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Is Marriage a Turning Point? Evidence from Cash Holdings Behavior of Married CEOs

Md Al Mamun
Department of Accounting, Data Analytics, Economics and Finance,
La Trobe Business School, La Trobe University. Bundoora, VIC 3086, Australia.
Email: M.AlMamun@latrobe.edu.au

Sabri Boubaker
EM Normandie Business School, Métis Lab, France.
Email: sboubaker@em-normandie.fr

Abdul Ghafoor
Department of Finance and Economics, Birmingham City University, Birmingham, UK
Email: abdul.ghafoor@bcu.ac.uk

Muhammad Tahir Suleman
Department of Accountancy and Finance, Otago University
Dunedin 9016, New Zealand.
Email: tahir.suleman@otago.ac.nz

Abstract

Given that marriage transforms people with wide-ranging and long-lasting impacts, we examine the role of CEOs' marital status on firms' cash holdings behavior. Using a large sample of US-listed firms, we find that single CEOs stockpile more cash than married ones. Our finding is robust to alternative measures of cash, controlling for various CEO characteristics, CFO influence, and tackling the endogeneity concerns. Moreover, we show that exogenous CEO turnover resulting in an appointment of single (married) CEOs increases (decreases) cash holdings. Additional results show that single-CEO firms practice a more conservative payout policy and are more likely to accumulate cash from operating and financing cash flows. Consistent with the agency view, single CEOs extract more compensation from the accumulated, leading to a lower value of cash holdings. External corporate governance mechanisms seem to mitigate the relationship between single CEOs and cash holdings. Overall, our results document that single-CEO firms are more prone to agency problems.

***Keywords*:** Agency theory; Cash holdings; Marital status; Upper-echelon theory; Value of cash.

1. Introduction

Building on the central premise of upper echelon theory (Hambrick and Mason, 1984), a growing body of literature documents the considerable influence of top management's traits on various corporate policies (Johnson and Powell, 1994; Barker III and Mueller, 2002; Bertrand and Schoar, 2003; Kaplan et al., 2012; Manner, 2010; Al Mamun et al., 2020). CEOs' marital status is one of their most essential traits since marriage changes a person fundamentally as individuals adjust to new roles and responsibilities and reinvent the trajectory of satisfaction in life and relationship. Marriage fosters more careful, responsible, pro-social values and positive economic outcomes (Persson, 2020). It has a domino effect on other critical personality traits such as extroversion, openness to experience, conscientiousness, agreeableness, and neuroticism (Lavner et al., 2018). Despite the significant life-changing impacts marriage brings, attention to the effects of CEO marital status on firm-level outcomes is still in its infancy[1]. In this paper, we extend this line of research by examining the impact of CEOs' marital status on corporate cash holding.

We focus on cash holdings for three critical reasons. *First*, cash is the most readily available asset, and CEOs' opportunity to exercise considerable discretion, as envisaged by the upper echelon theory, makes cash holdings an attractive research setting. *Second*, cash holdings influence other corporate policies, such as innovation (Lyandres and Palazzo, 2016), investment (Kadapakkam et al., 1998), risk management (Acharya et al., 2012), capital and R&D expenditures (Simutin, 2010), and external financing (Barbalau, Huson, and Roth, 2022). Hence understanding the impact of CEOs' marital status on cash holdings behavior presents a first-order research question.

Third, the institutional theory of marriage argues that married couples are most likely to enjoy a happy and stable life (Wilcox and Nock, 2006) since marriage positively contributes to

[1] CEOs' marital status determines firms' risk-taking behavior (Roussanov and Savor, 2014), earnings management (Hilary et al., 2017), and corporate social responsibility (Hegde and Mishra, 2019).

better psychological and physical health, happiness, and longevity (Kiecolt-Glaser and Newton, 2001; Robles and Kiecolt-Glaser, 2003). In many cultures, marriage is considered *a rite of passage* and is widely regarded as a marker of social acceptance, recognition, and maturity (Shapiro and Keyes, 2008). However, marriage is a resource-intensive endeavor (Dew, 2008), and individuals without access to finance or substantial wealth are unattractive to marriage and cohabitation (Smock et al., 2005; Addo, 2014). The likelihood of transition from cohabitation to marriage increases with wealth accumulation (Smock et al., 2005)[2]. Hence, the urgency to improve wealth status is likely higher for single CEOs. Relatedly, cash holdings allow single CEOs to extract personal benefits at the expense of shareholders. Such behavior is consistent with agency theory (Jenson, 1986) and supported by the findings of Hilary et al. (2017) and Hegde and Mishra (2019), who document that single CEOs' presence leads to severe agency problems. The higher agency problem in single CEO firms is also manifested in higher SEC's enforcement actions (Hilary et al., 2017) against them. Such enforcement actions translate into higher legal and information risks creating further difficulties in accessing external financing (Graham, Li, and Qiu, 2008). Accordingly, we posit that firms managed by single CEOs are likely to hold higher levels of cash (a) to acquire the benefit of marriage (Wilcox and Nock, 2006) and (b) to overcome the potential external financing difficulties single CEOs are likely to face.

A counter-narrative is also plausible. Roussanov and Savor (2014) and Nicolosi and Yore (2015) suggest that compared to their married peers, single CEOs incline toward empire-building by engaging in excessively riskier investments (i.e., capital expenditure, R&D expenditure, and acquisition activities). To the extent that managers have significant discretion (upper-echelon theory) and interest (agency theory) to change corporate policies to suit better

[2] Financing marriage is one of the most critical concerns of singles (Kathleen Elkins, 2017).

their personal preferences, single CEOs' preference for more aggressive investment behavior suggests that these firms are less likely to hold cash.

Managers hold cash as part of a *classical* precautionary motive (Opler et al., 1999). People with single status tend to develop more egocentric choices reflected in recklessness in spending, less diligence, and less agreeableness due to the absence of mutual support readily available in marriage (Lavner et al., 2018). Hence, *ceteris paribus*, the precautionary motives of cash holdings are likely to resonate less with single CEOs. Accordingly, firms managed by single CEOs are likely to hold less cash.

We test our contrasting empirical predictions in the US setting using a large sample of firm-year observations from 1992–2016[3]. We find that the unconditional difference in the median and mean cash holdings between firms run by single CEOs and firms run by married CEOs are 0.57% and 8.5%, respectively. The main result that single CEOs hold more cash than married CEOs is robust to controlling for various firm-related, CEO-related, internal, and external corporate governance-related variables, using alternative measures and different model specifications. Regarding economic significance, on average, cash holdings by single CEOs are 15.46% higher than by married CEOs.

We note that establishing a causal relationship is challenging since marital status, an indicator variable, does not entirely capture the quality of the marriage. Moreover, unobserved omitted variables related to CEOs, firms, and regional characteristics likely correlated with CEOs' marital status can confound our result. We address these concerns using a battery of tests, including instrumental variable (IV) regression, propensity score matching (PSM) analysis, and the difference-in-differences (DID). We also run alternative specifications using firm-, CEO-, and regional-fixed effects. Results from these tests suggest that single CEOs' impact on corporate cash holdings persists. More specifically, exogenous CEO turnover that

[3] Need to say why US settings.

results in a transition from married to single (single to married) CEOs significantly increase (decreases) cash holdings in the post-turnover periods compared to pre-turnover periods. Overall, the effect of single CEOs on firm cash policy is robust.

Next, we investigate how single CEOs pile up cash reserves. Using cash dividends and stock repurchases to capture payout policy, we find that single CEOs pursue a more conservative distribution policy to accumulate cash reserves. Additional results show that compared to married CEOs, single CEOs save more cash out of internal funds generated from operating cash flows and external funds generated from equity issuance but not from debt issuance.

We support the agency motives for cash holding by single CEOs using Halford et al. (2020)'s specification for the marginal value of cash holdings. In firms managed by single CEOs, the marginal value of one-dollar cash holding is $0.154 less than that of married CEOs. Subsample analysis further corroborates the agency motives since the marginal value of cash is significantly lower for firms with higher agency issues when single CEOs manage these firms. Given that CEOs can use higher cash holdings to extract private benefits (Shleifer and Vishny, 1997; Cheng et al., 2020), we further supplement the agency motives by examining the implication of cash holdings in CEOs' compensation structure. We find that controlling for firm-level characteristics, both the level and changes in cash positively affect the level and changes in total pay, salary, and bonuses of single CEOs. Collectively, we establish the agency motives of cash holdings by single CEOs.

We conduct further analysis to rule out single CEOs' precautionary motives for cash holdings. We perform a sub-sample analysis by splitting our sample based on the various measures of financial constraints suggested by Florackis and Sainani (2018) and Kaplan and Zingales (1997). We document that compared to married CEOs, single CEOs with lower financial constraints hold more cash than their counterparts, suggesting that a precautionary motive does not necessarily drive single CEOs' decision to hold more cash.

In the final set of analyses, we undertake several additional tests. *First*, CFOs' influence on firms' liquidity management is critical (Florackis and Sainani (2018). Hence, we reestimate our baseline results (a) including CFO-fixed effect, (b) controlling for CFO influence, and (c) splitting our sample between high and low CFO influence subsamples. Our results hold across all these specifications, suggesting that single CEOs' influence on cash holdings exceeds CFOs' effects. *Second*, single CEOs have an 'aggressive attitude' toward risky investments (Roussanov and Savor, 2014). Hence, we run additional analyses and find that the magnitude of single CEO's effect on cash holdings is significantly larger in firms with higher capital investments, research and development expenditure, and acquisition activities. *Finally*, we examine whether internal and external governance mechanisms - board independence, institutional investors' holdings, and the takeover threat index (Cain et al., 2017) - can curb the positive relationship between single CEOs and cash holding. We find that only external governance mechanisms - institutional investors and hostile takeover index - significantly alter the positive effect of single CEOs on cash holding, suggesting that external governance mechanisms are more efficient in curbing managerial agency motives of single CEOs related to cash holding.

Our paper makes several contributions to prior literature. Motivated by upper echelon theory, previous studies document how various demographic characteristics such as CEOs' gender (Adhikari, 2018), age (Andreou, Louca, and Petrou, 2017), and political and social backgrounds (Hutton et al., 2014; Elnahas and Kim, 2017; Kish-Gephart and Campbell, 2015), managerial traits (Hackbarth, 2008) influences corporate policies. However, individuals' marital status, one of the most significant life-changing events (Dew and Wilcox, 2013; Persson, 2020), gained little attention in the literature. A scant body of literature documents the positive effect of single CEOs on risk-taking (Roussanov and Savor, 2014) and earnings management (Hilary et al., 2017) and the negative impact on corporate social responsibility (Hegde and Mishra, 2019). Our study extends the implications of upper echelon theory showing that CEOs' marital status also shapes corporate cash policy.

Our study relates to the literature documenting shareholders' value-additive role of cash holdings (Faulkender and Wang, 2006; Halford et al., 2020). A firm's cash policy is a virtual channel to manage financial risk vis-à-vis increases in firm value (Sun et al., 2021). However, cash holdings can also create significant agency problems (Cheng et al., 2020; Masulis et al., 2009; Malmendier and Tate, 2008; Jensen, 1986). We add to this literature by showing that single CEOs engage in rent-extracting activities and reduce the value relevance of cash holdings.

Finally, cash holdings, as the most liquid resource at the disposal of the CEOs, provide a compelling setting to examine the effectiveness of institutional mechanisms to restrain the CEOs who exhibit more severe agency problems. Our results show that external monitoring mechanisms (Cain et al., 2017; Kim and Lu, 2011; Shi et al., 2017) are far more efficient in curbing managerial agency problems related to cash holding. Hence, our findings support the central argument of the new institutional theory (DiMaggio and Powell, 1983) and add to existing research that raises questions about the effectiveness of monitoring institutions (Coles et al., 2014) in inhibiting managerial agency problems.

The remainder of the paper is organized as follows. Section 2 presents the theory. Section 3 examines empirical literature review and hypotheses development. Section 4 presents the research design. Section 5 Empirical results and discussion. Section 6 presents Summary and conclusion.

2. Theoretical framework

As we explore the associations between CEOs' marital status and corporate cash holding, we deem it appropriate to draw insights from two critical theories intersecting management and finance literature to form a dynamic multi-dimensional theoretical framework to inform our analysis. Specifically, our work is built on the implicit assumptions drawn from the upper echelon theory (Hambrick and Mason, 1984; Hambrick, 2007) and the agency theory (Jenson, 1986). Upper echelon theory states that executives' action reflects their personalized interpretations of the strategic situations they face, and such interpretations are shaped by life experiences, values, and traits. Hence, top management characteristics have implications for organizational behavior and outcomes. Hambrick (2007) suggest that demographic characteristics can be used as valid proxies of executives' decision-making process. As the nucleus of the top management team, CEOs' demographic characteristics can have a direct and unique influence on firms' strategic decision-making (Papadakis and Barwise, 2002)[4] and firms' value creation. CEOs' marital status is a key demographic characteristic that can shape their life experiences, values, and priorities. Hence, the upper echelon concept adapted to CEOs' marital status suggests that firm can behave differently when they are run by CEOs who are married vs CEOs who are single.

