

How Do Firms Choose Legal Form of Organization?

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Summary:

How Do Firms Choose Legal Form of Organization?

- This study uses data from the **Kauffman Firm Surveys** to provide new evidence on the entrepreneur's choice of **legal form of organization ("LFO")**.
- I 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.



Summary:

How Do Firms Choose Legal Form of Organization?

- **At start-up**, an entrepreneur 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*;
- A more complex initial LFO 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*.



Summary:

How Do Firms Choose Legal Form of Organization?

- My 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.



Summary:

How Do Firms Choose Legal Form of Organization?

- Of those firms changing LFO, the **choice of a more complex LFO** is more likely when
 - the firm is *larger*
 - the firm is more *complex*
 - the firm has *changed location*,
 - The firm 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*.



Legal Forms of Organization in the U.S.

- There are five legal forms of organization in the U.S.
- From least complex to most complex:
 - Proprietorship
 - Simplex, unlimited liability, tax pass-through
 - Partnership
 - Simple, General Partner unlimited liability, tax pass-through
 - Limited Liability Company
 - More complex, limited liability, tax pass-through
 - S-Corporation
 - More complex, limited liability, tax pass-through
 - C-Corporation
 - Most complex, limited liability, taxed as a legal person.
 - In U.S., no dividend imputation; Income of C-corporations is taxed at both the corporate level and personal level.



Literature

- Empirical studies of LFO are extremely sparse due to availability of data.
- Theoretical literature dates back at least to Adam Smith (1776), and focuses on agency costs, finances and human resources
- Fama and Jensen (1983) argue that corporations are more efficient for firms that are larger and more complex by allowing for the separation of ownership from control.
- In one of the few empirical studies, Demirguc-Kunt *et al.* (2006) find that corporations grow faster than proprietorships in countries with better governance.



Literature

- Another group of papers focus on taxes as the key issue in choosing LFO.
- In the U.S., corporate profits are taxed twice, once at the firm level and again at the personal level.
- Goolsbee (2004), for example, finds that higher state-level corporate taxes are associated with lower incidence of C-Corporations relative to other LFOs.



Data:

The Kauffman Firm Surveys

- The KFS tracks a panel of 4,928 U.S. 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.
- Firms are a stratified random sample of all U.S. start-ups in 2004.
- 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.
- More recently, 2009-2011 data have been released, but are not included in this study.
- Plans are in place for follow-up surveys for at least two additional years.



Data:

- **Dependent Variable:** Categorical representation of five LFOs
 - Proprietorship, Partnership, LLC, S-Corp, C-Corp
- **Explanatory Variables:** Following the literature, we focus on measures of size, complexity, and ownership structure.
 - **Vector of Firm Characteristics**
 - Size, Age, Profitability, Location (home or outside home), complexity (e.g., offer trade credit, retirement plan, health plan)
 - **Vector of Owner Characteristics**
 - Age, Ownership, Race, Ethnicity, Gender



Data: Explanatory Variables

Variable	Definition
<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



Data: Explanatory Variables

Variable	Definition
<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



Data:

Distribution of LFO by Year

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
S-CORP	3	20.14	21.34	22.24	23.58	23.30
C-CORP	4	7.94	7.62	7.56	6.88	6.57
GEN. PARTNER	5	3.87	3.53	3.29	3.39	2.90
LIM. PARTNER	6	1.59	1.64	1.63	1.84	1.56
OTHER	7	0.20	0.15	0.10	0.05	0.06

What is most striking about this table is the initial distribution of LFO, and the subsequent stability of this distribution. Firms knew what LFO to choose at start-up, and most did not change during their first four years of operation.



