

CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD



**Impact of National Culture on
Financial Decisions of the Firms:
Evidence from Worldwide
Non-Financial Companies**

by

Ummar Aftab

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**Impact of National Culture on Financial
Decisions of the Firms: Evidence from
Worldwide Non-Financial Companies**

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Dedicated to My friend Mr. Waseem Akhter Qureshi



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List of Publications

It is certified that following publication(s) have been made out of the research work that has been carried out for this thesis:-

1. Aftab, U., Javid, A.Y. & Akhter, W. The Determinants of Cash Holdings around Different Regions of the World, *Business & Economic Review*, Vol. 10, No.2, 2018, pp. 151-182
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Abstract

This study analyzes impact of national culture and formal institutions, along with firm specific determinants as control variables, on and cash holdings for the period from 2007 to 2016 in respect of overall sample and regions including Africa, Asia Pacific, Europe, Middle East, North America and South America . There are 47 countries and 5,947 firms grouped into six regions for the purpose of analysis. Generalized Method of Moments (GMM) is used for analysis to deal with endogeneity. The results show that Power distance has significant negative effect on for overall sample, Europe and North America. It is significantly and positively related with dividend payment for Africa, Asia Pacific and South America. The managers of firms in regions with weak governance pay more dividend to develop reputation among shareholders even if Power distance is higher in said regions. The effect of Individualism on is significantly positive for all the regions except Middle East. Uncertainty avoidance , Long Term Orientation and Masculinity have significant negative effect on dividend payment for overall sample and almost for all regions under study. Power Distance Index has significant negative effect on cash holdings for Africa, Asia Pacific and Middle East and is positively related with cash reserves for Europe and no significant relationship for overall sample, North America and South America. Individualism has significant negative effect on cash holdings for almost all the regions. Uncertainty avoidance, Masculinity and Long term orientation have significant positive effect on cash holdings for overall sample, and other regions under study. Further, impact of formal institutions including worldwide governance index, shareholder rights index, creditor rights index and financial development on dividend payment and cash holdings is analyzed across the regions. The mixed effect of formal institutions on dividend payment and cash holdings is due to effectiveness of different constituents of formal institutions with varying levels across the regions. The most important result is that Interaction of worldwide governance index with different cultural dimensions shows moderating role of country governance for dividend payment and cash holding decisions around different regions of the world including overall sample. Firm specific variables have also shown significant impact on dividend payment and cash holdings for overall

sample and other regions under study. The implication of these results is that national culture has role in dividend and cash holding decisions by interacting with formal institution which plays role of moderator in explaining said decisions around different regions of the world.

Key words: Cash holdings, Dividend payment, Formal institutions, National culture, Firm specific determinants, Cross region analysis.

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Abbreviations

CRI	Creditor rights index
GLS	Generalized Least Square
IDV	Individuality
LTO	Long term orientation
MAS	Masculinity
MM	Modigliani-Miller
NPV	Net present value
PDI	Power distance index
SRI	Shareholder rights index
UAI	Uncertainty avoidance index
WGI	Worldwide governance index

Chapter 1

Introduction

1.1 Background of the Study

National culture of a country is central in shaping the culture of the organizations where they operate (Lindholm, 2000). National culture impacts culture of the organizations and ultimately influences their practices. As per Hofstede (2001), national culture of one nation is different from the other in the way that it is not only different with respect to language, religion and other aspects but also in terms of belief, way of thinking and actions of the people. According to Robbins (2003), organizational culture is affected by the values and beliefs of its initiators which are influenced by culture of the country in which they live.

Buchanan and Huczynski (2004) indicate that organizational culture influences behavior of the employees which is somehow affected by respective national culture. This is supported by Jung et al.(2008) who state that national culture influences values, beliefs and values of employees of a multinationals company subsidiary to a great extent in comparison of values of the company itself.

One aspect of the economic theories including agency and signaling is that a firm has a specific set of beliefs, values, preferences and norms that is shared among its workers and managers. Under this view, policy making of the firm is influenced by the firms culture because it is the culture which defines the 'right' behavior when it is confronted with a situation which is unforeseen and also with problem which has

multiple alternatives. As indicated by Hermalin (1994), it is due to the differences in the culture that even working in the same market or industry, different firms adopt different policies and take different financial decisions, although face the same situation. Culture, thus, may be defined as the mechanism of selecting among alternatives for policies and practices.

One very important question to address is why environment of a country's culture affect firms policies. Two possible channels may be detailed in this respect. In the first channel, national culture influences managers' vision and priorities. Previous research documents that many corporate decisions are explained by culture. This is emphasized by Li et al. (2013) who show that national culture influences a country's formal institutions and managerial decision making which ultimately affect risk taking aptitude of the corporate managers. Specifically, they identify positive impact of individualism on risk taking of the firms and uncertainty avoidance has negative effect on firm risk taking. Ahern et al. (2016) identify that cross border mergers are substantially influenced by cultural differences.

The second channel shows that national culture influences the investors' vision and preferences and firms take decisions to cater their predilections. Previous research shows that portfolio decisions of the international investors are influenced by religion induced gambling preferences. Kumar et al. (2012) document excess return volatilities for funds located in high catholic or low protestant areas. They also find that behavior of mutual funds is significantly influenced by local religious beliefs. The effect of culture on portfolio decision is also elucidated by Chui et al. (2010). Specifically, they show that individuals with higher individualism are suffered from self-attribution bias and overconfidence. They also identify that countries with higher individualism index show stronger momentum effect.

Cultural differences affect investors' trading frequency within their own portfolio (Bereche et al., 2014), entry in foreign market (Kogut and Singh, 1988), management planning and control systems (Harrison et al., 1994), auditor choice (Hope et al., 2008), financial disclosure (Jaggi and Low, 2000), financial reporting (Ding et al., 2005), tax compliance (Tsakumis et al., 2007), dividend payment decision (Shao et al., 2010; Fidrmuck & Jacob, 2010). Beside said studies, there are

researches showing effect of national culture on other corporate decisions. For example, national culture has been shown to influence financing decisions (Aggarwal, Kearney and Lucey, 2012; Chen et al., 2015), merger and acquisition decisions (Ferris, Jayaraman and Sabherwal, 2013), managerial decisions and equity valuation (Kim and Nofsinger, 2008; Chuluun et al., 2014)

For understating cultural effect on financial decisions, above stated two channels are equally important, but for this study, first channel is more appropriate as it is related to corporate decision making. With this reference, this study is more related to Shao et al. (2010), Fidrmuc & Jacob (2010) and Li et al. (2013) who are of the view that corporate decision making is affected by national culture.

National culture is described as an institutional factor which is informal and that determine "rule of game" to take organizational decisions(Gray et al. (2013).This "rule of game" is followed by the managers while taking important decisions because these are influenced by the culture. The significance of understanding national culture is more important for the companies operating abroad (Leung et al., 2005). So, international management scholars and multinational corporations should understand similarities and differences of cultures among different countries. The formalization and implementation of international strategy depend on the understating of the national culture by the managers of Multinational Corporations (MNCs).

Cultural is the outset of desired actions which provides guidance to social actors to choose activities, assess individuals and procedures, and elucidate their activities and estimations (Schwartz, 1999). In this reference, cultural values provide ideology to the individuals for living and describe for a society what is considered as legal or illegal, suitable or unsuitable, good or bad, usual or unusual, moral or immoral (Breuer and Quinten, 2009).

Values prevailed in a society determine what is considered as good, bad, suitable or unsuitable (Licht, Goldschmidt and Schwartz, 2001). Values not only affect peoples insights and wishes but also their actions to achieve their desires. Values shape perceptions, norms, wishes and estimation which ultimately affect decision making and actions of the people (Licht et al.,2007) .

Culture is a complicated phenomenon and it affects financial activities via several ways. The impact of national culture on financial performance is explained by Williamson (2000) presenting who presents four degrees. The top category imposes restriction on the successive lower level. Informal institutions like religions, customs, norms or code of conducts are taken into account at top level which vary from country to country and even in the different areas of same country (Williamson, 1998). Institutional environment at second level is based on formal rules and regulations like property rights and laws. The implementation of law and political and economic institutions are the most evident features at this level. Economic outcomes and agency theory come at the third and fourth level of the model respectively. The contract between principal and the agent can help to resolve the problems between agents and principal.

Other array of literature argues that human behavior is shaped by formal institutions through configuring inducements and causing decrease in uncertainty level in the society (Hall & Jones, 1999; Esterly & Levine, 2003). Cultural values are slow moving and they shape human behaviors which ultimately affect economic and financial decisions. So, formal institutions are effective only when they are aligned with the cultural beliefs and values of the society as cultural values are unrelenting and are shifted from one generation to another (Knack and Keefer, 1995; Grier, 1997; Barro, 2004; Gleaser, et al. 2006; Leeson, 2007; Williamson, 2009).

The importance of understating role of formal institution as moderator is relatively new and less explored in economic and finance literature (Williamson and Mathers, 2010; Bae et al., 2012). Formal institution may act as moderator by interacting with different dimensions of natural culture in explaining financial decisions.