Maintaining financial stability is one of firms' core operational goals that also affect's firm long-term sustainability. In this respect, corporate cash policy is significant since it can affect financial stability by providing operational flexibility. Corporate cash policy directly contribute to other critical decisions such as capital expenditures, acquisition spending, and payouts to shareholders (Opler et al., 1999). Cash policy is also critical since 'cash' is the

[4] Prior research on CEOs' physiological and demographic characteristics document the role of CEO overconfidence (Galasso and Simcoe, 2011; Aktas, Louca, and Petmezas, 2019), gender (Adhikari, 2018), age (Andreou et al., 2017), background such as political ideology (Hutton et al., 2014) or social background (Kish-Gephart and Campbell, 2015), experience such as military affiliation (Benmelech and Frydman, 2015); personal behavior such as personal tax aggressiveness (Chyz, 2013), management style (Schoar, 2016), and risk-taking behavior (Cain and McKeon, 2016) in affecting various firm decisions and outcomes.

primary asset used to meet firms’ financial obligations and ensures liquidity. Hence, cash policy plays a critical role in shareholders' value-creation goal. Given the overreaching importance of cash policy top management, firms’ CEO should have significant impact on the cash policy of the firm.

However, the CEOs’ ability to influence firms’ cash policy does not inform us whether firm holds more or less cash and more importantly how CEOs use such cash. Hence, agency theory provides further understanding about the nature of cash policy firm pursue and the value implication of such policy to the shareholder. This is because given the room for managerial discretion within the upper echelon theory (Hambrick, 2007), holding higher levels of cash provides freedom to CEOs regarding when and how to use it, which may, at times, be beneficial to the firm; but it may also lead to rent-extracting behavior for personal benefits at the expense of shareholders (Jensen, 1986; Opler et al., 1999; Malmendier and Tate, 2008; Masulis et al., 2009). Overall, given the implications of the upper echelon / agency theory in the corporate outcome and the importance of cash holdings in corporate value creation (destruction) we examine the role of CEOs' material status as a key determinant of a firm cash holdings behavior.

3. Related literature and hypothesis development

Understanding the link between CEOs' marital status and corporate cash holdings is built on related contextures underpinned by various theories in social science and management literature. *First*, People often bring their personal, social, emotional experience to the workplace (Scott, 1995; Brief, 1998). Attitudes, experiences, and emotions generated at home may carry over to the workplace and vice-versa (Edwards and Rothbard, 2000). Alternatively, the broader social life employees experience, influences organizational culture and behavior. The social life of individuals take significant turn at various stages of life, patricianly with change in their marital status. CEOs' marital status matters since marriage is one of the significant life-changing moment, a critical normative developmental milestone (Neugarten, 1976) that shapes human behavior in several areas of life. It fundamentally changes individuals as they adjust to new roles and responsibilities. As a non-economic identity, the financial and societal stakes people face in marriage affect their economic decision-making and shape their attitudes toward economic losses and gains.

With marriage, individuals become more circumspect and show more matured and responsible behavior. In fact, social bond theory suggests that upon marriage individuals are less willing to take actions that could jeopardize the welfare of their families (Hirschi, 1969) given that they now faces significant economic and social commitment. Marriage turns individuals' attention away from dangerous, antisocial, and self-centric activities (Wilcox and Nock, 2006). Age-graded informal social control theory posits that involvement in conventional social institutions, such as marriage, contributes to the de-escalation of offending and brings distance from social deviances (Sampson and Laub's (2005). Given that agency theory (Jensen, 1986) relates to a deviation of managerial fiduciary responsibility to their shareholders, married CEOs would be less likely to deviate from such fiduciary contracts.

In contrast, single individuals are more self-centric than married individuals (DePaulo and Morris, 2005). Hence, single CEOs are more likely to reflect traits such as 'self-serving' or 'opportunistic' behavior. Such personalities and the triggering behavioral expectation align well with firms' agency theory (Jensen, 1986) since a higher level of liquid assets facilitates managerial entrenchment and increases excessive and poor-performing investments (Kruger, 2015). Moreover, cash gives CEOs the bargaining power to extract higher rent through higher pay and bonuses (Cheng et al., 2020). Cash holdings also reduce the frequent recourse to the capital market, which can further reduce the scope of accountability of single CEOs.

Prior literature also argues that single-CEO firms display more severe agency problems. Hilary et al. (2017) show that the frequency and magnitude of earnings management are more prevalent in firms with single CEOs. Also, firms led by single CEOs face frequent accounting and auditing enforcement Releases (AAERs) from the SEC. Similarly, Kim et al. (2021) show that firms led by single CEOs have a higher propensity to withhold bad news resulting in higher stock price crash risk. Accordingly, single CEOs are likely to accumulate a high level of cash to further their deviant and 'self-serving' behavior.

Second, individuals stockpile assets as insurance against possible future uncertainty (Canale and Klontz, 2013). Single individuals are more likely to stockpile resources and develop a solid connection to their assets since they usually have lower network connections and social capital (Grisham et al., 2006), which would otherwise provide additional financing flexibility. Future-focused singles looking for marriage and family also display higher retirement savings plans (Roberts et al., 2007). Hence, from a psychological point of view, firms managed by single CEOs are likely to hold more cash than firms managed by married CEOs.

H1: Firms managed by single CEOs are likely to hold more cash.

Mirrlees (1999) argues that married people are less likely to show morally hazardous behavior. For example, establishing an innocent social media relationship with a school sweetheart someone re-met at a recent reunion can take one from marriage to divorce court and face the heterogeneous effect of community property law. In contrast, the actions of a single individual are more consistent with the implication of moral hazard theory (Mirrlees, 1999), which can lead to undesirable and unnecessary risk-taking behavior. Research shows that hedge funds managed by single managers take more risks than their married counterparts (Lu et al., 2016). Nicolosi and Yore (2015) consistently show that single CEOs engage in more risky activities than married ones. They are less risk-averse than married ones and engage in excessive and risky investments (Roussanov and Savor, 2014). Overall, single CEOs who behave in a way consistent with moral hazard principles are likely to engage in aggressive and risky investments and hold less cash.

Relatedly, precautionary motives are essential for cash holdings (Opler et al. 1999). Adhikari (2018) finds that firms run by risk-averse managers keep more cash due to precautionary reasons. However, due to the absence of mutual support in marriage, people with single status tend to develop more egoistic choices reflected in recklessness in spending (Lavner et al., 2018). Hence, the precautionary motives of cash holdings are likely to resonate less with single CEOs since they have lower household responsibilities and family commitments. Based on single CEOs' risky attitude and precautionary motive of cash holding, we form our contrasting hypothesis as follows

H2: Firms managed by single CEOs are likely to hold less cash.

4. Research design

Similar to the work of Hilary et al. (2017) and Hegde and Mishra (2019), we define a dummy variable, *SINGLE*, to measure the marital status of a CEO that takes a value of one if the CEO's marital status is unmarried (single, never married), and zero if the CEO is legally married. Our marital status variable comes from the data provided by Roussanov and Savor (2014). Given that there is no available systematic and comprehensive dataset on CEOs' marital status, Roussanov and Savor (2014) hand-collect the marriage status data of US firms using various public sources, including the US Securities and Exchange Commission's insider filings, the Notable Names Database, Marquis Who's Who in Finance and Industry, and various media mentions[5]. Their dataset ranges from 1992 to 2008.

Roussanov and Savor (2014) highlight that their approach has some limitations, such as lack of date of marriage and divorce, the time variation of marriage, marriage quality, and undisclosed marriage-like relationships. Nevertheless, their approach fairly represents the

[5] For details on the construction process please refer to Roussanov and Savor (2014). We thank Roussanov and Savor (2014) for making their data available at http://dx.doi.org/10.1287/mnsc.2014.1926.

CEOs' marital status and continues to be used in recent literature (Hilary et al., 2017; Hegde and Mishra, 2019; Kim et al., 2021). Accordingly, we follow Roussanov and Savor's (2014) approach and manually extend the CEOs' marital status data until 2015 to cover more recent periods[6].

To construct our marital status sample, we draw 28,023 firm-year observations from Roussanov and Savor's (2014) database covering 1992–2008. Then, we add additional 14,953 firm-year observations covering all Execucomp firms for 2009–2015, making a total sample of 42,976[7]. Following prior cash holdings literature, we exclude financial and utility firms (SIC codes 6000–6999 and 4900–4999, respectively) from our sample because these firms have different industry characteristics and regulations (Chen et al., 2020; Deshmukh et al., 2021) to generate 33,690 firm-year observations. We draw 244,531 firm-year observations representing cash holdings and other firm-related characteristics from Compustat. We remove firms with less than 1 million total assets and those with negative cash holdings to arrive at 233,060 firm-year observations. Finally, we merge the ExecuComp sample with the Compustat sample and generate 31,715 firm-year observations.

We employ the following regression to investigate the effect of the CEOs' marital status on the cash holdings behavior of firms for the period 1992–2016:

$$CASH_{i,t+1} = \alpha_0 + \alpha_1 SINGLE_{it} + \sum \alpha_k \, Controls + \varepsilon_{it}$$

$CASH$ is the ratio of cash and short-term investments scaled by net assets (total assets minus cash and short-term investments). This measure is consistent with prior cash literature (Chen et al., 2014; Deshmukh et al., 2021; Opler et al., 1999). $SINGLE$ represents CEOs' marital status variable. Following previous literature, we use several firm-related control variables

[6] A comparison between our data coverage and Roussanov and Savor's (2014) data reveals that 19.65% CEOs are single CEOs in our sample compared to 16.21% in Roussanov and Savor's (2014) sample. This is consistent given a persistent decline in marriage rate in the United States in recent times (Curtin and Sutton, 2020).

[7] Our total sample covering 1992–2015 period is 99.10% of total available 43,370 firm-year observations in the ExecuComp database.

(Bates et al., 2009; Chen et al., 2020; Opler et al., 1999). Particularly, we include firm size (*SIZE*) measured as the natural logarithm of total assets; market to book ratio (*MTB*) as the ratio of the firms' market value divided by the book value; and leverage (*LEV*) as the ratio of total debt to total assets. We also include sales growth (*SGR*) as the changes in sales; capital expenditures (*CAPEX*) measured as firms' capital expenditures scaled by total assets; dividends (*PAYOUT*) as total dividends by total assets; and cash flow (*CF*) measured as operating cash flow scaled by total assets. We also control for idiosyncratic risk (*VOL*) as defined in Roussanov and Savor (2014). We also include several CEO-related controls, such as gender, age, and tenure. We measure CEO's gender using a dummy variable (*MALE*) that takes the value of one if the CEO is male, and zero otherwise. We measure CEOs' age (*AGE*) and tenure (*TENURE*) as the natural logarithm of CEOs' age and tenure in the firm, respectively.

Since corporate governance affects the cash holdings decision of the firm (Chen et al., 2012; Dittmar and Mahrt-Smith, 2007; Dittmar et al., 2003), our regressions control for the internal and external governance mechanisms. We use CEO duality (*CEOD*) and independence of the board (*BIND*) measured as the ratio of independent directors over total board size. We capture the external governance mechanisms using the institutional investors' ownership and the takeover index of Cain et al. (2017). The role of institutional ownership as an effective monitoring mechanism is well-established in the literature (Chen et al., 2020). To measure the institutional holding (*INST*) level, we use the percentage of shares held by institutional investors. We also include the takeover index (*TOINDX*) as a disciplinary measure focusing on hostile takeovers (Lel and Miller, 2015). The index captures takeover laws, aggregate capital liquidity, and firm age, which are beyond the firms' control and is a better measure of a firm's governance environment than the traditional corporate governance mechanism (Cain et al., 2017). We also control for the industry- and year-fixed effects and cluster the standard errors at the firm level. We winsorized all continuous variables at the 1st and 99th percentiles. We present the definition of the variables in Appendix A.

5. Empirical results and discussion

5.1 Descriptive statistics

Table 1 presents the descriptive statistics and univariate test results. We present the summary statistics for the overall sample and depending on whether firm CEOs are single or married. The partitioning of the summary statistics based on CEOs' marital status allows us to capture the overall differences in the underlying characteristics of firms managed by single and married CEOs. We test our variables' equality of means (medians) using a two-sample t-test (Wilcoxon rank-sum test) based on CEOs' marital status. As seen from Panel A of Table 1, the mean cash holdings of our overall sample firms are 21% of total net assets. However, the mean cash holdings of single and married CEO firms are 27.9% and 19.4% of total net assets, respectively. The equality of means (medians) test suggests that mean (medians) cash holdings between single and married CEO firms are significantly different. The correlation analysis (see Panel B of Table 1) also suggests that single CEOs correlate positively with cash holdings at the 1% significance level.

