AGENCY COSTS OF FREE CASH FLOW AND

CONDITIONAL CONSERVATISM

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CHAPTER I

INTRODUCTION

This dissertation investigates whether agency costs in the context of Jensen's free cash flow theory will generate demand for conservative financial reporting from shareholders. Jensen's free cash flow theory states that consumption of private benefits by managers, and in turn, the agency conflict between stockholders and management, is expected to be larger in firms that are operating in industries with limited growth opportunities and are generating large amounts of free cash. These are referred to as "J-type" firms. Previous studies document that when companies are prone to overinvestment, the agency costs of free cash flow cause investors to discount the value of cash, thus lowering firm value. However, appropriate monitoring mechanisms can effectively mitigate the loss of firm value. Prior studies suggest strong corporate governance (Dittmar, Mahrt-Smith, and Servaes, 2003; Pinkowitz and Williamson, 2007; Dittmar and Mahrt-Smith, 2007), and enhanced disclosures such as periodic performance reports (Kanodia and Lee, 1998) or geographic earnings disclosures (Hope and Thomas, 2008) as potential mechanisms that restrict the available resources for overinvestment or align the interests between shareholders and managers.

In this dissertation, I focus on one aspect of firms' reporting practices, namely conservative reporting, as an alternative monitoring device over opportunistic managerial behavior in the presence of the agency problem of free cash flow. Accounting conservatism is characterized as the use of stricter standards for recognizing bad news as losses than for recognizing good news as gains. Recent conservatism literature distinguishes conditional conservatism from unconditional conservatism. Conditional conservatism involves the more timely recognition of bad news than good news, while unconditional conservatism involves the predetermined understatement of the book value of net assets that often occurs with the immediate expensing of the costs of most intangibles (Ryan, 2006). The widely held view indicates only conditional conservatism facilitates contracting efficiency, not unconditional conservatism (e.g., Ball and Shivakumar, 2006). [1] Throughout this dissertation, I focus on conditional conservatism, which I simply refer to as "conservatism" in this dissertation.

Firms with conservative reporting recognize economic losses from sluggish projects quickly, which serves as a timely signal for shareholders to examine the reasons for losses. Accordingly, the need for conservative reporting is expected to be intensified in firms prone to overinvestment. Although researchers primarily investigate corporate governance as a monitoring mechanism that controls management' actions and moderate the potential manager-shareholder conflict, governance structures are not designed ex-ante optimally to mitigate agency problems, and are not very responsive to demands arising from stakeholders (Richardson, 2006). Unlike corporate governance that changes slowly over time, the literature provides evidence that conservatism has rapidly evolved

[1] More detailed explanation of the distinction between conditional and unconditional conservatism is summarized in the prior literature section.

in response to the needs of information users, and reflects managers' assessments of the impact of periodic economic events in preparing financial statements (Watts, 2003a; Holthausen and Watts, 2001; LaFond and Roychowdhury, 2008; LaFond and Watts, 2008; Beatty, Weber, and Yu, 2008). In other words, conservatism is a versatile and demand-responding corporate reporting practice. Under more conservative financial reporting, shareholders might be assured that the company's liquidity is well under control and that managers are less likely to attempt to expropriate their wealth.

The extant literature recognizes several benefits associated with conservative reporting. For example, conservative reporting reduces adverse moral hazard problems in the presence of information asymmetry and agency costs associated with low managerial ownership (LaFond and Watts, 2008; Roychowdhury and Watts, 2007), and provides early warning signals of weak corporate governance (Ahmed and Duellman, 2007). Among various benefits associated with conservative reporting, the most relevant to this study is the role of conservative reporting in deterring managers with short-term horizons from investing in negative NPV projects. This is because under conservative reporting, the recognition of losses from such investments is less likely to be deferred into the future, and ex-ante knowledge that future losses in cash flows will be recognized in income in a timely manner provides disincentives for self-serving managers who might otherwise undertake negative NPV projects (Ball and Shivakumar, 2006). An emerging literature documents that conservative reporting is associated with more efficient acquisitions and divestitures, and this benefit is more pronounced among firms bearing high agency costs (Francis and Martin, 2010; Garcia Lara, Garcia Osma, and Penalva, 2010, Ahmed and Duellman, 2010). By improving ex-ante efficient investment decisions and facilitating

ex-post monitoring of managers' investment decisions, conservatism is expected to help safeguard the company's resources, and in turn help protect the value of the firm and the wealth of shareholders in the presence of agency costs of free cash flow. Thus, shareholders of J-type firms would demand higher conservatism than shareholders of non J-type firms as a protection from possible managerial expropriation. Because I am interested in contracting issues for which conditional conservatism is more relevant than unconditional conservatism, my goal in this dissertation is to assess the relation between agency costs of free cash flow and conditional conservatism, not overall conservatism. Consistent with this prediction, my findings suggest that firms bearing greater agency costs of free cash flow incorporate losses in a more timely manner relative to gains. In other words, J-type firms exercise more conservatism in reporting in response to shareholder concerns over potential agency problems.

I further test whether the observed relations between J-type firms and earnings timeliness measures are affected by various other channels which could influence the agency costs of free cash flow. For example, when firms with substantial free cash flow issue debt, increase dividends or repurchase stock, free cash flow available for overinvestment is lower, reducing the agency problems associated with free cash flow. Under this circumstance, shareholders are less likely to demand conservative reporting as an additional control mechanism. Conversely, if firms choose to stockpile free cash flow for an extended period of time, the agency costs of free cash flow may increase, in turn, generating more demand for conservative reporting from shareholders. I find that debt issuance, dividend payments and corporate governance effectively serve as monitoring measures, thus reducing the demand for conservatism as an additional monitoring device, while repurchasing stock is not strongly related to conservatism. Also, results generally

indicate that J-type firms which persistently hold onto a large amount of excess cash report more conservatively than their counterparts. Furthermore, I find that J-type firms with greater reporting conservatism are less likely to overinvest in the future. Ex-post manifestation of overinvestment is determined based on the deviation from the normal level of investment (overall, capital and acquisition expenditures) from Biddle, Hillary, and Verdi (2009)'s investment regressions.

Findings from this research provide additional evidence on the relationship between shareholder-manager agency conflicts and conservative accounting policies. Most prior studies focus on the demand for conservative reporting from the lender's perspective. These studies note that timely loss recognition results in early violations of debt covenants, allowing lenders to minimize risks by restricting the actions of managers (Ahmed, Billings, and Morton, 2002; Zhang, 2008). However, agency costs also arise from circumstances other than debt contracting or compensation contracting because even in the absence of these formal accounting-based contracts, the firm's share price and, in turn, the wealth of managers and shareholders are affected by financial statements.

Despite a growing volume of research on the importance of equity market demand for conservatism (e.g., LaFond and Watts, 2008 ; LaFond and Roychowdhury, 2008 ; Francis and Martin, 2010), the most widely held view indicates that demand for conservative reporting primarily arises from lenders and debt markets rather than shareholders and equity markets.[2] My study aims to add additional evidence on the demand for conservatism from the shareholders' perspective by investigating whether the agency costs of free cash flow are associated with accounting conservatism.

[2] For example, Ball, Robin and Sadka (2008) compare reporting practices of different countries where the importance of equity markets and insider monitoring varies. They fail to find evidence that shareholders generate a demand for conservatism from their cross-country setting.

This study is different from Biddle, Ma, and Song (2011) who document that conservatism mitigates a firm's operating cash flow (OCF) from deviating below expected OCF (OCF downside risk) by timely informing stakeholders of bad news and emerging risk conditions. First, although their study also explicitly examines the relationship between cash flow and conservatism, they focus on the risk of holding too little cash (group of firms that may face liquidity constraints) while my study examines the risk of holding excessive cash (group of firms that have agency costs of free cash flow). Second, they focus on the consequences of conservatism that lead to lower OCF downside risk, while my study focuses on the sources of conservatism that is potentially related to agency costs in the presence of ex-ante high amounts of free cash flow. However, my study does not contradict their study because both studies view holding essential amounts of cash as necessary.

This study also differs from existing literature in the way I measure the severity of agency costs of equity. Prior literature classifies firms having high agency costs of equity based on firms' choice variables, such as managerial ownership and board characteristics. Conservatism may be endogenous product of these variables since managers and boards implement financial reporting, thus affecting financial reporting quality. To identify potentially high agency costs, this study uses the amount of free cash flow, which is relatively exogenous with respect to firm's reporting choices. Therefore, this study examines a more direct link as to how shareholders' concerns for potential managerial opportunism affect the firms' reporting incentives and affect the degree of reporting conservatism. Additionally, unlike the majority of studies in the free cash flow literature that use the amounts of free cash flow or cash holdings alone as a proxy for the severity

of agency costs of free cash flow, my proxy precisely captures the essence of Jensen's free cash flow hypothesis by considering free cash jointly with industry growth options.[3] Also my proxy offers substantial variance across firms as well as within firms over time, allowing for a powerful statistical test.

The results from this study may be of interest to standard setters for two reasons. First, despite the multiple benefits associated with conservatism, the recent FASB and IASB conceptual framework project states that conservatism is no longer considered a desirable qualitative characteristic of accounting information (See IASB 2006a, ¶BC 2.19 to BC2.22; FASB 2010, ¶BC 3.27 to BC3.29). Instead the FASB and IASB promote 'neutrality', which in their view is a necessary condition to faithfully represent reality and a more desirable quality of financial statements. They argue that when accounting standards are designed deliberately to introduce a conservative bias in financial reports, there would be inevitable loss of useful or relevant information content, that is, the marginal cost of conservatism. Critics of conservatism also claim that conservatism facilitates earnings management (e.g. taking big baths), impairing informational value in the financial statements (Levitt, 1998; Penman and Zhang, 2002).

When determining the optimal level of conservatism, shareholders are expected to balance the expected marginal benefit and cost of conservatism. In terms of the implications of conservatism for investment behavior, the benefit of conservatism is to curb overinvestment by providing disincentives to managers to pursuing negative NPV projects, while the cost of conservatism may potentially be underinvestment. When managers are required to provide more conservative reports, they may underinvest to

[3] A proxy that is solely based on the amount of free cash is not sufficient to segregate firms with high agency costs of free cash flow from firms that are likely to invest high free cash in economic projects in the future.

avoid privately costly effort into screening good investments and responsibility for oversight of undertaken projects. Roychowdhury (2010) argues that since risky projects are more likely to become negative projects, requiring more timely recognition of loss can also cause risk-averse managers to avoid risky projects even though those projects have positive NPV to shareholders. My study identifies an economic context, agency costs of free cash flow, where benefits of conservatism are likely to exceed costs of conservatism, and provides additional evidence on why conservatism is an important financial reporting attribute by highlighting the role of conservatism in monitoring corporate managers and mitigating agency concerns.

Second, by providing free cash as value-relevant information for investors, my study suggests that regulators need to take actions to help investors understand free cash better. The primary measure of this study is the amount of free cash, a non-GAAP disclosure item. Although the term free cash is widely used, it is not defined uniformly in practice. Adhikari and Duru (2006) examine free cash flow disclosures contained in 10-K and 10-Q filings and find that free cash flow definitions vary widely due to the lack of a standardized format. This study suggests that free cash is value-relevant information that investors use to assess their risk of managerial expropriation. This finding can encourage regulators to take actions to enhance investors' understanding of free cash by providing potential guidelines for firms preparing free cash flow statements to ensure comparability of free cash-related information across firms.

The results of this dissertation also have implications for financial reporting quality. There is a widely held view indicating that financial reports that are responsive to the demands of information users are transparent and efficient, and that the quality of

financial reporting is directly related to the success of capital markets. By showing that conservative reporting responds to shareholders' demand, I provide evidence that the capital markets exert sufficient pressure on firms, consistent with the view that financial reports exist to facilitate contracting to some extent. The remaining parts of the dissertation are organized as follows. Chapter II summarizes related prior studies. Chapter III presents my main hypotheses. Chapter IV discusses empirical proxies, and empirical model specifications. Chapter V reports results and Chapter VI concludes.

CHAPTER II

PRIOR RESEARCH

2.1. Agency costs of free cash flow and corporate governance

The inherent conflict between shareholders and managers due to the separation of ownership and control and the agency costs that arise from shareholders' inability to monitor managerial action have been well established in the literature (e.g., Jensen and Meckling, 1976). Based on this argument, Jensen (1986) develops the agency costs of free cash flow hypothesis, suggesting that monitoring difficulty by shareholders over opportunistic managerial behavior creates the potential for managers to spend internally generated cash flow for their own benefit, rather than for maximizing firm value. Consistent with this hypothesis, the extant literature finds that larger free cash leads to more severe agency problems. For example, Harford (1999) finds that cash rich firms are more likely to make value destroying acquisitions. Furthermore, he finds that the market reaction to the announcement of a takeover bid is negatively related to the amount of excess cash holdings of the bidder. Opler, Pinkowitz, and Stulz (1999) find that firms with excess cash tend to spend more on capital expenditures and acquisitions, even when they have poor investment opportunities. Faulkender and Wang (2006) find that a dollar of cash, on average, is valued by the market below par ($0.94), and the marginal value of

cash declines with larger cash holdings, higher leverage, and better access to capital markets.

As a remedy for agency problems of free cash flow, researchers primarily emphasize the role of corporate governance.[4] Prior research finds that firms with poor governance arrangements are more likely to invest excess cash reserves in less productive assets. In a cross-country study, Pinkowitz, Stulz, and Williams (2006) demonstrate that in the presence of agency costs of free cash flow, cash holdings are valued at a discount and this firm value discount is even more pronounced in countries where investor protection is weak, thus shareholders have limited power to discipline management. Dittmar and Mahrt-Smith (2007) show that the value of excess cash of US firms is positively related to firm-level monitoring, measured by the G-score developed by Gompers, Ishii, and Metrick (2003) which is an inverse measure of firm-level shareholder rights or external corporate governance. They further find that operating performance of firms that draw down their large excess cash reserves is significantly diminished when the firms are poorly governed. In a US setting, Harford, Mansi, and Maxwell (2008) similarly examine how corporate governance influences the way firms spend their excess cash. They find that poorly governed firms (lower G-score or higher insider ownership) with excess cash invest sub-optimally.

Recent research recognizes the benefits of conservative reporting in alleviating the managerial agency problem. These studies find that conservative reporting can mitigate the value discount associated with large cash holdings by encouraging more efficient use of cash (Louis, Sun, and Urcan, 2009), and benefit investors in the form of

[4] Corporate governance is the set of mechanisms in place to safeguard the assets of the firm and ensure the effective use of the assets and ultimately to prevent the inappropriate use of these assets by corporate insiders, especially managers, at the expense of shareholders (Shleifer and Vishny, 1997).

more efficient investment (Garcia Lara et al., 2010; Ahmed and Duellman, 2010). If shareholders understand these benefits associated with conservatism, they may demand more conservative reporting in the presence of agency costs of free cash flow when the firm value is likely to be destroyed by managerial opportunism.

2.2 Reporting conservatism and the agency problem

The most common way to minimize agency costs is through contracts that align the interests of all involved parties. Generally these types of contracts are based on accounting numbers (Watts and Zimmerman, 1990), which creates incentives for managers to accelerate the recognition of gains by managing earnings or using aggressive accounting methods. Because conservatism understates reported earnings and managers' compensation is often tied to earnings numbers, conservative reporting can provide a mechanism to resolve the agency conflicts between managers and shareholders.[5]

Recent literature distinguishes between two different types of conservatism, namely, conditional and unconditional conservatism. Unconditional conservatism is an accounting measurement bias that is not affected by economic news. A commonly cited example of unconditional conservatism is the immediate expensing of all R&D irrespective of the probabilities of success of the underlying R&D projects and immediate expensing of the cost of internally generated intangible assets. By contrast, conditional conservatism is contingent on the sign of the shock to firm value or economic news.

[5] Watts (2003a) asserts that "as long as the reported financial numbers inform investors about managerial performance and affect investors' asset allocation decisions and managers' welfare, *a priori* appear neutral accounting will be significantly biased and noisy in practice." When managers have the means and opportunity to waste their shareholders' resources (when there is greater agency costs of free cash flow), shareholders perceive that marginal benefits associated with conservatism, curbing overinvestment, exceed marginal costs, a possible underinvestment problem.

Conditional conservatism involves firms writing down the book value of net assets in a timely fashion upon receiving bad news but not writing up net assets as quickly upon receiving good news.

How both types of conservatism are interrelated is still on debate. For example, Beaver and Ryan (2005), in their study to examine the interactions between conditional and unconditional conservatism, provide evidence that the two types of conservatism are substitutes in reducing income and equity because with unconditional conservatism, the probability that there is an unrealized loss in an accounting period decreases. On the other hand, Basu (2005) asserts that two types of conservatism have different costs and benefits to different parties, and that these cost-benefit tradeoffs influence the choice between the two types of conservatism in different circumstances, and hence, the two types of conservatism should not be viewed as benign substitutes. Similarly, Ball and Shivakumar (2006) argue that from a contracting perspective, rational investors are not likely to demand the downward bias caused by unconditional conservatism because if this bias is of known magnitude, then decision makers are likely to simply reverse the bias when they contract. Ball and Shivakumar (2006) also point out that unconditional conservatism is typically mandated and regulation-driven, whereas conditional conservatism requires decision makers to form judgments about future unrealized economic outcomes. In line with this, Ryan (2006) also suggests that unconditional conservatism is an ex-ante commitment to adhere to certain accounting practices, whereas conditional conservatism is triggered by bad news and hence responsive to demands from stakeholders. Consistent with this view, conditional conservatism, not unconditional conservatism, appears to be a component of efficient contracting that restricts management's opportunistic reporting

behavior, which can also respond to shareholders' demands promptly. Accordingly, I investigate the relationship between agency costs of free cash flow and subsequent conditional conservatism.

A large body of literature examines how conservatism relates to debt contracting. For example, Zhang (2008) finds that conservatism improves contracting efficiency by providing more timely signals of default risk to lenders. Beatty et al. (2008) find that when lenders are likely to have a relatively high demand for conservatism, the borrower prepares more conservative reports. However, without formal contracting, agency conflicts between shareholders and managers can be resolved via the use of conservative accounting.

An emerging thought in the accounting literature is that the degree of conditional conservatism varies both cross-sectionally and over time (Khan and Watts, 2009). In line with this, LaFond and Roychowdhury (2008) find that when agency problems as measured by the decline in managerial ownership increase, conditional conservatism increases. Similarly, LaFond and Watts (2008) find that the information asymmetry caused by firm-specific investment opportunities, or growth options, is associated with conditional conservatism because conditional conservatism can serve as a partial solution to the agency problems arising from information asymmetry between managers and shareholders.

Several recent papers examine the direct relationship between conditional conservative reporting and investment efficiency. Francis and Martin (2010) test whether conservatism, defined as timely loss recognition, helps managers to make better acquisition decisions. They find that acquisition decisions by more conservative reporters

have more positive announcement returns, and this positive relationship is more pronounced for firms with higher ex-ante agency costs. Ahmed and Duellman (2010) similarly find that firms with more conservative reporting have higher future profitability, and argue that the benefit of conservative reporting allows managers to uncover poorly performing projects on a timely basis. In a similar vein, Garcia Lara et al. (2010) find that firms that report conservatively are less likely to make suboptimal investments. The improved investment efficiency under accounting conservatism is attributable to the more timely recognition of losses relative to gains, which in turn penalizes managers who make poor investment decisions during their tenure. Hence, conservative reporting limits investments in negative NPV projects ex-ante and triggers early abandonment of poorly perform projects ex-post.

Overall, the literature indicates that conditional conservatism responds to demands from firms' stakeholders, and high agency costs generate higher demands for conservatism from shareholders. Also firms obtain more benefits from conservative reporting when ex-ante agency costs are expected to be high.

CHAPTER III

BACKGROUND AND HYPOTHESIS DEVELOPMENT

In this chapter, I develop hypotheses of the relationship between the severity of agency costs of free cash flow and subsequent conservatism. The main hypothesis, H1, tests if conservatism is an equilibrium response by shareholders to reduce agency costs arising from free cash flow. The main hypothesis is then substantiated by examining if potential factors that may affect the severity of agency costs of free cash flow, namely firms' debt (H2), payouts to shareholders (H3), cash retention policy (H4) and corporate governance (H5), change the demand for conservatism among firms that are subject to greater agency costs associated with free cash flow. The last hypothesis (H6) tests if conservatism among J-type firms provides economic benefits in the form of less likelihood of overinvestment in subsequent periods.

3.1. Agency costs of free cash flow and conservatism (H1)

Prior research posits that managers, in the absence of monitoring, may invest resources unproductively to the detriment of shareholders (Jensen and Meckling, 1976; Jensen, 1986). To curb the managerial tendency to transfer corporate resources to themselves, Jensen (1986, 2005) emphasizes the importance of control systems. Many studies argue that conservative accounting is a part of firms' control systems to reduce

this opportunistic managerial behavior and maximize firm value (e.g., Watts and Zimmerman, 1990; Watts, 2003a; Ball and Shivakumar, 2006). While corporate governance is a part of corporate culture and thus exhibits little variation over time, conservative reporting is hypothesized to react more promptly to the information demand from shareholders (LaFond and Watts, 2008).

Unlike in a debt contracting setting where conservatism is an efficiency-enhancing mechanism that complements debt covenants to mitigate lender's concerns about uncompensated risk and loss of contracted sum (Zhang, 2008), there is no such formal contracts between shareholders and managers. Other than shareholder litigation which is ex-post in nature and very costly, there is not a particular action that shareholders can take when managerial expropriation is likely to occur. [6] Given that managers have a short-term incentive to overstate current earnings and expectations of future cash flows in order to increase their compensation, agency costs of free cash flow may increase demand for more efficient contracting ex-ante.

To the extent that conservatism reduces the agency concerns associated with free cash flow problems, shareholders are expected to demand more conditional conservatism from "J-type" firms, namely those firms that are operating in industries with limited growth opportunities and are generating large free cash. Thus, the first hypothesis (stated in the alternative form) is the following:

[6] Once paid, excess compensation to managers is extremely hard and costly to recover, especially when managers leave the firm. Also, ex-post settling with managers is likely to be incomplete due to the difficulty associated with assessing the deadweight costs generated when managers' efforts to transfer wealth to themselves divert their attention from their primary job, increasing firm vale. Also, there is a usually a limit to the socially acceptable penalty amount (LaFond and Roychowdhury, 2008).

H1: *Firms that have limited growth opportunities and are generating large free cash (J-type firms) have more conditional conservatism than firms that have high growth opportunities and are generating small free cash (Non J-type firms).*

3.2. The effect of debt on conservatism among J-type firms (H2)

According to Jensen (1986), debt is likely to reduce agency costs associated with free cash flow because the required payments under debt contracts reduce the available cash flows that managers can exploit. Moreover, the obligation to make the interest and principal payments motivates managers to use a firm's cash more efficiently. Debt also signals a manager's willingness to pay out future cash flows and be monitored by lenders and the debt capital market. Several papers examine the overinvestment problem by investigating the relation between growth opportunities and excess cash and leverage, and find consistent evidence that firms with an ex-ante overinvestment problem (e.g., potentially high agency costs of free cash flow) use relatively more debt as a disciplining device (McConnell and Servaes, 1995; Lang, Ofek, and Stulz, 1996). In an international setting, Harvey, Lins, and Roper (2004) argue that debt mitigates the free cash flow problem in emerging markets, where overinvestment agency costs are potentially extreme.

While demands for conservatism increase with leverage due to the increased demands from debtholders, this argument is not likely to be applicable to firms with high free cash. Debtholders of firms with less free cash may prefer earnings numbers that provide them with a credible signal of distress and help them take remedial actions earlier, generating more conservatism.[7] However, firms with large free cash are less likely to

[7] Firms with little free cash are often start-up companies with rapid growth. Although their capital requirement is high, their access to the capital market may be limited or at least costly due to uncertain business prospects and no credit history. Hence, shareholders would view free cash of firms that have little free cash, thus have limited access to external financing as a value-increasing response to costly external financing rather than the agency costs of free cash flow. Assuming firms with less free cash flow are

suffer from financial distress, thus changes in leverage within a reasonable range (to the extent that leverage does not severely alter the bankruptcy probabilities or credit ratings of the firm) would not significantly affect lenders' demands for conservatism. In other words, among J-type firms, decreased equity holders' demands for conservatism due to the added disciplining role of debt are likely to exceed the increases in debtholders' demands for conservatism due to increased leverage. In sum, high leverage reduces agency costs of free cash flow for J-type firms, and thereby reduces shareholders' demands for conservative reporting as an additional control mechanism.[8]

H2: *J-type firms that have a smaller amount of debt will have more conditional conservatism than J-type firms that have a larger amount of debt.*

3.3. The effect of payouts policies on conservatism among J-type firms (H3)

Cash distributions to shareholders in the form of dividend payouts or stock repurchases decrease resources under management control and thereby reduce the incentive for wasteful investment and increase firm value. Given the modest growth potential for J-type firms, investors would expect cash distributions from J-type firms. Dividends tend to become a long-term commitment once declared by the board, effectively bonding managers to pay out future cash flows, and thus alleviate the free cash problem. The negative market reaction to announcements of dividend decreases is consistent with the agency costs of free cash flow hypothesis (Jensen, 1986). Similarly,

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financially constrained firms, empirical evidence also suggests that the value of cash is greater in financially constrained firms than in financially unconstrained firms (Faulkender and Wang 2006; Pinkowitz et al. 2006).

[8] However, debt itself can generate agency costs. Due to their limited liability, managers of a levered firm tend to overinvest and choose too risky and often negative NPV projects. This leads to asset substitution (Jensen and Meckling, 1976). If this effect dominates, demand for conservatism would increase with leverage in firms with high free cash flow.

Lang and Litzenberger (1989) find that the average return in response to announcements of sizable dividend changes is larger for overinvesting firms than for value maximizing firms. In the context of stock repurchases, Grullon and Michaely (2004) find that the market reaction to repurchase announcements is stronger for firms that are more likely to overinvest. Based on this evidence, committing to paying out future free cash to investors in the form of dividends or stock repurchases is a possible way to decrease the likelihood of shareholder wealth expropriation, reducing the need for conservative reporting as an additional control mechanism.[9]

H3: *J-type firms that distribute a smaller amount of cash to shareholders (either in the form of dividends or stock repurchases) will have more conditional conservatism than J-type firms that distribute a larger amount of cash to shareholders.*

3.4. The effect of the cash retention policy on conservatism among J-type firms (H4)

The agency costs of free cash flow of J-type firms can be greater if the firm retains excess cash for an extended period of time. Although some evidence indicates that holding excess cash is a policy that persists over time (Opler et al. 1999), many studies examining the value consequence of large cash holdings only focus on a policy choice at a point in time. According to Dechow, Richardson, and Sloan (2008), retained cash results in sustained future declines in returns on assets due to a combination of diminishing marginal returns to new investment and overinvestment. Contrary to the findings that temporary holdings of large balances of cash impair shareholders' value

[9] Although shareholders are likely to demand less conservatism for firms that increase debt and dividends, and initiate repurchases, alike, the relative effect of payouts in reducing agency costs of free cash flow would depend on the need for financial flexibility and the severity of agency costs of free cash flow. More mandatory form of payout would decrease agency problems more effectively. Consequently, debt may be better than a dividend payout and a dividend payout may be better than repurchase in reducing the free cash flow problem.

(Blanchard, Lopez-de-Silanes, and Shileifer, 1994; Harford 1999; Faulkender and Wang, 2006), Mikkelson and Partch (2003) find that persistent cash holdings facilitate growth and investments. However, their sample firms are small and fast growing, which likely find it optimal to maintain high cash levels due to limited external financing options. Given limited growth prospects for J-type firms, cash reserves are more likely to provide managers with investment flexibility, expand managers' perks, and allow managers to avoid the discipline of capital markets rather than maximize the value of the firm. Accordingly, I predict that when J-type firms visibly hold cash in excess of their needs on a persistent basis (defined as three years), shareholders are likely to demand conservatism as an additional control mechanism to protect their wealth tied to the value of the firm.

H4: *J-type firms that persistently hold large excess cash have more conditional conservatism than J-type firms that do not persistently hold large excess cash.*

3.5. The effect of corporate governance on conservatism among J-type firms (H5)

Although there is no well established theory that explains the relationship between corporate governance and conservatism, a large number of empirical findings suggest that these two are closely related. According to this literature, corporate governance and conservative reporting can be either substitutes or complements. Some studies posit that governance facilitates the implementation of more conservative reporting. For example, Beekes, Pope, and Young (2004) and Ahmed and Duellman (2007) find that firms with a higher proportion of outside directors recognize bad news in earnings on a more timely basis in a U.K. and U.S. setting, respectively. In a similar vein, Garcia Lara, Garcia Osma, and Penalva (2009) document that stronger governance leads to more conservative accounting choices, and not vice versa, indicating that governance

and conservatism are not substitutes. Conversely, there are studies that advocate that conservatism can substitute for corporate governance, predicting a negative relation between conservatism and corporate governance. For example, Bushman and Piotroski (2006) find that when earnings timeliness is low, boards adopt stronger governance mechanisms as a substitute for high-quality accounting information. Callen, Guan, and Qiu (2010) find that after the passage of state anti-takeover laws, which they view as an exogenous shock that weakened external corporate governance, conservatism significantly increases.

In sum, empirical evidence predicts both positive and negative associations between corporate governance and conservatism. Weak corporate governance structures are expected to generate a higher contracting demand for conservatism among shareholders. On the other hand, well-governed firms would favor the implementing of conservative reporting as opposed to aggressive reporting, and thus are more likely to exhibit greater accounting conservatism. Because convincing arguments can be made for either increased or reduced conservatism, I set up the following non-directional hypothesis with respect to the impact of corporate governance on conservatism among J-type firms.

H5: *The strength of corporate governance will affect the magnitude of conditional conservatism among J-type firms.*

3.6. The effect of conservatism on future investment efficiency among J-type firms (H6)

The last hypothesis is concerned with the economic consequence of greater conservatism in J-type firms with respect to their subsequent investment behavior. I conjecture that for firms facing greater agency costs of free cash flow ex-ante,

shareholders demand greater conservative reporting to be protected from possible overinvestment associated with the free cash flow problem. Thus, the ideal economic consequence associated with conservative reporting would be a decrease in overinvestment ex-post. Francis and Martin (2010) use subsequent divestitures as a measure for the ex-post success of an acquisition, and find that firms with greater conservatism are less likely to divest ex-post. Biddle et al. (2009) find financial reporting quality, measured by accruals quality and financial disclosure transparency, is positively related to investment efficiency in a way that firms with better reporting quality are less likely to over- or under invest. In the same spirit, given that the importance of conservative reporting is even more pronounced for J-type firms due to its ability to address agency issues, the above predictions about financial reporting quality on the firm's investment efficiency can be similarly applied in the context of agency costs of free cash flow. Accordingly, I expect that J-type firms with more conservative reporting use their cash more efficiently, as manifested by lower likelihood of overinvestment.

H6: *J-type firms with more conditional conservatism are less likely to overinvest ex-post than J-type firms with less conditional conservatism.*

CHAPTER IV

RESEARCH DESIGN

Data are obtained from Compustat and CRSP for firms listed in the US stock markets (including NYSE, NASDAQ and AMEX). I exclude firm years that are affected by recent liquidity shock. To determine EXCASH, I calculate the 10-year standard deviation of cash flow to proxy for industry cash flow volatility, which restricts the sample to the 1970 to 2006. In calculating FCF, cash flow data are directly obtained from cash flow statements. This limits the sample to 1987 to 2006 when FCF data are used to partition firm types. Sample sizes vary across regression specifications due to the data availability. I primarily use Basu (1997)'s asymmetric timeliness coefficient from the reverse regression model where current fiscal earnings is regressed on fiscal year buy-and-hold returns to assess the association between the magnitude of agency costs of free cash flow and the extent of subsequent conservatism. I use pooled ordinary least square (OLS) regressions and Fama-MacBeth (FM) regressions to test the hypotheses. When pooled OLS regression models are used, standard errors corrected for cross-sectional and time-series dependence based on two-way industry (Fama-French industry classification scheme with 48 industries) and year clustering (37 years) following Petersen (2009) are reported. When Fama-MacBeth regressions are used, I use the mean coefficients across

37 annual cross-sectional regressions over the period 1970- 2006 with related t-statistics corrected for autocorrelation using the Newey-West procedure. Each hypothesis is tested separately as well as simultaneously to identify joint effects of each factor on conservatism among firms subject to high agency costs of free cash flow.

4.1. Measures of agency costs of free cash flow

To determine "J-type" firms, free cash and growth potential need to be computed. Free cash (FREECASH) is thought of as the cash left after necessary and pre-committed expenses and investments. I measure free cash as lagged FCF or EXCASH (at time *t-1*), divided by beginning of the fiscal year assets (Compustat #6). A more detailed description of these calculations is in Appendix 1:

(1) Free cash flow approach: Following Richardson (2006), I calculate free cash flow as free cash flow from existing assets in place (CF_{AIP}) minus expected investment (I_{new}) on new projects. To reflect cash flow beyond what is necessary to maintain assets in place, discretionary spending is added back, and necessary spending is deducted. Based on the assumption that firm value (P) can be decomposed into value of the assets in place (V_{AIP}) and the value of growth opportunities (V_{GO}), the expected investment on new projects (I_{new}) is calculated by using the residual income framework. P (stock price) is observable in the market, and V_{AIP} is derived from the Feltham and Ohlson (1996) model, and the resulting V/P ratio is the proxy for growth potential. Investment expenditure is regressed on the V/P ratio along with other determinants of investment decisions, such as leverage, firm size, firm age, the level of cash, past stock returns, prior firm level investment, and

industry and year dummies, and the fitted value from this regression is used as a predicted level of investment (I_{new}).

(2) Excess cash approach [10] : Excess cash is measured following Dittmar and Mahrt-Smith (2007). They develop a model based on the work of Opler et al. (1999), to capture excess cash by deducting a predicted level of cash from total cash holdings for each company using a regression model of total cash on variables that proxy for legitimate reasons why firms hold cash. More specifically, their model factors in various reasons for firms to hold cash, such as needs for day-to-day operations, precautionary financial slack in anticipation of new investment opportunities to reduce external financing costs, and firm-specific reasons.

In order to classify firms I must identify growth opportunities, but there is no consensus on the most reliable measure for growth. Accordingly, this study gauges firms' growth opportunities with the most widely used proxy for growth opportunities, Tobin's Q. [11] I use lagged Tobin's Q (at time *t-1*) as a growth measure. Since value-maximizing firms are expected to invest as long as the market value of the firm is greater than the book value of the firm, Tobin's Q proxies the investment opportunities shareholders observe, thus is particularly suitable to the objective of this study.

I split the sample into J-type and non J-type firms based on two free cash measures, free cash flow (FCF) from Richardson (2006) and excess cash (EXCASH)

[10] This can be understood as an extension of Jensen's free cash flow hypothesis. In theory, the effect of an extra dollar of funds on increasing shareholders' concerns over managerial opportunism should be the same, regardless of whether it enters the firm this period as cash flow or whether it was present in the firm at the beginning of the period as cash holdings.

[11] Alternatively, I employ the industry-adjusted Tobin's Q ratio equal to Tobin's Q minus the median Tobin's Q in the industry, where industry is defined by Fama and French's (1997) 48 industry classifications. I also employ the industry-adjusted sales growth calculated as the 2-year geometric average of the annual percentage sales growth minus the median industry sales growth. The results are unchanged in these specifications.

from Dittmar and Mahrt-Smith (2007), and one growth measure, Tobin's Q, using two ways of partitioning, median or quartile. I average a firm's FCF, EXCASH, and Tobin's Q each year for all firms in Compustat, and calculate the median and quartile values of FCF, EXCASH, and Tobin's Q across the Fama-French (1997) 48 industry classification to obtain the industry median for each industry. Industry is defined by the Fama and French 48 industry classification. I construct the dummy variable, *AGENCY*, to represent "J-type firms". For example, when the median cutoff is used, the *AGENCY* dummy is set to 1 for firm years with more than the median FREECASH and less than the median GROWTH in a given industry, and set to 0 otherwise. When the quartile cutoff is used instead, *AGENCY* is assigned a value of 1(0) for firm years with FREECASH that falls within the upper (lower) quartile and GROWTH that falls within the lower (upper) quartile in a given industry.

4.2. Measures of Conservatism

To test the association between agency costs of free cash flow and conservatism, I use two measures of conservatism suggested by Basu (1997). The first measure is used for the main analyses, while the second measure is used for robustness checks.

