Corporate Governance and Cash Holdings Decisions by U.S. Life Insurance Companies

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Abstract

In the context of the principal-agent framework, this article examines the impact of corporate governance on U.S. life insurers' cash holdings. A dynamic panel model estimates the factors that affect cash holdings. In the second stage, regression models estimate and test the influence of corporate governance variables on the adjustment speed toward target cash holdings. It is found that proxies for corporate governance such as board size and member independence are significant factors explaining the cash holdings decision and are effective in mitigating the principal-agent conflict. Furthermore, the adjustment rate to target cash holdings is estimated. The analysis shows that the adjustment rate varies across U.S. life insurance companies with the corporate governance proxies used. Finally, this study confirms the importance of other control variables in prior insurance studies analyzing the cash holdings decision.

Keywords: Insurance Industry, Cash Holdings, Corporate Governance.

JEL Classification: C23, G22, G30

I Introduction

Cash holdings decisions are paramount in the financial services industry. The life insurance industry is no exception. Life insurance companies hold cash assets to pay claims such as death benefits, disability benefits, and annuity payments. An additional need for cash holdings is required for some life insurance products such as cash value policies that give the right to policyholders to borrow against their cash surrender value. The role of insurance companies in the economy is important for their stakeholders/policyholders who expect and rely on them to pay death benefits, income replacement, long-term care, and retirement income. This vital role of the insurance industry makes several stakeholders interested in the corporate governance of the industry and its decision cash holdings. Corporate governance refers to the systems and mechanisms that ensure effective control and management of a firm.

The complexity of the insurance business reduces the chance for all stakeholders (shareholders and policyholders) to monitor insurance companies' managers' decisions for several reasons. First, the insurance industry is heavily regulated. Often the stated goal of insurance regulation is solvency in addition to remedial to certain insurance market failures such as asymmetric information and market conduct (Klein, 2012). These market failures may lead insurance companies to take excessive risk further exacerbating the principal/agent conflict. Second, customers find insurance products very complex and cannot judge the financial risk their companies represent. Third, the insurance industry business is opaque because it is difficult for investors to judge and assess the quality of the assets and liabilities of insurance companies (Sommer et al., 2006; Chiang et al., 2022). Insurance companies' liabilities are complex and calculated as the present value of future claims that could extend decades into the future and

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depend on several factors such as the mortality rate, cost of health care, and the expected interest rate.

Under perfect market conditions, companies will hold enough cash to meet their financial obligations until new expected sources of operating cash flows are made available. However, markets are far from being perfect. Cash holdings are retained to mitigate some market imperfections or adverse events. The early explanations of cash holdings decisions centered on the transactions, precautionary, and speculative motives (Keynes, 1936; Baumol, 1952). Subsequent theories address the cash-holding decisions in the context of corporate governance. The mainstream literature on corporate governance and cash holdings focuses on the principal-agent conflict of interest. Managers are inclined to hold disproportionate cash to pursue their own interests. The existence of excessive cash may exacerbate the agency-principal conflict. This paper analyzes corporate governance's impact on cash-holding decisions in U.S. life insurance companies. Understanding the effect of corporate governance will help enhance insurance companies' profitability by eliminating inefficiencies emanating from poor governance. A profitable life insurance industry benefits consumers and insurance firms' investors. Unlike industrial firms, liquidity management is essential to insurance companies that have an obligation to pay their policyholders' claims. This study will shed light on this decision in the context of agency theory while considering other variables that are found important in previous studies. The impact of corporate governance on the cash-holding decision in life insurance has not been studied thus far.

The remainder of the paper is organized as follows. Section 2 reviews prior studies on determinants of cash holdings in the insurance industry. Section 3 examines the theoretical background on the effect of corporate governance and cash holdings. Section 4 discusses the data, variables, and estimation procedure. Section 5 presents the empirical results. Section 6 provides a summary and concluding remarks.

