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Cross-country analysis of secular cash trends

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ABSTRACT

This study documents a pronounced secular upward trend in cash holdings which is almost systemic across seven industrialized countries over 1991–2008, with France exhibiting a modest rise and Japan a substantial decline. However, the driving forces underlying the cash pattern are not uniform across countries. While the evolution in firm characteristics necessitated elevated cash balances, the time-varying firm attributes explain the cash trend only in Canada, France, UK and the US. The agency motive plays a role in the rise in cash balances in Germany. Our analysis highlights that the functioning of the financial system is crucial to corporate cash policy as Australia's cash pattern is driven by shallow private credit markets that curbed cash reserves earlier on and the decelerating cash trend in Japan is ascribed to financial reforms. While there is a degree of commonality in the determinants of cash policies, we find some divergence in cash practices.

1. Introduction

Corporate cash holdings account for a significant part of corporate assets in US balance sheets and are indispensable for corporate operations. Large cash holdings held by corporations have recently received increasing attention from both the financial press and academia. As of September 2009, the cash to assets ratio of the largest 500 non-financial US corporations has risen to 9.8%.[1] For instance, Google Inc. is flush with a cache of $22 billion in liquid assets accounting for an astounding 58% of its assets while the information technology sector as a whole is reported to hold 27% of assets in cash reserves.[2] In their recent work, Bates et al. (2009) find that US firms more than doubled their cash holdings in the past three decades. They attribute this astonishing rise in cash to enhanced precautionary demand for cash spurred by changing firm attributes and not due to agency conflicts.

The aim of this study is to investigate whether this large footprint of cash holdings observed in US corporate balance sheets is systemically shared by other industrialized countries or whether the cash pattern observed in the US is an isolated phenomenon. In essence, we evaluate the extent to which US findings carry over to a broader sample of firms in other industrialized countries. If this cash pattern is ubiquitous, what prompted these changes? And are these levels of cash justifiable? If firms unjustifiably increase cash balances, the wealth loss to shareholders due to mismanagement of cash can be substantial when cash represents an increasingly higher portion of corporate assets. We extend the literature to the international setting by examining evidence on secular trends in corporate cash holdings for seven major industrialized countries (the United States, Canada, the United Kingdom, Germany, France, Japan and Australia) over the period 1991–2008. As such, this study is primarily exploratory in nature rendering this paper's approach akin in spirit to a number of studies that focus on cross-country comparisons for various corporate issues such as financing patterns (Rajan and Zingales, 1995) and dividend payout changes (Denis and Osobov, 2008), to name a few.

Even though our sample countries are homogeneous in economic development, they vary in institutional structures (such as shareholder rights, capital system orientation and the development of financial markets). The extent to which other industrialized countries do not exhibit similar cash pattern to the US can speak to the relevance of institutional structures in equally developed countries. To the extent that sample countries experience similar time trends to the US, but with different underlying motivations, they enhance our understanding of the determinants

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[1] Federal Reserve Bank data for 2009 indicates that corporate cash holdings are roughly 15% of US GDP.

[2] See The Wall Street Journal, November 2, 2009 (Companies are stockpiling cash) and The Economist, July 7, 2006 (The corporate savings glut).

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of cash practices. Finally, if sample countries share similar secular trends and driving forces behind it, our results serve as an out-of-sample test of the US findings.

In addition, the use of international data allows us to provide tests of the role of agency motives in corporate cash balances. The free cash flow argument posits that managerial opportunism can lead to stockpiling of cash at the expense of shareholders. Elevated cash levels facilitate managerial overinvestment inclinations and consumption of perquisites, in addition to insulating managers from external monitoring by capital markets. To date, there is little evidence that corporate cash hoardings in the US are motivated by managerial opportunism. Ozkan and Ozkan (2004) document weak evidence that the quality of corporate governance is negatively related to cash level in the UK. While prior research on international cash holdings (e.g., Pinkowitz et al., 2006; Dittmar et al., 2003) addresses the question of whether countries with poor investor protections in aggregate suffer from agency problems in liquidity decisions, they do not investigate whether the managerial agency motive is behind secular trends in cash holdings in a specific country.

For a sample of 167,601 firm-year observations covering seven countries, our study contributes to the literature by documenting a long-term dramatic upward trend in corporate cash balances in Canada, Australia, Germany, UK and US over a sample period spanning 18 years from 1991 to 2008. France posts the smallest increase in cash holdings while Japan experiences a pronounced decline. The situation in Japan differs from other countries because its powerful banking sector extracted rents by forcing Japanese firms to hold large cash balances during the 1980s. Our results demonstrate that Japanese firms' cash reserves reached a more economically based level in the 2000s.

