



Acquiring Financial Resources To Form New Ventures: Pecking Order Theory and the Emerging Firm

Casey Frid

Clemson University

October 21, 2010

The George Washington University



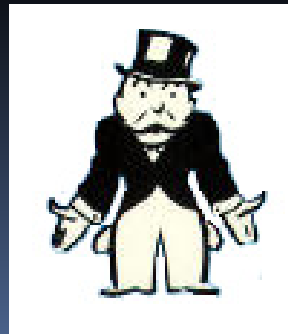
CLEMSON
UNIVERSITY

What percentage of entrepreneurs quit
due to lack of money?

Of those who quit in Wave 2 of the PSED I...

25%

did so for lack of funding or cash flow problems.



Other reasons for dropping out

Time

Divorce

I developed lung cancer and have been fighting for my life

I went into law enforcement

I had a baby

Husband stung by bee and almost died



Sources of Start-up Financing in the United States, 2005-2008

Personal contributions	82.5%
Team contributions	2.9%
Family	16.6%
Friends & work colleagues	6.0%
Credit card	14.3%
2 nd mortgage or car loan	5.3%
Bank loans / SBA Guaranteed Loans	14.8%
Asset backed debt	4.7%
Leases on property and equipment	2.6%
Credit from suppliers	3.1%
Venture capital	0.3%
Government agencies	0.1%
Other individuals or institutions	3.0%

Gartner, Frid, & Alexander (2009). Exploring the Capital Structure Choice of Nascent Ventures



Research Findings

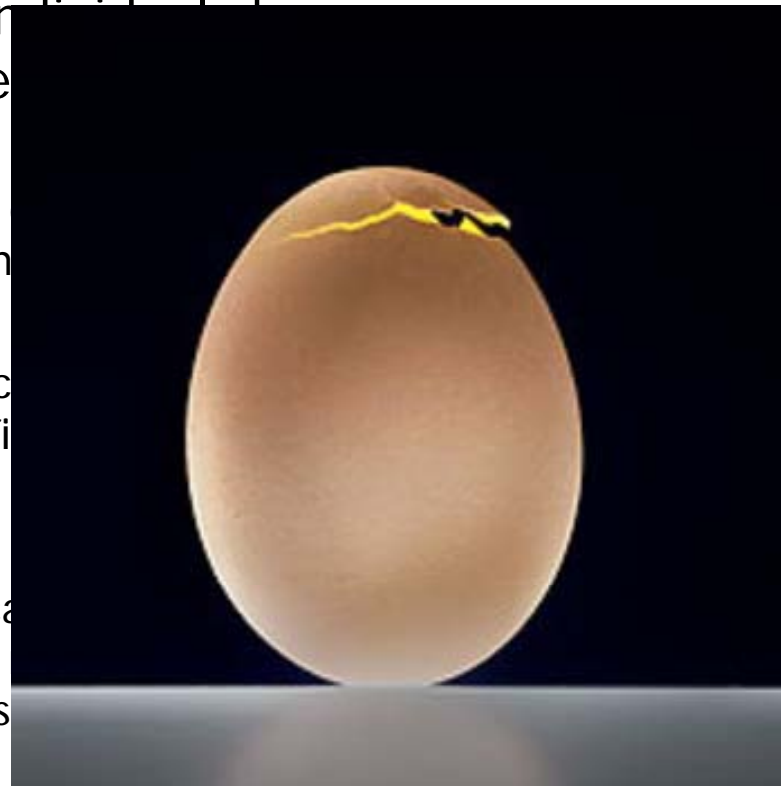
- Entrepreneurs of emerging firms do appear to follow a pattern resembling a “pecking order” when seeking funds.
- Firm and industry characteristics (size, legal form, industry sector) affect the likelihood of acquiring certain types of funding.
- Unlike most studies on SME financing, I find that characteristics of the entrepreneur (education, race, planning) *do seem to affect financing*.



What do we mean by “emerging firm”?

- Attempts by individuals to start a new venture

- Expect to be successful owners of a new business
- Have been active in start a new firm within 12 months.
- No positive cash flows or expenses for those months





Why emerging firm financing?

