

1. The Secret Life of Private Firms and 2. Public and Private Firm Performance Over the Business Cycle

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Motivation: Problem Statement

Little is known about the secret life of private firms.

As Kim and Weisbach [2005] say:

Reflecting the importance of the going public decision, the academic literature on IPOs has been voluminous. Yet, perhaps surprisingly, the vast majority of empirical literature has ignored the underlying reasons why firms go public...

...The likely reason why there has been so little empirical work addressing the reasons for going public is that the most straightforward way to study the issue would be to compare the characteristics of firms that chose to go public with the firms that remained private. However, such a study would require extensive data on private firms, which generally are not available.



Our Questions

- 1 What are the motivating factors in the going public decision?
- 2 Why do some eligible firms never test the public market?
- 3 Can we ex ante distinguish firms that go public to allow insiders to exit from those that go public to build empires?
- 4 How do Public and Private firms perform in bad times? (i.e. something about their relative access to financial resources in times of crisis?)
- 5 Sources of cross-country variation in motivating factors... Can we say something in the debate about the relative importance of legal system vs. financial system influences?



Our Answers

- 1 Method - We look at *all* Public and Private firms, avoiding the selection biases that plague extant research.
- 2 Results - TBD.
- 3 Robustness - TBD.



Literature Review[2]: Evidence

U.S. Papers

- Helwege & Packer [2004] - 43 private firms that announce IPO
- Rosen, Smart & Zutter [2005] - 140 private banks
- Bharath & Dittmar [2006] - 1023 public firms that go private

International Papers

- Pagano, Panetta & Zingales [JF, 1998] - 69 Italian firms 1982-1992
- Boehmer & Ljungqvist [2004] - 330 German private firms that announce IPO
- Kim & Weisbach [JFE, 2008] - 17,000 IPOs & SEOs from 38 countries



Expected Contributions

- 1 Large data set [\approx 400,000 firm-years, 10 years]
- 2 Selection-bias free sample
- 3 Cross-country analysis [13 countries]
- 4 New Tests



Limitations

- 1 We cannot infer the motivations of US IPOs.
- 2 Although private and public firms have the same accounting regulations, actual enforcement of regulations may differ across the two types.
- 3 We do not have a measure of R&D.



Data[1]: Sources

- AMADEUS - We exploit the 4th directive of the EU, which requires more than 5 million firms, public and private, to report **audited financials** and **ownership data** since 1995.
- SDC Platinum - Deal information to answer why firms go public and to infer projected deal information for non-IPO private firms.
- Datastream - Stock price dynamics for public firms can be matched to private firms based on accounting information.
- Hoover's Online - Privatization dummies, whose going public decision is determined by political, as well as economic, forces.



Data[2]: Screens

- 1 Exclude partnerships and sole-proprietorships [EU directives don't apply].
- 2 Exclude firms with total assets < 2.5M euros, sales < 5M euros and employees less than 50 [EU articles 11 and 27 allow abridged reporting for small firms.]
- 3 Exclude Ireland and Luxembourg [missing some data].
- 4 Privately held subsidiaries of quoted firms [parental influence].



Data[3]: Fields

See attached...



Data[4]: Projected Sample 13 EU Countries 1995-2005

Country	Firm-Years			Legal Origin
	Public	Private	IPOs	
Austria	15	1531	39	German Civil Law
Belgium	120	20481	45	French Civil Law
Denmark	218	7869	48	Scandinavian Civil Law
Finland	267	6730	48	Scandinavian Civil Law
France	777	47453	492	French Civil Law
Germany	721	4331	394	German Civil Law
Greece	652	5474	130	French Civil Law
Italy	206	47358	124	French Civil Law
Netherlands	463	13755	78	French Civil Law
Portugal	106	5873	10	French Civil Law
Spain	355	42917	35	French Civil Law
Sweden	85	14995	91	Scandinavian Civil Law
United Kingdom	3168	58655	858	English Common Law



Methodology[1]

Given our dataset, we propose two main methodologies.

- 1 Hazard Analysis
- 2 Switching Regression with Endogenous Switching



Methodology[2]: Hazard Model

The hazard model is

$$\text{Prob}(I_{i,t}^* > 0) = f(\text{firm.char}_{i,t}, \text{market.conditions}_t, \text{controls}_t) \quad (1)$$

where $I_{i,t}^*$ is an latent variable such that if $I_{i,t}^* > 0$ then firm i finds it optimal to go public in period t . Importantly, the dependent variable and some of the independent variables are time-varying. The analysis gives the (instantaneous) probability that a firm will go public given that it already has not done so, conditional on the state characteristics.



Methodology[3]: Switching Model

The following three-equation system, from Maddala [1983, Ch. 9], is estimated simultaneously by Full-Information Maximum Likelihood:

$$ROA_{Pb,i} = \alpha_{Pb,i} + \beta_{Pb,i}X_{Pb,i} + \gamma_{Pb,i}C_i + \varepsilon_{Pb,i} \quad (2)$$

$$ROA_{Pv,i} = \alpha_{Pv,i} + \beta_{Pv,i}X_{Pv,i} + \gamma_{Pv,i}C_i + \varepsilon_{Pv,i} \quad (3)$$

$$I_i^* = \delta_0 + \delta_1(ROA_{Pb,i} - ROA_{Pv,i}) + \delta_2X_i + \delta_3C_i + \delta_4M_i - \varepsilon_i \quad (4)$$

where ROA_i is a firm performance measure for firm i , Pb and Pv denote public and private firms, respectively, X are firm characteristics, C are country- and market-level factors for firm i and M includes other factors (deal characteristics) related to the firm's decision to go public or stay private. I_i^* is an latent variable such that if and only if $I_i^* > 0$ the firm finds it optimal to go public. $\varepsilon_{Pb,i}$, $\varepsilon_{Pv,i}$ and ε_i are mean-zero normally distributed error terms.

Answers: ROA for public firms had they been private and vice versa.



Conclusion

