# QUALITY OF GOVERNANCE AND THE MARKET VALUE OF CASH: EVIDENCE FROM SPAIN

Eloisa Perez-de Toledo, MacEwan University
Evandro Bocatto, MacEwan University

## ABSTRACT

*We examine the value shareholders attribute to one euro of extra cash held by Spanish firms and how corporate governance impacts this value by comparing the value of cash for companies with good and poor governance. The results show that one euro of extra cash is valued at a considerable premium at companies with good governance. Moreover, the presence of future growth opportunities intensifies this effect. Our results also suggest that the conflict between shareholders and debt holders is more severe in Spain than in the U.S. as investors apply a stronger discount for leverage when valuing Spanish firms.*

## INTRODUCTION

T he economic relevance of cash holdings has increased in recent years. Cash and cash equivalents represented 17% of total assets held by corporations worldwide in 2007 (Ammann, Oesch, and Schmid (2010)). Chang and Noorbakhsh (2009) show a consistent increase in cash holdings from 9% of total assets in 1985 to 17% in 2004. How firms use cash and cash equivalents impacts firms' performance and affects firms' market value (Dittmar and Mahrt-Smith (2007), Acharya, Almeida, and Campello, (2007), Almeida, Campello, and Weisbach (2004)). However, cash and cash equivalents can be diverted by bad-intentioned managers to appropriate themselves of high liquidity level benefits (Jensen (1986) and Myers and Rajan (1998)). Efficient corporate governance structures mitigate these problems, as they provide the necessary mechanisms for controlling and monitoring firms' use of cash reserves.

The present study aims to provide empirical evidence on the interaction between the quality of governance and the market value of cash of Spanish publicly traded firms. The relevance of Spain lies on a series of factors: the relatively early-stage of development of its financial markets (Demirguc-Kunt and Maksimovic (1998)), the participation of individual investors is amongst the lowest in Europe, as a consequence the banking sector is of great importance in financing firms, family businesses or family controlled businesses compound the majority of listed firms, hence highly concentrated ownership structures are the rule. As Ocaña, Peña and Robles (1997) show, the market for corporate control in Spain is still incipient, for that it is not an import governance mechanism as in Anglo-Saxon countries. In fact, the percentage of hostile takeovers registered in the Spanish market (e.g. 4%, Fernandez and Gomez-Anson (1999)) is not comparable to the ones in major markets such as the U.S. (e.g. 47%, Cotter, Shivdasani and Zenner (1997)) or the U.K. (e.g. 25%, Franks and Mayer (1996)). As external governance mechanisms are rare, the main governance mechanism is the concentration of ownership (Leech and Manjón (2002)). Some of these characteristics of Spain are common features of other Western European countries. Therefore the present study contributes to the literature on the role of governance structures in the valuation of cash holdings in Europe.

Using a sample of 98 non-financial Spanish firms listed in the Madrid Stock exchange in the period between 2003 and 2007, we find that the same euro of cash has more value in companies with good governance and in companies with future growth opportunities. The results show that shareholders value

an extra euro of cash at as high as €1.02 for good governance firms and as low as €0.57 for companies with poor governance. The presence of future growth opportunities accentuates this difference. As firm value is determined in part by how investors expect cash to be used, the presence of future growth opportunities acts as a moderator in the relationship between firms' quality of governance and the market value of cash. The results indicate that investors reward companies that accumulate cash with the objective of investing in positive net present value (NPV) projects in the near future, and penalize firms that hoard cash simply to increase management's discretion without any investment perspective. Moreover, we find that the negative effect of leverage in the valuation of the companies is more pronounced in Spain than in the U.S. Our results indicate that the value of one extra euro of cash for an all-equity financed Spanish firm is 49 cents higher than for a firm with 10% leverage. In the U.S. the discount applied for leverage is of only 14 cents of dollar, as reported by Faukender and Wang (2006). We interpret this result as evidence that the conflict of interest between shareholders and debt holders is more severe in Spain than in the U.S., as previously proposed by de-Miguel and Pindado (2001).

The paper is organized as follows. The next section offers a revision of the literature and presents the hypotheses. Part 3 describes the data and the main methodological approach used in the study. Part 4 analyses the results and, finally, Part 5 concludes the paper.

## LITERATURE REVIEW

In classical valuation models, cash is defined as 'negative debt' since cash balances are used exclusively to pay back debt. Therefore only net leverage is relevant to firm value. This approach has important and restrictive assumptions, such as that raising new capital is costless and frictionless. However, recent studies have shown a different reality where cash assumes a central role in firms' financial strategy. Acharya, Almeida and Campello (2007) propose a theory of cash–debt substitutability and identify a hedging motive behind financially constrained firms' cash and debt management, indicating that cash and debt are used optimally by firms depending on their free cash flow generation and access to credit. Moreover, Almeida, Campello and Weisbach (2004) and Denis and Sibilkov (2010) show that financially constrained firms save a portion of their cash flow to hedge future investment against income shortfalls, an indication that cash plays a central role in firms' financial strategy as it is used as a hedge against future shortages of capital.