Panel A (Table 1) also indicates that compared to firms run by married CEOs, firms run by single CEO are generally smaller, have lower capital investment expenditures, have low leverage, pay less amount of dividends, face a higher level of idiosyncratic risk, and have higher growth opportunities. The mean and median tests confirm that these differences are statistically significant. Firms managed by single CEOs have higher board independence and external monitoring captured by institutional holdings. In contrast, they exhibit a lower level of takeover susceptibility, as captured by the takeover index. Accordingly, our univariate result indicates that how married vs. single CEOs run their company differs in many respects, including their cash holdings behavior. Overall, our descriptive statistics and correlation matrix indicate a positive relationship between single CEO and cash holdings.

"Insert Table 1 about here."

5.2 Baseline results

We test our contrasting hypotheses on the potential effect of the marital status variable (*SINGLE*) on cash holdings by running four different model specifications. Model (1) only includes the main independent variable (*SINGLE*) without firm-level control variables. In Model (2), we control for standard firm-level characteristics suggested in prior cash holdings literature (Bates et al., 2009; Chen et al., 2020; Opler et al., 1999). In Model (3), we further control several CEO-related characteristics. Finally, we estimate our full Model (Model 4), where we include various corporate governance variables (internal and external) together with firm and CEO characteristics. We include year- and industry- fixed effects in all model specifications with standard errors clustered at the firm level.

We present our main regression results in Table 2. The results show that across all the model specifications, the coefficient of *SINGLE* on the level of cash holdings (*CASH*) is positive and statistically significant at conventional levels. For instance, the coefficient estimate of marital status (*SINGLE*) reported in Model 4 (0.030) is significant at the one percent level. The result is also economically meaningful. The magnitude of the coefficient suggests that firms run by single CEOs hold about 15.46% more cash than their married counterparts[8].

Consistent with prior studies (Bates et al., 2009; Chen et al., 2020; Opler et al., 1999), many control variables are statistically significant with the expected sign. For instance, firm size (*SIZE*) has a negative and statistically significant coefficient indicating that large firms hold a lower level of cash, possibly because they have better access to the financial market and hold more assets to liquidate when facing liquidity needs. Similarly, leverage (*LEV*), capital

[8] Computed as the coefficient of *SINGLE* on cash holdings (CASH) in Model 4 (0.030) divided by the mean cash holdings of firms led by married CEOs (0.194). Roussanov and Savour (2014) also use a similar approach.

expenditure investment (*CAPEX*), and operating cash flow (*CF*) negatively affect cash holdings. We also find that external and internal monitoring proxied by board independence (*BIND*), institutional ownership (*INST*), and takeover threat (*TOIND*) reduces the size of cash holdings. In contrast, firms with higher research and development expenditure (*RD*) needs, higher CEO tenure (*TENURE*), and higher market-to-book ratio (*MTB*) stockpile more cash. The effects of other variables are mostly insignificant. Overall, the baseline findings support H_1 that single CEOs hold more cash than their married counterparts, indicating potential agency problems (Jensen, 1986).

"Insert Table 2 about here."

5.3 Robustness checks

The positive effect of single CEOs on cash holdings could also be due to other sources of variations, implying a potential endogeneity problem in our baseline results. We address this issue using several approaches. Specifically, we employ an instrumental variable (IV) approach, a propensity score matching (PSM) analysis, and a difference-in-differences (DiD) analysis using the exogenous CEO turnover events and firm-, CEO-, and regional-fixed effects specifications. Finally, we employ alternative proxies of cash holdings to minimize the effect of the potential measurement error of the cash holding variable.

5.3.1 Instrument variable regression

Studies show that various physical, economic, demographic, psychological, and social factors are associated with marital status (Crowell et al., 2009; Sassler and Schoen, 1999; Shapiro and Keyes, 2008). Hence, one may argue that the relationship between CEOs' marital status and cash holdings is spurious and is driven by underlying drivers of CEOs' marital status. Our baseline result might also be due to inherent heterogeneity between CEO characteristics and the firm. While we have controlled these concerns in our baseline specifications by including various CEO and firm characteristics together with year- and industry-fixed effects, in this section, we implement IV regression in the spirit of Roussanov and Savor (2014).

Following Roussanov and Savor (2014), we use *COMMUNITY*, a binary variable that takes the value of 1 if the firm is headquartered in a state with community property law, and zero otherwise, as an instrument to our *SINGLE* variable. Community property law mandates that property acquired by either spouse during a marriage should be equally owned during the marriage contract and divided equally between them in the event of a divorce. Since CEOs are substantially wealthier than their spouses; hence Roussanov and Savor (2014) argue that the heterogeneity of wealth effect between spouses in divorce due to community property law affects the marriage contract and makes marriage costlier.

We present the IV regression results in Panel A of Table 3. Column 1 presents the first-stage results using the probit model, where *SINGLE* is the dependent variable. Consistent with Roussanov and Savor (2014), our results indicate that *COMMUNITY* positively affects CEOs' single status. We also find that larger firms disfavor single CEOs. Moreover, CEO age and tenure are negatively related to the CEOs' single status. Column 2 (Table 3) presents the second-stage regression result. The results show that the coefficient of the instrumented *SINGLE* variable on cash holdings is 0.858, which is positive and significant at the 5 percent level. Overall, our instrument variable regression result further supports our main findings.

5.3.2 Fixed effect models

This section conducts several tests to control for unobserved time-invariant characteristics. Specifically, we use firm fixed-effect regression to address the effect of firm-specific time-invariant heterogeneity. Since managers' fixed effects significantly matter for firms' financial and investment policies (Bertrand and Schoar, 2003), we also reestimate the baseline regression after controlling for CEO-fixed effects. We also use state- and county-fixed effect regression to control for regional-fixed effects. We present the result in panel B (Table 3).

The results show that the positive and significant impact of CEOs' single status on firms' cash holdings still holds across all model specifications. Hence, our main findings are unlikely to be driven by the firm-, CEO-, and region-specific other omitted variables[9].

"Insert Table 3 about here."

5.3.3 Difference-in-differences analysis

In this section, we investigate the effect of exogenous shocks in CEOs' marital status on cash holding following an exogenous CEO turnover event. For this purpose, we follow Bernile, Bhagwat, and Rau (2017) and use the exogenous CEO turnover shocks as classified by Eisfeldt and Kuhnen (2013). Since the data made available by Eisfeldt and Kuhnen (2013) ended in 2005, we manually searched in Factiva for CEO sudden death events to extend the sample of exogenous CEO turnover events for the rest of our sample (from 2006 to 2015). Consistent with Nguyen and Nielsen (2010), we define a CEO's death event as a non-traumatic and unexpected death that happens instantaneously or within a few hours of an abrupt change in the person's previous clinical state. Arguably, exogenous CEO turnover, such as the traumatic and sudden accidental death of a CEO, is unrelated to the firm or macroeconomic conditions and is unanticipated by investors. Consequently, such an empirical design helps alleviate the potential issue related to endogenous CEO-firm matching.

We identified 649 CEO turnover events during our study period. However, we selected only 431 turnover events that met minimum two-year pre- and post-window criteria. Out of 431 turnover events, we find that 61 events resulted in the transition of marital status from married to single; 282 events involved a transition from married to married; 34 events resulted in a transition from single to single; 54 events involved the CEOs marital transition from single to

[9] Our result is also robust to the control for additional variables such as firm age, tax burden on foreign income, net working capital, dividend and industry volatility as suggested in Bates et al. (2009) and Picconi and Oler (2014). We present the results in the internet appendix (Table IA.2). We thank the anonymous referee for bringing this robustness check into our attention.

married CEOs.

To employ a difference-in-differences estimation technique, we set an event window of two years before and after the event. We create a variable *POST* coded as one if the year is after a CEO transition (due to exogenous CEO turnover), and 0 if the year is before a CEO transition. Next, we use married-to-single CEO transitions as the treatment group and married-to-married transitions as the control group. Hence, we create a dummy variable *MTS* that equals one if the firm experiences a transition from married to single CEO, and zero if the firm experiences a transition from married to married CEO. We then create an interaction variable (*POST*MTS*) to examine the cumulative effect of the transition from married to single CEO. We expect a positive and significant sign of the coefficient of the *POST*MTS* term on the level of cash holdings. We also create an alternative treatment sample that involved a transition from single to married (*STM*) CEO as the treatment group and a transition from single to single CEO as the control group. Similar to our previous empirical design, we create an interaction variable (*POST*STM*) and examine the cumulative effect of the transition from single to married CEO. We expect a negative coefficient of the *POST*STM* term on the level of cash holdings.

We report our results in Table 4. In column 1, the interaction variable *POST*MTS* has a positive and significant coefficient of 0.051. In contrast, in column 2, we find that the coefficient of the interaction variable *POST*STM* is –0.049. These results imply that in post-turnover years, firms that experience a transition from married to single (single to married) CEOs experience a higher (lower) level of cash holdings. Our results are robust to using a propensity-matched sample[10], as shown in columns 3 and 4. Overall, the difference-in-differences results are consistent with our baseline findings and confirm the implication of the upper-echelon theory (Hambrick and Mason, 1984).

"Insert Table 4 about here."

[10] Section 4.3.4 details the matching procedure.

5.3.4 Propensity score matching (PSM) analysis

We use the propensity score matching (PSM) technique to reduce functional misspecification underlying the relationship between single CEOs and cash holdings. To conduct the PSM analysis, we generate a robust control group of firms with married CEOs for each treatment firm with single CEOs. Each year, we match each firm with a single CEO to another firm without a single CEO based on the one-to-one matching of the nearest neighbor with replacement. We use all the baseline variables specified in Model 4 of Table 3 for matching purposes. Moreover, we ensure that treatment and control firms belong to the same Fama French 49 industry group.

We test the quality of the matching process between the treated and control samples and present the results in Panel A of Appendix Table IA.1. We refer to firms managed by single CEOs as a treated group and those managed by married CEOs as control groups. Our results show that our treated and control groups have similar characteristics but significantly differ regarding cash holdings. The empirical results show that even after matching the treatment and control firms, on average, firms run by single CEOs hold approximately 3% more cash than their married counterparts, and this difference is statistically significant at the 1 percent level. Panel B of Appendix Table IA.1 presents the formal test result using the PSM sample. The results show that the coefficient of marital status (*SINGLE*) is positive and statistically significant at the 1% percent level. These findings further confirm the robustness of our findings that single CEOs hold more cash than their married counterpart.

5.3.5 Alternative measures - cash holdings

In the final robustness tests, we use alternative proxies for cash holdings used in previous studies. Particularly, we use *CASH1*, measured as cash and short-term investment divided by assets (Chen et al., 2020; Dudley and Zhang, 2016); *CASH2*, measured as cash divided by total assets (Subramaniam et al., 2011); and *CASH3*, measured by the natural logarithm of one plus cash holdings (Chen et al., 2014; Deshmukh et al., 2021) as alternative measurements of cash holdings. The results in Panel C of Appendix Table IA.1 show that single CEOs hold a higher level of cash under all three alternative measures of cash holdings.

5.4 Sources of cash

5.4.1 Marital CEO and dividends payout

We use dividend policy to assess how single CEOs accumulate high cash levels and the associated agency problems since dividend payout is one of the vital mechanisms to mitigate agency problems of cash (Jensen, 1986)[11]. Following DeAngelo et al. (2006), we use two proxies for dividend policy: (a) cash dividends divided by total assets (*CASHDIV*); and (b) total dividends (including cash, preferred shares, and share repurchase) dividend by total assets (*PAYOUT*) to examine the dividend-paying behavior of single CEO firms.

We control for several firm-specific characteristics that are likely to shape firm dividend policy. Specifically, we include firm size (*SIZE*), market-to-book ratio (*MTB*), leverage (*LEV*), and return on assets (*ROA*). We also control a firm's investment using research and development (*RD*), capital expenditures (*CAPEX*), and acquisition activities (*ACQ*) since investments are one of the competing uses of funds. We also include CEO characteristics such as age, gender, and tenure. Additionally, we control the firm's corporate governance mechanisms since corporate governance arrangements affect the firm's distribution policy (Gugler, 2003). Finally, we include industry- and firm-year fixed effects in our regressions.

We report our results in Panel A of Table 5. As can be seen from the regression results, the coefficient of marital status (*SINGLE*) has a negative and statistically significant effect on cash dividends and total payout. These results are economically significant, as well. For instance, the coefficient of cash dividends (*CASHDIV*) model suggests that single CEOs pay 7.7% [=(0.001/0.013)*100] percent fewer dividends than married CEOs. Overall, single CEOs

[11] Chen and Ngo (2022) show that a well-designed cash payout policy helps reduce agency problems and curbs excessive executive compensations.

accumulate cash reserves by paying fewer dividends, implying potential agency motives in cash holdings by single CEOs.