This study aims to analyze effect of national culture along with firm specific factors as control variables on two important financial decisions i.e. dividend payment and cash holdings across the regions under study. Apart from the said objective, this study intends to investigate impact of different components of formal institutions including worldwide governance, shareholders rights, creditors rights and financial development on the said financial decisions. Another aim is to analyze role of

country governance as moderator by interacting the same with different dimensions of national culture.

Also, evaluation of firm specific determinants of dividend payment and cash holdings for firms operating in different regions of the world is objective of this study as this helps to test different theories of dividend and cash holdings around the world.

1.2 National Culture and Dividend Payment

As per agency theory, managers of the firms or controlling shareholders use resources of the firm for their benefits which may not be beneficial for shareholders (Jensen, 1986). These private benefits may take forms of unwarranted privileges consumption, transfer pricing excavating or absolute stealing of corporate resources. Famous agency model of dividend provides solution to the agency problems by synchronizing differences of interests between shareholders and managers. When managers of the firms pay dividends to the shareholders, managers are forced to interact with the markets for financing thus reducing cash flows at the discretion of managers or controlling shareholders (Easterbrook, 1984).

Similarly, legal rights of the investors may be regarded as alternate to external monitoring which take care of interests of the shareholders. As per La Porta (2000), there are two hypothesis related to relationship between legal rights and dividend payment. One model is outcome and other is named as substitute model. Outcome model states that shareholders with strong shareholder rights have the power to force managers pay dividends. As per substitute hypothesis, dividend payment may be used as substitute for weak legal rights. Accordingly, in order to develop reputation among shareholders, managers of the firms in poor shareholder rights countries try to increase dividend as a substitute.

Dividend payment of the firms is influenced by not only objective assessment of agency problems but also by subjective assessment of severity of the said problem which is based on beliefs, values, behaviors and values of the market participants (Fidrmuck and Jacob, 2010). These values and beliefs have effect on perception of

intensity of the agency problem. The culture influences not only shareholders of the firms but also managers or controlling shareholders who take decision to make dividend payment.

The beliefs, norms, values and other characteristics of culture influence nature of agency problems between managers and shareholders (Johnson, 2004) and determine legitimacy and acceptance of various dividends policies in the countries. In this way culture influences different dividend payment around the globe. The societies adopt approaches including formal institutions as suggested by La Porta et al.(2000) and informal institutions as stated by Williamson (2001) to address agency problems. As dividend payments are largely in the hands of managers, formal institutions vaguely control dividend payments and thus decisions of divided payment is driven by social regulation through informal institutions.

The societies which are influenced by individualism are suffered from agency problems because managers take care of their own interests and extract private benefits at the cost of shareholders interests. Due to this, shareholders may force managers to pay higher level of dividend in order to discipline self- motivated managers. Further, in higher power distance society, individual accepts differentials of power and wealth, so in such societies, agency problems are lower. Resultantly, investors do not demand higher dividend and lower dividends are culturally acceptable to them. As long as outside investors and insiders in high uncertainty avoidance societies are concerned, they want to make sure that expectations about dividend payment are met. Also they want higher retained earnings to safeguard against unseen financial distress. So in higher uncertainty avoidance culture, both stakeholders accept and expect lower level of dividend payment. Similarly, long term oriented managers increase cash levels to meet strategic objectives.

The literature also examines relationship between corporate governance and national culture in explaining dividend payment. The studies show mixed relationship between formal institutions and informal institutions with regard to dividend payment. Some studies show corporate governance and national cultures have complementary effect on dividend payment (Fidrmuc & Jacob,2010) and some find substitute effect (Fauver and McDonald (2015) .

Culture does matter even in the presence of formal institutions as culture influences the perception of severity of agency problems (Chang & Noorbakhsh, 2009). Management's perception about financial flexibility is affected by culture which determines level of cash reserves necessary to meet firms requirements.

The analysis of 5,947 firms from 47 countries around six regions of the world including Asia Pacific, Africa, Middle East, Europe, North America and South America enables to analyze effect of national culture and formal institutions along with firm specific factors as control variables on dividend payment of the firms. The impact of different components of formal institutions including worldwide governance, shareholders' right, creditors' rights and financial development on said financial decision is also studied around the regions to investigate how formal institutions influence dividend payment of the firms operating in said regions. Firm specific determinants of dividend payment are also analyzed for overall sample and six regions under study.

This study analyzes impact of culture on dividend payment along control variables. PDI has significant negative effect on dividend payment for overall sample, Europe and North America. It has positive impact on dividends for Africa, Asia Pacific and South America. The firms operating weak governance regions pay more dividend to develop reputation among shareholders even PDI is higher in said regions. IDV on dividend payment is significantly positive for all the regions except for Middle East. UAI and LTO and MAS have significant negative effect on dividend payment for overall sample and almost for all regions under study. Further, moderating effect of country governance on dividend payment shows that dividend payment in overall sample and in all regions under study is more influenced by formal institutions and compared to national culture, although informal institutions do have their importance in shaping the said policy. Worldwide governance has positive effect on dividend policy for Europe, North America and South America, whereas, it has negative impact of dividend for overall sample, Africa, Asia Pacific and Middle East.

This study expands relationship of national culture with dividend payment across

various regions of the world. The impact of formal institutions on dividend policy with broader set of variables is also analyzed region wise which is not made previously. The analysis of firm specific determinants of dividend payment for the regions under study is also a major contribution made by this study.

1.3 Cash Holdings and National Culture

In perfect capital markets, cash holding decision is irrelevant because firms can easily generate funds from the financial markets to finance their investments at insignificant cost. Hence, shareholders wealth does not change with the change in liquid assets of the firms. However, recent studies demonstrate that firms maintain cash holdings by investing in liquid assets. For example, in UK, cash is 9 % of the total assets of the companies (Belghitar & Najjar, 2011). In USA, public firms grasp cash as 18.8%. (Gao, Harford, & Li, 2013). Cash constitutes 10% of the total assets for Japanese companies (Kato, Lee & Skinner, 2014) . In China, cash is 6.67% of total assets (Rehman & Wang, 2015). Cash holdings are 14 % of total assets in Saudi companies (Guizani, 2017).

The corporate cash holding is a critical decision because cash holdings can have effect on the ability of the firms to capture investments opportunities (Harford et al.,1999); can be used inefficiently by the entrenched managers for their private benefits (Jension,1986) and are vulnerable to extraction by self-motivated managers, government officials and politicians (Chen et al., 2015).

Apart from traditional motives of cash holdings, many theories including Free Cash Flow (FCF) and pecking-order theory have been tested in the literature (Faleye, 2004; Acharya et al., 2007; Weidemann, 2016) However, such studies normally focus on specific situations of cash hoarding and develop conflicting results about impact of the most common cash determinants across these situations. Resultantly, it is difficult to draw a general statement regarding determinants of cash holdings from the existing research. This study is an attempt to derive the answer of the question; what determine level of cash holdings?

Major area of research covers companies from the USA, although, there are some studies of Dittmar et al. (2003), Pinkowitz et al. (2006) and Lins & Kalcheva (2007) which are conducted their researches in international settings.

The study of cross country researches shows that decisions to hold varying levels of cash are influenced by investors' protection. The companies operating in less shareholders' right countries hold more cash. In the case shareholders' rights are weak in the country, if managers of the firms hold cash it will reduce value of the firms and a firm's value is increased if controlling managers pay dividend (Kalcheva & Lins, 2007). Nevertheless, some studies find that country governance has insignificant impact on cash holdings (Pinkowitz, Stulz and Williamson, 2015)

This study attempts to identify impact of national culture and formal institutions along with control variables on cash holdings around different regions of the world. For the purpose of analysis, different components of national culture as proposed by Hofstede (1980,2001) are used. Also, moderating effect through its interaction with formal institutions are analyzed for all the regions under study. The impact of formal institutions on cash holdings is also analyzed for the regions under study to investigate how different components of formal institutions including worldwide governance, shareholders' right, creditors' rights and financial development affect cash reserves of the firms operating in said regions.

Among dimensions of culture, it is observed that PDI negatively influences cash reserves for Africa, Asia Pacific and Middle East and is positively related with cash levels for Europe and no significant relationship for overall sample, North America and South America. IDV positively influences cash reserves for Africa, Asia Pacific, Middle East, and significant negative effect on cash reserves for overall sample and Europe. MAS, UAI and LTO positively affect cash reserves for most of the regions. Worldwide governance positively impacts cash level of the firms for overall sample, Africa and Asia Pacific, whereas, it negatively influences cash reserves for Europe, North America and South America. The moderating role of formal institution in explaining behavior of cash holdings around the world shows that formal institution has more influence on cash holdings as compared to informal institutions, although, different components of national culture do have

impact on cash holdings. Further, firm specific components of cash holdings have similar effect on cash reserves around almost all regions under study with some exceptions.

