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Stock vs. stock-warrant units: evidence from seasoned offerings

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Abstract

Recent theories based on sequential financing and information signaling reveal a special role for warrants. Data from initial public offerings (IPOs) of stock-warrant units have been used to test the theories, and we extend the analysis to seasoned offerings. Consistent with predictions from both families of theories, we find that issues made by smaller and younger firms are more likely to involve stock-warrant units, and firms with greater stock price volatility are more likely to issue units in seasoned offerings. Moreover, firms with relatively high levels of long-term debt, and those whose issues are underwritten by less prestigious underwriters are more likely to employ stock-warrant unit financing. Consistent with information signaling, we find that firms with high managerial ownership are more likely to issue units. Firms that include warrants in their stock offerings are predicted to have experienced higher abnormal stock returns than if they had issued shares alone. Thus, consistent with both theoretical explanations, some firms can reduce capital costs by adding warrants to shares in seasoned offerings.

Introduction

Theoretical justifications for warrant financing have been advanced by Schultz (1993) in his sequential financing hypothesis and, more recently, by Chemmanur and Fulghieri (1997) in their signaling model. The sequential financing model of Mayers (1998), though developed in the context of convertible bonds, has implications for warrant financing as well. Some of the implications of these theories have been confirmed in studies of initial public offerings (IPOs) Schultz, 1993, Jain, 1994, How and Howe, 2001. We examine seasoned offerings of stock-warrant units and common stock only. Our purpose is to determine whether the main implications of these models extend to financing actions by firms subsequent to IPOs. The theories share several empirical implications and our results are largely consistent with both.

Schultz (1993) portrays stock-warrant offerings as multistage financing actions that can reduce agency costs of free cash flow (Jensen, 1986). Managers may invest in negative net present value (NPV) projects when they have excess cash available; thus, a desirable feature of warrants in unit offerings is that they generally bring in funds only if they are subsequently needed. If the company grows, it will probably need new equity capital, and growth prospects will increase the price of the stock, thus triggering warrant exercise. On the other hand, if the company is not successful and cannot profitably employ additional funds, the price of its stock will not increase and the warrants will not be exercised.

Mayers' (1998) explanation of convertible debt financing supplements Schultz's (1993) motivation for share-warrant unit financing. Given valuable investment options, unit financing may be used to reduce flotation costs of subsequent financing. The signaling model of Chemmanur and Fulghieri (1997) requires the interaction of asymmetric information and managers' risk aversion. The model predicts that high-quality firms use: (1) the fraction of shares retained by insiders, (2) underpricing of the issue, and (3) inclusion of warrants to distinguish themselves from low-quality firms.

We focus on seasoned offerings because it is important to know the extent to which either theory holds beyond IPOs and also because studies of unit and share IPOs are constrained by data limitations. In contrast to IPOs, for seasoned offerings market prices are observable, analysts follow seasoned firms, and audited accounting information is publicly available.

The first of our tests involves estimating the probability of issuing stock-warrant units (vs. shares only), conditional on various firm and market characteristics.[1] These characteristics should guide the firm's choice according to several financing theories, including those of Chemmanur and Fulghieri (1997) and Schultz (1993). Our probit model correctly classifies over 99% of the share financing choices and 70% of unit offerings, and the model exhibits an R^2 of over 70%. The results are consistent with the signaling explanation (Chemmanur and Fulghieri, 1997), while some, but not all, implications of the sequential financing hypothesis (Schultz, 1993) are supported by our data.

Our second set of tests focuses on stock returns surrounding unit financing and share financing announcements. For our sample of announcement returns, the mean (median) stock price reaction to share offerings is −2.68% (−2.34%), while that for unit offerings is −1.97% (−1.27%). Even though the difference in means is not statistically significant, the difference in medians is significant, providing some tentative evidence of less severe average price reactions to unit financing announcements.

We then model announcement period returns surrounding announcement of each of the two sources of financing, correcting for self-selection bias Heckman, 1976, Lee, 1978. By controlling for this bias, we are able to quantify the benefit to shareholders of issuing units relative to shares. We find that had unit issuers announced stock offerings instead, the predicted stock price reaction would have been more severe.

In Section 2, we describe our samples of share and unit offers. In Section 3, we motivate and report results of our two sets of tests, i.e., (1) probit analysis of the decision to issue units vs. shares, and (2) analysis of abnormal stock returns associated with the choice of financing. We summarize and conclude in Section 4.

Section snippets

The samples of seasoned unit and share offerings

The sample consists of firm-commitment stock and unit seasoned offerings (hereafter SOs) issued between 1980 and 1997. The original data set comes from the New Issues Database recorded by the Securities Data (SDC). This database includes the Securities and Exchange Commission (SEC) filing date, offer date, offer price, underwriter, and proceeds. The following firms are excluded from the original sample: (1) utility firms (SIC codes 4910–4949); (2) closed-end funds (SIC codes 6720–6739) and real …

Choice of offer type

We develop and estimate a probability model of the firm's choice of a unit vs. a share offering, and we report estimates of a logit model as a robustness check. The choice variable is defined as 0 for share offerings and 1 for unit offerings. From Schultz' (1993) sequential financing hypothesis, firms that are more difficult to value will be more likely to issue units. We use two measures to capture difficulty in valuation: the firm's stock return volatility and its age. VOLATILITY is the…

Conclusions

We examine seasoned stock financing and stock-warrant unit financing decisions announced during 1980–1997 in light of recent theoretical models of warrant financing. For both types of offerings, our tests result in support of the signaling hypothesis of Chemmanur and Fulghieri (1997) and largely in support of the sequential financing hypothesis Schultz, 1993, Mayers, 1998. The findings imply that warrant financing is a useful device for signaling a firm's prospects not only in initial public…

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> *Citation Excerpt :*
>
> …Since the offer price for firm commitment is set before the distribution of shares, if the market is strongly bearish, the risk of failure, even if it is much lower, still exists for the firm or the underwriter, and units may help to mitigate the probability of failure in any institutional setting. For example, Byoun and Moore (2003) find that unit issues are common during cold periods, when the price flexibility is likely to be a key issue for the success of the offering. Likewise, they find that units are more underpriced than common stock offerings.…

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…Conflicting announcement effect evidence for warrant debt is provided by Phelps and Roenfeldt (1991) who find a significant negative share price response whereas Billingsley et al. (1990), Kang and Stulz (1996) and De Roon and Veld (1998) find an insignificant reaction. In contrast, Byoun and Moore (2003) find that US public issues of stock-warrant units have a similar mean significant negative announcement return to straight equity issues. However, there is a difference in the median returns.…

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