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Are excess cash holdings more valuable to firms in times of crisis? Financial constraints and governance matters

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A B S T R A C T

This study examines the impact of cash holdings on firm value before and during the 2008 financial crisis, conditional on financial constraints and corporate governance. We show that the equity market places a higher value on corporate cash holdings during the financial crisis and cash holdings are more valuable to constrained firms, compared to unconstrained firms. However, the triple-interaction of cash with constraints and crisis shows the crisis value effect for constrained firms is weaker than for unconstrained firms. Further, the triple-interaction of excess cash with governance and constraints shows that a positive governance effect on corporate cash holdings is more pronounced for firms that are financially constrained.

1. Introduction

Is there a value impact of cash holdings? In a perfect market, with zero transaction costs and no impediments to financing, the level of cash holdings is irrelevant. An imperfect market will allow firms with cash to avoid transaction costs[1] and underinvestment (Keynes, 1936). Conversely, in an agency theoretic framework, holding excess cash will result in a reduction in firm value. Large amounts of cash enable managers to pursue their own interests and invest in potentially negative NPV projects. Hence, in theory there may be a point at which the level of cash held achieves an exact offset between the marginal benefits and costs of doing so. Consequently variation in the level of cash holdings is expected to impact the value of the firm. The key purpose of our study is to assess the impact of cash holdings on firm value. The value impact is analysed in the context of three intervening effects: financial constraints, financial crisis and corporate governance.

Studies that assess the value of cash holdings show that firm's ability to find external financing will impact the results (Faulkender and Wang, 2006). A financially constrained firm is typically smaller, younger and faces greater frictions when accessing external financing (Almeida et al. (2004); Chan et al. (2010)). Cash is therefore of more value to them (Denis and Sibilkov, 2010).

The Global Financial Crisis started in December 2007 and took a sharp downward turn in September 2008, which was characterized as a shock to the supply of credit to all firms (Gorton (2010)). However, some firms were affected more than others. We rely on this unexpected credit shock to investigate the constraint effect on the value of cash holdings. Duchin et al. (2010) show that the financial crisis induced financially constrained firms to rely more on their cash holdings to finance investments. Moreover, based on value-weighted risk-adjusted return for cash-rich and cash-poor firms around June 2007, they demonstrate that firms with more cash holdings outperform. This evidence suggests that cash holdings had a value-enhancing impact on

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[1] The relevance of transaction costs is demonstrated in Kim et al. (1998).

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firm performance during the crisis. However, our study is unique in that it examines the crisis effect on firm value given differential financial constraint status.

Corporate governance has a potentially material impact on the value that shareholders place on cash holdings (Dittmar and Mahrt-Smith, 2007). Poorly-governed firms are more likely to waste cash, whereas firms with good corporate governance ensure a more effective use of their cash savings. During the crisis, when outside equity and debt financing are typically more expensive and difficult to obtain, a better use of cash holdings is expected to increase firm value. Our analyses examines the governance effect on cash holdings during the crisis. We also explore the interactive relation between corporate governance and financial constraints, and in particular their joint effect on cash holdings. In theory, financially-constrained firms rely more on cash holdings to finance their positive NPV projects; and stronger corporate governance ensures firm efficiency over cash deployment. Accordingly, we expect the governance effect on cash holdings is more pronounced for financially-constrained firms.

Our work complements and neatly converges the prior literatures on cash holdings, financial constraints and governance. We investigate the interactive relation between governance, financial constraints and the crisis. We use data covering the period 2002 to 2010, with 2008–2010 being deemed the crisis period, as Kahle and Stulz (2013) state that this time window is well-suited to examine the impact of liquidity shocks. The financial crisis had substantial effects on the U.S. economy, which included an unprecedented number of regional bank failures, the collapse of Lehman Brothers and a large number of runs on financial institutions. Collectively, it all represents a shock to the supply of credit to corporations, which provides us with a unique setting to examine the change of value of cash holdings since cash provides firms with liquidity support at any time. Moreover, we argue that not only did the financial sectors get affected by the crisis, but the non-financial sectors also suffered from induced liquidity constraints (Brunnermeier, 2009).