1.4 Motivation of the Study

The literature examines determinants of capital structure, dividend payment, earning management, and cash holdings (Aggarwal, 1981; Booth et al., 2001; Charitou and Louca, 2009; Chen, 2004; Leary and Roberts, 2010). However, these studies commonly employ only firm or industry-level characteristics, while there are few studies ascertaining impact of institutions on financial structure decisions. Among these studies only very few take into account the role of informal institution called as culture of the country such as Leung et al. (2005); Tera et al (2007) ; Bae et al.(2012) and Chen et al.(2015). This instigates to treat national culture as important determinant of dividend payment and cash reserves which plays an effective role in explaining variations in the said important financial decisions across different regions of the world. This is the main motivation to undertake a study that considers the impact of culture and formal institutions along with control variables on important financial decisions of firm like dividend payment and cash holdings around the world. Further the moderating role of formal institutions specially governance is not addressed at all with reference to dividend and cash flow decisions which necessitates to investigate this relationship.

1.5 Contribution and Significance of the Study

This study augments the existing researches on the determinants of financial decisions including dividend payment and cash reserves of the firm in several dimensions:

This study provides more complete cultural dimensions from both managers and investors points of view in analysis for 5,947 firms in 47 countries across six regions of the world. Broader country level formal institutions including worldwide

governance index, shareholders right index, creditors right index and financial development along with firm specific determinants as control variables of dividend payment and cash holdings. Firm specific variables in the study help to test traditional theories including Birds in hand, trade off , signaling , agency , life cycle theory etc. The moderating effects of worldwide governance on dividend payment and cash reserves is added to examine whether national culture and formal institutions (WGI) play substitute or complement role across the regions.

For international managers, investors and policy makers, a broad picture for such decisions is available. The results of this study provides guidance to the managers and policy makers to take into account important role of culture in determining and analyzing cash holding decisions and dividend payment. This study increases understanding and paves a way for finance scholars and academicians to include other aspects of culture and formal institutions in their researches on financial decisions. The interaction effect of cultural variables with country governance helps to identify moderating role of governance on cultural dimension in dividend and cash flow decisions. International managers need to take care of this fact while formulating dividend payment and determining level of cash holdings.

1.6 Research Questions

Following are the research questions arise from the above discussion for which this study attempts to find answers:

- Do national cultural and formal institutions, along with control variables , influence the dividend payment of the companies worldwide?
- Do national cultural and formal institutions, along with control variables , influence cash reserves of the firms around different regions of the world?
- Do formal institutions moderate cultural dimensions in determining dividend payment and cash holdings around different regions of the world?

To obtain the answer of the research questions, following objectives are formulated:

1.7 Objectives of the Study

- To analyze the impact of national culture and formal institutions on dividend payment along with control variables for worldwide non-financial companies.
- To analyze the impact of national culture and formal institutions on cash holdings along with control variables for worldwide non-financial companies.
- To test moderating role of worldwide governance for dividend payment and cash holdings around different regions of the world.

1.8 Organization of the Study

The plan of the study is as follows: After introduction, literature review and theoretical framework is presented on dividend payment and cash holdings in Chapter 2. Chapter 3 includes discussion on data and methodological framework. The results are discussed in Chapter 4. The conclusion of study is made in Chapter 5.

Chapter 2

Literature Review

This chapter analysis previous literature on impact of informal institutions, formal institutions and firm specific variables on dividend payment and cash holdings. This chapter elucidates not only empirical evidences on impact of different variables on said financial decisions but also on theoretical relationship of different determinants of cash reserves and dividend payment. The relationship formal institutions with informal institutions with reference to their impact on dividend payment and cash holdings is studied empirically and theoretically. Finally, hypotheses are developed based on the previous literature and theories presented.

2.1 Literature Review on Dividend Payment

In this section, literature review on impact of national culture on dividend payment is presented which is followed by effect of formal institutions and firm specific factors on dividend payment .

2.1.1 Dividend Payment and Culture

Although, apart from firm specific factors, there are other determinants identified in the literature including legal and corporate governance system (La Porta et al., 2000; Bancel & Mittoo ,2009), Licht, Goldschmidt, and Schwartz (2005)

posit that legal approach of La Porta et al. (2000) explains small portion of the overall variation in corporate governance system and in order to fully explain the phenomena, culture is required to be added in the analysis.

In this century, it is revealed that culture may explain the difference of payment of dividend across the countries (Shao et al., 2010; Bae et al. (2012). As per Bae et al. (2012), failure to have consensus on the determinants of dividend payment is due to the fact that influence of culture has been ignored in many studies. The idea that culture affects dividend payment is based on the notion that beliefs and values of people in the society have an influence on how managers of firms operate and manage the firms and thus shape dividend payment.

Khambata and Liu (2005) analyze dividend payment in 14 countries of Asia Pacific Region. They identify that managers of the firms operating in countries with high uncertainty avoidance index tend to pay lower dividend. To them, lower dividend payout ratio results into more cash in the hand of managers, thus decreasing risk of default, which is ultimate objective of risk-averse manager. From the viewpoint of investors, unless managers use free cash flows in wasteful projects, low dividend payout is also optimal for risk-averse investors.

Fidrmuc and Jacob (2010) use Hofstede's cultural dimensions of individualism, power distance and uncertainty avoidance and analyze relationship between national culture and dividend payment across forty countries. They find that individualism and dividend payment are positively related. They also identify that dividend payments is negatively influenced by uncertainty avoidance and power distance as managers with such attributes tend to pay lesser dividend. They want to hold more cash for precautionary reasons.

Shao et al. (2010) use Schwartz's cultural dimension of mastery and conservatism and analyze that dividend payment is affected by is not only determined by objective judgment of gravity of agency and asymmetric problems in the firms as well as by subjective assessment of managers and shareholders about the said issues. They find that conservatism and dividend payment are positively related, whereas, mastery is negatively associated with dividend.

Bae et al (2012) find that companies operating in countries having similar corporate governance systems and financial development have different dividend payment levels, thus indicating some other factors having influence on dividend policies. They investigate that cultural dimensions of Hofstede (1980, 2001) have significant effect on dividend payment even if corporate governance is controlled. They also show that countries with strong investor protection index have more dividend payout if culture is of high uncertainty avoidance or high masculinity.

This study provides more complete dimensions of culture to analyze impact of informal institutions on dividend payment of 5,947 firms in 47 countries across six regions of the world . In this study, not only managers' perspective has been elaborated but also investors' perception regarding dividend policy is explained. Both managers and investors are influenced by the culture of the countries in which they grow up and they take financial decisions accordingly.

2.1.2 Culture, Corporate Governance and Dividend Payment

This study intends analyze effect of culture and corporate governance on dividend payment around different regions of the world. The literature on influence of national culture and corporate governance is relatively recent and there are few studies which address this issue. In many studies, country level investor protection is taken as proxy of corporate governance . In this study, shareholders' right is taken as proxy of corporate governance.

Bebchuk (1999) predicts when private benefits of control are greater; owners of the business are reluctant to go public and would like to hold the control if going public is indispensable. He examines the decision of the initial owner of the firm whether to maintain control after the firm goes public. The size of private benefits of control influences this decision.

Jaggi and Low (2000) examine how financial disclosures by firms from different countries are influenced by legal systems. The results point out that disclosure of financial information is more visible in common law countries as compared to civil law countries. It means financial reporting system in civil law countries is

opaque, whereas, in common law counties it is more transparent. Contrary to other studies, they find that financial disclosure is not significantly influenced by national culture.

In their study, Dyck and Zingales (2001) focus on three institutions, well-known in the literatures which are likely to control private benefits: through internal pressures from organized labor, through external product market competition and through the internal policeman of moral norms.

Dyck (2004) shows that a government owned company with enriched revenues is expected to sell shares privately instead of public offerings. Thus private benefits of control have got significance not only in capital finance but also in legal system of any country as focused on by La Portas group (1997) and Johnson et al (2000).

Hope et al., (2008) examine that firms auditor choice is influenced by national culture by using cultural factors of Hofstede. They build a measure named secretiveness. They work on the data of 37 countries and find that a Big 4 auditor is hired by the firms in more secretive countries. They also find that this effect is diminished as the firms internationalize.

Aggarwal et al. (2009) analyze 5,296 firms of USA and 2,234 foreign firms for 2004 to find out differences in governance practices. They identify that culture has significant effect on sharpening the governance practices in both types of firms. They argue that some formal governance practices are substituted by cultural differences.

As far as relationship of national culture with corporate governance in explaining dividend payment is concerned, literature provides mixed results. Some studies provide that culture and governance have complementary effects and some assume they are substitute.

Fidrmuc and Jacob (2010) examine that culture and legal institutions are complement to each other in explaining dividend payment across the countries. Shao et al. (2010) argue that even after controlling corporate governance, dividend policies are influenced by culture of the countries in which firms operate.

On the other hand, Fauver and McDonald (2015) find that cultural effects are reduced by better governance. In other words, when there is better governance, effects of culture are offset.

2.1.3 Formal Institutions and Dividend Payment

In the literature, effects of different formal institutions on dividend payment are studied. Corporate governance and investors right are used interchangeably to analyze their impact on dividend payout. In this section, literature on corporate governance and shareholders right is combined and then empirical studies on creditor rights and financial market development are presented.

2.1.3.1 Corporate Governance and Dividend Payment

Jensen (1986) postulates that excess cash flow is a temptation for managers to use cash at their discretion which may benefit them by ignoring benefits of the shareholders. Defiantly, this results into more agency costs, unprofitable investments and unfair allocation of resources. Chung et al.(2005) also identify that value and profitability of the firm are negatively influenced by excessive cash reserves.

