

# Northumbria Research Link

Citation: Al-Najjar, Basil and Clark, Ephraim (2017) Corporate governance and cash holdings in MENA: Evidence from internal and external governance practices. *Research in International Business and Finance*, 39. pp. 1-12. ISSN 0275-5319

Published by: Elsevier

URL: <https://doi.org/10.1016/j.ribaf.2016.07.030>  
<<https://doi.org/10.1016/j.ribaf.2016.07.030>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/46037/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



**Northumbria  
University**  
NEWCASTLE



**UniversityLibrary**

**CORPORATE GOVERNANCE AND CASH HOLDINGS IN SELECTED MENA  
COUNTRIES: EVIDENCE FROM INTERNAL AND EXTERNAL GOVERNANCE  
PRACTICES**

**Abstract**

This paper explores the impact of internal and external corporate governance practices on the decision to hold cash in MENA countries. Using 430 non-financial firms in the MENA region for the period from 2000 to 2009, we find that both types of governance practices are important. We report a negative relationship between board size and cash holdings, evidence that firms hold less cash to reduce agency conflicts. Also, we detect that external governance activities are important in cash holding decisions, since we report that firms belonging to countries with international standards of securities law and bank supervision hold less cash. For our sub-sample of 85 firms, we report evidence that institutional owners are seen to be self-opportunistic and that they aim to maximize their own private benefits.

**Keywords:** External governance; board size; board independence; institutional ownership; MENA; cash holdings.

## 1. Introduction

This paper investigates the issue of corporate governance and financial policy in the Middle-East and North African (MENA) countries. Corporate governance refers to the system of rules, practices and processes by which a company is directed and controlled. As such, governance structures and principles identify the distribution of rights and responsibilities across the various stakeholders in the corporation. A major issue in the study of corporate governance is the potential conflict of interest between shareholders and professional managers. This well known “agency” conflict arises from the fundamental differences in the positions of the shareholders that own the firm and the managers that control the firm’s assets. Managers typically have much of their human capital and financial wealth invested in the firm, while shareholders are typically more diversified and less exposed to the specific risk of an individual firm (Fama, 1980; Stulz and Smith, 1985). This principal-agent conflict is the source of decisions that lead to the sub-optimal use of a firm’s resources when under-diversified, risk-averse managers seek to reduce their personal exposure at the expense of shareholders. Proper corporate governance mechanisms are thus crucial in resolving this conflict by aligning the interests of shareholders and managers (Lasfer, 2006).

Cash holdings are particularly adapted to the study of corporate governance and the principal-agent conflict of interest because the decision to deploy or accumulate cash in excess of the amounts necessary for normal business transactions and any ongoing contractual obligations is largely at the discretion of managers with limited scope for external scrutiny. Thus, as Jensen (1986), Kim, et al. (1998), Opler, et al. (1999) and Ozkan and Ozkan (2004) have emphasized, the propensity for accumulated cash to lower firm risk makes it an excellent instrument for a manager seeking to implement personally advantageous corporate policies that are inconsistent with the risk preferences of shareholders.

However, empirical conclusions on the relationship between cash holdings and corporate governance that have focused on the developed economies are generally inconclusive. Several studies have investigated cash holdings in the US framework (Opler, et al., 1999; Dittmar and Marth-Smith, 2007); the EMU framework (Ferreira and Vilela, 2004); the UK framework (Ozkan and Ozkan, 2004; Al-Najjar and Belghitar, 2011); the Spanish SMEs context (Garcia-Teruel and Martinez-Solano, 2008). Al-Najjar (2012) examined the financial determinants in some emerging markets but without including corporate governance in his models. Indeed, our aim, here, is to bridge this gap and investigate whether internal governance mechanisms, such as board size and independence, and external mechanisms, such as good governance procedures, fiscal policy transparency and securities law and banking supervision, affect the decision to stockpile cash in such markets. Unlike previous studies that investigate cash holdings, we provide evidence on the impact of both internal and external corporate governance mechanisms on cash holdings.

Our sample consists of nine Middle-East and North African (MENA) stock markets. Several reasons justify this focus. First, because these countries are integrated into the

European Union's neighbourhood policy, they share a common economic reform trajectory.<sup>1</sup> However, they also reflect differing levels of development and financial reform. Thus, they provide fertile ground for a comparative analysis linking corporate governance and cash holdings.

Second, disclosure practices in the region are widely perceived as being generally comparable to those in other emerging markets (OECD, 2013). However, the MENA ownership structure has the particularity that the majority of companies listed on MENA bourses are characterised by the presence of controlling shareholders in the form of government investors (SWFs, public pension funds, security funds, etc.) or other founding shareholders, typically families. Finally, there is also enough diversity to allow comparative analysis. For instance, in the Gulf countries and Jordan, corporate governance codes encompass fundamental requirements regarding the composition of the board, the conduct of AGMs, the reporting to shareholders and other dimensions. In other countries of the region, such as Egypt, codes remain voluntary and the companies and securities laws and regulations are the primary source of governance requirements.

Third, whereas much academic research has looked at corporate governance in other emerging markets, corporate governance in the MENA region has generally been neglected. For example, in their international sample of 45 countries, Dittmar, et al. (2003) include only Jordan and Egypt of MENA. Ramirez and Tadesse (2009) include only Egypt in their international dataset. Otherwise, to the best of our knowledge, there is no other evidence on cash holdings and corporate governance in the MENA countries.

We contribute to the extant literature in different ways. First, this is the first major empirical study to explore the MENA context. Second, unlike the previous literature, we include both internal and external governance mechanisms in our study. We find that they affect the level of cash holdings both separately and jointly. Third, we provide this evidence using a unique updated dataset for the period from 2000 to 2009, which provides us with the largest firm-year observation sample for these countries.

Our results can be summarized as follows. Where internal mechanisms are concerned, we find a negative relationship between board size and cash holdings, which is evidence that large boards are active and they tend to reduce the manager-shareholder agency conflict. Where external mechanisms are concerned, the evidence is inconclusive. Firms that belong to countries with international standards of securities law and bank supervision hold less cash. However, firms in countries that enjoy "fiscal transparency" and good governance practices hold more cash. We also report that the interaction between external and internal governance mechanisms weakens board activity. Moreover, we detect that institutional investors in MENA are not as active as they should be. Finally, we find that firm size, profitability, and capital structure are important determinants of holding cash in our sample.

The rest of the paper is organized as follows. Section 2 provides the theoretical framework. Section 3 discusses the data and methodology. Section 4 presents the results. Section 5 concludes the study and discusses the empirical implications of the findings.

---

<sup>1</sup> See Lagoarde-Segot and Lucey (2006).