Besides the hedging motive, there are two classical motives for holding cash: the *transaction motive* and the *precautionary motive*. The transaction motive assumes that a certain level of cash holdings is required to support the day-to-day activities of the firm and that cash cannot be raised instantaneously, thus firms hold a certain level of cash to meet their cash flow needs (Frazer (1964) and Keynes (1936)). The *precautionary motive* to hold cash states that firms accumulate precautionary financial slack in anticipation to new investment opportunities when external finance is costly (Myers and Majluf (1984)). The problem with the precautionary motive is that shareholders may want the firm to distribute all surpluses of corporate liquidity avoiding thus the possibility of cash being invested in low (or even negative) yield investment opportunities (i.e. poorly performing mergers and acquisitions, as described by Kim, Mauer and Sherman (1998)). The transaction motive is related to the trade-off theory, as the transaction costs to raise external funds sometimes exceed the rate of return of the firm's pool of projects. It takes firms to reject investment opportunities that they would otherwise accept. Therefore, the two main benefits of holding cash are to avoid the transaction costs associated with the issue of new finance, and to use cash to finance activities and investments when other sources of capital are not available.

Transaction costs are alleged to be the major determinant of the level of cash holdings. If the marginal cost of raising one euro of cash is too high, firms would prefer to hold more cash than firms facing lower transaction costs when raising external capital. Similarly, large firms face lower transaction costs compared to small firms, for this reason it is expected that big companies hold less cash than small

companies. In Spain, the empirical evidence on the transaction costs of new issues is provided by De-Miguel and Pindado (2001) who show that Spanish firms bear considerable transaction costs when they decide to adjust their debt ratio in the previous period to their target level in the current period. They also find an inverse relationship between debt and cash flow. They argue that this inverse relationship arises in the presence of asymmetric information and could take firms to face the underinvestment problem. They interpret this result as evidence of the pecking order (Myers and Majluf, 1984). For this reason, firms with good investment opportunities would be better off by creating financial slack (accumulating cash) in the previous period to finance future investment opportunities in the next.

Cash Holdings and Governance

The extant literature on the valuation of cash holdings and its relationship with governance shows mixed results. Harford (1999) finds that firms with excess cash spend more on acquisitions and Harford, Mansi and Maxwell (2008) extend his results by adding corporate governance and show that poorly governed firms dissipate more cash in acquisitions. On the other hand, Opler, Pinkowitz, Stulz and Williamson (1999) and Mikkelson and Partch (2003) do not find evidence that poor governance firms hold more cash. The underlying assumption of these studies is that there is an 'optimal' level of cash and managers often deviate from this level for a reason, the precautionary motive or the transaction motive. More recently, some studies have taken a different perspective. Instead of assuming a pre-established 'optimal' level of cash, the authors examine how managers spend it, and empirically assess the value shareholders attribute to one euro of cash holdings and what factors determine its value (Acharya, Almeida and Campello, 2007, Dittmar and Mahrt-Smith, 2007, Faulkender and Wang , 2006, Opler, Pinkowitz, Stulz and Williamson, 1999, Pinkowitz, Stulz and Williamson, 2006 and Pinkowitz and Williamson, 2004).

Almeida, Campello and Weisbach (2004) show firms with greater frictions in raising outside financing save a greater portion of their cash flow as cash than those with fewer frictions. Recent studies by Faulkender and Wang (2006) and Pinkowitz and Williamson (2004) report evidence consistent with the view that cash holdings are more valuable for constrained than unconstrained firms. Collectively, these studies support the view that higher cash holdings are more valuable for financially constrained firms. An alternative view is that high cash holdings increase agency problems in constrained firms. The evidence on this view is also mixed. Harford (1999) and Dittmar, Mahrt-Smith and Servaes (2003) provide support for the hypothesis that cash hoarding by firms is value reducing and can be a result of agency problems inside corporations. Mikkelson and Partch (2003) argue that a policy of high cash holdings is not necessarily value reducing and may be an operating necessity. Other studies show that cash is associated with other corporate variables like firm value, bankruptcy risk and firm's quality of governance (Attig, El Ghoul, Guedhami and Rizeanu (2011), Dittmar and Mahrt-Smith (2007) and Harford, Mansi and Maxwell (2008)). In this new context, corporate liquidity is not inversely related to debt, as proposed by the traditional view, but rather used as substitutes in the design of firms' optimal financial policy.

Empirical Predictions and Hypotheses

Traditionally cash holdings are assumed to be zero NPV investments. Therefore one euro of cash should add one euro to firm's market value. Nonetheless, information asymmetries, transaction costs, and taxes create a deviation from this hypothetical parity. As Myers and Majluf (1984) propose, financial slack has value because it allows firms to undertake positive NPV projects they would otherwise give up. When companies have good investment opportunities but the cost of new issues is prohibitive due to the signaling effect contained in new issues, the market value of one euro of cash should be higher than one.

The main hypothesis of our study is that the value shareholders attribute to one euro of extra cash is determined by specific firm-characteristics, in particular the quality of the firm's governance system and the presence of future growth opportunities. We expect to find cross-sectional differences in the market

value of cash holdings for companies with good and poor governance. Hence, we analyze the interaction between cash and governance and its impact on the market value of Spanish companies. While governance at the firm level changes slowly, cash holdings experience a considerable variation over time, offering a statistically powerful test for measuring the impact of governance on the use and destination of cash flows (Chi (2005) and Dittmar and Mahrt-Smith (2007)). Next, we control for future growth opportunities and examine what is the impact of the presence of growth opportunities (as a proxy for future investment) on the market value of an extra euro of cash holdings for firms with good and poor governance. Therefore, we are interested in empirically testing the following hypotheses:

*$H_1$: The market value of an extra euro of cash holdings is higher for companies with good quality governance.*

The same euro of cash is worth more in a firm with good quality of governance than in a firm with poor governance. Shareholders will value the same euro differently because agency costs are higher for the latter. Besides, in companies with bad quality of governance the problem of overinvestment can be more acute so it is expected that shareholders apply a discount for the level of cash companies already have on hand in the beginning of the year, that takes to the second hypothesis.