5.4.2 Marital CEO and cash savings from cash flows

In this section, we investigate the effect of the marital status of CEOs on cash flow sensitivity of cash. We follow the two specifications of Almeida et al. (2004). The first specification is as follows.

$$\Delta CASH_{it} = \beta_0 + \beta_1 OCF_{i,t} + \beta_2 SINGLE_{i,t} + \beta_3 OCF * SINGLE_{i,t} + \beta_4 MTB_{i,t} + \beta_5 SIZE_{i,t}$$

where, $\Delta CASH_{it}$ represents the change in cash holdings between t and t–1. The definition of other variables was discussed earlier. In the second specification, Almeida et al. (2004) incorporated additional variables to capture sources and uses of funds. They include capital expenditures and acquisitions activity because firms can use their cash stocks to pay for investments and acquisitions. Furthermore, they include changes in net working capital ($\Delta NWC_{i,t}$) and changes in short-term debt ($\Delta STD_{i,t}$) since these can substitute for cash. Hence, the second specification of Almeida et al. (2004) is

$$\Delta CASH_{it} = \beta_0 + \beta_1 OCF_{i,t} + \beta_2 SINGLE_{i,t} + \beta_3 CF * SINGLE_{i,t} + \beta_4 MTB_{i,t} + \beta_5 SIZE_{i,t}$$
$$+ \beta_5 CAPEX_{i,t} + \beta_6 ACQ_{i,t} + \beta_7 \Delta NWC_{i,t} + \beta_8 \Delta STD_{i,t} + \varepsilon_{i,t}$$

Panel B of Table 5 presents the effects of marital status on the sensitivity of cash to operating cash flows in Models 1 and 2. The results show that operating cash flows (*CF*) positively influence cash holdings. More importantly, the coefficients of the interaction term between marital status and operating cash flows (*CF* x $SINGLE_{i,t}$) in both models are positive and statistically significant at the 1 % and 5% percent threshold levels, respectively. The results imply that single CEOs save more cash from operating cash flows than married CEOs. We also follow McLean (2011) to examine whether single CEOs save cash from cash generated from external financing while controlling for variables suggested by Almeida et al. (2004). Specifically, we test the cash savings behavior of single CEOs from cash generated by total financing (*FIN*), equity issuance (*EQF*), and debt issuance (*DEBTF*). Accordingly, we create the interaction terms *SINGLE*FIN*, *SINGLE*EQF*, and *SINGLE*DEBTF*. Models 3 and 4 show that the coefficients of the interaction of *SINGLE*FIN* and *SINGLE*EQF* are positive and statistically significant. However, the interaction coefficient *SINGLE*DEBTF* is negative and statistically significant, suggesting that single CEOs do not save cash from cash generated by debt issuance. Our results suggest that single CEOs accumulate cash reserves from internal financing, operating cash flows, and external financing raised through equity issuance.

"Insert Table 5 about here"

5.5 Marital Status and cash – the agency evidence

5.5.1 Marginal value of cash holdings

Given our main result, we follow Halford et al. (2020) approach to examine the value relevance of cash holdings by single CEO to uncover the potential evidence for agency motives of single CEOs in holding higher cash levels[12]. We argue that the stock market would value less (more) higher cash holdings by single CEOs if the cash holding is driven by the agency (precautionary) motive.

$$EXRET_{it} = \gamma_{0+}\gamma_1 \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_2 SINGLE_{it} + \gamma_3 SINGLE * \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_4 \frac{\Delta NASSETS_{it}}{MV_{it-1}} + \gamma_5 \frac{\Delta EARNINGS_{it}}{MV_{it-1}}$$

$$+ \gamma_6 \frac{\Delta INTEREST_{it}}{MV_{it-1}} + \gamma_7 \frac{\Delta CASHDIV._{it}}{MV_{it-1}} + \gamma_8 \frac{\Delta RD_{it}}{MV_{it-1}} + \gamma_9 \frac{\text{PURCHASE OF STOCK}_{it}}{MV_{it-1}}$$

$$+ \gamma_{10} \frac{\text{SALE OF STOCK}_{it}}{MV_{it-1}} + \gamma_{11} \frac{\text{DEBT ISSUANCE}_{it}}{MV_{it-1}} + \gamma_{12} \frac{\text{DEBT ISSUANCE}_{it}}{MV_{it-1}}$$

$$+ \gamma_{13} \frac{\text{DEBT REDUCTION}_{it}}{MV_{it-1}} + \gamma_{14} \frac{CASH_{it-1}}{MV_{it}} + \gamma_{15} LEV_{it} + \gamma_{12} \frac{CASH_{it-1}}{MV_{it}} * \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_{16} LEV_{it}$$

$$* \frac{\Delta CASH_{it}}{MV_{it-1}} + YEAR\ FE + INDUSTRY\ FE + \varepsilon_{it}$$

[12] Although a vast majority of the cash holdings literature uses Faulkender and Wang's (2006) approach to estimate the marginal value of cash holding, Halford et al. (2020) recently proposed various modifications to the Faulkender and Wang (2006) design. Halford et al. (2020) argue that Faulkender and Wang's (2006) model suffers from omitted variable bias and in particular variables such as stock issuance and repurchases, debt issuances, and reductions. Halford et al. (2020) acknowledge that these variables are included in 'Net Financing ($\Delta NFIN_{it}$)' but contend that stock issues differ from the stock repurchase or changes in debt regarding their correlation with shareholder value and cash holdings. Therefore, these components should be included separately in the regression model. We thanks the anonymous reviewer for suggesting us this approach.

where $EXRET_{it}$ is the excess return computed as the stock return minus the return on its benchmark portfolio over the fiscal year. We use the Fama and French 25 portfolios formed based on size and book-to-market as our benchmark portfolios. A portfolio return is a value-weighted return based on market capitalization within the 25 portfolios. $\Delta CASH_{it}$ is the yearly change in cash and cash equivalents scaled by net assets. To investigate the effect of CEO marital status on the marginal value of cash, we include the interaction terms marital status of the CEO and $\Delta CASH_{it}$ (*SINGLE**△*CASH*) in the model. $\Delta NASSETS_{it}$ is the yearly change in net assets measured as total assets minus cash. $\Delta EARNINGS_{it}$ is the yearly change in earnings before extraordinary items. $\Delta INTEREST_{it}$ is the change in interest expense, $\Delta CASHDIV_{it}$ is the change in cash dividends distributed to the shareholders, and ΔRD_{it} is the change in research and development expenditures. Stock purchase (*PURCHASE OF STOCK*), stock issuance (*SALE OF STOCK*), debt issuance (*DEBT ISSUANCE*), and debt reduction (*DEBT REDUCTION*) replaces the 'net financing ($\Delta NFIN_{it}$)' variable of Faulkender and Wang's (2006) specifications. $CASH_{it-1}$ is the lagged value of cash and LEV_{it} was defined earlier. We also interact the change in cash with a lagged value of cash and leverage. Besides leverage, we scale all the variables by the lagged market value of equity.

Masulis et al. (2009) show that firms with higher agency problems have a lower value of cash. Hence, we test if the effect of single CEOs on the value of cash differs between firms with high and low agency problems. Following prior literature (Ang et al., 2000; Florackis and Sainani, 2018), we use the asset turnover ratio (*ATO*) and the ratio of selling, general, and administrative costs to total sales (*SGA*) as the measures of agency costs. We classify a firm as a high-agency problem firm if its *ATO* (*SGA*) value is below (above) the sample median and *vice-versa* to conduct a subsample analysis of our value regression.

We present the value regression results in Table 6. In Model 1, we present our value of cash analysis using our total sample. The coefficients on △*CASH* capture the marginal value of cash to shareholders, while the coefficient of *SINGLE*△CASH* directly measures the value of cash holdings by single CEOs. The results show that the coefficient on △*CASH* is positive and statistically significant, suggesting that the marginal value of one extra dollar of cash is \$0.154 to the shareholders' value. In contrast, the coefficients of *SINGLE*△CASH* is negative and statistically significant. The result indicates that compared to firms managed by married CEOs, one dollar of extra cash held by single CEOs reduces the firm value by \$0.159.

Models 2–5 provide the results for the sub-samples of high and low agency cost firms. The subsample result reveals that the coefficient of *SINGLE*△CASH* is negative and statistically significant for firms with higher agency costs (High-SGAs and low-ATOs). Our results confirm that allowing single CEOs to stockpile cash decreases firm value and that such a decrease is mainly to higher agency problems[13].

"Insert Table 6 about here."

5.5.2 Cash holdings and compensation of single CEO

Cash holdings are a crude proxy of a firm's surplus distributable to stakeholders within the firm based on their bargaining power (Shleifer and Vishny, 1997). Building on the burgeoning power argument, Cheng et al. (2020) document that a CEO can use the firm's cash holdings to negotiate higher pay or compensation. Hence, we test single CEOs' compensation implications of higher cash holdings.

We follow Cheng et al. (2020) to develop our empirical design. Specially, we run a CEO compensation model where we measure CEOs' total compensation as the sum of salary, bonus, and other annual packages (*TOTALPAY*). Following Cheng et al. (2020), we include several control variables, *CASH, SIZE, MTB, ROA*, and CEOs' characteristics, such as *AGE, TENURE,*

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[13] We also apply the methodology of Faulkender and Wang (2006): $EXRET_{it} = \gamma_{0+}\gamma_1 \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_2 SINGLE_{it} + \gamma_3 SINGLE * \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_4 \frac{\Delta NASSETS_{it}}{MV_{it-1}} + \gamma_5 \frac{\Delta EARNINGS_{it}}{MV_{it-1}} + \gamma_6 \frac{\Delta INTEREST_{it}}{MV_{it-1}} + \gamma_7 \frac{\Delta DIV._{it}}{MV_{it-1}} + \gamma_8 \frac{\Delta RandD_{it}}{MV_{it-1}} + \gamma_9 \frac{\Delta NFIN._{it}}{MV_{it}} + \gamma_{10} \frac{CASH_{it-1}}{MV_{it}} + \gamma_{11} Lev_{it} + \gamma_{12} \frac{CASH_{it-1}}{MV_{it}} * \frac{\Delta CASH_{it}}{MV_{it-1}} + \gamma_{13} LEV_{it} * \frac{\Delta CASH_{it}}{MV_{it-1}}$ and find evidence consistent with results reported in this section (See Table IA3).

and CEO duality (*CEOD*). Additionally, we include firm-level corporate governance variables such as *BIND, INST,* and *TOINDX* since firms' governance characteristics are critical to the design of executive compensation structures.

We report the result in Panel A of Table 7. In Model 1, we focus on cash holdings (*CASH*) as our primary variable of interest and find results similar to Cheng et al. (2020). Specifically, we find that *CASH* has a positive and statistically significant effect on the *TOTALPAY*, suggesting that cash holdings as the bargaining chip allow CEOs to enjoy higher personal benefits. In Model 2, we include the marital status variable (*SINGLE*) and its interaction with the cash holdings (*SINGLE**CASH*) to see if single CEOs enjoy more compensation (*TOTALPAY*) when they hold a higher level of cash. We find that the interaction of *SINGLE**CASH* is positive and statistically significant, suggesting that compared to married CEOs, single CEOs enjoy higher personal benefits in the form of *TOTALPAY* when they hold a higher level of cash. We repeat this specification for cash *BONUS* (measured as the natural logarithm of bonus) in Model 3 and *SALARY* (measured as the natural logarithm of total salary) in Model 4. Consistent with the *TOTALPAY* model, Models 3 and 4 show that the coefficients of the interaction of *SINGLE**CASH* on *BONUS* and *SALARY* are positive and statistically significant.

We also examine whether a change in cash holdings (Δ*CASH*) leads to a change in all three measures of CEOs' compensation. We use the same control variables as in Panel A of Table 7. Similar to Panel A, we use four models and present the results in Panel B. In Model 1, we examine the effect of Δ*CASH* on Δ*TOTALPAY* and find that Δ*CASH* is positively related to Δ*TOTALPAY*. In Model 2, we include the marital status variable (*SINGLE*) and its interaction with the change in cash holdings (*SINGLE**ΔCASH*) to see how single CEOs' compensation changes (Δ*TOTALPAY*) due to Δ*CASH*. We find that *SINGLE**ΔCASH* has a positive and statistically significant effect on Δ*TOTALPAY*. We also run two additional models – Models 3 and 4 using Δ*BONUS* and Δ*SALARY* as independent variables. We find that *SINGLE**Δ*CASH* has a positive and statistically significant effect on Δ*BONUS* and Δ*SALARY*. These results, coupled with the value of cash result, suggest that higher levels of cash holdings by single CEOs are value-destroying since they use corporate cash holdings as a bargaining chip to enhance their compensation that is not justified by performance and firm size.