## **2. Theoretical framework**

In this section we present the theoretical framework adopted in this study. We start with the theory of corporate governance in the context of the principle-agent conflict of interest, and then provide a discussion of the trade-off and pecking order theories of capital structure.

### *2.1 Agency theory*

Agency theory argues that firms with high levels of free cash flows can suffer the consequences of agency conflicts if this cash is not used to invest in profitable projects. Managers can boost their own interests by stockpiling cash to obtain discretionary power, thereby giving rise to agency conflicts between managers and shareholders (Jensen, 1986). Chen (2008) also argues that managers will enjoy higher discretionary power in firms that hold high levels of cash. In the same vein, Myers and Rajan (1998) confirm that managers maximize their interests, regardless of meeting firm objectives (in firms with high levels of cash). As a result, other things being equal, managers in firms that hold high levels of cash can be seen as “self-opportunistic”, leading to agency conflicts and costs.

Agency theory is rooted in the conflicts of interests between principals and agents due to the separation of ownership and control. It is argued that with more cash in hand, agency costs and conflicts are more likely to increase. The extent of the conflict can be mitigated by external and internal corporate governance controls. External controls represent the controls external stakeholders exercise over the organization. They can include things such as debt covenants, demand for and assessment of performance information, external auditing, etc. and are often codified in government legislation and regulations. Internal controls include such things as monitoring by the board and internal auditing. Lasfer (2006), for example, suggests that corporate governance tools such as board structure and board size can be seen as important tools to mitigate agency costs. Since overall corporate governance relies on both types of control mechanisms, we investigate both internal and external governance mechanisms in our study of the MENA countries.

#### *2.1.1 Internal corporate governance tools*

Following Lasfer (2006), we look at board size and board independence as the crucial factors related to internal corporate governance.

The board of directors is an important indicator for internal corporate governance because of its role in determining the firm's strategy and direction. Boone, et al. (2007) highlight the importance of the board as they argue that the complexity of firm operations leads to more demand on board members to discuss and agree on such complex activities. Berger, et al. (1997) show that a bigger board is better in reducing debt in firms' capital structure because a bigger board provides better monitoring. On the other hand, smaller boards can be seen as a better tool to govern the firm, since large boards will suffer from free riding problems and, hence, are less active in providing monitoring activities (Lipton and Lorsch, 1992; Jensen, 1993). Consequently, board size is important in firms' decisions, especially their financing decisions. Using firms from Ghana, Abor and Biekpe (2005) report the importance of board size on debt in SMES. Accordingly, we argue that there might be a negative effect of the board size on cash holdings (if boards are active in monitoring firms)

or, equally, a positive relationship is expected with cash holdings (if the boards are inactive in emerging markets).

Independent directors are mostly used in the literature to reflect the board composition or independence (for example, Johnson, et al., 1996; Boone, et al., 2007; Al-Najjar and Hussainey, 2009). It is well documented that independent directors are considered to be a key monitoring tool for firms as they employ strict monitoring policies. In the UK, the Cadbury Report (1992) highlights the importance of independent directors as a monitoring tool for firms, since they are experts in offering professional advices. Schellenger, et al. (1989) and Kaplan and Reishus (1990) claim that independent directors protect the interests of shareholders compared to executive directors. Brickley, et al. (1994) suggest that independent directors are also important in lowering agency costs. However, another strand of literature argues that executive directors are better for firms as they are more familiar with firms' operations. Bhagat and Black (2002) find evidence that board composition is not related to firm performance. In addition, Guest (2008) detects that independent directors in the UK are not as active as their counterparts in the US. Ozkan (2007) confirms this issue for the UK. Ozkan and Ozkan (2004) hypothesize that there is a negative relationship between independent directors and cash holdings. We argue that with good corporate governance, firms can reduce agency costs by holding less cash.

Accordingly, we suggest that for companies in MENA if independent directors are active and professional, this will lead to better governance and hence less cash to be held by firms. However, if independent directors are not active then they will not provide good monitoring activities and hence firms will hold more cash.

From the above discussion of board size and independence, we propose the following hypotheses:

*H1a: There is a negative relationship between board size and cash holdings.*

*H1b: There is a positive relationship between board size and cash holdings.*

*H2a: There is a negative relationship between board independence and cash holdings*

*H2b: There is a positive relationship between board independence and cash holdings.*

### *2.1.2 External governance activities*

For the external governance policies in the MENA region, we rely on the International Monetary Fund (IMF) and the Reports on the Observance of Standards and Codes (ROSC) as our main source of data. We also use the eStandards Forum database to classify MENA countries. We use three main indices, good governance procedures, fiscal policy transparency and securities law and banking supervision. It is worth noting that none of the countries in our sample employ good external governance practices but there is some evidence that some of these countries do show a commitment to external governance practices.

For the good governance practices, we rely on three sources to classify the countries in MENA: The IFC survey on corporate governance of companies and banks (2008), the World Bank ROSC on corporate governance, and eStandards database. The corporate governance practices that we are interested in and that are covered by the survey, include: commitment to

corporate governance (such as training the board for governance issues; defining corporate governance by firms properly; companies to have code of ethics), implementing good board practices (such as independent directors; performance evaluation of the board; board meetings), robust environment (such as internal audit; audit committee independence; companies to have internal controller), transparency and disclosure (such as IFRS reporting; disclosing financial and non-financial data on websites), and shareholder rights (such as voting policies; protection of minority rights; disclosing dividend policy on websites) (IFC survey, 2008). According to this survey none of the MENA countries in our sample have good governance practices. However, two countries, Egypt and Saudi Arabia, show improved activities in MENA. We match this argument with both the World Bank ROSC and eStandards database and confirm this result. We exclude Jordan from this list, even though it has shown a commitment to good governance practices because in the survey Jordan is classified having “emerging practices”, which is similar to the rest of our sample. Hence, in order to include governance activities in our analysis we use a dummy variable which takes one if firms belong to Saudi Arabia and Egypt, and zero otherwise.

According to the Code of Good Practices on Fiscal Transparency (2007), fiscal transparency is considered to be an important factor to attain “macroeconomic stability” and high levels of growth. Fiscal transparency requires countries to provide reliable information regarding previous, current, and any future plans for government activities. The availability of such information will lead to improved economic decisions. It is important to note that fiscal transparency can be seen as a helpful device to draw attention to potential fiscal risks. Finally, governments with more transparency enhance the ability to obtain funds from international capital markets. Using this factor, we classify our MENA sample into countries that provide some evidence of a strong commitment to comply with the ROSC codes and those that do not. According to the IMF and the ROSC, we notice that both Jordan and Tunisia provide some evidence of commitment to comply with the code. We match this argument with eStandards Forum database and find that Tunisia complies with the requirements set by the code of fiscal transparency and Jordan is ranked as “intent declared”. We exclude Egypt as according to the eStandards database the public information regarding the reliability of fiscal information, including budget information, is low. Thus, we consider the effect of fiscal transparency by using a dummy variable that takes one for companies that belong to Tunisia and Jordan, and zero otherwise.