(1) Reverse regression model: This model focuses on how good and bad economic news, measured by market returns, is asymmetrically associated with accounting earnings. Under conservative reporting, stock returns and earnings would reflect economic losses in the same period, while stock returns reflect gains earlier than earnings. Basu (1997) regresses annual earnings on concurrent annual stock returns to investigate the extent to

which economic news (unrealized gain/loss) is reflected to earnings conditional on news being positive or negative.

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \varepsilon_t \qquad (1A)$$

where NI_t is net income before extraordinary items (Compustat #18) divided by beginning of fiscal year market value of equity (Compustat #199*Compustat #25). R_t is 12-month compound returns ending 3 months after the end of fiscal year. Following Basu (1997), buy-and-hold annual returns are calculated to end 3 months after the fiscal year-end to remove the market response to the previous year's earnings from the current economic news. D_t is an indicator variable equal to one if R_t is negative, and 0 otherwise.

Here, the coefficient α_2 measures the timeliness of gain recognition while the coefficient α_3 measures the incremental timeliness of loss recognition. Therefore, $(\alpha_2+\alpha_3)$ measures total timeliness of loss recognition. The relative timeliness of loss recognition to gain recognition, α_3, is the main variable of interest in this study. A positive α_3 implies greater conservatism, meaning losses are recognized more quickly than gains.

(2) Asymmetric reversion model: Several papers recognize the limitation of Basu's (1997) reverse regression model as it measures economic news using stock returns, which may also capture information not reflected in earnings. As an alternative, Basu (1997) suggests a second measure based on earnings changes. He argues that persistence of earnings is another way to view the timeliness of earnings. Under more conservative reporting, future periods' earnings are protected from current bad news while the effects of current good news will be spread over several periods' earnings in the future as gains are realized. In other words, negative earnings changes will be less persistent than positive earnings changes.

$$\Delta NI_t = \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_{t-1} + \beta_3 DNI_t \Delta NI_{t-1} + \varepsilon_t \quad (1B)$$

where ΔNI_t is the change in net income before extraordinary items for fiscal from year t-1 to year t, scaled by market value of equity at the end of year t-1, DNI_t is an indicator variable equal to one if ΔNI_{t-1} is negative, and 0 otherwise.

A negative coefficient β3 is consistent with negative earnings being less persistent and thus more conservative. This model does not employ stock returns as a measure of news, and is thus less subject to criticism (Gigler and Hemmer, 2001; Givoly, Hayn, and Natarajan, 2007). The use of the asymmetric reversion model as a robustness check has increased in the literature (see for example, Chung and Wynn, 2008; Goh and Li, 2011).

4.3. Empirical models

4.3.1. Free cash and demand for conservatism (tests of H1 through H5)

To test H1, I expand the baseline Basu (1997) models (Equation 1A and 1B) by including the *AGENCY* dummy variable, interacted with *D, R,* and *D*R* with firm level control variables that are commonly used in the conservatism literature. To parse out the demand for conservatism attributable to agency costs of free cash flow, I also control for other sources of conservative reporting. Khan and Watts (2009) note that firm-specific conservatism varies through cross-sectional variations in the firm specific characteristics, namely market to book (*M*B), leverage (*LEV*), and market value of equity (*SIZE*). Thus, control variables include *MB*, *LEV* and *SIZE*, which are also interacted with *D*, *R*, and *D*R*. These control variables have been widely used in the conservatism research, and shown to capture variation in the information opportunity set, which is closely related to demands for conservatism. These control variables are all measured at

the end of fiscal year t-1. All variables are ranked annually and sorted into deciles, and then this decile ranking is scaled by nine so that the rank variable falls within the zero-to-one interval. The use of ranked variables is prevalent among researchers in conservatism studies to mitigate measurement error. Pooled cross-sectional OLS regression models and Fama-MacBeth (1973) regressions are estimated over the test periods. I employ the following model:

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + Controls + \varepsilon \quad (2A)$$

$$\Delta NI_{t+1} = \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_t + \beta_3 DNI_t \Delta NI_t + \beta_4 AGENCY_{t-1} + \beta_5 DNI_t AGENCY_{t-1} + \beta_6 \Delta NI_t AGENCY_{t-1} + \beta_7 DNI_t \Delta NI_t AGENCY_{t-1} + Controls + \varepsilon \quad (2B)$$

where $AGENCY_{t-1}$ is a dummy that is set to 1 for firm-years with more than the industry median (or quartile) free cash and less than the industry median (or quartile) growth, and set to 0 otherwise. Each company is assigned to one of 48 industry groups defined in the Fama-French 48 industry classification. Control variables include *MB*, *LEV*, and *SIZE*: *MB* equals to the scaled decile rank of the market-to-book ratio (Compustat #199 * Compustat #25/Compustat #60) at the end of the fiscal year t-1. *LEV* is the scaled decile rank of total debt (Compustat#9 + Compustat #34) divided by total assets (Compustat #6) at the end of the fiscal year t-1. *SIZE* is the scaled decile rank of the natural log of market value of equity (Compustat #199 *Compustat #25) at the end of the fiscal year t-1. All other variables are as previously defined.

Market to Book (*MB*) is included to account for the demand for conservatism arising from information asymmetry associated with firm's growth options as well as unconditional conservatism (LaFond and Watts, 2008). High *MB* firms tend to have more

growth options relative to their assets-in-place, thus entails more agency costs, which implies a positive relation between *MB* and conservatism. *MB* also indicates the litigation costs because they increase managers' incentive to recognize losses quickly relative to gains to minimize litigation risk. However, empirical results do not always provide a positive relation between *MB* and conservatism, possibly because greater unconditional conservatism reduces subsequent conditional conservatism. [12] The more expenditure is expensed immediately, the less remains that can be written down later (Beaver and Ryan, 2005). Consistent with this, a negative association between conditional conservatism and unconditional conservatism has been documented by previous studies (Givoly et al., 2007; Roychowdhury and Watts, 2007). Additionally, Roychowdhury and Watts (2007) argue that the negative relation between *MB* and conservatism is due to the 'buffer problem' that occurs due to prior unrecognized increases in nonseperable assets such as intangibles reducing the necessity to recognize assets value losses, creating a negative relation between ending and beginning *MB*. Thus, no prediction is made for the sign of *MB*.

Leverage (*LEV*) controls for the debtholders' demand for conservatism. Lenders are likely to value conservatism because conservative financials provide a timely signal of changes in default risk, enabling lenders to mitigate their downside risk. *LEV* is expected to be positively related to conservatism. *SIZE* is expected to be negatively related to conservatism because large firms likely have a richer information environment, which may reduce the demand for conservative reporting.

[12] The literature on unconditional conservatism takes a *MB* ratio as a manifestation of conservative reporting because it captures the magnitude of understatement of book assets relative to net assets (see for example, Feltham and Ohlson, 1996). Basu (2005) and Ball and Shivakumar (2006) argue that greater unconditional conservatism results in a lower intercept term, α_0 from Equation (2A), reflecting lower average earnings. Thus, if any, variations in unconditional conservatism with the magnitude of agency costs of free cash flow will be captured and controlled in the coefficients on *AGENCY* and *D*AGENCY* from Equation (2A).

Beaver, Landsman, and Owens (2008) find that OLS standard errors in the estimation of Basu (1997)'s reverse regression are significantly inflated by industry and time clustering. To address this concern, I use standard errors corrected for cross-sectional and time-series dependence based on two-way industry (Fama-French industry classification scheme with 48 industries) and year clustering (37 years) following Petersen (2009) when using OLS regression models. [13] Even though cross-sectional correlation is reduced by using clustered standard errors at the firm level, the cross-sectional correlation, both among firms in the pooled sample and within industries is still a concern. To control for cross-sectional dependence among firms and to ensure the robustness of my results, I estimate average coefficients using Fama-MacBeth annual cross-sectional regressions. With the Fama-MacBeth regression procedure, above regression models are estimated independently for each year and across all the firms. Then, the Fama-MacBeth procedure averages the cross-sectional slope coefficient and tests if the average is statistically significantly different from zero.

The coefficients α_7 and β_7 from Equation 2A and 2B, respectively, measure the incremental level of conservatism for high agency costs of free cash flow relative to low agency costs of free cash flow. Thus, to be consistent with H1 that J-type firms report more conservatively than non J-type firms, I expect the coefficient estimate for α_7 from Equation 2A and β_7 from Equation 2B to be significantly positive and negative, respectively.

[13] More specifically, cluster-robust t-statistics are estimated using the two way cluster-robust variance-covariance matrix, calculated as the sum of the industry and year one-way cluster-robust variance-covariance matrices minus the cluster-robust variance-covariance matrix for one-way clustering based on the intersection of industry and year.

To test H2 through H5 separately as well as simultaneously, if other factors that reduce or increase the ex-ante agency costs affect the relative importance of conservatism in the presence of the free cash flow problem, I employ the above expanded Basu's regression models along with other variables of interest identified from each hypothesis above (X) and their interaction terms with D, R, and D*R. When *DIST_D,* defined as a dummy variable that is set to 1 if the firm has a leverage ratio above the industry median and 0 otherwise, is tested in the model, I remove *LEV* from the control variables because these two variables capture the same attribute. A detailed variable description is presented in Appendix 2:

$$\begin{aligned} NI_t =& \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t * AGENCY_{t-1} \\ &+ \alpha_6 R_t * AGENCY_{t-1} + \alpha_7 D_t R_t * AGENCY_{t-1} \\ &+ \sum_{i=1}^{5} (\alpha_{8,i} X_{t-1} + \alpha_{9,i} D_t X_{t-1} + \alpha_{10,i} R_t X_{t-1} + \alpha_{11,Ii} D_t R_t X_{t-1}) \\ &+ \sum_{i=1}^{5} (\alpha_{12,i} AGENCY_{t-1} * X_i + \alpha_{13,i} D_t AGENCY_{t-1} * X_i + \alpha_{14,i} R_t AGENCY_{t-1} * X_i \\ &+ \alpha_{15,i} D_t R_t AGENCY_{t-1} * X_i) + Controls + \varepsilon \end{aligned} \quad (3A)$$

$$\begin{aligned} \Delta NI_{t+1} =& \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_t + \beta_3 DNI_t \Delta NI_t + \beta_4 AGENCY_{t-1} + \beta_5 DNI_t * AGENCY_{t-1} \\ &+ \beta_6 \Delta NI_t * AGENCY_{t-1} + \beta_7 DNI_t \Delta NI_t * AGENCY_{t-1} + \sum_{i=1}^{5} (\beta_{8,i} X_{t-1} + \beta_{9,i} DNI_t X_{t-1} \\ &+ \beta_{10,i} \Delta NI_t X_{t-1} + \beta_{11,i} DNI_t \Delta NI_t X_{t-1}) + \sum_{i=1}^{5} (\beta_{12,i} AGENCY_{t-1} * X_i \\ &+ \beta_{13,i} DNI_t AGENCY_{t-1} * X_i + \beta_{14,i} \Delta NI_t AGENCY_{t-1} * X_i \\ &+ \beta_{15,i} DNI_t \Delta NI_t AGENCY_{t-1} * X_i) + Controls + \varepsilon \end{aligned} \quad (3B)$$

where $X_1 = DIST\_D_{t-1}$, $X_2 = DIV_{t-1}$ $X_3 = REPUR_{t-1}$, $X_4 = PERS_{t-1}$, and $X_5 = GOV_{t-1}$. $DIST\_D_{t-1}$ proxies for the control function of debt to reduce free cash flow that can be misused by managers. It is a dummy variable equal to 1 if the firm has above the industry median leverage ratio, calculated as total debt (Compustat#9 + Compustat #34) divided by total assets (Compustat #6) at the end of the fiscal year t-1, and 0 otherwise. DIV_{t-1} is a

dummy variable equal to 1 if the firm's dividend ratio relative to earnings (Compustat #21/Compustat #237) at the end of the fiscal year t-1 is above the industry median and 0 otherwise. $REPUR_{t-1}$ is a dummy variable equal to 1 if the firm's ratio of repurchases relative to earnings (Compustat #237) at the end of the fiscal year t-1 exceeds the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Compustat #115) minus stock issuance (Compustat #108) at the end of the fiscal year t-1. $PERS_{t-1}$ captures the firm's ongoing policy of managing cash reserves. To distinguish firms with unusual cash holdings at a point in time from those that persistently retain large amounts of excess cash, I define firms holding large amounts of excess cash for each of the prior three years as persistent cash holders. This variable is determined in two ways. *PERS* is coded 1 if (1) a firm has the ratio of cash and cash equivalents to assets in excess of 0.25 for the past three years (from fiscal years t-4 to t-2) following the approach of Mikkelson and Partch (2003) or (2) its EXCASH is ranked in the top 2 deciles within its industry for the last three years (from fiscal years t-4 to t-2). GOV_{t-1} is a governance dummy based on whether the firm has above or below the industry median of either the G-score by Gompers et al. (2003) or E-index by Bebchuk, Cohen, and Ferrell (2009) at the end of the fiscal year t-1. In all variables, Fama-French 48 industry classifications are employed to compute the industry medians. The *AGENCY* variable and control variables are as defined previously.[14]

[14] Instead of using continuous value, all the independent variables are defined as dummy variables. Given the lack of *a priori* knowledge to identify the threshold value to assess the effectiveness of each proposed measure that can moderate the need of conservatism, using industry medians to partition the data appears reasonable. It can also avoid the imposition of linearity on the effectiveness of each moderating measure in reducing agency costs. Using a dummy variable simplifies the task of interpreting the results, and reduces measurement errors. Also note that using dummy variables only works against finding the results because this approach reduces variances of independent variables, weakening the statistical power.

H2 predicts that the relative importance of conservatism in reducing agency costs of free cash decreases with leverage. Since the control function of debt in forcing managers to pay out fixed amount of free cash in the future is expected to reduce agency costs of free cash flow in firms with potentially high agency costs of free cash flow, the shareholders' demand for conservatism as an additional control function would be less important among J-type firms. Thus the coefficient of D_tR_t *$AGENCY_{t-1}$* $DIST\_D_{t-1}$ from Equation 3A is expected to be negative. On the other hand, the coefficient of $DNI_t \Delta NI_t$ *$AGENCY_{t-1}$ * $DIST\_D_{t-1}$ from Equation 3B is expected to be positive.

Similarly, H3 predicts the coefficients on D_tR_t *$AGENCY_{t-1}$ *DIV_{t-1} and D_tR_t *$AGENCY_{t-1}$ *$REPUR_{t-1}$ from Equation 3A to be negative and the coefficients on DNI_t ΔNI_t *$AGENCY_{t-1}$ * DIV_{t-1} and $DNI_t \Delta NI_t$ *$AGENCY_{t-1}$ * $REPUR_{t-1}$ from Equation 3B to be positive, meaning that all else equal, among firms that are subject to high agency costs of free cash flow, increases in payouts in the form of dividends and stock repurchases would reduce the demand for conservatism as an additional control mechanism.

H4 tests if J-type firms' persistent holdings of large cash affect the demand for conservatism from shareholders. To distinguish firms with unusual cash holdings at a point in time from those that persistently retain large amounts of excess cash, I define firms holding large amounts of excess cash for each of the prior three years as persistent excess cash holders. The positive coefficient on D_tR_t *$AGENCY_{t-1}$ *$PERS_{t-1}$ from Equation 3A and the negative coefficient on $DNI_t \Delta NI_t$ *$AGENCY_{t-1}$ * $PERS_{t-1}$ from Equation 3B indicate that J-type firms which continue to hold a large amount of excess cash are expected to recognize losses more quickly relative to gains.

Next, I test H5, which predicts that relative importance of conservatism in reducing agency costs of free cash flow varies with firms' ex-ante corporate governance. Corporate governance (GOV) is measured by either the Inv G-score or the Inv E-index.[15] The E-index (entrenchment index) is a more condensed version of the G-score, formulated based on a subsample of only relevant variables shown to impact shareholder value from the G-score.[16] The negative coefficient on $D_tR_t*AGENCY_{t-1}*GOV_{t-1}$ from Equation 3A and the positive coefficient on $DNI_t\Delta NI_t*AGENCY_{t-1} * GOV_{t-1}$ from Equation 3B will indicate that corporate governance reduces the need for conservative reporting among J-type firms. On the other hand, the positive coefficient on $D_tR_t*AGENCY_{t-1}*GOV_{t-1}$ and the negative coefficient on $DNI_t\Delta NI_t*AGENCY_{t-1} * GOV_{t-1}$ will mean that strong corporate governance help implementing more conservative reporting among J-type firms.

4.3.2. The effect of conservatism on future investment behavior of J-type firms (H6)

Finally, I assess the real benefits associated with conservative reporting by examining the effect of conservatism on the future investment behavior of firms with greater agency problems. If conservatism provides proper monitoring over the use of free cash, then firms with greater conservatism will use their cash in a manner that maximizes shareholder wealth, and they should experience less likelihood of overinvestment. To estimate the expected investment, I estimate a firm-specific model of optimal investment

[15] Gompers et al. (2003) construct this index by using the data from the Investor Responsibility Research Center (IRRC), 24 distinct corporate governance measures for almost 1,500 firms, with 1 point being granted for the governance measure that restricts shareholder rights. Thus the larger the index, the weaker the shareholder rights (and the more powerful the management).

[16] Since prior literature argues that governance and conservatism are related to some extent, the inclusion of the governance variable in the model may provide confounding results. To address this, I use the initial G-scores (first G-score available for each firm) as a governance measure instead of G-scores in the beginning of the fiscal year, following Bebchuck et al. (2009).

as a function of growth opportunities (as measured by past sales growth) following Biddle et al. (2009) and use the residual term as a firm-specific proxy for overinvestment. The following regression is estimated for each industry-year based on the Fama-French 48 industry classification for all industries with at least 20 observations per year.

$$Investment_{i,t+1}=\beta_0+\beta_1 Sales\ Growth_{i,t}+\varepsilon_{i,t+1}$$

where *Investment* is defined as in Biddle et al. (2009) as the sum of R&D, Capital expenditure, acquisition expenditure less cash receipts from sale of property, plant, and equipment multiplied by 100 and scaled by lagged total assets. $SalesGrowth_t$ is the percentage of annual sales growth rate calculated as $Sales_t/Sales_{t-1.}$ The residual, $\varepsilon_{i,t+1}$, represents overinvestment.

More specifically, firm-years are sorted annually into quartiles based on the magnitude of residuals, and then observations falling in the top quartile (the most positive residuals) are classified as overinvestment. Furthermore, I divide the overall measure of investment between capital expenditure and acquisition expenditure and repeat the same analyses since these two are more likely to be used for managerial empire building.[17] To determine if conservative reporting facilitates the effective use of cash, I re-estimate equation 3A and 3B by replacing X with measures of likelihood of overinvestment (*OVERINV*).

[17] R&D expenditure is often cited as good investment that can enhance firm value in the long run, so I did not perform a separate analysis on R&D overinvestment. However, R&D is included when measuring overall investment.

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t * AGENCY_{t-1} + \alpha_6 R_t * AGENCY_{t-1}$$
$$+ \alpha_7 D_t R_t * AGENCY_{t-1} + \alpha_{8,} OVERINV_{t+1} + \alpha_9 OVERINV_{t+1} + \alpha_{10} R_t OVERINV_{t+1}$$
$$+ \alpha_{11} D_t R_t OVERINV_{t+1} + \alpha_{12} AGENCY_{t-1} * OVERINV_{t+1}$$
$$+ \alpha_{13} D_t AGENCY_{t-1} * OVERINV_{t+1} + \alpha_{14} R_t AGENCY_{t-1} * OVERINV_{t+1}$$
$$+ \alpha_{15} D_t R_t AGENCY_{t-1} * OVERINV_{t+1} + Controls + \varepsilon \quad (4A)$$

$$\Delta NI_{t+1} = \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_t + \beta_3 DNI_t \Delta NI_t + \beta_4 AGENCY_{t-1} + \beta_5 DNI_t * AGENCY_{t-1}$$
$$+ \beta_6 \Delta NI_t * AGENCY_{t-1} + \beta_7 DNI_t \Delta NI_t * AGENCY_{t-1} + \beta_{8,} OVERINV_{t+1}$$
$$+ \beta_9 DNI_t OVERINV_{t+1} + \beta_{10} \Delta NI_t OVERINV_{t+1} + \beta_{11} DNI_t \Delta NI_t OVERINV_{t+1}$$
$$+ \beta_{12} AGENCY_{t-1} * OVERINV_{t+1}$$
$$+ \beta_{13} DNI_t AGENCY_{t-1} * OVERINV_{t+1} + \beta_{14} \Delta NI_t AGENCY_{t-1} * OVERINV_{t+1}$$
$$+ \beta_{15} DNI_t \Delta NI_t AGENCY_{t-1} * OVERINV_{t+1} + Controls + \varepsilon \quad (4B)$$

where *OVERINV* is a dummy variable that gets 1 when firm-year observations are in the top quartile of unpredicted investment (or capital expenditure or acquisition expenditure) and 0 otherwise. Other variables are as previously defined.

Note that in the above regression models, the dependent variable, *OVERINV,* is placed on the right hand side, which is different from the conventional regression specification. The estimation biases resulting from a misspecified model can be very serious especially when researchers misidentify an independent variable as a cause of a dependent variable. However, the essence of my analysis is to examine the association between accounting conservatism and the likelihood of overinvestment among J-type firms rather than establishing a causal link between conservatism and overinvestment (i.e., conservative reporting by J-type firms leads to less overinvestment in the future). In fact, a similar form of reverse regression model has been used by Francis and Martin (2010), who test whether conservatism is associated with subsequent divestiture decisions and by

Ahmed and Duellman (2010), who test whether conservatism is associated with higher future profitability and lower likelihood of future special items charges. However, given the potential misspecification bias, the results using the above models should be interpreted with caution.

As demonstrated by Francis and Martin (2010), I expect that conservatism is likely to play an even more pronounced role in reducing the probability of making suboptimal investments in the presence of high agency problems. In turn, the coefficient α_{15} on $D_t R_t AGENCY_{t-1} * OVERINV_{t+1}$ is predicted to be negative while the coefficient β_{15} *on* $DNI_t \Delta NI_t \, AGENCY_{t-1} * OVERINV_{t+1}$ is predicted to be positive.

CHAPTER V

EMPIRICAL RESULTS

5.1. Sample selection

Panel A of Table 1 presents the sample selection process. The sample contains all observations from 1970 to 2006 with available data in Compustat, and CRSP to estimate two free cash proxies (FCF, EXCASH) and Basu's reverse regression and asymmetric reversion models. Post-2006 data are removed to prevent the macroeconomic liquidity shock from confounding the results. Consistent with the previous literature, I exclude firms in the financial services industries (SIC codes between 6000 to 6999), where liquidity is hard to assess, and in the utility sector (SIC codes between 9000 and 9999), where liquidity and governance as well as conservatism might be affected by regulatory factors. To reduce the effects of outliers, I delete firm-years where the value of free cash deflated by total assets at the beginning of the fiscal year exceeds one in absolute value (Richardson, 2006), sales growth measured as the percentage of annual sales growth rate ($Sales_t/Sales_{t-1}$) exceeds 10 and market-to-book ratio exceeds 100. In addition to that, each variable is winsorized at 1% in each tail. Winsorization does not materially change the univariate as well as the cross-sectional results. Stock returns are obtained from CRSP monthly returns file and annual compounded buy-and-hold returns (R) are computed

beginning 4 months after the fiscal year end to ensure that the market reaction to the prior year's earnings are excluded. I estimate conditional conservatism using the year t values of net income (*NI*) and buy-and-hold returns(*R*) for groups formed based on the year t-1 value of FREECASH and GROWTH. I partition the sample into J-type and non J-type firms based on two FREECASH measures, free cash flow (FCF) and excess cash (EXCASH) and one GROWTH measure, Tobin's Q (Q), using two ways of partitioning, median or quartile. Industry median values are annually recalculated bounds that yield equally sized below-median-group and above-median-group each year within each industry defined by the Fama-French 48 industry classification (1997). Industry quartile values are similarly determined annually within the each industry group, resulting equally sized top-quartile-group and bottom-quartile-group each year within each industry. For the sake of clarity, I refer to the partitioning based on FCF and Tobin's Q as FCF*Q and EXCASH and Tobin's Q as EXCASH*Q. For example, when the FCF*Q combination with median cutoffs is used, the *AGENCY* variable is coded 1 for firm-years with more than median free cash flow (FCF) and less than median growth (Q) in a given industry and set to 0 otherwise.

When excess cash (EXCASH) is used to proxy for agency costs, the sample consists of 97,763 firm-years with all required data available. The fiscal year is identical to the calendar year for about 53% (52,122 firm-years) of the total sample.[18] Because Statement of cash flow became available from 1987, so when free cash flow (FCF) is used to proxy for agency costs, the sample size is significantly reduced to 36,543 firm-

[18] When I remove the observations whose fiscal year does not match the calendar year, the results are not materially affected, except the reduced adjusted R square.

years. I also obtain the G-score and E-index from the authors' websites.[19] The data are only available since 1990. Since the data for the governance index are published about every two or three years, following Gompers et al. (2003), when the governance index for the particular year is missing, I assume that these governance scores are equal to the previously published value until the next value becomes available. I take the negative value of these two measures to make them positive measures of governance and refer to them as the Inverse G-score (Inv G-score) and Inverse E-index (Inv E-index). Because the G-score and E-index are available from 1990, when the test requires corporate governance scores, the number of firm-year is significantly reduced to 33,923 observation when EXCASH is used, and 19,394 when FCF is used.

Panel B of Table 1 reports the frequency distribution of the firm-year observations by year. The annual number of observations is generally increasing over time from 1,187 in 1970 to 2,315 in 2006. More specifically, when EXCASH*Q is used, 38,931 firm-years are identified as having above median free cash and below median growth rate (non J-type firms), and 28,979 firm-years are identified as having above median free cash and below median growth rate (J-type firms). When I use the alternate quartile cutoff, 7,532 firm-years are identified as non J-type firms, and 7,228 firm-years as J-type firms. When FCF*Q is used, 12,838 firm-years are classified as non J-type firms and 11,222 firm-years as J-type firms with median cutoffs, while 1,797 and 2,603 firm-years are classified as non J-type firms and J-type firms, respectively with quartile cutoffs. Due to data requirements, the sample size varies across regression specifications.

[19] These governance indices can be found at http://www.som.yale.edu/faculty/am859/data.html.

5.2. Descriptive statistics

Panel C of Table 1 presents descriptive statistics for sample firms. On average, the sample firms hold 13.2 % of their total assets in the form of cash. The average sample firm has a market-to-book ratio (*MB*) of 2.349 and debt-to-asset ratio (*LEV*) of 22.2%. I take the natural log of market value of equity to proxy for *SIZE*. Both net income before extraordinary items (*NI*) and the buy and hold return (*R*) variables are positive, indicating that, my sample is composed of relatively profitable firms that have experienced positive market returns. The mean (median) annual sales growth rate is 17.0 % (10.8%). The average sample firm spends 7.3% of its assets on capital expenditure, and 3.4% on R&D expenditure.

Panel D Table 1 presents the mean and median values and the results of t-tests and Wilcoxon signed rank tests of the differences on a variety of firm characteristics for groups of firms sorted into non J-type or J-type firms by using the FCF*Q combination while Panel E provides the same information based on the EXCASH*Q combination. Most variables are significantly different between non J-type firms and J-type firms. Also in most cases, different partitioning methods generate similar patterns in differences between the types of firms.

Across all panels, J-type firms are older, have bigger total assets, and have more sales than non J-type firms. Although a similar pattern of differences between firm types emerges, using quartile cutoffs identifies younger J-type firms and non J-type firms compared to using median cutoffs. For example, when FCF*Q and median cutoffs are used, the mean firm age for non J-type firms is 13.7 relative to 16.3 for J-type firms, while with FCF*Q and quartile cutoffs, the mean firm age for non J-type firms is 10.3

relative to 15.9 for J-type firms. Also, compared to the median cutoff method, using the quartile cutoff method tends to classify smaller sized firms as J-type firms regardless of the choice of FREECASH as is evident from the size, total assets, and sales variables. For example, the median total assets for J-type firms is $135.4 million when FCF*Q with median cutoffs is used and $112.5 million when EXCASH*Q with median cutoffs is used.[20] These compare with a median of $32.6 million and $54.7 million for FCF*Q and EXCASH*Q with quartile cutoffs, respectively. The median total assets of J-type firms with the median cutoff are similar to the sample median total assets of $100.9 million, while that with the quartile cutoff is much lower than the sample median irrespective of the method of partitioning.

With FCF*Q, J-type firms have higher leverage than non J-type firms while the converse is true when EXCASH*Q is used regardless of the choice of the cutoff method. Especially with EXCASH*Q quartile cutoffs, the mean (median) leverage ratio of J-type firms is 12.7% (7.5%), which is well below the overall sample median of 22.2%. When FCF*Q with median cutoffs is used, J-type firms are more profitable (NI is larger for J-type firms than non J-type firms), while the opposite is true for FCF*Q with quartile cutoffs. Combined together, J-type firms defined based on EXCASH*Q, especially with quartile cutoffs, have firm characteristics typically associated with costly external financing (smaller size, extremely low leverage, negative free cash flow, and lower net income). For example, firms with negative free cash flow are likely to be forced to find alternative external sources of financing for investment projects unless they have internal cash. Small firms are also likely to suffer from more informational asymmetry, thus external financing is often costly to obtain. Hence, J-type firms according to the

[20] The total assets distribution is highly skewed, thus the median is a better measure than the mean.

EXCASH*Q partitioning may have high costs of external finance, in turn; they may accumulate higher levels of internal cash to ensure they have enough resources to meet financial obligations (e.g., Opler et al., 1999).[21]

Turning to the investment variables, J-type firms tend to invest less on both capital expenditure and R&D than non J-type firms across all panels, except the partitioning based on EXCASH*Q with median cutoffs where J-type firms have a similar level of R&D spending than non J-type firms.

The differences in corporate governance proxies are not statistically significant between the two groups except when the G score is employed to proxy for corporate governance under the FCF*Q with the median cutoff partitioning. For this comparison, J-type firms have more antitakeover provisions (meaning weaker shareholder power) than non J-type firms in this case.

J-type firms defined using FCF*Q with both median and quartile cutoffs and EXCASH*Q with median cutoffs pay less dividends than non J-type firms although the differences are not always statistically significant. This may indicate that the partitioning based on FREECASH/GROWTH may capture one additional dimension of agency costs of free cash flow, that is, unwillingness of managers to pay dividends to shareholders. On the other hand, J-type firms defined based on the EXCASH*Q quartile partitioning method pay more dividends than non J-type firms. Except in FCF*Q quartile cutoffs where J-type firms spend more on repurchases relative to their earnings than non J-type

[21] One may argue that shareholders may view the excess cash of financially constrained firms as necessary, thus do not consider excess cash as a concern for overinvestment. However, by definition, excess cash is defined as an additional amount of cash beyond what a company normally needs. Since all the legitimate reasons for firms to hold cash (including external financial constraints) is already considered in calculating excess cash, excess cash can still be an increasing function of agency costs of free cash flow.

firms, the differences in the ratio of repurchases to earnings are not statistically significant between the types of firms in all the other methods of partitioning.

Taken together, the resulting differences between J-type and non J-type firms are largely consistent across partitioning methods except the EXCASH*Q quartile method, where J-type firms generate negative free cash flow on average (both the mean and median). More specifically, using FCF*Q median, EXCASH*Q median, and FCF*Q quartile cutoffs classify bigger sized firms measured by total assets and sales and more mature firms as J-type firms, while using EXCASH*Q quartile cutoffs provides relatively smaller sized firms which may face external financing constraints. Since shareholders may view the greater cash holdings of constrained firms as a value-increasing response to costly external financing, it is an empirical question to examine the expected relation between conservatism and agency costs of free cash flow holds with the EXCASH*Q quartile cutoff method. Furthermore, using quartile cutoffs filters out smaller sized firms from each of the firm categories.

Panel F of Table 1 presents the pairwise Pearson (Spearman) correlations among contemporaneous observations of the main testing variables. Pearson (Spearman) correlation coefficients are reported above (below) the diagonal. *AGENCY* proxies, determined in four different ways, are significantly positively related to each other, which provides some evidence of construct validity of the measure of agency costs of free cash flow. The correlation coefficients between *AGENCY* and other variables are largely consistent with the data provided in descriptive statistics. The *AGENCY* variables determined based on FCF*Q are negatively related to *PERS* , a firm's tendency to persistently hold large amounts of cash, while the opposite is the case with EXCASH*Q.

Interestingly, 3 out of 4 *AGENCY* variables are negatively related to both measures of corporate governance, which is consistent with Richardson (2006), who finds that governance structures are not designed in response to free cash flow problems and with Dittmar and Mahrt-Smith (2007), who find that entrenched managers are more likely to build excess cash reserves. As previously indicated, the two proxies for free cash, free cash flow and excess cash, are negatively related to each other although the magnitude of the correlation is small.[22] Similarly, each of these free cash measures is related to other remaining variables in an opposite direction. For example, firms with high FCF have low growth opportunities, low future sales growth, larger size, more leverage, and have stronger corporate governance. On the other hand, firms with more EXCASH have high growth opportunities, generate less free cash flow, are less levered, and have stronger corporate governance. Since the precautionary motive for cash holdings plays an important role in explaining the high excess cash ratio, a positive relationship between EXCASH and corporate governance is consistent with La Porta, R., F. Lopez-De-Silanes, A. Shleifer, and R. Vishny (2000) who argue that a firm with external financing constraints is likely to have efficient corporate governance to build a reputation for moderation in expropriating shareholders. To the extent that firms with persistent large cash holdings accumulate internal cash as a precaution due to the external financing constraints, a positive correlation between *PERS* and governance proxies can be similarly explained as a firm's attempt to commit to a more effective bonding mechanism. The

[22] The lack of a more developed theory makes the choice of proxies and the research hypotheses somewhat ad hoc. Since excessive cash reserves are essentially accumulated free cash flow, both free cash flow and excess cash reserves can raise a red flag about potential managerial expropriation among shareholders. Also, prior studies link both excess cash (e.g., Harford et al., 2008; Louis et al., 2009) and free cash flow (e.g., Richardson, 2006) to Jensen's free cash flow theory. Therefore, I explore my research questions using both measures of free cash.

univariate correlations generate interesting insights; however, they should be interpreted with caution as they do not provide any information about how the variables jointly affect the results.

5.3. Primary results

5.3.1. Tests of H1

Panel A of Table 2 presents the results of testing H1, that is, whether J-type firms report more conservatively than non J-type firms. I estimate pooled OLS regressions with firm fixed effects and time effects to account for any firm specific or macroeconomic factors that may affect returns-earnings relationships across firms over time.[23] *AGENCY* is a dummy variable that is determined as high FREECASH and low GROWTH. GROWTH is measured by Tobin's Q, while FREECASH is measured by free cash flow (Model 1 and 2) or excess cash measures (Model 3 and 4). Any coefficient interacted with *DR* measures the asymmetric (or incremental) timeliness with respect to bad news relative to good news. Thus, the coefficient on the interaction of the *AGENCY* and *DR* dummy variables, *DR*AGENCY*, is of particular importance. As expected, the incremental coefficient on negative returns, *DR*, is statistically significant and positive across all models, indicating that on average sample firms report losses in a more timely manner relative to gains. The coefficient on the *DR*AGENCY* as well as the sum of the coefficients on *DR* and *DR*AGENCY* are significantly positive at less than 1 % level for every model, meaning that J-type firms report more conservatively relative to non J-type firms. The more timely recognition of losses relative to gains is also reflected in the negative coefficient on *R*AGENCY*, meaning J-type firms are slower in recognizing good

[23] I also obtain qualitatively similar results if I do not include firm fixed effects and year dummies.

news as gains than non J-type firms. Notably, the coefficient on *DR*AGENCY* is larger in magnitude when the quartile cutoff is used than when the median cutoff is used. This indicates that using the quartile cutoff yields stronger results perhaps because the quartile cutoff captures the nature of J-type firms and non J-type firms better than the median cutoff.

Panel B of Table 2 presents the results of testing H1 using annual cross-sectional Fama-Macbeth regressions. In general, previous results are qualitatively unchanged. In all specifications, the coefficient on *DR*AGENCY* is statistically positive at conventional levels of significance. Similar to the results in Panel A, the coefficient on *DR*AGENCY* is larger when the quartile cutoff is used than when the median cutoff is used. Also, the coefficient on *DR*AGENCY* is generally larger when the FCF*Q combination is used than when the EXCASH* Q combination is used to determine J-type firms. The same results hold after controlling for other potential sources of conservatism, including *MB*, *LEV* and *SIZE*. This strongly supports my main hypothesis that the severe agency problems associated with free cash flow engender the demand for conservative reporting from shareholders.

