Essays on insider trading

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Summary and conclusion

This dissertation examines issues in insider trading that are of interest to academics, investors, regulators and corporate insiders themselves. Regarding the contributions of the results in this dissertation to academics, I document a number of findings that contribute to several streams of the Accounting and Finance literature. First, the results in this dissertation add to the discussion on the variation in insider trading behavior and trading profits (Givoly and Palmon, 1985; Aboody and Lev, 2000; Ke et al., 2003; Roulstone, 2003; Huddart and Ke, 2007; Cohen et al., 2012; Davidson et al., 2013). Specifically, I show that insider trading behavior is influenced by information asymmetry that arises during the patent application process in the US (chapter 2). Next, I find that insider trading behavior is also influenced by macroeconomic conditions that influence the efficiency with which public information is incorporated in share prices (chapter 3). Third, I contribute to this literature by showing that insider characteristics, such as integrity, drive insider trading behavior and profitability (chapter 4).

Relatedly, the findings also contribute to the discussion on whether insiders are able to identify mispricing and change their behavior accordingly. This is important if researchers intend to distinguish between insider transactions that are likely driven by private information, mispricing of public information, or no information at all (the latter is supposedly the case when insiders have strong liquidity or diversification concerns). It is also important in examining whether executives base other decisions on their perception of the efficiency of capital markets. Such decisions include, among others, disclosure (Bergman and Roychowdhury, 2008; Brown et al., 2011; Seybert and Yang, 2012) and capital structure (Baker and Wurgler, 2002).

Third, the findings in this dissertation add to the literature on the influence of personality traits on corporate events, policies, and outcomes in general and on insider trading behavior in particular. A substantial part of this literature demonstrates that executive “fixed effects” matter for investment decisions (Bertrand and Schoar, 2003), disclosure policies (Bamber et al., 2010), tax aggressiveness (Dyreng et al., 2010), and compensation contracts (Graham et al., 2011). The question that remains is what personal characteristics these fixed effects capture. We complement these studies and others that have examined executive overconfidence (Malmendier and Tate, 2005, 2008; Malmendier et al., 2011), frugality (Davidson et al., 2013), or opportunism (Cohen et al., 2012) as potentially important executive traits by showing that CEO integrity influences insider trading behavior.

Regarding the implications for practitioners, it is clear that outside market participants as well as the SEC are very much interested in corporate insider transactions. The anecdotal evidence about insider trading scandals and the market reaction around the disclosure of insider transactions as presented in chapter one of this dissertation support this claim. Both, investors and the SEC analyze insider transactions in order to identify the ones that are relevant for their purposes. While the SEC cares about those transactions that are based on private information, investors care about insider transactions that are predictive of future share price movements, irrespective of whether these trades are driven by private information or mispricing of publicly available information (that is, unless the investor is so sophisticated
that she has identified the mispricing without the help of the insider transaction). Given the respective tasks or goals of the SEC and outside investors, the findings in this dissertation are relevant to both in their effort to identify informative and potentially illegal insider transactions. The results of the first study imply that investors as well as the SEC should pay close attention to private information that insiders might acquire during the patent application process. The same holds for similar settings such as the Food and Drug Administration (FDA) approval process. The result of the second study imply that investors should screen insider trading behavior – possibly at the aggregate market level – to identify insiders’ perceptions about whether their firms or the market as a whole are fairly priced, under-, or overvalues and, thus, whether price corrections are likely to occur in the future. The findings from the third study suggest that both the SEC and investors should differentiate between the trades of high- and low-integrity insiders. The results suggest that this classification can be made using publicly available textual information.

The implications for insiders are more difficult to discuss. Two natural implications – assuming that someone at the SEC reads this dissertation – are (a) that insiders should stop trading on information that they acquire during the patent application process and (b) that they should be very careful in their trading behavior if they can be identified – in one way or another – to be of low integrity. In that respect, researchers have increasingly made life difficult for insiders. For example Davidson et al. (2013) hired private investigators to acquire information about criminal records and “lavish lifestyles” of US CEOs and related these information to the CEOs’ insider trading profits. The good news for insiders is that chapter 3 of this dissertation raises some hope: If buying (selling) shares based on private information is necessary for one reason or another, insiders should do so when sentiment is low (high). That way, insiders can argue that they traded against market-wide mispricing of publicly available information rather than on private information.30

The findings and implications discussed above are subject to a number of caveats, some of which I will discuss in the following. First, any study that examines insider trading profitability suffers from data limitations that inhibit precise measurement of insider trading profits. Specifically, it is difficult – and oftentimes impossible – to correctly infer the exact holding period for insider transactions. In addition, assessing insider trading profitability requires benchmarks against which to evaluate the raw returns that insider transactions “earn” in order to determine whether these returns are greater than expected given the underlying securities’ risk profiles. Unfortunately, it is not trivial to estimate these expected, or benchmark returns. More specifically, there is little theoretical guidance on what the appropriate risk factors should be. Particularly in the third empirical study of this dissertation, we try to mitigate concerns regarding these issues by using different holding periods and benchmarks to examine insider trading profitability.