Our final external governance indicator is the compliance with the objective of securities regulations and banking supervision (in terms of corporate governance, such as Basel core principles). This indicator is important in classifying countries that follow international recognized practices for securities law and banking supervision, as they are the main source of external funds in MENA. We rely on the score of compliance of eStandards database in both aspects. Tunisia and Bahrain are both classified as “enacted” with international standards. Kuwait also shows “compliance in progress” in international banking governance standards, and hence we include Kuwait among countries that show commitment to comply with international governance regulations. Accordingly, our variable to capture this aspect is a dummy variable that takes one if firms belong to Tunisia, Bahrain and Kuwait, and zero otherwise.

To sum up, we introduce three factors to reflect the external governance systems in MENA; such factors show the commitment for governance practices of these countries. We

argue that firms that belong to these countries will enjoy good governance practices, less agency conflicts and thus firms can hold less cash. However, as none of the countries in the sample employ good governance practices, we argue that this impact might not be of significance in our sample. Thus, the third hypothesis is:

*H3: There is a negative relationship between external governance factors and cash holdings.*

## *2.2 Trade off theory*

The trade off argument for cash holdings provides two reasons why firms hold cash: transaction costs and precautionary motives. In this scenario, firms hold cash to meet expenditures related to ongoing activities and potential unforeseen events in order to avoid costly external financing or forced asset liquidation (see for example, Ozkan and Ozkan, 2004). Ferreira and Vilela (2004) also argue that firms hold cash to minimize the likelihood of financial distress. To account for the effects associated with trade off theory we include the following variables.

*Leverage:* Firms with the ability to raise funds externally, including debt financing, have less need of cash holdings (see among others, Ferreira and Vilela, 2004; Al-Najjar and Belghitar, 2011). In contrast, more debt in the capital structure could lead to a higher likelihood of financial distress and, in turn, such firms need to hold more cash in case of emergencies. Hence, firms with high debt ratios are more likely to hold cash. However, since external sources of funds for the MENA countries limit their exposure to the highest quality borrowers, we argue that firms with the reputation of accessing external sources of funds through debt financing, are less likely to hold cash.

*Dividends:* firms that pay dividends can raise funds at lower costs compared to those that do not, thereby reducing their need to hold cash. Thus, dividends are expected to be negatively related to cash holdings (see, AL-Najjar and Belghitar, 2011).

*Firm size:* Miller and Orr (1966) argue that small firms have higher external financing costs and, therefore, should hold cash reserves to finance their investments. Empirically, Ferreira and Vilela (2004), Ozkan and Ozkan (2004) and Al-Najjar and Belghitar (2011) find that size is negatively associated with cash holdings. However, due to the limited scope for external financing in the MENA countries, larger firms require more cash to finance their investment projects. Hence, we expect that there should be a positive relationship between cash holdings and firm size.

## *2.3 Pecking Order Theory*

The pecking order theory argues that capital structure is determined by the cost of financing. Internal funds are the cheapest source of funds and are used first. Then comes debt and then equity. Based on this, Myers (1984) and Myers and Majluf (1984) contend that the level of cash holdings depends to a certain extent on the firm's capital structure. Profitable firms that generate high levels of internal cash flows are likely to hold high levels of cash. For example, Ferreira and Vilela (2004) argue that for profitable cash generators can pay down debt and hold more cash to pay for investment. Similarly, Dittmar, et al. (2003) argue



that firms with more cash can pay dividends and manage to meet the repayments of their debt. From a pecking order perspective, we include the following variables to our models.

*Profitability:* Profitable firms are more able to invest in positive NPV projects and hence can hold cash to pay for these investments, and in turn profitable firms are more able to hold cash. Therefore, we expect that profitability is positively related to cash. Opler, et al. (1999) argue that there is a positive relationship between cash flows and cash levels. Ozkan and Ozkan (2004), and Ferreira and Vilela (2004) confirm this argument. We expect a positive relationship between profitability and cash holdings in MENA. As such firms are more able to use such cash for investment purposes.

*Dividends:* As mentioned above, firms that are able to hold cash are more likely to pay dividends and to repay debt. Alternatively, firms with less cash will be less able to pay dividends. Hence, based on this theory there is a positive relationship between cash holdings and dividends (Ferreira and Vilela, 2004; Al-Najjar and Belghitar, 2011).

### **3. Data and methodology**

#### *3.1 Data*

In order to explore the relationship between corporate governance and cash holdings in MENA, we select a sample of 430 non-financial firms for the period from 2000 to 2009. The countries included in our analysis are: Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, and UAE. Financial and utility firms are excluded as their statutory requirements are different from those in the other industries. Our initial sample is 545 firms based on their market capitalization. We allow firms to freely enter and exit the market and hence our sample is an unbalanced dataset. There are 430 firms that have provided sufficient information to perform the analysis. The financial data is collected from the DataStream database. The corporate governance information is collected from Thomson One Banker database. Table 1 presents the data for each country.

---

Insert Table 1 here

---

The maximum number of firms is for Saudi Arabia with 81 firms, then Egypt with 78 firms, Kuwait with 72 firms, and finally Jordan and Oman with 56 firms. The remaining firms are 38 firms in UAE, 47 firms in Qatar, and finally 16 firms in Bahrain and Tunisia.

Table 2 shows the descriptive statistics for the variables included in our models. The results reveal that there is a relatively low level of cash holding for our sample of MENA (with a mean of around 4.3%). Regarding corporate governance characteristics, on average board size is 8, with a maximum of 25 board members. We also report that 41% of the firms rely on independent directors. Hence, there is some indication that our firms adopt good governance practices by hiring independent directors. For our external governance factors, we find that 35% of the investigated firms belong to countries that are seen to have developed governance practices according to the IFC survey. In addition, 24% of the firms belong to countries that have evidence of fiscal transparency according to the ROSC principles. Finally, 22% of the firms belong to countries that have securities law and banking supervision that comply with international standards. For firm-specific factors, we find that on average,

leverage has a mean of 17.8%, indicating that MENA firms in the sample rely less on debt financing. The dividend payout ratio at 38.5% is also relatively low.

---

Insert Table 2 here

---

Table 3 reports the correlation matrix for the variables. We note that there are no high correlations between the investigated variables and hence multicollinearity is not an issue in our models.