Turning to the control variables, the coefficient on *DR*MB* is significantly negative, indicating that firms with smaller market to book ratios (*MB*) are more asymmetrically timely in recognizing bad news versus good news. The results for the coefficient on *DR*LEV* is sensitive to the estimation method used. For example, when Fama-MacBeth regressions are used, the coefficient on the *DR*LEV* is significantly positive at less than 1 % level in all the specifications, consistent with the previous findings that firms with higher leverage report more conservatively (Table 2, Panel B).

This indicates that debt contracting increases demands for conservative reporting. However, when pooled regressions are used, the coefficient on *DR*LEV* is often negative or insignificant. This might be because leverage is closely correlated to characteristics of J-type firms (from Panel F of Table 1, correlation coefficients of *LEV* between FCF, EXCASH and Tobin's Q are all significant with both positive and negative signs). The coefficient on *DR*SIZE* is negative and significant, indicating that smaller firms provide more conservative reports compared to their larger counterparts. With or without control variables, the coefficient on the *DR*AGENCY* interaction term is highly significant and positive across all the specifications. The coefficients on the control variables reported in Table 2 are similar to those in following tables and are not discussed further.

5.3.2. Tests of H2-H4

Tables 3 through 6 present the results from tests of H2 through H4, which examine how firm-type interacts with other factors that reduce or increase the free cash flow problem. Table 3 presents the results of testing H2, whether debt can reduce the demand for conservatism by restricting overinvestment by decreasing available cash. The variable *DIST_D* is a dummy variable that is coded 1 if the firm's leverage exceeds the industry median leverage, else is coded 0. When agency costs are measured with median cutoffs, the coefficient of *DR*AGENCY*DIST_D* is negative and significant (*coef*=-0.037. *t-stat*=1.39) only when FCF*Q determines J-type firms. However, when the quartile cutoff is used instead, the coefficient of *DR*AGENCY*DIST_D* is negative and significant regardless of the choice of a free cash proxy, which provides statistical support for H2 that debt, with its obligation to pay interest, reduces agency costs of free

cash flow and in turn, reduces the need for conservative reporting as an additional control mechanism.

Table 4 reports the results of testing H3, how firms' payout policies affect the demand for conservative reporting. Except for the specification using EXCASH*Q with the median cutoff, the coefficient on *DR*AGENCY*DIV* is negative and significant in all other specifications. On the other hand, the coefficient on *DR*AGENCY*REPUR* is not significant (*coef*= -0.033, 0.036, and 0.066, *t-stat*=-1.08, 0.78 and 0.82), inconsistent with my prediction. This means that while dividend payouts can serve as a monitoring mechanism to mitigate agency problems, thus reducing shareholders' demands for conservative reporting, the same argument does not apply to share repurchases. Repurchases do not entail as much commitment for future payouts as dividend policy or interest payments associated with issuing debt. If shareholders perceive share repurchases as an ineffective monitoring device due to its flexibility, everything else equal, the demand for conservative reporting would not be affected. Prior research also suggests that firms with weaker shareholder rights or corporate governance tend to choose to repurchase instead of increasing dividends in an attempt to avoid future payout commitments (Harford et al., 2008). Thus, the monitoring effect of repurchases can be minimal; this in turn, weakens the predicted negative association between repurchases and the extent of conservative reporting for J-type firms. Also, when a firm repurchases shares irregularly and infrequently, my variable *REPUR* may not accurately represent the firm's propensity to repurchase. To make *REPUR* a more meaningful indicator for a firm's general payout policy, I use the average of the amount of repurchases (deflated by

earnings) over the past three years as *REPUR*. The results are generally unchanged in this alternative specification (untabulated).

In Table 5, I test how the demand for conservatism changes with the firm's propensity to retain cash. If shareholders view a sustained cash balance unfavorably, then they would subsequently demand more conservatism; thus, the coefficient on *DR*AGENCY*PERS* would be positive. Consistent with this conjecture, results show that the coefficient on *DR*AGENCY*PERS* is positive and significant in all the specifications. However, unlike quartile cutoffs where both the coefficients of *DR*AGENCY* and *DR*AGENCY*PERS* are positive and significant, the coefficient on *DR*AGENCY* is no longer positive when EXCASH*Q is used, or it becomes significantly negative when FCF*Q is used with median cutoffs. This might be because the variable *AGENCY* is subsumed in *PERS*. However, when the more extreme cases are compared (quartile cutoffs), firms' tendency to retain more cash leads to an incremental increase in reporting conservatism among J-type firms. Using an alternative proxy for *PERS* (when *PERS* gets 1 when firms with positive EXCASH for the prior three years and 0 otherwise) does not change the results qualitatively.

5.3.3. Joint tests of H1-H4

Panel A of Table 6 reports the results using pooled OLS regressions when H1, H2, H3 and H4 are simultaneously tested in a single model to test whether each variable independently explains the association between conservatism and agency costs of free cash flow.[24] The results from this joint model are generally consistent with results

[24] Corporate governance is not included in this model since (1) including corporate governance significantly reduces the sample size, (2) corporate governance is inherently related to firm's financial

presented previously. This means that each of the alternative monitoring devices tested plays a distinct or independent role in reducing the free cash flow problem, thus adding an incremental effect to the overall demand in conservatism. The coefficients on the *DR*AGENCY*DIST_D* and *DR*AGENCY*DIV* terms are consistently significant and negative across different specifications. The coefficient of *DR*AGENCY*REPUR* is not statistically significant similar to the result from the previous tables. Overall, shareholders seem to consider leverage and dividend payments to be the more reliable ways of monitoring the use of free cash by managers.

Panel B and C of Table 6 report the mean coefficients across 37 annual cross-sectional regressions over the period 1970-2006 with related t-statistics corrected for autocorrelation using the Newey-West procedure. When the median cutoff is used (Panel B), the coefficients on *DR* and *DR*AGENCY* are positive and significant in most cases, consistent with the results using pooled OLS regressions. However, the results on the other tested variables are not as strong as those from pooled regressions. The coefficient on *DR*AGENCY*DIST_D* is negative in all cases but not always significant, while the coefficient of *DR*AGENCY*DIV* is significantly negative only when *AGENCY* is defined using the EXCASH*Q combination. The coefficient on *DR*AGENCY*PERS* is positive and significant at the 10% level only when EXCASH*Q is used to define J-type firms, while this significance goes away in the joint model (Model 5). On the other hand, when the quartile cutoff is used (Panel C), most coefficients show the signs as predicted and are statistically significant, consistent with the results from Table 6 Panel A. This confirms

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policies such as payouts or financial structure decisions. The analysis with corporate governance will be separately conducted in a later chapter using post-1990 data.

the idea that using quartile cutoffs provides a better partitioning between J-type and non J-type firms and a better model specification.

5.3.4. Test of H5

Next, I investigate the relation between corporate governance and conservatism in the presence of the free cash flow problem (H5). Focusing on the role of corporate governance in alleviating the agency problem, strong corporate governance implies a reduced need for conservatism. However, if strong corporate governance facilitates the implementation of more conservative reporting, then losses will be recognized more quickly than gains as corporate governance becomes more effective. Following extant corporate governance literature, I employ two proxies of corporate governance, the G-score by Gompers et al. (2003) and the entrenchment index (E-Index) developed by Bebchuk et al. (2009) to test this conjecture. These governance measures are widely used to test how good corporate governance mitigates the negative effect associated with a large cash holdings (e.g.,Dittmar and Mahrt-Smith, 2007; Harford et al. 2008). If corporate governance reduces the demand for conservatism, the coefficient of *DR*AGENCY*GOV* should be negative and significant. Conversely, if conservatism is a manifestation of good corporate governance, a positive sign is expected. Since the G-scores and the E-index are available from 1990, the sample for the analysis involving the governance variable covers the period 1990-2006.

Results reported in Panel A of Table 7 indicate that when the median cutoff is used, the coefficient of *DR*AGENCY*GOV* is negative but not always significant. Specifically, the coefficient on *DR*AGENCY*GOV* is negative and significant only when

the G-score is employed as a proxy for governance. Along with the positive coefficient on *DR*AGENCY*, this means good governance reduces the incremental demand for conservatism among J-type firms, thus providing evidence that conservatism and good corporate governance act as substitutes in attenuating a firm's free cash flow problem. However, the same results do not hold when J-type firms are defined more narrowly. With quartile cutoffs, the coefficients on *DR*AGENCY*GOV* turn out to be positive in most cases, although they are not always significant. Another notable difference is that when the coefficient on *DR*AGENCY*GOV* is positive and significant, the coefficient on *DR*AGENCY* loses its significance. However, the sum of these two coefficients is positive (i.e., when FCF*Q is used, -0.007+0.106 >0), and the F-test that the sum of these coefficients equals zero (*H0: DR*AGENCY+DR*AGENCY*GOV=0*) is rejected at less than 0.01 level (F=9.59). This suggests that the total asymmetric timeliness coefficients for J-type firms with good corporate governance are positive, meaning J-type firms with good corporate governance report more conservatively. This indicates that among firms with more extreme agency costs of free cash flow, good governance facilitates the implementing of more conservative reporting, implying conservatism and corporate governance act as complements in alleviating agency costs of free cash flow especially when J-type firms are identified with the stricter definition.

Using post-1990 financial data, I test whether the effect of corporate governance on conservatism changes in the presence of other alternative ways of monitoring mechanisms. Prior research indicates that corporate governance and other financial policy choices may be determined jointly. For example, Harford et al. (2008) find that US firms with weaker corporate governance measured by G-score and E-index hold lower cash

reserves because these firms spend their cash flow on capital expenditures or acquisitions quickly. Additionally, they provide evidence that in the presence of excess cash, firms with stronger corporate governance tend to choose dividends over repurchases, resulting in stronger commitment of higher payouts in the long term to shareholders. In sum, corporate governance and payouts and cash retention policies are clearly related. To mitigate this potential endogenous relationship between governance and other tested variables, I force the degree of corporate governance to remain constant over years by employing the initial corporate governance scores. The logic here is that the initial value of corporate governance is exogenous to the current level of conservatism, and that governance changes only slowly over time. This method has been used by other researchers in the corporate governance literature (Bebchuk et al. 2009, Dittmar and Mahrt-Smith, 2007).

Panel B of Table 7 presents the results using pooled OLS regressions. Overall, results are very similar regardless of the choice of a governance proxy. For brevity, I only present the results based on the G-score. Consistent with the earlier analysis, there is a strong positive relation between agency costs of free cash flow and the degree of conservatism (all the coefficients on *DR*AGENCY* are positive) and debt and dividends affect the demand for conservatism via reducing an additional need for a monitoring mechanism (all the coefficients on *DR*AGENCY*DIST_D* and *DR*AGENCY*DIV* in the EXCASH*Q method are negative and significant). However, unlike the results in Table 7 Panel A, the coefficients on *DR*AGENCY*GOV* are mostly insignificant when other monitoring devices are taken into consideration. Only when the EXCASH* Q with median cutoff method determines J-type firms, the coefficient of *DR*AGENCY*GOV* is

negative and significant (*coef*=-0.023, *t-stat*=-1.79), indicating that in the presence of strong corporate governance, J-type firms exhibit less conservatism. However, in all the other specifications, governance structures do not affect conservatism in the presence of alternative monitoring mechanisms among J-type firms. Additionally, unlike the results reported in Table 6 where the *PERS* variable retains its positive sign, none of the coefficients on *PERS* are significant. The absence of relation between cash retention policy and conservatism among J-type firms may arise because even when using the initial corporate governance score as a governance proxy, the cash retention policy may still be directly correlated to corporate governance, creating a spurious relationship between variables.[25] When *PERS* is removed from the joint model, the inferences for other variables are not affected. Collectively, the earlier results between conservatism and agency costs of free cash flow generally hold for post-1990 data and the results partially and weakly support the argument that corporate governance substitutes rather than complements the need for conservative reporting as an additional monitoring device.

5.3.5. Summary of findings

In summary, my results indicate that firms with potentially high agency costs of free cash flow tend to report more conservatively, and other potential monitoring mechanisms that are likely to influence the severity of agency costs of free cash flow have predicted incremental effects on a J-type firm's choice to report more conservatively. Specifically, both dividend payouts and debt issuance effectively bond managers' promises to pay out future cash flow, hence acting as substitutes for the monitoring role

[25] From Table 1, Panel F, the correlation coefficients between *PERS* and *GOV* are 0.17 ($p<0.001$) for the Inverse G-score and 0.15 ($p<0.001$) for the Inverse E-index. Although these values are not particularly large, they still suggest that a firm's cash retention policy is related to corporate governance to some extent.

associated with conservative reporting. However, share repurchases do not generally affect the incremental demand for conservatism among J-type firms, perhaps due to the fact that share repurchases offer companies more flexibility to hold onto cash unlike dividends, which are relatively more sticky because investors have been conditioned to expect dividend cuts only in the most dire circumstances. In my analysis of the impact of corporate governance on conservatism, I do not see a pattern that is fully consistent with corporate governance acting as a substitute or complement for conservatism. Overall, I generally find consistent results across alternative proxies of free cash (FCF and EXCASH), which adds confidence to the conclusions drawn from this study. However, given that different partitioning methods (FCF*Q or EXCASH*Q) identify firms with distinct characteristics as having greater agency costs of free cash flow, the results should be interpreted in its own right.

For example, when FCF*Q is used, J-type firms also hold large excess cash, while J-type firms do not generate large free cash flow when EXCASH*Q is used to define J-type firms. High excess cash may be indicative of managerial concern for uncertain future operating cash flows. If this is the case, the observed positive relationship between J-type firms according to EXCASH*Q and subsequent conditional conservatism may partly be explained by the cash enhancing role of accounting conservatism.[26] Biddle et al. (2011) provide direct empirical evidence that increased bankruptcy risk generates a demand for subsequent conservatism through its cash enhancing role. Although their study examines this relation for firms with a condition of cash insufficiency (bankruptcy

[26] Theoretical and empirical evidence suggests that conservatism enhances cash availability by both reducing cash outflows by discouraging cash disbursements and cash wastage by delaying the recording of net income and net assets, and increases cash inflows by making external financing easier (e.g., Watts, 2003a,b; Biddle, Ma, and Song, 2011).

condition) which is an opposite condition to mine (cash rich firms), the cash enhancing role of conservatism is still valid in my setting. Given that J-type firms based on EXCASH*Q have characteristics that are linked to greater external financing constraints (for example, small size and less leverage), the positive relation between high EXCASH firms and subsequent conservatism may partly reflect the managerial tendency to use conservatism in facilitating decisions regarding precautionary savings as future cash inflows become uncertain. However, this does not explain why the incremental conservatism among J-type firms decreases with debt and dividend payouts. For example, to the extent that firms opt for more conservative reporting in order to enhance cash, firms with high dividends or leverage would increase the degree of conservatism because both high dividend payouts and large amounts of debt represent cash outflows. However, the results turn out to be the opposite, suggesting that this alternative interpretation can be ruled out. The positive association between agency costs of free cash flow determined using the EXCASH*Q quartile partitioning method and subsequent conservatism is at least partly attributable to the disciplining role of conservatism in monitoring over managerial investment behaviors.

Overall, using quartile cutoffs yields higher magnitude and statistical significance for the coefficients of interest, especially in the joint test. Also, the evidence inferred from using quartile cutoffs appears to be more compelling and robust, since it provides the expected signs on the coefficients of interest more often than using median cutoffs. Although my variables largely exhibit the expected signs, they sometimes are not statistically significant depending on model specifications.

5.3.6. Test of H6

In this section, I examine how conservative reporting at time *t* affects the investment behavior of J-type firms at time *t+1*. Within the agency framework, managers are more likely to maximize their personal welfare by overinvesting when resources are under their control. Thus, the hypothesized benefit of conservatism in reducing or preventing overinvestment would be even more significant for J-type firms, which by definition are the firms that are likely to overinvest.

In addition to overall investment, I also investigate how conservatism benefits firms by reducing overinvestment in specific types of activities separately, namely capital and acquisition expenditures to corroborate the results. Investment in R&D is excluded because of the unique nature of R&D expenditures compared to capital or acquisition expenditures. For example, investments in R&D are more likely to increase firm value by creating better products and adopting innovative technologies that may enhance productivity. Thus R&D expenditures may be viewed as long-term value creating investments. On the other hand, capital and acquisition expenditures may likely be undertaken to increase the size of the firm beyond optimal. Thus, I expect J-type firms with greater conservative reporting at time *t* would likely overinvest less in capital and acquisition expenditures at time *t+1*.

The results reported in Table 8 provide evidence consistent with my expectation. In Panel A, I run Basu's reverse regression using median cutoffs, while Panel B presents the results using quartile cutoffs. Model 1 employs firm-year observations in the top quartile of unexplained total investment as a proxy for overinvestment, while Model 2 and Model 3 employ firm-year observations in the top quartile of unexplained capital

expenditures and acquisition expenditures as a proxy for overinvestment, respectively. Table 8, Panel A shows that none of the coefficients are significant in Model 1, while the coefficient on *DR*AGENCY*OVERINV* is negative and significant at the 5 % level of significance (*coef*=-0.017, *t-stat*=-2.02) when the EXCASH*Q method is used, but not significant when the FCF*Q method is used in Model 2. However, all the coefficients on the interaction of *AGENCY* and *DR*OVERINV* are negative and statistically significant when *OVERINV* represents the overinvestment in acquisition expenditures (Model 3). I find more consistent results across types of investments when the quartile cutoff is used. Panel B of Table 8 reports the results of testing H6 using the quartile cutoff. The coefficients on the interaction of *AGENCY* and *DR*OVERINV* are negative and statistically significant except in Model 1 with the EXCASH*Q method. I also perform the same analysis using the industry median investment as a benchmark for the optimal level of investment, and the deviation from the industry median as a proxy for overinvestment. The results are largely unchanged. Additionally, to measure the longer-term effect of conservatism on overinvestment among J-type firms, I use the lagged *AGENCY* variable created at *t-3*, and find the coefficient $DR*AGENCY_{t-3}$ $OVERINV_{t+1}$ is still negative and significant (untabulated). In every specification, all control variables generally load as expected. Taken together, I document that J-type firms defined at time *t-1* with greater accounting conservatism at time t make better investment decisions at time *t+1*, based on the magnitude of unexpected investment expenditure. As previously discussed, due to the concern about the model specification, all results in this section should be interpreted cautiously.

5.4. Additional Analyses

5.4.1. Using Basu's asymmetric reversion model

One caveat with respect to the reverse regression model, despite its popularity, is that information is measured using aggregate annual stock returns. Stock returns may capture information that will never be reflected in earnings, thus they are a noisy measure to determine the characteristics of news received during the period. To verify the robustness of the results from the reverse regression model, I use the asymmetric reversion model. More timely recognition of news means that more current news is reflected in earnings contemporaneously, leaving less current news to be recognized in the future. Thus if bad news is more timely, earnings will be less persistent for bad news.

Panels A and B, in Table 9, exhibit the results of pooled regressions using median cutoffs with FCF* Q and EXCASH*Q, respectively. Panel C and D present the results of Fama-MacBeth regressions using quartile cutoffs with FCF*Q and EXCASH*Q, respectively. When corporate governance is included in the model, due to additional data requirements, the sample size is reduced. Overall, using this alternative measure of conservatism reduces the explanatory power measured by R square; however, inferences are largely unchanged compared to the results based on the reverse regression. Across all the specifications, the coefficient of *DNIΔNI*AGENCY* is negative as expected, indicating that the negative earnings changes of J-type firms tend to reverse slowly compared to those of non J-type firms. This is consistent with my primary results that shareholders demand greater conservative reporting in the presence of agency costs of free cash flow. Also, the coefficients on *DNIΔNI*AGENCY*DIST_D* and *DNIΔNI*AGENCY*DIV* are generally positive across all panels, implying that debt and

dividends reduce the need for additional monitoring mechanisms, in turn reducing the demand for conservative reporting. In terms of a firm's cash retention policy, the coefficient on *DNIΔNI*AGENCY*PERS* is positive and significant when OLS is used, but not significant when the Fama-MacBeth analysis is performed. Similar to earlier results, I fail to find evidence that repurchases reduce the demand for conservatism. The explanatory power measured by R square is much larger in the Fama-MacBeth approach (ranging from 8.32% to 39.40%) compared to that of the OLS regression (ranging from 4.57% to 22.06%).

With respect to the effect of conservatism on the likelihood of overinvestment, Panel E presents the results with the quartile cutoff using the pooled OLS regression models. The coefficients of *DNIΔNI *AGENCY*OVERINV* are generally positive and significant across all types of investment activities, indicating that J-type firms reporting more conservatively are less likely to overinvest in a subsequent period. Overall, previous results using Basu's reverse regression generally hold with this alternative model, albeit with lower explanatory power.

5.4.2. Alternate growth proxy

As an alternative to using Tobin's Q to measure firm-level growth, I employ sales growth (SG). My original specifications use lagged Tobin's Q (at year t-1). While Tobin's Q contains forward-looking information about future investment opportunities, the past SG does not. To address this concern, I use the two year geometric mean of the annual SG of year t and year t + 1 to capture the future potential for growth. SG at time t is calculated as $Sales_t/Sales_{t-1}$.

I partition the sample into J-type and non J-type firms based on two FREECASH measures, free cash flow (FCF) and excess cash (EXCASH) and one alternative GROWTH measure, SG, using two ways of partitioning, median or quartile as originally done. Similar to earlier analysis, industry median and quartile values are annually recalculated. For the sake of clarity, I refer to the partitioning based on FCF and SG as FCF*SG and EXCASH and SG as EXCASH*SG. Using this alternative *AGENCY* variable, I re-estimate Equation 2A using pooled OLS.

Using sales growth instead of Tobin's Q yields similar results. The results are presented in Table 10. The coefficients on *DR*AGENCY* are positive across all columns and statistically significant, meaning J-type firms report more conservatively than non J-type firms. When compared to the results in Table 2 where Tobin's Q proxies for GROWTH, using quartile cutoffs provides very similar results in terms of the magnitude and the statistical significance of the coefficients on *DR*AGENCY*, while using median cutoffs provides relatively weaker results (for example, *coef*=0.039 *t-stat*=5.60 in FCF*Q vs. *coef*=0.016 *t-stat*=1.78 in FCF*SG). Overall, the results are robust to the alternative GROWTH proxy, sales growth.

5.4.3. Lead and lag analysis

Throughout my analysis, the *AGENCY* variable (a dummy for J-type firms) is determined based on the amount of free cash and growth prospects prior to observing the earnings and returns relation. However, a possible mechanical relationship between the *AGENCY* variable (the way I determine J-type firms) and contemporaneous earnings and returns relationship can cloud my inferences. To investigate this issue further, I conduct a

lead and lag analysis using the reverse regression model. To conduct this test, I incorporate the severity of agency costs of free cash flow at different points in time, including *t-1* ($AGENCY_{t-1}$), *t* ($AGENCY_t$), and *t+1* ($AGENCY_{t+1}$). This specification allows me to track how conservatism is associated with the magnitude of agency costs of free cash flow over successive time periods. The results are reported in Table 11. Unlike the positive coefficient on the lagged $DR*AGENCY_{t-1}$ (my original specification), none of the coefficients on $DR*AGENCY_t$ and $DR*AGENCY_{t+1}$ are positive, meaning that current and future levels of agency costs of free cash flow do not account for the differential demands for reporting conservatism for J-type firms relative to non J-type firms. The differences in the extent of reporting conservatism between J-type firms and non J-type firms are only pronounced in the period immediately following the year when firms are identified as having greater agency costs of free cash flow. Additionally, the negative and significant coefficients on the $DR*AGENCY_t$ and $DR*AGENCY_{t+1}$ (the coefficients from FCF*Q, Median cutoff) suggest that conservative reporters at time *t* would not likely bear high agency costs of free cash flow, concurrently (at *t*) and subsequently (at *t+1*), perhaps because the monitoring role of conservative reporting to oversee managerial actions over investments prevent the firms from retaining too much cash or encourage the firms to distribute the excess cash to shareholders. Taken together, these results lend support to my conjecture that greater agency costs drive the demand for conservative reporting from shareholders. Furthermore, these results provide evidence that the proposed *AGENCY* variable is exogenous. Although the results strongly support my main hypothesis that greater agency costs lead to greater conservatism in subsequent periods, I recognize that

my test does not imply a strong causality since the severity of agency costs of free cash flow is based on the firm's financial condition instead of exogenous shocks.

5.4.4. Individual component analysis

One may argue that the positive association between timely loss recognition and agency costs of free cash flow is driven by low growth, one of the criteria to be classified as J-type firms, rather than the high amount of free cash. Throughout the dissertation, growth opportunity is measured by Tobin's Q, that is, the MB ratio. Although the MB ratio is expected to be positively related to timely loss recognition in theory, a positive relation is only occasionally observed empirically. If this is the case, then it would be difficult to argue that agency problems associated with free cash flow relate to conservative reporting. Since large amounts of free cash create the agency costs of free cash flow, and low growth opportunities exacerbate the agency problem, I investigate how free cash and growth opportunities interact to create the demand for conservative reporting. First, I partition the whole sample into four subgroups based on FREECASH and GROWTH. For example, a firm is placed in the High-Cash-Low-Growth group (HCLG) if its FREECASH is higher than the industry median and its GROWTH is lower than the industry median. As a result, there are four subgroups, namely LCLG, LCHG, HCLG, HCHG. Then, I estimate the following model and test whether my main results differ among these four groups sorted by FCF and GROWTH. I estimate the following model to gauge the main effect of FREECASH on the demand for conservatism across four groups.

$$NI_t = \alpha_0+\alpha_1 D_t+ \alpha_2 R_t+ \alpha_3 D_t R_t+\alpha_4 FREECASH_{t-1}+\alpha_5 D_t FREECASH_{t-1}$$
$$+\alpha_6 R_t FREECASH_{t-1}+\alpha_7 D_t R_t FREECASH_{t-1}+\alpha_8 MB_{t-1}+ \alpha_9 D_t MB_{t-1}+\alpha_{10} R_t MB_{t-1}$$
$$+ \alpha_{11} D_t R_t MB_{t-1} + \alpha_{12} LEV_{t-1}+ \alpha_{13} D_t LEV_{t-1}+\alpha_{14} R_t LEV_{t-1}+ \alpha_{15} D_t R_t LEV_{t-1}$$
$$+ \alpha_{16} SIZE_{t-1} + \alpha_{17} D_t SIZE_{t-1}+\alpha_{18} R_t SIZE_{t-1}+ \alpha_{19} D_t R_t SIZE_{t-1}$$

where FREECASH is the scaled decile rank of either FCF or EXCASH. All other variables are as previously defined.

Table 12 shows the results of the tests where FREECASH is included separately in Basu's regression. Panel A and B present the results using FCF*Q and EXCASH*Q, respectively. In addition to Tobin's Q, I employ sales growth as an alternative growth proxy to ensure the robustness of the results. The coefficients on *DR*FREECASH* are significantly positive in the HCLG group across all panels (*t-stat* = 4.57, 3.54, 4.46, and 1.57), suggesting that firms with large free cash report more conservatively when agency costs of free cash flow is the most severe. However, the same results do not hold for other groups. For example, when FCF is used to define J-type firms, none of the coefficients on *DR*FREECASH* are positive and significant in groups other than the HCLG group, regardless of the choice of the GROWTH measure. However, this pattern is not evident when EXCASH proxies for free cash, where there is a positive and significant coefficient on *DR*FREECASH* for the LCLG group in addition to the HCLG group when Tobin's Q proxies for growth and all groups except for the LCLG group when sales growth proxies for growth. In summary, there appears to be a positive relationship between high free cash and timely recognition of losses and this relationship is more pronounced for low growth firms, but the evidence for this relationship is more evident when FCF is employed as a proxy for free cash. In other words, MB effects are not the underlying

source of the positive relation between the *AGENCY* variable and conservatism. This increases my confidence that the grouping based on both growth and free cash is an effective way to capture the severity of agency costs of free cash flow, and results attributable to the differences in reporting practices between J-type firms and non J-type firms are reliable.

5.4.5. Persistent vs. transitory J-type firms

It is important to note that the *AGENCY* variable is created annually, so it is possible that firm type, either J-type or non J-type, may change every year. The change in classification does not contradict Jensen (1986)'s agency costs of free cash flow hypothesis since the theory does not impose the requirement that firms bearing high agency costs continue to maintain that status. However, it is reasonable to argue that free cash flow problems would be more severe for firms with substantial and stable free cash than temporary free cash, holding limited growth opportunities constant. If the free cash flow problem persists in the form of a sustained level of free cash flow, the demand for monitoring managerial opportunistic behavior would be greater for these firms. Hence, the observed conservatism may be largely driven by the monitoring demand from persistent J-type firms, rather than transitory J-type firms. To investigate this issue further, I compare the subsequent conservatism between persistent J-type firms and transitory/temporary J-type firms.

Persistent J-type firms are defined as firms having been identified as having high FREECASH/low GROWTH for each of the past 3 years (t-3, t-2, and t-1), while transitory J-type firms are those having high a FREECASH/low GROWTH condition for

the year t-1 only.[27] Since these additional data requirements reduce the sample size significantly, I only use median cutoffs for this analysis. When FCF*Q is used, 8,206 and 2,551 firms are identified as persistent and transitory J-type firms, respectively. Using EXCASH*Q identifies 20,332 persistent J-type firms and 6,624 transitory J-type firms. In other words, about 75 % of J-type firms maintain the J-type firm status for at least three years in a row regardless of the choice of a FREECASH proxy. This suggests that the level of agency costs of free cash flow is a relatively persistent, rather than a temporary, condition.

In Panel A of Table 13, I compare the characteristics of persistent J-type firms and transitory J-type firms at year t-1. Irrespective of the choice of free cash proxy, persistent J-type firms have a lower Tobin's Q, bigger market capitalization, bigger total assets, bigger sales, more leverage, and a larger dividend payout ratio than transitory J-type firms. Interestingly, persistent J-type firms have more anti-takeover provisions (weaker corporate governance) than transitory J-type firms and this difference is statistically significant.

To investigate the reporting behavior of firms identified as having J-type firm characteristics in a persistent manner, I use the following regression model.

$$\begin{aligned} NI_t = {} & \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} \\ & + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 PERSJ_{t-1} + \alpha_9 D_t PERSJ_{t-1} \\ & + \alpha_{10} R_t PERSJ_{t-1} + \alpha_{11} D_t R_t PERSJ_{t-1} + \alpha_{12} AGENCY_{t-1} PERSJ_{t-1} \\ & + \alpha_{13} D_t AGENCY_{t-1} PERSJ_{t-1} + \alpha_{14} R_t AGENCY_{t-1} PERSJ_{t-1} \\ & + \alpha_{15} D_t R_t AGENCY_{t-1} PERSJ_{t-1} + Control + \varepsilon \end{aligned}$$

[27] When I define persistent J-type firms as having the J-type firm condition for each of the past 5 years, the results are not qualitatively changed.

where a dummy variable *PERSJ* is coded 1 for persistent J-type firms and 0 otherwise. If shareholders demand greater conservatism for persistent J-type firms, I expect the coefficient on *DR*AGENCY*PERSJ* to be positive and significant.

Panel B of Table 13 presents the results for this model. The coefficient *DR*AGENCY* remains positive and significant, indicating that the incremental demand for conservatism for conservatism in J-type firms relative to non J-type firms is not attributable to the inclusion of persistent/temporary J-type firms in the sample. Also, persistent J-type firms report more conservatively than transitory J-type firms. The coefficient on *DR*AGENCY*PERSJ* is positive and significant at the 5% level regardless of the choice of FREECASH proxies (*coef*=0.023, *t-stat*=1.69 for FCF*Q, *coef*= 0.122, *t-stat*=1.81 for EXCASH*Q). Thus, the need of monitoring over managerial opportunistic behavior is relatively large for firms which generate a sustained level of substantial free cash and have limited growth opportunities persistently. It is also inferred that shareholders view the persistent agency problems about free cash flow as accumulated agency costs and demand even stronger effective monitoring mechanisms accordingly.

CHAPTER VI

CONCLUSIONS

Recent research has shown that investors systematically discount the value of corporate cash reserves when they are at high risk of being misused for the private benefit of managers. This destruction of firm value represents the agency costs of equity, or more specifically agency costs of free cash flow. Prior literature also suggests that corporate governance can reduce the agency costs of equity by providing strong monitoring over managers who might act opportunistically. Although internal control (corporate governance) by boards of directors or institutional investors can help resolve the agency conflicts between shareholders and managers to some extent, corporate governance is a part of corporate culture that changes slowly over time. Recent evidence suggests that accounting conservatism is an additional contracting mechanism that facilitates a reduction of agency costs for both shareholders and bondholders. In this dissertation, I examine whether financial reporting helps mitigate the potential risk of agency costs of equity when managers are likely to harm shareholders' interests by overinvesting. This particular environment is selected based on high free cash (or surplus cash) and limited growth opportunities relative to the industry.

I find that firms with higher agency costs of free cash flow, or J-type firms, measured as both high level of excess cash and low investment growth opportunities, incorporate losses in a more timely manner relative to gains. Also, other potential monitoring mechanisms that may affect the ex-ante level of agency costs associated with free cash flow, such as debt issuance, dividend payouts, and corporate governance reduce the demand for conservatism as an additional monitoring measure. J-type firms which persistently hold onto a large amount of excess cash report even more conservatively than their counterparts. Further investigation shows that J-type firms reporting conservatively are not likely to overinvest in the future compared to those reporting less conservatively. A series of robustness tests confirm the results.

This study has several limitations. First, although the results strongly suggest that greater agency costs of free cash flow drive the demand for conservatism, this study does not identify the specific channels through which shareholders pressure managers into reporting more conservatively. Second, although lead and lag analysis provides some evidence that the severity of agency costs precede incremental conservatism among J-type firms, it does not prove that agency costs cause conservative reporting, because J-type firms are not determined by exogenous shocks.

This study makes several contributions. First, it contributes to the literature that examines shareholder-related contracting explanations for conservatism. While prior research provides evidence that shareholders demand more conservatism when they face high agency costs of equity, these studies employ firms' choice variables, such as managerial ownership and board characteristics, to assess the levels of agency costs, thus making it hard to directly infer the link between agency costs of equity and conservatism.

Second, this study contributes to the literature that links conservatism to investment efficiency. By focusing on a specific agency conflict, the overinvestment of free cash, I find that shareholders turn to conservative reporting as an effective monitoring device over possible managerial opportunism, and the resulting conservatism among J-type firms enhances investment efficiency in the future. Moreover, my sorting criteria consider both the amount of free cash and investment opportunities, thus capturing the more subtle nature of the severity of the agency conflict. Third, the evidence in this dissertation is likely to be of interest to regulators who are currently advocating neutral accounting rather than conservatism. The fact that conservative reporting responds to shareholders' demand as hypothesized can be evidence that the capital markets exert sufficient pressure on firms, and act as an external corporate governance mechanism.

This study could be extended in several ways. Jensen (2005) proposes agency costs of overvalued equity as a specific situation that may induce managers to engage in private wealth seeking at the expense of shareholders. When equity is overvalued, to justify the stock price, managers engage in value destroying activities once they run out of value creating activities to fool the market at least for a while. Future research can examine how conservatism changes with the agency costs of overvalued equity.

Second, the downside of high surplus cash may be less pronounced during crisis periods because investors will likely view liquidity as more valuable during a crisis. Accordingly, the importance of conservatism as an additional disciplining mechanism may diminish. On the other hand, higher information asymmetry among investors during a crisis may drive up the demand for more control mechanisms for firms having high free

cash. Thus an interesting extension of my study might be to examine how economic conditions affect the demand for conservatism in the context of agency costs of free cash flow.

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APPENDICES

Appendix 1: Measuring FREECASH (Compustat codes are in parenthesis)

I measure FREECASH as FCF or EXCASH divided by beginning of the fiscal year assets (Data 6). Using lagged FCF or EXCASH, and Tobin's Q, I define J-type firms. Firm-years with more than the industry median (or in upper quartile within the industry) FREECASH (either FCF or EXCASH) and less than the industry median (or in the lower quartile within the industry) GROWTH (Tobin's Q) at the end of the fiscal year t-1 are identified as J-type (non J-type). Industry affiliation is measured by the Fama-French 48 industry classification.

