



# Stock market liquidity and the decision to repurchase <sup>☆</sup>

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## ABSTRACT

We examine the impact of stock market liquidity on managerial payout decisions. We argue that stock market liquidity influences payout policy through a first-order effect on the share repurchase decision, and a second-order or residual effect on the dividend decision. Managers compare the tax and flexibility advantages of a repurchase against its liquidity cost disadvantage. All else equal, higher market liquidity encourages the use of repurchases over dividends. Our empirical results confirm that stock market liquidity plays a significant role in repurchase and dividend initiations, as well as in recurring payout decisions. Unlike previous studies that measure liquidity changes following the repurchase decision, we examine liquidity levels prior to the payout decision. We show that managers condition their repurchase decision on a sufficient level of market liquidity, consistent with Barclay and Smith's [Barclay, M.J., Smith, C.W. Jr., 1988. Corporate payout policy: cash dividends versus open-market repurchases. *Journal of Financial Economics* 22, 61–82.] theoretical analysis and Brav et al.'s [Brav, A., Graham, J.R., Campbell, R.H., Michaely, R., 2005. Payout policy in the 21st century. *Journal of Financial Economics* 77, 483–528.] CFO survey results. Repurchases have recently become the payout decision of choice in part because of rising stock market liquidity.

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## 1. Introduction

Managers establish payout policy by selecting the level, timing, and composition of cash remittances. Recent research has shown that while the level and timing of aggregate cash flows have changed relatively little since the 1970s, the composition of these payouts has changed significantly. The level of aggregate cash payouts has remained constant at roughly 3–5% of equity value (Allen and Michaely, 2003), and managers have persistently paid dividends at regular quarterly intervals. In contrast, the composition of corporate payouts has grown from a repurchase-to-dividend ratio of 8.44% in 1972 to 113.11% in 2000 (Grullon and Michaely, 2002). The shift towards repurchases is not only meaningful in percentage terms. During the five-year period ending in 2000, managers repurchased over \$846 billion of their companies' equity (Grullon and Michaely, 2002). This striking transformation in payout policy has attracted considerable interest among academics, regulators, and practitioners. Although it is unlikely that any single variable can fully account for all of these empirical regularities, we argue that stock market liquidity plays a significant role in explaining changes in the composition of corporate payouts.

In contrast to payout policy irrelevancy under perfect capital markets, real-world managers operate in a business environment characterized by asymmetric information, incentive problems, and transaction costs. Under these conditions, alternative payout policies have a direct impact on the firm's cost of capital and market value.<sup>1</sup> Value-maximizing managers will search for the payout

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<sup>1</sup> DeAngelo and DeAngelo (2006) argue that payout policy is relevant to firm value even in perfect capital markets.

mechanism that minimizes the sum of transaction, incentive, and information costs. When market liquidity is low, managers are more reluctant to repurchase shares and reduce float because their market transactions could increase the price impact of trading — and survey evidence shows that managers are aware that price impact matters to investors (Brav et al., 2005). Managers are also reluctant to repurchase shares when liquidity is low because their trading activity could impact transaction costs by widening bid–ask spreads (Barclay and Smith, 1988). Thus, we hypothesize that managers will prefer repurchases to dividends when stock market liquidity is relatively high. We further posit that stock market liquidity will have a direct impact on repurchases and a residual impact on dividends through the substitution effect described in Grullon and Michaely (2002). This analysis suggests one important channel through which a firm's market microstructure can influence its corporate decisions (Lipson, 2003).

Barclay and Smith (1988) treat the level and timing of payouts as predetermined and examine why managers prefer one payout mechanism over another. Managers attempt to maximize firm value by minimizing the total cost of cash distributions. Although tax advantages appear to favor share repurchases over dividends, Barclay and Smith (1988) show that repurchases also induce higher asymmetric information costs. When managers announce repurchase programs, uninformed investors realize that they are exposed to a higher probability of trading against informed insiders. This realization impairs the firm's information environment and results in higher liquidity costs. Dividend payments, on the other hand, do not increase the probability of trading against informed managers and therefore do not increase liquidity costs.

