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Who knows what when? The information content of pre-IPO market prices

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Abstract

To resolve the IPO underpricing puzzle it is essential to analyze who knows what when during the issuing process. In Germany, broker-dealers make a market in IPOs that starts as soon as the offer range is published. We examine these pre-IPO prices and find that they are highly informative. They are closer to the first price subsequently established on the exchange than both the midpoint of the offer range and the offer price. The pre-IPO prices explain a large part of the underpricing left unexplained by other variables. The results imply that information asymmetries are much lower than the observed variance of underpricing suggests. They cast doubt on the informational role of bookbuilding and the relevance of the winner's curse problem.

JEL classification: G10; G14; G24

Keywords: Initial public offerings; Underpricing; When-issued trading; Asymmetric information; Winner's curse; Information production

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1. Introduction

The underpricing of initial public offerings has been the subject of intensive theoretical and empirical research and yet still represents a puzzle. At the heart of the puzzle is the question of who knows what, and when. Do informed investors know more about the firm value than the issuer and the underwriter (as is assumed by, e.g., Rock, 1986; Benveniste and Spindt, 1989)? Does the underwriter know more than the issuer (as in the principal agent models of Baron and Holmström, 1980; Baron, 1982)? Does the issuer/underwriter have superior knowledge about the firm value but voluntarily chooses to underprice for signaling reasons (as in the models of Allen and Faulhaber, 1989; Grinblatt and Hwang, 1989; Welch, 1989) or to reduce litigation risk (as in Hughes and Thakor, 1992)? Is underpricing a means of creating excess demand, which can be desirable even if information is symmetric (as in the optimal ownership structure models of Brennan and Franks, 1997; Stoughton and Zechner, 1998)?

Finding answers to these questions is complicated by the fact that there is usually no price history before an IPO. In Germany, by contrast, broker-dealers offer OTC trading for investors who want to buy or sell IPO shares during the offer process. Bid and ask quotes from this pre-IPO market are publicly available. In the US, when-issued trading is common in conjunction with stock splits (see Angel et al., 1997), but, as in many other countries, it is illegal for IPOs. Consequently, there is little prior research on pre-IPO trading. Aussenegg et al. (2002) use German pre-IPO quotes to test for information production à la Benveniste and Spindt. Cornelli et al. (2003) develop a theoretical model to explore the impact of pre-IPO trading on bookbuilding. Dorn (2003) studies the behavior of retail investors in the German pre-IPO market.

We use data from the German pre-IPO market to examine the extent of information asymmetry during the bookbuilding process and the informational role of the bookbuilding procedure. Our results can be summarized as follows. Pre-IPO prices are highly informative. They are closer to the prices subsequently established on the exchange than both the midpoint of the offer range and the offer price. Pre-IPO prices also appear to be largely unbiased estimates of the subsequent exchange prices. Finally, the difference between pre-IPO prices and the offer price explains a large part of the underpricing left unexplained by other variables like issue size, post-IPO volatility, and market momentum. The results are not driven by individual "hot" issues, or the hot issue market of 1998–2000 in general.

Each IPO we analyze is sold through bookbuilding. According to Benveniste and Spindt (1989), bookbuilding serves to elicit information from informed investors. The main implication of their theory is that underwriters partially adjust offer prices to new information in order to compensate investors for revealing this information. We use the pre-IPO market prices to test the theory and do not find evidence of partial adjustment. This casts doubt on the informational role of bookbuilding, and, in turn, supports the conclusion that pre-IPO markets can efficiently aggregate information. Note that our finding contrasts with Aussenegg et al. (2002) who also examine pre-IPO prices but find evidence in favor of partial adjustment in the German market. The difference is due to our use of a more general econometric specification. Like Aussenegg et al., we use a censored regression framework to analyze price revisions, and take into account that the offer price is not set above the