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Data:

Changes in LFO During First Four Years

t = I:
at start-up

t = F
At Year 4

Frequency						
Percent						
Row Pct	PROP(t=F)	LLC(t=F)	SCORP(t=F)	CCORP(t=F)	PART(t=F)	
Col Pct	1	2	3	4	5	Total
1	0	68	54	21	15	158
PROP(t=I)	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	
2	19	0	38	13	4	74
LLC(t=I)	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	
3	8	14	0	23	1	46
CORP(t=I)	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	
4	3	6	41	0	1	51
CORP(t=I)	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	
5	21	14	15	2	0	52
PART(t=I)	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	
Total	51	102	148	59	21	381
	13.39	26.77	38.85	15.49	5.51	100



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158 Props
changed LFO,
41.5% of all
changes



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74 LLCs
changed LFO,
19.4% of all
changes



Data:

Changes in LFO During First Four Years

t = I:
at start-up

t = F
At Year 4

Frequency						
Percent						
Row Pct	PROP(t=F)	LLC(t=F)	SCORP(t=F)	CCORP(t=F)	PART(t=F)	
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3	8	14	0	23	1	46
CORP(t=I)	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	
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Total	51	102	148	59	21	381
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46 S-Corps
changed LFO,

12.0% of all
changes



Data:

Changes in LFO During First Four Years

t = I:
at start-up

t = F
At Year 4

Frequency						
Percent						
Row Pct	PROP(t=F)	LLC(t=F)	SCORP(t=F)	CCORP(t=F)	PART(t=F)	
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CORP(t=I)	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	
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51 C-Corps
changed LFO,

13.4% of all
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	41.18	13.73	10.14	3.39	0	
Total	51	102	148	59	21	381
	13.39	26.77	38.85	15.49	5.51	100

52 Partners
changed LFO,

13.6% of all
changes



Methodology:

- Binary and Multinomial Logistic Regression
 - $DV = f$ (firm characteristics, owner characteristics)
- Three models:
 - Initial LFO: Multinomial Logit (5 possible outcomes)
 - Change in LFO: Binary Logit (yes, no)
 - Change to more complex LFO: Binary Logit (yes, no)



Methodology: Initial LFO

- Multinomial Logistic Regression
 - Dependent variables takes on a value of one to five based upon the five LFOs, ranked from least complex to most complex:
 - Prop = 1, Part = 2, LLC = 3, S-Corp = 4, C-Corp = 5
 - LFO = f (firm characteristics, owner characteristics)
 - Output is a set of four parameter estimates that measure the **odds** of the entrepreneurship choosing a particular LFO relative to the omitted category, which is proprietorship.
 - e.g., 1.50 indicates 50% higher probability
 - 0.50 indicates 50% lower probability



Results:

Choice of Initial LFO (Prop is Omitted Category)

Variable	Partnership			LLC			S-Corporation			C-Corporation		
	Odds	t-stat.		Odds	t-stat.		Odds	t-stat.		Odds	t-stat.	
Panel A: Firm Characteristics												
Intercept		-4.51			-2.45	b		-1.83			-4.90	a
TOT EMPLOY	1.11	3.69	a	1.12	5.31	a	1.12	6.73	a	1.15	6.86	a
PROFIT LOSS	0.95	-3.38	a	0.95	-6.22	a	0.95	-4.44	a	0.96	-5.23	a
SALES POS	0.88	-0.65		0.58	-5.35	a	0.58	-6.06	a	0.48	-8.07	a
ACCT RCV	1.62	3.12	a	1.49	4.43	a	1.49	6.79	a	1.99	3.27	a
OTHER ASSETS	0.86	-0.20		1.97	2.01	b	1.97	1.90		2.02	2.69	a
HOME-BASED	0.56	-3.93	a	0.59	-6.25	a	0.59	-8.41	a	0.44	-7.06	a
TOT LIAB	1.05	1.27		1.12	5.49	a	1.12	6.04	a	1.14	7.03	a
PERS. LOAN	0.55	-4.27	a	0.82	-2.56	b	0.82	-2.11	b	0.83	-4.11	a
HEALTH PLAN	2.10	3.22	a	1.78	3.82	a	1.78	4.67	a	2.08	1.77	
RETIRE PLAN	4.22	3.56	a	2.97	3.51	a	2.97	3.85	a	3.38	3.55	a

More Complex: Larger, More Acct. Rcv, Offers Health/Retirement Plans
 Less Complex: More Profitable, Home Based, Personal Loan



Results:

Choice of Initial LFO (Prop is Omitted Category)