- Despite an extensive body of studies on emergence (Arag and Sme 1992), little is known about resource acquisition at the nascent stage.
 - The types of financial resources acquired over time, during the venture creation process, do not apply to emergence, the less value we provide as educators.

- The effect character





Pecking-Order Theory

- Firms attempt to reduce information asymmetries and maintain ownership control by following a sequence of funding (Myers, 1984; Berger & Udell, 2003):



- Pecking order theory has been applied to:
 - Investor rates of return (Frank & Goyal, 2003)
 - Financing of small vs. large firms (Scherr, 1993; Hall et al., 2000)
 - Growth intentions of the owner-manager (Fitzsimmons & Douglas, 2006)
 - Firm size and industry sector (Lopez-Gracia & Aybar-Arias, 1999)
 - Start-up financing (Paul, Whittam, & Wyper, 2007)



Prior Pecking-Order Research

- Firm size and business sector affect self-financing. Mid-sized firms, and firms in transportation and communication, self-finance more than small and micro firms (Lopez-Gracia & Aybar-Arias, 1999).
- However, the data only covers change from one year to the next.
- Suggestion of a new pecking-order for SMEs: sweat equity; credit card; loans from owners, friends, and family; equity from VCs or angels (Zoppa & McMahon, 2006).
- However, study does not break down financing by specific sources.



Prior Pecking-Order Research

- Using panel data from the Australian Business Longitudinal Survey - only 5% of SMEs use equity. Growth intentions of the owner-manager were positively correlated to equity use. Other characteristics of the owner-manager not significant (Fitzsimmons & Douglas, 2006).
- However, there is some survivorship bias by not using a sample of emerging firms.
- Evidence that entrepreneurs start with personal funds, then move directly to equity financing (Paul, Whittam, & Wyper, 2007).
- However, results are not necessarily generalizable (N = 20, Scottish high-potential ventures created with the sole purpose of seeking angel/VC funds).



Hypothesis 1

Time in Process

- **Hypothesis 1:** Nascent entrepreneurs will be more likely to use personal funds early in the venture creation process, and external debt and equity later in the process.



Hypothesis 2 Firm Size

- Smaller companies should require less capital.
- High transaction costs faced by small businesses in securing outside financing may preclude some sources of funding (Ang, 1992).
- Cosh and Hughes (1994) and Cassar (2004) find that smaller firms use relatively less outside financing.
- **Hypothesis 2:** Nascent ventures that are expected to be larger in size will more likely acquire external debt and equity than smaller nascent ventures.



Hypothesis 3

Form of Incorporation

- Financial institutions and venture capitalists may consider the form of incorporation to be a signal of credibility.
- Coleman and Cohn (2000) and Cassar (2004) suggest a positive relationship between incorporation and bank financing.
- **Hypothesis 3:** Nascent ventures that are incorporated will more likely acquire external debt and equity than nascent ventures that are not incorporated.



Hypothesis 4

Growth Expectations

- Agency conflicts between debt and equity holders tend to be higher for firms that are expected to grow more quickly. Leverage and debt are positively related to firm growth (Michaelas et al., 1999; Cassar, 2004).
- **Hypothesis 4:** Nascent entrepreneurs who intend to start firms with higher rates of growth will more likely acquire external debt than nascent entrepreneurs who do not intend to grow.



Hypothesis 5

Financial Planning

- Our categorization of financing assumes that the entrepreneur will be required to put in more effort when seeking external funds (business planning, financial planning, etc.).
- The provider of these funds will require this information to monitor the start-up's performance.
- **Hypothesis 5:** Nascent entrepreneurs that have completed financial projections will more likely acquire external debt and equity than nascent entrepreneurs who did not create financial projections.



Hypothesis 6 Industry

- Start-ups in asset-intensive industries such as mining, manufacturing, and construction would be expected to require larger capital outlays.
- **Hypothesis 6:** Nascent ventures in asset-intensive industries will more likely acquire external debt and equity than ventures in service-oriented industries.