(1) Free cash flow approach:

FCF= Free cash flow from existing assets in place (CF_{AIP}) –expected investment on new projects (I_{new}).

where

CF_{AIP} = Operating cash flows (Data 308) + Research and development expenditures (Data 46) - Maintenance expenditures (Data 125)

$_{NEW}$: The fitted value of investment regression.

$$I_{NEW}=\alpha+\beta_1 V/P_{t-1} + \beta_2 Leverage_{t-1}+\beta_3 Cash_{t-1}+\beta_4 Age_{t-1}+\beta_5 Size_{t-1}+\beta_6 Stock\ Returns_{t-1} +\beta_7 I_{NEW,t-1}+\Sigma Year\ Indicator+\Sigma Industry\ Indicator$$

where
V/P = the ratio of V_{AIP}* to market value, Leverage= (Data34+Data9)/(Data60);
Cash=cash (Data 1)deflated by total assets(Data 6) at the start of the year;
Age=the log of the number of years the firm has been listed on COMPUSTAT as of the start of the year;
Size=the log of total assets(Data 6) measured at the beginning of the year;
Stock Returns=change in market value of the firm over the prior year, calculated as (MVE_t – MVE_{t-1})/MVE_{t-1} where MVE=(Data 199* Data25);
I_{NEW}=the difference between I_{TOTAL} (Data46+Data 128+Data129-Data107) and $I_{Maintenance}$ (Data125).

*Note : $V_{AIP}=(1-\alpha r)BV+\alpha(1+r)X-\alpha rd$, Where $\alpha=$ ——— r is a constant discount rate of 12% from Ohlson (1995), and is the abnormal earnings persistence parameter of 0.62 from Dechow, Hutton, and Sloan (1999). BV is the book value of equity(Data 60), d is annual dividends(Data 21)

and X is operating income after depreciation(Data 178).

R&D is added back because while accounting standards mandate firms to expense research and development (R&D) expenditure, financial economists consider R&D a discretionary investment. Maintenance expense is deducted because it is considered necessary to maintain assets in place.

(2) Excess cash approach:

Excess cash : Actual level of cash minus predicted level of cash (regression residual)

$$Ln\left(\frac{Cash_{i,t}}{NA_{i,t}}\right) = \beta_0 + \beta_1 Ln\left(NA_{i,t}\right) + \beta_2 \frac{FCF_{i,t}}{NA_{i,t}} + \beta_3 \frac{NWC_{i,t}}{NA_{i,t}} + \beta_4 (IndustrySigma)_{i,t} + \beta_5 \frac{\widehat{MV_{i,t}}}{NA_{i,t}} + \beta_6 \frac{RD_{i,t}}{NA_{i,t}} + Year\ Dummies + Firm\ Fixed\ effects + \varepsilon_{i,t}$$

where , Cash=Cash and Cash equivalents (Data 1), NA=Net Assets (Data 6-Data 1), FCF=Operating income (Data 13) minus Interest (Data 15) minus Taxes (Data 16), NWC=Current Assets (Data 4) minus Current liabilities (Data 5) minus Cash (Data 1), Industry Sigma=industry average of prior 10 year standard deviation of FCF/NA, MV=Market value = Price (Data 199) times the number of shares outstanding (Data 25) plus total liabilities (Data 181), and RD=R&D expenditures (Data 46), set to zero if missing.

Appendix 2: Variable descriptions (Compustat codes are in parenthesis)

NI_t is income before extraordinary items (Data18) at the end of fiscal year t, scaled by market value of equity(Data 199* Data 25) at the end of the fiscal year t-1.

ΔNI_t is the change in net income from year t-1 to year t, scaled by market value of equity at the end of the fiscal year t-1.

R_t is 12-month compound returns beginning 3 months after the fiscal year-end. Data are obtained from CRSP monthly stock returns.

D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.

DNI_t is an indicator variable set equal to one if ΔNI_t is negative and 0 otherwise.

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the industry median (or in upper quartile within the industry) FREECASH (either FCF or EXCASH) and less than the industry median (or in the lower quartile within the industry) GROWTH (Tobin's Q) at the end of the fiscal year t-1.

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the end of the fiscal year t-1.

LEV_{t-1} is the scaled decile rank of total debt divided by lagged total assets(Data 6) at the end of the fiscal year t-1.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the end of the fiscal year t-1.

$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise at the end of the fiscal year t-1.

DIV_{t-1} is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the end of the fiscal year t-1.

$REPUR_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the end of the fiscal year t-1.

$PERS_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years(from year t-4 to t-2) following Mikkelson and Partch(2003) or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).

GOV_{t-1} is either a dummy variable that is set to 1 if the firm has Inverse G-score (Inv G-score) or Inverse E-index(Inv E-index) above the industry median and 0 otherwise.

Inv G-score is the measure of anti-takeover protection developed by Gompers et al. , multiplied by minus one. Inv E-index is the measure of managerial entrenchment developed by by Bebchuck et al. , multiplied by minus one. Both are measured at the end of the fiscal year t-1.

Tobin's Q_{t-1} is the sum of market value of equity (Data199*Data 25) and book value of debt (Data 34+ Data 9) scaled by total assets(Data 6) at the beginning of the fiscal year t-1.

Industry-adjusted Tobin's Q is calculated as Tobin's Q minus the median Tobin's Q in the industry, where industry is defined by the Fama and French' s (1997) 48 industry classification.

Sales growth (SG_t) is the percentage of annual sales growth rate calculated as $Sales_{t+1}/Sales_t$ (Data 12)

Industry-adjusted sales growth rate is calculated as the 2-year geometric average of the annual percentage sales growth minus the median industry sales growth.

Firm age is the number of years elapsed since the company's IPO year. I calculate firm age as the number of years since the firm first appeared on CRSP.

$CAPEX_t$ is the capital expenditure (Data 128) scaled by total assets (Data 6) at the end of the beginning of the fiscal year t.

$R\&D_t$ is the research and development expenditure (Data46) scaled by total assets (Data 6) at the beginning of the fiscal year t.

$Acquisitions_t$ is acquisition expenditure (Data 129) scaled by total assets (Data 6) at the beginning of the fiscal year t.

$Investment_t$ is total investment expenditure, calculated as R&D (Data46) plus CAPEX(Data 128) plus Acquisitions(Data 129) less cash receipts from sale of property, plant and equipment, SalePPE (Data 107), deflated by total assets (Data6) at the beginning of the fiscal year t.

*Note : I average a firm's financial variables for all the firms for each year in the sample, and calculate the median values of the variables for each industry defined by Fama-French(1997) 48 industry classification to obtain the industry median.

Table 1 Sample and Descriptive Statistics

Panel A : Sample selection table

Initial sample with COMPUSTAT data with unique matches with CRSP data	294,349
Observations after excluding financial and utilities firms	154,345
1. Excess cash (Dittmar and Mahrt-Smith, 2007)	
Observations with valid information to calculate excess cash	120,175
Observations after excluding outliers and winsorization	110,901
Observations with valid information for current and lagged variables for Basu's regressions	97,763
Observations with valid information to calculate excess cash and governance	33,923
2. Free cash flow(Richardson)	
Observations with valid CFO data (CFO collection starts from 1987)	59,888
Observations with valid information to calculate Free cash flow after deleting outliers	42,646
Observations with valid information for current and lagged variables for Basu's regressions	36,543
Observations with valid information to calculate Free cash flow and governance	19,394

Panel B: Number of observations for each fiscal year

Year	Frequency	
	EXCASH	FCF
1970	1187	
1971	1439	
1972	1875	
1973	2083	
1974	1960	
1975	1832	
1976	1910	
1977	1924	
1978	1940	
1979	2064	
1980	2204	
1981	2384	
1982	2452	
1983	2596	
1984	2746	
1985	2700	
1986	2760	
1987	2879	
1988	2771	1163
1989	2700	1678
1990	2671	1675
1991	2697	1677
1992	2946	1764
1993	3308	1919
1994	3533	2040
1995	3652	2207
1996	3950	2291
1997	3979	2329
1998	3730	2328
1999	3340	2191
2000	3099	2058
2001	2971	1952
2002	2878	1966
2003	2701	1859
2004	2831	1942
2005	2756	1877
2006	2315	1627
Total	**97,763**	**36,543**

Panel C: Descriptive Statistics of Total sample

Variable	N	Mean	Q1	Median	Q3	Std Dev
AGE	97763	15.021	6.000	12.000	21.000	11.199
CASH/Total Assets	97763	0.132	0.024	0.064	0.176	0.164
FCF/Total Assets	36543	-0.021	-0.073	-0.003	0.054	0.147
EXCASH/Total Assets	97763	0.019	-0.008	0.000	0.014	0.845
Tobin's Q	97763	1.636	0.975	1.266	1.838	1.156
Ind. Adj. Q	97763	0.243	-0.258	-0.011	0.399	1.029
Sales growth	97763	0.170	0.004	0.108	0.240	0.436
Ind. Median Sales growth	97763	0.217	0.125	0.217	0.295	0.148
Ind. Adj Sales growth	97763	-0.069	-0.253	-0.112	0.044	0.453
MB	97763	2.349	0.974	1.653	2.843	2.427
SIZE(Log MVE)	97763	4.470	2.937	4.313	5.899	2.006
LEV (DIST_D)	97763	0.222	0.068	0.207	0.338	0.175
RET	97763	0.147	-0.204	0.056	0.379	0.543
NI ($ MM)	97763	0.041	0.013	0.061	0.110	0.697
Total Assets ($ MM)	97763	653.3	29.9	100.9	423.0	1667.5
Sales ($ MM)	97763	719.7	33.8	122.7	504.1	1773.7
ROA	97763	0.006	-0.041	0.012	0.070	0.139
R&D/Total Assets	97763	0.034	0.000	0.004	0.040	0.072
CAPEX/Total Assets	97763	0.073	0.029	0.053	0.092	0.072
DIV/EARN	97763	0.316	0.000	0.000	0.252	10.444
REPUR/EARN	97763	0.465	0.000	0.000	0.033	8.057
Inv G Score	5043	-9.189	-11.000	-9.000	-7.000	2.813
Inv E Index	5768	2.445	-3.000	-1.000	-3.000	1.306

Panel D : Descriptive Statistics of non J-type firms vs. J-type firms using FCF*Q

FCF*Q	Median Cutoff						Quartile Cutoff					
	Non J-type		J-type		Tests of Differences		Non J-type		J-type		Tests of Differences	
Variable	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
AGE	13.721	10.000	16.381	13.000	<.0001	<.0001	10.253	8.000	15.943	13.000	<.0001	<.0001
CASH/Total Assets	0.172	0.097	0.112	0.053	<.0001	<.0001	0.272	0.199	0.128	0.066	<.0001	<.0001
FCF/Total Assets	-0.041	-0.021	0.001	0.015	<.0001	<.0001	-0.216	-0.169	0.057	0.067	<.0001	<.0001
EXCASH/Total Assets	0.033	0.002	0.005	0.000	0.0329	<.0001	0.093	0.018	0.016	0.000	0.0353	<.0001
Tobin's Q	2.372	1.917	1.258	1.129	<.0001	<.0001	3.424	2.808	1.080	0.960	<.0001	<.0001
Ind. Adj. Q	0.935	0.597	-0.160	-0.136	<.0001	<.0001	1.826	1.279	-0.548	-0.506	<.0001	<.0001
Sales growth	0.236	0.151	0.135	0.088	<.0001	<.0001	0.364	0.214	0.074	0.041	<.0001	<.0001
Ind. Median Sales growth	0.214	0.213	0.218	0.217	0.3654	0.3679	0.222	0.219	0.217	0.216	0.4883	0.3809
Ind. Adj Sales growth	0.001	-0.063	-0.104	-0.136	<.0001	<.0001	0.127	-0.005	-0.176	-0.202	<.0001	<.0001
MB	3.518	2.687	1.719	1.344	<.0001	<.0001	4.891	3.658	1.496	1.063	<.0001	<.0001
SIZE(Log MVE)	4.975	4.915	4.357	4.160	<.0001	<.0001	4.476	4.372	3.763	3.477	<.0001	<.0001
LEV (DIST_D)	0.187	0.155	0.247	0.237	<.0001	<.0001	0.168	0.112	0.194	0.172	<.0001	<.0001
RET	0.217	0.108	0.116	0.034	<.0001	<.0001	0.234	0.056	0.092	-0.029	<.0001	<.0001
NI ($ MM)	0.035	0.053	0.049	0.066	0.0001	<.0001	-0.043	-0.011	0.039	0.057	<.0001	<.0001
Total Assets ($ MM)	594.0	108.2	741.0	112.5	0.0817	0.8806	213.3	32.2	374.2	54.7	0.0009	<.0001
Sales ($ MM)	689.8	124.5	785.3	139.7	0.7461	0.0021	242.8	24.3	369.7	70.5	0.006	<.0001
ROA	0.020	0.038	0.003	0.005	<.0001	<.0001	-0.149	-0.059	0.017	0.004	<.0001	<.0001
R&D/Total Assets	0.044	0.007	0.031	0.003	<.0001	0.0003	0.096	0.024	0.042	0.008	<.0001	<.0001
CAPEX/Total Assets	0.080	0.057	0.068	0.049	<.0001	<.0001	0.073	0.043	0.052	0.035	<.0001	0.0004
DIV/EARN	0.323	0.000	0.312	0.000	0.0123	0.0022	0.350	0.000	0.195	0.000	0.1867	<.0001
REPUR/EARN	0.462	0.000	0.566	0.000	0.2789	0.0002	0.679	0.000	0.337	0.000	<.0001	<.0001
Inv G Score	-8.925	-9.000	-9.340	-9.000	0.0543	0.8775	-8.784	-9.000	-8.894	-9.000	0.9713	0.9626
Inv E Index	-2.354	-2.000	-2.519	-3.000	0.6008	0.8613	-2.224	-2.000	-2.375	-2.000	0.9521	0.8830
N	12,838		11,222				1,797		2,603			

Panel E : Descriptive Statistics of non J-type firms vs. J-type firms using EXCASH*Q

EXCASH*Q	Median Cutoff						Quartile Cutoff					
	Non J-type		J-type		Tests of Differences		Non J-type		J-type		Tests of Differences	
Variable	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
AGE	14.814	11.000	16.123	13.000	<.0001	<.0001	10.076	8.000	13.625	11.000	<.0001	<.0001
CASH/Total Assets	0.120	0.054	0.147	0.086	<.0001	<.0001	0.066	0.032	0.247	0.193	<.0001	<.0001
FCF/Total Assets	-0.015	0.007	-0.027	-0.011	<.0001	<.0001	-0.040	-0.007	-0.052	-0.035	0.08	<.0001
EXCASH/Total Assets	0.007	0.000	0.021	0.001	<.0001	<.0001	-0.101	-0.036	0.107	0.032	<.0001	<.0001
Tobin's Q	2.005	1.563	1.260	1.107	<.0001	<.0001	2.615	2.190	1.007	0.866	<.0001	<.0001
Ind. Adj. Q	0.615	0.253	-0.125	-0.135	<.0001	<.0001	1.266	0.875	-0.362	-0.377	<.0001	<.0001
Sales growth	0.202	0.131	0.140	0.088	<.0001	<.0001	0.273	0.187	0.096	0.048	<.0001	<.0001
Ind. Median Sales growth	0.218	0.217	0.216	0.216	0.4076	0.2111	0.213	0.212	0.207	0.205	0.1834	0.1596
Ind. Adj Sales growth	-0.037	-0.087	-0.099	-0.134	<.0001	<.0001	0.038	-0.019	-0.137	-0.175	<.0001	<.0001
MB	2.982	2.183	1.698	1.309	<.0001	<.0001	4.063	2.992	1.220	0.880	<.0001	<.0001
SIZE(Log MVE)	4.880	4.778	4.361	4.222	<.0001	<.0001	3.511	3.287	3.061	2.920	<.0001	<.0001
LEV (DIST_D)	0.226	0.213	0.218	0.203	<.0001	<.0001	0.263	0.247	0.127	0.075	<.0001	<.0001
RET	0.195	0.098	0.106	0.028	<.0001	<.0001	0.266	0.114	0.066	-0.011	<.0001	<.0001
NI ($ MM)	0.044	0.060	0.042	0.065	0.8400	<.0001	0.031	0.049	0.015	0.050	0.1262	0.0437
Total Assets ($ MM)	684.8	135.4	781.9	105.9	<.0001	<.0001	109.4	20.9	146.2	32.6	0.0067	<.0001
Sales ($ MM)	766.5	167.5	844.7	123.2	<.0001	<.0001	126.0	27.8	153.2	33.8	0.0335	<.0001
ROA	0.023	0.030	-0.009	0.000	<.0001	<.0001	0.012	0.043	-0.052	-0.036	<.0001	<.0001
R&D/Total Assets	0.035	0.005	0.034	0.004	0.0241	0.0006	0.037	0.001	0.037	0.000	0.9696	0.1653
CAPEX/Total Assets	0.081	0.058	0.067	0.049	<.0001	<.0001	0.102	0.066	0.056	0.037	<.0001	<.0001
DIV/EARN	0.354	0.000	0.301	0.000	0.519	0.0744	0.094	0.000	0.215	0.000	<.0001	<.0001
REPUR/EARN	0.446	0.000	0.484	0.000	0.5664	0.0063	0.436	0.000	0.463	0.000	0.8485	0.0225
Inv G Score	-9.137	-9.000	-9.370	-9.000	0.0251	0.1954	-8.804	-8.500	-8.244	-8.000	0.3156	0.2152
Inv E Index	-2.435	-3.000	-2.497	-3.000	0.1506	0.1618	-2.237	-2.000	-2.286	-2.000	0.8431	0.7352
N	38,931		28,979				7,532		7,228			

Panel F : Pearson (top) and Spearman (bottom) Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1 AGENCY(FCF*Q Median)	1.00	1.00[a]	0.38[a]	0.66[a]	0.20[a]	-0.02[a]	-0.34[a]	0.09[a]	-0.14[a]	-0.08[a]	-0.26[a]	-0.11[a]	0.11[a]	-0.05[a]	0.05[a]	0.01	0.01	-0.22[a]	-0.03[b]	-0.02
2 AGENCY(FCF*Q Quartile)	1.00[a]	1.00	0.74[a]	1.00[a]	0.68[a]	-0.03[a]	-0.62[a]	0.32[a]	-0.33[a]	-0.21[a]	-0.51[a]	-0.22[a]	0.20[a]	-0.17[a]	0.20[a]	-0.03[c]	0.02	-0.32[a]	-0.07	-0.03
3 AGENCY(EXCASH*Q Median)	0.38[a]	0.75[a]	1.00	1.00[a]	-0.02[a]	0.01[a]	-0.31[a]	0.06[a]	0.11[a]	-0.06[a]	-0.26[a]	-0.14[a]	0.01	-0.05[a]	0.00	0.00	0.00	0.15[a]	0.00	-0.01
4 AGENCY(EXCASH*Q Quartile)	0.66[a]	1.00[a]	1.00[a]	1.00	0.01[a]	0.30[a]	-0.59[a]	0.23[a]	0.56[a]	-0.10[a]	-0.44[a]	-0.18[a]	-0.28[a]	-0.13[a]	0.00	0.00	-0.01[a]	0.53[a]	-0.04[b]	-0.04[c]
5 FCF	0.28[a]	0.81[a]	-0.06[a]	-0.04[a]	1.00	-0.08[a]	-0.13[a]	0.20[a]	-0.06[a]	-0.16[a]	-0.10[a]	0.16[a]	0.02[a]	0.06[a]	0.30	-0.01[c]	-0.01	-0.06[a]	-0.06[a]	-0.03[a]
6 EXCASH	-0.11[a]	-0.25[a]	0.21[a]	0.78[a]	-0.03[a]	1.00	0.07[a]	-0.08[a]	0.81[a]	0.07[a]	0.02[a]	0.00	-0.05[a]	0.00	-0.02[a]	0.00	0.01	0.25[a]	0.00	0.00
7 Tobin's Q	-0.38[a]	-0.80[a]	-0.37[a]	-0.76[a]	-0.05[a]	0.24[a]	1.00	-0.12[a]	0.30[a]	0.16[a]	0.65[a]	0.26[a]	-0.26[a]	-0.10[a]	-0.07[a]	-0.01[b]	0.01[a]	0.17[a]	0.05[a]	0.04[a]
8 AGE	0.10[a]	0.35[a]	0.07[a]	0.24[a]	0.17[a]	-0.02[a]	-0.13[a]	1.00	-0.18[a]	-0.14[a]	-0.11[a]	0.38[a]	0.06[a]	0.03[a]	0.08[a]	0.02[a]	0.00	-0.21[a]	-0.19[a]	-0.15[a]
9 CASH	-0.13[a]	-0.31[a]	0.17[a]	0.74[a]	-0.22[a]	0.28[a]	0.40[a]	-0.13[a]	1.00	0.11[a]	0.24[a]	0.05[a]	-0.40[a]	-0.01[a]	-0.11[a]	-0.01[c]	0.01[a]	0.79[a]	0.04[a]	0.01[a]
10 Sales growth	-0.11[a]	-0.26[a]	-0.10[a]	-0.20[a]	-0.06[a]	0.08[a]	0.22[a]	-0.20[a]	0.08[a]	1.00	0.12[a]	0.05[a]	-0.03[a]	0.08[a]	0.10[a]	-0.01	-0.01[b]	0.02[a]	0.03[a]	0.04[a]
11 MB	-0.31[a]	-0.68[a]	-0.32[a]	-0.61[a]	-0.02[a]	0.20[a]	0.80[a]	-0.15[a]	0.22[a]	0.18[a]	1.00	0.20[a]	-0.07[a]	-0.07[a]	-0.09[a]	0.00	-0.01[a]	0.16[a]	0.03[a]	0.02[a]
12 SIZE(log MVE)	0.11[a]	-0.24[a]	-0.13[a]	-0.17[a]	0.18[a]	0.15[a]	0.40[a]	0.31[a]	0.05[a]	0.12[a]	0.34[a]	1.00	-0.08[a]	0.12[a]	0.14[a]	0.02[a]	0.00	0.06[a]	-0.06[a]	-0.06[a]
13 LEV(DIST_D)	0.12[a]	0.23[a]	-0.01[a]	-0.29[a]	-0.01[a]	-0.41[a]	-0.26[a]	0.09[a]	-0.47[a]	-0.05[a]	-0.18[a]	-0.07[a]	1.00	-0.01[a]	-0.02[a]	0.00	0.00	-0.29[a]	-0.03[a]	0.00
14 RET	-0.06[a]	-0.21[a]	-0.05[a]	-0.17[a]	0.11[a]	0.00	-0.12[a]	0.09[a]	-0.01[b]	0.15[a]	-0.09[a]	0.18[a]	-0.01[a]	1.00	0.24[a]	0.00	-0.01[c]	-0.08[b]	-0.01[b]	0.01[b]
15 Net Income	0.12[a]	0.36[a]	0.06[a]	-0.11[a]	0.34[a]	-0.07[a]	-0.24[a]	0.14[a]	-0.11[a]	0.25[a]	-0.25[a]	0.07[a]	0.06[a]	0.38[a]	1.00	0.00	-0.01[a]	0.21[a]	-0.02[b]	-0.01[c]
16 DIV	-0.03[a]	-0.19[a]	0.01	0.10[a]	0.24[a]	-0.02[b]	-0.07[a]	0.38[a]	-0.09[a]	-0.06[a]	-0.11[a]	0.30[a]	-0.02[a]	0.12[a]	0.38[a]	1.00	0.07[a]	-0.08[a]	-0.01	-0.01
17 REPUR	-0.03[a]	-0.15[a]	0.05[b]	0.03[b]	-0.02[a]	0.07[a]	0.07[a]	0.05[a]	0.07[a]	-0.13[a]	0.08[a]	0.05[a]	-0.05[a]	-0.06[a]	-0.16[a]	-0.03[a]	1.00	0.05[a]	0.00	0.00
18 PERS	-0.24[a]	-0.16[a]	0.30[a]	0.64[a]	-0.06[a]	0.05[a]	0.17[a]	-0.13[a]	0.84[a]	0.01[a]	0.13[a]	0.05[a]	-0.26[a]	-0.01	-0.11[a]	-0.01[c]	0.01[a]	1.00	0.16[a]	0.14[a]
19 Inv G score	-0.03[c]	-0.09[a]	0.00	-0.05	-0.06[a]	0.03[a]	0.05[a]	-0.22[a]	0.04[a]	0.03[a]	0.04[a]	-0.06[a]	-0.04[a]	-0.01[b]	-0.04[a]	-0.11[a]	-0.01[c]	0.16[a]	1.00	0.74[a]
20 Inv E Index	-0.01[c]	-0.04[b]	0.01	-0.04[c]	-0.04[a]	0.01[c]	0.04[a]	-0.02[a]	-0.02[a]	0.04[a]	0.03[a]	-0.06[a]	-0.05[b]	0.00	-0.02[a]	-0.07[a]	-0.01[b]	0.14[a]	0.53[a]	1.00

*Notes

1. Panel A shows the sample selection procedures ; Panel B shows the number of observations for each fiscal year; Panel C shows the descriptive statistics of the entire sample firms; Panel D shows the descriptive statistics of non J-type firms and J-type firms, partitioned based on free cash flow (Richardson, 2006) and Tobin's Q; Panel E shows the descriptive statistics of non J-type firms and J-type firms, partitioned based on excess cash (Dittmar and Mahrt-Smith, 2007) and Tobin's Q; Panel F shows the correlations among the key variables used in the empirical analyses. Pearson and Spearman correlations are reported, respectively, above and below the diagonal.

2. Coefficient [a,b,c] is significantly different than 0 at the 1%, 5, and 10%, respectively using a two-tailed t-test.

3. Variable descriptions:

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) FREECASH (either FCF or EXCASH) and less than the median (or lower quartile) GROWTH (Tobin's Q) relative to industry at the beginning of the fiscal year t.

FCF is free cash flow from Richardson (2006). FCF is scaled by lagged total assets (Data6).

EXCASH is excess cash from Dittmar and Mahrt-Smith (2007). EXCASH is scaled by lagged total assets (Data6).

Tobin's Q is the sum of market value of equity (Data199*Data 25) and book value of debt (Data 34+ Data 9) scaled by total assets (Data 6).

AGE is the number of years since the firm first appeared on CRSP.

CASH is cash and cash equivalent (Data 1) deflated by total assets (Data 6).

Sales Growth is the percentage of annual sales growth rate calculated as $Sales_{t+1}/Sales_t$

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

LEV_{t-1} is the scaled decile rank of total debt divided by total assets (Data 6) at the beginning of the fiscal year t.

$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise.

RET_t is buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.

Net Income$_t$ is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
DIV/EARN $_{t-1}$ is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the beginning of the fiscal year t.
REPUR/EARN $_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the beginning of the fiscal year t.
PERS$_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).
GOV$_{t-1}$ is either a dummy variable that is set to 1 if the firm has Inverse G-score (Inv G-score) or Inverse E-index (Inv E-index) above the industry median or 0 otherwise. Inv G-score is the measure of anti-takeover protection developed by Gompers et al., multiplied by minus one. Inv E-index is the measure of managerial entrenchment developed by by Bebchuck et al. , multiplied by minus one. Both are measured at the beginning of the fiscal year t.

Table 2 Conservatism and Agency Costs of Free Cash Flow Using Basu's Reverse Regression (H1)

$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + Controls + \varepsilon$ *(2A)*

Panel A: Pooled OLS Regressions of Earnings on Contemporaneous Returns

		FCF*Q		EXCASH*Q		FCF*Q		EXCASH*Q	
		Median Cutoff				Quartile Cutoff			
	Predicted	Model 1		Model 2		Model 1		Model 2	
Variable	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.067	27.02 ***	0.050	9.81 ***	0.022	1.67	-0.005	-0.38
D		-0.022	-5.21 ***	-0.057	-7.78 ***	-0.022	-1.15	-0.053	-2.79 ***
R	+	0.009	2.53 **	-0.016	-2.09 **	-0.037	-2.42 **	-0.022	-1.58
DR	+	0.295	27.03 ***	0.339	18.50 ***	0.319	7.94 ***	0.342	8.48 ***
AGENCY		0.002	0.69	0.011	2.77 ***	0.035	3.80 ***	0.043	4.64 ***
DAGENCY		0.005	0.87	-0.003	-0.44	-0.004	-0.32	0.020	1.46
RAGENCY	-	-0.003	-0.48	-0.019	3.52 ***	0.014	1.28	-0.002	-0.23
DRAGENCY	**+**	**0.039**	**5.60 *****	**0.048**	**3.43 *****	**0.076**	**2.60 *****	**0.086**	**2.89 *****
MB		-0.029	-9.89 ***	-0.048	-11.24 ***	-0.047	-3.93 ***	-0.027	-2.3 *
DMB		0.001	0.14	0.011	1.75 *	0.008	0.45	0.032	1.83 *
RMB	-	-0.027	-6.49 ***	-0.007	-1.24	0.009	0.65	-0.005	-0.38
DRMB	+/-	-0.106	-8.79 ***	-0.223	-15.31 ***	-0.124	-3.30 ***	-0.148	-3.93 ***
LEV		-0.016	-5.69 ***	-0.013	-3.37 ***	0.007	0.64	-0.001	-0.05
DLEV		0.011	2.30 **	0.006	0.94	-0.009	-0.53	-0.006	-0.32
RLEV	-	-0.010	-0.83	-0.011	-0.82	-0.085	-2.45 **	-0.069	-1.82 *
DRLEV	+	0.034	8.31 ***	0.041	7.71 ***	0.045	3.38 ***	0.050	3.7 ***
SIZE		0.043	15.06 ***	0.064	15.03 ***	0.076	6.07 ***	0.117	8.82 ***
DSIZE		0.013	2.78 ***	0.028	4.32 ***	0.018	0.88	0.015	0.7
RSIZE	+	0.014	3.03 ***	0.018	2.90 ***	0.000	-0.01	0.014	0.81
DRSIZE	-	-0.212	-16.68 ***	-0.188	-11.48 ***	-0.170	-3.65 ***	-0.304	-5.67 ***
Adj. R square		15.00%		14.37%		13.93%		14.58%	
N		22,122		63,818		4,459		14,362	

*Notes
1. This table reports the pooled OLS regression results of H1, firms that have limited growth opportunities and are generating large free cash (J-type firms) have more conditional conservatism than firms that have high growth opportunities and are generating small free cash (Non J-type firms),using the reverse regression in Basu (1997).
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.
4. Variable descriptions:
NI_t is income before extraordinary items (Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
Q is Tobin's Q, calculated as the sum of market value of equity (Data199*Data 25) and book value of debt (Data 34+ Data 9) scaled by total assets (Data 6).
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets (Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

Panel B: Annual Cross-sectional Fama-Macbeth regressions of Earnings Regressed on Contemporaneous Returns

		FCF*Q		EXCASH*Q		FCF*Q		EXCASH*Q	
		Median cutoff				Quartile cutoff			
Variables	Predicted sign								
Intercept		0.0665 ***	0.0586 ***	0.0646 ***	0.054 ***	0.0587 ***	0.0669 *	0.0646 ***	0.0435 ***
		5.44	3.14	5.59	2.91	3.16	1.76	5.59	5.13
D		0.0276 ***	0.0416 ***	0.0275 ***	0.0399 ***	-0.0123	-0.0848	-0.0042	-0.0055
		4.44	5.01	4.61	5.08	(-2.77)	(-1.30)	(-1.42)	(-0.96)
R	+	-0.006 **	-0.0119 **	-0.0041 *	-0.0142 ***	0.0413 ***	-0.0439	0.0274 ***	0.0337 **
		(-2.04)	(-2.65)	(-1.42)	(-2.87)	5	(-0.45)	4.57	2.38
DR	+	0.1976 ***	0.2865 ***	0.1984 ***	0.2782 ***	0.2861 ***	0.1194 *	0.1985 ***	0.1274 ***
		11.12	8.39	11.18	7.96	8.43	1.43	11.18	4.14
AGENCY		0.0061 ***	-0.0016	0.0136 ***	0.0134 ***	-0.0017	0.0266	0.0135 ***	0.0279 **
		3.38	(-0.83)	3.21	4.6	(-0.85)	1.02	3.13	2.34
DAGENCY		0.0107 ***	0.0107 ***	-0.0017	0.0022	0.0107 ***	0.0343**	-0.0016	0.0012
		3.37	3.03	(-0.34)	0.42	3.02	2.63	(-0.32)	0.18
RAGENCY	-	0.0051	0.0049	0.0021	-0.0002	0.0049	-0.0436	0.0025	-0.0107
		0.86	0.69	0.48	(-0.04)	0.69	(-1.19)	0.58	(-0.92)
DRAGENCY	**+**	**0.06 ** **	**0.0818 *** **	**0.0284 ** **	**0.0243 ** **	**0.081 *** **	**0.2263 *** **	**0.0279 ** **	**0.1047 *** **
		2.36	2.99	1.87	1.84	2.97	5.14	1.85	3.28
MB			-0.0293 ***		-0.0289 ***		-0.0437		-0.0362 **
			(-3.50)		(-3.45)		(-1.62)		(-2.64)
DMB			0.0034		0.0052		0.0194		0.0026
			0.71		1.32		0.66		0.24
RMB	-		-0.0263 ***		-0.0252 ***		0.0227		-0.0611 **
			(-2.72)		(-2.76)		0.34		(-2.03)
DRMB	+/-		-0.1613 ***		-0.1591 ***		-0.1032 **		-0.1284 *
			(-5.21)		(-5.50)		(-2.12)		(-1.67)
LEV			-0.0048		0.0016		-0.0061		-0.0049
			(-0.99)		(-0.35)		(-0.72)		(-0.28)
DLEV			0.0039		0.0091		0.1649		0.0093
			0.6		1.51		1.1		0.5
RLEV	-		-0.0088		-0.0086		-0.0400 **		-0.0222
			(-1.04)		(-1.03)		(-2.18)		(-0.51)
DRLEV	+		0.0536 ***		0.0823 ***		0.4526		0.1039
			2.72		4.48		1.06		0.85
SIZE			0.0457 ***		0.0456 ***		0.0333		0.0597 ***
			7.28		6.68		1.23		4.21
DSIZE			0.0014		0.0009		0.0182		-0.0183
			0.26		0.16		1.31		(-1.21)
RSIZE	+		-0.0012		0.0006		0.0608		0.0116
			(-0.16)		0.10		0.78		0.48
DRSIZE	-		-0.1825 ***		-0.1942 ***		-0.0681		-0.143
			(-7.28)		(-6.45)		(-1.38)		(-1.52)
Adj. R Square		13.82%	19.81%	13.86%	19.76%	11.91%	18.56%	14.01%	16.08%

*Notes

1. This table reports the Fama-MacBeth regression results of H1, firms that have limited growth opportunities and are generating large free cash (J-type firms) have more conditional conservatism than firms that have high growth opportunities and are generating small free cash (Non J-type) firms, using the reverse regression in Basu (1997).
2. This table reports the mean coefficients across 37 annual cross-sectional regressions over the period 1970-2006 with Fama-MacBeth t-statistics corrected for autocorrelation using the Newey-West procedure. The t-statistics are reported below the coefficients.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.
4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

Table 3 The Effect of Debt on Conservatism among J-type firms (H2)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 DIST\_D_{t-1} + \alpha_9 D_t DIST\_D_{t-1} + \alpha_{10} R_t DIST\_D_{t-1} + \alpha_{11} D_t R_t DIST\_D_{t-1} + \alpha_{12} AGENCY_{t-1} DIST\_D_{t-1} + \alpha_{13} D_t AGENCY_{t-1} DIST\_D_{t-1} + \alpha_{14} R_t AGENCY_{t-1} DIST\_D_{t-1} + \alpha_{15} D_t R_t AGENCY_{t-1} DIST\_D_{t-11} + Controls + \varepsilon \quad (3A)$$

		FCF*Q			EXCASH*Q			FCF*Q			EXCASH*Q		
	Predicted	Median cutoff						Quartile cutoff					
	sign	coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat	
Intercept		0.070	15.01	***	0.049	7.73	***	-0.007	-0.41		0.023	1.44	
D		-0.057	-8.45	***	-0.063	-7.25	***	-0.023	-0.97		-0.032	-1.38	
R	+	-0.011	-1.64		-0.004	-0.40		-0.012	-0.71		-0.020	-1.12	
DR	+	0.323	19.46	***	0.310	14.16	***	0.227	4.87	***	0.270	5.64	***
AGENCY		-0.019	-4.22	***	0.006	0.92		0.072	4.90	***	0.034	2.27	**
RAGENCY		0.006	0.99		-0.002	-0.20		-0.016	-0.95		-0.003	-0.16	
DAGENCY	-	0.030	4.45	***	0.033	3.92	***	-0.002	-0.10		0.007	0.31	
DRAGENCY	**+**	**0.053**	**3.26**	*******	**0.062**	**2.90**	*******	**0.204**	**4.55**	*******	**0.157**	**3.38**	*******
DIST_D		-0.026	-3.92	***	-0.020	-2.00	**	0.056	3.30	***	0.021	1.22	
DDIST_D		0.023	2.39	**	0.029	2.26	**	-0.008	-0.33		0.014	0.55	
RDIST_D	-	0.051	5.24		0.031	2.02		0.014	0.75		0.050	2.50	
DRDIST_D	+	0.030	1.29	*	0.034	1.01		0.061	1.29	*	-0.001	-0.01	
AGENCYDIST_D		0.019	2.50	**	0.010	0.96		-0.076	-3.41	***	-0.042	-1.87	*
DAGENCYDIST_D		-0.020	-1.81	*	-0.028	-1.98	**	-0.005	-0.14		-0.020	-0.60	
RAGENCYDIST_D	+	-0.021	-1.97		0.003	0.18		0.056	2.09	**	0.010	0.36	
DRAGENCYDIST_D	**-**	**-0.037**	**-1.39**	*	-0.041	-1.16		**-0.268**	**-3.73**	*******	**-0.149**	**-2.02**	******
MB		-0.038	-11.12	***	-0.040	-11.46	***	-0.049	-4.11	***	-0.045	-4.00	***
DMB		0.004	0.79		0.005	0.87		0.008	0.47		0.001	0.09	
RMB	-	-0.017	-3.69	***	-0.018	-3.90	***	0.004	0.32		-0.005	-0.39	
DRMB	+/-	-0.205	-16.63	***	-0.205	-16.66	***	-0.121	-3.25	***	-0.134	-3.68	***
SIZE		0.058	17.05	***	0.061	17.67	***	0.075	6.00	***	0.096	7.49	***
DSIZE		0.022	4.19	***	0.026	4.82	***	0.019	0.97		0.016	0.81	
RSIZE	+	0.016	3.24	***	0.016	3.10	***	-0.001	-0.07		0.004	0.23	
DRSIZE	-	-0.204	-15.38	***	-0.191	-14.11	***	-0.167	-3.57	***	-0.226	-4.50	***
Adj. R square		14.68%			14.56%			13.42%			13.26%		
N		22,122			63,818			4,459			14,362		

*Notes

1.This table reports the pooled OLS regression results of H2, J-type firms that have a smaller amount of debt will have more conditional conservatism than J-type firms that have a larger amount of debt, using the reverse regression in Basu(1997).