II LITERATURE REVIEW

The literature on cash holdings is extensive. One of the cornerstones of financial management is securing adequate liquidity to meet day-to-day obligations. Only studies directly addressing cash-holding in the insurance industry will be reviewed in this section. The first study on this topic was by Wells, Cox, and Gaver (1995) who focused on the relationship between the life insurance corporate structure and the level of cash flow. The authors find that mutual companies have the propensity to hold higher levels of free cash than stock companies. Among other significant variables were size measured by total assets and leverage. One shortcoming of the study is its use of a single-year (1989) sample. Colquitt, Sommer, and Godwin (1999) study the other insurance industry segments using a multiple-year sample of property-liability insurers. Contrary to Wells, Cox, and Gaver (1995), the authors find that stock companies hold more cash than mutual companies. Similarly, the authors find that size, financial strength, leverage, and group affiliation are significant determinants of cash holdings. Both of the studies explain their advanced hypothesis within the principal-agent framework. Hsu, Huang, and Lai (2015) explicitly focus on corporate governance and cash in the property and liability insurance industry. They use corporate control proxies such as the proportion of outside directors, board size, percentage of shares held by directors, whether the board of directors is headed by the CEO, and other control variables consistent with Colquitt, Sommer, and Godwin (1999). The authors find evidence that the corporate governance variables contribute to alleviating the principle agent conflict. However, the

study includes only stock publicly traded property-liability insurance companies. As previous studies have shown, the corporate structure in insurance is characterized by both mutual and stock companies and this corporate structure is a source of conflict of interest between managers and other stakeholders. Second, a limited number of insurance companies are publicly traded. Having a sample that includes only publicly traded companies omits a large representation of the whole industry. The next study by Xie, Wang, Zhao, and Lu (2017) builds on Wells, Cox, and Gaver (1995) by using a more refined classification of corporate structure in the insurance industry. Using sample panel data of property-liability insurers from 1993-2011, the authors find that mutual companies hold more cash than stock companies. The last study by Che, Fier, and Liebenberg (2019) analyzes the cash holdings of property-liability insurance companies, emphasizing the effect of market structure on cash holdings. The authors relying on the predation risk theory, find that U.S. property-liability insurers that operate in more concentrated markets hold more cash reserves.

This study adds to the existing literature on cash holdings by focusing on corporate governance in one segment of the insurance industry, the life insurance sector, and using a sample that includes both mutual and stock companies.

III INSURANCE BOARDS AND HYPOTHESES DEVELOPMENT

The monitoring role of the board of directors

The literature on corporate governance indicates that a company board can effectively mitigate the conflict of interest between managers and stakeholders. The conflict of interest arises from the diverging interests among stakeholders. Managers may prefer to maintain a high level of cash holdings to exploit for their benefits such as enjoying additional perks and overinvesting in real assets. The free cash flow theory states that managers of firms with excess funds, more than the optimal level, either tend to hold it as an excess surplus that would remain idle or earn a low return when invested in near cash assets. Alternatively, those managers may overinvest in real assets. While maximizing managers' utility, these overinvestments reduce the firm value as explained by Jensen and Meckling (1976) and Myers and Rajan (1998). Therefore, to reduce the impact of agency problems mainly overinvesting, increasing the board of directors' effectiveness by monitoring self-serving managers may achieve the desired alignment of managers' and shareholders' interests and enhancement of corporate value. The effectiveness of the board of directors depends on its composition and size. Usually, members could be either insiders or outsiders. Insiders are either executives or major stakeholders. It is argued that independent boards with a majority of outside members are more effective in supervising the CEO's decisions and better-aligning management interests with shareholders (Coles et al., 2014; Duchin et al., 2010). Independent directors are more likely to be motivated to play their role more effectively to bolster their reputation as valuable advisors and increase the demand for their skills. Another attribute of the board composition is the relationship between the board and the chief executive officer (CEO) which is related to board independence. In some companies, the CEO is also the board's chairperson. Consolidating these functions will grant the CEO greater control over the decision-making process and undue influence in appointing board members who will be less likely to challenge the CEO's decisions (Booth et al., 2002) further exacerbating the principal-agent conflict.