*$H_2$: the value of an extra euro of cash holdings decreases with the level of the firm's cash position in the beginning of the year.*

The third hypothesis is related to the conflict of interest that may arise between shareholders and debt holders. In firms with high leverage ratios, debt holders may capture most of the investment projects' future benefits, so shareholders have an incentive to either underinvest or to take on overly risky projects causing the underinvestment and the asset substitution problems. For high leveraged firms the probability that debt holders will receive most of the cash flows generated by the new investments takes shareholders to apply a discount on financial leverage. Thus, while an increase in cash will produce an increase in the value of the firm, because debt holders will capture most of its value in firms with high leverage, we expect the coefficient for the interaction between cash and leverage to be negative, as stated in the following hypothesis:

*$H_3$: An extra euro of cash holdings is valued at a lower value by shareholders in companies with high leverage ratios.*

Finally, because financial slack may be valuable for firms with future growth opportunities, it is expected that, *ceteris paribus*, shareholders place a greater value on the same euro of cash holdings for firms with future growth opportunities. It takes to the formulation of the following hypothesis:

*$H_4$: The value of an extra euro of cash holdings is higher for companies with future growth opportunities.*

**DATA AND METHODOLOGY**

Our sample is composed by all publicly traded companies listed at the *mercado continuo* of the Madrid Stock Exchange from 2003 to 2007 for which data is available (however, as the model employed uses some lagged variables, the data collection starts in 2002). To be consistent with the previous literature we exclude the financial services industry where liquidity is determined mostly by regulatory agencies. The final sample is composed by 98 companies with 490 firm-year observations. The main data source is the Spanish Securities Exchange Commission and the Madrid Stock Exchange databases, and the Corporate Governance Report released by the companies. All financial and accounting data was obtained from the database *OSIRIS publicly listed companies worldwide (Bureau Van Dijk)*. The data was collected annually at the end of each fiscal year. For missing data, firms' annual financial reports were used.

A governance index (GOV-I) is constructed as a proxy for the quality of governance. The index was created based on a questionnaire with 25 binary objective questions. The questions were developed based on the recommendations of the Spanish Code of Best Practices proposed by the Olivencia and Aldama Committees. Spanish publicly traded companies are requested to release a Corporate Governance Annual Report since 2003. These reports are our main source of governance data, which is collected annually. The construction of the index is straightforward, we first code the 25 variables as 1 or 0 depending on whether the firm complies with a specific corporate governance standard or not. Each positive answer adds one point to the index, and the companies present a corporate governance level that ranges, in theory, from 0 to 25. The answers to all questions were obtained exclusively from secondary data, as the main objective was to measure companies' degree of transparency and the easiness of access to any relevant governance information. The index is composed by four dimensions in order to assess good governance practices: (1) *access and content of the information*; (2) *board structure*; (3) *ownership structure and control*; and, (4) *transparency*. Appendix A provides the questions compounding the index.

Table 1 reports summary statistics for the main variables used in the study. Panel A refers to all sample firms. On average, Spanish firms held 9.3% of total assets in cash and cash holdings between 2003 and 2007. However, as the median is 5.5% the distribution is right-skewed with the median firm holding about €45 million in cash. Regarding the dependent variable, the excess stock return, the median firm presents a –4.84% 1-year excess stock return while the mean is zero, which is consistent with excess return distributions that are right-skewed. The average sample firm has a debt-to-market value ratio of 20.2%. The median firm has sales growth (measured by the geometric average of the last three years) of about 16%, a considerably high ratio considering that Spain is a western European country and that our study is focused on large firms. An interesting phenomenon is related to sales growth. It has increased consistently over the sample period, from 6.8% in 2003 to as high as 23.3% in 2007, an indication of the booming period that preceded the 2008 financial crisis.

Panel B reports the average cash holdings scaled by total assets by industry, as well as the logarithm of total assets, our proxy to firm size. Transport and Engineering services are the industries that held more cash during the sample period. Broadcast/Media, Construction/Concessions and Utilities are the sectors that held less cash. These sectors are traditionally composed by very large firms that normally do not face restrictions to raise external capital, which explains their lower levels of cash. Table 2 presents a correlation matrix for selected variables.

Regression Specification

To measure the value effects of corporate governance on cash resources, we use the model proposed by Faulkender and Wang (2006) and extended by Dittmar and Mahrt-Smith (2007) to include governance. The excess return for firm *i* during year *t* less the return of stock's *i* benchmark portfolio, as defined by Fama and French (1993), is intended to be the measure of *change in firm value*. The dependent variable is the stock return and the independent variables are the change in cash, both by itself and its interaction with (1) the quality of governance (proxy by the GOV-I); (2) the lag value of cash ($C_{i,t-1}$); and, (3) the leverage ratio. The change in cash is normalized by beginning-of-period equity value in order to capture the euro (€) change in shareholder value resulting from one euro change in the amount of cash held by the firm. To determine the effect of governance, we allow for the interaction between the change in cash with the governance index (GOV-I) and other measures of governance used as a proxy of governance: board ownership and blockholdings (the sum of all shareholders with 5% or more ownership stake on the firm). Finally, the model includes variables that control for changes in profitability, investment and financing strategies (control variables). The method used for estimating the effect of cash holdings on firm value is the generalized least squares (GLS) regressions with random effects.