---

Insert Table 3 here

---

To gain more understanding about the financial and governance patterns across the investigated countries, we introduce three graphs to represent cash holdings, board size, and board independence. Graph 1 reveals that there is a high fluctuation of cash holdings across the countries with a maximum of 0.089 in Qatar and a low in Oman with 0.023. As regards the corporate governance factors, Graphs 2 and 3 show that board size is between 7 and 9 across the countries with a high variation of having independent directors, around zero for Qatar and 0.90 for Oman and Saudi Arabia.

---

Insert Figures 1, 2 and 3 about here

---

### *3.2 The importance of MENA context*

Few studies have focused on investigating cash holdings in the context of international data. Only Dittmar, et al. (2003) explore the international governance aspect of cash holdings. Ben Naceur et al. (2007) investigate newly privatized firms in the MENA region. However, their evidence relates to Egypt, Morocco, Tunisia, and Turkey for only 95 SIPs (share issue privatization). They find that these firms have an increase in profitability and operating performance. As regards corporate governance, Chahine and Tohme (2009) explore the issue of corporate governance in the Arab IPO context. They detect a high under pricing in IPOs if CEO duality exists in the firms. In addition, they document the importance of strategic shareholders in monitoring firms. Lagoarde-Segot and Lucey (2008) find that firm efficiency is affected by market depth and other corporate governance factors. El-Mehdi (2007) explores firm performance and corporate governance using a sample of 24 Tunisian firms. The results show evidence for weak Tunisian governance. Elsayed (2007) highlights the impact of CEO duality in Egypt using 92 firms. He finds that CEO duality has no impact on firm performance. Hence, we notice a certain interest in investigating the MENA context. However, the impact of external and internal governance in MENA has not yet been explored. This study thus aims to bridge the gap in the literature and provides this evidence using a large sample of non-financial firms across MENA countries. More recently, Awartani (2015) reported that the better regulatory effectiveness, creditors' legal protection and enforcement of the rule of law are related to the usage of long-term debt by firms in the MENA region.

### 3.3 Methodology

In this study, we apply both panel data analysis (pooled models with clustered errors to capture the group effects) and the Instrumental Variables (IV) procedure using the 2SLS method to control for the potential endogeneity between financial policies (capital structure and dividend policy) and corporate governance. It is argued in the literature that the endogeneity issue is important in cases where corporate governance is included (see, Coles, et al., 2005). Our IV models control for the endogeneity issue where the instruments include lagged corporate governance variables, lagged leverage, and lagged dividends.

We first investigate the impact of internal and external corporate governance on cash holdings, using the pooled specifications. Then we estimate the models using IV pooled analysis. The dependent variable in all the models is the ratio of cash and cash equivalents to total assets. Al-Najjar and Belghitar (2011) and Chen (2008) also apply a similar definition. We also include year and industry dummies to account for any industrial effects and to control for secular trends and any un-modeled effects. However, for parsimony we do not provide these coefficients. Finally, it is important to point out that the standard errors are clustered in different models to take into consideration group effects. The model which we estimate is:

$$\text{CASH}_{it} = \beta_0 + \beta_1 \text{BSize}_{it} + \beta_2 \text{Independ}_{it} + \beta_3 \text{GOVPRAC}_{it} + \beta_4 \text{FISTRANS}_{it} + \beta_5 \text{SECLAW}_{it} + \beta_6 \text{DPO}_{it} + \beta_7 \text{LEV}_{it} + \beta_8 \text{PROF}_{it} + \beta_9 \text{SIZE}_{it} + \text{year} + \text{industry} + \varepsilon_{it}$$

CASH is the cash and cash equivalents to total assets ratio; BSize is number of members on the board; Independ is board independence measured as a dummy variable if firms appoint independent directors and zero otherwise ; GOVPRAC is a dummy variable that takes one if companies belong to countries that reported improving governance practices in the IFC survey report in 2008 and zero otherwise; FISTRANS a dummy variable that has a value of one for companies that belong to countries that have fiscal transparency during the period of analysis and zero otherwise; SECLAW is a dummy variable takes 1 if the companies belong to a country that has securities law and banking supervision that comply with international standards and zero otherwise; DPO is the dividends per share to earnings per share ratio; LEV is the total debt to total assets ratio; PROF is the ratio of firm's income to total assets; SIZE is the natural logarithm of total assets;  $\varepsilon$  is the error term. The IV model has the same variables.

## 4. Results

### 4.1 Main results

Table 4 shows the regression results of the relationship between internal and external corporate governance mechanisms and cash holdings. We introduce three models to investigate this relationship, in Model 1, we report the internal corporate governance factors and control for firm specific factors, while in Model 2 we include the external governance factors alongside the factors in Model 1. Model 3 includes only the internal and external corporate governance factors.

---

Insert Table 4 about here

---

The results in Table 4 show that there is limited evidence of a negative relationship between board size and cash holdings, which supports *H1a*. The implication is that, in the case of MENA, large boards are active and provide better monitoring and control that is reflected in reduced cash holdings. The other internal corporate governance factor, independent directors, is not significant in any of the three models, and thus contradicts *H2a* and *b*. This result indicates that independent directors are not effectively providing better monitoring activities in the MENA countries. One possible reason could be linked to an appointment process that favors networking and firm connections over expertise.

With respect to the external governance factors, there is limited evidence that firms operating in countries with securities law and bank supervision (with commitments for international standards) hold less cash, evidence that supports *H3*. However, there is also evidence that firms operating in countries with commitments to fiscal transparency and have good governance practices hold more cash. This result contradicts our hypothesis and may indicate that in the case of MENA more tax transparency and better governance procedures reduce information asymmetry and improve monitoring, which will encourage firms to hold more cash to finance their investments.

With respect to the firm specific factors, we report strong evidence that leverage, profitability, and firm size are important factors that affect cash holding decisions in MENA. We detect a negative relationship between leverage and cash holdings, and thus we provide evidence that MENA firms with the ability to raise external funds from debt financing are able to generate funds externally, thereby reducing the need to hold cash. This result is consistent with the previous literature (see for example, Ferreira and Vilela, 2004; Al-Najjar and Belghitar, 2011). This result is also in line with trade off theory and also with the view that leverage and cash are seen to be substitutes. As expected, we find a positive relationship between cash holdings and firm size and profitability. This indicates that large firms in MENA are more able to hold cash to finance their investment projects. This result contradicts the findings of Ozkan and Ozkan (2004) and Al-Najjar and Belghitar (2011). Also, there is supportive evidence for profitable firms to hold more cash to pay for positive NPV projects. Finally, we provide some evidence for a negative relationship between dividend policy and cash holdings. Hence, firms that are more able to pay dividends will hold less cash. The implication is that firms that pay dividends can raise funds at lower costs, which is consistent with trade off theory.

The models in Table 4 do not consider the endogeneity between corporate governance and financial policies (including capital structure and dividend policy). To address this issue, we re-estimate the models in Table 4 using instrumental variables (IV) generated in the two stage least squares procedure. It is worth noting that the Saragn test confirms the validity of our instruments.