Hypothesis 7

Gender, Race, Education, Experience

- Results on characteristics of entrepreneurs behind established firms generally find no significance regarding the acquisition of financing (Cassar, 2004; Fitzsimmons & Douglas, 2006).
 - Gender should have no influence on the likelihood of getting a loan (Verheul & Thurik, 2001; Haynes & Haynes, 1999).
 - Higher education has been positively linked to external funding (Bates, 1990; Coleman & Cohn, 2000).
- **Hypotheses 7a-7d:** The following will more likely acquire debt and equity:
 - Male nascent entrepreneurs compared to females.
 - White nascent entrepreneurs compared to minorities.
 - Well educated nascent entrepreneurs compared to poorly educated.
 - Nascent entrepreneurs with more prior start-up experience



Sample

- Panel Study of Entrepreneurial Dynamics I (PSED)
 - Representative of all working-age adults in the U.S.
 - Four waves (1999 - 2003)
- Substantial cleaning necessary
 - Kelly Shaver syntax file
 - Recoding of minority oversample variables
- Cleaned sample → 817





Dependent Variable Personal, Debt, or Equity Financing

Coded "1"	Coded "2"	Coded "3"
Acquired some outside <u>equity</u>	Acquired some external <u>debt</u> , (but no equity)	Funded venture using <u>personal funds only</u>



Dependent Variable Construction

Source of Financing*	Personal Only	External Debt	External Equity
Personal savings	•	-	-
Spouse or household partner	•	-	-
Team member	•	-	-
Spouse of team member	•	-	-
2 nd Mortgage	•	-	-
Credit cards	•	-	-
Current employer	-	•	-
Suppliers or subcontractors	-	•	-
Personal finance companies	-	•	-
Small Business Administration	-	•	-
Family and relatives	-	•	•
Friends and business associates	-	•	•
Banks, financial institutions, or venture capital	-	•	•
Private investors	-	•	•
Federal, state, or local government agencies	-	•	•
Other	-	•	•
Banks	-	•	•
Venture capital firms	-	-	•

* Sources categorized as both debt and equity are actually two-part questions that ask how much is expected to be paid back (debt), and how much is expected to lead to ownership or profit sharing (equity).



Independent Variables

H1: Time in Process

- 1 = Waves 1-2
- 2 = Wave 3
- 3 = Wave 4

H2: Firm Size

- Log of expected revenue in fifth year of operations.

H3: Legal Form

- 1 = sole-proprietorships, general partners, limited partners
- 2 = LLCs, Sub-chapter S, general corporations

H4: Future Growth Intentions

- 1 = NE wants the business to be as large as possible
- 2 = NE wants a size to manage alone or with key employees



Independent Variables

H5: Financial Planning

- 1 =Yes, developed projections
- 2 =No, did not develop financial plans

H6: Industry

- 1 =Agriculture, construction, mining, transport, utilities
- 2 =Wholesale distribution and retail
- 3 =Business and consumer services

H7: Entrepreneur Characteristics

- Gender: 1=Female | 2=Male
- Race: 1=Other | 2=Hispanic | 3=Black | 4=White
- Education: 1=HS | 2=Post HS | 3=College | 4=Post College
- Experience: 1=No start-ups | 2=One start-up | 3=Two +



Model

- Multinomial Logistic Regression
- Estimating the odds of:
 - Acquiring equity versus using only personal funds
 - Acquiring debt versus using only personal funds
- Weighted sample
- Final sample size = 605



Results

Hypotheses	Supported?	Analysis
1. Time	Yes	<ul style="list-style-type: none"> • Later waves, 3.7x more likely use equity • 1.5x more likely to use debt
2. Size	Partially	<ul style="list-style-type: none"> • Larger firm, 1.5x more likely to use debt
3. Inc. ?	Partially	<ul style="list-style-type: none"> • Incorporated, 1.5x more likely to use debt
4. Growth	No	
5. \$ Plan	Partially	<ul style="list-style-type: none"> • Did not plan, .50 as likely to use equity
6. Industry	Partially	<ul style="list-style-type: none"> • Asset-intensive, 2.5x more likely use debt • Wholesale/Retail, 2x more likely use debt
7a. Gender	No	
7b. Race	Partially	<ul style="list-style-type: none"> • Hispanics .50x as likely to acquire equity • "Other" races 4x more likely to use debt
7c. Edu.	No	
7d. Exp.	No	