Table 1: Summary Statistics

| Panel A. All Sample Firms | Mean | Median | Standard | Minimum | Maximum |
|---|---|---|---|---|---|
| Cash/ Total Assets 2003 | 0.084 | 0.059 | 0.081 | 0.001 | 0.405 |
| Cash/ Total Assets 2007 | 0.097 | 0.056 | 0.126 | 0.001 | 0.708 |
| Cash/ Total Assets 2003-2007 | 0.093 | 0.055 | 0.111 | 0.000 | 0.712 |
| GOV-I index | 13.85 | 14.00 | 3.1 | 7 | 22 |
| GOV-I (%) | 0.554 | 0.560 | 0.124 | 0.28 | 0.88 |
| 3-year Sales Growth 2003 | 0.07 | 0.03 | 0.36 | -0.46 | 3.03 |
| 3-year Sales Growth 2007 | 0.23 | 0.13 | 0.48 | -0.35 | 3.90 |
| 3-year Sales Growth 2003-2007 | 0.18 | 0.10 | 0.48 | -0.75 | 5.97 |
| LN(Assets) 2003 | 14 | 13.6 | 2.1 | 9.7 | 19.7 |
| LN (Assets) 2007 | 14.5 | 14.1 | 2.2 | 10.5 | 20.6 |
| LN (Assets) 2003-2007 | 14.2 | 13.8 | 2.2 | 9.5 | 20.6 |
| Market-to-Book Value 2003 | 4.23 | 1.69 | 15.9 | 0.24 | 154.37 |
| Market-to-Book Value 2007 | 3.71 | 2.51 | 4.42 | 1.59 | 36.12 |
| Market-to-Book Value 2003-2007 | 3.92 | 2.20 | 8.44 | 0.24 | 154.37 |
| Change in M-B Value | 0.374 | 0.230 | 0.722 | -0.726 | 7.542 |
| Leverage to market value ratio 2003 | 0.228 | 0.165 | 0.194 | 0.000 | 0.677 |
| Leverage ratio (MV) 2007 | 0.206 | 0.160 | 0.191 | 0.000 | 0.825 |
| Leverage ratio (MV) 2003-2007 | 0.202 | 0.162 | 0.178 | 0.000 | 0.825 |
| **Panel B. Industry Average** | **LN(Assets)** | **Cash/Total Assets** | | | |
| Utilities/Oil, Gas, Water | 16.6 | 3.6% | | | |
| Iron and Steel | 14.3 | 5.9% | | | |
| Machinery-Industrial/Specialty | 13.4 | 12.3% | | | |
| Construction | 16.0 | 6.1% | | | |
| Chemicals | 14.2 | 4.1% | | | |
| Engineering Services | 13.7 | 24.8% | | | |
| Food and Beverage | 13.0 | 8.1% | | | |
| Apparel and Textile | 13.2 | 19.2% | | | |
| Paper and Paper Products | 12.9 | 5.8% | | | |
| Chemicals-Diversified | 12.2 | 10.5% | | | |
| Retail-Misc./Specialty | 13.8 | 7.5% | | | |
| Restaurants and Hotels | 14.9 | 5.1% | | | |
| Transport | 14.1 | 37.7% | | | |
| Construction-Concessions | 15.2 | 3.2% | | | |
| Other Services | 12.4 | 6.8% | | | |
| Broadcasting Media | 14.4 | 1.9% | | | |
| Electronics/Computer/Communication | 14.0 | 6.4% | | | |
| Aerospace/Defense | 18.1 | 12.3% | | | |

*Panel A shows descriptive statistics for selected variables employed in the study. The variables are the ratio of cash holdings to total assets (Cash/TA), the Governance Index (GOV-I) in absolute value and in percentage, sales growth (the geometric average of the last three years sales growth), the natural logarithm of total assets (LNAssets) as a proxy for firm size, the market to book value ratio (M-B) as well as the change in the M-B value ratio, and the leverage ratio (total debt/[total debt + market value of equity]).Panel B provides the industry average for the natural logarithm of total assets (LNAssets) and the ratio of cash holdings to total assets (Cash/TA) for the sample period (2003-2007).*

Table 2: Correlation Coefficients

| | Lever | Lag Cash | Cash/NA | MV/BV | Size | Sales Growth | GOV-I | BOwn |
|---|---|---|---|---|---|---|---|---|
| **LagCash** | 0.15*** | 1 | | | | | | |
| **Cash/NA** | -0.22*** | 0.15*** | 1 | | | | | |
| **MV/BV** | -0.29*** | -0.18*** | 0.24*** | 1 | | | | |
| **Size** | 0.41*** | 0.05 | -0.03 | 0.04 | 1 | | | |
| **Growth** | 0.12** | -0.05 | 0.14*** | 0.06 | 0.20*** | 1 | | |
| **GOV-I** | 0.12*** | 0.13*** | 0.07 | 0.25*** | 0.34*** | 0.24*** | 1 | |
| **BOwn** | 0.09** | 0.05 | -0.05 | -0.07 | -0.05 | -0.01 | -0.02 | 1 |
| **Block** | -0.07 | 0.03 | -0.01 | -0.05 | 0.05 | 0.07 | 0.00 | 0.04 |

