Information Asymmetry and Underpricing in Initial Public Offerings: A Literature Review and Research Agenda

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Abstract
The purpose of the paper is to review literature devoted to initial public offerings (IPOs) and the related information asymmetries and underpricing phenomenon. This paper discusses the reasons for information asymmetries, disclosure determinants and behavior, ownership differences, and other factors affecting underpricing. The paper calls for additional research in the area of disclosures, specifically non-GAAP disclosures.
Keywords: IPO, GAAP, disclosures, venture capital

I. Introduction

Information asymmetry between the underwriter/investor and the issuer regarding the value of the firm distinguishes the market of Initial Public Offerings (IPOs) from stocks traded in established exchanges. In order to reduce underpricing, entrepreneurs consider the tradeoffs between providing more information and the cost of giving that information. In some cases, firms will use signaling to indicate firm value. I review the IPO literature associated with IPO underpricing and the related choices firms make regarding disclosure and signaling and provide suggestions for future research.

II. Information Asymmetry

When one party is informationally disadvantage over another, uncertainty and risk exist in financial transactions. Information asymmetry is higher for Initial Public Offerings (IPOs) than for seasoned companies because the prospectus may be the only source of information for underwriters and investors. Small and young firms may have very little or no history of disclosures that are publicly available. Another factor that affects information asymmetry is disclosure requirements. IPO disclosure requirements vary based on a country's security laws. Research has shown that information asymmetry proxies are negatively associated with the strictness of IPO disclosure requirements (Shi, Pukthuanthong, & Walker, 2013).

Disclosure reduces information asymmetry and the related uncertainty and risk, resulting in a lower cost of capital (Glosten & Milgrom, 1985; Amihud & Mendelson, 1986). In the case of an IPO, uncertainty and risk results in underpricing (on average). Information asymmetry and the resultant underpricing is arguably the foremost cost of raising initial equity capital but one of many factors that impact underpricing. Other factors include signaling, litigation, agency, and irrationality. To provide evidence that information asymmetry has a direct impact on underpricing, Leon, Rock, and Willenborg (2007) investigated and found a negative association between firms that provide specificity regarding the use of proceeds and underpricing. The specificity of the disclosure reduced uncertainty, allowing for better valuation of IPOs.

Earnings management also undermines information symmetry. Using legitimate or less than legitimate accounting to smooth earnings and/or put a positive spin on earnings results in less than transparent reporting. This form of information asymmetry also gives rise to risk for underwriters resulting in underpricing and an increase in the cost of capital. The literature shows mixed evidence of income-increasing earnings management prior to an IPO (Friedlan, 1994; Teoh, Wong, & Rao, 1998; Beaver., McNichols, & Nelson, 2000; Darrough & Rangan, 2005; Aharony, Lin, & Loeb, 1993).

Friedlan (1994) provides evidence supporting the hypothesis that firms make income-increasing discretionary accruals just prior to an IPO. He finds that discretionary accruals are typically adjusted to improve performance in the interim period just prior to issuance of the IPO. If interim statements are not provided, firms make adjustments in the annual statement that precedes the IPO. Teoh, Wong, and Rao (1998) also found positive abnormal accruals prior to an IPO. To test for opportunism the authors examine abnormal accruals prior to and after the issuance of the IPO. They found unusually high accrual in the IPO year followed by unusually low accruals and earnings post-IPO as compared to industry averages or peers. Darrough and Rangan (2005) also reason that managers are motivated to improve the price of the IPO with income-increasing discretionary accruals in the offering year. They found that on average insider selling is positively associated with average offering-year discretionary accruals. These studies suggest that firms manipulate accruals in the year of an IPO.

Aharony, Lin, and Loeb (1993) find little, if any, manipulation of earnings prior to an IPO. However, they found some evidence that indicates manipulation of earnings in small firms and those with large financial leverage. Beaver, McNichols, and Nelson (2000) examined accruals in the property-casualty insurance industry. They were not able to find that managers opportunistically manage accruals prior to the issuance of an IPO. These studies do not find evidence that that on average, firms act opportunistically and manipulate accruals in the year of an IPO. In summary, the evidence is mixed

III. Disclosure Determinants/Behavior

Managers choose to increase disclosure for a variety of reasons. One reason is to increase the initial offering price (Aharony, Lin, & Loeb, 1993; Friedlan, 1994) and decrease the cost of capital. Disclosures may or may not be liberal or opportunistic.

The most common reason for the use of liberal accounting methods (liberal disclosures and earnings management), is to improve perceptions of performance to increase the initial offering price. Another theory for the use of use liberal accounting methods is to signal that management has private information that leads them to believe the firm has high value and is expected to have high future earnings (Neill, Pourclau, & Schaefer, 1995). The effectiveness of increased disclosure depends on whether underwriters believe that investors have faith in the accounting information and disclosures. If underwriters believe that investors suspect opportunistic behavior, the offering price will decline.