2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.

3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.

4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.

R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.

D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.

LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise.

Table 4 The Effect of Dividend Payouts Policy and Stock Repurchases on Conservatism among J-type firms (H3)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 DIV_{t-1} + \alpha_9 D_t DIV_{t-1} + \alpha_{10} R_t DIV_{t-1} + \alpha_{11} D_t R_t DIV_{t-1} + \alpha_{12} AGENCY_{t-1} DIV_{t-1} + \alpha_{13} D_t AGENCY_{t-1} DIV_{t-1} + \alpha_{14} R_t AGENCY_{t-1} DIV_{t-1} + \alpha_{15} D_t R_t AGENCY_{t-1} DIV_{t-11} + Controls + \varepsilon \quad (3A)$$

		FCF*Q		EXCASH*Q		FCF*Q		EXCASH*Q	
	Predicted	Median cutoff				Quartile cutoff			
	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.048	11.46 ***	0.018	2.08 **	0.092	5.20 ***	0.017	3.55 **
D		-0.027	-4.19 ***	-0.023	-1.75 *	-0.043	-1.63	-0.048	-1.84 *
R	+	0.032	5.40 ***	0.024	1.73 **	0.022	1.03	0.044	2.25 **
DR	+	0.270	17.06 ***	0.294	8.80 ***	0.166	3.02 ***	0.266	4.78 ***
AGENCY		0.000	-0.08	0.032	3.52 ***	-0.066	-3.56 ***	-0.049	-2.69 ***
RAGENCY		-0.009	-1.15	0.006	0.47	-0.003	-0.15	-0.029	-1.36
DAGENCY	-	0.017	1.80 *	0.002	0.13	0.033	1.17	0.026	0.92
DRAGENCY	**+**	**0.056**	**2.35 ** **	-0.012	-0.37	**0.121**	**1.88 ** **	**0.048**	**1.73 ** **
DIV		0.043	9.56 ***	0.058	6.29 ***	0.009	0.42	0.000	-0.01
DDIV		0.012	1.70 *	0.013	0.95	0.044	1.29	0.069	2.02 **
RDIV		0.019	2.67 ***	0.040	2.53 **	-0.031	-0.97	-0.023	-0.86
DRDIV		0.120	6.25 ***	0.086	2.20 **	0.312	3.93 ***	0.263	3.28 ***
AGENCYDIV		-0.012	-1.81 *	-0.022	-2.22 **	0.040	1.50	0.052	2.01 **
DAGENCYDIV		-0.001	-0.05	0.001	0.06	-0.053	-1.28	-0.074	-1.78 *
RAGENCYDIV	+	0.015	1.34	-0.018	-1.09	0.060	1.52	0.031	0.86
DRAGENCYDIV	**-**	**-0.084**	**-2.56 *****	0.008	0.18	**-0.209**	**-1.92 ** **	**-0.158**	**-1.85 ** **
REPUR		-0.023	-5.14 ***	-0.010	-0.95	-0.131	-6.85 ***	-0.118	-6.20 ***
DREPUR		-0.019	-2.72 ***	-0.016	-1.02	-0.002	-0.09	-0.049	-1.74 *
RREPUR		-0.080	-12.28 ***	-0.065	-3.64 ***	-0.092	-4.10 ***	-0.106	-5.14 ***
DRREPUR		0.136	8.25 ***	0.095	2.20 **	0.065	1.21	-0.032	-0.56
AGENCYREPUR		0.018	2.43 **	-0.008	-0.69	0.146	6.16 ***	0.132	5.59 ***
DAGENCYREPUR		-0.007	-0.55	-0.006	-0.34	-0.014	-0.39	0.047	1.30
RAGENCYREPUR	+	0.009	0.81	-0.012	-0.66	0.006	0.22	0.046	1.63
DRAGENCYREPUR	**-**	-0.033	-1.08	0.036	0.78	0.066	0.82	0.172	2.09
MB		-0.029	-8.22 ***	-0.031	-8.76 ***	-0.037	-3.14 ***	-0.016	-1.37
DMB		-0.001	-0.12	-0.003	-0.55	0.009	0.50	0.030	1.73 *
RMB	-	-0.020	-4.26 ***	-0.020	-4.30 ***	0.013	0.91	-0.012	-0.90
DRMB	+/-	-0.216	-16.74 ***	-0.213	-16.75 ***	-0.123	-3.28 ***	-0.141	-3.73 ***
LEV		-0.011	-3.27 ***	-0.011	-3.40 ***	0.003	0.25	0.001	0.11
DLEV		0.002	0.34	0.001	0.24	-0.011	-0.65	-0.011	-0.61
RLEV	-	0.033	7.25	0.032	7.23	0.039	2.92	0.043	3.20
DRLEV	+	-0.014	-1.18	-0.012	-0.97	-0.083	-2.41	-0.063	-1.69
SIZE		0.032	7.59 ***	0.035	8.27 ***	0.059	4.24 ***	0.104	7.08 ***
DSIZE		0.026	3.97 ***	0.027	4.00 ***	0.025	1.13	0.009	0.39
RSIZE	+	0.013	2.30 **	0.012	2.08 **	-0.006	-0.32	0.012	0.72
DRSIZE	-	-0.240	-15.57 ***	-0.237	-15.23 ***	-0.192	-3.99 ***	-0.347	-6.31 ***
Adj. R square		16.45%		16.42%		16.24%		17.00%	
N		22,122		63,818		4,459		14,362	

*Notes

1.This table reports the pooled OLS regression results of H3, J-type firms that distribute a smaller amount of cash to shareholders (either in the form of dividends or stock repurchases) will have more conditional conservatism than J-type firms that distribute a larger amount of cash to shareholders, using the reverse regression in Basu(1997).

2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.

3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.

4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.

R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.

D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.

LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

DIV_{t-1} is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the beginning of the fiscal year t.

$REPUR_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the beginning of the fiscal year t.

Table 5 The Effect of the Cash Retention Policy on Conservatism among J-type firms (H4)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 PERS_{t-1} + \alpha_9 D_t PERS_{t-1} + \alpha_{10} R_t PERS_{t-1} + \alpha_{11} D_t R_t PERS_{t-1} + \alpha_{12} AGENCY_{t-1} PERS_{t-1} + \alpha_{13} D_t AGENCY_{t-1} PERS_{t-1} + \alpha_{14} R_t AGENCY_{t-1} PERS_{t-1} + \alpha_{15} D_t R_t AGENCY_{t-1} PERS_{t-11} + Controls + \varepsilon \quad (3A)$$

		FCF*Q		EXCASH*Q		FCF*Q		EXCASH*Q	
	Predicted	Median cutoff				Quartile cutoff			
	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.051	16.17 ***	0.048	17.80 ***	0.035	3.17 ***	0.032	1.31
D		-0.019	-3.54 ***	-0.032	-4.49 ***	-0.029	-1.74 *	-0.024	-1.20
R	+	0.001	0.34	0.003	0.41	-0.031	-2.26	-0.025	-1.61
DR	+	0.401	32.08 ***	0.357	19.81 ***	0.320	8.91 ***	0.315	7.66 ***
AGENCY		0.014	6.15 ***	0.010	2.82 ***	0.025	3.01 ***	0.032	3.31 ***
RAGENCY		0.012	3.53 ***	-0.001	-0.22	0.027	2.67 ***	0.023	1.95 *
DAGENCY	-	-0.001	-0.34	0.004	0.79	0.001	0.11	-0.002	-0.15
DRAGENCY	**+**	-0.070	-7.11	0.017	1.20	**0.054**	**1.95 ** **	**0.054**	**1.74 ** **
PERS		-0.022	-5.32 ***	-0.045	-3.80 ***	-0.039	-2.34 **	-0.042	-2.34 **
DPERS		-0.009	-1.30	0.009	0.52	-0.022	-0.86	-0.005	-0.20
RPERS		-0.038	-7.39 ***	0.010	0.61	-0.024	-1.35	-0.040	-2.24 **
DRPERS		-0.010	-0.64	-0.050	-1.21	-0.029	-0.60	-0.004	-0.08
AGENCYPERS		-0.013	-2.06 **	0.019	1.58	0.020	1.07	0.019	0.94
DAGENCYPERS		0.008	0.74	-0.014	-0.76	0.018	0.63	0.004	0.12
RAGENCYPERS	-	-0.003	-0.30	-0.044	-2.51 ***	-0.032	-1.53 *	-0.017	-0.80
DRAGENCYPERS	**+**	**0.053**	**2.16 ** **	**0.075**	**1.76 ** **	**0.098**	**1.72 ** **	**0.078**	**3.32 *** **
MB		-0.011	-2.99 ***	-0.035	-10.06 ***	-0.040	-3.70 ***	-0.045	-3.79 ***
DMB		0.006	1.07	-0.002	-0.36	0.012	0.73	0.011	0.61
RMB	-	-0.014	-3.06 ***	-0.018	-3.93 ***	0.014	1.06	0.021	1.45
DRMB	+/-	-0.188	-13.97 ***	-0.215	-17.12 ***	-0.129	-3.73 ***	-0.134	-3.58 ***
LEV		-0.022	-6.50 ***	-0.017	-4.87 ***	-0.016	-1.51	-0.003	-0.24
DLEV		0.006	1.05	0.002	0.34	-0.001	-0.09	-0.010	-0.59
RLEV	-	0.020	4.23	0.026	5.70	0.042	3.18	0.025	1.83
DRLEV	+	0.034	2.57 ***	-0.005	-0.42	-0.081	-2.37	-0.070	-1.93
SIZE		0.044	12.27 ***	0.060	17.35 ***	0.070	6.07 ***	0.072	5.74 ***
DSIZE		0.010	1.74 *	0.030	5.65 ***	0.022	1.19	0.022	1.12
RSIZE	+	0.018	3.43 ***	0.020	3.84 ***	0.007	0.47	0.003	0.20
DRSIZE	-	-0.219	-15.08 ***	-0.189	-13.79 ***	-0.221	-5.15 ***	-0.177	-3.79 ***
Adj. R square		15.53%		15.47%		15.17%		14.12%	
N		22,122		63,818		4,459		14,362	

*Notes

1. This table reports the pooled OLS regression results of H3, J-type firms that persistently hold large excess cash have more conditional conservatism than J-type firms that do not persistently hold large excess cash, using the reverse regression in Basu (1997).
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.
4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.
$PERS_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).

Table 6 Agency Costs of Free Cash Flow and Conservatism Controlling for other factors affecting ex-ante Agency Costs of Free Cash Flow (Joint Tests of H1 to H4)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t * AGENCY_{t-1} + \alpha_6 R_t * AGENCY_{t-1} + \alpha_7 D_t R_t * AGENCY_{t-1} + \sum_{i=1}^{3}(\alpha_{8,i} X_{t-1} + \alpha_{9,i} D_t X_{t-1} + \alpha_{10,i} R_t X_{t-1} + \alpha_{11,Ii} D_t R_t X_{t-1}) + \sum_{i=1}^{3}(\alpha_{12,i} AGENCY_{t-1} * X_i + \alpha_{13,i} D_t AGENCY_{t-1} * X_i + \alpha_{14,i} R_t AGENCY_{t-1} * X_i + \alpha_{15,i} D_t R_t AGENCY_{t-1} * X_i) + Controls + \varepsilon \quad (3A)$$

Panel A : Pooled OLS Regressions of Earnings on Contemporaneous Returns

		FCF*Q				EXCASH*Q			
	Predicted	Median cutoff		Quartile cutoff		Median cutoff		Quartile cutoff	
Variable	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.032	5.85 ***	0.032	1.46	0.046	9.89 ***	0.025	1.17
D		-0.021	-2.48 **	-0.001	-0.03	-0.031	-4.22 ***	0.020	0.65
R	+	0.034	4.34 ***	0.092	3.15 ***	0.046	6.97 ***	0.096	3.41 ***
DR	+	0.224	11.17 ***	0.023	0.34	0.230	12.76 ***	0.017	0.25
AGENCY		-0.003	-0.39	-0.024	-0.96	-0.015	-2.22 **	-0.041	-1.70 *
RAGENCY		-0.008	-0.81	-0.048	-1.42	-0.029	-2.99 ***	-0.042	-1.29
DAGENCY	-	0.007	0.67	0.012	0.30	0.021	1.94 *	0.017	0.46
DRAGENCY	**+**	**0.118**	**4.36 *** **	**0.332**	**3.69 *** **	**0.165**	**6.00 *** **	**0.341**	**3.80 *** **
DIST_D		0.005	1.66 *	-0.021	-1.60	0.009	3.03 ***	0.003	0.27
DDIST_D		-0.007	-1.39	0.010	0.53	0.001	0.11	-0.005	-0.28
RDIST_D	-	-0.016	-3.29 ***	-0.004	-0.21	-0.013	-2.99 ***	-0.014	-0.78
DRDIST_D	+	-0.008	-0.67	-0.016	-0.41	0.007	0.58	0.010	0.26
AGENCYDIST_D		0.005	0.99	0.028	1.65 *	-0.001	-0.23	0.008	0.48
DAGENCYDIST_D		0.008	1.10	-0.024	-0.91	-0.007	-0.97	-0.023	-0.88
RAGENCYDIST_D	+	0.009	1.40	-0.017	-0.72	0.006	0.90	0.002	0.11
DRAGENCYDIST_D	**-**	**-0.009**	**-1.47 ***	-0.050	-0.86	**-0.055**	**-2.95 *** **	-0.008	-1.14
DIV		0.037	6.06 ***	0.038	1.36	0.025	4.43 ***	0.025	0.95
DDIV		0.019	1.90 *	0.020	0.44	0.029	3.11 ***	0.026	0.63
RDIV		0.016	1.41	-0.036	-0.77	0.011	1.09	-0.025	-0.59
DRDIV		0.054	1.92 *	0.232	1.97 **	0.059	2.18 **	0.172	1.54
AGENCYDIV		0.002	0.20	0.048	1.40	0.022	2.71 ***	0.068	2.14 **
DAGENCYDIV		-0.011	-0.82	-0.064	-1.15	-0.015	-1.12	-0.039	-0.75
RAGENCYDIV	+	0.014	0.98	0.050	0.88	0.044	3.16 ***	0.038	0.71
DRAGENCYDIV	**-**	**-0.140**	**-3.52 *** **	**-0.365**	**-2.30 ** **	**-0.122**	**-3.03 *** **	**-0.187**	**-1.51 * **
REPUR		-0.032	-5.17 ***	-0.090	-3.82 ***	-0.017	-2.99 ***	-0.056	-2.27 **
DREPUR		-0.022	-2.29 **	-0.010	-0.28	-0.022	-2.43 **	-0.037	-1.04
RREPUR		-0.044	-4.91 ***	-0.031	-0.99	-0.034	-4.15 ***	-0.055	-1.64
DRREPUR		0.091	4.26 ***	-0.021	-0.33	0.095	4.62 ***	0.008	0.11
AGENCYREPUR		0.033	3.86 ***	0.061	2.00 **	0.014	1.58	0.071	2.29 **
DAGENCYREPUR		0.010	0.73	0.047	1.02	0.009	0.62	0.018	0.39
RAGENCYREPUR	+	0.023	1.85 **	0.072	1.77 **	0.007	0.58	0.041	0.97
DRAGENCYREPUR	**-**	0.040	1.19	0.097	0.95	0.029	0.84	0.079	0.75

Table 6 (continued)

PERS		-0.018	-4.00	***	-0.035	-1.96	**	-0.022	-4.42	***	-0.047	-1.67	*
DPERS		-0.003	-0.44		0.001	0.04		0.003	0.39		0.012	0.28	
RPERS		-0.023	-3.86	***	0.019	0.89		-0.008	-1.17		0.035	1.18	
DRPERS		0.025	1.61		-0.024	-0.47		0.011	0.60		-0.073	-0.88	
AGENCYPERS		-0.003	-0.49		0.034	1.51		0.002	0.32		0.021	0.68	
DAGENCYPERS		-0.014	-1.27		-0.057	-1.68	*	-0.028	-2.44	**	-0.043	-0.93	
RAGENCYPERS	-	-0.005	-0.60		-0.097	-3.65	***	-0.031	-3.38	***	-0.085	-2.55	**
DRAGENCYPERS	**+**	**0.048**	**1.79**	******	**0.026**	**1.36**	*****	**0.037**	**1.40**	*****	0.015	1.15	
MB		-0.013	-3.15	***	0.011	0.73		-0.029	-7.09	***	0.007	0.46	
DMB		-0.008	-1.23		-0.038	-1.79	*	-0.005	-0.74		-0.039	-1.82	*
RMB	+	-0.018	-3.21		-0.094	-5.35		-0.028	-5.12		-0.079	-4.47	
DRMB	+/-	-0.140	-9.19	***	0.098	2.22	**	-0.149	-10.19	***	0.106	2.32	**
SIZE		0.036	8.89	***	0.063	3.99	***	0.037	8.98	***	0.078	4.57	***
DSIZE		0.033	5.02	***	0.036	1.37		0.028	4.29	***	0.022	0.81	
RSIZE	+	0.022	3.71	***	0.017	0.80		0.018	3.09	***	0.017	0.74	
DRSIZE	-	-0.201	-12.64	***	-0.195	-3.29	***	-0.234	-14.48	***	-0.218	-3.32	***
Adj. R Square		16.77%			18.07%			16.67%			17.00%		
N		66,332			8,173			72,146			8,776		

Panel B: Fama-MacBeth Regressions using the Median cutoff

		MEDIAN CUTOFF (FCF*Q)										MEDIAN CUTOFF (EXCASH*Q)									
	Predicted	Model 1		Model 2		Model 3		Model 4		Model 5		Model 1		Model 2		Model 3		Model 4		Model 5	
Variable	Sign	H1		H2		H3		H4		H1-H4		H1		H2		H3		H4		H1-H4	
Intercept		0.0501	**	0.0511	**	0.048	**	0.0513	**	0.0518	**	0.0447	*	0.0457	*	0.045	*	0.0475	**	0.0486	**
		-2.18		-2.04		-2.16		-2.22		-2.09		1.93		1.91		1.97		2.08		2.07	
D		-0.0347	**	-0.0386	***	-0.0215		-0.0346	***	-0.0518	***	-0.0372	***	-0.0428	***	-0.0487	**	-0.0393	***	-0.0621	***
		(-6.25)		(-5.69)		(-0.99)		(-5.85)		(-3.54)		(-5.01)		(-6.28)		(-2.56)		(-5.30)		(-3.32)	
R	+	0.0307	***	0.0368	**	0.0476	***	0.0364	***	0.044	***	0.0197	*	0.0331	**	0.01		0.0225	**	0.0223	
		2.76		1.81		3		3.51		3.05		1.68		1.84		0.47		2		1	
DR	+	0.3153	***	0.2573	***	0.2662	**	0.3108	***	0.0922		0.3445	***	0.3474	***	0.1616	**	0.3373	***	0.1405	***
		10.85		3.62		2.13		10.78		1.51		10.12		7.5		2.41		10.71		2.72	
AGENCY		-0.0008		-0.0033		-0.006		0.0001		-0.0075		0.0052		0.004		-0.0019		0.0042		-0.0025	
		(-0.32)		(-0.55)		(-0.61)		-0.03		(-0.60)		1.43		0.6		(-0.14)		1.11		(-0.17)	
DAGENCY		0.0098	*	0.0052		0.0233		0.0096		0.0308		0.0188		0.0172	***	0.0256		-0.0205		0.0496	
		1.66		0.26		1.32		1.61		1.62		(-0.88)		2.97		0.48		(-0.92)		1.3	
RAGENCY	-	-0.0075		-0.0697		0.0782		-0.0013		-0.0996		0.0192	***	0.0047		0.0614	***	0.022	***	0.0496	**
		0.44		0.89		(-0.74)		0.07		1.49		2.62		0.27		3.17		2.71		2.64	
DRAGENCY	**+**	**0.0129**	***	**0.0188**	***	0.0064		**0.0126**	***	**0.0393**	**	**0.0139**	***	**0.0206**	***	**0.0315**	**	**0.0159**	***	**0.0452**	***
		3.07		2.77		0.29		2.79		2.27		2.99		2.97		2.05		2.9		2.89	
DIST_D				-0.0071						-0.0077				-0.0077						-0.0075	
				(-0.69)						(-1.10)				(-0.54)						(-0.61)	
DDIST_D				0.0061						0.0192	*			0.0218	**					0.0242	*
				0.48						1.95				1.91						1.8	
RDIST_D	-			0.0123						0.0208				-0.0023						0.0005	
				0.41						1.53				(-0.07)						0.01	
DRDIST_D	+			0.181	*					0.2183	**			0.1039	**					0.1241	**
				1.43						1.77				1.7						1.98	
AGENCYDIST_D				0.008						0.0064				0.007						0.0058	
				0.85						0.91				0.53						0.48	
DAGENCYDIST_D				-0.0121						-0.0265	**			-0.0273	**					-0.0289	**
				(-0.83)						(-2.11)				(-2.19)						(-2.06)	
RAGENCYDIST_D	+			-0.002						-0.0176				0.0157						0.0047	
				(-0.07)						(-1.22)				0.45						0.15	
DRAGENCYDIST_D	**-**			-0.1249						-0.1461				**-0.0295**	***					**-0.0253**	***
				(-0.92)						(-1.11)				(-2.48)						(-2.43)	

Table 6 (continued)

DIV		0.0544	***	0.0541	***	0.0618	***	
		3.95		3.78		3.92		3.53
DDIV		0.0341		0.0458**		0.0313		0.035
		1.51		2.16		1.29		1.29
RDIV		0.0687	***	0.0684***		0.0611	***	0.0645 ***
		3.3		2.89		3.24		3.22
DRDIV		0.1028		0.1287*		0.1633		0.1891
		1.6		1.94		1.36		1.49
AGENCYDIV		0.0127		0.0122		0.0034		0.0087
		1.08		0.96		0.23		0.58
DAGENCYDIV		-0.0142		-0.0271		-0.0044		-0.0105
		(-0.56)		(-0.99)		(-0.20)		(-0.43)
RAGENCYDIV	+	-0.0319		-0.0343		-0.0233		-0.0303 *
		(-1.19)		(-1.17)		(-1.12)		(-1.36)
DRAGENCYDIV	-	-0.0601		-0.0846		**-0.1033**	****	-0.1296
		(-0.76)		(-0.94)		(-1.86)		(-1.01)
REPUR		-0.0203		-0.0218		-0.0321	**	-0.0263
		(-1.40)		(-1.54)		(-1.86)		(-1.56)
DREPUR		-0.0413		-0.0028		0.0197		0.0165
		(-0.98)		(-0.14)		0.72		0.57
RREPUR		-0.0752	**	-0.0729**		-0.0028		-0.0205
		(-2.11)		(-2.14)		(-0.06)		(-0.48)
DRREPUR		0.0446		0.2992***		0.257	**	0.2691 **
		0.17		2.76		2.12		2.09
AGENCYREPUR		0.0046		0.0041		0.0147		0.0059
		0.3		0.25		0.6		0.24
DAGENCYREPUR		0.0106		-0.027		-0.0515	**	-0.0456
		0.25		(-1.12)		(-1.95)		(-1.57)
RAGENCYREPUR	+	-0.0168		-0.0137		-0.0909	***	-0.0643 **
		(-0.68)		(-0.55)		(-2.47)		(-1.91)
DRAGENCYREPUR	-	0.2193		-0.0501		0.0097		-0.0134
		0.84		(-0.49)		0.09		(-0.12)

Table 6 (continued)

PERS								-0.3163		-0.3042								0.8528		0.8501			
								(-1.14)		(-1.16)								1.01		1			
DPERS								0.2994		0.2898								-1.8962		-1.8449			
								1.07		1.1								(-1.07)		(-1.05)			
RPERS								2.2684		2.191								-3.1748		-3.1542			
								1.06		1.08								(-1.01)		(-1.01)			
DRPERS								-2.3418		-2.2467								-1.0622		-0.4433			
								(-1.10)		(-1.10)								(-1.32)		(-0.68)			
AGENCYPERS								0.295		0.2844								-0.8684		-0.8648			
								1.1		1.11								(-1.02)		(-1.02)			
DAGENCYPERS								-0.2824		-0.2742								1.9074		1.856			
								(-1.06)		(-1.09)								1.07		1.06			
RAGENCYPERS	-							-2.1911		-2.1111								3.2347		3.2189			
								(-1.05)		(-1.07)								1.03		1.03			
DRAGENCYPERS	+							2.3217		2.2119								**1.0373**	*	0.409			
								1.11		1.1								1.31		0.64			
MB		-0.0362	***	-0.0367	***	-0.0233	**	-0.0354	***	-0.0234	**	-0.0371	***	-0.0371	***	-0.0241	**	-0.036	***	-0.0241	**		
		(-3.23)		(-3.26)		(-2.15)		(-3.16)		(-2.16)		(-3.35)		(-3.38)		(-2.19)		(-3.21)		(-2.21)			
DMB		-0.001		0.0012		-0.0017		-0.0014		0.0005		-0.0008		-0.0006		-0.0016		-0.0016		-0.0019			
		(-0.13)		0.15		(-0.20)		(-0.18)		0.06		(-0.10)		(-0.08)		(-0.19)		(-0.21)		(-0.23)			
RMB	-	-0.0319	***	-0.0307	***	-0.0333	***	-0.0318	***	-0.0324	***	-0.0323	***	-0.0321	***	-0.035	***	-0.033	***	-0.0339	***		
		(-4.35)		(-4.21)		(-4.73)		(-4.01)		(-4.54)		(-4.51)		(-4.51)		(-5.11)		(-4.28)		(-4.98)			
DRMB	+/-	-0.2523	***	-0.2387	***	-0.2343	***	-0.2622	***	-0.2263	***	-0.2519	***	-0.2516	***	-0.2416	***	-0.262	***	-0.2536			
		(-6.26)		(-6.11)		(-5.50)		(-6.20)		(-5.56)		(-6.21)		(-6.05)		(-5.59)		(-6.26)		(-5.57)			
LEV		-0.0024				-0.0003		-0.005				-0.0021				0.0003		-0.0045					
		(-0.44)				(-0.06)		(-1.06)				(-0.37)				0.06		(-0.96)					
DLEV		-0.0008				-0.0019		0.0003				-0.002				-0.003		-0.001					
		(-0.16)				(-0.43)		0.08				(-0.41)				(-0.66)		(-0.21)					
RLEV	-	0.0123				0.0073		0.0069				0.011				0.0049		0.0056					
		2.16				1.37		1.05				2				0.98		0.91					
DRLEV	+	0.091	***			0.0845	***	0.1037	***			0.0861	***			0.1002	***	0.1014	***				
		3.19				4.18		3.16				3.54				3.76		3.14					
SIZE		0.0586	***	0.0591	***	0.0211	*	0.0582	***	0.0218	*	0.0599	***	0.0594	***	0.0234	*	0.0591	***	0.0232*			
		7.38		7.58		1.81		7.39		1.89		7.16		6.94		2.02		7.15		1.97			
DSIZE		0.0238		0.0226	***	0.0192	**	0.024	***	0.0177	**	0.0256	***	0.0266	***	0.0195	***	0.0264	***	0.0211	***		
		3.19		2.94		2.49		3.22		2.51		3.59		3.75		2.73		3.68		3.23			
RSIZE	+	0.0071		0.0049		0.0031		0.0071		0.0002		0.0103		0.0095		0.0054		0.0112	*	0.0041			
		1.12		0.76		0.28		1.11		0.03		1.56		1.34		0.57		1.72		0.63			
DRSIZE	-	-0.1673	***	-0.1657	***	-0.1965	***	-0.1663	***	-0.202	***	-0.1723	***	-0.1692	***	-0.2078	***	-0.1718	***	-0.2005	***		
		(-5.72)		(-6.01)		(-8.81)		(-6.61)				(-5.83)		(-6.07)		(-9.65)		(-6.25)		(-9.29)			
Adj. R Square		19.00%		19.33%		22.13%		19.27%		22.30%		19.04%		19.09%		21.78%		19.38%		21.94%			

Panel C: Fama-MacBeth Regressions Using the Quartile cutoff

		QUARTILE CUTOFF (FCF*Q)										QUARTILE CUTOFF (EXCASH*Q)									
	Predicted	Model 1		Model 2		Model 3		Model 4		Model 5		Model 1		Model 2		Model 3		Model 4		Model 5	
Variable	Sign	H1		H2		H3		H4		H1-H4		H1		H2		H3		H4		H1-H4	
Intercept		0.0035		-0.0118		0.138	**	0.0385		0.0453		0.0138		-0.0191		0.1355	**	0.0184		2.7252	
		0.1		(-0.28)		2.11		0.95		1.15		0.42		(-0.47)		2.08		0.59		1.04	
D		0.11		-0.0038		-0.1139	*	-0.1094		-0.0402		0.0097		0.0281		-0.0953		0.0183		-3.9886	
		0.93		(-0.08)		(-1.88)		(-1.00)		(-0.64)		0.29		0.66		(-1.51)		0.63		(-1.02)	
R	+	0.2151	*	0.1413	*	-0.0354		-0.2225		0.141	**	0.1544	*	0.2021	**	-0.0041		0.1532	**	-4.4094	
		1.35		1.53		(-0.32)		(-0.73)		1.7		1.65		1.86		(-0.03)		1.77		(-1.01)	
DR	+	-0.1212		0.1069		-0.0402		0.4949	*	-0.2744		0.2355	**	0.2085	**	0.099		0.35	***	11.9052	
		(-0.36)		1.06		(-0.20)		1.57		(-0.81)		2.12		1.77		0.67		3.11		1.01	
AGENCY		0.0541		0.0337	*	-0.0383	**	-0.0428		-0.0261		-0.0012		0.0328		-0.0619	***	0.001		0.7137	
		1.39		1.87		(-2.47)		(-0.70)		(-0.95)		(-0.10)		1.67		(-4.43)		0.09		0.91	
DAGENCY		-0.1133		0.0255		0.0125		0.1276		0.0202		0.0051		0.001		0.024		0.0013		0.0403	
		(-0.94)		0.92		0.33		1.01		0.32		0.64		0.06		0.76		0.19		1.15	
RAGENCY	-	-0.1536		0.0093		0.0108		0.3729		0.0121		-0.0098		-0.0559		-0.0297		-0.0161		-14.929	
		(-0.79)		0.23		0.24		1.13		0.13		(-0.24)		(-1.26)		(-0.66)		(-0.30)		(-0.99)	
DRAGENCY	**+**	**0.0045**	****	**0.1645**	****	0.2113		-0.0308		**0.3593**	****	**0.1703**	****	**0.1344**	****	**0.2302**	****	-0.0359		0.1738	
		2.09		2.68		0.96		(-0.65)		2.89		3.21		2.82		1.86		(-0.75)		0.68	
DIST_D				0.0799	*					0.0575		0.0441		0.0835	**					-7.3697	
				1.9						1.37		1.4		1.95						(-0.99)	
DDIST_D				-0.0424						-0.0108		-0.0457		-0.0621						8.6662	
				(-0.89)						(-0.18)		(-1.39)		(-1.44)						1	
RDIST_D	-			-0.1517	*					-0.0698		-0.0909		-0.145	*					30.192	
				(-1.53)						(-0.66)		(-1.20)		(-1.52)						1	
DRDIST_D	+			0.1839	**					0.2714		-0.0664		0.0849						0.0166	
				2.08						1.23		(-0.82)		0.88						0.15	
AGENCYDIST_D				-0.0382	*					0.0034				-0.0496	**					-0.0184	
				(-1.72)						0.12				(-2.29)						(-0.88)	
DAGENCYDIST_D				-0.0282						-0.0385				-0.0004						-0.0052	
				(-0.79)						(-0.71)				(-0.02)						(-0.23)	
RAGENCYDIST_D	+			0.07	*					-0.1237				0.0539	*					-0.0758	
				1.53						(-0.81)				1.36						(-0.81)	
DRAGENCYDIST_D	**-**			**-0.3318**	****					**-0.08**	****			-0.1505						**-0.0138**	**
				(-2.70)						(-2.19)				(-1.15)						(-1.87)	

Table 6 (continued)

DIV		0.0856	**	0.1366	**	0.0907	**	-4.2871
		2.69		2.71		2.41		(-0.97)
DDIV		0.0708		0.0243		0.0407		0.0215
		1.57		0.34		0.55		0.24
RDIV		0.0048		-0.132		-0.0158		33.8976
		0.04		(-0.69)		(-0.11)		1
DRDIV		0.2219		0.4264	*	0.3136		0.4212
		1.32		1.94		1.52		1.63
AGENCYDIV		0.0557	**	0.0513	**	0.0446		0.0543 **
		-2.21		-2.05		1.63		1.84
DAGENCYDIV		-0.1174		-0.0868		-0.0474		-0.0626
		(-1.68)		(-1.62)		(-0.59)		(-0.81)
RAGENCYDIV	+	-0.069		-0.0429		0.0086		-0.0097
		(-0.80)		(-0.47)		0.13		(-0.16)
DRAGENCYDIV	-	**-0.3216**	****	**-0.2078**	****	**-0.1616**	*****	**-0.1449** ***
		(-1.74)		(-1.75)		(-2.53)		(-2.48)
REPUR		-0.1908	***	-0.0896		-0.1701	**	-0.2016 **
		(-3.03)		(-1.14)		(-2.26)		(-2.42)
DREPUR		0.0118		-0.0491		0.0239		0.0699
		0.18		(-0.60)		0.32		0.88
RREPUR		-0.0544		-0.3954	*	0.0311		0.1566
		(-0.35)		(-1.87)		0.15		0.52
DRREPUR		0.3999		0.8774	**	0.5154	**	0.2358
		1.47		2.18		1.69		0.64
AGENCYREPUR		0.1068	***	0.0347		0.0999	***	0.1323 **
		3.75		0.44		2.89		2.68
DAGENCYREPUR		0.0474		0.1089		0.0291		-0.0133
		0.93		1.08		0.58		(-0.21)
RAGENCYREPUR	+	0.0699		0.395	*	0.036		-0.0857
		0.8		1.6		0.34		(-0.40)
DRAGENCYREPUR	-	-0.1534		**-0.7081**	*	-0.2716		-0.2299
		(-0.42)		(-1.57)		(-0.78)		(-0.59)

Table 6 (continued)

PERS						-0.0386	*	0.0125						-0.0332		0.0346				
						(-1.80)		0.34						(-0.91)		-0.82				
DPERS						0.0246		-0.0375						0.1198		0.0623				
						-0.67		(-0.72)						1.3		0.66				
RPERS						-0.0362		-0.0286						0.0404		0.0069				
						(-0.55)		(-0.40)						0.37		0.06				
DRPERS						0.11		0.0523						0.1891		0.2462				
						1.32		0.46						0.9		1.16				
AGENCYPERS						0.0075		0.0076						0.0234		-0.0198				
						-0.34		-0.29						0.68		(-0.67)				
DAGENCYPERS						-0.0006		0.0077						-0.1241		-0.0904				
						(-0.02)		0.27						(-1.40)		(-1.16)				
RAGENCYPERS	-					-0.0265		-0.0312						-0.1248	*	-0.0609				
						(-0.83)		(-0.53)						(-1.45)		(-0.56)				
DRAGENCYPERS	**+**					**0.1447**	******	**0.1682**	******					**0.1257**	******	0.0857				
						1.82		1.91						1.87		0.33				
MB		-0.1133		-0.0068		-0.1435		0.0764		-0.0877*		-0.0106		-0.009		-0.141		-0.0114		-0.0851	
		(-0.92)		(-0.12)		(-1.44)		-0.79		(-1.73)		(-0.18)		(-0.15)		(-1.40)		(-0.20)		(-1.64)	
DMB		-0.039		-0.0391		0.1136		-0.0418		0.0511		-0.0467		-0.05		0.0989		-0.0453		0.0411	
		(-0.62)		(-0.63)		-1.16		(-0.70)		-0.97		(-0.74)		(-0.80)		0.97		(-0.74)		0.74	
RMB	-	0.0487		-0.1366		0.2686		-0.1359		0.162		-0.1193		-0.1196		0.2733		-0.1148		0.1706	
		0.21		(-0.99)		0.97		(-1.00)		0.9		(-0.87)		(-0.87)		0.96		(-0.85)		0.91	
DRMB	+/-	0.0036		-0.0153		-0.371		-0.0102		-0.3363	**	0.2472		-0.064		-0.4019		-0.0562		-0.3103	
		0.02		(-0.10)		(-1.26)		(-0.07)		(-1.83)		0.74		(-0.44)		(-1.42)		(-0.38)		(-1.69)	
LEV		0.0474				0.007		0.0423								-0.0025		0.031			
		1.51				0.44		1.41								(-0.17)		1.07			
DLEV		-0.0427				-0.0018		-0.0383								-0.0065		-0.0461			
		(-1.25)				(-0.09)		(-1.18)								(-0.37)		(-1.52)			
RLEV	-	-0.0363				-0.1258		-0.0454								-0.1096		-0.0432			
		(-0.62)				(-0.92)		(-0.78)								(-0.84)		(-0.77)			
DRLEV	+	0.0137				0.1884		0.0382								0.04		-0.078			
		0.17				1.21		0.47								0.27		(-0.90)			
SIZE		0.0784	***	0.0801	***	0.0171		0.0749	***	0.023		0.0921	***	0.0947	***	0.0231		0.0902	***	0.0352	**
		5.72		5.98		0.68		5.35		1.45		7.74		7.73		1.09		7.3		2.56	
DSIZE		0.0192		0.0154		0.0618	**	0.0335		0.0513	*	0.0157		0.0165		0.04		0.0172		0.0292	
		0.69		0.59		2.11		1.14		1.88		0.67		0.74		1.54		0.77		1.25	
RSIZE	+	-0.0254		-0.0242		-0.0305		-0.0208		-0.0214		-0.0434		-0.0448		-0.032		-0.0472	**	-0.037	
		(-1.04)		(-0.96)		(-1.09)		(-0.95)		(-0.74)		(-1.64)		(-1.61)		(-0.96)		(-2.06)		(-1.11)	
DRSIZE	-	-0.158	***	-0.1693	***	-0.0689		-0.1267	**	-0.111		-0.1336	**	-0.1242	*	-0.2438	**	-0.1293	*	-0.2416	**
		(-2.62)		(-3.00)		(-0.69)		(-1.72)		(-1.15)		(-1.74)		(-1.66)		(-2.20)		(-1.46)		(-2.48)	
Adj. R Square		17.00%		16.76%		21.53%		17.91%		22.45%		17.25%		17.19%		21.35%		18.10%		22.00%	

*Notes
1.Panel A reports the pooled OLS regression results of the joint test of H1 through H4, while Panel B and C report the Fama-MacBeth regression results of the joint test of H1 through H4 using the reverse regression in Basu (1997).
2. Panel A reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. Panel B and C report the mean coefficients across 37 annual cross-sectional regressions over the period 1970-2006 with Fama-MacBeth t-statistics corrected for autocorrelation using the Newey-West procedure. The t-statistics are reported below the coefficients.
4. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively. P-values are one-tailed when the sign of the coefficient is predicted, two-tailed otherwise.
5. Variable descriptions:
NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.
$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise.
DIV_{t-1} is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the beginning of the fiscal year t.
$REPUR_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the beginning of the fiscal year t.
$PERS_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).