*This table provides Pearson correlations for selected variables used in the study: Lever is the debt ratio to market value of assets (total debt/[total debt + market value of equity]), LagCash (Cash$_{t-1}$) is the level of cash at the beginning of year t, Cash/NA is cash and cash equivalents divided by Net Assets (Total Assets net of cash holdings), MV/BV is market value of assets divided by the book value of assets, Size is the log of Total Assets, Sales Growth is the geometric average of last three years sales growth, GOV-I is the governance index, BOwn is the percentage of board ownership, Block is the sum of all shareholders with 5% or more ownership stake on the firm. \*\*\*,\*\*,\* indicate significance at the 1, 5 and 10 percent level respectively.*

The dependent variable is the stock's excess return for year $t$ which is defined as the return of the stock during the calendar year $t$ less stock's $i$ benchmark portfolio return during the same period. The benchmark portfolios are formed on size and book-to-market value following Fama and French (1993). All studies that try to capture the dollar change in the firm value resulting from a change in one dollar of cash holdings use this methodology proposed by Daniel and Titman (1997) and used by Grinblatt and Moskowitz (2004), Faulkender and Wang (2006), Dittmar and Mahrt-Smith (2007), and Pinkowitz, Stulz and Williamson (2006).

Table 3: Research Variables

| Variable | Measure | Code |
|---|---|---|
| Governance Index (GOV-I) | Index composed by 25 binary questions | $GOV\text{-}I_{i,t}$ |
| Blockholdings | $\Sigma$ % of shares owned by the controlling shareholders (shareholders with more than 5% stake on the firm) by the end of year $t$ | $Block_{i,t}$ |
| Board ownership | $\Sigma$ % of shares owned by the members of the board by the end of year $t$ | $Bown_{i,t}$ |
| Cash | Cash and Cash equivalents in year $t$ | $C_{i,t}$ |
| Leverage | Total debt / (Total debt + Market value of equity) in year $t$ | $L_{i,t}$ |
| Dividends | Dividends paid in year $t$ | $D_{i,t}$ |
| Earnings | Earnings before extraordinary items in year $t$ | $E_{i,t}$ |
| Interest | Interest expenses in year $t$ | $I_{i,t}$ |
| Stock return | Stock annual return | $r_{i,t}$ |
| Portfolio return | Fama and French (1993) benchmark portfolio return | $R_{,t}$ |
| Market capitalization | Market value of equity = stock price times the number of shares outstanding by the end of year $t$ | $M_{i,t}$ |
| Net Assets | Total assets net of cash in year $t$ | $NA_{i,t}$ |
| New finance | Net new equity issues plus net new debt issues in year $t$ | $NF_{i,t}$ |

*This table provides a summary of all variables used in equation (1) and a description of how each variable is calculated.*

A portfolio return is a value-weighted return based on the market capitalization of the firms. The excess return for firm $i$ is the difference between the benchmark return for this company's stock and the return of the stock. The dependent variable is calculated by simply subtracting the portfolio return to which stock $i$ belongs from its realized return during year $t$.

The main specification used in the study is the model proposed by Dittmar and Mahrt-Smith (2007) as follows, which is estimated using panel data random effects:

$$r_{i,t} - R_{i,t}^B = \gamma_0 + \gamma_1 \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_2 \frac{\Delta E_{i,t}}{M_{i,t-1}} + \gamma_3 \frac{\Delta NA_{i,t}}{M_{i,t-1}} + \gamma_4 \frac{\Delta I_{i,t}}{M_{i,t-1}} + \gamma_5 \frac{\Delta D_{i,t}}{M_{i,t-1}} +$$

$$+ \gamma_6 \frac{C_{i,t-1}}{M_{i,t-1}} + \gamma_7 L_{i,t} + \gamma_8 \frac{NF_{i,t}}{M_{i,t-1}} + \gamma_9 \frac{C_{i,t-1}}{M_{i,t-1}} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \gamma_{10} L_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} +$$

$$+ \gamma_{11} GOVI_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \varepsilon_{i,t}$$

(1)

Where $\Delta X$ indicates a change in $X$ from year $t-1$ to $t$. The dependent variable is the excess stock return $r_{i,t} - R_{i,t}$, where $r_{i,t}$ is the stock return during year $t$ and $R_{i,t}$ is the benchmark portfolio return calculated for the companies in the sample following Fama and French (1993) methodology. The independent variables are: $M_{i,t}$ is the market value of equity. $C_{i,t}$ is cash and cash equivalents. $E_{i,t}$ is earnings before extraordinary items. Earnings is calculated following Fama and French (1998) as earnings before extraordinary items plus interest, deferred tax credits, and investment tax credits. $NA_{i,t}$ is net assets (total assets net of cash), $I_{i,t}$ is interest expenses, $D_{i,t}$ is dividend payments, $L_{i,t}$ is $Debt_{i,t} / (Debt_{i,t} + M_{i,t})$, to measure leverage and is calculated as total debt (short term debt + long term debt) divided by the sum of total debt and market value of equity, $NF_{i,t}$ is new finance (net new issues of equity + net new issues of debt), $GOV_{i,t}$ is the Governance Index (GOV-I) and the other variables used as a proxy of governance (board ownership and

blockholdings). The variables are described in Table 3. The other variables control for profitability ($E_{i,t}$), investment ($NA_{i,t}$) and financing ($I_{i,t}$, $D_{i,t}$, $L_{i,t}$ and $NF_{i,t}$) strategies. The initial prediction is that coefficient $\gamma_{11}$ (GOV-I) is positive and statistically significant which means that we expect the interaction between changes in cash and corporate governance to be statistically significant ($H_1$). The interaction between the change in cash with governance is calculated by assigning a dummy variable that takes the value of one if the company is in the top or bottom tercile of the GOV-I, zero otherwise. This dummy is multiplied by the change in cash (GOV-I*$\Delta C_t$). We also expect the interaction of changes in cash with the initial cash level and with leverage, coefficients $\gamma_9$ ($C_{i,t-1}$) and $\gamma_{10}$ ($L_{i,t}$) respectively, to be negative and statistically significant ($H_2$ and $H_3$). Finally, we expect that the presence of future growth opportunities is a moderator factor in the relationship between the value of cash and the quality of governance ($H_4$). All independent variables (except leverage) are deflated by the lagged market value of equity ($M_{i,t-1}$).

