Full length Article

Business strategy, overvalued equities, and stock price crash risk

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ABSTRACT

This paper examines empirically the effect of firm-level business strategies on future stock price crash risk, and the extent to which equity overvaluation moderates this relation. By exploring the extent to which firms following particular business strategies are more or less likely to experience crash risk, we provide evidence that increases our understanding of the underlying determinants of crash risk. Using a composite strategy score developed by Bentley, Omer and Sharp (2013) and applying two variants of crash risk, we document that firms following innovative business strategies (prospectors) are more prone to future crash risk than defenders. We also find that prospectors are more prone to equity overvaluation which, in turn, increases future crash risk.

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1. Introduction

This paper investigates whether firm-level business strategies affect future stock price crash risk. We also test for whether equity overvaluation moderates the association between the two. By exploring the extent to which firms following particular business strategies are more or less likely to experience crash risk, we provide evidence that increases our understanding of the underlying determinants of crash risk and thus help investors in allocating funds to less risky businesses. Interest in investors’ perceptions of crash risk has been increasing, particularly since the 2008 financial crisis. In the advent of the crisis, investors’ lack of confidence and fear of further decreases (crash risk) in prices have been identified among the various culprits behind the dramatic price declines. Thus, understanding what affects investors’ perceived crash risk warrants our research. Crash risk is a vital element in stock returns to investors because, unlike risks emanating from systematic volatilities, it cannot be diversified away (Sunder, 2010).

The extant literature on the underlying reason for crash risk is dominated by the ‘bad news hoarding’ theory, which argues that managerial incentives for withholding bad news for an extended period increases the probability of crash risk. When the accumulation of bad news passes a threshold, it is revealed to the market at once, leading to a large negative drop in price for

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Certain firm-specific characteristics have been examined as increasing crash risk, including opaque financial reporting proxied by accruals and real earnings management (Hutton et al., 2009; Francis et al., 2016); corporate tax avoidance propensity (Kim et al., 2011a), and CEO/CFO equity incentives (Kim et al., 2011b). Interestingly, recent studies (e.g., Bentley et al., 2013; Higgins et al., 2015) show that all of these are determined to a certain extent by the unique business strategies pursued by firms (an antecedent) that remain relatively stable over time (Hambrick, 1983; Snow and Hambrick, 1980). This motivates us to argue that business strategy of the firm has potential to have first order impact on crash risk, a direct economic consequence for investors.

Miles and Snow (2003, 1978) detail three viable business strategies that may exist simultaneously within industries—Prospectors, Defenders, and Analyzers—because of differences in the magnitude and direction of change regarding their products and markets (Hambrick, 1983). Prospectors, being innovation-oriented, change their product market mix rapidly, while defenders compete on the basis of price, service, or quality focusing more on a narrow product base.

Prior research on organization theory has demonstrated that prospectors are plagued with more information asymmetry due to a high level of outcome uncertainty, (Rajagopalan, 1997; Singh and Agarwal, 2002), and a high degree of information asymmetry can provide opportunities for financial misreporting. But Bentley et al. (2013) document that prospectors experience a greater likelihood of financial reporting irregularities despite the apparent increase in auditor effort, who can mitigate information asymmetry by making financial statements more credible.

Bentley et al. (2015) empirically tests one possible explanation for why prospectors continually experience restatements—i.e., due to higher control risk. Specifically, they find that internal controls over financial reporting (ICFR) mitigate the association between strategy and restatements. Hence it is possible that managers and auditors of such firms face greater difficulty in identifying and reporting material weaknesses on a timely basis, allowing the firm to hoard bad news. Furthermore, managers of firms with prospector strategies may be more inclined to hoard bad news, because of (i) executive compensation structure (Rajagopalan, 1997); (ii) a higher propensity for tax avoidance (Higgins et al., 2015); and (iii) exposure to litigation risk. Taken together, we argue that bad news hording propensity associated with prospector strategy makes it more prone to crash risk.

However, extant literature also suggests that prospectors may suffer less from information asymmetry compared to defenders, because of greater analyst coverage and voluntary disclosures that reduces information asymmetry and hence uncertainty about firm value (Bentley et al., 2014; Bushee et al., 2010). Although this perspective suggests that prospectors would be characterized to have a more transparent information environment and hence will be less prone to crash risk. However, as alluded to in the preceding paragraph, the presence of information asymmetry itself is not the dominant reason for more financial misreporting experienced by prospectors. For example, Bentley et al. (2015) suggests that firms following prospector strategy are associated with weaker internal controls.

We then examine whether equity overvaluation mediates the association between business strategy and stock price crash risk. Jensen (2005) argues that overvalued equity creates a form of agency cost that leads managers to engage in value-destroying activities such as managing earnings and committing frauds (Chi and Gupta, 2009; Hounes and Skantz, 2010). Firms following innovator business strategies are more likely to experience equity overvaluation because of (i) overly optimistic expectations about their future growth; (ii) higher outcome uncertainty. Following the arguments that equity overvaluation motivates managers to commit financial misreporting (Jensen, 2005) it follows that crash risk will be higher for prospectors during periods of equity overvaluation.

To examine the association between firm level business strategy and stock price crash risk we employ two measures of crash risk, namely negative conditional skewness (NSKEW) and down-up volatility (DUVOL) measures as our dependent variable and Bentley et al.’s (2013) composite strategy score as our primary independent variable. Bentley et al. (2013) developed a composite strategy score building on earlier influential works by Miles and Snow (1978, 2003). Bentley et al. (2013) used six accounting variables computed using a rolling average over the prior five years to identify firms with different business strategies. A high (low) score is associated with prospector (defender) strategies. Our results show that firms with prospectors business strategy are associated with future stock price crash risk. We also find this effect to be more pronounced during periods of equity overvaluation.

In order to establish that other determinants of crash risk do not subsume the effects of business strategies, we control for some of the other determinants of crash risk including financial misreporting (Hutton et al., 2009; Francis et al., 2016), growth opportunities, analyst following and institutional ownership (Xu et al., 2013; An and Zhang, 2013), and finally audit quality (Robin and Zhang, 2015). The coefficient on STRATEGY with respect to future crash continues to be positive and significant even after controlling for these firm-level internal and external determinants of crash risk.

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1 Chen et al. (2001) test a model in which investor heterogeneity in opinions, coupled with short sale constraints for some investors, leads to stock price crashes. The underlying cause for stock price crashes examined in Chen et al. (2001) is the accumulation of bad news, which is induced by short sale constraints. Extant research, however, considers firm-level incentives for managers to withhold bad news as a likely determinant of crash risk.

2 See Habib et al. (2016) for a review of the empirical literature on crash risk.

3 Additionally the differences in organizational structure between prospectors and defenders also have implications for financial misreporting (Dent, 1990; Langfield-Smith, 1997; Chenhall, 2003). For example, prospectors have higher risk of financial reporting irregularities than defenders because of their decentralized operations and the greater instability and complexity in their organizational structure (Bentley et al., 2013).
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