"Insert Table 7 about here."

5.5.3 Evidence against precautionary motives

Prior literature provides evidence of the precautionary motive for holding cash (Bates et al., 2009). Given the hypothesis that single CEOs may not have precautionary reasons to hold cash – one would expect the positive effect between single CEO and cash holdings should be statistically indifferent between the sub-sample of financially constrained and financially un-constrained firms. If such is the case, it will further indicate agency motives for holding cash by single CEOs[14].

Accordingly, we re-estimate our baseline regression (Model 4 of Table 2) using sub-samples of financially constrained and unconstrained firms. We use the three measures of financial constraints: total debt, interest coverage ratio, and the KZ-index (Kaplan and Zingales, 1997) and present the definitions for these variables in the Appendix. We separate firms into constrained and unconstrained groups by using the median values of each of the three proxies of financial constraint. For the debt ratio and the KZ-index, we assign firms to the financially constrained (FC) group if their value lies above the median values of the debt ratio and the KZ-index. For the interest coverage ratio, we assign firms to the financially constrained (FC) group if their value lies below the median values of the interest coverage ratio and *vice-versa*.

Table 8 presents our subsample regression results. We find that, under all measures of 'unconstrainted' criteria, the coefficients of the *SINGLE* on cash holdings are consistently

[14] We would like to thank the anonymous referee for suggesting this important extension of our empirical work.

positive and statistically significant. Conversely, the coefficient of the *SINGLE* on cash holdings is positive but statistically insignificant for constrained firms. These results imply that compared to married CEOs, single CEOs in unconstrained firms hoard more cash, providing further credence to the agency motive of holdings the cash.

"Insert Table 8 about here."

5.6 Additional tests

5.6.1 Accounting for CFO influence

CFOs play an important role in firms' liquidity management, including cash policy[15]. Hence, we reestimate our main findings after controlling for CFO-fixed effects to alleviate the concern that the CFO effect does not drive our result. We also re-run our baseline model after controlling for CFO influence (*CFO-INFLUENCE*) to examine if the effect of CEOs' marital status persists beyond and above CFOs' influence. To construct *CFO-INFLUENCE*, we follow Florackis and Sainani (2018) and combine CFO board membership, CFO tenure, and CFO relative compensation (versus CEO), CFO seniority, CFO top 3 position dummy (based on compensation), CFOs' financial expertise into one single CFO influence measure using the principal component analysis (PCA). The PCA construct of CFO influence allows us to overcome potential multicollinearity problems that typically arise when a regression includes several CFO characteristics. Finally, we classify our sample firms into high and low CFO influence based on the median value of the CFO influence variable to run a subsample analysis.

We present our regression results in Table 9. Model 1 presents the regression results after controlling for the CFO-fixed effect. We find that the effect of single CEO on cash holdings is robust to controlling for the CFO-fixed effects. Model 2 presents the regression results after controlling for the CFO influence. Consistent with Florackis and Sainani (2018), Model 2 of

[15] For example, Dittmar and Duchin (2016) show that CFOs with professional distress experience tend to follow more conservative cash policies. Firms with their CFOs on board face fewer financial restrictions, and therefore save less cash (Mobbs, 2018). Florackis and Sainani (2018) show that firms with strong CFOs hold substantially less cash than firms with weak CFOs.

Table 10 shows that the coefficient of *CFO-INFLUENCE* is negative and statistically significant, suggesting that a higher CFO influence relates to conservative cash management. However, the effect of *SINGLE* persists, and the results remain qualitatively the same. In Models 3 and 4, we find that the effect of CEOs' marital status on cash holding is statistically significant for high and low CFO influence samples (based on sample median cut), although the effect is more potent in firms with low CFO influence. More importantly, the effect of single CEOs on cash holdings remains qualitatively the same after controlling for the role of CFO-fixed effect and CFO influence.

"Insert Table 9 about here."

5.6.2 Additional explanation

Thus far, we have established that single CEOs hold more cash for agency reasons. However, single CEOs, known to have an 'aggressive attitude' towards risky investments (Roussanov and Savor, 2014), may also hold higher cash to support risky investments. Therefore, we conduct a sub-sample analysis of our baseline specification by splitting the sample based on high and low capital expenditures, research and development expenditures, and acquisition investments. We classify firms as High-Capex (low-Capex), High-RD (Low-RD), and High-Acquisition (low-Acquisition) firms if their *CAPEX*, *RD*, and *ACQ* values are higher (lower) than sample median *CAPEX*, *RD*, and *ACQ* values, respectively. We report the result in Table IA4. The results show that the effect of single CEOs on cash holdings persists under both high and low subsamples. However, the magnitude of the coefficient is higher in firms with low *CAPEX*, *RD*, and *ACQ* investments. Our result suggests that single CEOs hold more cash despite low *CAPEX*, *RD*, and *ACQ* investment needs.

5.6.3 Moderating role of corporate governance

New institutional theory (DiMaggio and Powell, 1983) suggests that executives have little effect because organizations are exceedingly inertial, swept along by external forces, and constrained by a host of conventions and norms. While our baseline result controls for various governance mechanisms, this section further examines whether an effective corporate governance mechanism can moderate the relationship between single CEOs and cash holdings. We use several corporate governance measures to test the potential moderating role of firms' corporate governance mechanisms. Specifically, we use *BIND* to capture internal corporate governance mechanisms and *INST* and *TOINDX* to capture firms' external monitoring mechanisms.

Table 10 presents our results. We present the interaction effect of the variable *SINGLE* with board independence (*BIND*SINGLE*) in Model 1, *SINGLE* with institutional investors (*INST*SINGLE*) in Model 2, and *SINGLE* with takeover index (*TOINDX*SINGLE*) in Model 3. Our findings suggest that the interaction of *BIND*SINGLE* has a negative but statistically insignificant effect on the link between single CEOs and cash holdings. In contrast, the coefficients of *INST*SINGLE* and *TOINDX*SINGLE* have a negative and statistically significant effect on the cash holdings. These results imply that the external governance mechanism effectively attenuates the positive effect of single CEOs on cash holdings.

"Insert Table 10 about here."

6. Conclusion and future research direction

The paper investigates the effect of CEOs' marital status on firms' cash holdings behavior. It shows that single CEOs hold higher levels of cash and the effect of CEOs' marital status on cash holdings is economically and statistically significant. The results are robust to addressing endogeneity concerns using an instrumental variable approach and a variety of specifications controlling for the firm-, CEO-, and CFO-fixed effects; a propensity score matching (PSM) analysis, and a difference-in-differences (DiD) design that exploits exogenous CEO turnover event.

The results also show that single CEOs resort to a conservative payout policy and save more cash out of operating and financing cash flows. Supporting the agency view of the upper echelon theory in the context of cash holdings by single CEOs, our additional analyses show that the marginal value of cash accumulated by single CEOs is negative. In contrast, the effect of cash holdings on single CEOs' total pay, salary, and bonuses is positive. Our results show that single CEOs hold more cash in financially less constrained firms suggesting that the precautionary motive is not driving our results. Finally, evidence shows that only firms' external governance mechanisms can attenuate the single CEOs' opportunistic behavior when they hold cash.

Our study contributes to the upper echelon theory by showing that CEOs' marital status shapes corporate cash holdings decisions. We also contribute to the agency theory by showing that single CEOs display more rent extraction behavior when they hold higher cash. Moreover, such cash holdings significantly reduce the market valuation of the firm. Finally, we contribute to institutional theory and show that external monitoring mechanisms such as institutional ownership and takeover threat are far more efficient in curbing managerial agency problems related to cash holdings.

Our research has important implications for a firm's human resources management, particularly in CEO recruitment and retention policies. Marital status is an observable and measurable attribute of a CEO. Identifying an ex-ante measure of CEOs' potential 'deviant and self-serving' behavior or 'aggressive risk preference' has important implications for CEO recruitment and retention. It also has implications for designing optimal CEO compensation contracts that can improve shareholder wealth and inhibit CEOs' opportunistic behavior. For instance, boards of directors should consider granting fewer risk incentives to single CEOs than to married ones to inhibit aggressive risk-taking and pay close attention to single CEOs' actions when firms experience healthy cash inflows.

Despite our contributions and implications, our analysis is not free from limitations. For example, our instrumental variable regression result may still have concerns since we could not control for unobserved variables such as the quality of CEOs' marriage, style of parenting, or family backgrounds, which potentially correlated with CEOs' marriage and cash usage behavior in their personal life. Although our results are robust to controlling for the firm- and CEO-fixed effects, we still urge caution in interpreting them. As for our difference-in-differences analysis, we argue that while the timing of an outgoing CEO's exit is reasonably exogenous in our results; however, the board's choice of an incoming CEO's marital status may still be related to firms' investments and growth prospects that can affect firms' cash holdings behavior. We cannot completely rule out this possibility without access to the board's decision-making process data when hiring a CEO. Finally, there is a lack of variation over time in CEOs' marital status, and more importantly, we do not have systematic and comprehensive data on the quality of marriage.

Given our findings, future research can further expand the implication of CEOs’ marital status in corporate behavior. One avenue that could naturally extend from this study is to look at how single CEOs as compared to married CEOs *spend* a firm’s cash holdings that they have accumulated Hence, an examination of whether single CEOs spend excess cash in value-destroying M&A deals or share-buybacks to influence stock compensation could be an interesting extension. Another important avenue, which we briefly touched upon but need more extensive consideration is to examine the role and influence of CFOs in the way CEOs take decision. Future research in this area could focus on understanding the dynamic or relative effect of CEOs’ and CFOs’ marital status (e.g., combination of a single CEO and a married CFO) on corporate policies including cash holdings, mergers and acquisitions and aggressive earnings management since recent studies including Ferris and Sainani (2021) and Florackis and Sainani (2021) are focusing on the joint/relative effect of CEO and CFO traits and influence on various corporate financial, investment and accounting policies. For example, we call for future research to examine whether the presence of a married CFO can prevent the extent of aggressive earnings management in firms with a single CEO. Additionally, the presence of single CEOs can also affect other corporate other decisions such as innovation or financial misconduct. Future studies may attempt to explore these dimensions.

Appendix A: Variables definition

Variables	Measurement
Main variables	
CASH	Cash and cash equivalents scaled by net assets.
SINGLE	Single is the dummy variable that takes the value of one if the CEO's marital status is unmarried (single, never married), and zero if the CEO is legally married. The study follows Roussanov and Savor (2014) in defining marital status.
Baseline control variables	
MALE	A dummy variable for gender. It is equal to one if the CEO of the firm is male, and zero otherwise
AGE	The CEO's age in years.
TENURE	The CEO's tenure in years
SIZE	The natural logarithm of total assets
LEV	The ratio of total debt to total assets
CF	Operating cash flow scaled by total assets
MTB	It is the firm's market value divided by the book value of property, plant, and equipment, where the firm's market value is computed using the market value of common equity plus the book value of debt minus the firm's current assets
R&D	R&D expenditures are scaled by total assets and zero when this value is missing
CAPEX	Measured as a firm's capital expenditures scaled by total assets
SGR	Sales growth is measured as the changes in sales from the prior period to the current period.
CASHDIV	Cash dividends divided by total assets
CEOD	A dummy variable equals one if CEO is also the chairman, zero otherwise
VOL	Idiosyncratic risk is defined as in Roussanov and Savor (2014)
ROA	Operating earnings before depreciation and taxes scaled by total assets
INST	Percentage of firm equity held by institutional investors.
TOINDX	Takeover index of Cain et al. (2017).
BIND	Percentage of independent directors on the board of the firm
Other variables	
TOTALPAY	Natural logarithm of total compensation measured as the sum of salary, bonus, and other packages (TDC1)
ACQ	Acquisition expenditures scaled by total assets
BONUS	Natural logarithm of 'CEOs' total bonus packages.
SALARY	Natural logarithm of 'CEOs' total salary.
FAGE	Age of the firm specified in the study of Roussanov and Savor (2014)
PAYOUT	Total dividends paid by the firm divided by total assets
COMMUNITY	Dummy variable that takes the value of one if the firm is headquartered in a state with community property law, and zero otherwise
POST	Dummy variable that represents the pre- and post-CEO transition period.
MTS	Dummy variable that takes the value of one if the transition of the CEO from married to single (treatment firm), and zero if the transition is from married-to-married (control firm).
STM	Dummy variable that takes the value of one if the transition is from single to married for the treatment firms and single to single for the control

	firms.
EQF	Sale of common stock divided by total assets.
DEBTF	Debt issuance divided by total assets.
FIN	Sum of EQF and DEBTF.
Δ*NWC*	Change in net working capital. It is measured as current assets minus current liabilities minus cash and short-term investment scaled by total assets.
Δ*STD*	Change in short-term debt is calculated as the short-term debt divided by total assets.
EXRET	Excess return, computed as the stock return over the fiscal year minus that of the benchmark of the 25 Fama and French portfolio, formed on size and book-to-market
Δ*NASSETS*	Change in net assets measured as total assets minus cash.
Δ*EARNINGS*	Change in earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits.
Δ*INTEREST*	Change in interest expense.
PURCHASE OF STOCK	Purchase of stocks deflated by the lagged market value of equity
SALE OF STOCK	Sale of stock deflated by the lagged market value of equity
DEBT ISSUANCE	Debt issued deflated by the lagged market value of equity
DEBT REDUCTION	Long-term debt reduction deflated by the lagged market value of equity
INTEREST COVERAGE RATIO	Earnings before interest and taxes divided by total interest expense
KZ-INDEX	The Kaplan-Zingales index (Kaplan and Zingales, 1997)
CFO-INFLUENCE	The first principal component of the PCA analysis. It is based on CFO executive director, CFO outside director, CFO seniority, CFO financial expertise, CFO top 3, and CFO relative pay.
SIGMA	Industry volatility
TAX-BURDEN	The tax burden on foreign income, as measured by Foley et al. (2007).
SGA	The ratio of selling, general and administrative expenses to total sales.
ATO	The ratio of total sales to total assets

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Table 1: Descriptive statistics, univariate analysis, and correlation matrix

This table presents two panels. Panel A presents the descriptive and univariate analysis of the US-listed firms for 1992–2016. We present the differences-in-mean t-test and differences-in-median Wilcoxon rank-sum Mann-Whitney tests of our variables based on samples of single vs. married CEOs. Panel B presents the Pearson correlation matrix of the variables used in the study. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively. All the continuous variables are winsorized at the one percent threshold level. Variable definitions are in Appendix A.