Following Faulkender and Wang (2006) we examine the unexpected change in cash holdings, modelling annual firm excess return as a function of the change in “excess” cash holdings. The model is assessed for constrained and unconstrained firms and for the quality of corporate governance. We predict that the impact of cash holdings on firm value will be stronger in times of financial crisis, irrespective of whether firms are financially constrained or not. However, given that constrained firms are sensitive to macroeconomic shocks (e.g., Fazzari et al. (1988)), we expect the impact to be more pronounced for constrained firms. Firms with good corporate governance are expected to display a stronger relation between cash holdings and firm value and this relation will be more pronounced if a firm is financially constrained.

In light of Farre-Mensa and Ljungqvist (2015), unique to our study is a “voting method” for determining if a firm is financial constrained. We combine a number of relevant sorting variables to construct a new “amalgam” variable based on the distribution of outcomes of all the standard classification methods, including annual payout ratio, firm size, bond rating, paper rating, life cycle and collateral assets. We consider the relevance of the quality of corporate governance using the E-Index, Executive Compensation and Institutional Ownership as our proxies. Our analysis is extended to account for endogeneity. We also employ a propensity score matching approach, following Campello et al. (2010) and Kahle and Stulz (2013) to match constrained and unconstrained firms, then assess the value of cash holdings across time and for different governance levels.

Our results provide new evidence on the value of cash holdings. In our core finding we show that the equity market places a higher value on corporate cash holdings during the financial crisis. Also, there is some evidence to show cash holdings is more valuable to constrained firms, compared to unconstrained firms in a non-crisis period. The triple-interaction of cash with constraint and crisis effects show a strong negative effect. That is, the crisis value effect for constrained firms is less than that of unconstrained firms. Economically, we show that, in times of financial crisis, an extra dollar of cash is worth about $1 more to a financially unconstrained firm than it does to a counterpart constrained firm. Consistent with our main findings on the crisis value effect, the difference-in-difference matching estimator shows that the constraint effect on the *level* of cash holdings does not become more significant in times of financial crisis.

Further, while the governance effect on corporate cash holdings is unclear in the pre-crisis period, it becomes more pronounced and more positive during the financial crisis. Finally, the triple-interaction of excess cash with governance and constraint effects generally show a positive effect, suggesting that the positive governance effect on corporate cash holdings becomes more pronounced for firms that are financially constrained.

The remainder of our study comprises a brief review of the literature (Section 2); a presentation of the empirical design, including sampling and data (Section 3); followed by a discussion of the results (Section 4). A concluding section summarizes the paper and considers directions for future research.

2. Related Literature

The literature provides four motivations for firms to hold cash. First is the transaction cost motive where cash holdings allow the firm to avoid transaction costs when accessing external markets (Kim et al., 1998). Second is the precautionary motive suggesting that firms can meet unexpected contingencies. Third the agency motive implies entrenched managers retain cash (Jensen, 1986) and finally there is a tax motive (Foley et al., 2007). Investors place a higher value on cash holdings in firms with greater growth opportunities (Pinkowitz and Williamson, 2007). Holding cash allows firms, with more internal liquidity, to reduce their financial distress costs (John, 1993 and Opler and Titman, 1994) and support competitive strategies against industry rivals (Fresard, 2010). The costs of cash holdings include a liquidity premium, Opler et al. (1999); tax disadvantages (Faulkender and Wang, 2006) and agency costs (Jensen, 1986).

Faulkender and Wang (2006) show that the marginal value of cash decreases when the firm's cash level increases.[2] Similarly, shareholders place a lower value on each additional dollar of cash when a firm's leverage increases since the value generated by

[2] Chan et al. (2013) show similar findings by studying Australian companies.