First of all, concept of agency problems generated by separation of ownership and control is given by Berle and Means (1932) who argue that if ownership and control are not concentrated in one person, there may arise agency problems. Jensen and Meckling (1976) base their argument on this assumption and suggest that conflict of interests between principals i.e. shareholders and agents i.e. managers causes agency problems between them. Jensen (1986) argues that agency problems may be reduced by the of dividend payment as it decreases available cash in the hands of managers which is a temptation for managers to extract private benefits at the cost of shareholders. However, dividend payment is determined by managers and they may not always implement such dividend payment which would benefit shareholders, rather they may select a policy which would benefit them only (Jiraporn et al., 2011).

The opportunistic behavior of controlling shareholders can also be reduced through effective dividend payment. The prevention of expropriation of minority shareholders by controlling shareholders depends on laws and governance structures caring rights of the minority shareholders which eventually influence dividend payment. In case of poor shareholder rights, investors may not be able to obtain objective of higher dividends. The managers of firms operating in countries which have more shareholders' rights tend to pay more dividend as shareholders are more protected by law (Kaen, 2003).

Corporate governance plays an effective role in formulating and implementing dividend policies. The investors in the firms are not only concerned about return of their money but also want to make sure to implement fair dividend payment policy (Shleifer and Vishny, 1997). The dividend payment can be closely monitored through proper implementation of corporate governance practices.

With reference to relationship between agency problems and corporate governance, two models including outcome and substitute models are presented by La Porta et al.(2000). As per outcome model, dividend payment is outcome of legal rights available to shareholders. According to this model, minority shareholders can exercise their rights to extract dividends from the firms. This model predicts that dividend payment is positively influenced by shareholders' rights. The firms with better governance pay more dividends so that expropriation from the managers may be avoided.

Substitute model considers that payment of dividend is a substitute of legal protection. According to this model, firms with weak legal protection pay more dividends to their shareholders to create reputation among them. Hence, as per this model, there is negative association between dividend payment and shareholders' rights.

La Porta et al. (2000) analyze 4,103 firms from thirty three countries during the period from 1989 to 1994. They use Anti-director rights as a proxy of corporate governance. Their study supports outcome model. They also study payment of dividend in different legal settings. To them, in common law countries, managers of the firms pay more dividends to shareholders as their rights are protected by law, whereas, in civil law countries where fewer rights are available to shareholders,

managers pay lesser dividends as shareholders are unable to force managers to pay more dividends.

Jiraporn et al. (2011) analyze data of ISS from 2001 to 2004 and study effect of governance on dividend payment. Their results support outcome theory. Renneboog and Szilagyi (2006) identify that for firms operating in Netherlands shareholder rights index positively influence tendency to pay dividend. Michaely and Robert (2006) find that both variables are positively related to each other. Marques (2013) analyze 413 firms of Western Europe from seventeen countries in 2010 and endorse outcome theory.

However, there are studies in the literature which advocate substitute theory. These study show that dividends are used as a substitute of strong governance for reduction of agency problems between managers and shareholders. Officer (2006) identifies, by using internal and external corporate governance that dividends substitute governance. Dividends act as instrument to provide commitment to minority shareholders in countries with weak shareholder rights. If internal governance mechanisms of a firm are strong and rights of outside shareholders are fairly protected, minority shareholders may be satisfied with lower dividends.

Leary and Michaley (2011) identify that small firms and firms with unstable returns and earning and low dividend yields, and firms with fewer analysts forecasts tend to smooth dividend less, whereas, cash cow firms with weak governance, higher institutional shareholdings, low growth are likely to smooth more. They document that firms which have more agency problems and are financially unconstrained and have lower asymmetric information tend to smooth more.

Bhattacharya, Lee and Rhee (2016) study whether relation of corporation governance with dividend payment is complementary or substitute. They argue that relationship of corporate governance with dividend payment is substitute when idiosyncratic risk of the firm is high and corporate governance act as complement when idiosyncratic risk of the firm is low.

Esqueda (2016) examine cross listing of US firms from emerging and developed economies from 1990 to 2010. He uses insider ownership, anti- director rights

index and country law as proxies of corporate governance. His study supports substitution theory. He argues that when insiders control the cross listings, outcome model is supported. He finds that following U.S. cross listings, payment of dividends and prospects to pay increase.

2.1.3.2 Creditor Right and Dividend Payment

As already stated La Porta et al. (2000) formulate two different models of dividends related to agency theory i.e. outcome model and substitution model. Both models represent equity version of agency problems. According to outcome model, shareholder rights positively influence dividend payment of the firms. As per substitution model, dividends can substitute for weak governance and can create reputation among shareholders by paying more dividends. As per Brockman and Unlu (2011), the countries which are subject to opaque disclosure requirements follow substitution model.

Above stated equity version of agency models i.e. outcome and substitution do not consider agency problems related to use of debt. Brockman and Unlu (2009) argue that dividend payments are influenced by creditor rights and not by shareholder rights. It means creditors have more ability to affect dividend payment of the firms as compared to shareholders. If creditors are poorly protected, their weak legal rights may be substituted with lower dividend payments. This indicates outcome model of dividend cannot be operative under poor shareholder rights.

2.1.3.3 Financial Development and Dividend Payment

La Porta et al. (1997) identify that financial market development can be hampered by weak creditor rights. Rajan and Zingales (1998) and Demirguc-Kunt and Maksimovic (1998) examine that in financially underdeveloped countries, cost of external financing is increased. Khurana, Martin and Pereira (2006) argue that cash is more concentrated in the firms operating in countries with poor financial development to avoid costly external financing. This shows poor creditor rights

cause poor financial market development which leads to increase in cash reserves of the firms and lower dividend payment.

La Porta et al. (2000) identify that firms operating in common law countries, where rights of minority shareholders are more protected, tend to pay more dividends as compared to civil law countries where less legal protection is available to minority shareholders. Brockman and Unlu (2008) find that firms stockpile more cash when there is a lack of financial development in the country which results into lower dividend payment.

Denis and Sibikov (2010) argue that cash holdings affect dividend payment also. It means dividend payment is pertinent to shareholders because it affect investment decision of the firm in the presence of costly external finance.

It is obvious from the above that most of the studies cited above have used one or two components of formal institutions. Also no cross country or regional comparison is made in the literature. This is first attempt to bridge up this gap by using broader country level formal institutions including worldwide governance index, shareholders right index, creditors right index and financial development along with firm specific determinants of dividend payment across different regions of the world with larger sample of firms for the period from 2007 to 2016.

2.1.4 Firm Specific Determinants of Dividend Payment

The debate on the determinants of dividend payment starts with M&M (1961) irrelevancy theory which states that in a perfect market, cash dividend and capital gains are the best substitute to each other and thus payment or nonpayment of dividend has no impact on the value of firm.

The discussion on dividend payment starts with one of the important factors i.e. taxation system of the country in which firm operates. In the case that cash dividend is more taxed than capital gain; payment of cash dividend does not make any sense. Black (1976) and Feldstein and Green (1983) highlights this issue as dividend puzzle. Another determinant of dividend payment is asymmetric information which states that in an imperfect market, investors are less informed

and in such case, dividend is the only way to send signals to the market about future profitability and prospects of the company (Bhattacharya, 1979; Miller and Rock, 1985; Kumar, 1988).

Over the period, many other determinants of dividend payment have been identified by the scholars including leverage, growth, profitability, agency cost, risk and liquidity (Aivazian, Booth and Cleary, 2003; Fama and French, 2001; Kuwari, 2009; Anil and Kapoor, 2008; Al-Malkawi, 2007; Ahmed and Javid, 2009, life-cycle stage (DeAngelo, DeAngelo, and Stultz 2006), and investor sentiment (Baker and Wurgler, 2004).

Most of the researches include the issues of payment or nonpayment of dividend (DeAngelo et al., 2006; Baker and Wurgler, 2004); ratio of dividend payment (Rozeff, 1992 and Li and Lie, 2006); whether to pay through cash dividend or through repurchase of shares (Stephens and Weisbach, 1998; Jagannathan et al., 2000) and most of the studies are focused on a single country i.e. United States. There are also some studies on international context of dividend payment and its determinants (Eije and Megginson, 2006; Denis and Osobov, 2008; Kuwari, 2009; Adjaoud and Amar, 2010; Fatemi and Bildik (2012).

Many studies are conducted to analyze effect of firm specific factors of dividend payment in both developed and emerging countries. In this section, first studies on developed countries are presented and then factors analyzed in emerging markets are discussed.

Rozeff (1982) claim that past and expected future growth is negatively associated with dividend payment as high growth results into high investment. The payment of dividend under such situation increases external cost so firms avoid making dividend payment as dividends lower internal funds.

Banerjee et al. (2002) identify negative relationship between liquidity of the stock and dividend payment for US firms listed on NYSE and Amex for the period from 1963 to 2001. They also find that size and profitability have positive relationship with dividend payment. They also observe negative relationship of investment opportunities with dividends.