Panel A: Summary statistics and univariate test

	Total Sample					**Single CEOs (19.65%)**					**Married CEOs (80.35%)**					**Mean**	**Median**
Variables	**Mean**	**Q1**	**Median**	**Q3**	**SD**	**Mean**	**Q1**	**Median**	**Q3**	**SD**	**Mean**	**Q1**	**Median**	**Q3**	**SD**	**Difference**	**Difference**
CASH	0.210	0.024	0.086	0.272	0.278	0.279	0.032	0.135	0.414	0.322	0.194	0.022	0.078	0.243	0.265	0.085***	0.057***
SIZE	7.202	6.064	7.086	8.243	1.601	6.575	5.531	6.491	7.537	1.455	7.356	6.222	7.245	8.400	1.597	–0.781***	–0.754***
MTB	2.061	1.210	1.608	2.351	1.408	2.198	1.209	1.663	2.576	1.579	2.027	1.210	1.596	2.306	1.361	0.171***	0.067***
LEV	0.192	0.015	0.165	0.296	0.182	0.166	0.000	0.115	0.276	0.188	0.198	0.033	0.174	0.301	0.180	–0.032***	–0.059***
SGR	0.089	–0.004	0.074	0.170	0.268	0.088	–0.015	0.074	0.185	0.293	0.089	–0.002	0.074	0.167	0.261	–0.001	0.000
CAPEX	0.056	0.021	0.040	0.072	0.054	0.051	0.018	0.034	0.065	0.054	0.057	0.022	0.041	0.073	0.054	–0.006***	–0.007***
R&D	0.034	0.000	0.002	0.043	0.061	0.049	0.000	0.012	0.075	0.075	0.031	0.000	0.000	0.036	0.057	0.018***	0.012***
CASHDIV	0.013	0.000	0.000	0.016	0.044	0.013	0.000	0.000	0.010	0.072	0.013	0.000	0.001	0.017	0.033	–0.003***	–0.001***
CF	0.077	0.050	0.085	0.121	0.096	0.067	0.043	0.083	0.125	0.120	0.079	0.052	0.085	0.121	0.089	–0.012***	–0.002***
VOL	0.382	0.245	0.326	0.475	0.225	0.411	0.268	0.329	0.519	0.247	0.375	0.240	0.326	0.466	0.219	0.036***	0.003***
MALE	0.975	1.000	1.000	1.000	0.155	0.974	1.000	1.000	1.000	0.159	0.976	1.000	1.000	1.000	0.154	–0.002	0.000
AGE	4.008	3.932	4.007	4.094	0.139	3.967	3.871	3.970	4.060	0.138	4.018	3.932	4.025	4.111	0.137	–0.051***	–0.055***
TENURE	1.670	1.099	1.792	2.197	0.872	1.545	1.099	1.792	2.079	0.828	1.700	1.099	1.792	2.303	0.880	–0.155***	0.000***
CEOD	0.612	0.000	1.000	1.000	0.487	0.500	0.000	1.000	1.000	0.500	0.640	0.000	1.000	1.000	0.480	–0.140***	0.000***
BIND	0.504	0.000	0.625	0.800	0.349	0.514	0.000	0.667	0.800	0.348	0.502	0.000	0.625	0.800	0.349	0.012**	0.042**
INST	0.662	0.523	0.716	0.862	0.256	0.677	0.535	0.750	0.887	0.267	0.658	0.521	0.708	0.252	0.855	0.018***	0.042***
TOINDX	0.167	0.092	0.143	0.233	0.095	0.147	0.083	0.125	0.190	0.085	0.172	0.096	0.148	0.243	0.097	–0.025***	–0.023***

Panel B: Pearson correlation matrix

	Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1	*CASH*	1								
2	*SINGLE*	0.120***	1.000							
3	*SIZE*	–0.338***	–0.194***	1.000						
4	*MTB*	0.377***	0.048***	–0.156***	1.000					
5	*LEV*	–0.334***	–0.070***	0.264***	–0.215***	1.000				
6	*SGR*	0.055***	0.000	–0.053***	0.244***	–0.029***	1.000			
7	*CAPEX*	–0.173***	–0.044***	–0.018***	0.060***	0.051***	0.102***	1.000		
8	*R&D*	0.524***	0.120***	–0.272***	0.302***	–0.208***	0.022***	–0.119***	1.000	
9	*CASHDIV*	0.003	0.001	0.042***	0.097***	–0.007	–0.047***	–0.020***	–0.051***	1.000
10	*CF*	–0.174***	–0.051***	0.148***	0.164***	–0.109***	0.167***	0.201***	–0.315***	–0.123***
11	*VOL*	0.178***	0.062***	–0.245***	0.042***	–0.017***	0.018***	0.032***	0.197***	–0.112***
12	*MALE*	–0.030***	–0.004	0.006	–0.002	0.025***	0.012**	0.024***	0.007	–0.006
13	*AGE*	–0.139***	–0.146***	0.132***	–0.101***	0.037***	–0.081***	–0.033***	–0.126***	0.032***
14	*TENURE*	0.040***	–0.071***	–0.053***	0.047***	–0.048***	0.039***	0.026***	–0.003	–0.020***
15	*CEOD*	–0.094***	–0.114***	0.133***	–0.011*	0.056***	0.015***	0.024***	–0.081***	0.014**
16	*BIND*	–0.031***	0.014**	0.285***	–0.063***	–0.003	–0.149***	–0.113***	–0.043***	0.021***
17	*INST*	0.001	0.029***	0.196***	0.040***	–0.025***	0.002	–0.043***	–0.080***	–0.040***
18	*TOINDX*	–0.226***	–0.108***	0.382***	–0.149***	0.059***	–0.149***	–0.057***	–0.140***	0.100***
		10	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
10	*CF*	1.000								
11	*VOL*	–0.167***	1.000							
12	*MALE*	–0.001	–0.010*	1.000						
13	*AGE*	0.027***	–0.133***	0.050***	1.000					
14	*TENURE*	0.043***	–0.018***	0.045***	0.299***	1.000				
15	*CEOD*	0.007	–0.063***	0.027***	0.206***	0.243***	1.000			
16	*BIND*	0.066***	–0.012**	–0.036***	0.057***	–0.020***	–0.068***	1.000		
17	*INST*	0.230***	–0.109***	–0.005	0.019***	0.010*	–0.047***	0.377***	1.000	
18	*TOINDX*	0.010*	–0.214***	0.027***	0.209***	–0.033***	0.092***	0.176***	0.032***	1.000

Table 2: Regression results

This table presents the main result. The dependent variable, CASH, is the ratio of cash and cash equivalents to net assets coving the 1993–2016 period. The variable *SINGLE* shows the CEO's marital status, which equals 1 if the CEO is legally unmarried, and 0 otherwise, covering the 1992–2015 period. Models (1), (2), (3), and (4) show the regression results with different specifications. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$
	(1)	(2)	(3)	(4)
SINGLE	0.078***	0.033***	0.033***	0.030***
	(0.009)	(0.007)	(0.007)	(0.008)
SIZE		–0.029***	–0.029***	–0.027***
		(0.002)	(0.002)	(0.003)
MTB		0.047***	0.047***	0.046***
		(0.003)	(0.003)	(0.003)
LEV		–0.245***	–0.244***	–0.251***
		(0.017)	(0.017)	(0.019)
SGR		0.004	0.002	–0.001
		(0.007)	(0.007)	(0.007)
CAPEX		–0.583***	–0.593***	–0.623***
		(0.052)	(0.052)	(0.055)
R&D		0.980***	0.974***	0.932***
		(0.085)	(0.085)	(0.088)
CASHDIV		–0.024	–0.019	–0.020
		(0.056)	(0.056)	(0.056)
CF		–0.247***	–0.249***	–0.273***
		(0.036)	(0.036)	(0.038)
VOL		0.069***	0.067***	0.066***
		(0.012)	(0.012)	(0.013)
MALE			–0.025	–0.030*
			(0.016)	(0.018)
AGE			–0.060***	–0.053**
			(0.020)	(0.022)
TENURE			0.010***	0.011***
			(0.003)	(0.003)
CEOD				–0.006
				(0.006)
BIND				–0.020**
				(0.009)
INST				–0.045***
				(0.012)
TOINDX				–0.107***
				(0.032)
Year-fixed effects	Yes	Yes	Yes	Yes
Industry-fixed effects	Yes	Yes	Yes	Yes
Constant	0.056	0.220***	0.467***	0.437***
	(0.040)	(0.039)	(0.090)	(0.096)
Observations	31,715	31,715	31,715	28,099
R-squared	0.301	0.483	0.484	0.492

Table 3: Endogeneity issues

Table 3 contains two panels. Panel A presents the regression using the instrumental variable approach using *COMMUNITY* as an instrument of the *SINGLE* variable. Panel B presents the results of the firm- (Model 1), CEO- (Model 2), and regional- (Model) fixed effect regression, respectively. All the continuous variables are winsorized at the 1 percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Panel A: Instrument variable regression

Variables	*SINGLE*	$CASH_{t+1}$
	(1)	(2)
SINGLE		0.858**
		(0.409)
COMMUNITY	0.034**	
	(0.014)	
SIZE	–0.052***	0.016
	(0.004)	(0.022)
MTB	0.001	0.045***
	(0.004)	(0.004)
LEV	–0.012	–0.239***
	(0.032)	(0.034)
SGR	–0.021*	0.015
	(0.011)	(0.014)
CAPEX	–0.191*	–0.470***
	(0.104)	(0.128)
R&D	0.014	0.894***
	(0.138)	(0.140)
CASHDIV	0.127*	–0.118
	(0.073)	(0.087)
CF	–0.019	–0.254***
	(0.061)	(0.064)
VOL	0.030	0.039
	(0.024)	(0.025)
MALE	0.025	–0.051
	(0.040)	(0.036)
AGE	–0.274***	0.174
	(0.045)	(0.119)
TENURE	–0.026***	0.032***
	(0.006)	(0.012)
CEOD	–0.033***	0.022
	(0.012)	(0.018)
BIND	0.013	–0.030*
	(0.019)	(0.018)
INST	0.076***	–0.018
	(0.022)	(0.038)
TOINDX	–0.009	–0.093
	(0.072)	(0.068)
Constant	1.451***	–0.772
	(0.193)	(0.623)
Observations	28,099	28,099
R-squared	0.103	
Wald Chi-Square		669.44

Panel B: Firm-, CEO-, and region-fixed effects

Variables	Firms-fixed effects	CEO-fixed effects	State-fixed effects	County-fixed effects
	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$
	(1)	(2)	(3)	(4)
SINGLE	0.019***	0.038***	0.026***	0.013**
	(0.003)	(0.006)	(0.007)	(0.006)
All other controls	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
Industry-fixed effects	No	Yes	Yes	Yes
Constant	0.593***	0.979***	0.407***	0.458***
	(0.049)	(0.071)	(0.101)	(0.144)
Observations	28,099	28,099	27,977	18,600
R-squared	0.3674	0.3987	0.509	0.535

Table 4: Exogenous change in CEOs' turnover

Table 4 presents the difference-in-difference (*DiD*) analysis using exogenous CEO turnover events. Specifically, the POST represents the pre and post-CEO transition period. MTS is a dummy variable that takes the value of one if the transition of the CEO is from married to single (treatment firm) and zero if the transition is from married-to-married (control firm). STM represents a dummy variable that takes the value of one if the transition is from single to married for the treatment firms and single to single as control firms. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	Full Sample		PSM Sample	
	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$
	(1)	(3)	(2)	(4)
POST	–0.019	–0.096**	–0.065	–0.110*
	(0.014)	(0.043)	(0.051)	(0.058)
*POST*MTS*	0.051**		0.076**	
	(0.021)		(0.033)	
*POST*STM*		–0.049*		–0.025*
		(0.027)		(0.014)
All other controls	Yes	Yes	Yes	Yes
Year- and industry-fixed effects	Yes	Yes	Yes	Yes
Constant	0.167	0.610	–0.255	0.565
	(0.216)	(0.489)	(0.600)	(0.622)
Observations	1,332	478	336	118
R–squared	0.472	0.775	0.591	0.835

Table 5: Sources of cash savings for single CEO

This table presents the sources of cash savings by married CEO using two panels. In Panel A, we examine the payout policy. The dependent variables are (a) cash dividend payout (*CASHDIV*) in column (1) and (b) total payout (*PAYOUT*), which includes cash dividend and repurchase. The variable SINGLE shows the CEO's marital status, which equals 1 if the CEO is legally unmarried, and 0 otherwise. Panel B presents the results of cash savings from cash flows. The dependent variable is the change in cash holdings ($\Delta CASH$), measured as cash and cash equivalents scaled by net assets. CF is the operating cash flow. The variable *SINGLE* shows the CEO's marital status, which equals 1 if the CEO is legally unmarried, and 0 otherwise. Models 1 and 2 present the regression results specified by Almeida et al. (2004) specifications. Model 3 incorporates additional control variables to control external financing. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively. The measurements of the variables are provided in Appendix A.