---

Insert Table 5 about here

---

Table 5 provides strong evidence of a negative relationship between board size and cash holdings, which confirms the results in Table 4 and suggests that boards are active in the MENA region in the conception and monitoring of firm financial policies. We also confirm the lack of influence on the part of independent directors. As regards external governance

factors, we report limited evidence that firms in countries that have good practices toward external governance such as (transparency in fiscal policy and good governance practices) hold more cash. Accordingly, *H3* is not supported.

With respect to our firm specific factors, we provide further evidence that leverage is negatively related to cash, and firm size and profitability are positively related to cash. These results are consistent with the previous findings. The only significant difference between Tables 4 and 5 is that after controlling for endogeneity dividends are no longer significant. It is worth noting that Al-Najjar and Belghitar (2011) also report a similar result when they employ simultaneous equations to test for the endogeneity between cash holdings and dividends in the UK context.

In summary, we provide new evidence of the importance of corporate governance on strategic financial decisions such as cash holdings within the context of MENA. Our results are robust after controlling for any problems of potential endogeneity in our models.

Further robustness checks, not reported here but available on request, have also been effected. First, we ran “robust regression” models. We also used lags for the governance factors. Finally, we ran different panel data estimations. The results of these tests, not reported here but available on request, are not substantially different from what we report in this study. Hence, our reported results are robust.

#### *4.2 The interaction effects of external corporate governance on internal corporate governance*

In Table 6, we extend the analysis to include an interaction effect between external corporate governance and both internal governance mechanisms and firm-specific factors. We confirm a negative relationship between board size and cash holdings. Interestingly, we provide evidence that with the interaction effect of external governance factors and board size, the sign becomes positive. Hence, the role of the board is shown to be weakened, leading firms to hold more cash. We also provide some evidence of the role of independent directors. We report a negative relationship between independent directors and cash holdings. This result is in line with the activity of independent directors in reducing cash holdings. For external corporate governance, we confirm the results reported in the previous analysis. As regards firm specific factors, we report similar relations for the negative impact of debt on cash holdings. However, large firms in committed countries for corporate governance are found to hold less cash. This result contradicts the earlier findings, but it is in line with the previous literature in developed markets (See among others, Al-Najjar and Belghitar, 2011). Finally, we provide inconclusive evidence for the relationship between profitability and cash holdings.

---

Insert Table 6 about here

---

#### *4.2 Further analysis*

In this section we aim to provide further analysis on the relationship between corporate governance factors and cash holdings in MENA. We collect information for institutional ownership. In addition, for these firms, we report the exact board independence ratio,

measured as number of independent directors divided by the total number of members on the board. Screening for the required data across the investigated firms, we find that only 85 firms in MENA countries have provided such information. These firms are: 52 firms in Saudi Arabia; 16 in Oman; 13 in Egypt; 2 in UAE; 1 in Tunisia; 1 in Bahrain. Hence, this sample can be seen as a sub-sample of our main analysis which includes 430 firms across 9 MENA countries.

We estimate the following model, using both pooled analysis and IV model, we also control for industry and year dummies and cluster the standard errors:

$$CASH_{it} = \beta_0 + \beta_1 BSize_{it} + \beta_2 Independ_{it} + \beta_3 INSTIT_{it} + \beta_4 GOVPRAC_{it} + \beta_5 FISTRANS_{it} + \beta_6 SECLAW_{it} + \beta_7 DPO_{it} + \beta_8 LEV_{it} + \beta_9 PROF_{it} + \beta_{10} SIZE_{it} + year + industry + \varepsilon_{it}$$

where the variables are as previously defined, with two exceptions INDEPENDENTR is the board independence ratio; INSTIT is the percentage of shares hold by institutions;  $\varepsilon$  is the error term.

Institutional investors provide good monitoring activities for the firms where they own shares. Hence, institutional ownership can stimulate and improve the effectiveness of corporate governance. Short, et al. (2002) provide evidence of the importance of institutional ownership in financial decisions (capital structure). Ozkan and Ozkan (2004) argue that even though large shareholders can improve monitoring services, there are “private benefits” of control for these shareholders not shared by other shareholders. Hence, there might be a conflict of interest between large shareholders and the other shareholders. As a result, these shareholders increase cash under their control to be used for their private benefits and therefore a positive relationship is expected (Ozkan and Ozkan, 2004). We argue that this problem will be more severe in emerging markets and hence a positive relationship is expected between institutional ownership and cash holdings.

---

Insert Table 7 about here

---

We provide two models in Table 7, Model 1 reflects the pooled estimations (with clustered errors), while Model 2 is the IV analysis (with clustered standard errors). The results of the subsample show that neither board size nor independence are significant in determining cash holdings. Hence, the board structure is not seen as an active monitoring device in our subsample. For our variable of interest, institutional ownership, we detect a positive relationship between cash holdings and institutional ownership. Hence, these shareholders are inactive monitoring tools and they aim to maximize their own private benefits. From the standpoint of external governance factors, we report similar findings to our previous analysis. Finally, in our sub-sample we find evidence of a negative impact of profitability and size on cash holdings. These results are consistent with the findings in Table 6.

## 5. Summary and conclusion

This study explores the importance of internal and external governance on financial decisions in developing countries. In particular, we investigate the impact of internal corporate governance (board size; independent directors; institutional ownership) and

external governance activities (countries with: good governance practices; fiscal policy transparency; international standards of securities law and banking supervision) on firms' decision to hold cash.

Unlike the previous studies we provide this evidence using a unique panel dataset from MENA countries. More specifically we investigate nine countries; these include Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Tunisia, and UAE. The study investigates 430 non-financial firms across these countries for the period from 2000 to 2009. Our panel dataset is unbalanced for the firms among countries and years.

For the empirical analysis, the study employs pooled estimation (with clustered standard errors) and IV modeling to encounter any endogeneity problem between financial policies and corporate governance factors. Our results show that there is a negative relationship between board size and cash holdings. Hence, we argue that in case of MENA boards are active in reducing cash holdings. As regards external governance factors, we report inconclusive evidence, with limited support for our hypothesis as we find that only firms belonging to countries that comply with international standards of securities law and bank supervision hold less cash. We also notice that boards become less active in monitoring firms' financial policies due to the external governance factors.

In order to investigate the relationship between institutional investors and cash holdings, we use a subsample of firms that provided such information. Our results are based on 85 non-financial firms that belong to (Bahrain, Egypt, Oman, Saudi Arabia, Tunisia, and UAE). We detect a positive relationship between institutional ownership and cash holdings, indicating that these shareholders aim to maximize their own private benefits.