Grullon et al.(2003) analyze firms listed in NYSE and AMEX that announce dividend payments during the period from 1963 to 1997. They find that dividend announcements do not contain information regarding future earnings prospects of the firms. They also find that dividend change is negatively correlated with future change in profitability.

Ho (2003) analyzes effect of important determinants of dividend payment including leverage, risk, size, profitability, asset mix and growth for Japan and Australia. He finds that imputation tax system in Australia favors higher dividend than Japan. He argues that different financial sectors in Australia and Japan have varying effect on dividend payment of the firms operating in the said countries.

Myers and Bacon (2004) also analyze impact of different elements by using Multex Investor Database. Their study identifies that higher PE ratio is directly related to dividend payment, whereas, risk of the firm and insider ownership are negatively associated with dividends. This means that management of the firms has the incentive to increase value of the stock option held with them as executive compensation through reduction in dividend.

Dennis and Osobov (2006) study dividend policies of six different countries and find evidences in support of agency-cost based life cycle theories but against signaling, clientele, and catering theories. Alternatively, Eije and Megginson (2006) examine dividend policies of companies from 15 countries of European Union and find partial support for catering theory.

Denis and Osobov (2008) analyze determinants of dividend payment in developed countries including UK, Germany, US, France, Canada and Japan during the period from 1989 to 2002. They find that there are general elements of dividend payment across the countries. Following Fama and French (2001), they identify that important determinants of dividends are growth opportunities, retained earnings, firm size and profitability.

Apart from the studies on developed countries, there are researches on developing countries which test whether firm specific determinants of dividend payment identified for developed countries are equally relevant for the developing countries.

Kumar (2003) analyze firm specific variables of dividend payment in India for the period from 1994 to 2000. He finds that earning trend has positive effect on dividend payment, whereas, leverage is negatively related with dividend.

DeAngelo et al.(2008) conclude clientle demand, signaling motives, investor sentiments, tax deferral benefits and investors behavioral heuristics influence dividend payment of the firms. They identify that managerial behavioral biases like over confidence and personal biases of controlling shareholders have the major impact on the dividend payment.

Kuwari (2009) analyze dividend payment of firms in Gulf Cooperation countries (GCC). He finds that profitability and size of the firm are positively related with dividend payments. He argues that firms in GCC try to reduce agency problems and change their payout policy frequently and do not adopt long run target strategy. He also finds negative relationship between dividends and leverage.

Mohamed et al. (2016) analyze determinants of dividend payment for Malaysian firms during the period from 2003 to 2015. They analyze that on the average, Malaysian firms pay 40 % of their earnings to shareholders as dividends. They identify that profitability and liquidity are important determinants of dividend payment. They find that large firms pay more dividends as compared to small firms. .

It is revealed from the above that no single theory is able to fully explain the dividend policies in developing as well as in developed countries. Frankfurter and Wood (2002) argue that no theory or explanation is unambiguously verified. Baker et al. (2011) note that no theory dominates the other, so every theory requires empirical support to validate its postulates.

As per Baker and Weigand (2015), agency cost theory and signaling theory have more explanatory power than tax preference explanation, although catering theory and life-cycle theory also provide useful insights despite producing mixed results.

Above review of literature reveals that firm specific variables have significant effect on dividend payment of the firms. Different variables have been used by different

researchers; however, not a single study is found which is conducted around different regions of the world. In this respect, this study is the only research which is conducted around different regions of the world including Africa, Asia Pacific, Europe, Middle East, North America and South America. Also, this is the only study which uses a large set of firm specific variables as control variables including profitability, size, leverage, risk, tangibility, financial strength, liquidity, growth and free cash flow.

2.2 Literature Review on Cash Holdings

In this section, literature review on national culture on cash holdings is presented which is followed by effect of formal institutions and firm specific factors on cash reserves.

2.2.1 National Culture and Cash Holdings

Ramirez and Tadees (2009) study effect of culture on cash holdings. They identify that individualism has negative impact on cash holdings, whereas, uncertainty avoidance positively influence cash holdings of the firms. They find that one standard deviation increase in uncertainty avoidance causes 14 % increase in cash holdings of the firms.

Chang and Noorbakhsh (2009) analyze effect of national culture on cash holding decisions of the firms around different countries. They identify that managers of the countries with uncertainty avoidance culture tend to hold more cash and liquid assets. The shareholders in such culture also consider that higher financial flexibility is possible by keeping excess reserves by the firms and are less concerned about temptation of managers to invest in less negative NPV projects. They also find that masculinity and long term orientation have also positive effect on cash holdings and are negatively related with investments of the firms.

Neamtiu et al. (2014) examine effect of macroeconomic ambiguity on cash holdings and managerial investment. They show that macroeconomic ambiguity has

positive impact on cash holdings and negative effect on investment levels. They argue that managers with higher ambiguity aversion are inclined to make risk-less investments, spend less on capital expenditure and hold more cash as their expectations about future return on investments are ambiguous.

Chen et al. (2015) examine how national culture affects level of corporate cash holdings across countries for the period from 1989 to 2009. They find that there is a negative relationship between individualism and cash holdings and positive association between uncertainty avoidance and cash reserves, thus concluding that national culture is a significant factor to influence cash holdings. They identify that one standard deviation increase in uncertainty avoidance causes 6.45% increase in cash holdings of the firms in different countries. Their findings suggest that managers in uncertainty avoidance environment are less tolerant to cash flow volatility and hold more cash. They provide cultural based precautionary motive for holding corporate cash.

They also investigate the extent to which national culture influences how firms use their cash holdings, reporting that capital expenditure, amongst other things, is positively related with individualism and negatively related with uncertainty avoidance, while controlling for cash flow (significant positive coefficient) and cash flow volatility (insignificant), along with other firm, industry and year effects. Chen et al. (2015) demonstrate, therefore, that investment intensity (i.e. the level of capital expenditure) is influenced by national culture and by cash holdings.

It is evident from the above that no study analyzes impact of national culture on cash holdings around different regions of the world. Further, in the literature effect of corporate governance and national culture on cash holdings has been studied separately and it is unlikely that any study is found on analyzing interaction effect of national culture and country governance on cash holdings around different regions of the world. This is first study to fulfill this gap by using more complete cultural dimensions including power distance index (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty avoidance index (UAI) and Long-term orientation (LTO) from both managers and investors points of view in analysis for 5,947 firms in 47 countries across six regions of the world

2.2.2 Formal Institutions and Cash Holdings

In the literature, effects of different formal institutions including corporate governance, shareholder right, creditor right and financial development on cash holdings are studied. In this section, literature on corporate governance and shareholders right is combined and then empirical studies on creditor rights and financial development are presented.

2.2.2.1 Corporate Governance and Cash Holdings

Agency theory assumes that managers of the firms are prone to maximize their own interests at the cost of shareholders. Jensen (1986) argue that presence of free cash flows aggravate the situation as managers use free cash flows at their discretion which may harm the benefits of shareholders. There is a possibility that managers would spend excess cash on unprofitable projects instead of giving the same to shareholders in the form of dividends.

Brush et al. (2000) present three premises of agency theory. Firstly, managers are inclined to increase their own interests and fulfill self-interests. Secondly, managerial inefficiency and waste of resources may be the results of presence of free cash flows. Thirdly, agency costs are aggravated in the presence of weak corporate governance. Jensen (1993) analyze that due to free cash flow problem, rate of return on investments for US companies in 1980s remain lower than required rate of return.

Dittmar et al. (2003) find that investor protection positively influences cash holdings in sample of international firms. Ozkan and Ozkan (2004) analyze relationship between managerial ownership and cash holdings for UK firms during the period from 1984 to 1999. They find that interests of the managers and shareholders are aligned up to 24 % managerial ownership, then it turns to entrenchment up to 64 % and then again shows adjustment towards alignment when managerial ownership increases beyond 64 %.

Chen (2008) analyzes effect of corporate governance on cash reserves of the firms with varying growth opportunities. He refers these growth opportunities as new

economy and old economy. To him, new economy firms are connected to internet, software, telecommunication, networking etc. He finds that new economy firms hold more cash and have greater board independence than old economy firms. They also document that CEO ownership influences cash holdings of old economy firms negatively but does not influence new economy firms.

Haw et al. (2011) analyzes firms in thirty three countries for the period from 1998 to 2004 and document that investor protection has positive effect on cash holdings of the firms. They identify that weak investor protection reduces value of the cash as firms tend to make repurchases with excess cash reserves instead of distributing the same to shareholders in the form of dividends.

Kusnadi et al. (2011) analyzes firms from thirty nine countries for the period from 1995 to 2004 and find that firms operating in the countries with weak investor protection hold more cash. However, they do not find relationship between financial development and cash holdings after controlling legal shareholder protection.

Al-Najjar (2013) studies impact of investor protection and capital markets on cash holding decision. He finds that different institutional frameworks have different effects on cash holdings of the firms. He identifies that firms hoard more cash in the presence of poor investor protection and weak capital markets.

Cai (2013) and Chen et al. (2015) study relationship between corporate governance and free cash flows in China and find that firms with excessive cash reserves tend to make over investment. Cai (2013) finds that state owned firms have more tendency to make over investment in the presence of free cash flows. Chen et al.(2015) document that board size and ownership concentration help to reduce over investment problems.

