatively new legal form of organization, becoming mainstream only in the past two decades. By comparison, in the 2003 SSBF, less than ten percent of surveyed small firms reported organizing as LLCs. The incidence among 2004 start-ups is more than three times as high.

S-corporations account for 20.14 percent of the 2004 start-ups as compared with more than 30 percent of small firms surveyed by the 2003 SSBF. C-corporations account for only 7.94 percent of the 2004 startups, compared with more than 14 percent of the 2003 SSBF firms. In summary, there are significant differences in the LFO choices of 2004 start-ups relative to those of firms surveyed by the 2003 SSBF, which includes firms whose average age is about 14 years.

Also shown in Table 1 is the distribution by legal form of organization for follow-up surveys 1 through 4. At the bottom of Panel B is the total number of firms, which clearly shows

the attrition in the sample—from 4,928 in 2004 to 3,998 in 2005; 3,469 in 2006; 2,971 in 2007; and 2,634 in 2008. This attrition is due in part to firms going out of business and in part to firms refusing to participate in the follow-up surveys.

Another surprise is that the weighted distributions by LFO are relatively stable across the five surveys, but with a decline over time in proprietorships and an increase over time in both LLCs and S-corporations, consistent with the life-cycle theory of the firm. However, the percentage of C-corporations declines over time, which is inconsistent with the life-cycle theory.

Panels A through D of Appendix Table 1 present cross-tabulations of the distributions of KFS firms by legal organization in the initial survey relative to follow-up surveys. Only firms that changed LFO from one survey to the next are included in this table. Panel A of Appendix Table 1 shows that, from 2004 to 2005, a total of 148 firms changed LFO. Of this total, 63 changed from proprietorship to a more complex LFO, and 15 changed from LLC to corporation. Among partnerships, 25 changed LFO, 10 to proprietorship, 6 to LLC, 7 to S-corporation and 2 to C-corporation. Among S-corporations, 13 changed LFO, with six becoming C-corporations, 3 becoming LLCs and 3 becoming proprietorships. Surprisingly, 26 C-corporations changed to less complex LFO, but primarily to S-corporation (23 of 26).

Panel B of Appendix Table 1 shows that, from 2005 to 2006, a total of 108 firms changed LFO. Of this total, 48 proprietorships changed to a more complex LFO. Among LLCs, 24 changed LFO, with 4 switching to the simpler proprietorships and 18 switching to the more complex S- or C-corporation. Among S-corporations, 15 changed LFO, with 2 switching to proprietorships, 5 to LLCs and 8 to C-corporation. Among C-corporations, 11 changed LFO, with 3 changing to LLC, 7 to S-corporation and 1 to Partnership. Among Partnerships, 10 changed LFO, 5 to S-corporation, 3 to LLC and 2 to proprietorship.

Panel C of Appendix Table 1 shows that, from 2006 to 2007, a total of 68 firms changed LFO. Of this total, 30 proprietorships changed to a more complex LFO. Among LLCs, 14 changed LFO, with 11 switching to more complex S- or C-corporations and only 2 to simpler proprietorships. Among S-corporations, 6 changed LFO, with 5 changing to more complex C-corporations. Among C-corporations, 6 changed LFO, with 5 changing to S-corporation. Among Partnerships, 12 changed LFO, 3 to S-corporation, 4 to LLC and 5 to Proprietorship.

Panel D of Appendix Table 1 shows that, from 2007 to 2008, only 57 firms changed LFO. Of this total, 17 proprietorships changed to a more complex LFO. Among LLCs, 15 changed LFO, with 8 switching to simpler proprietorship and 7 to more complex S- or C-corporation. Among S-corporations, 12 changed LFO, with 4 changing to more complex C-corporation and eight to simpler LLC or proprietorship. Among C-corporations, 8 changed LFO, with 6 changing to S-corporation and two to LLC. Among Partnerships, only 5 changed LFO, 4 to proprietorship and one to LLC.

In summary, the incidence of changes to LFO declines each year and by more than can be explained by attrition to the sample; this suggests that the start-ups are moving towards their optimal LFOs as they grow older.

In Table 2, we combine the year-by-year changes from Panels A through D of Appendix Table 1. Here, we see that the total of 381 changes to LFO are dominated by 158 changes from Proprietorship to a more complex LFO, primarily to LLC (68 firms) and S-corporation (54 firms). LLCs account for the next highest incidence of changes to LFO at 74 firms, with 52 changing to more complex corporate organization and 19 changing to simpler proprietorships. Among partnerships, 51 changed LFO, with 21 going to proprietorship, 14 to LLC and 15 to S-corporation. Among S-corporations, only 46 changed LFO, with 23 going to more complex



C-corporations, 4 going to less complex LLCs, and 8 going to the simple proprietorship. Among C-corporations, 51 changed LFO, with the vast majority (41) simplifying to S-corporations. Out of the total of 381 changes in LFO, 253 (66.4%) moved to more complex organizational forms and 128 (33.6%) moved to less complex organizational forms. In the remainder of the paper, we seek to explain why some firms choose to become more complex while others choose to become less complex.

## **5.2 Descriptive Statistics for LFOs**

In Table 3, we present descriptive statistics from the base year of 2004 for each of the five legal forms of organization. These statistics allow us to make univariate comparisons across the five LFOs. We start with firm characteristics in section 5.21, and then move on to owner characteristics in section 5.22, and to industrial classification in section 5.23.

### *5.21 Firm Characteristics*

Panel A of Table 3 presents descriptive statistics for characteristics of the firm. Firm size as measured by total employment rises monotonically with firm complexity, from a low of 0.66 at Proprietorships to 1.60 at Partnerships, 1.80 at LLCs, 2.70 at S-corporations and a high of 2.95 at C-corporations.<sup>4</sup> A somewhat similar trend is observed for firm size as proxied by total assets, which, as noted in section 4.1, is reported in ranges rather than dollar values; however, asset size is greatest for S-corporations, followed by LLCs and then C-corporations.

Base-year profitability, which also is measured in ranges rather than dollar values, is highest for Proprietorships and lowest for C-corporations. This finding is consistent with the expectation that start-up costs are higher for more complex firms. Similarly, positive base-year sales are most common at Proprietorships and least common among C-corporations. More

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<sup>4</sup> Not shown in Table 3 is the number of firms with no employees; only 42 percent of the firms report having at least one employee; 67% of proprietorship, 64% of partnerships, 60% of LLCs, 44% of S-corporations and 43% of C-corporations report having zero employees.

complex start-ups are often focused on developing new products during the first year of operation, while simpler firms begin serving customers immediately.

The next group of variables is a set of indicators for whether or not the firm reports having different types of assets on its balance sheet. Two out of three firms have cash on hand, but proprietorships are least likely (59%), whereas S-corporations most likely (73%), to have cash on hand. Two out of five firms report having inventory, with Partnerships (47%) and Proprietorships (42%) most likely and C-corporations (36%) and LLCs (36%) least likely. This is consistent with the finding for positive base year sales, as inventory is needed for selling a product (but not a service). Fewer than two out of three firms report having equipment, with Partnerships least likely (63%) and S-corporations most likely (71%). One in four firms reports a vehicle on the balance sheet, with Partnerships again least likely (21%) and S-corporations most likely (28%).

Our two balance sheet variables of most interest are proxies for organizational complexity—Accounts Receivable and Other Assets. Just over a third of the firms report positive accounts receivable, indicating that they are suppliers of trade credit, with S-corporations (51%) and C-Corporations (43%) most likely and Partnerships (39%) and Proprietorships least likely (27%). Only 2% of all firms report Other Assets, but less than 1% of Proprietorships and Partnerships do so; in contrast, 4% of C-corporations report Other Assets, which include intangible assets such as patents and trademarks.

Among financing variables, the importance of limited liability is quite apparent. The average range value for total liabilities is 1.32, but the averages increase monotonically with complexity of LFO—from a low 0.66 at Proprietorships to a high of 2.25 at C-Corporations. Yet our indicator for owners who take out personal loans to finance the firm is highest for

Proprietorships (59%) but lowest for C-corporations (50%) and Partnerships (49%); the overall average is 57%.

Our dummy variable for residential location is negatively related to organizational complexity, as hypothesized. Among Proprietorships, 63% choose to locate in a residence, whereas, among S- and C-corporations, only 37% and 35%, respectively, locate in a residence.

We also expect that more complex firms should be more likely to offer more comprehensive employee benefits. Consistent with this notion, we find that health plans for full-time employees are offered by only 4.8% of Proprietorships but by 19.3% of C-corporations and 24.0% of S-corporations. Similarly, retirement plans for full-time employees are offered by less than one percent of Proprietorships, but by more than eight percent of both S- and C-corporations.

#### *5.22 Owner Characteristics*

Panel B of Table 3 presents descriptive statistics for characteristics of the owners. The average number of owners is exactly 1.00 for proprietorships, but rises to 1.75 for S-corporations, 2.01 for LLCs, 2.47 for Partnerships and 2.94 for C-corporations, which is generally consistent with the growing complexity across these LFOs.

Both owner age and experience increase with complexity of the firm, as we expect. Experience of the primary owner is lowest for Proprietorships and highest for Corporations. Age of the primary owner, which is presented in ranges rather than actual number of years, is youngest for S-corporations and Proprietorships and oldest for C-corporations.