Panel A: CEO marital status and payout policy

Variables	$CASHDIV_{t+1}$	$PAYOUT_{t+1}$
	(1)	(2)
SINGLE	–0.001**	–0.001**
	(0.000)	(0.000)
SIZE	0.000***	0.000
	(0.000)	(0.000)
MTB	0.002***	0.002***
	(0.000)	(0.000)
LEV	–0.009***	–0.007***
	(0.001)	(0.001)
ROA	0.043***	0.037***
	(0.002)	(0.002)
R&D	–0.001	0.007*
	(0.003)	(0.004)
ACQ	–0.005***	–0.007***
	(0.002)	(0.002)
CAPEX	–0.027***	–0.027***
	(0.002)	(0.003)
MALE	–0.001	–0.001
	(0.001)	(0.001)
TENURE	–0.001***	–0.001***
	(0.000)	(0.000)
CEOD	0.000*	0.001**
	(0.000)	(0.000)
BIND	0.005***	0.004***
	(0.000)	(0.001)
INST	–0.012***	–0.014***
	(0.001)	(0.001)
TOINDX	0.041***	0.043***
	(0.001)	(0.001)
Year- and industry-fixed effects	Yes	Yes
Constant	0.010***	0.013***
	(0.004)	(0.004)
Observations	28,099	28,099
R-squared	0.300	0.274

Panel B: CEO marital status and cash savings

Variables	ΔCASH		ΔCASH		
	Almeida et al. (2004)		McLean (2011)		
	(1)	(2)	(3)	(4)	(5)
CF	0.131***	0.109***	0.126***	0.146***	0.114***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)
SINGLE	0.010**	0.009*	0.002*	0.002*	0.003**
	(0.005)	(0.005)	(0.001)	(0.001)	(0.001)
*SINGLE*CF*	0.019***	0.012**			
	(0.006)	(0.005)			
*SINGLE*FIN*			0.006**		
			(0.003)		
*SINGLE*EQF*				0.014*	
				(0.007)	
*SINGLE*DEBTF*					–0.084*
					(0.036)
TOBINQ	0.002***	0.001**	–0.002**	0.000	–0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
SIZE	0.001***	0.001**	–0.001***	–0.000	–0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CAPEX		–0.281***	–0.294***	–0.303***	–0.300***
		(0.013)	(0.013)	(0.013)	(0.018)
ACQ		–0.439***	–0.449***	–0.454***	–0.476***
		(0.013)	(0.014)	(0.013)	(0.024)
Δ*NWC*		–0.425***	–0.268***	–0.412***	–0.431***
		(0.018)	(0.014)	(0.018)	(0.018)
Δ*STD*		0.404***	0.398***	–0.380***	–0.419***
		(0.024)	(0.024)	(0.024)	(0.024)
FIN			0.008***		
			(0.002)		
EQF				0.273***	
				(0.013)	
DEBTF					0.044
					(0.043)
Year- and industry-fixed effects	Yes	Yes	Yes	Yes	Yes
Constant	0.002	0.020***	0.025***	0.016**	0.023***
	(0.004)	(0.008)	(0.009)	(0.008)	(0.008)
Observations	28,321	26,628	26,628	26,625	26,625
R-squared	0.030	0.234	0.243	0.254	0.244

Table 6: Marital status and the marginal value of cash

This table presents the regression results for the effect of CEO marital status on the marginal value of cash holdings following McConnell, Sibilkov, and Zaiats's (2020) methodology. The dependent variable is *EXRET*, the excess return computed as the stock return over the fiscal year minus that of the 25 Fama and French portfolio benchmark, formed on size and book-to-market. *SINGLE* is a dummy variable that takes the value of one if the marital status of a CEO is single and zero otherwise. *SINGLE*⊿CASH* shows an interaction term to examine if one dollar of cash holdings differs between firms managed by single and married CEOs. Model 2 and 3 presents the regression results Halford et al. (2020) model under the sub-samples based on agency theories using selling and administrative expenses (*SGA*) and asset turnover ratio *(ATO*). All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	*EXRET*				
	Full Sample	*High_SGA*	*High_SGA*	*Low_ATO*	*High_ATO*
	(1)	(2)	(3)	(4)	(5)
⊿CASH	0.154***	0.166	0.025	0.183	0.039
	(0.056)	(0.134)	(0.074)	(0.133)	(0.065)
SINGLE	–0.047***	–0.067***	–0.031**	–0.045***	–0.048***
	(0.010)	(0.014)	(0.014)	(0.014)	(0.014)
SINGLE⊿CASH*	–0.159***	–0.320**	0.007	–0.469***	–0.014
	(0.057)	(0.126)	(0.074)	(0.141)	(0.059)
⊿EARNINGS	–0.000	0.000	0.005	–0.003	0.005*
	(0.001)	(0.003)	(0.004)	(0.003)	(0.003)
⊿NASSETS	0.018***	0.046***	0.020*	0.069***	0.009
	(0.005)	(0.017)	(0.010)	(0.020)	(0.007)
⊿R&D	–0.312*	–0.676*	0.643**	–0.117	0.226
	(0.174)	(0.360)	(0.321)	(0.828)	(0.274)
⊿INTEREST	0.001	–0.008	0.049	–0.396***	–0.043*
	(0.013)	(0.037)	(0.087)	(0.143)	(0.023)
⊿CASHDIV	0.095	0.166	0.026	0.118	0.102
	(0.074)	(0.250)	(0.081)	(0.193)	(0.091)
$CASH_{t–1}$	0.065***	0.179***	0.055***	0.200***	0.062***
	(0.022)	(0.060)	(0.018)	(0.061)	(0.017)
LEV	–0.078***	–0.067*	–0.117***	–0.063*	–0.074**
	(0.023)	(0.036)	(0.033)	(0.036)	(0.030)
PURCHASE OF STOCK	0.068	–0.145*	0.063	–0.093	0.143
	(0.063)	(0.082)	(0.061)	(0.057)	(0.166)
SALE OF STOCK	0.168***	0.458***	0.153***	0.426***	0.134***
	(0.064)	(0.152)	(0.058)	(0.128)	(0.048)
DEBT ISSUANCE	–0.002	–0.029**	–0.005	0.004	0.006
	(0.002)	(0.014)	(0.006)	(0.003)	(0.006)
DEBT REDUCTION	0.000	0.000***	0.000	0.000**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
*⊿CASH** $CASH_{t–1}$	–0.000	0.000**	–0.000	0.000	–0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
⊿CASH LEV*	–0.397***	–0.377	–0.063	0.317	–0.075
	(0.114)	(0.447)	(0.178)	(0.338)	(0.142)
Constant	–0.053***	–0.069***	–0.037***	–0.061***	–0.060***
	(0.006)	(0.008)	(0.009)	(0.009)	(0.008)
Observations	24,737	12,919	11,818	12,255	12,482
R-squared	0.072	0.083	0.071	0.099	0.063

Table 7: Marital Status, cash holdings, and compensation

This table presents the regression results of the rent-seeking behavior of the CEOs using two panels. In panel A, the dependent variable in Models 1 and 2 is total Compensation (*TOTALPAY*), which is the natural logarithm of TDC1. In model 2, *SINGLE* indicates the marital status of the CEOs, which takes the value of 1 if the CEO is single, and 0 otherwise. Model 2 uses the interaction of marriage and cash holdings (*SINGLE*CASH*) to examine the incremental effect of marriage and cash on compensation. Models 3 and 4 use *BONUS* (measured as the natural logarithm of cash bonus) and *SALARY* (measured as the natural logarithm of base salary). Panel B presents the result on the moderating effect of single CEOs on the link between change in cash on change in CEO compensation. All the continuous variables are winsorized at the one percent threshold level. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Panel A: Marital status, cash holdings, and CEO pay.

Variables	*TOTAL PAY*	*TOTAL PAY*	*BONUS*	*SALARY*
	(1)	(2)	(3)	(4)
CASH	0.209***	0.209***	0.221**	–0.287**
	(0.064)	(0.079)	(0.099)	(0.131)
SINGLE		–0.059	–0.016	–0.036
		(0.039)	(0.049)	(0.029)
*SINGLE*CASH*		0.066**	0.002*	0.228*
		(0.028)	(0.001)	(0.121)
SIZE	0.445***	0.452***	0.423***	0.160***
	(0.015)	(0.015)	(0.017)	(0.021)
MTB	0.076***	0.084***	0.038***	–0.024***
	(0.011)	(0.011)	(0.012)	(0.008)
ROA	0.525***	0.288**	1.425***	0.213**
	(0.162)	(0.146)	(0.187)	(0.085)
MALE	0.082	0.042	–0.031	–0.071
	(0.104)	(0.104)	(0.093)	(0.053)
AGE	–0.279**	–0.363***	0.323**	0.264**
	(0.111)	(0.117)	(0.141)	(0.113)
TENURE	–0.004	–0.014	0.016	0.004
	(0.013)	(0.016)	(0.019)	(0.015)
CEOD	–0.019	0.069***	0.144***	0.084***
	(0.026)	(0.025)	(0.033)	(0.031)
BIND	0.335***	0.176***	–0.141***	0.040
	(0.062)	(0.058)	(0.053)	(0.036)
INST	0.666***	0.541***	0.263***	0.236***
	(0.071)	(0.072)	(0.086)	(0.069)
TOINDX	–0.096	–0.216	0.477**	0.509***
	(0.185)	(0.172)	(0.186)	(0.136)
Constant	2.539***	2.863***	0.871	3.704***
	(0.694)	(0.720)	(0.594)	(0.494)
Observations	28,099	28,099	13,761	27,670
R–squared	0.332	0.362	0.391	0.186

Panel B: Marital status, change in cash holdings, and change in CEO pay.