Y.Liu, Mauer and Zhang (2014) identify that cash holdings of the firms are influenced by CEO debt compensation differently from equity compensation of CEO. To them, inside debt, which is CEO wealth, has positive effect on cash holdings of the firms. They find that risk aversion is increased by inside debt which causes more cash reserves as a measure to align interests of bondholders and managers.

Chen et al. (2014) analyzes Chinese firms using data of World Bank survey (2006) and study relationship between government quality and cash holdings of the firms. They find that higher government quality reduces financial constraints and enable the firms to stockpile lesser cash and invest more and improves cheap financing from banks and capital markets.

Al-Najjar (2015) analyzes cash holding determinants in SMEs and finds that insider ownership and corporate governance have no significant effect on level of cash reserves. He further identifies that SMEs are negatively influenced by leverage and size and positively by CEO compensation.

2.2.2.2 Financial Development and Cash Holdings

Opler et al (1999) analyze data of firms on Compustat database for the year 1971 to 1994 and find that firms with higher asymmetry information problem and costly access to capital markets for financing their investment projects tend to hold higher level of cash. They also identify that higher business risk, small size and more growth opportunities lead to higher cash holdings by the firms.

Dittmar et al. (2003) examine the effects of a countrys legal system along with financial developments on international corporate cash holdings and conclude that consistent with agency view, development in capital markets has positive effect on cash holdings of the firms.

Pinkowitz, Stulz and Williamson (2016) study effect of financial development on cash holdings for US and non-US firms. They use three proxies for financial developments: market capitalization as percentage of GDP for development of stock market; domestic credit provide by financial institutions as percentage of GDP for development of banking sector; and bond market turnover as a proxy for the development of bond market. They identify all the said measures of financial development have positive effect on cash holdings of the firms.

It is evident from the above that in the literature no single study is found which test impact of different components of formal institutions at country level on cash holdings around different regions of the world. For the first time, this study

analyzes impact of different country level formal institutions including worldwide governance index, shareholders' rights index, creditors' rights index and financial development around different regions of the world.

2.2.3 Firm Specific Determinants of Cash Holdings

The literature on cash holdings goes back to Keynes (1936) who presents precautionary motive to hold cash by firms. Later on, other determinants of cash holdings are identified including operating activities, technological improvements, opportunity and interest rate (Miller & Orr; Metlzer, 1963). Further, agency, trade off and pecking order theories are also applied on motives to hold cash reserves (Meckling (1976); Jensen, 1986; Myer, 1984)

The first comprehensive study on cash holding determinants is made by Opler et al. (1999). They identify different determinants of cash holdings including size, cash flow volatility, firm value, growth opportunities, capital expenditure, payouts, credit rating, access to capital markets and acquisition expenditures.

Colquitt et al. (1999) analyze cash holding behavior of American property insurers during the period from 1993 to 1995 and identify that cash holdings of small insurers have positive relationship with costly external funds, risk cash flows, investment opportunities and greater short-term demand for cash as compared to big insurers.

Pinkowitz and Williamson (2001) make comparison of determinants of cash holdings for Japanese, American and German firms. They identify that net working ratio of Japanese firms is lower than that of American and German firms. However, higher cash levels are maintained for greater periods by Japanese firms as compared to other firms in other two countries. They further find that Japanese firms are banks induced and banks influence firms to hold more cash for building up wealth of the banks.

Foley et al. (2007) establish relationship between tax on repatriation income for US firms and cash holdings. They find that higher tax on repatriation income

of the firms leads to hold more cash. They determine that one standard deviation increase in tax rate on reparation income results into 7.9 % increase in cash holdings.

D. Hausshalter et al.(2007) identify that in highly concentrated industries, interdependence of investment opportunities is higher among rival firms. They find that under recession period, in the presence of higher rivalry, firms tend to hold more cash in an attempt to exploit investment opportunities. They study manufacturing firms during the period from 1993 to 1997 and find that due to higher interdependence of investment opportunities between firms and their rivals, cash holdings of the firm increase to 26.2 %.

Klas et al. (2009) study relationship between unionization rates and cash holdings for industry firm during the period from 1983 to 2005. They find that when there are more powerful unions in the firms, managers tend to hold lesser cash so that their bargaining position may be improved and transfer of profit to unions to meet their demands be avoided. The negative relationship between unionization is more rigorous for stronger firms, firms with financial constraints and more concentrated industries.

Levitas and McFadyen (2009) find that R&D investment has positive effect on cash holdings. They argue that R &D firms have to trade off between investment in current projects or piling up cash for future investments and costly external financing due to asymmetric information which is an attribute of R&D activities.

Fresard (2011) argues that firm specific return volatility increases temptation of the firms to hold more cash. He suggests that market and industry movements do not explain firm specific return volatility and it provides new information to managers and investors. So cash holdings are positively affected by return variation.

Acharya et al. (2013) show that when uncertainty about a firms future income increases, its specific risk is also increased which leads to accumulation of more cash. Brisker et al. (2013) identify that inclusion of firms in S&P 500 index causes more decrease in cash holdings by the firms as compared to their matched counterparts. Bates et al. (2009) find that inclusion in index has downward effect on cash holdings of the firms.

Itzkowitz (2013) that cash holdings of the firms are affected by relationship between suppliers and buyers. They analyze data of US manufacturing firms from 1979 to 2006. They identify that supply firms with major customers have 30 % more cash than their peers without major customers. It means stronger relationship with the customers has positive effect on cash holdings of the firms.

Acharya et al. (2014) establish relationship between liquidity risk, cash flow, cash holdings, liquidity risk, credit lines and future growth opportunities. They identify that cash flow volatility positively affect liquidity risk. If such firms are unable to finance their investment through external markets, it is likely that they will hold more cash instead of using credit lines.

Similarly, Rapp et al. (2014) establish link between cash holdings and financial flexibility. They also find that financial flexibility is positively related to growth opportunities and negatively associated with external financing costs, reversibility of capital and profitability. They estimate that financial flexibility decreases dividend payment and leverage but increases cash holdings.

Francis et al. (2014) identify that for American firms, banking deregulations and cash holdings have negative relationship. This is especially true for financially constrained firms with different hedging requirements. They find that after the banking regulations, access to external markets has become less costly and easier, there is lesser need to hold more cash by the firms, however, constrained firms with more hedging needs are expected to hold more cash.

Harford et al. (2014) analyze relationship between cash policy and debt maturity decision. They identify that corporate cash holdings help to mitigate refinancing risk. They find that nature of corporate debt changed from 1980 to 2008. They identify that short term debts increases over the period, although, long term debts remain constant, thus increasing risk of refinancing.

Custodio and Metzger (2014) establish relationship between CEO having finance background and financial policies of the firms including cash holdings for the period from 1993 to 2007. They find that firms with such type of CEO have lower asset volatility, lower investment level, higher maturity, lower asset growth and lower cash holdings and vice versa.

Qiu and Wan (2014) analyze effect of R&D and product market competition on cash holdings in the presence of financial constraints. They find positive relationship between technology spillover and market competition and cash holdings. They further identify that effect of 1 % increase in spillover technology on cash holdings is 0.5 % and 1 % increase in market rivalry causes an increase of 0.36 % cash hoarding.

It is obvious from the above that no study in the literature tests impact of comprehensive set of firm specific variables on cash holdings region-wise. This study, for the first time, include a large number of company specific variables as control variables to analyze their effect on cash holdings around different regions of the world including Africa, Asia Pacific, Europe, Middle East, North America and South America.

2.3 Theoretical Framework on Dividend Payment

In this section, theories related to dividend payment are presented (Miller and Modigliani (1961; Lintner, 1956; Bhattacharya, 1979; Jensen and Meckling, 1976; DeAngelo, DeAngelo, and Stultz 2006; Baker and Wurgler, 2004). Then hypotheses related to informal institutions, formal institutions and firm specific variables are developed.

As discussed above, dividend payment of a firm is not only determined by firm specific factors but also formal and informal institutions influence decision of the firms to retain or distribute the profit. So, theoretical foundation is explored regarding formal and informal institutions first and then theories related to firm specific determinants of dividend payment are presented.

2.3.1 Theories on Dividend Payment

In this section, theoretical relationship of formal and informal variables with dividend payment is illustrated firstly and then traditional theories related firm specific determinants of dividend payment are presented .

2.3.1.1 National Culture and Dividend Payment

Culture is often invoked as a reason for differences between various national regimes of insider trading regulations (Lichet, 2000). As per Lichet (2000), it is important to incorporate cultural aspects while formulating design of any financial system because they carry heavy weight and cannot be treated as only residual variables.

The literature identifies close relationship between cultural factors and agency problems as measures to solve agency problems differ across countries and adoption of different governance systems varies according to culture prevail in the country. The severity of agency problems is not only determined by objective assessment but also subjectivity of the shareholders which is influenced by the culture of the country in which they reside (Chang & Noorbakhsh, 2009).