By gender, female owners are least prevalent among C-corporations and most prevalent among Proprietorships and Partnerships. This is not surprising because previous studies of small businesses, such as Coleman and Robb (2009), Fairlie and Robb (2009), and Cole and Mehran

(2010), have found that female owners are younger and less experienced than male owners; as noted above, both of these variables are positively related to complexity of LFO.

By race and ethnicity, minority-owned firms are disproportionately organized as C-corporations. Black owners make up 9.2% of all primary owners, but account for 15.5% of primary owners at C-corporations and 11.0% of Proprietorships but only 5.3% of S-corporations. Similarly, Hispanics, which make up 6.3% of primary owners, are disproportionately represented at C-corporations (8.7%) and Proprietorships (8.2%). Asian owners are disproportionately found in C-corporations and least common among Proprietorships. While Asians make up 4.0% of all primary owners, they account for 7.4% of primary owners at C-corporations but only 3.0% at Proprietorships. White primary owners, which make up 82.2% of all primary owners, are more likely to be found at S-corporations (85.6%) and LLCs (85.2%) and least likely to be found at C-corporations (73.2%).

Organizational complexity appears to be correlated with the education of the primary owner. Primary owners with a high-school degree or less are most likely to be found at Partnerships (31.8%) and Proprietorships (28.6%) and least likely among S-corporations (15.1%) and LLCs (15.5%). Primary owners with a college degree are most prevalent among Proprietorships (34.4%) and least prevalent among LLCs (26.7%). In contrast, primary owners with graduate degrees are least likely to be found at Proprietorships (16.8%) and most likely to be found at C-corporations (31.8%). At least at the extremes (high school and graduate degrees), the education of the primary owner appears to be highest among the most complex LFO (C-corporations) and lowest among the least complex LFO (Proprietorships).

### *5.23 Industrial Classification*

In Panel C of Table 3 are descriptive statistics for our final set of variables—a set of 15 indicators for industrial classification based upon two-digit NAICS codes. We expect to find sharp differences in organizational form across different industries, and the data bear out our expectations.

Professional-Services (NAICS 54, 55, 61) accounts for 17.1% of the population, but is over-represented among more complex LFOs (18.5% of LLCs, 17.3% of S-corporations and 16.7% of C-corporations) relative to less complex LFOs (16.4% of Proprietorships and 12.7% of Partnerships).

Retail-Trade (NAICS 44, 45) accounts for 14.5% of the population, but is over-represented among less complex LFOs (19.9% of Partnerships and 16.4% of Proprietorships) relative to more complex LFOs (11.9% of LLCs, 12.1% of C-corporations and 14.6% of S-corporations).

Construction (NAICS 21, 22, 23) accounts for 11.5% of the population, but is over-represented among S-corporations (14.3%) and under-represented among Partnerships (7.6%).

Business Services (NAICS 56) accounts for 9.9% of the population but is over-represented among C-corporations (12.1%) and under-represented among Partnerships (8.0%).

Other Services (NAICS 81) accounts for 9.5% of the population, but is over-represented among less complex LFOs (15.0% of Proprietorships and 12.7% of Partnerships relative to more complex LFOs (6.4% of LLCs, 5.4% of C-corporations and 5.3% of S-corporations).

Manufacturing (NAICS 31, 32, 33) accounts for 6.4% of the population but is over-represented among C-corporations (9.5%).

Finance (NAICS 52) accounts for 5.0% of the population, but is over-represented among more complex LFOs (7.4% of LLCs, 6.5% of S-corporations and 6.2% of C-corporations) relative to less complex LFOs (2.3% of Proprietorships and 0.8% of Partnerships).

There also are significant differences among the remaining industries that account for much smaller portions of the population. To summarize, we find wide variation in LFO across industries, as expected.

### **5.3 Determinants of Initial LFO**

Because so few firms change their LFO during the first four years, the most interesting analysis is looking at the determinants of the owner's initial decision to organize her firm as one LFO rather than another. The results of this multinomial logistic-regression analysis appear in Table 4. This methodology produces  $(N - 1)$  coefficients for each explanatory variable, where  $N$  is the number of different values of the dependent variable; in our case  $N$  is equal to five, so we obtain four sets of coefficients. These coefficients measure the differential impact of that variable on each of the  $N - 1$  outcomes of the dependent variable relative to an omitted category. For ease of interpretation, we have chosen the simplest form of legal organization—Proprietorship—as the omitted category. Consequently, the coefficients indicate whether each of the other four LFOs is more or less likely to be associated with that characteristic than is a Proprietorship.

For ease of interpretation, we also have calculated the odds ratio, whose interpretation (when multiplied by 100) is, for each variable, the percentage by which a firm with that characteristic is more or less likely to choose the LFO for that odds ratio rather than to choose to organize as a Proprietorship (the omitted category). Hence, for variables that proxy for more organizational complexity, our expectation is that odds ratios will be greater than one and higher

for more complex LFOs; and for variables that proxy for less organizational complexity, our expectation is that odd ratios will be less than one and lower for more complex LFOs.

If we divide the odds ratio for one LFO by the odds ratio of another LFO for a given variable, we get the odds ratio for choosing the LFO in the numerator relative to the LFO in the denominator. Hence, we only need to present one set of results, rather than five, in order to be able to make comparisons between each pair of LFOs.

### *5.31 Firm Characteristics and Initial LFO*

Panel A of Table 4 presents the results for firm characteristics. For our primary measure of size—total employment—the odds ratio for each of the four included LFOs is greater than 1.0, and each of the four coefficients from which the odds ratios are calculated is statistically significant at the 0.01 level or better. This result is strongly supportive of our hypothesis that a larger firm is more complex and, therefore, is more likely to choose a more complex initial legal form of organization.

The ordering of the magnitudes of the odds ratios also fit our hypothesis that the “pecking order” of complexity runs from Proprietorship to Partnership, LLC, S-corporation and, finally, C-corporation. For a one-unit increase in total employment, a firm is 11% more likely to choose to organize as a partnership, 12% more likely to organize as an LLC, 12% more likely to organize as an S-corporation and 15% more likely to organize as a C-corporation than as a Proprietorship.

For each of our two measures of profitability—range of profits and an indicator for positive sales—the odds ratio for each of the four included LFOs is less than 1.0, and seven of the eight coefficients are statistically significant at the 0.01 level or better. These results are strongly supportive of our hypothesis that a more complex firm has greater startup costs and,

consequently, is more likely to choose a more complex LFO with limited liability in order to shield its owners from firm early-years losses.

For a one-unit increase in range of profitability, a firm is  $(1.00 - 0.95 =)$  5% less likely to choose to organize as a partnership,  $(1.00 - 0.95 =)$  5% less likely to organize as an LLC,  $(1.00 - 0.96 =)$  4% less likely to organize as an S-corporation, and  $(1.000 - 0.93 =)$  7% less likely to organize as a C-corporation than as a Proprietorship. Each of the four profitability-range coefficients is statistically significant at better than the 0.01 level.

A firm with positive sales is  $(1.00 - 0.88 =)$  12% less likely to organize as a Partnership,  $(1.00 - 0.58 =)$  42.0% less likely to organize as an LLC,  $(1.00 - 0.58 =)$  42% less likely to organize as an S-corporation, and  $(1.00 - 0.30 =)$  70% less likely to organize as a C-corporation than as a Proprietorship. Only the coefficient for Partnership lacks statistical significance at the 0.01 level.

Our next set of variables are the two indicators for whether or not the firm reports two types of assets that proxy for firm complexity—Accounts Receivable and Other Assets. Seven of the eight odds ratios are greater than one and each of coefficients from which the odds ratios are calculated is statistically significant at the 0.10 level or better. These results support our hypothesis that firms reporting these two types of assets are more complex and hence more likely to choose a more complex LFO. The magnitude of the odds ratios indicate that firms reporting Accounts Receivable are almost 50% more likely to organize as LLCs, 61% more likely to organize as C-corporations, 62% more likely to organize as Partnerships, and 99% more likely to organize as S-corporations, than to organize as Proprietorships. Firms reporting Other Assets are two times as likely to organize as LLCs and S-corporations, and three times more likely to organize as C-corporations as to organize as Proprietorships (or Partnerships).



Our location variable, which indicates that the firm's primary location is in a residence such as a house or garage, rather than in rented or purchased space, indicates that firms located in residences are significantly less likely to choose more complex LFOs, as each of the four coefficients is negative and statistically significant at better than the 0.01 level. The magnitudes indicate that such firms are 41% to 61% less likely to choose more complex LFOs, with C-corporation being the least likely choice. This supports our hypothesis that less complex firms locate in residences and hence, are more likely to choose less complex LFO.

Our two financing variables have the expected signs across LFOs. The positive coefficients for Total Liabilities indicate that firms with more debt in their capital structure are more likely to choose limited liability LFOs and the more debt, the more complex is the LFO chosen. Only the coefficient for Partnership lacks statistical significance at the 0.01 level. The magnitudes of the odds ratios increase with complexity of LFO, as hypothesized; lowest for partnerships at 1.05 and highest for C-corporations at 1.21. The dummy variable indicating that the primary owner took out personal loans to help finance the company has negative coefficients, as expected, and each is significant at the 0.05 level or better. However, the magnitude of the odds ratio is lowest for Partnerships at 0.55, but still is significantly less than one for the three more complex LFOs, indicating that firms whose owners choose to intermingle their personal and business finances (by using personal loans to finance the firm) are more likely to choose Proprietorship than other LFOs.