Table 7 The Effect of Corporate Governance on Conservative Reporting among J-type firms (H5)

Panel A: Pooled OLS regressions using the Median cutoff

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 GOV_{t-1} + \alpha_9 D_t GOV_{t-1} + \alpha_{10} R_t GOV_{t-1} + \alpha_{11} D_t R_t GOV_{t-1} + \alpha_{12} AGENCY_{t-1} GOV_{t-1} + \alpha_{13} D_t AGENCY_{t-1} GOV_{t-1} + \alpha_{14} R_t AGENCY_{t-1} GOV_{t-1} + \alpha_{15} D_t R_t AGENCY_{t-1} GOV_{t-11} + Controls + \varepsilon \quad (3A)$$

		FCF*Q				EXCASH*Q				FCF*Q				EXCASH*Q			
		Median Cutoff								Quartile Cutoff							
GOV=		Inv G score		Inv E Index		Inv G score		Inv E Index		Inv G score		Inv E Index		Inv G score		Inv E Index	
Predicted sign		coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		-0.003	-0.37	0.000	1.00	0.045	8.43 ***	-0.006	0.4493	0.000	0.98	0.019	0.88	0.034	1.45	0.052	2.24 **
D		0.014	1.17	-0.039	-4.28 ***	-0.017	-1.93 *	-0.034	-3.24 ***	-0.027	-0.83	-0.043	-1.31	-0.018	-0.52	-0.037	-1.11
R	+	0.034	3.16 ***	-0.001	-0.10	0.014	1.76 *	0.000	0.04	0.001	0.03	-0.048	-1.97	-0.031	-1.18	-0.071	-2.68
DR	+	0.279	10.13 ***	0.259	12.00 ***	0.350	15.21 ***	0.282	10.8 ***	0.278	4.27 ***	0.326	5.04 ***	0.407	5.8 ***	0.430	6.33 ***
AGENCY		0.004	0.33	0.003	0.54	0.007	1.33	0.009	1.25	0.021	1.08	-0.009	-0.46	-0.010	-0.48	-0.037	-1.82 *
DAGENCY		0.000	-0.03	0.030	3.65 ***	0.007	0.77	0.020	2.14 **	-0.014	-0.49	0.029	1.00	-0.013	-0.43	0.012	0.38
RAGENCY	-	-0.007	-0.37	-0.001	-0.18	-0.007	-0.77	-0.003	-0.28	-0.023	-1.00	0.044	2.03 **	-0.010	-0.45	0.035	1.51
DRAGENCY	**+**	**0.075**	**1.81 ** **	**0.064**	**3.22 *** **	**0.076**	**2.83 *** **	0.029	1.20	-0.007	-0.12	0.002	0.03	-0.042	-0.65	-0.085	-1.34
GOV		0.003	0.35	0.012	1.58	0.003	0.63	0.004	0.38	0.017	0.82	-0.016	-0.82	0.035	1.5	0.001	0.06
DGOV		0.003	0.23	0.001	0.10	-0.003	-0.36	0.004	0.29	-0.025	-0.83	-0.002	-0.06	-0.060	-1.84 *	-0.027	-0.86
RGOV		-0.032	-2.48 **	-0.011	-1.02	0.004	0.52	-0.017	-1.06	0.070	2.97 ***	0.012	0.56	-0.056	-2.05 **	0.015	0.59
DRGOV		0.076	2.44 **	0.013	0.46	-0.017	-0.80	0.011	0.31	-0.032	0.56	-0.055	-1.99 **	-0.028	-0.44	-0.076	-1.83 *
AGENCYGOV		-0.016	-1.01	-0.008	-0.93	-0.003	-0.42	0.002	0.22	-0.023	-0.90	0.028	1.15	-0.057	-2.03 **	-0.003	-0.12
DAGENCYGOV		0.002	0.06	-0.018	-1.38	-0.006	-0.38	-0.018	-1.19	0.047	1.20	-0.029	-0.78	0.057	1.38	0.013	0.33
RAGENCYGOV	+/-	0.015	0.58	0.004	0.30	-0.001	-0.04	0.009	0.54	0.062	2.04 **	-0.050	-1.76 **	0.058	1.72 **	-0.026	-0.86
DRAGENCYGOV	+/-	**-0.095**	**-1.87 ** **	-0.031	-0.99	**-0.081**	**-1.99 ** **	-0.021	-0.56	**0.106**	**2.27 ** **	0.080	1.01	**0.041**	**1.46 **	**0.129**	**1.92 ** **
MB		-0.016	-2.57 **	-0.028	-5.87 ***	-0.004	-0.75	-0.030	-6.12 ***	-0.080	-4.71 ***	-0.081	-4.75 ***	-0.095	-5.33 ***	-0.095	-5.34 ***
DMB		-0.027	-2.49 **	-0.002	-0.26	-0.008	-0.95	-0.001	-0.14	0.016	0.63	0.018	0.69	0.023	0.89	0.025	0.94
RMB	+	-0.046	-5.61 ***	-0.024	-3.90 ***	-0.021	-2.87 ***	-0.023	-3.85 ***	-0.013	-0.69	-0.011	-0.60	0.003	0.14	0.001	0.06
DRMB	+/-	-0.081	-3.37 ***	-0.134	-8.27 ***	-0.145	-6.86 ***	-0.132	-8.15 ***	-0.136	-2.60 ***	-0.133	-2.54 ***	-0.171	-3.16 ***	-0.167	-3.07 ***
LEV		0.013	2.14 **	0.013	2.93 ***	-0.016	-3.22 ***	0.013	2.91 ***	0.043	2.78 ***	0.042	2.78 ***	0.016	0.96	0.016	0.91
DLEV		0.004	0.35	0.000	-0.01	0.019	2.30 **	-0.001	-0.15	-0.007	-0.29	-0.007	-0.29	0.014	0.53	0.015	0.58
RLEV	-	0.021	2.59	0.023	3.91	0.023	3.24	0.023	3.92	0.037	2.08	0.038	2.11	0.057	2.91	0.060	3.05
DRLEV	+	0.043	1.83 **	0.006	0.39	0.036	1.73 **	0.004	0.28	-0.014	-0.29	-0.017	-0.36	-0.076	-1.39	-0.078	-1.43
SIZE		0.068	10.43 ***	0.068	14.36 ***	0.040	8.57 ***	0.070	14.60 ***	0.072	4.30 ***	0.072	4.31 ***	0.085	4.52 ***	0.083	4.4 ***
DSIZE		-0.009	-0.86	0.019	2.58 ***	0.016	2.02 **	0.020	2.66 ***	0.046	1.70 *	0.047	1.74 *	0.024	0.81	0.026	0.87
RSIZE	+	0.004	0.39	0.013	1.98 **	0.021	2.84 ***	0.013	1.96 **	0.022	1.04	0.021	0.96	0.022	0.92	0.027	1.09
DRSIZE	-	-0.314	-11.71 ***	-0.205	-11.79 ***	-0.256	-12.12 ***	-0.203	-11.44 ***	-0.152	-2.49 ***	-0.147	-2.40 ***	-0.231	-3.12 ***	-0.235	-3.17 ***
Adj. R square		13.75%		13.76%		13.65%		13.78%		13.22%		14.02%		11.87%		12.01%	
N		19,394		19,394		33,923		33,923		4,507		4,507		3,848		3,848	

Panel B: Agency Costs of Free Cash Flow and Conservatism Controlling for other factors affecting ex-ante Agency Costs of Free Cash Flow (Joint Test) post 90s

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t * AGENCY_{t-1} + \alpha_6 R_t * AGENCY_{t-1} + \alpha_7 D_t R_t * AGENCY_{t-1} + \sum_{i=1}^{4}(\alpha_{8,i} X_{t-1} + \alpha_{9,i} D_t X_{t-1} + \alpha_{10,i} R_t X_{t-1} + \alpha_{11,Ii} D_t R_t X_{t-1}) + \sum_{i=1}^{4}(\alpha_{12,i} AGENCY_{t-1} * X_i + \alpha_{13,i} D_t AGENCY_{t-1} * X_i + \alpha_{14,i} R_t AGENCY_{t-1} * X_i + \alpha_{15,i} D_t R_t AGENCY_{t-1} * X_i) + Controls + \varepsilon \quad (3A)$$

		FCF*Q				EXCASH*Q			
	Predicted	Median cutoff		Quartile cutoff		Median cutoff		Quartile cutoff	
variable	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.003	0.37	0.078	2.17 **	0.021	2.89 ***	0.051	1.24
D		-0.008	-0.63	-0.053	-0.99	-0.003	-0.23	0.024	0.41
R	+	0.016	1.35 *	0.021	0.36	0.039	3.71 ***	0.085	1.32 *
DR	+	0.268	9.10 ***	0.195	1.69 *	0.264	9.67 ***	0.104	0.79
AGENCY		0.010	1.00	-0.047	-1.14	-0.014	-1.27	-0.099	-2.08 **
DAGENCY		-0.001	-0.08	0.031	0.49	-0.025	-1.44	0.093	1.32
RAGENCY	+	-0.003	-0.21	0.013	0.20	-0.055	-3.60 ***	-0.028	-0.39
DRAGENCY	**+**	**0.048**	**1.78 ****	**0.160**	**1.91 ****	**0.095**	**2.19 ****	**0.383**	**2.25 ****
GOV		0.004	0.67	-0.039	-1.67 *	0.010	1.88 *	-0.015	-0.52
DGOV		-0.010	-1.11	0.058	1.75 *	-0.015	-1.75 *	0.020	0.50
RGOV		-0.005	-0.59	0.030	0.94	-0.010	-1.36	0.010	0.26
DRGOV		-0.009	-0.43	0.004	0.06	-0.004	-0.19	0.014	0.18
AGENCYGOV		0.005	0.65	0.033	1.14	-0.012	-1.50	0.009	0.25
DAGENCYGOV		-0.001	-0.04	-0.056	-1.25	0.022	1.63 *	-0.061	-1.18
RAGENCYGOV	+/-	-0.010	-0.90	-0.049	-1.29	0.013	1.12	-0.033	-0.71
DRAGENCYGOV	**+/-**	0.027	0.88	0.040	0.42	**-0.023**	**-1.79 ****	0.076	0.66
DIST_D		-0.001	-0.33	-0.030	-1.70 *	0.003	0.80	-0.007	-0.35
DDIST_D		-0.007	-0.98	0.011	0.41	-0.006	-0.89	-0.011	-0.38
RDIST_D		-0.011	-1.70 *	-0.002	-0.10	-0.016	-2.68 ***	-0.018	-0.63
DRDIST_D		-0.014	-0.87	-0.035	-0.67	-0.003	-0.21	-0.003	-0.04
AGENCYDIST_D		0.000	0.00	0.002	0.10	-0.011	-1.62 *	-0.001	-0.04
DAGENCYDIST_D		0.013	1.21	-0.010	-0.29	0.019	1.75 *	-0.051	-1.21
RAGENCYDIST_D	+	0.012	1.39	-0.005	-0.15	0.028	3.16 ***	0.016	0.46
DRAGENCYDIST_D	**-**	-0.034	-1.14	**-0.042**	**-2.55 *****	**-0.036**	**-1.39 ***	**-0.082**	**-1.68 ****
DIV		0.042	4.74 ***	0.047	1.09	0.022	2.63 ***	0.039	0.85
DDIV		0.012	0.82	0.006	0.08	0.018	1.25	-0.002	-0.02
RDIV		0.047	2.67 ***	0.043	0.45	0.041	2.59 ***	0.006	0.07
DRDIV		-0.082	-1.96 **	-0.014	-0.07	-0.075	-1.83	0.013	0.06
AGENCYDIV		-0.015	-1.28	0.046	0.89	0.029	2.36 **	0.094	1.65 *
DAGENCYDIV		0.003	0.15	-0.012	-0.14	0.003	0.16	0.006	0.07
RAGENCYDIV	+	0.011	0.52	-0.015	-1.14	0.042	1.88 *	0.014	1.13
DRAGENCYDIV	**-**	-0.055	-0.91	**-0.103**	**-1.40 ***	**-0.062**	**-1.99 ****	**-0.118**	**-1.41 ***
REPUR		-0.028	-3.55 ***	-0.089	-2.93 ***	-0.021	-2.76 ***	-0.050	-1.30
DREPUR		-0.025	-2.05 **	-0.003	-0.08	-0.041	-3.43 ***	-0.040	-0.72
RREPUR		-0.046	-4.22	-0.008	-0.19	-0.043	-4.12 ***	-0.076	-1.38
DRREPUR		0.091	3.42 ***	-0.015	-0.17	0.063	2.38 ***	0.091	0.83
AGENCYREPUR		0.008	0.69	-0.006	-0.15	-0.010	-0.84	-0.003	-0.05
DAGENCYREPUR		0.011	0.61	0.082	1.33	0.039	2.04 **	0.016	0.22
RAGENCYREPUR	+	0.023	1.46	0.072	1.36	0.019	1.17	0.074	1.13
DRAGENCYREPUR	**-**	0.004	0.10	0.034	0.26	0.026	0.59	-0.078	-0.50

Table 7 (continued)

PERS		-0.009	-1.63		-0.016	-0.76		-0.017	-2.61	***	-0.075	-1.62		
DPERS		0.000	-0.04		0.006	0.19		0.010	1.02		0.033	0.50		
RPERS		-0.016	-2.22	**	0.029	1.09		0.006	0.70		0.079	1.48		
DRPERS		0.018	0.95		-0.018	-0.30		0.001	0.04		-0.129	-1.08		
AGENCYPERS		-0.003	-0.38		0.042	1.47		0.017	1.82	*	0.101	2.02	**	
DAGENCYPERS		-0.023	-1.63		-0.100	-2.35	**	-0.054	-3.69	***	-0.115	-1.62		
RAGENCYPERS	-	-0.005	-0.44		-0.111	-3.38	***	-0.038	-3.36	***	-0.142	-2.50	**	
DRAGENCYPERS	+	-0.058	-1.78		-0.051	-0.59		-0.061	-1.89		0.043	0.31		
MB		-0.014	-2.43	**	-0.039	-1.92	*	-0.029	-5.05	***	-0.041	-1.72		
DMB		-0.020	-2.30	**	-0.032	-1.04		-0.015	-1.66	*	-0.033	-0.97		
RMB	+	-0.028	-3.88		-0.105	-4.59	***	-0.040	-5.47	***	-0.091	-3.60	***	
DRMB	+/-	-0.140	-7.12	***	-0.007	-0.11		-0.120	-6.08	***	0.029	0.41		
SIZE		0.046	8.27	***	0.049	2.36	**	0.048	8.47	***	0.061	2.31	**	
DSIZE		0.041	4.65	***	0.063	1.86	*	0.037	4.09	***	0.017	0.38		
RSIZE	+	0.024	3.20	***	0.029	1.11		0.024	3.09	***	0.029	0.86		
DRSIZE	-	-0.168	-8.05	***	-0.192	-2.53	**	-0.194	-9.02	***	-0.261	-2.44	**	
Adj. R square		16.30%			19.40%			16.60%			17.05%			
N		19,394			4,507			33,923			3,848			

*Notes

1. Panel A reports the pooled OLS regression results of H5, the strength of corporate governance will affect the magnitude of conditional conservatism among J-type firms, while Panel B reports the pooled OLS regression results of joint tests of H1 through H5 using the reverse regression in Basu (1997).
2. Panels A and B report the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively. P-values are one-tailed when the sign of the coefficient is predicted, two-tailed otherwise.
4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.

R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.

D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.

LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise.

DIV_{t-1} is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the beginning of the fiscal year t.

$REPUR_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the beginning of the fiscal year t.

$PERS_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).

GOV_{t-1} is either a dummy variable that is set to 1 if the firm has Inverse G-score (Inv G-score) or Inverse E-index (Inv E-index) above the industry median and 0 otherwise. Inv G-score is the measure of anti-takeover protection developed by Gompers et al. (2003), multiplied by minus one. Inv E-index is the measure of managerial entrenchment developed by Bebchuck et al (2009), multiplied by minus one.

Table 8 The Effect of Conservatism on Ex-Post Overinvestment among J-type firms (H6)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t * AGENCY_{t-1} + \alpha_6 R_t * AGENCY_{t-1} + \alpha_7 D_t R_t * AGENCY_{t-1} + \alpha_8 OVERINV_{t+1} + \alpha_9 OVERINV_{t+1} + \alpha_{10} R_t OVERINV_{t+1} + \alpha_{11} D_t R_t OVERINV_{t+1} + \alpha_{12} AGENCY_{t-1} * OVERINV_{t+1} + \alpha_{13} D_t AGENCY_{t-1} * OVERINV_{t+1} + \alpha_{14} R_t AGENCY_{t-1} * OVERINV_{t+1} + \alpha_{15} D_t R_t AGENCY_{t-1} * OVERINV_{t+1} + Controls + \varepsilon \quad (4A)$$

Panel A: Pooled OLS Regressions of Earnings on Contemporaneous Returns using the Median cutoff

		FCF*Q						EXCASH*Q					
		Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
OVERINV in		Total Investment		CAPEX		Acquitision		Total Investment		CAPEX		Acquitision	
Predicted sign		coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.023	4.82 ***	0.023	4.93 ***	0.021	4.40 ***	0.054	14.19 ***	0.060	14.07 ***	0.054	14.13 ***
D		-0.046	-6.30 ***	-0.045	-6.11 ***	-0.044	-6.08 ***	-0.036	-5.94 ***	-0.039	-5.77 ***	-0.035	-5.83 ***
R	+	-0.016	-2.63	-0.019	-3.09	-0.019	-3.15	0.004	0.81	0.008	1.32 *	0.004	0.76
DR	+	0.329	19.55 ***	0.341	20.39 ***	0.333	20.04 ***	0.341	23.62 ***	0.308	19.27 ***	0.345	23.93 ***
AGENCY		0.025	8.38 ***	0.025	8.48 ***	0.029	9.49 ***	0.005	1.85 *	0.006	1.36	0.004	1.55
DAGENCY		0.021	4.40 ***	0.022	4.57 ***	0.019	3.93 ***	0.008	1.88 *	0.015	2.35 **	0.007	1.60
RAGENCY	+	0.017	4.12 ***	0.019	4.60 ***	0.015	3.70 ***	-0.010	-2.90	-0.002	-0.42	-0.015	-4.01
DRAGENCY	**+**	**0.019**	**1.65 ** **	**0.015**	**1.31 ***	**0.031**	**2.69 *** **	**0.041**	**4.09 *** **	**0.068**	**4.43 *** **	**0.053**	**5.10 *** **
OVERINV		-0.002	-0.45	-0.005	-0.88	0.025	5.25 ***	0.002	0.36	0.006	3.93 ***	0.014	3.51 ***
DOVERINV		0.014	1.84 *	-0.002	-0.28	0.007	0.83	0.014	1.28	0.001	0.47	0.007	0.97
ROVERINV		-0.015	-2.37 **	-0.019	-2.69 ***	0.005	0.72	0.003	0.33	-0.006	-3.25 ***	0.006	1.15
DROVERINV		0.046	2.64 ***	-0.025	-1.40	-0.001	-0.03	0.042	1.74 *	0.006	1.05	-0.029	-1.57
AGENCYOVERINV		0.003	0.46	0.005	0.77	-0.016	-2.56 **	-0.012	-1.31	-0.001	-0.70	0.003	0.54
DAGENCYOVERINV		-0.015	-1.41	-0.020	-1.82 *	-0.009	-0.83	-0.035	-2.21 **	-0.007	-2.18 **	-0.014	-1.39
RAGENCYOVERINV	+	0.001	0.08	-0.009	-0.88	0.007	0.74	-0.029	-2.56	-0.006	-2.22	0.003	0.39
DRAGENCYOVERINV	**-**	-0.006	-0.22	0.022	0.83	**-0.091**	**-2.95 *** **	0.011	0.30	**-0.017**	**-2.02 ** **	**-0.066**	**-2.29 ** **
MB		-0.023	-5.01 ***	-0.023	-5.09 ***	-0.024	-5.21 ***	-0.039	-9.57 ***	-0.043	-10.44 ***	-0.039	-9.79 ***
DMB		0.009	1.30	0.011	1.47	0.011	1.49	0.001	0.08	0.004	0.57	0.000	-0.03
RMB	-	-0.008	-1.33 *	-0.008	-1.40 *	-0.009	-1.49 *	-0.023	-4.30 ***	-0.019	-3.48 ***	-0.023	-4.37 ***
DRMB	+/-	-0.194	-11.75 ***	-0.190	-11.54 ***	-0.189	-11.52 ***	-0.213	-14.72 ***	-0.194	-12.71 ***	-0.213	-14.73 ***
LEV		0.005	1.13	0.005	1.20	0.004	0.94	-0.008	-2.10 **	-0.011	-2.96 ***	-0.009	-2.35 **
DLEV		0.008	1.19	0.007	1.07	0.006	0.98	0.006	0.94	0.008	1.30	0.005	0.82
RLEV	-	0.034	6.26	0.037	6.94	0.035	6.55	0.026	5.13	0.030	5.82	0.026	5.14
DRLEV	+	0.017	1.13	0.009	0.63	0.011	0.72	0.023	1.64 *	0.006	0.44	0.017	1.24
SIZE		0.057	13.87 ***	0.057	13.86 ***	0.054	12.94 ***	0.056	14.92 ***	0.045	11.40 ***	0.053	13.97 ***
DSIZE		0.027	4.09 ***	0.028	4.34 ***	0.027	4.02 ***	0.033	5.56 ***	0.032	5.11 ***	0.034	5.58 ***
RSIZE	+	0.015	2.44 ***	0.015	2.56 **	0.013	2.12 **	0.019	3.48 ***	0.022	3.85 ***	0.018	3.32 ***
DRSIZE	-	-0.189	-11.54 ***	-0.183	-11.19 ***	-0.182	-11.01 ***	-0.179	-11.82 ***	-0.143	-8.81 ***	-0.172	-11.24 ***
Adj. R square		15.61%		15.68%		15.76%		15.02%		13.56%		15.16%	
N		20,117						60,418					

Panel B: Pooled OLS Regressions of Earnings on Contemporaneous Returns using the Quartile cutoff

		FCF*Q						EXCASH*Q					
		Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
OVERINV in		Total Investment		CAPEX		Acquitision		Total Investment		CAPEX		Acquitision	
Predicted sign		coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.024	1.85 *	0.024	1.85 *	0.024	1.80 *	0.042	3.33 ***	0.060	4.26 ***	0.041	3.28 ***
D		-0.059	-2.99 ***	-0.053	-2.67 ***	-0.050	-2.52 **	-0.055	-2.92 ***	-0.050	-2.42 **	-0.048	-2.55 **
R	+	-0.021	-1.31	-0.022	-1.36	-0.020	-1.29	-0.018	-1.21	-0.010	-0.61	-0.017	-1.15
DR	+	0.216	5.11 ***	0.228	5.39 ***	0.229	5.47 ***	0.254	6.15 ***	0.233	5.16 ***	0.264	6.41 ***
AGENCY		0.030	3.12 ***	0.032	3.34 ***	0.034	3.56 ***	0.015	1.57	0.010	0.81	0.014	1.52
DAGENCY		0.026	1.75 *	0.020	1.34	0.010	0.71	0.016	1.18	0.023	1.26	0.010	0.71
RAGENCY	-	0.020	1.69	0.014	1.21	0.005	0.45	0.003	0.29	0.002	0.10	-0.004	-0.38
DRAGENCY	**+**	**0.115**	**3.57 *** **	**0.126**	**3.91 *** **	**0.121**	**3.89 *** **	**0.119**	**3.87 *** **	**0.161**	**3.96 *** **	**0.133**	**4.32 *** **
OVERINV		0.001	0.07	0.009	0.54	0.039	2.32 **	0.009	0.41	0.003	0.69	0.041	2.55 **
DOVERINV		0.044	1.92 *	-0.006	-0.26	-0.018	-0.68	0.039	1.19	0.003	0.40	-0.022	-0.86
ROVERINV		-0.005	-0.31	-0.034	-1.82 *	-0.032	-1.47	-0.017	-0.74	-0.011	-2.05 **	-0.029	-1.32
DROVERINV		0.082	1.77 *	0.006	0.12	-0.004	-0.06	0.116	1.65 *	0.024	1.53	0.026	0.40
AGENCYOVERINV		0.006	0.3	-0.002	-0.12	-0.027	-1.29	-0.053	-1.94 *	-0.004	-0.74	-0.027	-1.31
DAGENCYOVERINV		-0.074	-2.53 **	-0.036	-1.19	0.016	0.47	-0.062	-1.42	-0.012	-1.28	0.010	0.30
RAGENCYOVERINV	+	-0.037	-1.62 *	-0.009	-0.36	0.058	2.10 **	-0.001	-0.02	0.001	0.13	0.053	1.92 *
DRAGENCYOVERINV	**-**	**-0.066**	**-1.81 ****	**-0.101**	**-2.15 ****	**-0.163**	**-1.83 ****	-0.072	-0.75	**-0.045**	**-2.15 ****	**-0.184**	**-2.08 ****
MB		-0.046	-3.84 ***	-0.047	-3.98 ***	-0.047	-3.91 ***	-0.038	-3.35 ***	-0.044	-3.79 ***	-0.041	-3.60 ***
DMB		0.019	1.05	0.022	1.25	0.020	1.14	0.018	1.08	0.013	0.77	0.017	1.00
RMB	-	0.008	0.58	0.012	0.82	0.007	0.52	-0.008	-0.57	-0.008	-0.56	-0.008	-0.59
DRMB	+/-	-0.085	-2.22 **	-0.081	-2.11 **	-0.084	-2.19 **	-0.090	-2.40 **	-0.085	-2.18 **	-0.092	-2.46 **
LEV		0.012	1.06	0.011	1.01	0.008	0.75	-0.005	-0.50	-0.016	-1.46	-0.008	-0.72
DLEV		0.008	0.46	0.007	0.41	0.006	0.38	0.017	1.01	0.025	1.47	0.016	0.96
RLEV	-	0.036	2.56	0.040	2.87	0.040	2.87	0.047	3.47	0.057	4.13	0.049	3.62 ***
DRLEV	+	-0.017	-0.48	-0.024	-0.67	-0.025	-0.69	-0.034	-0.93	-0.053	-1.38	-0.046	-1.24
SIZE		0.080	6.33 ***	0.080	6.34 ***	0.076	5.94 ***	0.093	7.28 ***	0.083	6.20 ***	0.090	6.97 ***
DSIZE		0.024	1.20	0.025	1.27	0.025	1.23	0.025	1.22	0.010	0.48	0.025	1.25
RSIZE	+	-0.026	-1.47	-0.025	-1.45	-0.025	-1.42	0.006	0.35	0.006	0.33	0.006	0.33
DRSIZE	-	-0.131	-2.71 ***	-0.121	-2.51 **	-0.124	-2.56 **	-0.208	-4.07 ***	-0.186	-3.41 ***	-0.202	-3.93 ***
Adj. R square		13.00%		13.25%		13.08%		13.72%		13.53%		13.79%	
N		11,012						12,780					

*Notes

1. This table reports the pooled OLS regression results of H6, J-type firms with more conditional conservatism are less likely to overinvest ex-post than J-type firms with less conditional conservatism, using reverse regression in Basu (1997).
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively. P-values are one-tailed when the sign of the coefficient is predicted, two-tailed otherwise.
4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.

R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.