Variable	Partnership		LLC		S-Corporation		C-Corporation					
	Odds	t-stat.	Odds	t-stat.	Odds	t-stat.	Odds	t-stat.				
Panel B: Owner Characteristics												
OWNER AGE	1.06	0.94	0.98	-0.60	0.98	-2.22	b	0.91	0.36			
EXPERIENCE	1.00	-0.29	1.00	1.20	1.00	1.06		1.01	0.45			
EDUCATION	0.86	-2.15	b	1.43	9.24	a	1.43	6.45	a	1.33	4.44	a
FEMALE	1.18	1.16		0.75	-3.38	a	0.75	-2.08	b	0.82	-2.53	b
ASIAN	1.46	1.12		0.80	-1.06		0.80	1.26		1.32	3.13	a
BLACK	0.75	-1.21		0.73	-2.33	b	0.73	-4.08	a	0.49	2.83	a
HISPANIC	0.37	-2.64	a	0.58	-3.01	a	0.58	-1.89		0.69	0.86	
OTHER RACE	1.09	0.25		0.62	-2.43	b	0.62	-2.22	b	0.61	-1.45	

More Complex: Better Educated
 Less Complex: Female, Hispanic, Other Race



Results:

Choice of Initial LFO (Prop is Omitted Category)

Variable	Partnership			LLC			S-Corporation			C-Corporation		
	Odds	t-stat.		Odds	t-stat.		Odds	t-stat.		Odds	t-stat.	
Panel C: Industry												
Construction	2.27	1.47		2.23	2.15	b	2.23	-0.74		0.66	-0.55	
Manufacturing	0.76	-0.92		2.14	4.78	a	2.14	4.57	a	2.22	2.80	a
Wholesale Trade	0.76	-0.87		1.13	0.66		1.13	-0.58		0.88	2.09	b
Retail Trade	0.55	-1.46		1.49	2.07	b	1.49	1.51		1.38	2.59	a
Transportation	1.16	0.37		1.02	0.07		1.02	1.34		1.44	3.53	a
Information Services	0.96	-0.11		1.04	0.16		1.04	0.45		1.13	-0.01	
Finance	3.96	4.32	a	4.42	6.80	a	4.42	5.36	a	3.64	4.25	a
Real Estate	2.02	2.01	b	4.52	7.53	a	4.52	4.23	a	2.72	2.78	a
Professional Services	0.90	-0.40		1.50	2.82	a	1.50	1.49		1.27	1.94	
Business Services	0.90	-0.35		1.61	2.99	a	1.61	2.14	b	1.47	3.57	a
Health Services	0.76	-0.65		0.83	-0.73		0.83	-0.16		0.96	0.54	
Arts & Entertainment	1.41	0.83		1.95	2.68	a	1.95	0.15		1.05	-0.72	
Food Services	1.36	0.70		2.25	2.90	a	2.25	0.17		1.06	0.76	
Other Services	0.76	-1.12		0.73	-1.96	b	0.73	-3.40	a	0.52	-1.37	

More Complex: Finance, Real Estate, Mfg., Bus. Svcs., Retail
 Less Complex: Other Svcs.



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Results: Employment Growth (# of Employees) By LFO and Year

		All Firms	Props	Partners	LLCs	S-Corps	C-Corps
	Obs.	Mean.	Mean.	Mean	Mean	Mean.	Mean
Growth (0,1)	3,942	1.15	0.61	1.20	a	1.16	a
Growth (0,2)	3,416	1.51	0.79	1.60	a	1.57	a
Growth (0,3)	2,934	1.41	0.72	1.60	a	0.75	a
Growth (0,4)	2,635	1.47	0.68	1.68	a	1.20	a

a Indicates LFO's mean is different from the mean for proprietorships.

Employment growth is consistently faster at more complex LFOs.