Coefficients for our two employee benefit variables have the expected positive signs across all LFOs and each is statistically significant at the 0.10 level or better. This supports our hypothesis that more complex firms (as proxied by offering health plans or retirement plans to full-time employees) are more likely to choose more complex LFOs. The odds ratios range from

1.78 to 4.22, indicating that firms offering these benefits are two to more than four times more likely to organize as a more complex LFO than as a Proprietorship.

In summary, the results for firm characteristics chosen as proxies for firm complexity generally support our hypothesis that more complex firms choose more complex LFOs.

### *5.32 Owner Characteristics and Initial LFO*

Panel B of Table 4 presents the results for owner characteristics. Age and experience appear to play little role in the choice of initial LFO. Only one of the eight coefficients associated with these two variables is statistically significant at even the 0.10 level. That single coefficient, showing the effect of age on the odds of choosing to organize as an S-corporation, indicates that older owners are significantly less likely to organize as an S-corporation than as a Proprietorship.

Education, however, does appear to play an important role in the choice of initial LFO. In this specification, education is entered as a single variable that ranges from zero for a high-school degree or less, to three for a graduate degree; rather than as three dummy variables. Each of the four coefficients on Education are statistically significant at the 0.05 level or better. The odds ratios calculated from these coefficients indicate that a one unit increase in education reduces the odds of choosing a Partnership by 14%, but increases the odds of choosing a C-corporation, S-corporation and LLC by 31%, 33% and 43%, respectively. In other words, more education increases the likelihood that the primary owner will choose an initial LFO that is more complex and provides limited liability.

Both gender and race appear to play an important role in choice of initial LFO. Three of the four coefficients for Female are negative and significant at the 0.05 level; only the coefficient for Partnership, which is positive, is insignificant. The odds ratios indicate that a Female primary owner is 25%, 18% and 30% less likely to choose to organize as an LLC, S-corporation and C-

corporations, respectively. In other words, female primary owners are significantly less likely to choose an initial LFO that is more complex and provides limited liability. This finding is most interesting because we obtain this result in spite of controls for owner age and experience, which are correlated with both gender and choice of LFO; there are other aspects of female ownership that produce this result. This result also is consistent with Cole and Mehran (2010), who find that firms with female primary owners are significantly more likely to be organized as proprietorships and less likely to be organized as corporations.

The results for the four dummy variables for primary owners who are Asian, Black, Hispanic, or Other Race indicate that race also plays a role in choice of initial LFO, but these results must be viewed with caution because of the small number of observations for these groups. Both Asian and Black primary owners are significantly more likely to choose to organize as a C-corporation relative to a Proprietorship. There are no other significant differences for Asian, but, for Black, the coefficients for both LLC and S-corporation are negative, indicating that Black primary owners are significantly less likely to choose either of these LFOs relative to Proprietorship. Hispanic primary owners are significantly less likely to choose to organize as Partnerships, LLCs and S-corporations than as Proprietorships. Primary owners of Other Races are significantly less likely to choose to organize as LLCs or S-corporations than as Proprietorships. In summary, the indicators for race show that primary owners of different races generally appear to favor organizing as the least complex or most complex LFO, rather than favor simpler or more complex LFOs. These findings are likely attributable to unobserved heterogeneity within these small sub-samples.

### *5.33 Industrial Classification and Initial Choice of LFO*

In Panel C of Table 4 are the results for the 15 industrial classification indicator variables. In general, these results show wide variation in initial LFO across industries.

Firms in the both the Finance and Real Estate industries strongly favor any LFO other than Partnership as each of the four coefficients is positive and significant. The associated odds ratios indicate that Finance firms prefer more complex LFOs by a four-to-one ratio over Proprietorships, while Real Estate firms prefer LLCs, S-Corporations and C-corporations by a four-to-one ratio but Partnerships by only a two-to-one ratio over Proprietorships.

Firms in the both Construction and Business Services strongly favor more complex initial LFOs. Each of the coefficients for LLC, S-corporation and C-corporation is positive and statistically significant at the 0.05 level. The associated odds ratios indicate that a Construction firm is more than twice as likely to choose one of the more complex LFOs over Proprietorship or Partnership (which has a negative but insignificant coefficient); while a Business Services firm is only 50% – 150% more likely to do so. The results for Professional Services and Retail Trade are qualitatively similar to those for Business Services, in that they consistently favor more complex, limited liability LFOs. However, these relations are measured with less precision, as indicated by the lower t-statistics; only the coefficients for LLCs and C-corporations are statistically significant at the 0.10 level.

The only industry that consistently favors Proprietorship over the more complex LFOs is Other Services, but only the coefficients for LLCs and S-corporations are statistically significant. For the remaining industries, there is little relation with initial LFO.

## 5.4 Growth in Employment

Next, we want to model the decision of the firm to change LFO from the form it initially chose at inception. We expect that two of the most important determinants of this decision would be the initial legal form, with less complex organizational forms more likely to move to more complex organizational forms, and firm growth, with faster growing firms more likely to move to more complex organizational forms. We already have analyzed descriptive statistics for initial LFO, but not firm growth. In Table 5, we present descriptive statistics for employment growth from Year Zero (2004) to Years One (2005), Two (2006), Three (2007) and Four (2008).

Overall, the average change in employment from Year Zero is 1.16 in Year One, rises to 1.51 in Year Two, falls to 1.41 in Year Three, and then rises to 1.47 in Year Four. When we compare employment growth by initial LFO, we find that partnerships, LLCs, S-corporations and C-corporations all grow faster than Proprietorships over each of the four periods with a single exception—LLCs grow slightly less fast from Year Zero to Year Three. We also note that C-corporations grow fastest across all four periods, at roughly double the rate of Proprietorships. S-corporations grow next fastest, and the differences between each type of Corporation and both Partnerships and LLCs are statistically significant across all four periods. In general, more complex LFOs exhibit greater growth in employment during each of the first four years of their lives.

The statistics in Table 5 are based upon an unbalanced panel, as firms drop out of the KFS when they fail or when they refuse further to participate in follow-up iterations of the panel survey. The number of firms in the sample drops from 3,942 firms in year one to 2,635 firms in Year Four. Not shown in Table 5 are the results when we limit the analysis to firms that survived from Year Zero to Year Four. These results are not qualitatively different from the statistics

shown in Table 5, except that Partnerships grow more slowly from Year Zero to Years Three and Four.

## **5.5 Determinants of the Decision to Change LFO**

Overall, we have 389 changes in LFO by 359 firms out of the 3,987 that made it through the fourth follow-up survey, indicating that change in LFO is a rare event, occurring at less than one in ten firms during the first four years of their lives. We cannot observe changes in legal form for the approximately one-thousand firms that failed or refused to participate in the fourth follow-up, so we exclude them from this analysis.

By initial LFO, 11.5% of proprietorships, 5.5% of LLCs, 24.5% of partnerships, 4.5% of S-corporations and 12.8% of C-corporations changed legal form at least once during their first four years. With the exception of LLCs and S-corporations, these differences are highly significant based upon a t-test for differences in means.

Next, we model this decision to change LFO using a binary logistic regression model where the dependent variable takes on a value of one if the firm changed LFO during the first four years and a value of zero otherwise. The results of this analysis appear in Table 6.

### *5.51 Firm Characteristics and Changes in LFO*

Panel A of Table 6 presents the results for the firm characteristics. Only three of the coefficients on the four included dummy variables for initial LFO are statistically significant. Coefficients on LLC and S-corporation are negative and significant, indicating that change in LFO is less likely for firms initially organized as LLCs and S-corporations, while the coefficient for Partnership is positive and significant, indicating that change in LFO is more likely for firms initially organized as Partnerships. The coefficient on C-corporation is negative, but lacks statistical significance. The odds ratios indicate that, relative to firms initially organized as

Proprietorships, LLCs and S-corporations 73% and 83%, respectively, less likely to change LFO during their first four years of operations, while Partnerships are 55% more likely to do so.

The coefficient on change in employment is positive and significant, and its odds ratio indicates that a firm is 4% more likely to change LFO for each additional employee it hires during its first four years.

The coefficient on the initial level of employment is negative and significant, and its odds ratio indicates that a firm is 7% less likely to change LFO for each additional employee it had during its base year.

The coefficients on both Total Liabilities and Profit/Loss are positive, but only Profit/Loss is statistically significant; this indicates that more profitable firms are more likely to subsequently change LFO.

The next two variables measure changes in the firm's location. Location Up indicates that a firm that began with its location in a residence moved to rented or owned space, while Location Down indicates that a firm that began with its location in rented or owned space moved to a residence. Coefficients on both variables are positive and significant, indicating that a firm that changed its location in either of these two manners was more likely to change LFO.

The final firm variable New Intellectual is a dummy variable indicating whether the firm had new intellectual property (patents, trademarks or copyrights) during its first four years. The coefficient on New Intellectual is positive but statistically insignificant.

### *5.52 Owner Characteristics and Changes in LFO*

Panel B of Table 6 presents the results for characteristics of the firm's primary owner. Each of our indicators for race, ethnicity and gender is statistically insignificant. Owner Age is positive and significant, indicating that firms with older owners are less likely to change LFO.

For each decade increment in age, a firm with an older owner is 20% less likely to change LFO.

The next three variables measure changes on ownership structure from the base year to the follow-up where the firm reported a change in LFO. Change % Ownership measures the change in the ownership share of the primary owner. The coefficient on this variable is negative and significant, and its odds ratio indicates that the likelihood of changing LFO decreases by one percent for each percentage point increase in initial ownership of the primary owner.