Some of the negative impacts of liberal accounting methods are the risk of litigation and unwanted disclosure of information to competitors. Neill et al. (1995) found significant differences in underpricing for firms using conservative and liberal accounting methods. Firms using liberal accounting methods are positively associated with IPO underpricing. The decrease in the initial offering price acts to reduce the risk of litigation.

Billings & Lewis-Western ((2016) suggest that litigation is more likely to occur when investors have relied on earnings based on liberal accounting methods. This reliance typically occurs when the abnormal accruals align with other information or there is a lack of other sources of information to help with pricing decisions. It may seem intuitive, but Billings & Lewis-Western's (2016) research finds that litigation is more likely in the cases where investors have relied on abnormal accruals in pricing the IPO, post-IPO performance reveals that accruals were inflated, the investor has been harmed, and thus wants to settle the score.

IV. Venture Capitalist vs. Ownership Retention

IPO ownership affects disclosure (informative or opportunistic), earnings management, and as a result underpricing. Darrough & Rangan (2005) found that it is common for managers to manipulate accruals and R&D in the year of the IPO. The findings differed, however, depending on ownership. With management ownership, the research indicates that accruals and R&D are manipulated in the year of initial public offer. This relationship did not exist for venture capital shares. Morsfield & Tan (2006) provide one potential explanation for this. The presence of venture capital results in higher monitoring of accounting methods and less earnings management. Although the intent of a venture capitalist is to eventually sell their shares and invest in a new venture, the positive behaviors just outlined extends beyond the IPO and partially explain the superior post-IPO returns of venture capital back firms (Morsfield & Tan, 2006).

Venture capital firms have another characteristic that can affect pricing. The Hand (2005) study examines the difference between pre-IPO venture capital firms and post-IPO firms in the public equity market. Hand finds that the value-relevance of financial statement information increases as a firm matures. In contrast, the value-relevance of nonfinancial statement information decreases as a firm matures. Young firms' value may be more heavily concentrated in intangible assets, such as ideas, than in tangible assets. Venture capitalists often have close connections with management and may sit on the board of directors. This provides opportunities to collect nonfinancial/inside information that may not be available to equity market investors.

V. Other Factors Affecting Underpricing

A. Auditor Reputation

The limited amount of publically disclosed information for an IPO, relative to that of a publically traded firm on an equity exchange creates risk for an underwriter and investor. Beatty (1989) suggests that IPOs will hire high quality auditors to signal firm value or to reduce uncertainty associated with asymmetric information. He provides evidence suggesting that hiring a nationally known audit firm is negatively associated with IPO underpricing. In other words, hiring a nationally known audit firm reduces IPO underpricing.

B. Underwriter Prestige

Much like the reputation of the audit firm, the reputation of the underwriter signals firm value. In order to protect reputation capital, investment bankers avoid excessive underpricing (Beatty & Ritter, 1986). This suggests that doing business with a prestigious underwriter will also reduce IPO underpricing.

C. Management

Likewise, investor perception of management affects assessment of firm value (Blankespoor, Hendricks, & Miller, 2017). Blankespoor et al. (2017) also found that firms with highly perceived management are more likely to contract with a high-quality underwriter.

D. Substitutes

Copley and Douthett (2002) suggest a connection between many of these factors. They found that auditor choice, earnings disclosure, and risk are determinants of retained ownership while auditor choice and direct disclosure are substitute signals for ownership retention. They explain that entrepreneurs with higher risk IPOs are more likely to choose higher reputation auditors. These entrepreneurs then retain a lower level of ownership. In addition, entrepreneurs that make direct disclosures concerning firm value retain a lower level of ownership. This suggests that auditor choice and a favorable earnings disclosure are substitute signals for ownership retention.

VI. Discussion and Conclusion

A large extent of the IPO literature involves the use of liberal accounting methods (such as earnings management) and signaling. Less literature is available regarding the risks and benefits of voluntary disclosure. As outlined previously, Leon, Rock, and Willenborg (2007) investigated and found a negative association between firms that provide specificity regarding the use of proceeds and underpricing. The specificity of the disclosure reduced uncertainty, allowing for better valuation of IPOs. Further research on specific types of disclosure and the credibility of the disclosure may help reduce information asymmetry and the related underpricing.

Many firms that trade on established exchanges provide non-GAAP disclosures. That is the case for IPOs also. Of 262 IPOs filed in 2014 (Nasdaq, 2014), 139 (or 53%) provided non-GAAP disclosures in their prospectus. There are two motives for non-GAAP disclosures. Some firms disclose them to provide additional information and reduce information asymmetry. Other firms disclose them for opportunistic purposes. In an environment distinguished by information asymmetry (IPO filings), an understanding of the purpose of voluntarily disclosing non-GAAP information to underwriters/investors is of value.

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