The size of the board is another characteristic that may affect its effectiveness. A large board may be necessary to have individuals representing different areas of expertise who will make good decisions. However, a large board may be slow in making decisions due to a lack of consensus. Therefore, a small board could be more effective than a larger one Jensen (1993) demonstrates that having small boards makes them more effective.
Based on the literature on corporate governance and cash holdings the following hypotheses are proposed:

H_1: *Other things being equal, the higher the proportion of independent directors the lower the cash holdings.*

One attribute of the board of directors is their relationship with the company, which could influence the effectiveness of their monitoring role of executives' actions. Independent directors will push for firm value-enhancing projects and therefore lower the cash holdings. However, the board of directors who are officers/ executives may be more willing to align with the CEO's decision and assume a less effective out of fear of reprisal such as being passed for a promotion.

H_2: *Other things being equal, the higher the number of directors the less effective the monitoring role, hence the higher the cash holdings.*

The company board's size is commensurate with its size. Understandably, boards include a variety of individuals with expertise in different areas. Large boards may not necessarily be more effective than smaller boards. Corporate boards with few directors may result in individual directors being more likely to work as hard as other board members. While on large boards, some members may not exert their best effort (slack) and the board may suffer from a free-rider problem. In addition, large boards may make it harder to achieve consensus and the decision-making process may suffer. Therefore, small boards are expected to be more effective than larger boards in resolving the principal-agent conflict.

H_3: *Other things being equal, companies whose CEO is also the board's chair will have higher cash holdings.*

The role of the corporate boards is to exercise oversight of management including the CEO. In many cases, the CEO is also the board's chair. In this case, the CEO manages both the company and the board. The CEO sets the agenda and controls the flow of information given to the board. The dual role strengthens the discretionary power of the CEO. Therefore, a CEO, with significant power and influence, might choose to stockpile large amounts of company cash rather than reinvesting it for growth, potentially harming shareholder value, and making it challenging for the board of directors to effectively monitor and control such behavior.

Sample, Variables, and Econometric Model

Data

Insurance companies must file their financial statements with the state's insurance department where they are licensed to operate. The individual state data is compiled by the NAIC (National

Association of Insurance Commissioners). This study uses life insurance statutory financial statements compiled by the NAIC. The data covers the period from 2010-2013. The data is reported on an annual basis. The sample was screened for companies with outliers such as zero policyholders' surplus, and negative premiums. This screening process resulted in an unbalanced panel set with 3201 company-year observations.

Variables

Following previous studies, the dependent variable, CashHoldings, is defined by the ratio of cash and short-term assets divided by total invested assets. Only invested assets will generate future revenues for the company. The amount of cash and invested assets is deducted from total assets. The corporate governance variables, the focus of this study will be discussed first.

BoardSize is defined as the total number of directors reported in the "Directors and Officers" file of the NAIC Data. As discussed earlier, the role of the board of directors is to set company strategies and supervise managers' decisions. The board members are usually knowledgeable of the industry and have legal, financial, and actuarial skills which would result in large boards that would make it hard to effectively monitor managers' decisions. It is predicted that the larger the size of the board of directors the higher the cash holdings.

The board of directors' effectiveness in monitoring managers' decisions depends on its composition whether the board is insider-controlled or outsider-controlled. Insider board members are either officers of the company or are major stakeholders. For this study, due to data availability, an insider board member is also an officer of the company. The IndepDirectors variable is measured by the proportion of independent directors to the total number of directors. It is hypothesized that the more independent directors the lower the cash holdings.