More Owners and Less Owners are two dummy variables indicating whether there was in an increase or decrease, respectively, in the number of firm owners. Both variables are positive and highly significant; their t-statistics are the highest of any explanatory variables, indicating that they are the most important factors explaining changes in LFO. The odds ratios associated with their coefficients indicate that a firm reporting a change in the number of owners is five-to-six times more likely to change LFO than a firm where the number of owners remains constant.

### *5.53 Industrial Classification and Changes in LFO*

Panel C of Table 6 presents the results for the industry dummy variables. Relative to the omitted category of Retail Trade firms, there are only two significant coefficients—for Construction and Real Estate. The odds ratio indicates that a Construction firm is 74% more likely, while a Real Estate firm is 65% less likely, to change LFO as is a Retail firm. The finding for Construction is likely related to the massive decline in construction employment that occurred as the housing bubble burst during 2007 – 2008.

Finally, we include Change NAICS, which is a dummy variable for a firm reporting a change in its NAICS code from the base year to follow-up year in which the firm also reported a change in its LFO. The coefficient on Change NAICS is positive and significant and its



associated odds ratio indicates that a firm reporting a change in industrial classification is 80% more likely to change LFO.

## **5.6 Determinants of the Decision to Change to a More Complex LFO**

Finally, we analyze the firm's decision to change to a more complex organizational form, conditional upon the firm's decision to change organizational form. We use the binary logistic regression model from the previous section as the first stage of a Heckman two-stage bivariate probit selection model, where the second model is based upon a dependent variable that take on a value of one if the firm moved to a more complex LFO and a value of zero if it moved to a less complex LFO. For this test, we cannot include the initial LFO dummies because all proprietorships move to a more complex form while all C-corporations move to a less complex form. We also cannot include several of our dummy variables because all firms with these characteristics (which are Hispanic, Agriculture, and Real Estate) take on the same value for the dependent variable. The results of this analysis appear in Table 6.

### *5.6.1 Firm Characteristic and the Decision to Change to a More Complex LFO*

Panel A of Table 7 presents the results for firm characteristics. Five of the firm characteristics are statistically significant at the 0.10 level. Total Liabilities and Profit/Loss are both negative. The odds ratio indicates that a one-unit increase in total liabilities, which is measured in broad ranges, is associated with a 23% decrease, while a one-unit increase in profitability is associated with a 7% decrease, in the likelihood that a firm changing LFO will choose a more complex LFO. Health Plan, Location Up and Location Down are positive. A firm offering a health plan and changing LFO is nine times more likely to choose a more complex LFO. Firms changing LFO and moving from residential space to rented or owned space are twelve times more likely to choose a more complex LFO, while firms changing LFO and moving

from rented or owned space to residential space are seven times more likely to choose a more complex LFO.

#### *5.62 Owner Characteristic and the Decision to Change to a More Complex LFO*

In Panel B of Table 7 are the results for the owner characteristics. Not surprisingly, the two variables with the most explanatory power (as indicated by the highest t-statistics) are the dummies for More Owners and Less Owners. Of the firms changing LFO, those having more owners are significantly more likely to switch to a more complex LFO whereas those having less owners are significantly less likely to switch to a more complex LFO. The odds ratios indicate that firms with more owners are more than twelve times more likely, whereas firms with less owners are sixteen times less likely, to change to a more complex LFO.

The coefficients on both the Asian and Black dummies are negative and significant at the 0.10 level, indicating that firms changing LFO and whose primary owners are Asian or Black are significantly less likely to change to a more complex LFO; the associated odds ratios indicate that they are more than 70% less likely to do so. This is not surprising, as we already had found in Table 3 that Asian and Black firms are significantly more likely to organize as C-corporations, which, by definition, cannot switch to less-complex LFOs.

The only other owner characteristic that is statistically significant is Change Ownership, the percentage change in the ownership share of the primary owner, which is positive. The odds ratio indicates that a one percentage point increase in ownership increases the likelihood of changing to a more complex LFO by about two percent.

#### *5.63 Industrial Classification and the Decision to Change to a More Complex LFO*

Finally, in Panel C of Table 7 are the results for the industry dummies. Coefficients on four of the dummies—Transportation, Business Services, Health Services and Arts &

Entertainment—are statistically significant at the 0.10 level and all are negative except for Health Services. Because of the small sample sizes when broken down by industry, the odds ratios for these variables are extremely large in magnitudes, but indicate that a firm changing LFO and in Transportation, Business Services or Arts & Entertainment is much less likely, while a firm in Health Services is much more likely, to choose a more complex LFO than is a firm in the omitted category of Retail.

## **6. Summary and Conclusions**

In this study, we have sought to provide answers to three fundamental questions. First, why do entrepreneurial firms, at start-up, choose one legal form of organization over another? Second, after startup, when and why do entrepreneurial firms change legal form of organization, switching, for example, from proprietorship to partnership, LLC or corporation? Third, do firms grow more quickly under one legal form of organization than another? Until now, these three fundamental questions about entrepreneurial firms have largely gone unanswered.

Surprisingly, our analysis reveals that a firm's choice of LFO is largely set in stone at inception, at least for its first four years in operation. Only about one in three firms begins its life as a proprietorship, while almost as many begin as limited-liability companies ("LLCs") and as corporations. Moreover, this distribution is remarkably stable over the first four years of a firm's life. Fewer than one in ten firms changes LFO during these first four years, but those that do disproportionately move to a more complex form, primarily from proprietorship to a form with limited liability. In general, these findings do not support the life-cycle theory of the firm, except for those firms that do change LFO during their first four years; however, four years may be too

short of a time frame to observe the life cycle in practice. Alternatively, the firm may discover after start-up that it is simply too costly to change LFO.

Our analysis of the firm's initial choice of LFO reveals that a firm is more likely to choose a more complex LFO when the firm is more complex as proxied by employment size, by offering more complex employee benefit plans, and by offering trade credit. A more complex initial LFO also is more likely when the firm is more highly levered and when its primary owner is more educated; but is less likely when the firm is more profitable, has more tangible assets, uses personal loans for firm financing and when its primary owner is female.

Our analysis of the decision to change LFO finds that firms initially organized as LLCs or S-corporations are less likely, while Partnerships are more likely, to change LFO than are Proprietorships or C-corporations. Firms that increase employment or change location between a residence and rented/ purchased space, are more likely to change LFO, as are smaller and more profitable firms. Firms that experience a change in the number of owners (up or down), a decrease in the ownership of the primary owner or a change in industrial classification are more likely to change LFO.

For those firms that do change LFO, this decision is primarily driven by changes in ownership structure. The choice of a more complex LFO is more likely when the firm has changed location, experienced an increase in the number of owners or the ownership share of the primary owner, but is less likely when the firm has experienced a decrease in the number of owners. Our analysis of the decision to change LFO finds that faster growing firms (in terms of employment) are more likely to change LFO.

Finally, our analysis of firm growth indicates that firms with more complex LFOs experience greater growth in terms of employment; Proprietorships grow the slowest while C-corporations grow the fastest—at roughly double the rate of Proprietorships.

This study make several important contributions to the literature on entrepreneurship by providing new empirical evidence on: (i) a firm’s initial choice of LFO at start-up; (ii) the determinants of a firm’s initial choice of LFO; (iii) the incidence of changes in LFO during the start-years of a new firm; (iv) the determinant of changes in LFO during the start-up years of a new firm; and (v) differences in growth across organizational forms.

From a policy perspective, this new evidence will provide policymakers with a roadmap by which they can encourage the transition of firms to organizational forms that are more conducive to growth and complexity. By targeting such policies towards high-tech firms, for example, policymakers can encourage such transitions in particular industries, or at firms with particular attributes, such as a small number of employees or at particular LFOs, such as proprietorships, which account for the largest share of start-ups.

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**Appendix Table 1:  
Changes in Legal Form of Organization (LFO)**

This table presents a cross-tabulation by legal form of organization (LFO) at startup and in the first year of the firm's operation for firms that changed LFO from startup to year one. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. "t=0" indicates the startup year while "t=1" indicates the first year of operation.

**Panel A: Initial Survey to First Follow-Up  
LFO(t=0) x LFO(t=1)**

Frequency						
Percent						
Row Pct	<b>PROP(t=1)</b>	<b>LLC(t=1)</b>	<b>SCORP(t=1)</b>	<b>CCORP(t=1)</b>	<b>PART(t=1)</b>	<b>Total</b>
Col Pct	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>
<b>1</b>	0	20	25	11	7	63
<b>PROP(t=0)</b>	0	13.51	16.89	7.43	4.73	42.57
	0	31.75	39.68	17.46	11.11	
	0	66.67	37.88	47.83	77.78	
<b>2</b>	5	0	11	4	1	21
<b>LLC(t=0)</b>	3.38	0	7.43	2.7	0.68	14.19
	23.81	0	52.38	19.05	4.76	
	25	0	16.67	17.39	11.11	
<b>3</b>	3	3	0	6	1	13
<b>SCORP(t=0)</b>	2.03	2.03	0	4.05	0.68	8.78
	23.08	23.08	0	46.15	7.69	
	15	10	0	26.09	11.11	
<b>4</b>	2	1	23	0	0	26
<b>CCORP(t=0)</b>	1.35	0.68	15.54	0	0	17.57
	7.69	3.85	88.46	0	0	
	10	3.33	34.85	0	0	
<b>5</b>	10	6	7	2	0	25
<b>PART(t=0)</b>	6.76	4.05	4.73	1.35	0	16.89
	40	24	28	8	0	
	50	20	10.61	8.7	0	
<b>Total</b>	20	30	66	23	9	148
	13.51	20.27	44.59	15.54	6.08	100

**Appendix Table 1 (cont.):  
Changes in Legal Form of Organization (LFO)**

This table presents a cross-tabulation by legal form of organization (LFO) in the first and second years of the firm's operation for firms that changed LFO from year one to year two. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. "t=1" indicates the first year of operation while "t=2" indicates the second year of operation.