We contribute to the literature of cash holdings in different ways. First, we provide evidence of the relationship between internal corporate governance and cash holdings in MENA countries. Second, we provide some evidence that external governance practices in MENA will affect firm's financial activities.

This study has several empirical implications for policy makers in MENA. First, it is important for policy makers to improve the role of the board of directors in monitoring the firm. One possible way of doing so is to encourage firms in MENA to employ active independent directors that can provide better monitoring services and also firms can benefit from their experiences. It is also worth noting that rules and regulations need to specify the exact duties of independent directors and their selection process. In addition, these rules and regulations need to be activated by the policy makers to ensure that firms comply with their requirements. Moreover, developing countries are in need of providing better compliance with international governance standards. This can be done by adopting good governance practices, improving shareholder rights and activating laws and regulations that govern firms' performance.

## References

- Abor, J. and Biekpe, N., 2005, Does Corporate Governance Affect the Capital Structure Decisions of Ghanaian SMEs? Working paper, University of Stellenbosch Business School
- Al-Najjar B., 2012, The financial determinants of cash holdings: Evidence from some emerging markets, *International Business Review*, 22 (1), 77–88.
- Al-Najjar, B. and Belghitar, Y., 2011, Corporate cash holdings and dividend payments: Evidence from simultaneous analysis. *Managerial and Decision Economics* 32 (4), 231-241.
- Al-Najjar, B., Hussainey, 2009, The association between dividend payout and outside directorships. *Journal of Applied Accounting Research*,10 (1),4-19.
- Awartani B., Belkhir M., Boubaker S., Maghyereh A. (2015) Corporate debt maturity in the MENA region: Does institutional quality matter? *International Review of Financial Analysis*, Available online 23 October 2015, ISSN 1057-5219.
- Ben Naceur, S., Ghazouani, S. and Omran, M., 2007, The performance of newly privatized firms in selected MENA countries: The role of ownership structure, governance and liberalization policies. *International Review of Financial Analysis* 16, 332-353.
- Bhagat, S. and Black, B., 2002, The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law* 27( 2), 231-73.
- Berger, P.G. Ofek, E. & Yermack, D.L., 1997, Managerial entrenchment and capital structure decisions. *The Journal of Finance* 4, 1411-1438.
- Boone, A. L., Field, L. C., Karpoff, J. M., and Raheja, C. G., 2007, The determinants of corporate board size and composition: an empirical analysis. *Journal of Financial Economics* 85, 66–101.
- Brickley, J. A., Coles, J.F., and Terry, R.L., 1994, Outside Directors and the Adoptions of Poison Pills. *Journal of Financial Economics* 35, 371-390.
- Cadbury, A., 1992. A Report of the Committee on the Financial Aspects of Corporate Governance, London: Gee.
- Chahine, S., Tohme, N.S., 2009, Is CEO duality always negative? An exploration of CEO duality and ownership structure in the Arab IPO context. *Corporate Governance: An International Review* 17 (2), 123–141.
- Chen Y-R, 2008, Corporate governance and cash holdings: listed new economy versus old firms. *Corporate Governance*16 (5),430-442.
- Code of good governance practices on fiscal policy, 2007, Available at: <http://www.imf.org/external/np/pp/2007/eng/101907m.pdf>.



Coles, Jeffrey L., Michael L. Lemmon, and Felix Meschke, 2005, Structural models and endogeneity in corporate finance: The link between managerial ownership and corporate performance, Working paper.

Dittmar, A., Mahrt-Smith, J. and Servaes, H., 2003, International corporate governance and the value of cash holdings. *Journal of Financial and Quantitative Analysis* 38, 111-133.

Dittmar, A. and J. Mahrt-Smith, 2007, Corporate governance and the value of cash holdings. *Journal of Financial Economics* 83, 599-634.

ElMehdi, I.K., 2007. Empirical evidence on corporate governance and corporate performance in Tunisia. *Corporate Governance: An International Review*, 15 (6), 1429-1441.

Elsayed, K., 2007, Does CEO duality really affect corporate performance. *Corporate Governance: An International Review* 15 (6), 1203-1224.

Fama, E. (1980). Agency problems and the theory of firm. *Journal of Political Economy*, 88, 228-307.

Ferreira, M. and Vilela, M., 2004, Why do firms hold cash? Evidence from EMU countries. *European Finance Management* 10, 295-319.

Garcia-Teruel, P. and Martinez-Solano, P., 2008, On the determinants of SME cash holdings: Evidence from Spain. *Journal of Business Finance & Accounting* 35,127-149.

Guest, P. M., 2008, The determinants of board size and composition: Evidence from the UK. *Journal of Corporate Finance*,14, 51–72.

IFC survey, 2008, MENA wide corporate governance survey, available at: [http://www.ifc.org/ifcext/corporategovernance.nsf/AttachmentsByTitle/HAWKAMAH\\_CG\\_Survey\\_MENA\\_Banks/\\$FILE/Hawkamah\\_CG\\_Survey\\_MENA\\_Banks++.pdf](http://www.ifc.org/ifcext/corporategovernance.nsf/AttachmentsByTitle/HAWKAMAH_CG_Survey_MENA_Banks/$FILE/Hawkamah_CG_Survey_MENA_Banks++.pdf)

Jensen, M., 1986, Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review* 76, 323-329.

Jensen, M., 1993 .The modern industrial revolution, exit and the failure of internal control systems. *Journal of Finance*, 43, 831-880.

Johnson J, Daily C, Ellstrand A., 1996, Boards of directors: a review and research agenda. *Journal of Management* 22, 409–438.

Kaplan, S. and Reishus, D., 1990, Outside directorships and corporate performance. *Journal of Financial Economics* 27 (2), 389-411.

Kim, C. Mauer, D. and Sherman, A. 1998. The determinants of corporate liquidity: Theory and Evidence. *Journal of Financial and Quantitative Analysis* 32, 335-359.

Lagoarde-Segot, T. and Lucey, B. M., 2008. Efficiency in emerging markets—Evidence from the MENA region, *Journal of International Financial Markets, Institutions and Money*, 18, 94–105.

Lasfer, M.A., 2006, The Interrelationship between Management Ownership and Board Structure. *Journal of Business Finance & Accounting* 33(7),1006-1033.

Lipton, M. and Lorsch, J.W., 1992. A modest proposal for improved corporate governance. *Business Lawyer* 48, 59-77.

Liu, Y., and Mauer, D., 2011. Corporate cash holdings and CEO compensation incentives. *Journal of Financial Economics*, 102(1), 183-198.

Miller, M. and Orr, D., 1966, A model of the demand for money by firms. *Quarterly Journal of Economics* 80, 413-435

Myers, S., 1984, The capital structure puzzle. *Journal of Finance* 39,572-592.