The final variable to account for corporate governance is Duality. This variable takes on the value one when the CEO is also the chair of the board of directors and zero otherwise. This arrangement of CEO duality leadership has some advantages. In this case, the CEO/Chair has more latitude (autonomy) in the decision-making process and may diminish the board of directors' effectiveness in its monitoring role. Therefore, I expect a positive relationship between the cash holdings and the variable Duality.

Few insurance companies are publicly traded. Being a public company could add a layer of capital market monitoring in mitigating the agent-principal conflict of interest. These companies have to meet the requirements of the listing stock exchange and securities laws that are meant to strengthen corporate governance and better align the company's incentives with shareholders' goals. The variable Public is binary and takes the value one if the life insurance company is publicly traded or its parent company is publicly traded.

Similar to prior research covering the insurance industry (Wells, Cox, and Gaver, 1995; Colquitt, Sommer, and Godwin, 1999; Xie, Wang, Zhao, and Lu, 2017), the following control variables are included in this study.

Size: This variable is measured by the natural log of total assets that accounts for economies of scale. The hypothesis is that larger companies are better equipped to withstand any fluctuations in liquidity needs. Larger insurance companies tend to be more diversified hence, their risk exposure is lower than companies whose business is concentrated in a few lines of insurance. It is hypothesized that larger companies have lower cash holdings than smaller companies.

Risk: Risk refers to the volatility of operating cash flows. It is measured by the standard deviation of cash flows from operations over the previous 5 years. This variable is used to account for risk. Companies with higher variability in cash inflows and outflows which are less predictable will hold higher amounts of liquid assets. This variable explains the traditional precautionary motive for holding cash assets.

Dividends: This variable is defined as a binary variable that equals 1 if the life insurance company pays dividends to either shareholders or policyholders and zero if no dividends are paid. It is expected that the relationship between dividends and cash holdings is negative based on the premise that paying dividends is a signal of good governance by reducing the excess cash that managers might use inefficiently (Xie, Wang, Zhao, and Lu, 2017). Stockholders' dividends and policyholders' dividends are not guaranteed. Dividends policy is at the discretion of management and participating life insurance policies are not contractual but are illustrated in the prospectus offered to customers.

Profitability: This variable is measured as the ratio of net income to capital. Insurance companies with stable earnings will have less need for cash holdings. The profits will be used as a buffer against any volatility in cash disbursements. Profitable companies with steady earnings will enable them to build cash reserves to be relied upon to meet corporate objectives. Therefore, we expect a negative relationship between cash holdings and profitability.

Organization: The insurance industry is dominated by two organizational structures: mutual and stock companies. Mutual companies are technically owned by their policyholders. The declared goal of mutual companies is to provide insurance coverage to members at a low cost. While market discipline may necessitate profit-maximizing behavior on the part of stock companies, it is not evident that mutually-owned insurers and stock insurers pursue the same objectives. Cummins and Zi (1999) analyze ownership control issues in the insurance sector and find evidence that mutual companies have higher costs than stock companies due to a lack of effective mechanisms to control and discipline managers. Their study gives credence to the expense preference hypothesis, that managers may have objectives other than profitability in mutual companies. To control for the effect of ownership structure the relationship by including a dummy variable, Organization, takes the value of one if the insurer is a mutual and zero if the insurer is a stock company. It is hypothesized that mutual companies will hold more cash than stock companies.

Affiliation: Insurance companies are established as either single non-affiliated companies, or they can be a member of a group of companies under common management. Groups tend to be larger and more diversified across lines of business than single companies and have more resources and access to funds. Therefore, companies affiliated with a group can share expertise with fellow members on complex insurance problems and may get financial help if needed. It is conjectured that companies affiliated with an insurance group will hold less cash than single companies. Niehaus (2018) argues that within a life insurance group, a transfer of capital will be made to struggling member insurers to meet claim payments as a signal to rating agencies and policyholders.

