Entrepreneurial Optimism and the Market for New Issues

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Leland & Pyle (JF, 1977)

- When entrepreneurs have private information about the value of their projects, the amount of their own funds invested in the project will be interpreted as a signal of its value.
- In equilibrium, the higher the value of the project, the greater the amount of equity retained by the entrepreneur, and the higher is the equity market valuation of the firm.
- Signaling reduces the welfare loss associated with asymmetric information.

Entrepreneurial Optimism

- Key assumption: Entrepreneurs have correct beliefs about the value of their projects.
- Yet, entrepreneurs are known to be optimistic about the value of their projects, their skills, and chances of success (Cooper et al., 1988, Wu & Knott, 2006, Landier & Thesmar, 2009).

Entrepreneurial Optimism

- Optimistic individuals are more likely to become entrepreneurs (Gentry & Hubbard, 2000, Hurst & Lusardi, 2004, Puri & Robinson, 2007, Cassar & Friedman, 2009).
- Entrepreneurs are more optimistic than managers (Busenitz & Barney, 1997, Lowe & Ziedonis, 2006) and than employees (Arabsheibani et al., 2000).
- Entrepreneurs are also considered optimistic because they are not deterred by the unfavorable returns to entrepreneurship (Hamilton, 2000, Moskovitz & Vissing-Jorgensen, 2002).

Research Question

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- In this paper we study the impact of entrepreneurial optimism on the market for new issues.
- We extend Grinblatt & Hwang (1989) by including optimists and show how they affect the pricing of new issues, entrepreneurs' equity holdings, and welfare.

Main Findings

1. The existence of optimists generates a new reason for entrepreneurs to own equity in their firms.
2. Optimism is a natural explanation for why some new issues are overpriced.
3. The impact of optimism on entrepreneurs' equity holdings depends on the number of optimists, absolute risk aversion, and cash flow variance.
4. Optimism makes entrepreneurs worse off.
5. Optimism can make outside investors better off when entrepreneurs signal firm value by retaining shares and, on average, by underpricing.

Related Literature

- Behavioral corporate finance literature where entrepreneurs or managers suffer from biases.
- This literature finds that entrepreneurial optimism:

  1. Leads to errors in corporate investment decisions, exercising options, and mergers and acquisitions (Roll, 1986, Heaton, 2002, Malmendier & Tate, 2005, 2011).
  2. Lowers welfare (de Meza & Southey, 1996, Manove & Padilla, 1999).
  3. Can sometimes create firm value in the presence of risk aversion (Gervais & Goldstein, 2007, Goel & Thakor 2008, Hackbarth 2008, Gervais et al., 2011).
  4. Is associated with IPO underpricing and underperformance (Michel, 2010, Boulton & Campbell, 2013).

Model Set-up: Entrepreneurs

- Each has a risky project which requires an investment of k at date 0.
- Project i generates a random cash flow of $\tilde{x}_i$ at date 1 and an independent cash flow of $\mu_i + \tilde{y}_i$ at date 2, where $E(\tilde{x}_i) = E(\tilde{y}_i) = 0$ and $V(\tilde{x}_i) = V(\tilde{y}_i) = \sigma_i^2$.
- There exist two types of projects. The low expected value project has mean μ_1 and variance σ_1^2. The high expected value project has mean μ_2 and variance σ_2^2, with $0 < k < \mu_1 < \mu_2 < \infty$ and $0 < \sigma_i^2 < \infty$, for $i = 1, 2$.
- Entrepreneurs are risk averse and do not have enough initial wealth w_0 to finance their project entirely at date 0.

Model Set-up: Entrepreneurs

There are three types of entrepreneurs:

- A realist with a low expected value project knows that his project has mean μ_1 and variance σ_1^2.
- A realist with a high expected value project knows that his project has mean μ_2 and variance σ_2^2.
- An optimist believes to have a project with mean μ_2 and variance σ_2^2 , when, in fact, he has a project with mean μ_1 and variance σ_1^2.

Model Set-up: Outside Investors

- Are risk neutral.
- At date 0, in the absence of signaling, do not know a project's mean and variance. At date 1, in the absence of signaling, they learn a project's type with probability $0 < r \leq 1$.
- Know the fractions of high and low expected value projects, and the distributions of the net returns of the two types of projects.
- Cannot directly observe entrepreneurs' beliefs but know that a fraction of entrepreneurs is optimist.
- Observe retained shares and underpricing and use this information to price the project according to the inferred return.

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- These entrepreneurs prefer to retain some equity because they think (either realistically or because they are optimists) that their projects are underpriced by outside investors.
- Thus, regardless of risk aversion, the existence of optimists implies that entrepreneurs who believe to have a high expected value project retain shares and face idiosyncratic risk.

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3. When the fraction of optimists is not too large, the more optimists there are, the *less* shares are retained.
4. When the fraction of optimists is large enough and absolute risk aversion is nondecreasing in wealth, the more optimists there are, the *more* shares are retained.

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Intuition behind 3:

- When the fraction of optimists is not too large, a realist with a low expected value project is indifferent between full insurance and the partial cover contract intended for entrepreneurs who signal.

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1. If σ_2/σ_1 is large, the fraction of optimists among entrepreneurs who signal is moderate, and absolute risk aversion is sufficiently high, then realists with high expected value projects and optimists retain α shares in date 0 and, on average, underprice the $(1-\alpha)$ shares sold in date 0.

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4. Entrepreneurial optimism can make investors better off.

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- When entrepreneurs retain shares and underprice, optimism has two effects on outside investors welfare.
- First, the greater the number of optimists, the more investors gain from financing realists with high expected value projects because of the increase in the volume of stocks underpriced.
- Second, the greater the number of optimists, the higher the number of projects where investors make losses due to overpricing.

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- First, the greater the number of optimists, the more investors gain from financing realists with high expected value projects because of the increase in the volume of stocks underpriced.
- Second, the greater the number of optimists, the higher the number of projects where investors make losses due to overpricing.
- Investors are better off when the first effect dominates the second, i.e., the number of optimists is not too high.

Conclusions

- The existence of optimists provides a new reason for entrepreneurs to own equity in their firms when outside investors know entrepreneurs' beliefs.
- Optimism is a natural explanation for why some new issues are overpriced.
- The impact of optimism on entrepreneurs' equity holdings depends on the number of optimists, absolute risk aversion, and cash flow variance.
- Optimism makes entrepreneurs worse off.
- In contrast, optimism can make investors better off when entrepreneurs signal firm value by retaining shares and, on average, by underpricing the shares sold to outside investors.