Myers, S. and Maljuf, N., 1984, Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13, 187-221.

Myers, S. C. and Rajan, R. G., 1998, The paradox of liquidity. *The Quarterly Journal of Economics* 113, 733–71.

OECD (2013), Launching meeting of the MENA Investor Council, Discussions with Major Institutional Investors in MENA, 4 November, Istanbul, Turkey.

Opler, T. Pinkowitz, L. Stulz, R. and Williamson, R., 1999, The determinants and implications of corporate cash holdings. *Journal of Financial Economics* 52, 3-46.

Ozkan N., 2007, Do corporate governance mechanisms influence CEO compensation? An empirical investigation of UK companies. *Journal of Multinational Financial Management* 17,349-364.

Ozkan, A. and Ozkan, N., 2004, Corporate cash holdings: An empirical investigation of UK companies. *Journal of Banking and Finance* 28, 2103-2134.

Ramirez A., and Tadesse S., 2009, Corporate cash holdings, uncertainty avoidance, and multinationality of firms. *International Business Review* 18, 387-403.

Schellenger, M., Wood, D. and Tashakori, A., 1989, Board of director composition, shareholder wealth, and dividend policy. *Journal of Management* (15) 3, 457-467.

Short, Zhang and Keasey, (2002). The link between dividend policy and institutional ownership, *Journal of Corporate Finance*, 8 (2), 105-122.

Stulz, R. & Smith, C. (1985). The determinants of firms' hedging policies. *Journal of Financial and Quantitative Analysis*, 28, 397-405.

Table 1 Company in each Country

<b>Country</b>	<b>Firms</b>	<b>Region</b>	<b>Percentage</b>
<i>North Africa</i>		<b>94</b>	<b>0.219</b>
<i>Egypt</i>	78		0.181
<i>Tunisia</i>	16		0.037
<i>Gulf Countries</i>		<b>280</b>	<b>0.651</b>
<i>Bahrain</i>	16		0.037
<i>Kuwait</i>	72		0.167
<i>Oman</i>	56		0.130
<i>Qatar</i>	47		0.109
<i>Saudi Arabia</i>	81		0.188
<i>UAE</i>	38		0.088
<i>Jordan</i>	56	<b>56</b>	<b>0.130</b>

Table 2 Descriptive Statistics

<b>Variables</b>	<b>Mean</b>	<b>Min</b>	<b>Max</b>
<i>Cash</i>	0.043	0	0.903
<i>BSize</i>	8.097	2	25
<i>Ind</i>	0.412	0	1
<i>GovPrac</i>	0.349	0	1
<i>FisTrans</i>	0.239	0	1
<i>SecLaw</i>	0.218	0	1
<i>DPO</i>	0.385	0	1
<i>Lev</i>	0.178	0	0.980
<i>Prof</i>	0.067	-0.99	0.665
<i>Size</i>	11.912	6.516	20.176

Note: CASH is the cash and cash equivalents to total assets ratio; BSize is number of members on the board; IND is a dummy variable that takes one if the company hires independent directors in the board and zero otherwise; GOVPRAC is a dummy variable that takes one if companies belong to countries that reported improving governance practices in the IFC survey report in 2008 and zero otherwise; FISTRANS a dummy variable that has a value of one for companies that belong to countries that have fiscal transparency during the period of analysis and zero otherwise; SECLAW is a dummy variable takes 1 if the companies belong to a country that has securities law and banking supervision that comply with international standards and zero otherwise; DPO is dividends per share to earnings per share ratio; LEV is the total debt to total assets ratio; PROF is the ratio of firm's income to total assets; SIZE is the natural logarithm of total assets

Table 3 Correlation Matrix

<b>Variable</b>	<i>Cash</i>	<i>Bsize</i>	<i>Ind</i>	<i>GovPrac</i>	<i>FisTrans</i>	<i>SecLaw</i>	<i>DPO</i>	<i>Lev</i>	<i>Prof</i>	<i>Size</i>
<i>Cash</i>	1.000									
<i>Bsize</i>	-0.005	1.000								
<i>Ind</i>	0.017	-0.001	1.000							
<i>GovPrac</i>	0.066	-0.082	0.277	1.000						
<i>FisTrans</i>	0.061	-0.060	-0.192	-0.288	1.000					
<i>SecLaw</i>	-0.091	0.042	-0.396	-0.454	-0.030	1.000				
<i>DPO</i>	0.049	0.053	-0.045	0.002	0.112	-0.057	1.000			
<i>Lev</i>	-0.181	-0.026	0.028	-0.017	-0.042	0.003	-0.258	1.000		
<i>Prof</i>	0.159	0.100	0.031	0.133	0.112	-0.167	0.354	-0.323	1.000	
<i>Size</i>	0.113	0.018	0.051	0.564	-0.268	-0.365	-0.006	0.145	0.102	1.000

Note Variables are described as in Table 2.

Table 4 Regression Results (for the entire sample 430 firms)

<b>Dependent Variable:</b> <b>Cash</b>	(1)	(2)	(3)
<i>BSize</i>	-0.001* (0.062)	-0.0011 (0.237)	-0.0004 (0.673)
<i>Ind</i>	0.0010 (0.793)	0.0004 (0.956)	-0.0087 (0.171)
<i>GovPrac</i>		0.004 (0.716)	0.022** (0.002)
<i>FisTrans</i>		0.025** (0.036)	0.002 (0.808)
<i>SecLaw</i>		-0.007 (0.362)	-0.009 (0.180)
<i>DPO</i>	-0.010 (0.124)	-0.014* (0.089)	
<i>Lev</i>	-0.075*** (0.000)	-0.074*** (0.000)	
<i>Prof</i>	0.073*** (0.000)	0.074** (0.023)	
<i>Size</i>	0.003** (0.002)	0.003 (0.182)	
<i>Constant</i>	0.023 (0.287)	0.025 (0.427)	0.045** (0.002)
Industry Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
R <sup>2</sup>	0.103	0.114	0.052

Note Variables are described as in Table 2. \*\*\*, \*\*, \* significant at 1 %, 5 %, 10 % levels respectively.

Table 5 IV Regression Results (for the entire sample 430 firms)

Dependent Variable: Cash	(1)	(2)	(3)
<i>BSize</i>	-0.004** (0.016)	-0.0038** (0.024)	-0.0011 (0.496)
<i>Ind</i>	0.007 (0.347)	0.006 (0.465)	-0.005 (0.454)
<i>GovPrac</i>		0.004 (0.774)	0.024** (0.003)
<i>FisTrans</i>		0.030* (0.100)	-0.002 (0.856)
<i>SecLaw</i>		-0.007 (0.494)	-0.012 (0.119)
<i>DPO</i>	-0.015 (0.456)	-0.020 (0.309)	
<i>Lev</i>	-0.080*** (0.000)	-0.076** (0.001)	
<i>Prof</i>	0.071 (0.128)	0.074 (0.125)	
<i>Size</i>	0.002 (0.119)	0.002 (0.444)	
Constant	0.062* (0.059)	0.067* (0.092)	0.062** (0.001)
Industry Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
R <sup>2</sup>	0.105	0.116	0.074

Note Variables are described as in Table 2. \*\*\*, \*\*, \* significant at 1 %, 5 %, 10 % levels respectively.