Age: Defined as the difference between the year of observation and the business start date. The effect of age is related to the experience of the company. Newly formed companies seeking growth may have a higher need for cash than older companies that perhaps have reached a growth plateau.

Leverage: An additional risk measure defined by the ratio of net premium written to policyholders' surplus. High leverage will require higher amounts of cash holdings. Insurance companies with high leverage have a high volume of business and therefore will have to expect to pay higher claims. Generally, the degree of risk-taking is influenced by the attitude of insurance companies' owners and managers toward risk. Carson and Hoyt (1995) show that the probability of insolvency increases with leverage.

The life insurance companies' decision on how much liquid assets to hold depends on the nature of the assets held such as the ease with which these assets could be converted into cash to meet the liquidity needs. Life insurance companies hold a variety of assets with varying degrees of liquidity. Among these assets is the proportion of fixed assets, non-invested (NInvAsset), deemed the least liquid. Therefore, the higher the proportion of non-invested assets the higher the demand for cash and near-cash assets. On the other hand, another class of liquid assets such as common stocks (C.Stock) may be relied upon when cash needs turn out higher than expected. In this case, the higher the proportion of invested assets the lower the demand for cash holdings.

Econometric Model

Panel data analysis is employed since the sample is a combination of time series and cross-sectional data. Prior literature suggests that corporate board size is endogenous because board size might be jointly determined with firms' specific variables (e.g., Raheja (2005) and Linck, Jeffry Netter, and Yang (2008)) Some variables such as the board size or its composition might be determined simultaneously with the dependent variable therefore, a System-GMM is utilized. The basic OLS method will yield biased and inconsistent estimates because of the presence of endogeneity in one of the independent variables (board size) shocks to the dependent variable (cash holdings).
The system-GMM is implemented using the Arellano and Bond estimator (1991). The method tests for autocorrelation has a null hypothesis of no autocorrelation and is applied to the differenced residuals. The sample includes all life insurance companies except those with extreme outliers such as negative premiums or zero policyholders' surplus. To avoid survivorship bias, the sample is not restricted to companies with complete data for all the years. Some companies drop out of the sample due to either merger, bankruptcy, or surrender of license and new companies join the industry. In addition, there is a low risk of selection bias as the sample includes all U.S. life insurance companies that are in operation or active.

IV ESTIMATION RESULTS

GMM Regression Model

Table 1 shows the statistics for these variables. On average, life insurance companies' cash holdings are about 16% of total assets which is lower than that of property liability insurers which is about 20% in 2011 (Xie, Wang, Zhao, Lu (2017)). Life insurers try to minimize their holdings of cash because most of their liabilities are long-term which makes the opportunity cost of cash

holdings very high. Life insurance claims are more predictable than those of property liability companies. The average size of the board is 6.77 and the number of independent directors is 4 which indicates that, on average more than half of the directors are not affiliated with the company they serve. The other corporate governance variable is the duality of CEO and chair positions. This explanatory variable shows that about a third of CEOs of life insurance companies also serve as the board chairperson. Several insurance companies are family-owned and managed by family members who serve as CEO and on the company board.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
Cashholdings	3,123	0.16158	0.2449	0.0025	1
BoardSize	3,123	6.7951	3.2995	1	25
Ind.Directors	3,123	4.0935	3.5989	0	24
Duality	3,123	0.3129	0.4637	0	1
Public	3,123	0.2923	0.4656	0	1
Size	3,123	19.0627	2.9854	11.2797	26.6448
Risk	3,123	0.0016	0.0039	0	0.0005
Dividends	3,123	0.3153	0.4656	0	1
Profitability	3,123	0.1365	0.2034	-0.2686	0.9825
Organization	3,123	0.0563	0.2306	0	1
Affiliation	3,123	0.2305	0.4212	0	1
Age	3,123	50.2424	53.3184	1	171
Leverage	3,123	0.6563	0.3349	0.0177	2.061
NInvAssets	3,123	0.1343	0.201	0.2686	0.9825
C.Stock	3,123	0.0509	0.1312	0	0.9905

