

Lockup expiration, insider selling and bid–ask spreads

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Available online 29 June 2007

Abstract

Contrary to our expectation that lockup expiration should result in an exacerbation of the information asymmetry problem faced by market makers, we find an improvement in secondary market liquidity in the post-expiration period. For the subset of firms with reported insider sales during the 10-day post-lockup expiration period, bid–ask spreads reduce by a larger percentage — mainly due to a decline in the adverse selection component. VC-backed firms also experience a decline in quoted and effective spreads in the post-lockup period as compared to non-VC firms. Our empirical results show that insider selling and VC unwinding both improve liquidity after unlock day. However, only insider selling is associated with a reduction in the adverse selection component of spread.

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JEL classification: G14; G24; G32

Keywords: Lockup expiration; Insider selling; Liquidity; Adverse selection costs

1. Introduction

Insider selling is restricted in the aftermath of an initial public offering (IPO) by investment bankers for a period of time known in popular parlance as the lockup period. During this period, insiders and blockholders are precluded from selling their shares in the open market. The restricted groups include directors, key employees, venture capital firms and blockholders. The ostensible rationale for this agreement is the reassurance to the market that key insiders are not likely to sell out their shares soon after the IPOs thereby depressing stock prices. This move also strengthens underwriters effort to support the market after the IPO. Clearly, the lockup period prohibition of insider sales enhances the reputational capital of investment bankers.

Brav and Gompers (2003) suggest three explanations for the existence of lockups. First, lockups represent a signaling solution to an adverse selection problem. Second, lockups provide a commitment solution to a moral hazard problem. Finally, lockups could be possibly explained as a rent extraction mechanism by reputed underwriters.¹

These insider trading restrictions are not legally imposed by regulators but are binding agreements entered into by investment bankers and firm insiders prior to the IPO. In fact, these restrictions represent additional prohibitions to those already imposed by SEC regulations. There has been a recent surge of research interest into this interesting phenomenon motivated by the availability of data. Field and Hanka (2001) and Bradley, Jordan, Roten, and Yi (2001) represent some of the pioneering work done on lockup expiration and the attendant stock price reaction.

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¹ Brau, Lambson, and McQueen (2005) provide empirical support in favour of the signalling hypothesis.

The empirical evidence provided by [Field and Hanka \(2001\)](#) indicates that lockup expirations are accompanied by negative abnormal returns. Interestingly, empirical results also indicate that venture capital backed firms show much stronger reaction compared to other firms. Furthermore, high technology firms show the most compelling negative stock market reaction to the lockup expiration event as compared to firms belonging to other industry segments. These findings suggest that information effects are particularly strong at lockup expiration. An alternate view is that lockup expiration is concomitant with an increase in the number of “floating” shares released by easing of selling restrictions on insiders. The float effect also termed as the “downward sloping demand curve” hypothesis is supported empirically by cross-sectional tests conducted by [Field and Hanka \(2001\)](#). An upshot of this float effect is the increase in supply and the resultant drop in stock prices. Both the float effect and the information effect both posit a drop in stock prices at lockup expiration. Extant empirical studies of the effects of lockup expiration on stock returns have not been able to discern the relative strength of the two effects.

A second stream of research has focused on the market microstructure effects of the lockup expiration event. The ex ante likelihood of insider selling dramatically increases at lockup expiration. This exacerbates the information asymmetry problem faced by market makers and is predicted to result in an increase in the adverse selection component of spread. *Ceteris paribus*, this is likely to increase the bid–ask spread, which is an important measure of liquidity. On the other hand, actual sales by insiders increase the float and enhance liquidity. Other things being equal, bid–ask spread is therefore expected to reduce at lockup expiration. The relative strength of these two effects — float versus information is therefore an empirical issue.

Early work done by [Cao, Field, and Hanka \(2004\)](#) regarding microstructure effects of lockup expiration indicate that float effect is the dominant one. They find that quoted depth and trading activity improve substantially following lockup expirations. They find little effect on effective spreads. In fact, they document that spreads actually decline in the case of lockup expirations where insiders actually disclose share sales. We adopt the second approach and study the market microstructure effects of lockup expiration.

Our contribution in this paper is twofold. First, we segregate our sample of firms into those backed by venture capital (VC) and others. Our motivation is the robust empirical evidence shown by [Bradley et al. \(2001\)](#) that VC firms experience more negative abnormal returns in the period following lockup expiration as compared to other firms. Furthermore, VC firms also experience a more dramatic increase in trading volume as compared to non-VC firms. Additionally, we look at actual insider transactions to discern the relative contribution of insider sales and VC-backing to the post-lockup changes in liquidity. We describe fully the significant differences in the information and governance environment of VC-backed as compared to non-VC-backed firms in the literature review section of the paper. A second contribution arises from our examination in a multivariate setting of the relative contribution of insider selling effects and VC-backing on post-lockup spreads and its components.

We consider it important to study the market microstructure effect of lockup expirations on VC-backed firms separately since sales by venture capitalists are tantamount to insider sales and should be treated as such. Currently, regulations do not require public disclosure of VC sales and/or distributions. We feel that VC sales post-lockup expiration could impair the liquidity of firms by increasing the adverse selection component of spread. [Cao et al. \(2004\)](#) do not partition their sample on the basis of VC-backing. We do so and this is a major component of our contribution. To the extent that there is information content in trades of VC, public disclosure may be warranted if their trades in fact result in an impairment of liquidity.

Our major empirical findings are summarized below. Contrary to our expectation we do not find any support for the hypothesized adverse information effects of insider selling in the post-lockup expiration period. In fact, liquidity actually improves in the post-lockup expiration period. For the subset of firms where insiders actually report sales during the 10-day post-lockup expiration period, liquidity improves even more. It appears that the increase in float, made possible by sales of insiders and other blockholders after lockup expiration, dominates possible information effects. Further examination reveals that the reduction in the adverse selection component of spreads is the major source of the decrease in spreads after lockup expiration. Overall, our multivariate results are consistent with the view that both VC-backing and insider selling are associated with a decline in quoted and effective spreads in the post-lockup period. However, only the insider selling variable is associated with a reduction in the adverse selection component after controlling for other relevant variables.

A policy implication of our findings is that lockup regulations which are designed to protect outside investors from the adverse effect of insiders exploiting their informational edge have a potential cost. This cost is the higher transaction costs incurred by uninformed investors in the form of higher bid–ask spreads. Our evidence calls for a change in the

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