The increase in cash holdings in all countries is accompanied by pronounced leverage declines indicative that firms in sample countries do not finance the increase in liquid assets with additional debt. In addition, our analysis reveals that during the last two decades a shift has occurred in corporate investments away from expenditures on capital stock and working capital and into R&D investments. This change, combined with the fact that sample firms exhibit higher risk attributes over time, appears to have necessitated reduced leverage and accumulations of cash. In a nutshell, our findings reveal a pronounced convergent evolution of firm attributes in these industrialized countries.

Using different strategies, we document compelling evidence that the secular cash pattern is explainable by the time-varying firm attributes for some countries—revealing that US, UK, Canadian and French firms exhibit a *declining*—not increasing—time trend in cash reserves after accounting for changing firm attributes. This implies that the documented build up in cash holdings does not necessarily constitute excess cash in these countries. Japanese firms, induced by financial reforms, exhibit even deeper cuts in their cash balances. However, for Australia and Germany, the time-varying characteristics explain only a portion of the upward trend in cash.

Further tests indicate German firms with poor growth opportunities hold positive excess cash over time, suggesting an agency motive in the secular cash pattern. Other evidence related to the value of an additional dollar of cash confirms the agency motive in Germany. The evidence for Australia suggests that the upward cash pattern is due to shallow capital markets during the early period in our study which rendered corporate cash holdings inadequate early on. These findings establish that the functioning and development of the financial system are central to our understanding of corporate cash policy. In sum, although the phenomenon of upward cash trend documented for the US is shared by Australia and Germany, the causes that provoked the higher demand are not uniform across countries.

The paper is structured as follows. First, we discuss the literature background in Section 2. The sample construction and data description are detailed in Section 3. The empirical results on the secular cash trends are provided in Section 4. Section 5 describes the results from analysis of the economic determinants of corporate cash holdings while Section 6 explores the determinants of upward cash trend and examines whether changing firm attributes and other factors explain the secular change in cash. Section 7 concludes.

2. Literature background

The financial economics literature offers a number of rationales for holding liquid assets, the earliest of which is the need to conserve on the cost of converting nonfinancial assets into cash, commonly referred to as the transaction cost motive. According to this rationale, firms that are more likely to incur higher transaction costs are expected to maintain higher cash balances. Liquid assets are also employed for precautionary reasons to meet the needs of the firm when it faces unanticipated contingencies. However, accumulating high levels of cash reserves can exact a price, the most notable of which is the low rate of return on cash relative to investments in real assets. The conventional trade-off view holds that the firm will optimize its holdings by balancing the marginal costs of investing in low return liquid assets against the marginal costs of being short of funds.

Recent research advances more nuanced reasons to hold cash by positing that being short on cash can be costly if it forces the firm to forego valuable investment opportunities due to costly external financing. Under this framework, firms with greater information asymmetry and more difficult access to external funds are more likely build cash reserves for investment flexibility purposes, thus escaping the underinvestment problem. Cash may also be accumulated for strategic purposes so the firm can swiftly deploy funds to pre-empt the competition (Baskin, 1987) and to avoid predatory risk in concentrated industries (Haushalter et al., 2007) while firms subject to higher financial distress costs hold more cash to reduce the likelihood of financial trouble (John, 1993). A number of researchers show that firms amass cash reserves to safeguard against future liquidity shocks. In particular, cash holdings have been found to be positively related to external financing costs and cash flow volatility (Kim et al., 1998; Opler et al., 1999) and are used as a hedge against future cash flow volatility (Lins et al., 2010). Further, Almeida et al. (2004) point out that only financially constrained firms exhibit inclinations to invest cash out of cash flow to hedge against changes in the expected value of future cash flow.

Large cash holdings can exact a price in the form of the managerial discretion problem. As the most liquid asset, cash can be easily converted into private benefits. Accordingly, entrenched managers may stockpile cash to facilitate overinvestment inclinations and consumption of perquisites, as well as to avoid external monitoring from capital markets. Because cash is at the most risk to be misused, liquid assets provide a unique opportunity to investigate agency conflicts between managers and shareholders. The empirical evidence, thus far, on the connection between agency conflicts and cash holdings is mixed. While Dittmar et al. (2003) study shows that firms in countries with poor shareholder rights hold more cash and Oswald and Young (2008) find that managerial incentives alignment is important in stimulating cash payout through share repurchase, Opler et al. (1999), Harford et al. (2008), and Bates et al. (2009) do not find evidence that the agency motive drives corporate cash policy in the US. Another line of literature examines the value of cash and finds that investors discount the value of cash