**Panel B: First Follow-up to Second Follow-Up  
LFO(t=1) x LFO(t=2)**

Frequency							
Percent							
Row Pct		PROP(t=2)	LLC(t=2)	SCORP(t=2)	CCORP(t=2)	PART(t=2)	
Col Pct		1	2	3	4	5	Total
<b>1</b>		0	24	13	5	6	48
<b>PROP(t=1)</b>		0	22.22	12.04	4.63	5.56	44.44
		0	50	27.08	10.42	12.5	
		0	68.57	34.21	27.78	66.67	
<b>2</b>		4	0	13	5	2	24
<b>LLC(t=1)</b>		3.7	0	12.04	4.63	1.85	22.22
		16.67	0	54.17	20.83	8.33	
		50	0	34.21	27.78	22.22	
<b>3</b>		2	5	0	8	0	15
<b>SCORP(t=1)</b>		1.85	4.63	0	7.41	0	13.89
		13.33	33.33	0	53.33	0	
		25	14.29	0	44.44	0	
<b>4</b>		0	3	7	0	1	11
<b>CCORP(t=1)</b>		0	2.78	6.48	0	0.93	10.19
		0	27.27	63.64	0	9.09	
		0	8.57	18.42	0	11.11	
<b>5</b>		2	3	5	0	0	10
<b>PART(t=1)</b>		1.85	2.78	4.63	0	0	9.26
		20	30	50	0	0	
		25	8.57	13.16	0	0	
<b>Total</b>		8	35	38	18	9	108
		7.41	32.41	35.19	16.67	8.33	100

**Appendix Table 1 (cont.):  
Changes in Legal Form of Organization (LFO)**

This table presents a cross-tabulation by legal form of organization (LFO) in the second and third years of the firm's operation for firms that changed LFO from year two to year three. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. "t=2" indicates the second year of operation while "t=3" indicates the third year of operation.

**Panel C: Second Follow-up to Third Follow-Up  
LFO(t=2) x LFO(t=3)**

Frequency							
Percent							
Row Pct	<b>PROP(t=3)</b>	<b>LLC(t=3)</b>	<b>SCORP(t=3)</b>	<b>CCORP(t=3)</b>	<b>PART(t=3)</b>		
Col Pct	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>	
<b>1</b>	0	13	11	4	2	30	
<b>PROP(t=2)</b>	0	19.12	16.18	5.88	2.94	44.12	
	0	43.33	36.67	13.33	6.67		
	0	72.22	39.29	36.36	66.67		
<b>2</b>	2	0	9	2	1	14	
<b>LLC(t=2)</b>	2.94	0	13.24	2.94	1.47	20.59	
	14.29	0	64.29	14.29	7.14		
	25	0	32.14	18.18	33.33		
<b>3</b>	0	1	0	5	0	6	
<b>SCORP(t=2)</b>	0	1.47	0	7.35	0	8.82	
	0	16.67	0	83.33	0		
	0	5.56	0	45.45	0		
<b>4</b>	1	0	5	0	0	6	
<b>CCORP(t=2)</b>	1.47	0	7.35	0	0	8.82	
	16.67	0	83.33	0	0		
	12.5	0	17.86	0	0		
<b>5</b>	5	4	3	0	0	12	
<b>PART(t=2)</b>	7.35	5.88	4.41	0	0	17.65	
	41.67	33.33	25	0	0		
	62.5	22.22	10.71	0	0		
<b>Total</b>	8	18	28	11	3	68	
	11.76	26.47	41.18	16.18	4.41	100	

**Appendix Table 1 (cont.):  
Changes in Legal Form of Organization**

This table presents a cross-tabulation by legal form of organization (LFO) in the third and fourth years of the firm's operation for firms that changed LFO from year three to year four. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. "t=3" indicates the third year of operation while "t=4" indicates the fourth year of operation.

**Panel D: Third Follow-up to Fourth Follow-Up  
LFO(t=3) x LFO(t=4)**

Frequency							
Percent							
Row Pct		<b>PROP(t=4)</b>	<b>LLC(t=4)</b>	<b>SCORP(t=4)</b>	<b>CCORP(t=4)</b>	<b>PART(t=4)</b>	
Col Pct		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>
<b>1</b>		0	11	5	1	0	17
<b>PROP(t=3)</b>		0	19.3	8.77	1.75	0	29.82
		0	64.71	29.41	5.88	0	
		0	57.89	31.25	14.29		
<b>2</b>		8	0	5	2	0	15
<b>LLC(t=3)</b>		14.04	0	8.77	3.51	0	26.32
		53.33	0	33.33	13.33	0	
		53.33	0	31.25	28.57		
<b>3</b>		3	5	0	4	0	12
<b>SCORP(t=3)</b>		5.26	8.77	0	7.02	0	21.05
		25	41.67	0	33.33	0	
		20	26.32	0	57.14		
<b>4</b>		0	2	6	0	0	8
<b>CCORP(t=3)</b>		0	3.51	10.53	0	0	14.04
		0	25	75	0	0	
		0	10.53	37.5	0		
<b>5</b>		4	1	0	0	0	5
<b>PART(t=3)</b>		7.02	1.75	0	0	0	8.77
		80	20	0	0	0	
		26.67	5.26	0	0		
<b>Total</b>		15	19	16	7	0	57
		26.32	33.33	28.07	12.28	0	100

**Appendix Table 2:  
Definition of Analysis Variables**

**Panel A: Firm Characteristics**

<b>Variable</b>	<b>Definition</b>
<i>Firm Characteristics</i>	
Total Employment	Firm's total employment
Assets	Firm's total assets in ranges
Profit/Loss	Firm' profit or loss in ranges (profit positive, loss negative)
Sales Positive	Firm's sales revenues are positive
Cash	Firm's assets include cash
Accounts Receivable	Firm's assets include accounts receivable
Inventory	Firm's assets include inventory
Equipment	Firm's assets include equipment
Vehicle	Firm's assets include vehicle(s)
Land/Bldg.	Firm's assets include land/building
Other Assets	Firm's assets include other assets such as intangibles
Total Liabilities	Firm's total liability in ranges
Personal Loan	Firm's owner took out personal loan to finance the firm
Location in Residence	Firm is located in a residence such as a house or garage
Health Plan	Firm offers a health plan to full-time employees
Retirement Plan	Firm offers a retirement plan to full-time employees

**Panel B: Owner Characteristics**

<b>Variable</b>	<b>Definition</b>
<i>Owner Characteristics</i>	
Number of Owners	Number of Owners
Experience	Experience (in years) of primary owner
Age	Age of primary owner
Male	Primary owner is male
Female	Primary owner is female
Asian	Primary owner is Asian
Black	Primary owner is Black
Hispanic	Primary owner is Hispanic
Other Race	Primary owner is other than white, Asian or Black
White	Primary owner is white
Educ.- High School	Primary owner holds a high-school degree or less
Educ. - Some College	Primary owner attended some college
Educ. - College Degree	Primary owner holds a college degree
Educ. - Graduate Degree	Primary owner holds a graduate degree

**Table 1**  
**Distribution of KFS Firms by Legal Form of Organization (LFO)**  
**Initial Survey and First Four Follow-up Surveys**

This table presents the distribution of KFS firms by legal form of organization at startup and for each of its first four years in operation. Prop indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; GPART indicates a general partnership; LPART indicates a limited partnership; and OTHER indicates any other entity. Panel A presents the weighted percentage distributions; Panel B presents the distribution by numbers of firms; and Panel C presents the unweighted percentage distribution.

**Panel A:**  
**Weighted Distribution of KFS Firms by Legal Form of Organization**

		Initial	Follow-up 1	Follow-up 2	Follow-up 3	Follow-up 4
PROP	1	35.76	34.31	33.09	33.27	33.63
LLC	2	30.50	31.24	32.08	30.99	31.98
SCORP	3	20.14	21.34	22.24	23.58	23.30
CCORP	4	7.94	7.62	7.56	6.88	6.57
GPART	5	3.87	3.53	3.29	3.39	2.90
LPART	6	1.59	1.64	1.63	1.84	1.56
OTHER	7	0.20	0.15	0.10	0.05	0.06

**Panel B:**  
**Number of KFS Firms by Legal Form of Organization**

		Initial	Follow-up 1	Follow-up 2	Follow-up 3	Follow-up 4
PROP	1	1,635	1,272	1,052	911	813
LLC	2	1,557	1,305	1,158	972	866
SCORP	3	1,040	898	817	731	648
CCORP	4	441	333	291	235	207
GPART	5	170	123	96	75	63
LPART	6	74	61	50	42	32
OTHER	7	11	6	5	5	5
Total		4,928	3,998	3,469	2,971	2,634

**Panel C:**  
**Unweighted Percentages of KFS Firms by Legal Form of Organization**

		Initial	Follow-up 1	Follow-up 2	Follow-up 3	Follow-up 4
PROP	1	33.18	31.82	30.33	30.66	30.63
LLC	2	31.59	32.64	33.38	32.72	33.38
SCORP	3	21.10	22.46	23.55	24.60	24.42
CCORP	4	8.95	8.33	8.39	7.91	7.80
GPART	5	3.45	3.08	2.77	2.52	2.37
LPART	6	1.50	1.53	1.44	1.41	1.21
OTHER	7	0.22	0.15	0.14	0.17	0.19

**Table 2:  
Changes in Legal Form of Organization**

This table presents a cross-tabulation by legal form of organization (LFO) for firms that changed LFO any time during their first four years of operation.. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. (t=I) indicates initial LFO while (t=F) indicates final LFO.