Results: Decision to Change LFO

Panel A: Firm Characteristics				
Variable		Odds Ratio	t-Statistic	
Partnership		1.551	1.63	c
LLC		0.266	-6.22	a
S-corporation		0.173	-6.44	a
C-corporation		0.696	-1.29	
Change in Employment		1.043	2.60	a
Total Employment		0.932	-2.39	b
Total Liabilities		1.050	1.50	
Profit/Loss		1.041	2.59	a
Location Up		2.090	3.17	a
Location Down		1.656	1.77	c
New Intellectual		1.296	1.06	

More Likely: faster employment growth, more profitable, changed location
 Less Likely: more initial employment, more complex initial LFOs,



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Results:

Decision to Change LFO

Panel B: Owner Characteristics				
Variable		Odds Ratio	t-Statistic	
Female		0.869	-0.83	
Asian		1.412	1.06	
Black		1.064	0.24	
Hispanic		0.612	-1.33	
Education		1.105	1.31	
Age		0.804	-3.00	a
Experience		1.006	0.76	
Change % Ownership		0.990	-2.11	b
More Owners		5.794	7.83	a
Less Owners		4.594	6.80	a

More Likely: Number of Owners changes (more or less)

Less Likely: Change in % Primary Ownership, Primary Owner's Age



Results:

Decision to Change LFO

Panel C: Industrial Classification				
Variable		Odds Ratio	t-Statistic	
Chg. NAICS		1.805	2.83	a
Agriculture		1.970	1.24	
Construction		1.736	1.95	c
Manufacturing		1.194	0.54	
Wholesale Trade		1.341	0.80	
Transportation		0.978	-0.05	
Information Services		0.891	-0.23	
Finance		0.583	-1.18	
Real Estate		0.345	-1.87	c
Professional Services		0.999	-0.01	
Business Services		0.901	-0.33	
Health Services		1.025	0.05	
Arts & Entertainment		0.665	-0.69	
Food Services		1.833	1.12	
Other Services		0.867	-0.46	

More Likely: Change in NAICS, Constr. Less Likely: Real Estate



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Results:

Decision to Change to More Complex LFO, Conditional upon Change in LFO

Panel A: Firm Characteristics				
Variable		Odds Ratio	t-Statistic	
<i>Firm Characteristics</i>				
Change in Employment		1.022	0.41	
Total Employment		0.964	-0.37	
Total Liabilities		0.729	-3.34	c
Profit/Loss		0.933	-1.68	c
Health Plan		8.922	2.94	a
Retirement Plan		1.206	0.17	
Location Up		11.779	2.73	a
Location Down		6.804	2.18	b
New Intellectual		0.379	-1.53	

More Likely: offer health plan, changed location
Less Likely: less profitable, more liabilities



Results:

Decision to Change to More Complex LFO

Panel B: Owner Characteristics			
Variable		Odds Ratio	t-Statistic
<i>Owner Characteristics</i>			
Female		0.872	-0.33
Asian		0.193	-2.02 b
Black		0.281	-1.85 c
Education		0.918	-0.41
Age		0.786	-1.34
Change % Ownership		1.018	1.71 c
More Owners		12.505	3.67 a
Less Owners		0.062	-4.77 a

More Likely: More owners, change % primary ownership
 Less Likely: Fewer owners, Asian owner, Black owner



Results:

Decision to Change to More Complex LFO

Panel C: Industrial Classification				
Variable		Odds Ratio	t-Statistic	
<i>Industrial Classification</i>				
Chg. NAICS		0.997	0.00	
Mining		0.979	-0.03	
Construction		0.957	-0.05	
Wholesale Trade		1.660	0.57	
Transportation		0.142	-1.66	c
Information Services		0.304	-0.90	
Finance		0.490	-0.64	
Professional Services		0.711	-0.51	
Business Services		0.078	-3.22	a
Health Services		43.009	2.13	b
Arts & Entertainment		0.027	-1.78	c
Food Services		0.234	-1.01	
Other Services		1.768	0.64	

More Likely: Health Svcs. Less Likely: Transport, Bus. Svcs. A&E



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Summary and Conclusions:

- 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.



Summary and Conclusions:

- 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.



Summary and Conclusions:

- 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.



Summary and Conclusions:

- 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.



Summary and Conclusions:

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



Summary and Conclusions:

- 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.



Summary and Conclusions:

- 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.



Next Steps

- Add 2009-2011 iterations of KFS.
- Move to confidential version of KFS.
 - Provides information on state location.
 - Will allow me to exploit cross-sectional variation in
 - state-level corporate tax rates
 - Goolsbee (2004)
 - state-level bankruptcy exemptions
 - Berkowitz and White (2004),
 - Berger, Cerqueiro, and Penas (2010),
 - Broughman (2011).