One of the main objectives of this study is to analyze that dividend payment is determined not only by objective judgment of the intensity of asymmetric information or agency problems in affirm but also subjective perceptions of management and shareholders about the said problem, which hinge on the national culture. The key idea is that dividend policies are affected by national culture which influence perceptions of the people about severity of the dividend related issues i.e. agency problems and asymmetric information (Shao et al.(2010).

Following is the brief summary on relationship between national culture and different theories of dividend payment

2.3.1.1.1 National Culture and Bird in Hand Theory of Dividend

As per Hofstede (1980, 2001), in a collective society, individuals are connected through a tightly-knit framework and take care of each other for exchange of unquestioning loyalty. Collectivist shareholders are more concerned about security of their family and this attribute can be seen in dividend payment decision of the firms. Shareholders have two ways to deal with after tax earnings of the firm: one is to reinvest the same and obtain risky returns and second is to receive cash in the form of dividends which can be considered as Bird in hand.

The shareholders in high uncertainty avoidance countries are more concerned with the security, and this attitude can be seen in dividend payment. The managers of the firms with high uncertainty avoidance are inclined to keep more cash with them and hence reluctant to pay dividend to the shareholders. On the other hand, shareholders with more uncertainty avoidance index desire the firms to pay more dividends (Khambata and Liu, 2008). This desire of the shareholders to receive higher amount of dividend is the base of birds in hand theory (Gordon ,1963 and John Lintner ,1964) which state that shareholders prefers dividend over capital gain as dividends are certain, whereas, capital gain is probable.

According to birds in hand theory, individuals desire for cash distribution because of two reasons. First, they desire for cash in accordance with Keynes money demand theory which states that individuals hold cash for transaction, precaution and speculative purposes. Thus, the individuals who are more risk averse want to have more cash for precautionary motives in addition to transaction or speculative purpose. Second, such shareholders desire to invest in more liquid, low risk portfolio of assets. The firms can manage this desire of such shareholders by investing in low risk projects. However, as per birds in hand theory, such shareholders would desire to rebalance their portfolio of assets by themselves and would desire higher amount of dividend.

Another dimension of Hofstede's cultural dimension (1980, 2001) is long term orientation vs short term orientation which is closely related with birds in hand theory. As already stated, shareholders may reinvest their share in profit or may receive in the form of dividends. The shareholders with short term orientation would desire to receive dividends as per birds in hand theory as they believe in immediate and short term return of their investments.

2.3.1.1.2 National Culture and Signaling Theory of Dividend

The managers and shareholders of the firms operating in countries with high collectivism index take care of public image. Dividends are publically announced and represent firm image. So such managers prefer to pay high dividend. Masculine society is more result oriented and believes in independence and performance.

Higher cash in the hands of managers enable them to take independent decisions when investment opportunities arise.

Newman and Nollen (1996) find that performance award and penalty have asymmetric nature in masculine society. The managers take more reward when their performance is good as compared to penalty when their performance is bad. This is asymmetric information effect which states that in a high masculinity country; masculinity is negatively associated with dividend payments. On the other hand, stable and continually increasing dividend is considered as good indicator of managers performance and superior ability so in order to maintain such reputation, managers may pay high dividend in such countries. Hence, relationship between masculinity and dividend is not clear as per signaling theory which requires further empirical testing.

2.3.1.1.3 National Culture and Agency Theory

The relation between shareholders and management is very critical as expropriation by the managers causes more loss to value of the firm as compared to amount of the loss thus compromising collective interest and breaching group harmony. Under agency theory, managers want career advancement and control to govern the firm freely. At the same time, shareholders want managers to operate assets in their best interests. People, in collective society, are embedded into cohesive group and they are interested in positive interactions. Free cash flow in the firm is considered as enticement for the managers to misuse the same for their own interests, so collective managers would desire to reduce it by giving dividends to the shareholders. On the other hand, shareholders of such society are likely to favor this self-disciplined dividend payment of the managers.

The firms operating in individualistic environment want to have low debt ratio (Chui et al., 2002), thus follow low dividend payment and retain more cash with them. With more cash in the firm, managers and shareholders feel independence because with higher cash available, they can take their own decisions when investment opportunities arise. On the other hand, if firm is short of cash and in case

investment opportunity arises, it has to turn to debt or equity market which is not acceptable in an individualistic society.

2.3.1.1.4 National Culture and Pecking Order Theory

According to pecking order theory, internal cash is the most important source of financing as opposed to debt and equity. It does not have time constraint as it is readily available when the investment opportunities arise, whereas borrowing or equity are time consuming and subject to procedural operations. In individualist culture, dividend payout ratio is high indicating direct relation between dividend and individualism, endorsing pecking order theory. Similarly, high uncertainty avoidance managers would also desire to maintain higher level of cash which favors lesser amount of dividend as pecking order theory. Similarly, managers in high masculine societies would incline to pay lesser amount of dividend.

2.3.1.2 Formal Institutions and Dividend Payment

The literature finds that not only firm specific variables affect dividend payment but also formal institutions including corporate governance, shareholder right, creditor right, financial market development have significant effect on dividend payment decision of the firms (La Porta et al. 2000; Hu and Kumar (2004); Officer (2011) ; Michaely and Roberts (2012) ; Grullon and Michaely (2014); Farre-Mensa, Michaely and Schmalz (2014); John, Knyazeva and Knyazeva (2015); Bhattacharya, Li and Rhee (2016)

2.3.1.2.1 Corporate Governance

Corporate governance is considered as solution to the agency problems. Since the time Jensen and Meckling (1976) identify agency problems, many researches focus to mitigate the said problems through corporate governance (Dittmar et al.,2003;Kalcheva and Lins, 2007; Chen et al.,2015). Up to 1980s, most of the researches were limited to United States. However, in 1990s, researchers extend their researches to other countries. Initially, research was limited to major economies

including Japan, Germany and UK. After 2000, studies on corporate governance extend to both developed and developing countries of the world (Denis & McConnell, 2003; Huang et al., 2013; Jia & Iskandar-Datta, 2014; Pinkowitz, Stulz, & Williamson, 2015).

La Porta et al. (1998) analyze corporate governance systems under two different legal systems. They find that shareholders and creditors are more protected in common law countries as compared to civil law countries.

It is well established that bad governance practices may create financial problems and put the firms in scandals (Aydin & Cavdar, 2015). This augments importance of good governance practices. Firms, investors and society are benefited from corporate governance. According to Coskun and Sayilir (2012) state benefits of good corporate governance are: better firm performance, reduced cost of capital, protection of shareholders rights while abiding by legal requirements, improving reputation of the firm and increasing value of the shares.

The relationship between corporate governance and dividend payment may be studied with two competitive views: (i) outcome model (ii) substitute model. Strong governance may reduce free cash flow available at disposal of the managers by way of making dividend payment, thus making relationship between corporate governance and dividend payment as complement to each other. On the other hand, corporate governance may be employed effectively so that behaviors of the managers may be controlled, thus making corporate governance as substitute for dividend payment.

Substitution model predicts that firms which intend to generate equity in future establishes reputation by taking measures to protect minority shareholder interests and thus firms with poor corporate governance pay higher dividends. Chen et al. (2009) determine role of corporate governance in measuring amount of dividend payment and identify that when corporate governance brings improvement to the firms, external financing constraints inversely affect dividend payout.

This study analyzes the relationship between corporate governance and dividend payment by hypothesizing that relationship between the said variables as complement or substitute depends on the corporate governance of the country in which

firms operate. It is likely that corporate governance will substitute effect of national culture on dividend payment.

2.3.1.2.2 Shareholder Right

As already stated corporate governance is measured at two levels i.e. firm level and country level. For country level corporate governance, both shareholder right index and Worldwide Governance Index (WGI) are used as proxies of corporate governance (La Porta et al.,1997; Shao et al.,2010; Zheng and Ashraf,2014). However, following Pinkowitz, Stulz and Williamson, 2016, this study intends to use both proxies of formal institutions separately. Worldwide Governance Index (WGI) is used for country level corporate governance, whereas, Anti director right is used as proxy for shareholder right.

The manager-shareholder conflicts are avoided through mechanism of dividend payout. John and Knyazeva (2006) state that dividend payment is the effective mechanism to mitigate agency cost of free cash flows because dividends are precommandments and deviation from the dividend payment results in higher costs given that dividend cuts are seen as negative news in the market. The firms with lower investment protection are exposed to managerial entrenchment and face severe cash flow problems. So, there is more necessity to pay dividend in the firms with lower shareholder rights as compared to firms with strong shareholder rights. This is substitute view of the dividend payment model

According to shareholder power hypothesis, a firm with weak shareholder protection needs to develop reputation among the shareholders. So, dividend payment is important in establishing repute in the market. On the contrary, in the firms with strong investor protection, there is lesser need to develop reputation and so need to pay dividend as investors have the legal rights to extract cash when they desire (Jiraporn and Ning, 2006).

2.3.1.2.3 Creditor Rights

In corporate finance, agency problem has got very impotence in formulation of financial decisions of the firms. The agency problems exist not only between managers and shareholders but also between shareholders and creditors.