Frequency							
Percent							
Row Pct	PROP(t=F)	LLC(t=F)	SCORP(t=F)	CCORP(t=F)	PART(t=F)		
Col Pct	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>	
<b>1</b>	0	68	54	21	15	158	
<b>PROP(t=I)</b>	0	17.85	14.17	5.51	3.94	41.47	
	0	43.04	34.18	13.29	9.49		
	0	66.67	36.49	35.59	71.43		
<b>2</b>	19	0	38	13	4	74	
<b>LLC(t=I)</b>	4.99	0	9.97	3.41	1.05	19.42	
	25.68	0	51.35	17.57	5.41		
	37.25	0	25.68	22.03	19.05		
<b>3</b>	8	14	0	23	1	46	
<b>CCORP(t=I)</b>	2.10	3.67	0	6.04	0.26	12.07	
	17.39	30.43	0	50.00	2.17		
	15.69	13.73	0	38.98	4.76		
<b>4</b>	3	6	41	0	1	51	
<b>CCORP(t=I)</b>	0.79	1.57	10.76	0	0.26	13.39	
	5.88	11.76	80.39	0	1.96		
	5.88	5.88	27.70	0	4.76		
<b>5</b>	21	14	15	2	0	52	
<b>PART(t=I)</b>	5.51	3.67	3.94	0.52	0	13.65	
	40.38	26.92	28.85	3.85	0		
	41.18	13.73	10.14	3.39	0		
<b>Total</b>	51	102	148	59	21	381	
	13.39	26.77	38.85	15.49	5.51	100	

**Table 3:**  
**Descriptive Statistics by Legal Form of Organization**

This table presents descriptive statistics for variables used to explain the firm choice of legal form of organization and subsequent changes in legal form of organization. Variables are defined in Appendix Table 1. For each variable in column one and each organizational form in row one, the table presents the mean over the standard error. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership.

<b>Panel A: Firm Characteristics</b>						
<b>Variable</b>	<b>ALL</b>	<b>PROP</b>	<b>PART</b>	<b>LLC</b>	<b>SCORP</b>	<b>CCORP</b>
	4,914	1,634	244	1,556	1,039	441
Total Employment	1.655	0.662	1.596	1.803	2.696	2.954
(Number)	0.053	0.040	0.264	0.098	0.145	0.235
Assets	5.255	4.612	5.139	5.591	5.836	5.469
(Range)	0.038	0.066	0.186	0.067	0.076	0.130
Profit/Loss	-0.680	-0.118	-0.899	-1.018	-0.730	-1.635
(Range)	0.068	0.112	0.299	0.123	0.156	0.215
Sales Positive	0.808	0.838	0.849	0.791	0.814	0.691
(Yes/No)	0.006	0.009	0.024	0.010	0.012	0.021
Cash	0.673	0.592	0.709	0.728	0.730	0.661
(Yes/No)	0.007	0.013	0.031	0.011	0.013	0.021
Inventory	0.391	0.422	0.473	0.357	0.377	0.359
(Yes/No)	0.007	0.013	0.034	0.012	0.015	0.022
Accounts Receivable	0.378	0.272	0.386	0.397	0.513	0.431
(Yes/No)	0.007	0.011	0.033	0.012	0.015	0.022
Equipment	0.674	0.678	0.627	0.663	0.708	0.642
(Yes/No)	0.007	0.012	0.033	0.012	0.014	0.022
Vehicle	0.250	0.260	0.207	0.229	0.280	0.238
(Yes/No)	0.006	0.011	0.027	0.010	0.014	0.019
Land/Bldg	0.098	0.078	0.124	0.138	0.077	0.069
(Yes/No)	0.004	0.007	0.022	0.009	0.008	0.011
Other Assets	0.019	0.008	0.007	0.024	0.026	0.040
(Yes/No)	0.002	0.002	0.006	0.004	0.005	0.009
Total Liabilities	1.324	0.661	1.098	1.468	1.978	2.251
(Range)	0.035	0.044	0.145	0.063	0.084	0.134
Personal Loan	0.572	0.594	0.487	0.574	0.582	0.500
(Yes/No)	0.007	0.013	0.034	0.012	0.015	0.022
Location in Residence	0.491	0.626	0.420	0.464	0.367	0.347
(Yes/No)	0.007	0.012	0.033	0.012	0.015	0.021
Health Plan	0.139	0.048	0.163	0.161	0.240	0.193
(Yes/No)	0.005	0.005	0.025	0.009	0.013	0.018
Retirement Plan	0.046	0.008	0.058	0.055	0.084	0.082
(Yes/No)	0.003	0.002	0.016	0.006	0.008	0.012



**Table 3 (cont.):**  
**Descriptive Statistics by Legal Form of Organization**

This table presents descriptive statistics for variables used to explain the firm choice of legal form of organization and subsequent changes in legal form of organization. Variables are defined in Appendix Table 1. For each variable in column one and each organizational form in row one, the table presents the mean over the standard error. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership.

<b>Panel B: Owner Characteristics</b>						
<b>Variable</b>	<b>ALL</b>	<b>PROP</b>	<b>PART</b>	<b>LLC</b>	<b>SCORP</b>	<b>CCORP</b>
Number of Owners	1.692	1.000	2.466	2.005	1.745	2.938
(Number)	0.042	0.000	0.129	0.051	0.037	0.402
Age	3.501	3.464	3.553	3.551	3.453	3.561
(Range)	0.016	0.029	0.084	0.027	0.031	0.051
Experience	11.705	11.058	11.282	12.071	12.221	12.196
(Years)	0.147	0.264	0.736	0.259	0.300	0.473
Male	0.685	0.623	0.614	0.724	0.728	0.752
(Yes/No)	0.007	0.012	0.033	0.011	0.013	0.019
Female	0.314	0.376	0.386	0.274	0.270	0.247
(Yes/No)	0.007	0.012	0.033	0.011	0.013	0.019
Asian	0.040	0.030	0.048	0.034	0.054	0.074
(Yes/No)	0.003	0.004	0.014	0.004	0.007	0.012
Black	0.092	0.110	0.087	0.080	0.053	0.155
(Yes/No)	0.004	0.008	0.019	0.007	0.007	0.016
Hispanic	0.063	0.082	0.036	0.045	0.056	0.087
(Yes/No)	0.003	0.007	0.012	0.005	0.007	0.013
White	0.822	0.796	0.835	0.852	0.856	0.732
(Yes/No)	0.005	0.010	0.025	0.009	0.011	0.020
Other Race	0.053	0.070	0.051	0.038	0.045	0.052
(Yes/No)	0.003	0.007	0.015	0.005	0.006	0.010
Educ. - High School	0.210	0.286	0.318	0.155	0.151	0.158
(Yes/No)	0.006	0.012	0.031	0.009	0.011	0.016
Educ. - Some College	0.310	0.344	0.335	0.267	0.301	0.333
(Yes/No)	0.007	0.012	0.032	0.011	0.014	0.021
Educ. - B.A. Degree	0.239	0.201	0.173	0.279	0.283	0.190
(Yes/No)	0.006	0.010	0.025	0.011	0.014	0.018
Educ. - Grad Degree	0.238	0.168	0.169	0.297	0.261	0.318
(Yes/No)	0.006	0.010	0.025	0.011	0.013	0.021
Education	1.506	1.251	1.194	1.720	1.656	1.668
(Range)	0.015	0.027	0.072	0.026	0.031	0.049

**Table 3:**  
**Descriptive Statistics by Legal Form of Organization**

This table presents descriptive statistics for variables used to explain the firm choice of legal form of organization and subsequent changes in legal form of organization. Variables are defined in Appendix Table 1. For each variable and each organizational form, the table presents the mean over the standard error. PROP indicates a proprietorship; LLC indicates a limited-liability company; SCORP indicates an S-corporation; CCORP indicates a C-corporation; and PART indicates a (general or limited) partnership. NAICS10 includes Agriculture; NAICS20 includes Construction; NAICS30 includes Manufacturing; NAICS40 includes Wholesale and Retail Trade; NAICS50 includes Professional Services; NAICS60 includes Educational and Health-Care Services; NAICS70 includes Entertainment, Accommodation and Food Services; and NAICS80 includes Business and Personal Services.

