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Inflation, operating cycle, and cash holdings

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ABSTRACT

A corporate cash-holding strategy is a trade-off between the costs and benefits of holding cash. At the macrolevel, firms are inclined to adjust and optimize their cash-holding strategies in response to changes in purchasing power due to inflation. At the microlevel, the operating cycle, which indicates the speed and turnover of corporate cash flow, also influences the corporate cash-holding strategy. Firms flexibly adjust their cash-holding strategies in response to changes in the internal and external environment, which is referred to as the cash adjustment strategy. We examine these predicted relationships using a sample of listed firms in China's stock market over the 1998–2009 period. Consistent with our predictions, the empirical results indicate a significant negative association between cash holdings and the CPI, but the relationship is reversed when the CPI reaches a certain level. There is also a U-shaped relationship between operating cycle and cash holdings, and this relationship is similarly influenced by changes in the inflation level. In examining the macroeconomic environment and microlevel firm-specific characteristics simultaneously, our findings supplement the literature on firms' cash-holding strategies and provide theoretical and practical implications.

1. Introduction

A firm's cash-holding strategy determines its fate and future. In an incomplete market, firms tend to hold and accumulate cash for future trading and to mitigate risk (Keynes, 1936). However, holding too much cash can increase opportunity costs, while holding too little can induce shortage costs that disadvantage invest-

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ment. The optimum level of corporate cash holdings is a trade-off between the costs and benefits of holding cash (Opler et al., 1999; Harford, 1999). Increases in inflationary pressure undoubtedly influence the amount and cost of monetary supply, thus affecting the trade-off between the costs and benefits of holding cash. In addition, a firm's operating cycle, which is directly related to the time and speed at which it gains cash, also influences its cash-holding level. By considering both the economic cycle at the macrolevel and the firm-specific operating cycle at the microlevel, this study extends our knowledge of the factors affecting corporate cash holdings under inflation.

Studies on corporate cash holdings discuss the effects of corporate financial conditions, governance systems, capital structures, external financing costs, and so forth on the level of cash holdings. In the financial condition literature, for example, the corporate cash-holding level is found to have a significant relationship with firms' financial features (Xin and Xu, 2006b); a positive relationship with leverage, information asymmetry, corporate age and size, investment opportunities and cash flow changes (Faulkender, 2002); and a negative relationship with corporate size and credit-ratings (Ozkan and Ozkanm, 2004; Wang, 2009). Bates et al., 2008 find that riskier cash flow, decreasing inventory holdings and receivables, and increasing R&D lead to increasing levels of corporate cash holdings in the US. In the corporate governance systems and capital structures literature, Kusnadi (2003) finds that the relationship between cash holdings and board size is positive, whereas the relationship between cash holdings and non-management block-holder ownership is negative. Zhang and Liu (2005) find a negative linear relationship between corporate cash holdings and shareholder protection, dependent on ownership structure. Similarly, Xin and Xu (2006) find that Chinese listed firms with better corporate governance mechanisms have more reasonable levels of cash holdings with less cash redundancy or shortages. Chen and Chuang (2009) find that CEO ownership, risk investment, and the number of independent directors also have a strong effect on cash policy. Faleye (2004) examines the relationship between takeover defenses and cash holdings from a control-rights market perspective and finds that the more cash firms hold, the more bidders they face in a takeover bid. Studies on the external financing environment also report important findings. For example, firms with greater growth opportunities and those that find it more risky and more difficult to enter the capital market hold more cash (Opler et al., 1999). A firm's financial restraints policy plays a decisive role in its cash holdings (Wang, 2009). The monopoly power of banks (Pinkowitz and Williamson, 2001) and past financing difficulties (Faulkender, 2002) also have important effects on cash holdings. Some studies find that diversified enterprises hold less cash compared with those in the same industry (Subramaniam and Tang, 2010). Firms are likely to hold more cash to help smooth R&D expenditure but face financing frictions (Brown et al., 2010).

In contrast, recent research on corporate cash holdings focuses on the macrolevel or medium level, including political, economic, legislative, and industry-environment factors. In a cross-country comparison, Pinkowitz et al. (2006) finds that firms in countries with low levels of investor protection and more political risk tend to hold more cash. Firms facing financing constraints increase their cash holdings during economic recession periods and raise their liquidity levels during credit crunch periods (Custodio et al., 2005). The increase in tax costs due to differences in tax rates between countries also contributes to increases in the proportion of cash holdings of multi-national corporations (Titman et al., 2004). Some studies examine the specific macroenvironment in China. In China's weak institutional environment, firms that face high financing constraints can gain higher yields with high-level cash-holding policies (Zhou and Xie, 2007). In China's specific institutional and governance environment, the judgments made by Chinese enterprises and their agents regarding the costs and benefits of cash holdings may be different or distorted, which may affect their cash-holding decisions (Gu and Sun, 2009). Cash holdings vary with the tightening of monetary policies. During periods of monetary contractions, firms that grow rapidly will increase their cash holdings to reduce external financing constraints and thus meet the future demand for investment (Zhu and Lu, 2009). Viewed from an industry competition and market characteristics perspective, a firm's cash-holding level is the equilibrium outcome of the corporate financing, investment, and market environment. Enterprises tend to hold more cash as a precautionary measure to maintain their market share and reduce the risk of being exploited (Haushalter et al., 2007). Competition intensity and life-cycle stage also have significant effects on cash-holding levels (Zhang and Zhang, 2009). Higher levels of cash holdings enable enterprises to benefit from market share segmentation and competition in the future, especially in the face of financing constraints and fierce competition (Fresard, 2010).