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(A) Working Title


(B) Basic Research Question

How do firms use cash holdings to address refinancing risks?

(C) Key paper(s)


(D) Motivation / Puzzle

• If a firm has long-term debt mostly with shorter maturity, the firm is more likely to face refinancing risk. At the time of refinancing, firms can face higher cost of financing in the form of higher interest rate (Froot, Scharfstein, and Stein, 1993), get rationed amount of loans, which may not be sufficient for the firms’ purpose (Faulkender and Petersen, 2006), or receive far shorter maturity loan than the firms originally apply for (Roberts and Sufi, 2009).
• To mitigate the refinancing risks, firms can opt for policies like holding less total debt (Johnson, 2003).
• Even though firms can increase the level of cash holdings to reduce the refinancing risks, no studies so far test this possibility.

THREE

Cash holdings help firms to mitigate the negative impact of refinancing risks. Firms can use cash holdings instead of selling any key assets to satisfy any debt payments when firms do not get refinancing facilities. However, if a firm keeps less total debt or if a firm faces strong credit market, the degree of refinancing risk becomes lower. As credit lines can be a substitute for cash holdings for financially unconstrained firms (Sufi, 2009), credit lines can also have an impact on refinancing risks and financially constrained and unconstrained firms may respond to refinancing risks differently. However, at the time of higher refinancing risks, firms face difficulty to invest in the available projects. Firms can use cash holdings to avoid any under investment problems. As cash holdings can decrease the negative impact of refinancing risks, firms with shorter maturity debts should have higher market valuation of cash holdings.

Key hypotheses:
Hypothesis 1. Firms use cash holdings to reduce the adverse impact of refinancing risks.
Hypothesis 1a. Firms face lower refinancing risk when firms have less total debt.
Hypothesis 1b. Firms have lower refinancing risk when firms face strong credit market conditions.
Hypothesis 2. Firms with financial constraints have weaker association of cash holdings and refinancing risk.
Hypothesis 3. Firms use cash holdings to reduce underinvestment caused by refinancing risk.
Hypothesis 4. Firms with shorter maturity debt have higher market value of cash holdings.
**F** Data

• Initial sample: The study uses data for only industrial firms incorporated in the US and available in the Compustat. The initial sample covers the period 1980-2008 with 124,372 firm-year observations excluding the utilities and financial firms. The sample considers the observations with nonzero sales and total assets.

• Final sample: After dropping observations with no long-term debt from the initial sample, the final sample consists of 103,806 firm-year observations. In order to examine how debt maturity changes over the sample period, the study uses maturity data of private and public bond issues and bank loans from Mergent Fixed Income Securities Database (FISD) and Dealscan database. For this subset, data are available for the period 1986-2008.

**G** Tools

The study uses the ratio of long-term debt due in three years to total long term debt as the proxy for refinancing risks. The variable to measure cash holdings is the ratio of cash holdings and short-term investments to book assets. As cash policy and debt maturity are inter related and determined jointly, the study uses two-stage least squares (2SLS) method with simultaneous equation framework where standard errors are by doing clustering at the firm level. Control variables for the cash holdings model are selected based on Opler et al. (1999).

**Two key questions**

**H** What's New?

• The study shows that firms’ corporate liquidity policy is influenced by debt maturity.

• This is the first study to examine how refinancing risks induce firms to keep large cash reserves and save more cash out of cash flows.

• The study further shows that refinancing risk influences corporate policies both in crisis and non crisis periods.

**I** So What?

Firms can adjust their cash policy to address the refinancing risks they face. So, the finding of this study is important to understand how firms do trade-off between the costs of holding cash reserves and benefits from the reduction of refinancing risk.

**One bottom line**

**J** Contribution?

There are three specific contributions of this study to the literature:

• The study shows that maturity of long-term debt can influence firm's corporate policies directly and maturity of long-term debt can also be influenced by the corporate policies.

• Unlike the popular agency explanations of increase of cash holdings over the period, this study finds that increase in refinancing risks can explain why US firms hold higher cash reserves over last few decades.

• The study shows that research on the choices of corporate financial policies should consider supply of credit's time variability issues.

**K** Other Considerations

The three key findings of the study are:

• Firms reduce refinancing risks by maintaining large cash holdings and by saving more cash out of cash flows. Thus, US firms’ holding of large cash reserves during the period of 1980 - 2008 can be attributed partly to the increase in refinancing risks.

• Firms having short maturity debt are more likely to have a positive impact of cash holdings on investments.

• Market value of additional dollar of cash holdings is higher for the firms with shorter maturity debt.