Variables	Δ*TOTALPAY*	Δ*TOTALPAY*	Δ*BONUS*	Δ*SALARY*
	(1)	(2)	(3)	(4)
Δ*CASH*	0.184**	0.128	0.482***	–0.044
	(0.074)	(0.086)	(0.080)	(0.035)
SINGLE		0.002	–0.003	–0.006
		(0.014)	(0.021)	(0.008)
*SINGLE*Δ*CASH*		0.138**	0.047**	0.011**
		(0.063)	(0.022)	(0.005)
SIZE	0.010***	0.002	0.005	–0.002
	(0.004)	(0.004)	(0.005)	(0.003)
MTB	0.037***	0.040***	0.033***	0.004**
	(0.006)	(0.007)	(0.006)	(0.002)
ROA	0.243***	0.241***	0.033	0.075***
	(0.072)	(0.082)	(0.104)	(0.028)
MALE	0.012	0.005	–0.006	0.014
	(0.029)	(0.024)	(0.053)	(0.012)
AGE	–0.160***	–0.192***	0.006	0.045
	(0.050)	(0.056)	(0.054)	(0.030)
TENURE	–0.005	0.006	–0.006	–0.039***
	(0.009)	(0.010)	(0.009)	(0.005)
CEOD	–0.008	–0.013	0.001	0.012
	(0.012)	(0.013)	(0.015)	(0.009)
BIND	–0.139***	–0.104***	–0.096***	–0.030**
	(0.025)	(0.032)	(0.028)	(0.013)
INST	0.018	0.087***	0.128***	0.029
	(0.028)	(0.030)	(0.037)	(0.018)
TOINDX	–0.200***	–0.019	0.031	–0.139***
	(0.059)	(0.058)	(0.070)	(0.036)
Constant	2.255***	2.448***	0.189	–0.064
	(0.577)	(0.600)	(0.272)	(0.128)
Observations	24,993	24,993	10,326	24,538
R-squared	0.014	0.015	0.041	0.007

Table 8: Evidence against precautionary motives

This table presents the regression results for the effect of CEO marital status on the cash holdings of firms classified based on financing constraints. Models (1), (2), and (3) classify firms based on interest coverage ratio (*ICR*), total debt (Total Debt), and KZ-Index, respectively. FUC represents financially unconstrained firms, while FC shows financially constrained firms. *SINGLE* is a dummy variable that takes the value of one if the marital status of a CEO is single and zero otherwise. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$
	Interest Coverage Ratio		Total Debt		KZ-Index	
	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained
	(1)	(2)	(3)	(4)	(5)	(6)
SINGLE	0.012	0.036***	0.006	0.042***	0.007	0.053***
	(0.008)	(0.010)	(0.008)	(0.011)	(0.007)	(0.012)
Constant	0.203**	0.571***	0.091	0.565***	0.359***	0.553***
	(0.095)	(0.131)	(0.093)	(0.135)	(0.088)	(0.158)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Year- and industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,194	15,905	13,704	14,395	15,458	12,641
R-squared	0.521	0.478	0.448	0.431	0.497	0.476

Table 9: CEO married status – the influence of CFOs.

The dependent variable is cash holdings (*CASH*), measured as cash and cash equivalents scaled by net assets in this table. Model 1 presents the regression results after controlling for the CFO influence and baseline control variables. Model 2 classifies the sample based on median CFO influence. Firms higher than the median CFO influence value are classified as High CFO influence firms, while firms with a CFO influence value lower than the median are classified as Low CFO influence firms. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$	
	CFO-Fixed Effect	CFO Influence	High CFO Influence	Low CFO Influence
	(1)	(2)	(3)	(4)
SINGLE	0.036***	0.038***	0.019**	0.053***
	(0.003)	(0.008)	(0.010)	(0.003)
CFO-INFLUENCE		–0.002**		
		(0.001)		
Constant	0.549***	0.321***	0.296**	0.337**
	(0.055)	(0.118)	(0.144)	(0.160)
Baseline controls	Yes	Yes	Yes	Yes
Year- and industry-fixed effects	Yes	Yes	Yes	Yes
Observations	28,099	15,763	7,888	7,875
R-squared	0.4507	0.485	0.484	0.495

Table 10: Moderating effect of corporate governance

This table assesses the moderating effect of corporate governance on the relationship between CEO marital status and cash holdings. The dependent variable is cash holdings (*CASH*), measured as cash and cash equivalents scaled by net assets. The variable *SINGLE* shows the CEO's marital status that equals 1 if the CEO is legally unmarried, and 0 otherwise. *BIND*SINGLE* is the interaction of board independence (*BIND*) with marital status in column (1). *INST*SINGLE* is the interaction of institutional ownership (*INS*) with marital status in column (2). *TOINDX*SINGLE* is the interaction of the takeover index (*TOINDX*) with marital status (*SINGLE*). All the continuous variables are winsorized at the 1 percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	$CASH_{t+1}$	$CASH_{t+1}$	$CASH_{t+1}$
	(1)	(2)	(3)
SINGLE	0.108***	0.056	0.110***
	(0.031)	(0.052)	(0.031)
*BIND*SINGLE*	–0.113		
	(0.072)		
*INST*SINGLE*		–0.011**	
		(0.005)	
*TOINDX*SINGLE*			–0.404***
			(0.148)
BIND	–0.032*	–0.056***	–0.056***
	(0.019)	(0.020)	(0.020)
INST	0.066**	0.066**	0.066**
	(0.027)	(0.028)	(0.027)
TOINDX	–0.123**	–0.122**	–0.056
	(0.057)	(0.057)	(0.058)
Baseline controls	Yes	Yes	Yes
Year- and industry-fixed effects	Yes	Yes	Yes
Constant	0.693***	0.697***	0.689***
	(0.188)	(0.190)	(0.188)
Observations	28,099	28,099	28,099
R-squared	0.405	0.404	0.405

Internet Appendices

Table IA1: Propensity score estimates

Table IA.1 presents three variables. Panels A and B present the propensity score matching (PSM) analysis - Panel A presents the diagnostic test on the matching quality between treatment and control groups, and Panel B presents the regression results using the PSM sample. Panel C presents our baseline results using an alternative measure of cash holdings. In column (1), the cash holdings (*CASH1*) is measured as the cash and short-term investment divided by total assets. In column (2), cash divided by total assets (*CASH2*) is used as the cash holdings variable. In column (3), the natural logarithm of one plus cash holdings (*CASH3*) is used as an alternative measurement of cash holdings. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Panel A: PSM - Quality of matching.

Control variables	Treated	Control	Difference	T-Stat.
SIZE	6.441	6.487	–0.046	–0.943
MTB	2.219	2.210	0.009	0.320
LEV	0.162	0.170	–0.008	–0.170
SGR	0.089	0.090	–0.001	–0.120
CAPEX	0.051	0.051	0.000	–0.550
R&D	0.050	0.050	0.000	0.540
CASHDIV	0.011	0.012	–0.001	–0.193
CF	0.067	0.069	–0.002	–0.730
VOL	0.427	0.419	0.008	–1.612
MALE	0.974	0.973	0.001	–0.180
AGE	3.965	3.963	0.002	0.950
TENURE	1.524	1.528	–0.004	–0.260
CEOD	0.490	0.481	0.009	0.990
BIND	0.516	0.517	–0.001	–0.240
INST	0.679	0.677	0.002	0.420
TOINDX	0.147	0.146	0.001	0.460
Target variable				
CASH $_{t+1}$	0.287	0.259	0.028	3.630

Panel B: Propensity score estimates – regression results.

Variables	*CASH*
SINGLE	0.024***
	(0.008)
All baseline controls	Yes
Year- and industry-fixed effects	Yes
Constant	0.526***
Observations	8,888
R-squared	0.495

Panel C: Alternative measures of cash holdings

Variables	$CASH1_{t+1}$	$CASH2_{t+1}$	$CASH3_{t+1}$
	(1)	(2)	(3)
SINGLE	0.019***	0.020***	0.028***
	(0.005)	(0.003)	(0.008)
All other controls	Yes	Yes	Yes
Year- and industry-fixed effects	Yes	Yes	Yes
Constant	0.283***	0.205***	0.413***
	(0.059)	(0.041)	(0.095)
Observations	28,099	28,099	28,099
R-squared	0.516	0.383	0.475

Table IA.2: Additional robustness

This table presents the regression results on the effect of marital status on the cash holdings by controlling for the additional variables such as firm age (*FAGE*), industry volatility (*SIGMA*), net working capital (NWC), dividends dummy (*DIV-DUMMY*), and tax burden on the foreign income (*TAX-BURDEN*) together with control variables specified in the baseline model 4 in Table 3. These variables are specified based on the studies of Bates, Kahle, and Stulz (2009) and Picconi and Oler (2014). The dependent variable is cash holdings (*CASH*), measured as cash and cash equivalents scaled by net assets in this table. The variable *SINGLE* shows the CEO's marital status, which takes the value of one if the CEO is legally unmarried, and zero otherwise. All the continuous variables are winsorized at the 1 percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	(1)
	$CASH_{t+1}$
SINGLE	0.029***
	(0.007)
FAGE	–0.001*
	(0.001)
SIGMA	0.054***
	(0.012)
NWC	–0.433***
	(0.026)
DIV-DUMMY	–0.030***
	(0.006)
TAX-BURDEN	0.004***
	(0.001)
Year- and industry-fixed effects	Yes
Baseline controls	Yes
Constant	0.486***
	(0.095)
Observations	27,586
R-squared	0.531

Table IA3: Marital status and the marginal value of cash

This table presents the regression results for the effect of CEO marital status on the marginal value of cash holdings following Faulkender and Wang's (2006) methodology. The dependent variable is *EXRET*, the excess return, computed as the stock return over the fiscal year minus that of the benchmark of the 25 Fama and French portfolio, formed on size and book-to-market. *SINGLE*⊿CASH* shows an interaction term to examine if one dollar of cash holdings differs between firms managed by single and married CEOs. All the continuous variables are winsorized at the one percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	*EXRET*				
	Full Sample	*High_SGA*	*High_SGA*	*Low_ATO*	*High_ATO*
	(1)	(2)	(3)	(4)	(5)
⊿CASH	0.169***	0.223*	0.013	0.261*	0.028
	(0.057)	(0.125)	(0.065)	(0.134)	(0.071)
SINGLE	–0.047***	–0.065***	–0.033**	–0.042***	–0.049***
	(0.010)	(0.014)	(0.014)	(0.014)	(0.014)
SINGLE⊿CASH*	–0.148***	–0.267*	0.024	–0.504***	0.003
	(0.057)	(0.141)	(0.064)	(0.162)	(0.064)
⊿EARNINGS	–0.000	–0.006	0.008*	–0.002	0.006**
	(0.001)	(0.004)	(0.004)	(0.003)	(0.003)
⊿NASSETS	0.020***	0.036**	0.018***	0.080***	0.017***
	(0.004)	(0.014)	(0.005)	(0.018)	(0.006)
⊿R&D	–0.003	–0.342	0.617*	–0.483	0.331
	(0.173)	(0.615)	(0.323)	(1.093)	(0.358)
⊿INTEREST	–0.014	0.003	0.071	–0.447***	–0.023
	(0.022)	(0.095)	(0.066)	(0.113)	(0.052)
⊿CASHDIV	0.219	0.223	–0.014	0.311	0.041
	(0.169)	(0.172)	(0.098)	(0.239)	(0.077)
$CASH_{t-1}$	0.063***	0.215**	0.057***	0.197***	0.065***
	(0.021)	(0.089)	(0.018)	(0.062)	(0.022)
LEV	–0.079***	–0.067*	–0.120***	–0.053	–0.076**
	(0.023)	(0.037)	(0.033)	(0.035)	(0.030)
*⊿CASH** $CASH_{t-1}$	0.000***	0.000***	–0.000	0.000	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
⊿CASH LEV*	–0.507***	–1.005**	–0.116	0.204	–0.125
	(0.101)	(0.483)	(0.170)	(0.360)	(0.169)
⊿NFIN	–0.076	–0.211	11.160	–2.272	0.075
	(0.112)	(0.416)	(7.414)	(4.733)	(0.210)
Constant	–0.051***	–0.072***	–0.035***	–0.062***	–0.059***
	(0.005)	(0.010)	(0.009)	(0.009)	(0.008)
Observations	24,737	12,919	11,818	12,255	12,482
R-squared	0.065	0.069	0.063	0.088	0.055

IA.4: CEO married status and cash holdings – additional explanations.

The dependent variable is cash holdings (*CASH*), measured as cash and cash equivalents scaled by net assets in this table. Models 1 and 2 present the regression results on the effect of marital status on cash holdings for the sub-samples classified based on capital expenditures and research and development. High-Capex, Hi-R&D, High-ACQ firms have values higher than median Capex, research and development expenditures, and acquisition investment respectively. Similarly, the Low-Capex, Low-R&D, and Low-AQC firms have values lower than the median values of Capex, research and development expenditures, and acquisition investment respectively. The variable *SINGLE* shows the CEO's marital status, which equals 1 if the CEO is legally unmarried, and 0 otherwise. All the continuous variables are winsorized at the 1 percent threshold level. Numbers in parentheses are robust standard errors clustered by firms. Superscripts ***, **, * indicate the significance at the 1%, 5%, and 10% level, respectively.

Variables	$CASH_{t+1}$		$CASH_{t+1}$		$CASH_{t+1}$	
	High-Capex	*Low-Capex*	*High-R&D*	*Low-R&D*	*High-ACQ*	*Low-ACQ*
	(1)	(2)	(3)	(4)	(5)	(6)
SINGLE	0.026**	0.063***	0.031**	0.050***	0.036***	0.060**
	(0.012)	(0.024)	(0.014)	(0.016)	(0.012)	(0.023)
Year- and Industry-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.397***	0.615**	1.255***	0.447**	0.603***	0.719**
	(0.152)	(0.308)	(0.316)	(0.178)	(0.149)	(0.292)
Observations	13,299	13,124	13,473	12,950	14,984	13,115
R-squared	0.424	0.423	0.418	0.302	0.351	0.439