Secondly, any study that investigates mispricing, sentiment, or inefficiencies in the stock market is limited by a lack of theoretical models that are general enough to accommodate the various kinds of anomalies that supposedly exist and persist in capital markets (Fama, 1998). In addition, there are alternative – that is other than sentiment-related – rational explanations

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30 I would like to thank Erik Peek for this interesting interpretation of the findings in chapter 3. I hope to examine this issue in the future.
for predictability of stock returns such as time-varying risk aversion. Although Baker and Wurgler (2006, 2007) go to great lengths to carefully construct their investor sentiment index, alternative explanations for any findings related to sentiment or mispricing in capital markets cannot be ruled out entirely.

Third, measuring CEO integrity with publicly available data is obviously a challenging task. However, the measure developed in Dikolli et al. (2013) is theory-based and validated with survey data which together provides assurance regarding its legitimacy.

Given the scope of the three empirical studies conducted, there are many topics related to insider trading that this dissertation does not speak to. For example, this dissertation is silent on the costs and potential benefits of insider trading for outside market participants or the firm that employs the particular insiders. With respect to the former, Jeng et al. (2003) argue that the cost that the average insider transaction imposes on outsiders, that is, those market participants that trade with insiders, is immaterial. It would be interesting to examine what the costs associated with out-of-integrity CEOs’ insider transactions and insider trading scandals are to shareholders. This would be a first step towards establishing the costs of out-of-integrity behavior. Obviously, this immediately triggers the question why companies hire out-of-integrity employees in the first place. Potential answers to this question encompass issues related to adverse selection, potential (short-term) benefits of out-of-integrity behavior, or the intuition that Boards select CEOs based on a variety of personal characteristics. More broadly, it would be worthwhile to examine whether illegal trading by corporate insiders reflects corporate governance failures and is associated with meaningful costs for firms or their board of directors.

Relatedly, there is little evidence on how companies regulate insider trading by their executives and directors to prevent illegal insider trading and insider trading scandals. While Bettis et al. (2000) and Jagolinzer et al. (2011) show that many companies have insider trading policies, it is not clear what drives the adoption and enforcement of these policies. With respect to enforcement, Jagolinzer et al. document that insiders in firms which require General Council approval of insider transactions trade less profitable. However, the requirement of General Council approval is endogenous as is the selection of executives into firms that have stricter insider trading policies. Providing evidence that insider trading policies and other characteristics of firms’ governance systems are simultaneously determined, prior research shows that companies and executives trade off the level of compensation and expected insider trading profits suggesting that firms can save compensation expenses (Roulstone, 2003) and provide higher-powered incentives (Bebchuk and Fershtman, 1994) by implementing laxer insider trading policies. Thus, (potentially illegal) insider trading might indeed provide benefits to companies, which are, hence, confronted with the task of trading off the potential legal costs of insider trading scandals against compensation expenses and incentives.

The above discussion suggests that future research should try to better understand how insider trading policies are imbedded in the system of corporate governance mechanisms. This is problematic, however, given that the concept of corporate governance quality is difficult to grasp, let alone to measure. This dissertation makes no such attempt. The task of relating insider trading and insider trading policies to corporate governance is further complicated by diverging world views on whether current corporate governance practices are efficient or not. Assuming that corporate governance is indeed optimal, the observation that not all firms seem
to have (and enforce) insider trading policies that only allow insider trading in a short time window following earnings announcements suggests that restricting insider trading is not necessarily beneficial to firms. On the other hand, if one holds the view that there is variation in the degree of optimality of corporate governance, one might hypothesize that stricter insider trading policies reflect better corporate governance. For the researcher, the fact that not all firms have implemented homogenous insider trading policies that only allow trading in a short, pre-specified time windows is obviously a good thing. Such restrictive and homogenous insider trading policies would severely limit the questions that researchers could ask (and who would want that?).

This dissertation neither speaks to the trading of “outside” market participants who potentially have access to inside information. It also does not examine corporate insiders “tipping” off outsiders. In view of these two limitations, this dissertation provides a rather narrow view on insider trading. As mentioned in the introduction, there are other market participants who can potentially acquire inside information. Those are auditors, investments bankers, lawyers, and institutional investors such as hedge funds. Many of the insider trading cases that are prosecuted by the SEC involve these groups of market participants rather than corporate insiders. In addition, many of them involve tipping. Hence, a reasonable question seems to be whether corporate insiders have changed their tactics in response to ever tighter SEC regulation: Rather than trading in their own accounts, executives and directors can tip off outsiders, expecting reciprocation or other favors in turn. This behavior is obviously far more difficult to observe by the SEC compared to regular insider transactions by corporate executives who have to file these transactions with the SEC within two business days. The SEC’s investigation into Rajat Gupta (former board member of Goldman Sachs) and Raj Rajaratnam (founder of Galleon) acts as an illustrative example. Unfortunately data on tipping or the trades of investment bankers, lawyers, or even hedge funds are difficult to obtain, restricting research efforts in this area.31

31 Bodnaruk et al. (2009) is a creative exception.