## EMPIRICAL RESULTS

Table 4 reports the estimated coefficients for different specifications of the model. Column [1] shows the regression coefficients of the model without governance. The main objective with this specification is to measure the marginal value of cash for the average Spanish firm allowing only for the interaction of cash with the level of cash the firm has on hand in the beginning of the year ($C_{t-1}*\Delta C_t$) and with leverage ($L_t*\Delta C_t$). The results show that an extra euro of cash is valued by investors at €0.93 for the average firm. It is expected that one euro of cash held by the firm is valued at a discount due to taxes (at the shareholders level) and transaction costs incurred to transfer cash from the company to its shareholders (via dividends or share repurchases). This finding is consistent with the results obtained by Faulkender and Wang (2006) and Pinkowitz and Williamson (2004) for the U.S. The first find that the value of one extra dollar of cash in the mean U.S. firm is valued at $0.94 and the latter report a value of $1.20 for the same dollar of extra cash. However, the latter do not account for the interaction of the level of cash and leverage with the change in cash, which may explain the difference. Regarding the interaction of cash with leverage, the negative effect of leverage on the value of the firm is more pronounced for the Spanish firms than for its American counterparties. Considering an all-equity firm in Spain, the value of one extra euro of cash for this firm is 49 cents higher than for a firm with 10% leverage. For the U.S., Faulkender and Wang (2006) report a discount of only 14 cents of dollar for leverage. This result corroborates the hypothesis that the conflict of interests between shareholders and debt holders is more severe in Spain than in the U.S., as previously proposed by De-Miguel and Pindado (2001).

In Column [2] we introduce the interaction between governance and the change in cash. The results indicate that the marginal value of cash is sensitive to the firm's quality of governance. The estimated coefficients of the interactions of cash with the level of cash ($C_{t-1}*\Delta C_t$) and with leverage ($L_t*\Delta C_t$) are statistically significant. The economic interpretation of these coefficients is as follows, considering the sample mean for cash, leverage and governance (reported in Table 5), for an average firm with cash holdings of 14% of equity, financial leverage of 20.2% and average quality of governance (55.4% in the GOV-I), the marginal value of its cash is valued at €0.79. However, the same euro of cash is valued at as high as €1.02 for companies with good governance (companies in the top tercile of the distribution of the GOV-I) and as low as €0.57 for companies with bad governance (companies in the bottom tercile of the distribution of the GOV-I). We interpret this result as evidence of agency theory as investors apply a discount to bad governance firms. The discount on poor governance is the cost of agency imposed by investors on firms with information opacity. When information asymmetries are high, investors fear managers will employ the extra cash in value destroying activities. Similarly, minority shareholders may pay a premium for firms with good governance, because it is less likely that majority shareholders will expropriate their wealth through the appropriation of the benefits of control. Our results are consistent with the results of Dittmar and Mahrt-Smith (2007) for the U.S. They report a marginal value of cash for

the average governance firm of $1.09, a value as high as $1.62 for companies with good governance and as low as $0.42 for companies with bad governance.

Table 4:   Regression Results – The Impact of Governance on the Marginal Value of Cash

| Independent Variables | Dependent Variable = Excess Stock Return ($r_{i,t}$ - $R_{i,t}$) | | | | |
|---|---|---|---|---|---|
| | [1] | [2] | [3] | [4] | [5] |
| $\Delta C_t$ | 2.054*** | 1.163** | 1.884*** | 1.820*** | 1.436*** |
| | (0.000) | (0.021) | (0.000) | (0.000) | (0.007) |
| $GOV\text{-}I*\Delta C_t$ | | 1.472*** | | | 1.806*** |
| | | (0.001) | | | (0.000) |
| $Block*\Delta C_t$ | | | 0.118 | | |
| | | | (0.790) | | |
| $Block$ | | | 0.483*** | | |
| | | | (0.006) | | |
| $BOwn*\Delta C_t$ | | | | 0.596 | |
| | | | | (0.244) | |
| $BOwn$ | | | | 0.004 | |
| | | | | (0.977) | |
| $\Delta E_t$ | -0.002 | 0.013 | -0.001 | 0.003 | -0.816*** |
| | (0.975) | (0.852) | (0.984) | (0.963) | (0.001) |
| $\Delta NA_t$ | 0.074 | 0.097** | 0.054 | 0.070 | 0.185*** |
| | (0.129) | (0.047) | (0.266) | (0.155) | (0.003) |
| $\Delta I_t$ | 0.314 | 0.188 | 0.254 | 0.395 | 1.457*** |
| | (0.476) | (0.668) | (0.568) | (0.377) | (0.005) |
| $\Delta D_t$ | 1.125 | 1.042 | 1.005 | 1.117 | 3.023*** |
| | (0.229) | (0.261) | (0.280) | (0.235) | (0.007) |
| $NF_t$ | -0.006 | -0.021 | 0.001 | -0.009 | -0.082 |
| | (0.889) | (0.637) | (0.987) | (0.833) | (0.141) |
| $C_{t-1}$ | 0.295** | 0.378*** | 0.296** | 0.288** | 0.596*** |
| | (0.014) | (0.002) | (0.013) | (0.018) | (0.000) |
| $C_{t-1}*\Delta C_t$ | -0.929*** | -0.780** | -0.889*** | -1.082*** | -1.892*** |
| | (0.005) | (0.018) | (0.007) | (0.002) | (0.000) |
| $L_t$ | 0.0189 | 0.003 | 0.059 | 0.026 | -0.400** |
| | (0.902) | (0.983) | (0.700) | (0.865) | (0.033) |
| $L_t*\Delta C_t$ | -4.888*** | -5.352*** | -4.661*** | -5.260*** | -4.855*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Intercept | -0.097** | -0.107** | -0.201*** | -0.098** | -0.093* |
| | (0.026) | (0.014) | (0.000) | (0.036) | (0.062) |
| Observations | 490 | 490 | 490 | 490 | 380 |
| R-squared | 0.09 | 0.11 | 0.09 | 0.09 | 0.20 |