The estimation results of the system GMM estimator are reported in Table 2. For each regression, I indicate whether the coefficients are statistically different from zero (T-statistics); the first- and second-order correlation tests (AR1 and AR2); and the Hansen/Sargan tests of instrument validity. The statistical tests do not reject the validity of the model and confirm both the absence of second-order serial correlation and the validity of the instruments we use to avoid the endogeneity problem. The board of directors is the governing body of corporations, its role is to monitor management and protect stakeholders' interests. The analysis shows strong evidence in favor of corporate governance variables influencing the cash holding decision in the life insurance industry. In particular, the size of the board and the number of independent directors have a statistical and significant effect on the cash holdings of life insurance companies. The coefficient of the board size is positive and statistically significant. Companies with large boards hold higher levels of cash and near-cash assets than companies with smaller boards. This result indicates that large boards are less effective in mitigating the agency problem. A board with a large number of directors can struggle with coordinating actions, and effectively communicating information, and may potentially allow the CEO to exert too much influence due to the difficulty in managing such a large group, leading to potential issues with oversight and accountability. Similar to Xie, Wang, Zhao, and Lu (2017), this analysis finds that the board size variable shows that life insurance

companies with larger boards hold higher amounts of cash indicating that larger boards are ineffective in affecting managers' decisions.

Table 2: Corporate Governance Impact on Cash Holdings

	Model 1 GMM		**Model 2 GMM**	
Dependent	CashHoldings		CashHoldings	
Explanatory Variables	Coefficient	T-Stat	Coefficient	T-Stat
Board Size	0.0055***	2.59	0.0029**	2.16
Indep. Directors	-0.0080***	-3.25	-	-
Duality	-0.0061	-0.72	-0.0491	-0.57
Majority Indep.	-	-	-0.1549	-1.22
Public	0.0362**	2.89		
Size	-0.0408***	-6.66	-0.0408***	-6.68
Risk	0.0001***	5.77	-0.0002***	5.69
Dividends	-0.0156	-1.58	-0.0161	-1.63
Profitability	-0.0045***	-5.01	-0.0045***	-5.00
Organization	0.0467**	1.33	0.0553	1.58
Affiliation	0.0434**	2.40	0.0441**	2.44
Age	-0.0003***	-6.97	-0.0003***	-6.84
Leverage	-0.1101	-1.68	-0.1090	-1.58
NInvAssets	0.1642***	5.00	0.1639***	4.99
C.Stock	-0.2173***	-5.34	-0.2198***	-5.42
Constant	1.0252***	12.00	1.0123***	11.92
AR(1)	-3.85***		-3.83***	
AR(2)	0.42		0.43	
Sargan Test	6.69***		6.82***	

The table reports the parameter estimates of the GMM model, t-statistics are based on robust estimates of standard errors. AR(1) and AR(2) are tests of first and second serial correlation respectively. The null hypothesis no serial correlation in the first order is rejected. A first-order correlation is expected due to the presence of the lagged dependent variable in the model. The null hypothesis of no serial correlation in the second order is not rejected. The Sargan test of overriding restrictions is statistically significant.
*10% significant, **5% significant, ***1% significant.

The coefficient of the proportion of independent directors is negative and significant. The presence of independent directors the lower the cash holdings. This result supports the argument that having outside directors who by definition are not affiliated with the company, improves

management oversight and reduces the conflict of interest among stakeholders as predicted by theory. The results confirm the findings of Xie, Wang, Zhao, and Lu (2017) who find a similar result for publicly traded property and liability insurance companies. The results show that a company whose CEO is at the same time the chairperson of the board of directors has no bearing on the cash holdings. Other control variables such as size, risk measures, leverage, and dividend payments have the expected sign and are noticeably consistent with previous insurance studies such as Wells, Cox, and Gaver (1995) and Lee, Sommer, and Godwin (1999).