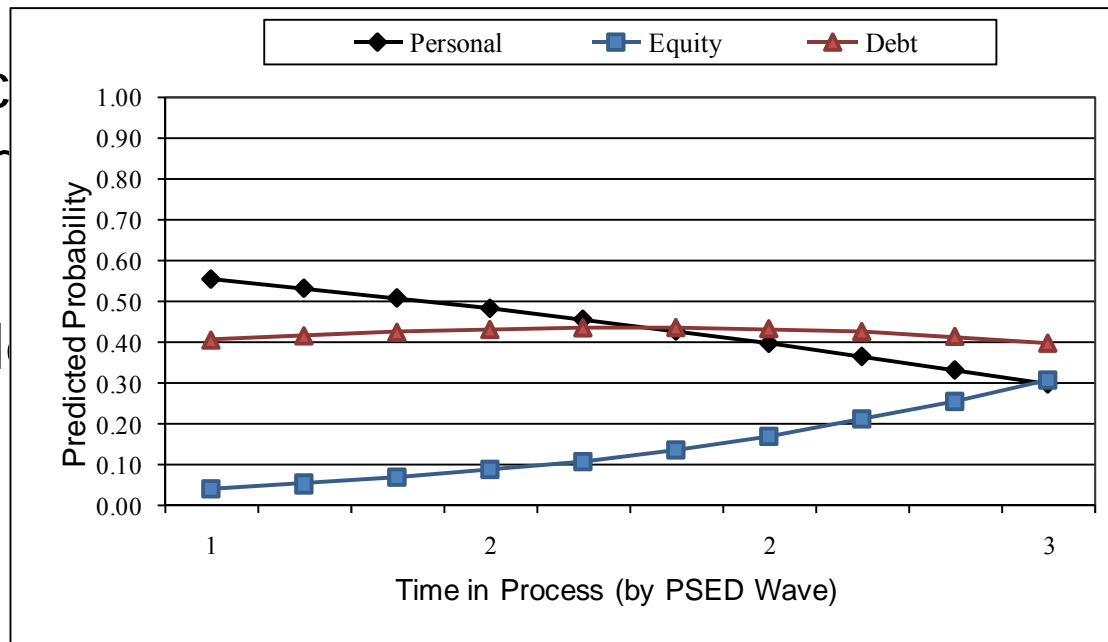


So what?

Isn't it obvious that early on, NEs use their own money, and later they use other people's money?

But c
other

Evid



rs get
nities.

5) or



Limitations

- DV reflects whether certain types of funding are used...not the amount!
- Does the sequence of financing reflect a planned strategy, or simply using the resources at hand?
- The role of risk and need for autonomy?



Results

Equity vs. Personal Only

Hypothesis	B	p-value	Exp(B)	Supported?
1. Time	1.307	.000	3.695	Yes
2. Firm size	.205	.088	1.227	(Yes)
3. Legal form	.378	.290	1.460	(Yes)
4. Growth	.230	.400	1.259	No
5. Financial Plan	-.792	.000	.453	(Yes)
6. Industry (Asset)	.371	.216	1.449	(Yes)
(Wholesale & Retail)	.087	.729	1.091	(Yes)
7a. Gender	-.199	.385	.820	No
7b. Race (other)	.663	.297	1.941	(Yes)
(Hispanics)	-.818	.049	.441	(Yes)
(Blacks)	.266	.323	1.305	No
7c. Education	.118	.322	1.125	No
7d. Prior start-ups	.167	.201	1.182	No



Results

Debt vs. Personal Only

Hypothesis	B	p-value	Exp(B)	Supported?
1. Time	.301	.024	1.351	Yes
2. Firm size	.353	.012	1.424	(Yes)
3. Legal form	.695	.020	2.004	(Yes)
4. Growth	.040	.889	1.041	No
5. Financial Plan	-.411	.093	.663	(Yes)
6. Industry (Asset)	.906	.003	2.475	(Yes)
(Wholesale & Retail)	.715	.008	2.045	(Yes)
7a. Gender	-.162	.544	.850	No
7b. Race (other)	1.465	.019	4.328	(Yes)
(Hispanics)	-.129	.733	.879	(Yes)
(Blacks)	-.047	.882	.955	No
7c. Education	.153	.257	1.166	No
7d. Prior start-ups	-.127	.385	.881	No