The influence of interlocking directorates on the outcomes of Initial Public Offerings (IPOs) and post IPO long-term performance

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INTRODUCTION

The issue of how to accurately appraise IPO firm value has long been debated due to the short track record and limited history of operation of IPO firms that cause high information asymmetry. Few studies investigate this issue from the perspective of interlocking directorates. However, interlocking networks increase young start-ups' access to valuable resources that may have required years of in-house development. Furthermore, the timely transfer of information via a directorate network can discourage opportunistic behaviors of entrepreneurial firms because such behaviors are more likely to be rapidly discovered.This monitoring mechanism of directorate networks can reduce the information asymmetry faced in the capital market and legitimize the entrepreneurial firm in a credible way. These discussions justify the imperative to revisit the IPO issue from the perspective of a firm's directorate network.

SAMPLE AND METHODOLOGY

Sample Selection

The initial sample of initial public offerings is scheduled to collect from the Securities Data Corporation (SDC) covering 2000 to 2018the period. To be included in the final sample, IPO firms have to satisfy the following criteria:

(1) an offer price of at least $5.00 per share;

(2) the sample firm must have return data available on the Center for Research in Security Prices (CRSP) database;

(3) no REITs, closed-end funds, unit offerings, utilities, funds and banks

Measures of Underpricing Level

Following Purnanandam and Swaminathan (2004), I use offer price-to-value as the proxy for the degree of discount of offer price. I measure each IPO firm's offer price-to-value (P/V) ratio, where P is the offer price and V is the "fair value" computed from comparable firms' market price multiples and their sales, EBITDA, or earnings. The higher an IPO firm's P/V ratio, the less discount of its offer price. The P/V ratio is calculated by dividing the IPO firm offer price multiple by the comparable firm's market price multiple.

$$\left(\frac{P}{S}\right)_{IPO} = \frac{\textit{offer price} \times \textit{CRSP} \text{ shares outstandings}}{\text{Prior fiscal year sales}}$$

$$\left(\frac{P}{EBITDA}\right)_{IPO} = \frac{\textit{offer price} \times \textit{CRSP} \text{ shares outstandings}}{\text{Prior fiscal year EBITDA}}$$

$$\left(\frac{P}{E}\right)_{IPO} = \frac{\textit{offer price} \times \textit{CRSP} \text{ shares outstandings}}{\text{Prior fiscal year earnings}}$$

EMPIRICAL RESULTS

Table 1-Cross-Sectional Regression Analyses of Offer Price-to-Value of IPO Firms –initial test without including moderators

Variables	Model 1	Model 2	Model 3
Intercept	1.338 (2.80)***	1.321 (2.77)***	1.339 (2.81)***
Network Centrality			
IPO firms' Degree	7.600 (2.10)**		
IPO firms' Closeness		4.881 (1.78)*	
IPO firms' Betweenness			9.210 (2.09)**
Firm Age	-0.356 (-3.37)***	-0.457 (-3.36)***	-0.784 (-3.86)***
IPO Offer Size	0.389 (5.97)***	0.495 (3.09)***	0.693 (6.32)***
Free Cash Flow	-0.088 (-1.08)	-0.090 (-1.28)	-0.092 (-1.05)
Adjusted R^2	0.042	0.038	0.053
n	2340	2340	2340

Numbers in parentheses are t-statistics. ***, **, * denote significance at the 1, 5 and 10 %levels.

Table 2-Cross-Sectional Regression Analyses of Offer Price-to-Value of IPO Firms –including high-tech and firm size moderators

Variables	Model 1	Model 2	Model 3
Intercept	1.458 (2.23)**	1.001 (1.70)*	1.029 (1.97)**
Network Centrality			
IPO firms' Degree	3.001 (2.98)**		
IPO firms' Closeness		3.243 (1. 65)*	
IPO firms' Betweenness			4.216 (2.07)**
Moderating effect			
IPO firms' Degree* High-Tech dummy	1.600 (1.73)*		
IPO firms' Degree* Firm Size	-2.120 (-2.16)**		
IPO firms' Closeness * High-Tech dummy		1.243 (1.61)	
IPO firms' Closeness * Firm Size		-1.642 (-1. 83)*	
IPO firms' Betweenness * High-Tech dummy			0.216 (1.07)
IPO firms' Closeness * Firm Size			-2.216 (-2.24)**
Firm Age	-0.304 (-2.17)**	-0.356 (-2.76)***	-0.578 (-1.86)*
IPO Offer Size	0.394 (4.47)***	0.487 (4.129)***	0.544 (5.214)***
Free Cash Flow	-0.097 (-1.61)	-0.081 (-1. 78)	-0.074 (-1.07)
Adjusted R^2	0.045	0.067	0.087
n	2340	2340	2340

Numbers in parentheses are t-statistics. ***, **, * denote significance at the 1, 5 and 10 %levels.

CONCLUSION

Our results show that examination of the directorate network in which a start-up is embedded is informative, since the occupancy of a superior position in the network enables a young firm to enjoy resources and relationships typical of a more established firm, hence overcoming liabilities of newness and fostering its IPO success.