SEO firms' lottery-like characteristics, institutional ownership, and long-run performance

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A B S T R A C T

This study investigates whether firms' lottery-like characteristics (low price, great idiosyncratic volatility, and high skewness) affect institutions' participation in share allocation around seasoned equity offerings (SEOs) and firms' post-issue long-run performance. The results show that the level of institutional ownership of lottery-like firms is lower than non-lottery-like firms, but these lottery-like firms attract more new institutions to purchase SEO shares. When this study controls for related factors (e.g., changes in institutional ownership and systematic risk), lottery-like characteristics negatively associate with issuers' long-run performance. These results indicate that those lottery-like firms that institutions favor are able to improve their performance after SEOs but still underperform non-lottery-like firms. This result implies that many institutional investors are over-optimistic about the investment opportunities of lottery-like firms.

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1. Introduction

The long-run performance of firms that undertake seasoned equity offerings (SEOs) receive extensive attention in the financial literature (e.g. Loughran & Ritter, 1995; Spiess & Affleck-Graves, 1995). Research documents that several factors affect SEO firms' post-issue performance: Earnings management (e.g. Rangan, 1998; Teoh, Welch, & Wong, 1998), pre-SEO risk (Carlson, Fisher, & Giammarino, 2006, 2010), and changes in institutional ownership (e.g. Chemmanura, He, & Hu, 2009; Gibson, Safedidine, & Sonti, 2004).

A gap in the literature exists regarding the long-run performance of lottery-like SEO firms. This study fills in this gap by examining how pre-SEO lottery-like characteristics affect institutions' participation in SEO share allocation and the long-run performance of SEO firms. This research not only helps in understanding more about how lottery-like characteristics affect changes in risk and long-run performance of SEO firms but also suggests institutional investors to be more careful in participating in lottery-like firms' SEOs. This study contributes to the literature by showing that pre-issue factors can predict issuers' long-run performance.

Firms with lottery-like characteristics refer to stocks with similar properties to lottery tickets: Low prices but very high potential payoff, lowly negative stock returns, and a very low probability to win the prize. Kumar (2009) defines lottery-like stocks as firms with low stock prices, high idiosyncratic volatility, and high return skewness. He finds that investors of lottery-like stocks are like major lottery players: Poor, young, less educated single men who live in urban areas, undertake nonprofessional jobs, and belong to specific minority groups.

This study attempts to answer four questions regarding the effect of lottery-like characteristics on firms' behavior around and after SEOs. First, do lottery-like characteristics affect institutions' participation in SEO share allocation? Second, do changes in systematic risk around SEOs differ according to lottery-like characteristics? Third, do changes in institutional ownership around SEOs associate with firms' long-run performance? Fourth, do pre-issue lottery-like characteristics relate to SEO firms' long-run performance? These questions are important because they can help investors understand the issuers' properties around SEOs and select good SEO targets. Intuitively, lottery-like firms tend to be “weak”; thus, institutional investors prefer less these firms because lottery-like firms exhibit dramatic changes in risk around SEOs, and perform worse than non-lottery-like firms after SEOs.

The empirical results are as follows. First, the institutional ownership level increases in sequence from the lottery, quasi-lottery, quasi-non-lottery, and non-lottery groups, which is consistent with Kumar's (2009) finding. Second, firms' betas increase before SEOs and decrease after SEOs (i.e., a humped shape), which suggests that risk increases as the maturity of the growth options does and decrease when options turn into assets in place. Third, in each of the four lottery groups, firms with greater increase in institutional ownership outperform those with less increase in institutional ownership after SEOs. Fourth, the regression results show that lottery-like characteristics negatively associate with firms' long-run performance. The result of the qualitative comparative analysis (QCA) is consistent with the finding.
This article has the following structure: Section 2 discusses the methodology and hypotheses. Section 3 describes the data handling and sample characteristics. Section 4 reports empirical results. Finally, Section 5 summarizes the major findings and concludes the study.

2. Literature review and research hypotheses

2.1. Lottery-like stock

This research examines how firms’ lottery-like characteristics affect SEO firms’ long-run performance. Previous studies (e.g., Ang, Hodrick, Xing, & Zhang, 2006) show that stocks with high idiosyncratic volatility tend to generate low expected returns. Lottery-like stocks have this property. Kumar (2009) shows that lottery-like stocks significantly underperform other stocks, yielding annual risk-adjusted return of −4.23% on average. Building on this evidence, one may conjecture that SEO firms with lottery-like characteristics perform poorly in the long run.

However, this issue is not so straightforward. In the extreme, two possibilities for the post-SEO performance of firms with lottery-like characteristics could exist. The first extremity is that lottery-like firms raise funds by managerial discretion, in that their main investors are individuals who do not pay attention to firms’ investment opportunities and operations. In addition, Chen, Lin, and Yang (2015) find that corporate managers cut R&D spending to meet short-term earnings goals in Taiwan. Domestic institutional short-termism will intensify managerial myopia. Wu and Tu (2007) show that the positive effect of CEO stock option pay on R&D spending is more prominent when slack resources are abundant, or when firm performance is high. In this situation, investors may overvalue lottery-like firms before SEOs. These unfavorable conditions imply that firms with lottery-like characteristics would underperform after SEOs.