<b>Panel C: Industrial Classification</b>						
<b>Variable</b>	<b>ALL</b>	<b>PROP</b>	<b>PART</b>	<b>LLC</b>	<b>SCORP</b>	<b>CCORP</b>
Agriculture	0.010	0.008	0.018	0.015	0.005	0.003
(NAICS 10)	0.001	0.002	0.009	0.003	0.002	0.003
Construction	0.115	0.107	0.076	0.116	0.143	0.101
(NAICS 21, 22, 23)	0.005	0.008	0.018	0.008	0.011	0.013
Manufacturing	0.063	0.063	0.055	0.058	0.058	0.095
(NAICS 31, 32, 33)	0.003	0.006	0.015	0.006	0.007	0.013
Wholesale Trade	0.056	0.048	0.030	0.056	0.066	0.081
(NAICS 42)	0.003	0.005	0.012	0.006	0.008	0.012
Retail Trade	0.145	0.164	0.199	0.119	0.146	0.121
(NAICS 44, 45)	0.005	0.010	0.027	0.008	0.011	0.015
Transportation	0.029	0.032	0.034	0.018	0.030	0.056
(NAICS 48, 49)	0.002	0.004	0.012	0.003	0.005	0.010
Information Svcs.	0.031	0.036	0.030	0.026	0.034	0.025
(NAICS 51)	0.002	0.005	0.011	0.004	0.005	0.007
Finance	0.053	0.023	0.080	0.074	0.065	0.062
(NAICS 52)	0.003	0.004	0.018	0.007	0.007	0.011
Real Estate	0.050	0.032	0.049	0.077	0.049	0.037
(NAICS 53)	0.003	0.004	0.015	0.007	0.007	0.009
Prof. Svcs.	0.171	0.164	0.127	0.185	0.173	0.167
(NAICS 54, 55, 61)	0.005	0.010	0.022	0.010	0.011	0.017
Bus. Svcs.	0.099	0.099	0.080	0.098	0.096	0.121
(NAICS 56)	0.004	0.008	0.018	0.007	0.009	0.015
Health Svcs.	0.033	0.036	0.029	0.026	0.037	0.037
(NAICS 62)	0.003	0.005	0.011	0.004	0.006	0.008
Arts & Entertainment	0.024	0.023	0.032	0.031	0.019	0.009
(NAICS 71)	0.002	0.004	0.012	0.004	0.004	0.004
Food Svcs.	0.026	0.015	0.034	0.037	0.027	0.031
(NAICS 72)	0.002	0.003	0.012	0.005	0.005	0.008
Other Svcs.	0.095	0.150	0.127	0.064	0.053	0.054
(NAICS 81)	0.004	0.009	0.022	0.006	0.007	0.010

**Table 4:**  
**Determinants of Initial LFO**

This table presents the results from estimating a multinomial logistic regression model of the firm's choice of legal form of organization ("LFO") at startup. Explanatory variables are defined in Appendix Table 1. For each explanatory variable and each legal form of organization, the table presents the odds ratio, the coefficient estimate and the t-statistic associated with the coefficient estimate. This methodology produces (N – 1) coefficients for each explanatory variable, where N is the number of different values of the dependent variable—in our case N is equal to five (proprietorship, partnership, LLC, S-corporation or C-corporation, so we obtain four sets of coefficients. These coefficients measure the differential impact of that variable on each of the N – 1 outcomes of the dependent variable relative to an omitted category. For ease of interpretation, we have chosen the simplest form of legal organization—proprietorship—as the omitted category. Consequently, the coefficients indicate whether each of the other four LFOs is more or less likely to have that characteristic than a proprietorship. For ease of interpretation, we also have calculated the odds ratio, whose interpretation is the percentage by which one LFO is more or less likely than Proprietorship for a given variable. <sup>a</sup>, <sup>b</sup> indicates statistical significance at the 0.01 and 0.05 levels, respectively.

**Panel A: Firm Characteristics**

Variable	Partnership			LLC			S-Corporation			C-Corporation		
	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.
Total Employment	1.11	0.104	3.69 <b>a</b>	1.12	0.110	5.31 <b>a</b>	1.15	0.142	6.73 <b>a</b>	1.17	0.157	6.86 <b>a</b>
Profit/Loss	0.95	-0.051	-3.38 <b>a</b>	0.95	-0.054	-6.22 <b>a</b>	0.96	-0.042	-4.44 <b>a</b>	0.93	-0.069	-5.23 <b>a</b>
Sales is Positive	0.88	-0.128	-0.65	0.58	-0.551	-5.35 <b>a</b>	0.48	-0.724	-6.06 <b>a</b>	0.30	-1.210	-8.07 <b>a</b>
Accounts Receivable	1.62	0.484	3.12 <b>a</b>	1.49	0.398	4.43 <b>a</b>	1.99	0.686	6.79 <b>a</b>	1.61	0.475	3.27 <b>a</b>
Other Assets	0.86	-0.154	-0.20	1.97	0.679	2.01 <b>b</b>	2.02	0.701	1.90	3.06	1.120	2.69 <b>a</b>
Location in Residence	0.56	-0.583	-3.93 <b>a</b>	0.59	-0.524	-6.25 <b>a</b>	0.44	-0.812	-8.41 <b>a</b>	0.39	-0.952	-7.06 <b>a</b>
Total Liabilities	1.05	0.044	1.27	1.12	0.113	5.49 <b>a</b>	1.14	0.131	6.04 <b>a</b>	1.21	0.191	7.03 <b>a</b>
Personal Loans	0.55	-0.591	-4.27 <b>a</b>	0.82	-0.202	-2.56 <b>b</b>	0.83	-0.191	-2.11 <b>b</b>	0.60	-0.507	-4.11 <b>a</b>
Health Plan	2.10	0.740	3.22 <b>a</b>	1.78	0.578	3.82 <b>a</b>	2.08	0.734	4.67 <b>a</b>	1.45	0.370	1.77
Retirement Plan	4.22	1.441	3.56 <b>a</b>	2.97	1.089	3.51 <b>a</b>	3.38	1.217	3.85 <b>a</b>	3.63	1.289	3.55 <b>a</b>

**Panel B: Owner Characteristics**

Variable	Partnership			LLC			S-Corporation			C-Corporation		
	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.
Age	1.06	0.060	0.94	0.98	-0.022	-0.60	0.91	-0.095	-2.22 <b>b</b>	1.02	0.021	0.36
Experience	1.00	-0.002	-0.29	1.00	0.005	1.20	1.01	0.005	1.06	1.00	0.003	0.45
Education	0.86	-0.151	-2.15 <b>b</b>	1.43	0.357	9.24 <b>a</b>	1.33	0.286	6.45 <b>a</b>	1.31	0.268	4.44 <b>a</b>
Female	1.18	0.167	1.16	0.75	-0.286	-3.38 <b>a</b>	0.82	-0.204	-2.08 <b>b</b>	0.70	-0.354	-2.53 <b>b</b>
Asian	1.46	0.375	1.12	0.80	-0.229	-1.06	1.32	0.274	1.26	2.28	0.825	3.13 <b>a</b>
Black	0.749	-0.289	-1.21	0.73	-0.311	-2.33 <b>b</b>	0.49	-0.706	-4.08 <b>a</b>	1.65	0.502	2.83 <b>a</b>
Hispanic	0.37	-0.986	-2.64 <b>a</b>	0.58	-0.538	-3.01 <b>a</b>	0.69	-0.368	-1.89	1.23	0.204	0.86
Other Race	1.09	0.082	0.25	0.62	-0.477	-2.43 <b>b</b>	0.61	-0.487	-2.22 <b>b</b>	0.66	-0.423	-1.45

**Table 4 (cont.):  
Determinants of Initial LFO**

This table presents the results from estimating a multinomial logistic regression model of the firm's choice of legal form of organization ("LFO") at startup. Explanatory variables are defined in Appendix Table 1. For each explanatory variable and each legal form of organization, the table presents the odds ratio, the coefficient estimate and the t-statistic associated with the coefficient estimate. This methodology produces (N – 1) coefficients for each explanatory variable, where N is the number of different values of the dependent variable—in our case N is equal to five (proprietorship, partnership, LLC, S-corporation or C-corporation, so we obtain four sets of coefficients. These coefficients measure the differential impact of that variable on each of the N – 1 outcomes of the dependent variable relative to an omitted category. For ease of interpretation, we have chosen the simplest form of legal organization—proprietorship—as the omitted category. Consequently, the coefficients indicate whether each of the other four LFOs is more or less likely to have that characteristic than a proprietorship. For ease of interpretation, we also have calculated the odds ratio, whose interpretation is the percentage by which one LFO is more or less likely than Proprietorship for a given variable. <sup>a</sup>, <sup>b</sup> indicates statistical significance at the 0.01 and 0.05 levels, respectively.