The results from the estimation of Model 2 use the proportion of independent directors if it exceeds 50 percent, under the assumption that the board of directors would be more effective if it had a majority of independent directors. The results show that this variable is not significant. Therefore, in the life insurance industry, a board of directors with a majority of independent directors does not affect cash holdings. This can be attributed to the following. Insurance companies' boards include several actuaries whose expertise is purely technical and therefore will be given more autonomy to devise and implement strategies that maximize shareholders' wealth. In conclusion, for life insurance companies a majority of outside directors is not needed to have an effective board to be successful in supervising management.

Adjustment Speed Estimates

Prior literature shows that companies hold target cash holdings based on the costs and benefits of maintaining cash ratios (Baumol, 1952; Tobin, 1956). Due to market imperfections, companies may deviate from the optimum level of cash holdings. Theoretically, companies have a target cash holdings level that minimizes costs and reflects management risk tolerance. For insurance companies having adequate liquidity levels is paramount (necessary) to honor policyholders' claims. Management's goal is to reach that optimum level of cash holdings which would allow the company to operate more efficiently and improve corporate performance. Firms with better corporate governance can adjust their cash holdings and reach their target levels. Excess cash holdings are wasteful to life insurers because most of their liabilities are long-term with predictable payouts. The estimated level of cash holdings in the previous section is used to calculate the adjustment speed for cash holdings. This section compares firms' cash holdings adjustments across corporate governance measures. The following model is estimated.

$$CashHolding_{it} - CashHoldings_{i,t-1} = \lambda(Cashholdings^{*}_{it} - CashHoldings_{i,t-1}) \quad (1)$$

where, CashHoldings is the predicted level of cash (or target) and λ is the speed of adjustment.*

In equation (1), the adjustment speed λ explains the actual changes in cash holdings from period t-1 to t, and it (λ) lies between 0 and 1, indicating multiple periods of adjustment. That is, the coefficient estimate for the lagged cash holdings represents the proportion of deviation closed in one period. Given equation (1), λ =1 suggests full adjustment within one year for any deviation from target cash holdings. λ may be zero or close to zero in an extreme case of inertia or managerial indifference to cash holdings shocks. Generally, λ is expected to be more than zero but less than one. Whether life insurance companies can quickly adjust is an important research question because of the consequences of deviating from optimal levels of liquid assets, especially for financially constrained firms. Insurance companies' needs for cash and near-cash assets are paramount in fulfilling their promises of paying claims.

Table 3 presents the initial set of simple cash adjustment speed regressions following Equation (1), I estimate the cash ratio changes in a year against the deviation from the target cash ratio at the beginning of the year. The target cash ratio is the predicted value from the yearly cash ratio regression discussed above. The coefficient on the deviation from the target cash ratio is 0. 2079, meaning that the estimated adjustment speed for the cash ratio is 20.79% each year. Firms close a substantial portion of the gap between actual and target cash ratios each year, indicating that managers actively consider target ratios. Yet the adjustment is far from complete (in which case the estimated adjustment speed would be 100%), likely because of the costs of making adjustments and possible agency problems.

Next, the asymmetry in adjustment speeds is estimated by splitting the sample into high cash excess holdings (75th percentile) and low excess cash holding (25th percentile). The second model of Table 3 presents the results from the split sample. The coefficient on the deviation from target cash is 0.2613 for the companies in the 25th percentile with a p-value of less than 0.001. The coefficient on the deviation from the target is 0.1767 for the companies in the 75th percentile. The higher adjustment speed at high excess cash levels indicates that companies with excess cash levels aspire to alleviate agency problems.