D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t
OVERINV is a dummy variable that gets 1 when firm-year observations are in the top quartile of * unpredicted total investment (or capital expenditure or acquisition expenditure)from Biddle et al. (2009)'s investment regression and 0 otherwise.
CAPEX is the capital expenditure (Data 128) scaled by total assets (Data 6).
R&D is the research and development expenditure (Data46) scaled by total assets (Data 6).
Acquisitions is acquisition expenditure (Data 129) scaled by total assets (Data 6).
Investment is total investment expenditure, calculated as R&D(Data46) plus CAPEX(Data 128) plus Acquisitions(Data 129) less cash receipts from sale of property, plant and equipment, SalePPE (Data 107), deflated by total assets (Data6).
Biddle et al. (2009) use residual term from the following regression as a firm-specific proxy for overinvestment. The following regression is estimated for each industry-year based on the Fama and French 48 industry classification for all industries with at least 20 observations per year.

$$Investment_{i,t+1}=\beta_0+\beta_1 Sales\ Growth_{i,t}+\varepsilon_{i,t+1}$$

Table 9 Robustness tests – Using Basu's Asymmetric reversion model

Pooled OLS Regression of Change in Earnings at year t+1 on Change in Earnings at year t

$$\Delta NI_{t+1} = \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_t + \beta_3 DNI_t \Delta NI_t + \beta_4 AGENCY_{t-1} + \beta_5 DNI_t * AGENCY_{t-1} + \beta_6 \Delta NI_t * AGENCY_{t-1} + \beta_7 DNI_t \Delta NI_t * AGENCY_{t-1} + \sum_{i=1}^{4}(\beta_{8,i} X_{t-1} + \beta_{9,i} DNI_t X_{t-1} + \beta_{10,i} \Delta NI_t X_{t-1} + \beta_{11,i} DNI_t \Delta NI_t X_{t-1}) + \sum_{i=1}^{4}(\beta_{12,i} AGENCY_{t-1} * X_i + \beta_{13,i} DNI_t AGENCY_{t-1} * X_i + \beta_{14,i} \Delta NI_t AGENCY_{t-1} * X_i + \beta_{15,i} DNI_t \Delta NI_t AGENCY_{t-1} * X_i) + Controls + \varepsilon \quad (3B)$$

Panel A : FCF*Q

FCF*Q	Predicted	Median cutoff						Quartile cutoff					
Variable	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		-0.003	-0.49	-0.018	-2.20 **	-0.019	-1.19	0.040	2.06 **	-0.004	-0.14	0.032	0.62
DNI		0.038	3.89 ***	-0.007	-0.48	-0.028	-1.10	0.027	0.92	0.009	0.20	-0.080	-0.98
ΔNI	-	-0.034	-1.72 **	0.015	0.36	-0.032	-0.12	-0.160	-3.06 ***	-0.016	-0.11	-0.344	-0.23
DNIΔNI	-	-0.041	-3.80 ***	-0.055	-4.62 ***	-0.452	-1.46	-0.126	-3.66 **	-0.072	-2.08 **	-0.793	-1.08
AGENCY		-0.008	-1.89 *	-0.007	-0.67	-0.013	-0.68	-0.019	-1.38	-0.022	-0.63	-0.014	-0.24
DNI*AGENCY		-0.011	-1.72 *	0.056	3.20 ***	-0.012	-0.38	0.208	4.53 ***	0.109	1.97 **	-0.007	-0.08
ΔNI*AGENCY	+	0.018	1.38	0.013	0.25	0.230	0.63	0.040	-0.85	0.156	0.81	0.391	0.26
DNIΔNI*AGENCY	-	**-0.106**	**-3.72 *****	**-0.279**	**-1.55 ***	**-0.597**	**-1.44 ***	**-0.529**	**-2.52 *****	**-0.429**	**-1.69 ****	**-1.169**	**-2.10 *****
DNI*DIST_D				-0.001	-0.09	-0.005	-0.60			-0.023	-1.43	-0.022	-1.04
DNI*DIST_D				-0.045	-3.58 ***	0.035	2.28 **			0.003	0.12	0.058	1.67 *
ΔNI*DIST_D	+			-0.070	-1.16	0.116	2.64 ***			0.550	6.89 ***	0.494	2.96 ***
DNIΔNI*DIST_D	-			-0.436	-5.84 **	0.288	2.79 ***			-0.917	-5.29 ***	0.680	2.12 **
AGENCYDIST_D				0.005	1.02	0.008	0.60			0.047	2.09 **	0.043	1.41
DNI*AGENCYDIST_D				0.014	1.67 *	-0.038	-1.61			0.113	3.2 ***	-0.044	-0.86
ΔNI*AGENCYDIST_D	-			0.038	1.55	-0.165	-2.75 ***			-0.570	-3.35 ***	-0.610	-3.24 ***
DNIΔNI*AGENCYDIST_D	+			**0.245**	**3.95 *** **	**0.250**	**1.80 ***			**0.309**	**1.74 ****	0.213	0.59
DIV				-0.005	-0.50	0.002	0.18			0.007	0.16	0.000	0.01
DNI*DIV				-0.038	-2.40 **	-0.019	-1.05			-0.078	-1.17	0.009	0.14
ΔNI*DIV				-0.053	-1.05	-0.091	-0.36			0.110	0.21	0.014	0.01
DNIΔNI*DIV				-1.458	-4.10 ***	-0.382	-1.29 *			-2.288	-3.73 ***	0.087	0.05
AGENCYDIV				0.000	-0.02	0.002	1.10			-0.026	-0.49	0.013	0.26
DNI*AGENCYDIV				-0.006	-0.24	0.000	1.00			0.038	0.45	-0.047	-0.61
ΔNI*AGENCYDIV	-			0.157	2.67 ***	-0.006	-1.02			0.189	0.30	-0.065	-0.04
DNIΔNI*AGENCYDIV	+			**0.703**	**3.00 *** **	**0.392**	**1.97 ****			**0.670**	**2.26 ****	-0.364	-1.22
REPUR				0.000	0.02	0.001	0.06			0.013	0.42	-0.026	-1.28
DNI*REPUR				0.047	2.81 ***	-0.015	-0.99			0.036	0.73	-0.008	-0.26
ΔNI*REPUR				0.254	2.11 **	-0.012	-0.27			-0.290	-1.43	0.274	1.90 *
DNIΔNI*REPUR				0.054	0.38	-0.110	-1.18			-0.021	-0.05	-0.412	-1.47
AGENCYREPUR				0.014	1.07	0.009	0.64			0.030	0.67	-0.016	-0.51
DNI*AGENCYREPUR				-0.069	-3.11 ***	-0.001	-0.05			-0.075	-1.07	0.045	0.89
ΔNI*AGENCYREPUR	-			-0.326	-2.11 **	-0.063	-1.05			-0.008	-0.04	-0.229	-1.37
DNIΔNI*AGENCYREPUR	+			-0.128	-0.69	0.040	0.31			-0.171	-1.36	**1.078**	**3.25 *****
PERS				-0.001	-0.11	-0.011	-1.06			0.035	1.48	0.005	0.25
DNI*PERS				0.054	4.55 ***	-0.004	-0.21			0.014	0.36	0.006	0.17
ΔNI*PERS				0.026	0.59	0.280	5.35 ***			-0.148	-0.83	-0.197	-1.35
DNIΔNI*PERS				0.721	7.80 ***	-0.173	-1.42 *			0.820	2.15 **	0.625	2.13 **
AGENCYPERS				-0.014	-1.21	0.010	0.54			-0.062	-1.94 *	-0.018	-0.42
DNI*AGENCYPERS				-0.052	-2.74 ***	0.014	0.48			0.075	1.45	0.023	0.34
ΔNI*AGENCYPERS	+			0.117	2.08 **	-0.306	-3.14 ***			0.327	1.75 *	0.432	1.83 *
DNIΔNI*AGENCYPERS	-			**-0.988**	**-8.01 *****	0.115	0.58			**-0.482**	**-1.40 ***	**-1.596**	**-3.21 *****
GOV						-0.001	-0.12					0.022	0.86
DNI*GOV						-0.005	-0.29					0.020	0.47
ΔNI*GOV						0.088	1.49					-0.073	-0.35
DNI*ΔNI*GOV						-0.162	-1.35					1.016	2.83 ***
AGENCY*GOV						-0.002	-0.11					-0.061	-1.68 *
DNI*AGENCY*GOV						0.057	2.01 **					0.046	0.74
ΔNI*AGENCY*GOV	+/-					-0.130	-1.74 *					0.080	0.37
DNI*ΔNI*AGENCY*GOV	+/-					**0.851**	**5.33 *****					**-0.780**	**-1.95 *****
MB		-0.010	-1.57	0.000	0.02	0.001	0.11	-0.030	-1.530	-0.018	-0.90	-0.049	-1.81 *
DNI*MB		-0.071	-6.69 ***	-0.052	-4.66 ***	0.040	2.09 **	-0.019	-0.630	0.002	0.06	0.020	0.47
ΔNI*MB	-	0.064	3.19 ***	-0.007	-0.33	0.059	1.38	0.043	0.710	-0.016	-0.25	0.058	0.50
DNIΔNI*MB	+/-	-1.345	-3.99 ***	-1.005	-4.05 ***	0.060	0.60	-0.386	-3.020 ***	-0.071	-0.57	-0.281	-1.24
LEV		-0.014	-2.53 **					-0.045	-2.620 ***				
DNI*LEV		0.003	0.38					0.086	2.310 **				
ΔNI*LEV	+	0.076	2.68 ***					0.162	2.150 **				
DNIΔNI*LEV	-	-0.161	-2.95 ***					0.285	2.780				
SIZE		0.018	3.15 ***	0.016	2.39 **	0.025	2.10 **	0.006	0.280	0.009	0.40	0.026	0.94
DNI*SIZE		-0.038	-4.02 ***	-0.019	-1.74 *	-0.009	-0.47	-0.138	-3.940	-0.094	-2.43 **	0.038	0.86
ΔNI*SIZE	-	-0.059	-2.16 **	-0.069	-2.46 **	-0.192	-3.11 ***	-0.351	-3.010 ***	-0.307	-2.52 **	-0.198	-1.06
DNIΔNI*SIZE	+	-0.064	-1.21	0.127	2.20 **	0.018	0.15	0.449	2.200 **	-0.080	-0.36	0.877	3.09 ***
Adj. R sqaure		6.31%		7.26%		6.33%		4.57%		6.62%		22.06%	
N		59,728		59,728		16,402		7,366		7,160		1,959	

Panel B: EXCASH*Q

EXCASH*Q	Predicted	Median cutoff						Quartile cutoff					
Variable	sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		-0.005	-0.96	-0.016	-2.35 **	-0.026	-2.08	-0.002	-0.10	-0.016	-0.61	-0.004	-0.07
DNI		-0.002	-0.22	0.020	1.75 *	-0.031	-1.54	-0.074	-2.44 **	-0.019	-0.46	-0.014	-0.17
ΔNI	-	-0.045	-2.65 **	0.073	2.84 ***	-0.098	-0.49	-0.127	-2.07 **	0.052	0.35	0.471	0.51
DNIΔNI	-	-0.469	-8.08 ***	0.230	4.33	-0.962	-3.99 ***	-1.356	-9.12 ***	-0.238	-0.83	-2.055	-1.68 *
AGENCY		-0.007	-1.76 *	-0.015	-1.41	-0.016	-1.06	-0.007	-0.53	-0.026	-0.77	0.051	0.98
DNI*AGENCY		-0.023	-3.87	-0.056	-3.19	-0.083	-3.44 ***	0.216	4.18 ***	0.121	2.29 *	-0.030	-0.38
ΔNI*AGENCY	+	0.039	3.21 ***	-0.029	-0.62	0.143	2.27 **	0.034	1.55	0.209	1.17	1.115	1.13
DNIΔNI*AGENCY	-	**-0.467**	**-5.08 *** **	**-0.994**	**-5.68 *** **	**-1.096**	**-7.05 *** **	**-0.291**	**-2.53 ** **	**-0.124**	**-3.39 *** **	**-2.146**	**-1.70 ** **
DIST_D				0.004	0.80	0.008	1.19			0.003	0.22	-0.013	-0.40
DNI*DIST_D				-0.027	-3.46 ***	-0.017	-1.48			-0.028	-1.06	0.036	0.71
ΔNI*DIST_D	+			-0.019	-0.85	-0.063	-1.88 *			0.050	0.51	-0.168	-0.83
DNIΔNI*DIST_D	-			-0.252	-5.16 ***	0.055	0.71			-0.527	-2.33 **	1.148	2.83 ***
AGENCYDIST_D				0.007	1.05	-0.001	-0.12			0.007	0.32	-0.001	-0.05
DNI*AGENCYDIST_D				0.037	3.04 ***	0.035	1.87 *			-0.079	-2.12 **	-0.031	-0.65
ΔNI*AGENCYDIST_D	-			-0.012	-0.41	0.041	0.92			-0.062	-0.58	0.091	0.58
DNIΔNI*AGENCYDIST_D	+			**0.429**	**6.52 *** **	**0.025**	**1.34 * **			-0.275	-1.14	**1.440**	**3.81 *** **
DIV				0.013	1.51	-0.005	-0.61			0.045	1.28	-0.007	-0.24
DNI*DIV				0.004	0.30	-0.005	-0.35			-0.019	-0.32	-0.034	-0.68
ΔNI*DIV				-0.229	-3.10 ***	0.164	0.83			-1.189	-2.52 **	-0.239	-0.26
DNIΔNI*DIV				0.070	0.56	-0.336	-1.50			0.537	0.75	-0.091	-0.08
AGENCYDIV				-0.003	-0.27	-0.005	-0.36			-0.024	-0.53	-0.030	-0.74
DNI*AGENCYDIV				-0.003	-0.12	0.010	0.47			-0.028	-0.37	0.052	0.82
ΔNI*AGENCYDIV	-			-0.173	-0.96	0.012	0.04			-0.794	-1.01	1.071	1.10
DNIΔNI*AGENCYDIV	+			**0.285**	**2.18 ** **	0.132	1.23			**1.129**	**2.11 ** **	-0.827	-0.68
REPUR				-0.003	-0.31	0.000	0.03			-0.009	-0.29	0.033	1.52
DNI*REPUR				-0.044	-2.96 ***	0.000	-0.02			0.074	1.42	-0.057	-1.50
ΔNI*REPUR				-0.037	-0.96	0.022	0.61			0.207	1.04	-0.468	-3.14 ***
DNIΔNI*REPUR				-1.369	-15.88 ***	0.397	5.29 ***			-0.425	-1.03	0.485	1.35
AGENCYREPUR				0.009	0.64	-0.005	-0.40			0.044	1.02	-0.052	-1.74 *
DNI*AGENCYREPUR				0.042	1.83 *	0.000	0.01			-0.084	-1.22	0.027	0.55
ΔNI*AGENCYREPUR	-			-0.007	-0.13	-0.012	-0.26			-0.253	-2.44 **	0.500	2.92 ***
DNIΔNI*AGENCYREPUR	+			-0.301	-1.23	-0.379	-3.57			-0.023	-2.74	**-0.650**	**-1.70 ** **
PERS				-0.011	-1.50	0.005	0.55			-0.030	-0.87	-0.011	-0.28
DNI*PERS				0.058	4.55 ***	0.062	3.97 ***			0.079	1.23	0.049	0.74
ΔNI*PERS				0.303	5.78 ***	0.017	0.40			0.548	2.65 ***	0.138	0.40
DNIΔNI*PERS				0.270	2.40 **	0.769	7.13 ***			0.010	0.02	0.690	1.14
AGENCYPERS				0.000	0.03	0.009	0.56			0.019	0.49	-0.004	-0.10
DNI*AGENCYPERS				-0.026	-1.40	-0.036	-1.45			-0.034	-0.48	-0.049	-0.66
ΔNI*AGENCYPERS	+			-0.205	-3.42	-0.068	-1.24			-0.500	-2.35 **	-0.024	-0.07
DNIΔNI*AGENCYPERS	-			**-0.096**	**-2.74 *** **	**-0.045**	**2.14 ** **			0.250	0.39	**-0.919**	**-1.48 * **
GOV						-0.002	-0.19					0.002	0.08
DNI*GOV						-0.014	-0.99					0.024	0.50
ΔNI*GOV						0.011	0.22					0.203	1.03
DNI*ΔNI*GOV						-0.289	-3.11 ***					-0.113	-0.25
AGENCY*GOV						-0.001	-0.10					0.004	0.12
DNI*AGENCY*GOV						0.036	1.57					0.005	0.09
ΔNI*AGENCY*GOV	+/-					0.038	0.56					-0.092	-0.44
DNI*ΔNI*AGENCY*GOV	+/-					**0.578**	**4.41 *** **					0.370	0.78
MB		-0.006	-0.93	-0.004	-0.63	-0.006	-0.61	-0.019	-1.00	-0.020	-1.07	0.003	0.11
DNI*MB		-0.045	-4.52 ***	-0.038	-3.73 ***	-0.007	-0.49	0.050	1.74 *	0.029	0.97	0.052	1.31
ΔNI*MB	-	0.032	1.74 **	0.026	1.31 *	-0.011	-0.33	-0.039	-0.69	0.008	0.14	-0.164	-1.95 *
DNIΔNI*MB	+/-	-0.925	-3.74 ***	-0.881	-2.27 **	-0.378	-4.80 ***	0.142	1.32	-0.204	-1.81 *	0.664	3.68 ***
LEV		-0.012	-2.29 **					-0.018	-1.06				
DNI*LEV		0.025	2.88 ***					0.100	3.96 ***				
ΔNI*LEV	+	0.055	3.22 ***					0.085	1.64 *				
DNIΔNI*LEV	-	0.187	3.38					0.861	9.72				
SIZE		0.016	2.95 ***	0.014	2.24 **	0.030	3.11 ***	0.042	1.93 *	0.029	1.25	0.013	0.46
DNI*SIZE		-0.005	-0.54	0.011	0.99	0.044	2.78 ***	-0.092	-2.57 **	-0.122	-3.07 ***	-0.032	-0.70
ΔNI*SIZE	-	-0.047	-1.82 **	-0.049	-1.85 **	-0.057	-1.26	-0.327	-2.89 ***	-0.244	-2.09 **	-0.164	-1.13
DNIΔNI*SIZE	+	0.312	5.48 ***	0.511	8.30 ***	0.766	8.39 ***	0.492	2.31 **	0.236	1.04	0.597	1.99 **
Adj. R sqaure		5.62%		6.53%		6.65%		6.14%		6.33%		13.90%	
N		66,027		64,953		25,767		8,031		7,826		2,632	

* Notes for panel A and B

1. Panels A and B report the pooled OLS regression results of joint tests of H1,through H5 using asymmetric reversion model in Basu (1997).

2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.

3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively. P-values are one-tailed when the sign of the coefficient is predicted, two-tailed otherwise.

Panel C: Fama-MacBeth Regressions using FCF*Q and Quartile cutoffs

Variable	Predicted Sign	FCF*Q H1		FCF*Q H2		FCF*Q H3		FCF*Q H4		FCF*Q H5		H1-H4		H1-H5	
Intercept		-0.0012		-0.0389		0.0359		-0.0072		0.0004		-0.3304		0.0319	
		(-0.06)		(-0.99)		1.15		(-0.33)		0.03		(-0.85)		1.2	
DNI		-0.0234		-0.0734		-0.1617	**	-0.0146		-0.0373		-0.2839	***	-0.0859	
		(-0.72)		(-1.66)		(-2.23)		(-0.43)		(-1.04)		(-3.24)		(-0.50)	
ΔNI	-	-0.1711		0.6783		-0.6801	**	0.1264		0.0543		5.0007		-0.3335	
		(-0.47)		1.17		(-2.08)		0.71		0.39		0.8		(-0.35)	
DNIΔNI	-	0.385		-1.5704		-0.3559	**	-0.1307	**	-0.3747		-0.5686		-1.087	
		0.7		(-1.14)		(-2.24)		(-2.17)		(-0.50)		(-1.49)		(-1.14)	
AGENCY		-0.0104		0.038		-0.0663	**	-0.0064		-0.0001		0.289		-0.0254	
		(-0.98)		0.83		(-2.38)		(-0.51)		(-0.00)		0.75		(-0.93)	
DNI*AGENCY		0.1554		-0.2925		0.8514	**	0.0061		-0.014		-4.3021		-0.0332	
		0.76		(-0.96)		2.65		0.05		(-0.46)		(-0.73)		(-0.20)	
ΔNI*AGENCY	+	-0.0144		0.0079		0.2124	*	-0.0202		-0.5412		0.3296	**	-0.0153	
		(-0.54)		0.26		1.77		(-0.70)		(-0.67)		2.69		(-0.01)	
DNIΔNI*AGENCY	-	**-0.436**	**	**-0.3322**	**	**0.144**	**	**-0.504**	***	**-0.2822**	**	-0.2243		1.7236	
		(-2.04)		(-2.09)		(-2.13)		(-2.44)		(-2.45)		(-0.22)		1.46	
DIST_D				0.0813								1.0221		-0.0235	***
				0.8								0.96		(-3.50)	
DNI*DIST_D				-0.0206								-0.006		0.0671	**
				(-0.39)								(-0.11)		2.73	
ΔNI*DIST_D				-0.8698								-9.842		0.6604	**
				(-0.95)								(-0.94)		2.69	
DNIΔNI*DIST_D				0.2352								-2.1639		0.1741	
				0.23								(-1.46)		0.29	
AGENCYDIST_D				-0.0356								-1.0286		0.0356	***
				(-0.73)								(-0.97)		3.08	
DNI*AGENCYDIST_D				-0.0571								-0.1478	*	-0.0436	
				(-0.69)								(-1.96)		(-1.29)	
ΔNI*AGENCYDIST_D	-			-0.7301								10.0045		-0.7072	
				-0.84								-0.95		(-1.17)	
DNIΔNI*AGENCYDIST_D	+			**0.9872**	**							0.1825		0.6512	
				1.79								0.15		0.81	
DIV						-0.0739						-0.3456		0.0012	
						(-1.66)						(-1.30)		0.11	
DNI*DIV						0.1835						0.1613		-0.0013	
						0.96						0.72		(-0.01)	
ΔNI*DIV						2.2062	*					1.2767		-0.5099	
						1.94						0.52		(-0.88)	
DNIΔNI*DIV						-7.555						-9.7401		1.3621	
						(-1.16)						(-1.29)		1.1	
AGENCYDIV						0.0965	**					0.3959		0.0215	
						2.52						1.37		0.56	
DNI*AGENCYDIV						-0.2482						-0.2014		0.0301	
						(-1.22)						(-0.96)		0.21	
ΔNI*AGENCYDIV	-					6.7965						9.1514		0.3158	
						1.01						1.19		0.21	
DNIΔNI*AGENCYDIV	+					**2.1912**	**					-2.5075		**-1.651**	*
						-2.08						(-1.35)		(-2.05)	
REPUR						-0.0078						-0.0341	*	-0.0305	*
						(-0.26)						(-1.95)		(-1.83)	
DNI*REPUR						0.223	*					0.3427	*	0.0353	
						1.75						1.98		1.39	
ΔNI*REPUR						0.0544						0.0631		0.3684	
						0.12						0.29		1.29	
DNIΔNI*REPUR						6.3991						8.1111		0.0962	
						1.2						1.32		0.19	
AGENCYREPUR						0.0351						0.0577	**	0.0024	
						0.91						2.35		0.23	
DNI*AGENCYREPUR						-0.3521	**					-0.4751	**	-0.0347	
						(-2.34)						(-2.33)		(-0.99)	
ΔNI*AGENCYREPUR	-					-0.1823						-0.4236	*	-0.8978	*
						(-0.51)						(-1.84)		(-1.94)	
DNIΔNI*AGENCYREPUR	+					-6.4697						-7.7034		0.1579	
						(-1.37)						(-1.50)		0.29	

Table 9 (continued)

PERS							0.2491			0.4745	0.0107			
							1.02			1.21	1.3			
DNI*PERS							-0.3073			-0.5306	-0.0035			
							(-1.18)			(-1.23)	(-0.48)			
ΔNI*PERS							-1.259			-3.1165	-0.1531			
							(-1.04)			(-1.10)	(-1.02)			
DNIΔNI*PERS							-0.6724			-0.55	0.9696	**		
							(-1.28)			(-0.94)	2.22			
AGENCYPERS							-0.2548			-0.4827	0.2168			
							(-1.05)			(-1.24)	1.13			
DNI*AGENCYPERS							0.3118			0.5622	0.0639			
							1.17			1.31	0.18			
ΔNI*AGENCYPERS	+						1.1458			2.9982	0.2904			
							0.92			1.04	0.77			
DNIΔNI*AGENCYPERS	-						0.7949			0.6331	**-1.061**	*		
							1.88			1.41	(-1.35)			
GOV								0.0209	**		0.01			
								2.26			0.59			
DNI*GOV								-0.0117			-0.0137			
								(-0.91)			(-0.75)			
ΔNI*GOV								-0.1758			0.4998			
								(-1.12)			1.39			
DNI*ΔNI*GOV								0.5238			-0.2936			
								0.93			(-0.44)			
AGENCY*GOV								-0.0345			-0.0209			
								(-1.67)			(-0.64)			
DNI*AGENCY*GOV								-0.0114			-0.002			
								(-0.16)			(-0.02)			
ΔNI*AGENCY*GOV	+/-							-0.1763			-0.6694			
								(-0.70)			(-1.18)			
DNI*ΔNI*AGENCY*GOV	+/-							**-0.5505**	*		**-0.193**	*		
								(-1.37)			(-1.32)			
MB		-0.0006		-0.0087		-0.0005		-0.0043	-0.0225		0.0025	-0.0097		
		(-0.06)		(-0.65)		(-0.03)		(-0.43)	(-1.11)		0.2	(-0.38)		
DNI*MB		0.0585		0.0497		0.0604		0.0573	0.0478		0.0801	0.0542		
		0.99		0.77		0.75		0.92	1.09		0.8	1.17		
ΔNI*MB	+	-0.2052		-0.1212		-0.0688		-0.0879	-0.1767		-0.0594	-0.3587	*	
		(-1.07)		(-0.73)		(-0.47)		(-0.77)	(-0.63)		(-0.47)	(-2.04)		
DNIΔNI*MB	+/-	-0.4931		-1.1811		-0.6717		-0.4626	0.2334		-0.3807	1.2572	**	
		(-1.10)		(-1.12)		(-0.72)		(-0.95)	0.34		(-0.33)	2.94		
LEV		-0.0294				-0.0251		-0.0131						
		(-1.15)				(-1.63)		(-0.87)						
DNI*LEV		-0.0586	**			-0.0725	*	-0.0672	**					
		(-2.19)				(-1.82)		(-2.41)						
ΔNI*LEV	+	0.5844				0.2829	*	0.0859						
		0.93				1.29		0.42						
DNIΔNI*LEV	-	-0.178				-1.4828	*	-0.2589						
		(-0.34)				(-1.99)		(-0.47)						
SIZE		0.016		-0.0053		0.0075		0.0143	0.0036		-0.0036	-0.0016		
		0.83		(-0.18)		0.36		0.72	0.19		(-0.18)	(-0.10)		
DNI*SIZE		-0.0418		-0.0187		-0.0271		-0.0185	-0.0219		-0.0021	-0.093	**	
		(-0.70)		(-0.32)		(-0.34)		(-0.35)	(-0.69)		(-0.02)	(-2.58)		
ΔNI*SIZE	-	0.0187		-0.2453		-0.2055		-0.1045	0.0123		-0.0525	0.0103		
		0.07		(-1.28)		(-1.14)		(-0.54)	0.03		(-0.28)	0.02		
DNIΔNI*SIZE	+	-0.8935		0.3		0.8921		-0.6042	-1.7214	***	1.1263	-3.2724	***	
		(-0.69)		0.29		1		(-0.52)	(-3.16)		1	(-3.63)		
Adj. R Square		20.65%		19.76%		22.19%		19.41%	8.32%		23.97%	39.40%		

Panel D: Fama-MacBeth Regressions using EXCASH*Q and Quartile cutoffs

Variable	Predicted Sign	EXCASH*Q H1	H2	H3	H4	H5	H1-H4	H1-H5
Intercept		-0.0359	-0.0473	-0.0636	0.6629	0.1336	-0.0628	0.0086
		(-0.72)	(-0.99)	(-1.06)	1.02	1.02	(-1.02)	0.33
DNI		-0.0609	-0.0326	-0.1059 **	-0.3854	-0.1162 **	-0.1012 **	0.2268
		(-1.62)	(-0.86)	(-2.49)	(-1.16)	(-2.25)	(-2.04)	1.02
ΔNI	-	-0.0572	0.1104	-0.0542	-9.3655	-4.1748	0.0821	0.4009
		(-0.36)	0.74	(-0.10)	(-1.02)	(-1.11)	0.14	0.41
DNIΔNI	-	-0.4811	-0.5261	-0.2641	-2.7373	-0.9973 **	-0.2712	1.0852
		(-1.27)	(-1.40)	(-1.62)	(-1.04)	(-2.60)	(-1.68)	0.25
AGENCY		0.0396	0.0548	0.0451	-0.3535	-0.0865	0.0421	0.0184
		0.77	1.08	0.74	(-1.04)	(-1.23)	0.73	0.74
DNI*AGENCY		0.284	0.0603	0.0643	8.2682	0.0389	-0.0237	-0.2491
		0.99	0.19	0.1	1.01	1.48	(-0.04)	(-1.00)
ΔNI*AGENCY	+	0.0037	-0.0315	0.0345	0.0154	2.7844	0.045	-0.714
		0.16	(-1.39)	0.55	0.52	1.18	0.64	(-0.66)
DNIΔNI*AGENCY	-	**-0.3497****	**-0.2331** *	**-1.0015** **	-27.912	0.4158	-0.451	**-1.9896**
		(-2.21)	(-1.45)	(-2.09)	(-1.01)	1.14	(-0.87)	(-1.43) *
DIST_D			0.1063				0.0571	-0.012
			0.95				0.83	(-0.51)
DNI*DIST_D			-0.0734				0.0083	0.007
			(-1.35)				0.22	0.2
ΔNI*DIST_D			-1.2149				-0.642	0.9333
			(-0.97)				(-0.85)	1.36
DNIΔNI*DIST_D			-0.4036				-0.0008	-0.5122
			(-0.62)				(-0.00)	(-0.77)
AGENCYDIST_D			-0.0194				-0.0082	-0.0196
			(-0.69)				(-0.37)	(-1.27)
DNI*AGENCYDIST_D			0.0341				-0.0618	0.0346
			0.46				(-1.00)	0.94
ΔNI*AGENCYDIST_D	-		0.2764				0.1511	0.0358
			1.25				0.85	0.09
DNIΔNI*AGENCYDIST_D	+		-0.7527				**1.382** ***	**0.4183** *
			(-0.76)				2.38	1.54
DIV				0.0167			0.0056	-0.0125
				0.45			0.16	(-1.27)
DNI*DIV				0.1154 *			0.0528	-0.2649
				1.71			0.7	(-1.07)
ΔNI*DIV				1.373			1.347	-0.9744
				1.49			1.27	(-1.07)
DNIΔNI*DIV				-0.8201			-3.1803	-2.6407
				(-0.63)			(-1.62)	(-0.60)
AGENCYDIV				0.0114			0.0229	0.0201
				0.31			0.63	0.99
DNI*AGENCYDIV				-0.1296			-0.0674	0.2549
				(-1.33)			(-0.77)	1.03
ΔNI*AGENCYDIV	-			-1.4949 **			-1.4966 *	0.5698
				(-1.67)			(-1.49)	0.58
DNIΔNI*AGENCYDIV	+			**0.9245** ***			**3.1347** ***	2.7742
				2.64			2.94	0.63
REPUR				-0.0028			0.0028	0.0136
				(-0.11)			0.11	0.88
DNI*REPUR				0.0774			0.0734	-0.0235
				0.75			0.65	(-0.70)
ΔNI*REPUR				0.4608			0.3597	0.1452
				1.08			1	0.33
DNIΔNI*REPUR				1.0088			2.0768	0.7907
				0.55			0.71	1.37
AGENCYREPUR				0.0079			0.008	-0.027
				0.29			0.33	(-1.74)
DNI*AGENCYREPUR				-0.0566			-0.0596	0.0252
				(-0.55)			(-0.54)	0.69
ΔNI*AGENCYREPUR	-			-0.1815			-0.1768	-0.1772
				(-0.69)			(-0.61)	(-0.38)
DNIΔNI*AGENCYREPUR	+			-0.2579			-1.4157	-0.387
				(-0.22)			(-0.62)	(-0.65)

Table 9 (continued)

PERS										-0.4089				-0.0848		0.0077			
										(-0.97)				(-1.12)		0.19			
DNI*PERS										0.0867				0.0657		0.0178			
										1.07				0.67		0.25			
ΔNI*PERS										22.0133				-3.0652		-0.6138			
										0.97				(-1.01)		(-0.77)			
DNIΔNI*PERS										-0.4773				0.668		2.3624			
										(-0.39)				0.38		1.32			
AGENCYPERS										-0.0167				0.0638		-0.0124			
										(-0.25)				0.84		(-0.26)			
DNI*AGENCYPERS										-0.0357				0.039		-0.0545			
										(-0.52)				0.34		(-1.14)			
ΔNI*AGENCYPERS	+									0.7306				3.0765		0.4505			
										0.74				1.02		0.54			
DNIΔNI*AGENCYPERS	-									1.0393				0.6336		**-2.433**	*		
										1.83				1.11		(-1.45)			
GOV												-0.022				-0.0227			
												(-1.46)				(-1.46)			
DNI*GOV												0.0243				0.0166			
												0.74				0.4			
ΔNI*GOV												2.4512				0.9764	**		
												1.56				2.17			
DNI*ΔNI*GOV												-0.677				-1.27			
												(-1.33)				(-1.55)			
AGENCY*GOV												-0.0598				0			
												(-0.81)				(-0.00)			
DNI*AGENCY*GOV												-0.0457				-0.0477			
												(-0.94)				(-0.87)			
ΔNI*AGENCY*GOV	+/-											-0.7186				-0.6506			
												(-1.44)				(-1.35)			
DNI*ΔNI*AGENCY*GOV	+/-											0.1516				0.3465			
												0.35				0.42			
MB		-0.0359	***	-0.0323	**	-0.0335		0.1019		-0.0955		0.0023		-0.0247					
		(-2.79)		(-2.51)		(-1.16)		0.81		(-1.53)		0.16		(-0.73)					
DNI*MB		0.0256		0.0149		0.0177		0.0311		0.0928	**	0.0051		0.101	**				
		0.98		0.48		0.49		1.09		2.16		0.13		2.73					
ΔNI*MB	+	0.9311		0.9016		0.2461		3.8518		0.0517		-0.0472		-0.3534					
		1.07		1.04		0.81		1.01		0.2		(-0.53)		(-1.15)					
DNIΔNI*MB	+/-	-0.8359	***	-1.2097	***	-1.0321	**	-0.7583	***	0.7698		-1.5005	**	1.7018	*				
		(-4.09)		(-2.53)		(-1.71)		(-3.12)		1.16		(-1.69)		1.78					
LEV		0.0965				0.0541		0.1359											
		0.86				0.84		0.86											
DNI*LEV		-0.051	**			-0.0328	*	-0.0413	*										
		(-2.22)				(-1.78)		(-1.73)											
ΔNI*LEV	+	-1.0996				-0.562		-0.8507											
		(-0.87)				(-0.78)		(-0.76)											
DNIΔNI*LEV	-	-0.7679	**			-0.5573	***	-0.862	**										
		(-2.52)				(-2.82)		(-2.15)											
SIZE		0.0078		0.0107		0.0054		-0.8885		0.038	***	0.0015		0.0362	**				
		0.36		0.52		0.26		(-0.98)		3.85		0.07		2.35					
DNI*SIZE		0.048		0.0443		0.057	**	0.0542		-0.0715	*	0.0838	***	-0.0543					
		1.49		1.57		2.23		1.63		(-1.83)		3.1		(-1.12)					
ΔNI*SIZE	-	-1.1031		-1.1786		-0.085		-0.1133		-0.491		0.0069		-0.8720	**				
		(-1.10)		(-1.19)		(-0.49)		(-0.80)		(-1.58)		0.04		(-2.20)					
DNIΔNI*SIZE	+	1.5729	***	1.7964	***	1.6227	***	1.665	***	0.3618		2.3783	***	0.6832					
		3.87		3.7		2.89		4.14		0.49		5.06		0.61					
Adj. R Square		18.79%		20.02%		21.04%		17.60%		28.88%		22.78%		31.09%					

* Notes for panel C and D

1. Panels C and D report the Fama-MacBeth regression results of joint tests of H1 through H5 using asymmetric reversion model in Basu (1997).
2. Panels C and D report the mean coefficients across 37 annual cross-sectional regressions over the period 1970-2006 with Fama-MacBeth t-statistics corrected for autocorrelation using the Newey-West procedure. The t-statistics are reported below the coefficients.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively. P-values are one-tailed when the sign of the coefficient is predicted, two-tailed otherwise.
4. Variable descriptions:

ΔNI_t is the changes in net income from year t-1 to year t, scaled by market value of equity at the end of year t-1.
DNI_t is an indicator variable set equal to one if ΔNI_t is negative and 0 otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets (Data 6) at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.
$DIST\_D_{t-1}$ is a dummy variable equal to 1 if the firm has a leverage ratio above the industry median and 0 otherwise.
DIV_{t-1} is a dummy variable equal to 1 if the firm has a dividend payout ratio above the industry median and 0 otherwise. Dividends (Data 21) are scaled by earnings (Data 237) at the beginning of the fiscal year t.
$REPUR_{t-1}$ is a dummy variable equal to 1 if the firm has a repurchase ratio above the industry median and 0 otherwise. Repurchases are calculated as repurchase of common and preferred stock (Data 115) minus stock issuances (Data 108), scaled by earnings (Data237) at the beginning of the fiscal year t.
$PERS_{t-1}$ is a dummy variable that is set to 1 if (1) firms have the ratio of cash and cash equivalents (Data1) to assets (Data6) in excess of 0.25 for the last three years or (2) their excess cash (following Dittmar and Mahrt-Smith, 2007) are ranked in the top 2 deciles for the last three years (from year t-4 to t-2).