*This table presents the return regressions of Faulkender and Wang (2006) and Dittmar and Mahrt-Smith (2007) models. The dependent variable is the excess stock return of firm i relative to the portfolio return calculated according to Fama and French (1993). All variables except for $L_t$ are deflated by the lagged market value of equity ($M_{t-1}$). Δ indicates the change from previous year and the regressions are calculated on a panel of 98 non-financial Spanish listed firms at the Mercado Continuo of the Madrid Stock Exchange between 2003 and 2007. The dependent variables are described in Table 3. The first figure in each cell is the regression coefficient. P-values based on robust standard errors are reported in the brackets. ***, **, and * indicate significance at 1, 5 and 10 percent levels respectively.*

Columns [3] and [4] report the coefficients for the regressions using other governance variables, specifically board ownership and block ownership (the sum of all shareholders with 5% or more ownership stake on the firm). The results show that both variables have a positive impact on firm value albeit not statistically significant. Finally, column [5] reports the results of the regression for a sub-sample of companies, only companies with positive sales growth. We use this measure as our proxy for future growth opportunities. It is expected that the same euro of extra cash have greater value for companies with future growth opportunities, because they will need capital to finance their growth process and because raising external capital is costly. An analysis of the estimated coefficients indicate that the effect of governance is accentuated in companies with positive sales growth, as they will need cash to invest in future projects and continue growing. In this case, shareholders value the fact that managers' interests are aligned. However, more pronounced is the increase in the coefficient of the interaction of the level of cash with the change in cash ($C_{t-1}*\Delta C_t$), which shows again the importance of the conflict between

shareholders and debt holders. In the presence of growth opportunities, this conflict can take to two well-described problems: the underinvestment problem and the asset substitution problem.

Table 5:   The Marginal Value of Cash to Shareholders

| Sample Means | | Marginal Value of €1 of Cash | |
|---|---|---|---|
| Level cash at the beginning of the year ($C_{t-1}$) | 0.140 | Companies with good governance | €1.02 |
| Leverage ($L_t$) | 0.202 | Average governance company | €0.79 |
| Quality of governance (GOV-$I_i$) | 0.554 | Companies with bad governance | €0.57 |
| Top tercile (GOV-$I_i$) | 0.713 | | |
| Bottom tercile (GOV-$I_i$) | 0.409 | | |

*This table reports sample means for the level of cash in the beginning of the year, leverage, and the quality of governance (average, top and bottom tercile). The means are used to calculate the marginal value of €1 of cash for the average, good and bad governance company. For example, for a company with average cash holdings of 14% of equity, average financial leverage of 20.2% and average quality of governance (55.4% in the GOV-I), the marginal value of its cash is valued at €0.79 (=1.163+(-0.78\*14%)+(-5.352\*20.2%)+1.472\*55.4%).*

The first is motivated by the fact that debt holders will capture most of the project's benefits due to the payment of interests. It takes to the second problem, that is likely to happen when shareholders of a highly leveraged firm may prefer riskier projects because they will profit from any upside (which is more likely to happen), but any downside is shared with the debt holders. It creates an incentive for shareholders of high leverage firms to take on overly risky projects (asset substitution) and/or pass up positive NPV projects (underinvestment). The effect of leverage ($L_t$\*$\Delta C_t$) remains the same. Thus, if we consider only companies with positive growth prospects, the value of an extra euro of cash for the average firm is valued at €1.19, and as high as €1.48 for companies with future growth opportunities *and* good governance and as low as €0.93 for companies with future growth opportunities *and* bad governance.

Our results corroborates the hypothesis proposed by Myers and Majluf (1984) that financial slack has value when future growth opportunities are present and this evidence supports hypothesis 4 (*$H_4$*). Intuitively firms with positive NPV investment projects that need to be financed in the next year should save cash (through internally generated funds), instead of distributing cash to shareholders (i.e. via dividends) and raising new capital at a much higher cost (ignoring other factors like the availability of capital in times of crisis, for example). The results of the regressions reported in Table 4 show empirically that shareholders attribute special value to good governance under the presence of future growth opportunities, as they believe cash will be used to maximize firm value. Previous research has shown that governance improves firm value. We show that this positive effect is also observed through the interaction between financial slack and governance, and strengthened by the moderating effect of the presence of future growth opportunities.