A direct consequence of this analysis is that managers consider the liquidity of the stock in making the decision about the form of the payout. We refer to this hypothesis as the liquidity hypothesis of repurchases. One testable implication of this hypothesis is that the firm's current liquidity level will significantly influence subsequent payout choices. Previous studies have examined the effect of the current payout decision on subsequent changes in liquidity (e.g., Miller and McConnell, 1995; Brockman and Chung, 2001; Cook et al., 2004). While these studies provide useful results about the consequences of repurchases, the purpose of this study is to examine the determinants of repurchases.

A second testable implication of our liquidity hypothesis is that market liquidity will have a stronger impact on repurchase decisions than on dividend decisions. In a related study, Banerjee et al. (2007) examine the impact of stock market liquidity on dividend policy. Although their dividend hypothesis yields some observationally-equivalent predictions, our results suggest that stock market liquidity has a first-order effect on the repurchase decision and a residual effect on the dividend decision. High levels of liquidity allow managers to benefit from the tax and flexibility advantages of repurchase programs — and dividends decline as a consequence.

Consistent with our central claim, Brav et al. (2005) provide evidence based on financial executive surveys and interviews that supports our liquidity hypothesis of repurchases. Managers express a keen awareness that their “stock price would decrease if the overall liquidity of the stock were to fall” (pp. 515–516). In addition,

One-half of firms feel that the liquidity of their stock is an important or very important factor affecting their repurchase decisions (Table 8, row 4). Interview discussion clarifies that the executives think that reduced liquidity can hurt their stock price because demand for a stock falls if investors think that their trades would move the stock price. Therefore, a company would restrict repurchases if it feels that doing so would reduce liquidity below some critical level.

Managers are clearly concerned that repurchase decisions can impair their firms' market liquidity, and that any such impairment would reduce market values. In contrast, managers do not appear to condition their dividend decisions on stock market liquidity. They describe the role of liquidity in dividend decisions as “not important.” Our empirical findings fit these survey and interview results very closely. Stock market liquidity influences payout policy primarily through the repurchase decision.

We conduct empirical tests of the liquidity hypothesis of repurchases using company payout data from 1983 to 2006. We divide our empirical analysis into two main sections corresponding to payout initiation decisions and ongoing payout decisions. Similar to Skinner's (2008) results, we find that there are two main groups of corporate payers: firms that make repurchases only, and firms that make both repurchases and dividend payments. The latter group consists of large, mature firms that have a history of paying dividends. There is also a much smaller group of firms that make dividend payments only. We provide separate analyses for each of these groups.

In our payout initiation analysis, we show that repurchase-initiating firms are significantly more liquid than non-initiating firms. We find that dividend-initiating firms are generally less liquid than non-initiating firms, although the dividend-initiating results are not as robust or economically significant as their repurchase-initiating counterparts. These differential results corroborate the claim that the repurchase decision is more sensitive to stock market liquidity than the dividend decision. Our findings also verify that, given a payout initiation, the probability of a repurchase increases with the liquidity of the initiating firm. We use alternative measures of liquidity, including multiple control variables, and mitigate endogeneity concerns by using the current period's liquidity measure to explain the subsequent period's payout decision. Overall, our payout initiation results provide support for the liquidity hypothesis of repurchases.

After confirming that liquidity plays a significant role in payout initiations, we test its explanatory power in ongoing payout decisions. We find that the size of the repurchase increases significantly with the stock market liquidity of the repurchasing firm. Parallel to the initiation results, we find that the size of the dividend generally decreases with the liquidity of the dividend-paying firm, although these results are again weaker than their repurchase counterparts. We also show that the repurchase portion of a firm's total payout is an increasing function of the firm's market liquidity. That is, stock market liquidity helps to

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