Table 6 Interaction Effects Results (for the entire sample 430 firms)

Dependent Variable: Cash	(1)	(2)	(3)
<i>BSize</i>	-0.003** (0.011)	-0.001 (0.271)	-0.003** (0.031)
<i>Ind</i>	-0.001 (0.945)	-0.012** (0.036)	0.005 (0.611)
<i>GovPrac</i>			0.191*** (0.000)
<i>FisTrans</i>			-0.070 (0.232)
<i>SecLaw</i>			-0.081* (0.063)
<i>DPO</i>	-0.009 (0.458)		-0.007 (0.528)
<i>Lev</i>	-0.066** (0.001)		-0.061** (0.002)
<i>Prof</i>	0.045 (0.315)		0.047 (0.289)
<i>Size</i>	0.004** (0.011)		0.005** (0.007)
<i>GovPrac*Size</i>	-0.003** (0.021)		-0.016*** (0.000)
<i>GovPrac*Prof</i>	-0.031 (0.602)		-0.019 (0.752)
<i>GovPrac*Lev</i>	-0.006 (0.835)		0.020 (0.477)
<i>GovPrac*DPO</i>	0.008 (0.613)		0.011 (0.510)



<i>FisTrans*Size</i>	0.002 (0.295)		0.007 (0.118)
<i>FisTrans*Prof</i>	0.205** (0.002)		0.185** (0.005)
<i>FisTrans*Lev</i>	-0.136** (0.004)		-0.155** (0.001)
<i>FisTrans*DPO</i>	-0.026 (0.193)		-0.011 (0.617)
<i>SecLaw*Size</i>	-0.002 (0.341)		0.006 (0.111)
<i>SecLaw*Prof</i>	0.007 (0.895)		-0.013 (0.822)
<i>SecLaw*Lev</i>	0.011 (0.728)		-0.009 (0.788)
<i>SecLaw*DPO</i>	-0.009 (0.627)		-0.002 (0.917)
<i>GovPrac*BSize</i>	0.004** (0.010)	0.002** (0.025)	0.003* (0.089)
<i>SecLaw*BSize</i>	0.001 (0.447)	-0.001 (0.139)	0.002 (0.201)
<i>FisTrans*BSize</i>	0.003* (0.108)	0.0003 (0.672)	0.005** (0.033)
<i>GovPrac*Ind</i>	0.012 (0.234)	0.011 (0.158)	0.009 (0.436)
<i>SecLaw*Ind</i>	-0.007 (0.610)	-0.004 ( 0.759)	-0.014 (0.356)
<i>FisTrans*Ind</i>	-0.023 (0.136)	0.007 (0.475)	-0.020 (0.243)

Constant	0.032 (0.211)	0.050** (0.001)	0.008 (0.812)
Industry Dummies	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes
R <sup>2</sup>	0.144	0.048	0.168

Note Variables are described as in Table 2. \*\*\*, \*\*, \* significant at 1 %, 5 %, 10 % levels respectively.

Table 7 Regression Results for Subsample (85 firms)

Dependent Variable: Cash	(1)	(2)
BSize	0.0003 (0.909)	0.003 (0.355)
Independ	0.025 (0.367)	0.016 (0.645)
Instit	0.039* (0.095)	0.046* (0.058)
GovPrac	0.049** (0.005)	0.018 (0.260)
FisTrans	0.049 (0.113)	0.025 (0.447)
SecLaw	-0.003 (0.875)	-0.015 (0.444)
DPO	0.046** (0.033)	
Lev	-0.051 (0.117)	
Prof	-0.128 (0.199)	
Size	-0.010** (0.011)	
Constant	0.125* (0.065)	-0.036 (0.469)
	Yes	Yes

Industry Dummies		
Year Dummies	Yes	Yes
R <sup>2</sup>	0.309	0.196

Note: CASH is the cash and cash equivalents to total assets ratio; BSize is number of members on the board; Independ is board independence ratio measured as number of independent directors divided by total board size; INSTIT is the percentage of shares held by institutions; GOVPRAC is a dummy variable that takes one if companies belong to countries that reported improving governance practices in the IFC survey report in 2008 and zero otherwise; FISTRANS a dummy variable that has a value of one for companies that belong to countries that have fiscal transparency during the period of analysis and zero otherwise; SECLAW is a dummy variable takes 1 if the companies belong to a country that has securities law and banking supervision that comply with international standards and zero otherwise; DPO is dividends per share to earnings per share ratio; LEV is the total debt to total assets ratio; PROF is the ratio of firm's income to total assets; SIZE is the natural logarithm of total assets. \*\*\*, \*\*, \* significant at 1 %, 5 % and 10 % levels respectively.

Figure 1 Cash holdings

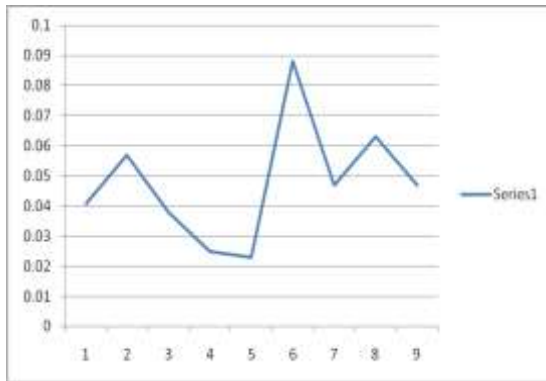


Figure 2 Board size

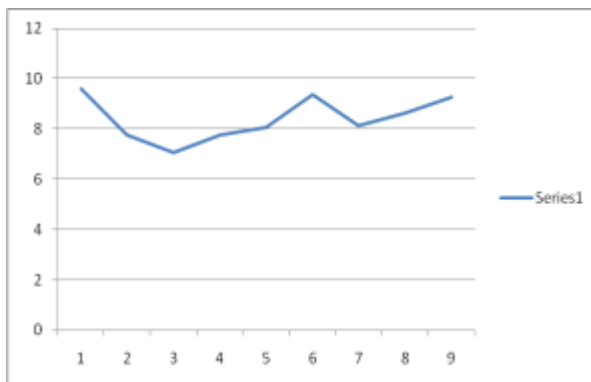


Figure 3 Board independence