Table 3: Adjustment Speed of Cash Holdings

	Full Sample			Subsample with Excess Cash ≤ 25%			Subsample with Excess Cash ≥75%		
Independent Variable	β	T-stat	R^2(%)	β	T-stat	R^2(%)	β	T-stat	R^2(%)
Change in Cash	0.2079***	17.43	11.60	0.2613***	12.41	21.16	0.1767***	7.72	9.46
Constant	0.0002	0.11		-0.0139***	-8.13		-0.0082	-1.16	

Corporate Governance Effects on Cash Holdings Adjustments

Next, the asymmetry in adjustment speeds using regressions is augmented with an interaction variable between the deviation from the target ratio and the different corporate governance variables. Table 4 presents the results from this augmented regression. The first column of Table 4 reports the board size impact on the adjustment speed toward the target ratio of cash holdings. The coefficient on the deviation from target cash is 0.4233 with a p-value less than 0.001. The coefficient of the interaction variables board size × deviation is negative and significant at the 1% level. The results suggest that companies with larger boards tend to adjust their cash holdings more slowly than those with smaller boards. This suggests that larger boards may be ineffective and make it harder to achieve consensus.

The second column of Table 4 shows the independent directors' adjustment speed estimates. The interaction term coefficient is positive and significant. The results suggest that companies whose board of directors is independent cash holdings adjust faster than companies having a board of directors dominated by insiders. The coefficient on the interaction term (dual ×deviation) is significantly negative, suggesting that companies whose CEO is also the chairperson of the board adjust more slowly toward the target cash level than companies where the CEO and board president positions are separate.

Overall, the results reported in Table 4 provide further evidence of corporate governance influence on cash holdings and whether these variables affect how life insurance companies adjust their cash holdings to the optimal level.

Table 4: Adjustment Speed and Corporate Governance Measures

	Board Size		Independent Directors		Duality	
Independent Variable	β	T-stat	β	T-stat	β	T-stat
Excess Cash	0.4233***	0.76	0.3468***	10.48	0.3639***	12.54
Interaction	0.0231***	4.41	0.0203***	4.16	-0.1071***	3.01
Constant	0.0037**	2.17	-0.0023	-1.48	-0.0027	-1.39
R^2	13.82%		13.66%		12.10%	

V Conclusion

Sound risk management dictates that life insurance companies maintain adequate liquidity to pay policyholders' claims promptly. In corporate governance, life insurance company boards play a role in mitigating the conflict of interest between different stakeholders. However, the structure and makeup of the insurance board, including its size, the independence of its members, and how effectively it operates, can directly influence how well it can fulfill its supervision role by actively monitoring management and providing strategic advice, which is crucial for ensuring sound financial practices and mitigating risk within the insurance company.

This paper investigates the relationship between life insurance companies' cash holdings and measures of corporate governance. The analysis provides strong empirical evidence for corporate governance's role in mitigating the conflict of interest between all stakeholders. The system GMM estimation shows a negative relation between the proportion of independent directors and cash holdings. This result supports the argument that adding outside directors to the board improves management monitoring and reduces the conflict of interest among stakeholders, as predicted by theory. The size of the board of directors has a positive and significant effect on the cash holdings. Larger boards are less effective in exercising their monitoring role due to the complexity of U.S. life insurance companies' operations. Firms with better corporate governance can adjust their cash holdings and reach their target levels. The second stage of the study estimates the adjustment speed toward the optimum level of cash holdings. The results show interesting interrelations between the adjustment speed and corporate governance variables used in this study. Most importantly, the adjustment speed is higher for companies whose board of directors includes more independent directors lending more credence to the importance of independent directors on life insurance boards. The research findings demonstrate a strong connection between robust corporate governance practices and the ability to effectively manage potential conflicts of interest arising from large cash reserves within financial services companies, suggesting that good governance mechanisms can help prevent managers from misusing excess cash at the expense of stakeholders. This research could inform regulatory bodies on how to design governance frameworks that incentivize effective board composition and functioning and its impact on liquidity management in the life insurance industry.

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