**Panel C: Industrial Classification**

Variable	Partnership			LLC			S-Corporation			C-Corporation		
	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.	Odds	Coef.	t-stat.
Construction	2.27	0.818	1.47	2.23	0.800	2.15 <b>b</b>	0.66	-0.419	-0.74	0.59	-0.528	-0.55
Manufacturing	0.76	-0.277	-0.92	2.14	0.760	4.78 <b>a</b>	2.22	0.797	4.57 <b>a</b>	2.06	0.725	2.80 <b>a</b>
Wholesale Trade	0.76	-0.281	-0.87	1.13	0.121	0.66	0.88	-0.123	-0.58	1.74	0.557	2.09 <b>b</b>
Retail Trade	0.55	-0.592	-1.46	1.49	0.402	2.07 <b>b</b>	1.38	0.322	1.51	2.06	0.725	2.59 <b>a</b>
Transportation	1.16	0.147	0.37	1.02	0.019	0.07	1.44	0.368	1.34	3.15	1.147	3.53 <b>a</b>
Information Services	0.96	-0.046	-0.11	1.04	0.038	0.16	1.13	0.118	0.45	0.99	-0.006	-0.01
Finance	3.96	1.375	4.32 <b>a</b>	4.42	1.487	6.80 <b>a</b>	3.64	1.293	5.36 <b>a</b>	3.88	1.355	4.25 <b>a</b>
Real Estate	2.02	0.704	2.01 <b>b</b>	4.52	1.509	7.53 <b>a</b>	2.72	1.001	4.23 <b>a</b>	2.63	0.967	2.78 <b>a</b>
Professional Services	0.90	-0.100	-0.40	1.50	0.402	2.82 <b>a</b>	1.27	0.239	1.49	1.56	0.447	1.94
Business Services	0.90	-0.101	-0.35	1.61	0.478	2.99 <b>a</b>	1.47	0.384	2.14 <b>b</b>	2.39	0.871	3.57 <b>a</b>
Health Services	0.76	-0.274	-0.65	0.83	-0.181	-0.73	0.96	-0.043	-0.16	1.21	0.194	0.54
Arts & Entertainment	1.41	0.347	0.83	1.95	0.669	2.68 <b>a</b>	1.05	0.047	0.15	0.65	-0.424	-0.72
Food Services	1.36	0.308	0.70	2.25	0.813	2.90 <b>a</b>	1.06	0.055	0.17	1.38	0.322	0.76
Other Services	0.76	-0.273	-1.12	0.73	-0.316	-1.96 <b>b</b>	0.52	-0.662	-3.40 <b>a</b>	0.68	-0.3924	-1.37

**Table 5:****Descriptive Statistics for Employment Growth by Legal Form of Organization (LFO)**

This table presents descriptive statistics (means and standard errors) by legal form of organization (LFO) for the change in the number employees from the initial survey year (year 0) to the year of each of the four annual follow-up surveys (years 1 through 4).

<sup>a</sup>, <sup>b</sup> indicate that the difference in the mean of each LFO (Partnership, LLC, S-corporation and C-corporation) and the mean of Proprietorship is statistically different from zero at the 0.01 and 0.05 levels, respectively.

	Obs.	All Firms		Proprietorship		Partnership		LLC		S-corporation		C-corporation	
		Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
<b>Growth (0,1)</b>	3,942	1.155	0.054	0.605	0.058	1.199	0.099 <b>a</b>	1.164	0.266 <b>a</b>	1.507	0.134 <b>a</b>	2.200	0.246 <b>a</b>
<b>Growth (0,2)</b>	3,416	1.512	0.068	0.790	0.074	1.600	0.124 <b>a</b>	1.565	0.318 <b>a</b>	2.049	0.175 <b>a</b>	2.560	0.304 <b>a</b>
<b>Growth (0,3)</b>	2,934	1.406	0.077	0.720	0.079	1.598	0.140 <b>a</b>	0.745	0.323	1.951	0.213 <b>a</b>	2.490	0.349 <b>a</b>
<b>Growth (0,4)</b>	2,635	1.471	0.086	0.676	0.087	1.676	0.162 <b>a</b>	1.203	0.343 <b>a</b>	2.020	0.230 <b>a</b>	2.801	0.404 <b>a</b>

**Table 6:  
Determinants of the Decision to Change LFO**

This table presents the results from estimating a binary logistic regression model of the firm's decision to change LFO during one of its first four years in operation. The dependent variable takes on a value of one if the firm changed LFO during the first four years and a value of zero otherwise. Explanatory variables are defined in Appendix Table 1. For each explanatory variable, the table presents the odds ratio, the coefficient estimate and its associated standard error and p-value. <sup>a</sup>, <sup>b</sup> indicates statistical significance at the 0.01 and 0.05 levels, respectively.

<b>Panel A: Firm Characteristics</b>				
<b>Variable</b>	<b>Odds Ratio</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>t-Statistic</b>
Partnership	1.551	0.439	0.270	1.63 <b>c</b>
LLC	0.266	-1.326	0.213	-6.22 <b>a</b>
S-corporation	0.173	-1.755	0.272	-6.44 <b>a</b>
C-corporation	0.696	-0.362	0.281	-1.29
Change in Employment	1.043	0.042	0.016	2.60 <b>a</b>
Total Employment	0.932	-0.070	0.029	-2.39 <b>b</b>
Total Liabilities	1.050	0.049	0.033	1.50
Profit/Loss	1.041	0.040	0.016	2.59 <b>a</b>
Location Up	2.090	0.737	0.232	3.17 <b>a</b>
Location Down	1.656	0.504	0.286	1.77 <b>c</b>
New Intellectual	1.296	0.259	0.244	1.06
<b>Panel B: Owner Characteristics</b>				
Female	0.869	-0.141	0.169	-0.83
Asian	1.412	0.345	0.325	1.06
Black	1.064	0.062	0.261	0.24
Hispanic	0.612	-0.492	0.370	-1.33
Education	1.105	0.100	0.076	1.31
Age	0.804	-0.219	0.073	-3.00 <b>a</b>
Experience	1.006	0.006	0.008	0.76
Change % Ownership	0.990	-0.010	0.005	-2.11 <b>b</b>
More Owners	5.794	1.757	0.224	7.83 <b>a</b>
Less Owners	4.594	1.525	0.224	6.80 <b>a</b>
<b>Panel C: Industrial Classification</b>				
Change NAICS	1.805	0.591	0.209	2.83 <b>a</b>
Agriculture	1.970	0.678	0.546	1.24
Construction	1.736	0.551	0.283	1.95 <b>c</b>
Manufacturing	1.194	0.177	0.328	0.54
Wholesale Trade	1.341	0.294	0.365	0.80
Transportation	0.978	-0.023	0.482	-0.05
Information Services	0.891	-0.115	0.502	-0.23
Finance	0.583	-0.539	0.458	-1.18
Real Estate	0.345	-1.065	0.570	-1.87 <b>c</b>
Professional Services	0.999	-0.001	0.268	-0.01
Business Services	0.901	-0.104	0.315	-0.33
Health Services	1.025	0.025	0.487	0.05
Arts & Entertainment	0.665	-0.408	0.594	-0.69
Food Services	1.833	0.606	0.539	1.12
Other Services	0.867	-0.143	0.313	-0.46

**Table 7:  
Determinants of the Decision to Change to a More Complex LFO**

This table presents the results from estimating a binary logistic regression model of the firm's decision to change to a more-complex LFO during one of its first four years in operation, conditional upon deciding to change LFO during one of its first four years. The dependent variable takes on a value of one if the firm changed to a more-complex LFO during the first four years and a value of zero otherwise. Explanatory variables are defined in Appendix Table 1. For each explanatory variable, the table presents the odds ratio, the coefficient estimate and its associated standard error and p-values. <sup>a</sup>, <sup>b</sup> indicates statistical significance at the 0.01 and 0.05 levels, respectively.

<b>Panel A: Firm Characteristics</b>				
<b>Variable</b>	<b>Odds Ratio</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>t-Statistic</b>
<i>Firm Characteristics</i>				
Change in Employment	1.022	0.022	0.053	0.41
Total Employment	0.964	-0.037	0.099	-0.37
Total Liabilities	0.729	-0.316	0.094	-3.34 <b>c</b>
Profit/Loss	0.933	-0.069	0.041	-1.68 <b>c</b>
Health Plan	8.922	2.189	0.745	2.94 <b>a</b>
Retirement Plan	1.206	0.187	1.117	0.17
Location Up	11.779	2.466	0.904	2.73 <b>a</b>
Location Down	6.804	1.918	0.881	2.18 <b>b</b>
New Intellectual	0.379	-0.970	0.633	-1.53
<b>Panel B: Owner Characteristics</b>				
<b>Variable</b>	<b>Odds Ratio</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>t-Statistic</b>
<i>Owner Characteristics</i>				
Female	0.872	-0.137	0.420	-0.33
Asian	0.193	-1.643	0.813	-2.02 <b>b</b>
Black	0.281	-1.271	0.686	-1.85 <b>c</b>
Education	0.918	-0.085	0.209	-0.41
Age	0.786	-0.241	0.180	-1.34
Change % Ownership	1.018	0.018	0.011	1.71 <b>c</b>
More Owners	12.505	2.526	0.688	3.67 <b>a</b>
Less Owners	0.062	-2.778	0.582	-4.77 <b>a</b>
<b>Panel C: Industrial Classification</b>				
<b>Variable</b>	<b>Odds Ratio</b>	<b>Coefficient</b>	<b>S.E.</b>	<b>t-Statistic</b>
<i>Industrial Classification</i>				
Chg. NAICS	0.997	-0.003	0.553	0.00
Construction	0.979	-0.022	0.703	-0.03
Manufacturing	0.957	-0.044	0.848	-0.05
Wholesale Trade	1.660	0.507	0.887	0.57
Transportation	0.142	-1.952	1.178	-1.66 <b>c</b>
Information Services	0.304	-1.191	1.318	-0.90
Finance	0.490	-0.713	1.113	-0.64
Professional Services	0.711	-0.341	0.664	-0.51
Business Services	0.078	-2.551	0.793	-3.22 <b>a</b>
Health Services	43.009	3.761	1.766	2.13
Arts & Entertainment	0.027	-3.630	2.043	-1.78 <b>c</b>
Food Services	0.234	-1.454	1.437	-1.01
Other Services	1.768	0.570	0.886	0.64