**CONCLUSIONS**

Our objective with this paper was to analyze the interaction between cash and governance and its impact on the market value of Spanish firms using the model developed by Faulkender and Wang (2006) and adapted by Dittmar and Mahrt-Smith (2007) to include governance. We thus extend the analysis to include the presence of future growth opportunities as a moderator factor in this relationship, due to its influence on the level of cash held by firms.

Our results show that Spanish investors attribute a different value to the same euro of extra cash at companies with good and poor quality of governance, and that, in the presence of future growth opportunities, this difference is accentuated. We show evidence that investors apply a considerable premium (discount) on good (bad) governance companies. When considering future growth opportunities, the results show that a higher premium is paid to good governance, which suggests that shareholders believe the benefits of holding cash to finance future investment offset the potential agency costs associated with it. Hence, our results support the agency theory and the pecking order hypothesis, as they

show that companies accumulate cash in the previous period to finance their growth in the next period. We also find evidence to support the hypothesis that financial slack has value in the presence of future growth opportunities. Nonetheless, the results show that the conflict between shareholders and debt holders may be more severe in Spain than in the U.S. This conflict can take to the underinvestment and asset substitution problems in the case of highly leveraged firms, and for this reason, investors apply a stronger discount for leverage when valuing Spanish firms.

This study expands the literature on cash holdings and on corporate governance by providing empirical evidence on the value shareholders attribute to the marginal value of cash for companies with different levels of quality of governance in Spain. One possible limitation of our study is the fact that our analysis is focused on a single country. Nonetheless, the specifics of the Spanish case are common features of other European countries. Our findings may, for this reason, be applied to other realities with similar characteristics. This article opens important possibilities for future research. One suggestion would be to analyze the importance of financial slack in times of environmental jolts (i.e. financial/credit crisis) and how it affects firm value creation during and after the jolt.

**APPENDIX A:** Questions Used in the Construction of the Governance Index (GOV-I)

| Dimension of governance | # | Questions |
|---|---|---|
| Access and Content of the Information | 1 | Does the company website provide information about its governance system? |
| | 2 | Does the company have an English version of its website where results are promptly updated? |
| | 3 | Does the company have an Investors Relation Department? |
| | 4 | Does the company analysts' presentations with which investors can prepare financial projections? |
| | 5 | Does the company disclosure information about its next or tree-year ROA or ROE targets? |
| | 6 | Does the company publish/announce quarterly reports within two months of the end of the quarter? |
| | 7 | Does the company promote analysts' and investors' meetings on a regular basis (i.e. when they publish the Annual Report)? |
| | 8 | Is the public announcement of results promptly published in the web page of the company? |
| Board Structure | 9 | Is the Chairman an independent, non executive director? |
| | 10 | Does the CEO serve on no more than one additional board of other public company? |
| | 11 | Is the board composed by no less than 5 and more than 15 members? |
| | 12 | Is shareholder approval required for changing the board size? |
| | 13 | The company does NOT have any Golden Parachute Provision approved for the senior executives? |
| | 14 | Does the board include no direct representative of banks and other large creditors of the company? (having any representatives is negative) |
| | 15 | Do independent, non-executive directors account for more than 50% of the board? |
| | 16 | Are board members elected annually (they have a unified mandate of one year and the reelection is not automatic?) |
| | 17 | The Chairman of the board and the CEO are not represented by the same person. |
| | 18 | Does the board have at least one female director? |
| Ownership Structure and Control | 19 | Do directors receive part of their remuneration in stocks/stock options? |
| | 20 | Is directors' stock ownership less than 35% or more than 70% of total outstanding shares? |
| | 21 | Does the Chairman have Casting Vote? |
| | 22 | Does the company offer tag along to the minority shareholders? |
| Transparency | 23 | Does the company define any rules to ensure that the auditor does not perform any other services for the company (e.g. consulting)? |
| | 24 | Does the company publish in the Annual Report information about its risk management system? |
| | 25 | Are the audit committee and the nominating committee exclusively composed by outside directors? |

*This table provides the questions compounding the governance index (GOV-I) constructed as a proxy for the quality of governance. The questions were developed based on the recommendations of the Spanish Code of Best Practices. For constructing the index we first code the 25 questions/variables as 1 or 0 depending on whether the firm complies with each corporate governance standard or not. Each positive answer adds one point to the index, and the companies present a corporate governance level that ranges from 0 to 25. The answers to all questions is obtained exclusively from secondary data (firms' websites and the Corporate Governance Annual Report released by the companies)*

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**ACKNOWLEDGEMENT**

**BIOGRAPHY**

Dr. Eloisa Perez-de Toledo is Assistant Professor of Accounting and Finance at the School of Business, MacEwan University in Edmonton, Canada. She can be reached at MacEwan School of Business, Rm 5-225K, 10700 – 104 Avenue, Edmonton, AB, Canada T5J 4S2 or by e-mail: pereze2@macewan.ca

Dr. Evandro Bocatto is Assistant Professor of Management at the School of Business, MacEwan University in Edmonton, Canada. He holds a PhD from ESADE Business School, Barcelona, Spain. He can be contacted at MacEwan School of Business, Rm 5-252E, 10700 – 104 Avenue, Edmonton, AB, Canada T5J 4S2 or by e-mail: bocattoe@macewan.ca