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Credit ratings and IPO pricing ☆

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ABSTRACT

We examine the effects of credit ratings on IPO pricing. The evidence from U.S. common share IPOs during 1986–2004 shows that when firms go public, those with credit ratings are underpriced significantly less than firms without credit ratings. Credit rating levels, however, do not have a significant effect on IPO underpricing. The existence of credit rating reduces uncertainty about firm value. It is the value certainty that matters, not the value *per se*. Credit ratings also reduce the degree of price revision during the bookbuilding process and the aftermarket volatility in the post-IPO period. The evidence suggests that credit ratings convey useful information in reducing value uncertainty of the issuing firms as well as information asymmetry in the IPO markets.

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1. Introduction

Credit ratings reduce information asymmetry in the financial markets by disseminating important information about firm value to uninformed investors. Sufi (in press) shows that borrowers who obtain syndicated loan ratings by Moody's and Standard & Poor's gain access to the capital of less-informed investors, and they are able to raise more funds in debt financing. Consistent with the notion that credit ratings reduce information asymmetry between the lead arranger and participant lenders in the original syndication, Sufi (2007) finds that lead bank has to retain a larger share of the loan when the borrowing firms do not have credit ratings. In contrast, when the borrowers have credit ratings, the syndicate loans are dispersed among more loan participants. Faulkender and Petersen (2006) show that credit ratings reduce the credit constraints faced by public firms by enabling firms with ratings to raise more debt. Boot et al. (2006) provide a rationale for credit ratings and show in their model that credit ratings serve as a focal point in that all investors rationally base their investment and pricing decisions on the rating.

While many studies have focused on the role of credit ratings in the debt market, Liu and Malatesta (2006) show that credit ratings can facilitate firms' seasoned equity offerings (SEOs) as well. Liu and Malatesta find that SEOs of firms with credit ratings are underpriced significantly less than those without credit ratings. They attribute their findings to the fact that credit ratings reduce information asymmetry in SEOs. We argue that if credit ratings can indeed reduce information asymmetry, then credit ratings should play a more significant role in the initial public offerings (IPOs) market. Because most IPO firms are less known to the

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market than the returning SEO firms, the information asymmetry problem is even more severe in the IPO market than in the SEO market.

The objective of this paper is to examine the effects of credit ratings on IPO pricing. We extend the work of Liu and Malatesta (2006) from the SEO to the IPO markets. Specifically, we investigate whether credit ratings can significantly lower the magnitude of IPO underpricing and price revision by reducing the value uncertainty about the issuing firm, as well as the information asymmetry among the players in the IPO markets.

We examine a sample of U.S. common share IPOs from 1986 to 2004 and report four major findings. First, the IPO firms that have credit ratings when they go public (rated IPOs) are underpriced significantly less than the IPO firms without credit ratings (unrated IPOs). Second, besides the existence of credit ratings, we also test the effects of credit rating levels on IPO underpricing. The results show that credit rating levels do not have a significant effect on IPO underpricing. This finding is consistent with the information asymmetry explanation of IPO underpricing. IPO firms with high credit ratings are not necessarily underpriced less than those with low ratings. The existence of a credit rating reduces uncertainty about firm value. It is the value certainty that matters, not the value *per se*. Third, credit ratings reduce the degree of price revision during the bookbuilding process, which is consistent with the information revelation theory of bookbuilding that is based on the information asymmetry between the informed investors and the underwriter. Last, credit ratings also reduce the aftermarket volatility in the post-IPO period, which supports our conjecture that credit ratings reduce value uncertainty of the issuing firm.

In our analysis, we attempt to control for the endogeneity of the firms' decision to have credit ratings. Firms determine whether they receive credit ratings, and they choose to get ratings when the benefits, such as reduction in future IPO underpricing, outweigh the costs of securing credit ratings. Endogeneity occurs when the firm characteristics affecting the firm's choice of having a credit rating also determine its IPO pricing. We use three alternative econometric methods that account for the endogenous selection of having a credit rating. First, we use the Heckman treatment effect model to control for self-selection bias. Second, we use maximum likelihood estimation to jointly estimate the selection and treatment equations. Third, we use a generated instrumental variable approach to mitigate the effect of endogeneity of having a credit rating. Our evidence verifies the existence of self-selection of rated firms and our results are robust to the three alternative econometric methods. Although we cannot completely rule out alternative explanations of the negative association between credit rating and IPO underpricing, the results are consistent with our conjecture that credit ratings reduce value uncertainty of the issuing firms as well as information asymmetry in the IPO markets.

This paper broadens our understanding of the role played by credit rating in the capital markets by connecting IPO underpricing with credit rating. Our findings suggest that credit rating can significantly reduce the cost of equity for IPO firms. It adds evidence to support the information asymmetry explanation of IPO underpricing.

2. Literature review

A large volume of literature has shown the existence of IPO underpricing, starting from Logue (1973), Ibbotson (1975), Ritter (1984), among others. In general, the literature suggests that many companies leave substantial money on the table when they go public. The shares offered to investors are underpriced compared to the closing price on the first trading day. According to Ljungqvist (2007), the average IPO underpricing has been about 19% in the U.S. since the 1960s.[1]

While there have been several strands of theories to explain IPO underpricing, many of the theoretical explanations relate to the information asymmetry in the capital markets. The first strand of literature is the winner's curse model (Rock, 1986). Rock assumes information heterogeneity among investors: some investors are better informed about the quality of IPO firms. Well-informed investors bid only for attractive IPO firms, leaving uninformed investors bidding for the overpriced IPOs. To ensure continued participation of uninformed investors, IPO firms use underpricing to compensate for losses experienced by uninformed investors due to the winner's curse. Leite (2007) generalizes the informational environment of Rock's model to make it consistent with the empirical results in the IPO literature. Gondat-Larralde and James (2008) show that an underwriter has incentive to preferentially allocate, on average, underpriced shares to a coalition of investors who can acquire information to avoid overpriced IPOs. Thus, information asymmetry in the IPO process is crucial to both share pricing and allocation.

Similar to the winner's curse reasoning, Michaely and Shaw (1994) argue that an increase in information homogeneity should mitigate the winner's curse problem, thereby lowering underpricing. They study master limited partnership (MLP) IPOs. Because institutional investors largely avoid IPOs of MLPs for tax reasons, Michaely and Shaw (1994) argue that information is more homogeneously distributed among investors of MLPs. They find that the average underpricing among 39 MLP IPOs completed between 1984 and 1988 is −0.04%, while that of non-MLP IPOs is 8.5% over the same period; a result consistent with the winner's curse model.

Beatty and Ritter (1986) suggest that expected underpricing is positively related to the ex ante uncertainty of investors regarding the IPO firm's value. For investors, the costly information in the IPO process is analogous to a call option on the IPO, with the strike price comparable to the IPO offer price. The value of the call option increases with the level of uncertainty of the issuer's value. Therefore, the greater the uncertainty of the firm's value, the more investors will ask for a lower IPO price to make the value of the call option higher. Thus, the degree of ex ante uncertainty is positively correlated with higher IPO underpricing.

[1] Ritter and Welch (2002) and Ljungqvist (2007) offer comprehensive reviews of the IPO literature.

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