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Contracting under asymmetric information: Evidence from lockup agreements in seasoned equity offerings[☆]

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ABSTRACT

We document the frequent use of lockup agreements in seasoned equity offerings (SEOs) and examine the determinants of their use, duration, and early release. We find that the likelihood of an SEO lockup and its duration are positively related to issuer information asymmetry measures. Lockup duration is negatively related to underwriter spreads and underpricing, indicating that lockups lower expected flotation costs. Lockups are frequently released early following share price rises. We conclude that lockups represent a contracting solution to asymmetric information and agency problems that plague equity issues by helping to insure SEO quality and deter opportunistic insider trading.

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1. Introduction

A lockup agreement is a legal contract that prohibits managers and other insiders from selling shares for a specified period after their firm issues stock. Lockups impose a temporary but extreme form of illiquidity on insider shareholdings. Given the potential cost of such illiquidity, why do

insiders agree to have their shares locked up? More generally, what are the benefits of lockup agreements?

Previous researchers have found empirical support for two rationales for lockups in initial public offering (IPO) firms. [Brav and Gompers \(2003\)](#) conclude that lockups help to control moral hazard problems, including opportunistic trading by insiders, and [Brau, Lambson, and McQueen \(2005\)](#) find that lockups signal managers' favorable inside information to outside investors. A third rationale is suggested by evidence that overpriced offerings are costly for underwriters (e.g., [Nanda and Yun, 1997](#); [Beatty, Howard, and Hand, 1998](#)). To the extent that a lockup reduces the likelihood of overpricing, it decreases the underwriter's expected costs and lowers the issuing firm's flotation costs. These rationales are not mutually exclusive. All, however, are based on an underlying assumption that managers have an informational advantage that poses risks for new investors and underwriters when a firm issues stock. Lockups reduce these risks, thereby encouraging greater investor participation and lowering a firm's issue costs.

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In this study we hypothesize that information asymmetry is the central reason for lockup agreements and provide direct tests of this hypothesis using data on 2,579 SEOs over the 1996–2006 period. Previous examinations of lockups focus on IPOs.¹ Less well known, however, is that lockups also are common in SEOs. SEOs provide three advantages over IPOs when examining the motives for employing lockup agreements. First, SEO lockups and their durations are more variable than IPO lockups. As reported in Table 1, 81.5% of IPO lockups are for the same duration—180 days—implying that IPO lockups tend to reflect boilerplate arrangements. In contrast, only 64.4% of SEO lockups are for their modal period of 90 days. The frequency of SEO lockups and their lengths also change noticeably over the sample period. The greater cross-sectional and time-series variation in the features of SEO lockup contracts provides a richer opportunity to gain insight into the determinants of lockup use and duration. Second, the existence of an active secondary market for shares enables us to investigate a broader range of empirical measures to test the information asymmetry hypothesis. And third, SEO issue methods differ in ways that further facilitate tests of the information asymmetry hypothesis. In particular, SEOs can be issued under a traditional book-building method or under an accelerated offering method for better-known firms, while IPOs are precluded from using an accelerated offering method.

To test the information asymmetry hypothesis, we examine how information asymmetry and lockup agreements affect the characteristics and costs of new equity issues. Information asymmetry varies across firms. But from the perspective of firm managers and underwriters who choose the offering characteristics, we assume the level of information asymmetry is predetermined at the time of the SEO. The information asymmetry hypothesis predicts that firms with greater information asymmetry are more likely to use a lockup, to specify longer lockup duration, to use a conventional offering method, and to face higher underwriter spreads and SEO underpricing. We expect firms to adjust along all the contracting margins available to them so as to minimize the total cost of the offering. This implies that firms use lockup agreements to mitigate the effects of information asymmetry on SEO flotation costs, resulting in lower underwriter spreads and SEO underpricing. Our tests examine these predicted effects of information asymmetry and lockup agreements.

This study makes five contributions to our understanding of lockup agreements. First, we document that SEO lockups occur at approximately the same rate as IPO lockups. In our 11-year sample period, 93.8% of all SEOs include lockups, which is only a little lower than the 96.6% lockup rate for IPOs over the same period. This indicates that the contracting issues that motivate the use of lockups apply not only to IPOs, but to equity issues in general. We also find that lockup period lengths tend to be shorter for SEOs than for IPOs. Thus, while information asymmetry

problems characterize both types of equity issues, they are larger for IPOs.

Second, we find that the primary determinant of SEO lockup agreements and ex ante lockup periods is the degree of information asymmetry between insiders and outside investors. Previous research has identified many proxies for information asymmetry. We analyze a number of frequently used measures and use factor analysis to summarize many of these measures in a single information asymmetry factor. Holding other control variables at their medians, a one standard deviation increase in the information asymmetry factor corresponds to a 5.8% increase in the likelihood of a lockup and a 15-day increase in the lockup period. We also find that the likelihood and duration of lockup agreements are reduced for SEOs using an accelerated underwriting mechanism relative to conventionally registered and underwritten SEOs. This is consistent with the notion that information asymmetry problems are smaller among firms that are able and willing to use an accelerated underwriting procedure (e.g., see Bortolotti, Smart, and Megginson, 2008; Gao and Ritter, 2010). Nevertheless, the effect of information asymmetry on lockup likelihood and duration is strong for both accelerated and traditional SEOs.

Third, we find that the use of lockup agreements is associated with decreases in both underwriter spreads and SEO underpricing, implying that lockups economize on SEO flotation costs that arise from underwriter exposure to the risk of overvaluation and insider selling. In simple correlations, underwriter spreads and SEO underpricing are positively related to the degree of information asymmetry and the use of a lockup. The use of a lockup, however, is endogenous and positively related to information asymmetry. To account for the endogenous determination of the lockup period, we use instrumental variables based on the identity of the underwriter's law firm and a normalized market-wide illiquidity measure developed by Amihud (2002). Using these instruments, the analysis consistently shows that SEO underwriter spreads and underpricing are positively related to the degree of information asymmetry and negatively related to the length of the lockup period.

Fourth, we document that a large number of SEO lockups are released early, allowing insiders to trade before the end of the ex ante lockup period. Among SEOs that have lockups, the probability of an early release increases with post-SEO stock price performance. Holding other control variables at their median values, a one standard deviation increase in the cumulative return over days 0 through +5 relative to the SEO issue date corresponds to a 2.8% increase in the likelihood of an early release. This indicates that strong stock price performance helps to alleviate the costs associated with information asymmetry, which decreases the value of the lockup to outside investors.

Our fifth contribution is an analysis of abnormal stock returns around the end of the lockup period. For lockups that are not released early, the average abnormal return is negative (−0.54%) for the three-day period centered on the expiration date. This result is similar to that found by Field and Hanka (2001) and others for the expiration of

¹ See Ofek and Richardson (2000), Field and Hanka (2001), Bradley, Jordan, Roten, and Yi (2001), Brav and Gompers (2003), Cao, Field, and Hanka (2004), and Goergen, Khurshed, Renneboog (2006). Brau, Lambson, and McQueen (2005) examine a pooled sample of IPO and SEO lockups.

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