Panel E: The Effect of Conservatism on Ex-Post Overinvestment among J-type firms

$$\Delta NI_{t+1} = \beta_0 + \beta_1 DNI_t + \beta_2 \Delta NI_t + \beta_3 DNI_t \Delta NI_t + \beta_4 AGENCY_{t-1} + \beta_5 DNI_t * AGENCY_{t-1} + \beta_6 \Delta NI_t * AGENCY_{t-1} + \beta_7 DNI_t \Delta NI_t * AGENCY_{t-1} + \beta_{8,} OVERINV_{t+1} + \beta_9 DNI_t OVERINV_{t+1} + \beta_{10} \Delta NI_t OVERINV_{t+1} + \beta_{11} DNI_t \Delta NI_t OVERINV_{t+1} + \beta_{12} AGENCY_{t-1} * OVERINV_{t+1} + \beta_{13} DNI_t AGENCY_{t-1} * OVERINV_{t+1} + \beta_{14} \Delta NI_t AGENCY_{t-1} * OVERINV_{t+1} + \beta_{15} DNI_t \Delta NI_t AGENCY_{t-1} * OVERINV_{t+1} + Controls + \varepsilon \quad (4B)$$

Pooled OLS Regressions of Change in Earnings at year t+1 on Change in Earnings at year t using Quartile cutoffs

		FCF*Q						EXCASH*Q					
OVERINV in		Total Investment		CAPEX		Acquitision		Total Investment		CAPEX		Acquitision	
	Predicted sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		-0.005	-0.25	-0.005	-0.26	-0.003	-0.16	-0.006	-0.32	-0.017	-0.93	-0.007	-0.38
DNI		-0.024	-0.85	-0.019	-0.68	-0.017	-0.63	-0.004	-0.15	0.002	0.07	-0.003	-0.09
ΔNI	-	0.107	2.39 **	0.123	2.68 ***	0.075	1.71	0.020	0.42	0.083	1.74 *	0.002	0.04
DNIΔNI	-	-0.218	-8.39 ***	-0.217	-8.35 ***	-0.184	-7.33 ***	-0.163	-6.30 ***	-0.169	-6.51 ***	-0.153	-5.90 ***
AGENCY		-0.006	-0.41	-0.009	-0.68	-0.009	-0.70	-0.007	-0.50	0.002	0.18	-0.004	-0.31
DNI*AGENCY		-0.008	-0.40	0.001	0.02	-0.013	-0.65	-0.006	-0.30	-0.022	-1.04	-0.006	-0.28
ΔNI*AGENCY	+	-0.012	-0.32	0.056	1.55	0.037	1.07	0.065	1.73 *	0.065	1.71 *	0.073	1.97 **
DNIΔNI*AGENCY	**-**	**-0.544**	**-9.52 *****	**-0.579**	**-9.97 *****	**-0.639**	**-11.47 *****	**-0.415**	**-7.43 *****	**-0.681**	**-11.49 *****	**-0.414**	**-7.31 *****
OVERINV		0.013	0.69	-0.011	-0.56	0.006	0.26	-0.001	-0.05	-0.010	-0.49	0.019	0.83
DNI*OVERINV		0.011	0.32	0.022	0.65	0.037	0.96	0.061	1.17	-0.192	-5.68 ***	0.070	1.69 *
ΔNI*OVERINV		-0.038	-0.72	-0.005	-0.09	0.217	1.84	-0.117	-1.26	0.028	0.45	0.013	0.11
DNIΔNI*OVERINV		-0.728	-2.77 ***	-0.468	-2.43 **	0.099	0.42	0.266	0.72	-3.333	-18.16 ***	1.107	3.92 ***
AGENCYOVERINV		-0.014	-0.57	-0.004	-0.15	0.007	0.25	0.038	0.97	-0.013	-0.5	-0.001	-0.04
DNI*AGENCYOVERINV		0.009	0.22	-0.050	-1.19	-0.025	-0.52	-0.032	-0.48	0.203	4.78 ***	-0.072	-1.39
ΔNI*AGENCYOVERINV	-	0.146	2.13 **	-0.119	-1.57	-0.208	-1.36	0.021	0.15	-0.144	-1.9 *	-0.068	-0.36
DNIΔNI*AGENCYOVERINV	**+**	**0.609**	**2.17 ** **	0.262	1.17	**0.414**	**1.91 ** **	0.058	0.15	**3.473**	**16.07 *****	**0.663**	**1.99 ** **
MB		0.001	0.04	0.001	0.04	0.000	0.02	-0.016	-0.92	-0.009	-0.54	-0.014	-0.83
DNI*MB		0.051	1.96 **	0.053	2.08 **	0.056	2.19 **	0.022	0.82	0.051	1.98 **	0.029	1.10
ΔNI*MB	+	-0.079	-1.67 *	-0.051	-1.12	-0.059	-1.29	-0.006	-0.11	-0.035	-0.71	-0.017	-0.34
DNIΔNI*MB	+/-	0.325	3.23 ***	0.261	2.82 ***	0.279	3.04	-0.376	-3.52 ***	0.055	0.56	-0.313	-3.18 ***
LEV		-0.032	-2.13 **	-0.029	-1.92 *	-0.037	-2.43 **	-0.017	-1.05	-0.008	-0.48	-0.020	-1.21
DNI*LEV		-0.043	-1.78 *	-0.048	-1.99 **	-0.045	-1.87 *	-0.095	-3.71 ***	-0.083	-3.32 ***	-0.101	-3.98 ***
ΔNI*LEV	+	0.057	1.31	0.017	0.37	0.065	1.46	0.073	1.48	0.006	0.12	0.089	1.80 *
DNIΔNI*LEV	-	-0.749	-8.81 ***	-0.670	-8.00	-0.766	-9.29	-1.246	-14.15 ***	-0.874	-10.11 ***	-1.337	-15.71 ***
SIZE		0.029	1.60	0.033	1.87 *	0.031	1.71 *	0.033	1.73 *	0.036	1.86 *	0.029	1.46
DNI*SIZE		-0.001	-0.03	-0.005	-0.18	-0.012	-0.40	0.043	1.36	0.042	1.34	0.034	1.06
ΔNI*SIZE	-	-0.260	-2.81 ***	-0.281	-3.07 ***	-0.288	-3.13 ***	-0.176	-1.67 *	-0.168	-1.59	-0.145	-1.36
DNIΔNI*SIZE	+	0.698	3.84 ***	0.709	3.92 ***	0.593	3.25 ***	1.699	7.97 ***	1.763	8.38 ***	1.498	6.98 ***
Adj.R square			5.32%		5.60%		5.42%		6.40%		9.82%		7.00%
N			4,233						11,349				

* Notes for panel D

1. Panel D reports the OLS regression results of H6, J-type firms with more conditional conservatism are less likely to overinvest ex-post than J-type firms with less conditional conservatism, using asymmetric reversion model in Basu (1997)
2. Panel D reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, two tailed.
4. Variable descriptions:

ΔNI_t is the changes in net income from year t-1 to year t, scaled by market value of equity at the end of year t-1.
DNI_t is an indicator variable set equal to one if ΔNI_t is negative and 0 otherwise.

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets (Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t
OVERINV is a dummy variable that gets 1 when firm-year observations are in the top quartile of * unpredicted total investment (or capital expenditure or acquisition expenditure) from Biddle et al. (2009)'s investment regression and 0 otherwise.
CAPEX is the capital expenditure (Data 128) scaled by total assets (Data 6).
R&D is the research and development expenditure (Data46) scaled by total assets (Data 6).
Acquisitions is acquisition expenditure (Data 129) scaled by total assets (Data 6).
Investment is total investment expenditure, calculated as R&D(Data46) plus CAPEX(Data 128) plus Acquisitions(Data 129) less cash receipts from sale of property, plant and equipment, SalePPE (Data 107), deflated by total assets (Data6).
Biddle et al. (2009) use residual term from the following regression as a firm-specific proxy for overinvestment. The following regression is estimated for each industry-year based on the Fama and French 48 industry classification for all industries with at least 20 observations per year.

$$Investment_{i,t+1}=\beta_0+\beta_1 Sales\ Growth_{i,t}+\varepsilon_{i,t+1}$$

Table 10 Conservatism and Agency Costs of Free Cash Flow using Sales Growth as an alternative GROWTH

$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + Controls + \varepsilon$ *(2A)*

		FCF*SG			EXCASH*SG			FCF*SG			EXCASH*SG		
		Median Cutoff						Quartile Cutoff					
	Predicted	Model 1			Model 2			Model 1			Model 2		
Variable	sign	coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat	
Intercept		0.054	14.89	***	0.040	8.79	***	0.026	2.41	**	0.068	7.26	***
D		-0.039	-6.98	***	-0.030	-4.38	***	-0.032	-1.99	**	-0.013	-0.94	
R	+	-0.006	-1.22		0.001	0.19		-0.042	-3.11	***	-0.015	-1.29	
DR	+	0.368	27.04	***	0.356	20.34	***	0.319	9.18	***	0.372	12.06	***
AGENCY		-0.002	-0.86		0.012	3.51	***	0.028	3.69	***	-0.014	-2.08	**
DAGENCY		-0.001	-0.23		-0.008	-1.43		0.002	0.14		-0.009	-0.91	
RAGENCY	-	-0.012	3.21	***	0.002	0.36		-0.016	1.71	*	-0.013	-1.61	
DRAGENCY	**+**	**0.016**	**1.78**	****	**0.026**	**1.96**	****	**0.078**	**3.07**	*****	**0.058**	**2.63**	*****
MB		-0.039	-11.03	***	-0.038	-10.91	***	-0.039	-3.64	***	-0.058	-6.19	***
DMB		-0.001	-0.13		-0.002	-0.34		0.009	0.54		-0.004	-0.27	
RMB	-	-0.021	-4.51	***	-0.021	-4.56	***	0.004	0.27		-0.018	-1.6	
DRMB	+/-	-0.215	-17.01	***	-0.215	-17.11	***	-0.117	-3.38	***	-0.183	-6.24	***
LEV		-0.012	-3.49	***	-0.010	-3	***	-0.008	-0.82		-0.013	-1.34	
DLEV		0.005	0.91		0.003	0.51		0.004	0.24		-0.010	-0.73	
RLEV	-	-0.013	-1.04		-0.013	-1.06		-0.095	-2.86	***	-0.077	-2.49	**
DRLEV	+	0.036	8.03	***	0.036	7.95	***	0.061	4.85	***	0.051	4.43	***
SIZE		0.061	17.84	***	0.063	18.21	***	0.071	6.2	***	0.095	8.27	***
DSIZE		0.029	5.4	***	0.029	5.37	***	0.019	1.04		0.011	0.59	
RSIZE	+	0.018	3.55	***	0.017	3.25	***	0.009	0.58		0.010	0.65	
DRSIZE	-	-0.185	-13.61	***	-0.180	-13.12	***	-0.220	-5.12	***	-0.227	-5.29	***
Adj. R square		14.40%			14.93%			13.05%			14.08%		
N		22,122			63,818			4,459			14,362		

*Notes
1. This table reports the OLS regression results of H1, J-type firms have more conditional conservatism than Non J-type firms, using alternative GROWTH proxy, sales growth, using reverse regression in Basu (1997).
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, one tailed if predictions are made, and two tailed otherwise.
4. Variable descriptions:
NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
SG is the 2-year geometric average of the annual percentage growth in sales. Annual sales growth rate,SG_t is calculated as $Sales_{t+1}/Sales_{t.}$(Data 12).
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

Table 11 Lead and Lag Analysis - Using Basu's Reverse Regression model

Panel A: Concurrent AGENCY variable and conservatism (When x = t)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCYx + \alpha_5 D_t AGENCY_x + \alpha_6 R_t AGENCYx + \alpha_7 D_t R_t AGENCYx + Controls + \varepsilon$$

x=t		FCF*Q				EXCASH*Q			
	Predicted	Median cutoff		Quartile cutoff		Median cutoff		Quartile cutoff	
	Sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.007	1.85 *	-0.018	-1.46	0.036	10.06 ***	-0.008	-0.73
D		-0.041	-6.74 ***	-0.046	-2.43 **	-0.036	-6.80 ***	-0.064	-3.93 ***
R	+	-0.021	-3.97 ***	-0.045	-3.18 ***	0.000	-0.05	-0.035	-2.62 ***
DR	+	0.405	29.37 ***	0.386	9.67 ***	0.354	28.12 ***	0.376	11.13 ***
AGENCY		0.038	15.69 ***	0.063	7.13 ***	0.021	9.00 ***	0.055	6.66 ***
RAGENCY		0.023	6.61 ***	0.020	1.47	-0.002	-0.71	0.025	2.11 **
DAGENCY		0.011	3.01 ***	0.040	3.90 ***	0.006	1.55	0.003	0.35
DRAGENCY		-0.081	-8.92 ***	0.001	0.04	0.000	-0.01	0.026	1.08
MB		-0.014	-3.54 ***	-0.023	-1.95 *	-0.028	-7.33 ***	-0.021	-1.98 **
DMB		0.005	0.90	0.004	0.24	0.005	0.80	0.022	1.44
RMB	+	-0.008	-1.55 **	-0.006	-0.40	-0.022	-4.34 ***	0.002	0.16
DRMB	+/-	-0.227	-16.41 ***	-0.212	-5.67 ***	-0.196	-15.06 ***	-0.239	-7.72 ***
LEV		0.009	2.45 **	0.013	1.24	0.000	-0.09	0.000	0.01
DLEV		0.006	1.08	0.022	1.33	0.008	1.41	0.016	1.07
RLEV	-	0.038	7.89	0.062	4.63	0.030	6.31	0.064	4.97
DRLEV	+	-0.015	-1.16	-0.038	-1.06	0.007	0.55	-0.033	-1.03
SIZE		0.059	16.13 ***	0.085	6.59 ***	0.055	15.37 ***	0.112	9.22 ***
DSIZE		0.024	4.22 ***	0.008	0.39	0.018	3.22 ***	0.024	1.32
RSIZE	+	0.022	4.18 ***	-0.012	-0.67	0.017	3.29 ***	0.012	0.71
DRSIZE	-	-0.191	-13.28 ***	-0.202	-4.10 ***	-0.200	-14.13 ***	-0.211	-4.67 ***
Adj. R square		17.46%		15.29%		14.94%		16.07%	
N		28,122		11,775		76,983		15,475	

Panel B: Lead AGENCY variable and conservatism (When x=t+1)

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCYx + \alpha_5 D_t AGENCY_x + \alpha_6 R_t AGENCYx + \alpha_7 D_t R_t AGENCYx + Controls + \varepsilon$$

x=t+1		FCF*Q				EXCASH*Q			
	Predicted	Median cutoff		Quartile cutoff		Median cutoff		Quartile cutoff	
	Sign	coef	t-stat	coef	t-stat	coef	t-stat	coef	t-stat
Intercept		0.022	5.68 ***	-0.013	-1.07	0.043	12.15 ***	-0.014	-1.35
D		-0.040	-6.65 ***	-0.033	-1.84 *	-0.037	-6.95 ***	-0.021	-1.38
R	+	-0.014	-2.75 ***	-0.043	-3.09 ***	0.001	0.16	-0.009	-0.68
DR	+	0.368	26.30 ***	0.319	8.42 ***	0.333	25.65 ***	0.332	9.93 ***
AGENCY		0.030	12.55 ***	0.058	6.88 ***	0.018	7.65 ***	0.062	8.03 ***
RAGENCY		0.014	4.24 ***	0.004	0.32	-0.007	-2.04 **	-0.010	-0.92
DAGENCY		0.009	2.31 **	0.027	2.76 ***	0.004	1.12	-0.005	-0.49
DRAGENCY		-0.042	-4.60 ***	0.030	1.10	0.011	1.19	0.014	0.58
MB		-0.020	-5.14 ***	-0.024	-2.13 **	-0.030	-7.93 ***	-0.019	-1.87 *
DMB		0.003	0.55	0.007	0.43	0.007	1.25	0.003	0.17
RMB	+	-0.015	-2.96	0.000	-0.02	-0.023	-4.62	0.003	0.27
DRMB	+/-	-0.203	-14.37 ***	-0.130	-3.64 ***	-0.176	-13.26 ***	-0.202	-6.62 ***
LEV		0.002	0.60	0.021	1.99 **	-0.003	-0.79	0.012	1.17
DLEV		0.010	1.74 *	0.005	0.32	0.008	1.53	0.011	0.75
RLEV	-	0.038	8.00	0.062	4.82	0.032	6.60	0.045	3.62
DRLEV	+	-0.013	-0.97	-0.065	-1.89	0.000	-0.04	-0.010	-0.32
SIZE		0.056	15.18 ***	0.080	6.50 ***	0.053	14.63 ***	0.101	8.65 ***
DSIZE		0.021	3.69 ***	0.016	0.82	0.015	2.63 ***	-0.002	-0.09
RSIZE	+	0.019	3.57 ***	-0.001	-0.08	0.016	3.11 ***	-0.011	-0.71
DRSIZE	-	-0.186	-12.79 ***	-0.168	-3.62 ***	-0.198	-13.87 ***	-0.207	-4.78 ***
Adj. R square		15.44%		13.58%		13.82%		13.76%	
N		23,144		11,689		73,863		15,407	

*Notes

1. This table reports the pooled OLS regression of testing the relationship between each of concurrent and lead *AGENCY* variable and concurrent conditional conservatism.
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, two tailed.
4. Variable descriptions:

NI_t is income before extraordinary items (Data18) at the end of year t, scaled by market value of equity at the end of year t-1.

R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth relative to industry at the beginning of the fiscal year t.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets (Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

Table 12 Tests of the Main Effects of FREECASH on Conservatism across FREECASH/GROWTH groups

$$NI_t = \alpha_0+\alpha_1 D_t+ \alpha_2 R_t+ \alpha_3 D_t R_t+\alpha_4 FREECASH_{t-1}+\alpha_5 D_t FREECASH_{t-1}+\alpha_6 R_t FREECASH_{t-1}+\alpha_7 D_t R_t FREECASH_{t-1}+\alpha_8 MB_{t-1}$$
$$+ \alpha_9 D_t MB_{t-1}+\alpha_{10} R_t MB_{t-1}+ \alpha_{11} D_t R_t MB_{t-1} + \alpha_{12} LEV_{t-1}+ \alpha_{13} D_t LEV_{t-1}+\alpha_{14} R_t LEV_{t-1}+ \alpha_{15} D_t R_t LEV_{t-1}$$
$$+ \alpha_{16} SIZE_{t-1} + \alpha_{17} D_t SIZE_{t-1}+\alpha_{18} R_t SIZE_{t-1}+ \alpha_{19} D_t R_t SIZE_{t-1}$$

Panel A : Using FCF

		FREECASH=FCF GROWTH=Q												FREECASH=FCF GROWTH=Sales Growth											
	Predicted	LCLG			LCHG			HCLG			HCHG			LCLG			LCHG			HCLG			HCHG		
Variable	sign	coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat	
Intercept		-0.028	-2.36	**	-0.062	-5.23	***	0.065	8.40	***	0.046	5.95	***	-0.040	-3.91	***	-0.050	-3.53	***	0.066	9.88	***	0.045	4.93	***
D		-0.022	-1.18		-0.044	-2.32	**	-0.026	-1.97	**	0.002	0.14		-0.008	-0.53		-0.071	-3.26	***	-0.021	-1.90	*	-0.002	-0.16	
R	+	0.041	2.44	**	-0.009	-0.67		0.045	3.78	***	0.008	0.78		0.024	1.73	*	-0.011	-0.67		0.027	2.71	***	0.008	0.69	
DR	+	0.295	6.76	***	0.291	7.32	***	0.168	4.78	***	0.344	10.39	***	0.285	7.47	***	0.300	6.62	***	0.235	7.83	***	0.301	7.68	***
FREECASH		0.070	2.77	***	0.089	3.32	***	-0.007	-0.63		-0.019	-1.65	*	0.044	1.92	*	0.124	4.06	***	-0.003	-0.30		-0.026	-1.89	*
DFREECASH		-0.016	-0.39		0.078	1.84	*	0.008	0.45		-0.051	-2.61	***	0.044	1.21		0.003	0.07		-0.009	-0.58		-0.030	-1.27	
RFREECASH	-	0.041	1.17		0.066	2.14		-0.028	-1.72	*	-0.025	-1.84	*	0.102	3.34	***	-0.001	-0.02		-0.023	-1.66	*	-0.023	-1.44	
DRFREECASH	**+**	-0.121	-1.28		0.023	0.25		**0.206**	**4.57**	*******	-0.019	-0.41		-0.123	-1.42		0.024	0.24		**0.143**	**3.54**	***	0.043	0.79	
MB		0.008	0.54		-0.024	-1.67	*	-0.013	-1.40		-0.010	-1.09		-0.009	-0.67		-0.025	-1.54		-0.013	-1.56		-0.014	-1.23	
DMB		-0.029	-1.30		-0.011	-0.50		0.006	0.36		-0.041	-2.58	***	-0.028	-1.40		0.003	0.12		-0.007	-0.50		-0.039	-2.09	**
RMB	-	-0.032	-1.67	*	-0.044	-2.68	***	0.000	0.02		-0.037	-3.03	***	-0.022	-1.35		-0.058	-3.11	***	-0.026	-1.99	**	-0.022	-1.59	
DRMB	+/-	-0.178	-3.63	***	-0.187	-4.07	***	-0.079	-1.96	*	-0.225	-5.78	***	-0.193	-4.34	***	-0.155	-3.07	***	-0.111	-3.17	***	-0.191	-4.28	***
LEV		-0.002	-0.14		0.021	1.57		-0.014	-1.66	*	0.003	0.38		0.009	0.78		0.021	1.44		-0.013	-1.74	*	0.002	0.16	
DLEV		-0.006	-0.27		0.010	0.45		0.014	0.95		-0.026	-1.79	*	-0.012	-0.67		0.019	0.81		0.009	0.73		-0.010	-0.58	
RLEV	-	-0.021	-1.18		-0.002	-0.14		-0.011	-0.84		0.032	2.88	***	-0.017	-1.09		0.019	1.12		0.024	2.05	**	0.023	1.85	*
DRLEV	+	0.066	1.36		0.122	2.76	***	0.141	3.57	***	-0.030	-0.81		0.097	2.27	**	0.064	1.30		0.064	1.91	*	0.017	0.42	
SIZE		0.071	5.14	***	0.099	6.57	***	0.021	1.70	*	0.035	2.59	***	0.095	7.60	***	0.074	4.24	***	0.017	1.55		0.046	2.77	***
DSIZE		0.059	2.69	***	0.042	1.75	*	0.014	0.65		0.098	4.12	***	0.033	1.66	*	0.078	2.88	***	0.034	1.83	*	0.074	2.63	***
RSIZE	+	0.006	0.30		0.010	0.51		0.017	0.83		0.042	2.33	**	-0.013	-0.74		0.032	1.51		0.021	1.23		0.030	1.42	
DRSIZE	-	-0.232	-4.29	***	-0.134	-2.48	**	-0.432	-7.67	***	-0.121	-2.05	**	-0.173	-3.49	***	-0.179	-2.99	***	-0.351	-6.99	***	-0.191	-2.81	***
Adj. R sqaure		16.38%			16.17%			15.36%			13.69%			16.27%			0.154			15.61%			13.53%		
N		8,183			6,442			7,339			8,447			6,932			7,467			8,453			7,291		

Panel B: Using EXCASH

		FREECASH=EXCASH GROWTH=Q												FREECASH=EXCASH GROWTH=Sales Growth									
	Predicted	LCLG			LCHG			HCLG			HCHG			LCLG			LCHG			HCLG			HCHG	
Variable	sign	coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat		coef	t-stat	
Intercept		0.075	9.85	***	0.017	1.10		0.043	6.38	***	-0.042	-3.01	***	0.066	11.86	***	0.038	6.18	***	0.065	8.63	***	0.029	2.77	***
D		-0.045	-3.81	***	-0.010	-0.38		-0.017	-1.56		-0.026	-1.13		-0.031	-3.53	***	-0.024	-2.52	**	-0.043	-3.41	***	-0.008	-0.48	
R	+	0.027	2.27	**	0.024	0.92		0.015	1.74	**	0.014	0.80		0.016	1.94	*	0.017	2.11	**	0.019	1.68	*	0.020	1.47	
DR	+	0.317	10.61	***	0.596	9.10	***	0.357	13.73	***	0.306	5.97	***	0.343	15.52	***	0.377	16.93	***	0.227	6.67	***	0.273	6.19	***
FREECASH		-0.045	-2.36	**	0.054	3.85	***	-0.017	-1.00		0.080	5.85	***	0.002	0.44		0.006	1.15		-0.002	-0.32		0.017	1.80	*
DFREECASH		-0.011	-0.38		-0.002	-0.10		-0.013	-0.48		-0.002	-0.10		0.000	-0.03		-0.010	-1.22		0.033	2.92	***	0.005	0.30	
RFREECASH	-	-0.030	-1.08		-0.008	-0.32		0.012	0.51		-0.028	-1.60		-0.020	-2.80	***	-0.025	-3.70	***	0.011	1.17		-0.020	-1.69	*
DRFREECASH	**+**	**0.286**	**3.92**	*******	-0.226	-3.70		**0.296**	**4.46**	*******	0.047	0.92		0.011	0.60		**0.029**	**1.58**	*****	**0.047**	**1.57**	*****	**0.066**	**1.73**	*
MB		-0.024	-2.72	***	-0.031	-4.74	***	-0.019	-2.58	***	-0.066	-9.64	***	-0.037	-6.42	***	-0.040	-6.59	***	-0.013	-1.53		-0.010	-0.89	
DMB		-0.009	-0.68		-0.024	-2.40	**	-0.002	-0.18		-0.006	-0.56		-0.005	-0.57		-0.009	-0.99		-0.007	-0.52		-0.036	-1.96	**
RMB	-	-0.004	-0.34		-0.028	-2.66	***	-0.019	-1.96	**	-0.025	-2.92	***	-0.016	-1.93	*	-0.033	-4.18	***	-0.025	-1.91	**	-0.017	-1.26	
DRMB	+/-	-0.224	-7.15	***	-0.188	-7.35	***	-0.175	-6.41	***	-0.232	-9.38	***	-0.209	-9.71	***	-0.239	-11.39	***	-0.124	-3.51	***	-0.206	-4.66	***
LEV		-0.037	-4.15	***	-0.013	-2.12	**	-0.007	-0.90		0.011	1.74	*	-0.022	-3.86	***	-0.006	-1.06		-0.013	-1.64		0.008	0.75	
DLEV		0.005	0.34		-0.005	-0.52		-0.020	-1.69	*	0.000	0.02		-0.003	-0.36		-0.005	-0.55		0.023	1.75	*	-0.011	-0.63	
RLEV	-	0.001	0.11		-0.017	-1.70	**	0.021	2.17	**	0.023	2.78	***	0.004	0.48		0.028	3.73	***	0.026	2.16	**	0.012	0.91	
DRLEV	+	0.033	0.96		0.042	1.65	*	-0.019	-0.71		0.039	1.62		0.050	2.27	**	-0.008	-0.37		0.094	2.68	***	0.044	1.00	
SIZE		0.061	5.71	***	0.048	6.20	***	0.051	5.72	***	0.123	15.34	***	0.053	9.61	***	0.078	12.76	***	0.015	2.00	**	0.020	1.92	*
DSIZE		0.075	4.48	***	0.034	2.81	***	0.034	2.44	**	0.029	2.26	**	0.046	5.26	***	0.039	4.10	***	0.022	1.73	*	0.047	2.66	***
RSIZE	+	0.024	1.45		0.052	4.15	***	-0.009	-0.77		0.020	1.81	*	0.035	3.94	***	0.014	1.66	*	-0.002	-0.15		0.009	0.64	
DRSIZE	-	-0.280	-6.49	***	-0.359	-11.53	***	-0.259	-7.42	***	-0.132	-4.44	***	-0.205	-8.90	***	-0.157	-6.85	***	-0.223	-6.34	***	-0.142	-3.20	***
Adj. R sqaure		16.15%			15.63%			15.26%			14.25%			14.96%			16.28%			15.76%			11.86%		
N		23,510			18,196			18,397			25,318			20,713			20,644			20,281			22,415		

*Notes

1. This table reports the results of pooled OLS regression of testing the effect of FREECASH on subsequent conditional conservatism across four FREECASH/GROWTH groups.
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, two tailed.
4. Variable descriptions:

NI_t is income before extraordinary items(Data18) at the end of year t, scaled by market value of equity at the end of year t-1.
R_t is the buy-and-hold returns, beginning the 4th month of fiscal year t-1 and ending 4 months after the end of year t.
D_t is an indicator variable set equal to one if R_t is negative, and zero otherwise.
MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.
LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.
$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.
$FREECASH_{t-1}$ is the scaled decile rank of FCF from Richardson (2006), or EXCASH from Dittmar and Mahrt-Smith (2007) at the beginning of the fiscal year t.
$GROWTH_{t-1}$ is the scaled decile rank of Industry-adjusted Tobin's Q or Industry-adjusted sales growth at the beginning of the fiscal year t.
Tobin's Q is the sum of market value of equity(Data199*Data 25) and book value of debt(Data 34+ Data 9) scaled by total assets(Data 6).
Industry-adjusted Tobin's Q is calculated as Tobin's Q minus the median Tobin's Q in the industry, where industry is defined by Fama and French' s (1997) 48 industry classifications.
Sales growth is the percentage of annual sales growth rate calculated as $Sales_{t+1}/Sales_{t.}$
Industry-adjusted sales growth rate is calculated as the 2-year geometric average of the annual percentage growth in net sales minus the median average 2-year sales growth in the industry.

Table 13 Conservatism of Persistent J-type firms and Temporary J-type firms

Panel A: Descriptive Statistics of Persistent J-type firms and Temporary J-type firms

	FCF*Q*Median Cutoff						EXCASH*Q*Median Cutoff					
	Temporary J-type (N=1701)		Persistent J-type(N=5471)		Tests of Differences		Temporary J-type (N=3312)		Persistent J-type (N=10166)		Tests of Differences	
Variable	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CASH/Total Assets	0.122	0.058	0.093	0.049	<.0001	0.001	0.181	0.134	0.145	0.091	<.0001	<.0001
FCF/Total Assets	0.041	0.036	0.040	0.035	0.8695	0.3745	-0.011	0.001	-0.018	-0.006	0.1731	0.0114
EXCASH/Total Assets	0.001	0.000	0.002	0.000	0.3401	0.0012	0.022	0.000	0.010	0.000	0.2636	<.0001
Tobin's Q	1.342	1.213	1.242	1.136	<.0001	<.0001	1.286	1.173	1.134	1.055	<.0001	<.0001
Ind. Adj. Q	-0.165	-0.156	-0.212	-0.156	0.0001	0.0651	-0.142	-0.116	-0.217	-0.170	<.0001	<.0001
Sales growth	0.119	0.071	0.098	0.072	0.1498	0.7224	0.145	0.089	0.101	0.070	<.0001	<.0001
Ind. Median Sales growth	0.209	0.201	0.216	0.219	0.2175	0.0019	0.220	0.220	0.210	0.209	0.0047	0.0021
Ind. Adj Sales growth	-0.116	-0.151	-0.135	-0.152	0.2227	0.8183	-0.099	-0.137	-0.127	-0.152	0.0067	0.0337
MB	1.934	1.499	1.703	1.365	0.0008	<.0001	1.976	1.494	1.473	1.211	<.0001	<.0001
SIZE(Log MVE)	4.478	4.415	4.780	4.621	<.0001	0.0002	3.669	3.486	4.767	4.635	<.0001	<.0001
LEV (DIST_D)	0.234	0.213	0.261	0.255	0.0002	<.0001	0.210	0.182	0.246	0.239	<.0001	<.0001
RET	0.081	-0.021	0.182	0.102	<.0001	<.0001	0.067	-0.036	0.137	0.065	<.0001	<.0001
NI ($ MM)	0.031	0.054	0.067	0.079	<.0001	<.0001	0.036	0.060	0.053	0.079	0.2594	<.0001
Total Assets ($ MM)	651.177	119.231	1059.659	185.135	<.0001	<.0001	248.051	45.516	1086.073	201.696	<.0001	<.0001
Sales ($ MM)	657.154	147.337	1162.904	251.072	<.0001	<.0001	260.935	55.377	1161.753	249.632	<.0001	<.0001
R&D/Total Assets	0.038	0.002	0.030	0.005	0.0017	0.9062	0.035	0.003	0.028	0.003	<.0001	0.0562
CAPEX/Total Assets	0.060	0.039	0.065	0.049	0.0745	<.0001	0.066	0.045	0.064	0.048	0.2236	0.0102
DIV/EARN	0.219	0.000	0.387	0.001	0.3294	<.0001	0.165	0.000	0.347	0.068	<.0001	<.0001
REPUR/EARN	0.531	0.000	0.259	0.000	0.2052	0.5579	0.431	0.000	0.411	0.000	0.8675	0.5269
Inv G Score	-9.000	-9.000	-9.518	-10.000	0.1528	0.1281	-8.549	-9.000	-9.779	-10.000	0.0007	0.0015
Inv E Index	-2.452	-3.000	-2.580	-3.000	0.3823	0.3324	-2.191	-2.000	-2.649	-3.000	0.0013	0.0026

Panel B: Persistent Agency Costs of Free Cash Flow and Conservatism Using Basu's Reverse Regression

$$NI_t = \alpha_0 + \alpha_1 D_t + \alpha_2 R_t + \alpha_3 D_t R_t + \alpha_4 AGENCY_{t-1} + \alpha_5 D_t AGENCY_{t-1} + \alpha_6 R_t AGENCY_{t-1} + \alpha_7 D_t R_t AGENCY_{t-1} + \alpha_8 PERSJ_{t-1} + \alpha_9 D_t PERSJ_{t-1} + \alpha_{10} R_t PERSJ_{t-1} + \alpha_{11} D_t R_t PERSJ_{t-1} + \alpha_{12} AGENCY_{t-1} PERSJ_{t-1} + \alpha_{13} D_t AGENCY_{t-1} PERSJ_{t-1} + \alpha_{14} R_t AGENCY_{t-1} PERSJ_{t-1} + \alpha_{15} D_t R_t AGENCY_{t-1} PERSJ_{t-1} + Control + \varepsilon$$

	Predicted	FCF*Q			EXCASH*Q		
Variable	sign	coef	t-stat		coef	t-stat	
Intercept		0.033	7.32	***	0.059	15.05	***
D		-0.018	-2.44	**	-0.016	-2.43	**
R	-	-0.010	-1.60	**	0.009	1.61	**
DR	+	0.357	20.39	***	0.365	23.25	***
AGENCY		0.018	6.18	***	0.002	0.67	
DAGENCY		0.007	1.35		0.002	0.41	
RAGENCY	-	0.015	3.60	***	-0.017	-4.53	***
DRAGENCY	+	0.033	2.69	***	0.029	2.67	***
PERSJ		-0.007	-0.28		-0.048	-2.34	**
DPERSJ		0.008	0.18		0.036	1.08	
RPERSJ		0.035	0.75		0.042	1.11	
DRPERSJ		-0.082	-0.71		-0.078	-0.86	
AGENCYPERSJ		0.008	1.31		0.047	2.27	**
DAGENCYPERSJ		-0.011	-0.25		-0.041	-1.19	
RAGENCYPERSJ	-	-0.023	1.05		-0.023	-0.59	
DRAGENCYPERS	+	0.023	1.69	**	0.122	1.81	**
MB		-0.023	-4.89	***	-0.041	-9.57	***
DMB		-0.006	-0.77		-0.008	-1.12	
RMB	-	-0.032	-4.98	***	-0.026	-4.61	***
DRMB	+/-	-0.135	-7.35	***	-0.183	-11.46	***
LEV		-0.004	-1.01		-0.014	-3.48	***
DLEV		0.015	2.05	**	0.012	1.83	*
RLEV	-	0.030	5.05	***	0.025	4.63	***
DRLEV	+	0.012	0.68		0.018	1.15	
SIZE		0.056	12.52	***	0.059	14.21	***
DSIZE		0.010	1.39		0.014	1.99	**
RSIZE	+	0.024	3.63	***	0.023	3.76	***
DRSIZE	-	-0.257	-13.87	***	-0.259	-14.95	***
Adj. R sqaure		15.92%			15.52%		
N		20,658			59,150		

*Notes

1. Panel A reports the descriptive statistics of persistent J-type firms (firms that maintain J-type firm status for each of the prior 3 years, t-3, t-2, and t-1) and transitory J-type firms (firms that maintain J-type firm status only at t-1), while Panel B reports the pooled OLS regression results of testing whether the subsequent demand for conservatism is different between persistent J-type firms and transitory J-type firms.
2. This table reports the coefficient estimates with standard errors corrected for cross-sectional and time-series dependence. Firm and time fixed effects are included.
3. ***, **, and * indicate statistical significance at the 0.01, 0.05 and 0.10 level or better, respectively, two tailed.
4. Variable descriptions:

$AGENCY_{t-1}$ is a dummy that is set to 1(0) for firm-years with more than the median (or upper quartile) free cash and less than the median (or lower quartile) growth.

$PERSJ_{t-1}$ is a dummy that is set to 1(0) for persistent J-type firms (transitory J-type firms) where persistent J-type firms are defined as firms having been identified as having high FREECASH/low GROWTH for the past 3 years (t-3, t-2, and t-1), while transitory J-type firms are those having high FREECASH/low GROWTH condition for the year t-1 only.

MB_{t-1} is the scaled decile rank of the Market to Book ratio at the beginning of the fiscal year t.

LEV_{t-1} is the scaled decile rank of total debt divided by total assets(Data 6) at the beginning of the fiscal year t.

$SIZE_{t-1}$ is the scaled decile rank of natural log of market value of equity at the beginning of the fiscal year t.

VITA

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Scope and Method of Study: This dissertation investigates whether agency costs in the context of Jensen's free cash flow theory will generate demand for conservative financial reporting from shareholders. Jensen (1986) argues that shareholders' difficulty in monitoring managerial opportunistic behavior creates the potential for managers to spend internally generated cash flow for their own benefit, rather than for maximizing firm value. Recent evidence suggests that accounting conservatism has evolved as part of an efficient contracting mechanism that facilitates reducing agency costs for both shareholders and bondholders. Based on high free cash flow and limited growth opportunities within industries, I select firms that are prone to overinvestment (J-type firms), and test the differences in reporting conservatism between J-type firms and non J-type firms.

Findings and Conclusions: I find that firms with greater agency costs of free cash flow incorporate losses in a more timely manner relative to gains than firms with less agency costs of free cash flow. I also find that debt issuance and dividend payments as well as good corporate governance reduce the relative importance of conservatism in mitigating the agency costs of free cash flow by reducing the cash reserves within the firm or by improving the use of excess cash. Also, J-type firms with greater conservatism are less likely to overinvest in the future. These results are robust to several regression specifications, several proxies for agency costs of free cash flow with different estimation techniques and an alternative measure of conservatism, even after controlling for other sources of conservatism. Overall, the results suggest that firms with more potential agency costs of free cash flow adopt more conservative accounting to mitigate agency conflicts between shareholders and managers.

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