The second extreme situation is that lottery-like firms turn around for their operations after SEOs. Many of lottery-like firms are young and endeavor to attain product breakthrough but face financial constraints because of their short credit history. Campello, Graham, and Harvey (2010) find that financial constraints hamper investment in valuable projects, which produces undesirable real effects and lowers long-run growth. However, when lottery-like firms are able to conduct SEOs to release their financial constraints, they can use the funds to develop their products. In this case, they may improve their operations and grow rapidly after SEOs, resulting in superior long-run stock performance.

To identify the above two kinds of lottery-like stocks is not easy. The literature shows that the participation of institutional investors in SEOs may help distinguish the issuers’ quality. Gibson et al. (2004) and Chemmanura et al. (2009) show that firms with greater increases in institutional ownership around SEOs perform better in the long run. This finding can be due to institutional investors’ private information or ability to select good SEO targets. This study contends that institutional investors can tell SEO firms’ motivation, in that they have enough expertise and staff to analyze those firms, which is consistent with the findings in Kane and Velury (2004) and Velury and Jenkins (2006). Hence, lottery-like firms with less increase of institutional ownership around SEO are likely to perform poorly following the SEOs.

2.2. Research hypotheses

Institutional investors generally manage a large amount of funds and are competent investors (e.g., Bennett, Sias, & Starks, 2003; Chen, Hong, & Stein, 2002; Nofsinger & Sias, 1999). They own superior abilities in industry analysis, collection of private information, and monitoring the firms in which they invest. In addition, institutional investors prefer to invest in firms with high ranking and stable operations. Hence, investors are more conservative about lottery-like stocks, which are highly risky.

Institutional investors’ conservatism about risky stocks implies that they would be less willing to participate in lottery-like firms’ SEOs. H1. Institutional preference hypothesis. Institutional investors are more conservative about high-risk stocks, and thus their participation in lottery-like firms’ SEOs is less active than in non-lottery-like firms.

Carlson et al. (2006) demonstrate that corporate investments with equity financing have issuance lower stock returns endogenously as growth options become assets in place, which are less risky than the expansion options. Carlson et al. (2010) show that the increase in the pre-SEO beta and the decrease in the post-SEO beta explain pre-SEO price run-up and long-run SEO underperformance.

Lottery-like firms are many younger firms that face financial constraints. If these firms have growth potential, they can conduct SEOs to support their investment and may thus attain breakthrough in products and operations. Their changes in risk around SEOs would be more dramatic than those of non-lottery-like firms. If so, lottery-like firms would exhibit a more evident hump-shaped pattern of their betas around SEOs.

H2. Changes in risk hypothesis. Changes in systematic risk of lottery-like firms around SEOs are greater than those of non-lottery-like firms.

Previous studies document that institutional ownership positively affects future stock returns (e.g., Gompers & Metrick, 2001; Nofsinger & Sias, 1999). Gibson et al. (2004) and Chemmanura et al. (2009) find that institutional investors participate in share allocation of firms with better future performance before SEOs. They ascribe this finding to institutions’ informational advantage and superior abilities. This study examines whether institutional investors’ superior performance is valid for different kinds of lottery-like characteristics.

H3. Institutions affecting performance hypothesis. The positive relation between changes in institutional ownership around SEOs and issuers’ long-run performance holds for all the groups of different lottery-like characteristics.

Although lottery-like firms may turn to be dark horses, the probability is low. Many of these firms are likely to remain in poor operations after SEOs. In addition, the fact that their main investors are individuals leads to more serious overvaluation before SEOs. By contrast, non-lottery-like firms usually have stable operations and can expand building on their existing businesses. Hence, on average they should perform better than lottery-like firms.


3. Research method and data collection

3.1. Group definitions

Kumar’s (2009) defines lottery-like characteristics in his paper. Specifically, He uses the daily data in the six months before SEOs to calculate issuers’ average stock price, idiosyncratic volatility (i.e., the variance of the residual in a four-factor model), and return skewness following Harvey and Siddique’s (2000) method. For each SEO, Kumar also computes those three variables of all public firms in the same period.

When an issuer’s average stock price, volatility, and skewness are all less than the medians of all public firms, the issuer belongs to a lottery-like firm. However, if the three variables of an issuer’s are greater than the medians of all public firms, the issuer is a non-lottery-like firm. Further, SEO firms with any two of the three characteristics are in the quasi-lottery group, and those with one characteristic are quasi-non-lottery stocks. Intuitively, the performance of these two groups should stand in between those of the lottery and non-lottery groups.