As per Byrne and OConnor (2017), dividend policy is also influenced by one of the important formal institutions i.e. creditor rights. Following equity-only agency model of dividend of La Porta et al.(2000) with agency costs of debt, Brockman and Unlu (2009) conclude that dividend payment of a firm is more influenced by creditors than shareholders. As per substitute hypothesis, when creditor rights are weak, managers reduce the payment of dividend keeping in view demand of creditors. When creditor rights and shareholder rights are strong, creditors allow higher payment of dividends (Byrne and OConnor, 2017; Shao et al., 2013).

The substitute model says dividend substitutes for lower legal rights and through history of continuous dividend payment, firms establish reputation among the shareholders and convince them that their interests will be protected (Claessens and Youtoglu, 2012; Gan et al., 2014). The trust so developed helps firms by reduced financial constraints, higher stock value and higher growth rates (Gan et al., 2013).

Brockman and Unlu (2009) argue that these are creditors, not debtors, who cause change in dividend policies of the firms. To them, equity version of outcome model may not hold valid in the presence of weak creditor rights. In case creditor rights are poor, they will substitute it with lower dividend payments.

2.3.1.2.4 Financial Markets Development

As per Gul et al.(2015), investors in the countries with poor investor protection laws, weak political institutions and less developed financial markets have the problem of more trading friction and face difficulty in trading freely on shares when dividends are low. In other words, in case of weak formal institutions, investors cannot sell their shares without excessive discount in the value if they are unsatisfied with the lower dividend payment by the firms.

In case of trading friction in the markets, liquidity needs of the investors are satisfied by the firms by payment of dividend thus enabling them to avoid trading

friction (Banerje et al., 2007). Resultantly, investors in current or future needs of liquidity prefer dividend paying stocks. This preference for dividend paying stock increases with increase in trading friction.

Also, Rajan and Zinglaes(2003) suggest that development of capital market is also affected by a good system of disclosure and transparency and development of financial market development affect dividend policies of the companies. The importance of accounting transparency for development of effective capital markets is studied previously which emphasize that successful development of securities markets enhances ability of the investors to trade freely and confidently (Black,2001; Ball, 2001; Bushman and Smith,2003).

In this study, two measures of financial development are used. The first measure is the value of market capitalization as percentage of gross domestic product (GDP) and second measure is calculated as domestic credit provided by financial institutions as percentage of GDP.

2.3.1.3 Firm Specific Factors and Dividend Payment

2.3.1.3.1 Irrelevance Theory

This theory is presented by Modigliani and Miller (1961) which states that in a perfect market with fully informed and rational investors and with no bankruptcy and taxes, dividend payment has no relationship with value of the firm and hence dividend is irrelevant.

Modigliani and Miller (1961) argue that dividend payment does not influence capital structure of the firm or value of the stock under said conditions. So, no such factor may be deduced from this theory as can influence dividend payment decision under this theory. However, no market is free from frictions and so dividend payment decision does matter. This leads to other theories formulated by finance scholars.

2.3.1.3.2 Bird in Hand Theory

As per Linter (1956), a bird in the hand is better than two in the bush, meaning that investors like to receive dividend today to avoid uncertainties. As per this theory, payment of dividend enhances value of the firm. It suggests that investors prefer one bird in the hand which is dividend payment than two birds in the bush which is comparatively higher but risky capital gain. Gordon (1959) extends the work of Linter (1956) and state that investors are not impartial between the two alternatives and they prefer to receive dividend today as compared to future capital gain.

2.3.1.3.3 Signaling Theory

The signaling theory (Bhattacharya, 1979) argues that managers send signals to the market thorough divided to convey information to outsiders. The managers do so when they believe that stock is undervalued. The theory argues that despite tax disadvantage, if there are positive earnings prospects for a firm, it intends to send signal to the market through dividend payment and payment of dividend is considered as future profitability by the investors.

2.3.1.3.4 Agency Theory

Jensen and Meckling (1976) present agency theory by stating conflict between principals (shareholders) and agents (managers). To them, managers are responsible to increase wealth of the shareholders. Agency problem arises when managers obtain private benefits at the expense of shareholders. The managers may be refrained from acting in opportunistic way by establishing effective monitoring and providing incentives to persuade them to act in the best interests of shareholders.

2.3.1.3.5 Life Cycle Theory

DeAngelo, DeAngelo and Stulz (2006) observe that mature firms with low growth likely to pay more dividends as compared young firms with higher investment opportunities. This follows the business life cycle in which mature firms pay more dividends since they have more profitability and less attractive opportunities whereas young firms need more cash to fund their investment projects. As the firms

evolve over time and have more stable profit and lesser investment opportunities, they pay more dividends.

2.3.1.3.6 Catering Theory

The catering theory of dividend is presented by Baker and Wurgler (2004) who argue that payment of dividend depends on sentiments of the investors. Managers pay dividend to the investors when they prefer dividend paying firms and reduce or eliminate dividend when investors prefer not paying firms, thus by this way managers cater to investor demand of dividend. Li and Lie (2006) investigate changes in dividend payment for US firms and support catering theory of dividend.

2.3.2 Hypothesis Development of Dividend Payment

As already stated, purpose of this study is to analyze impact of national culture and formal institutions along with firm specific determinants as control variables on dividend payment and cash holdings. In this section, on the basis of empirical evidences and theoretical foundation presented above, hypotheses are developed to test the impact of different dimensions of national culture and formal institutions on dividend payment along with firm specific variables as control variables. Relationships of cash holding determinants with cash reserves are discussed in the next section.

2.3.2.1 Dividend Payment and National Culture

To see the avenues through which Hofstede's cultural dimensions have impact on the firms financial structure, there is a need to first describe Hofstede's (1980,2001) cultural dimensions. This provides the background to presents a conceptual framework for every cultural dimension presented by Hofstede (1980,2001) which operate within every popular model of dividend payment of the companies i.e. the pecking order theory, the tradeoff theory, the agency theory and catering theory. The hypotheses for this study then emerge from this. In this section, hypotheses on moderating role of formal institution are also developed.

2.3.2.1.1 Power Distance and Dividend Payment

Cultures with low power distance have a propensity to spread information largely, to provide education and opportunities to personal development across the board, to show extensive social mobilization, and to support argument and to evaluate the decision making process of companies. On the other hand, cultures having high power distance are likely to show restricted information, irregular right of entry to education and funds, authoritarian process of decision making at higher management level only, gaining minimum participation from the junior level and restricted social mobility.

In high power distance societies, privileged differentials are accepted and hence there is less severity of agency conflicts and thus it reduces the need to use dividend payment as disciplining mechanism. Contrary to this, equality in wealth and power is the attribute of low power distance societies and investors in such countries prefer to receive higher dividend to deal with agency conflicts. High retained earnings are not acceptable in such societies because it shows more funds in the discretion of few insiders.

The negative relationship between PDI and dividend payment is observed in the studies of Fidrmuck and Jacob (2010) and Zheng and Ashraf (2014).

So the next hypothesis is:

H1a: Companies in low power distance countries tend to have higher dividend payouts.

In the absence of corporate governance, negative relationship between PDI and dividend payment is expected. However, interaction of PDI with corporate governance may decrease/ increase this negative relationship depending on the case outcome model or substitute model is followed in the region. Hence, next hypothesis is:

H1b: The negative relationship between PDI and dividend payment is decreased/ increased with increase in corporate governance.

2.3.2.1.2 Individualism and Dividend Payment

Individualism belongs to societies in which the relationship between individuals is unstable and people are mainly concerned with themselves and their families only. American societies are ranked number one in this attribute based on research by the Dutch psychologist Geert Hofstede (1980, 2001). Collectivism is contrary to individualism and it pertains to nations where people are tied up in strong relations from their birth, unified in-groups, and try to hold and continue these associations throughout their lifetimes. In this regard, China is considered as number one by Hofstede (1980,2001).

Personal objectives are more vigorously perused in individualist societies than collective societies in which others decisions and interests are adhered to. In individualistic societies, there is greater need of personal achievement and personal benefits. So it is expected that insiders will be more involved in opportunistic behavior even if it is against the social harmony. At one end, investors demand high dividend in individualist societies to deal with opportunistic behavior and on the other end, managers want to pay less dividend in order to use funds at their own discretion. Due to greater need of liquidity of shares, managers of individualistic societies have to meet expectations of the investors and they pay higher dividend to alleviate bigger expropriation concerns (Faccio et al., 2001; Farinha and Lopez-de-Foronda, 2009).

On the other hand, in collective societies, interests of the group are given more weight by the individuals even if these interests are not coinciding with their own. In such societies, there are less agency conflicts and hence there is less need of dividend payment.

The positive relationship between individualism and dividend payment is observed in the studies of Fidrmuck and Jacob (2010) and Zheng and Ashraf (2014). So, the next hypothesis is:

H1c: Individualism has positive effect on dividend payment of the firms.

As per outcome model, corporate governance and dividend payment are positively associated, whereas, substitute theory argues that strong governance negatively

influences dividend payment of the firms. So, relationship between individualism and dividend payment will be influenced by the persuasion of the firm to be affected by outcome theory or substitute theory. If in a region outcome model is prevalent, positive relationship between IDV and dividend payment will be strengthened. On the other hand, positive relationship between IDV and dividend payment will be decreased if substitute theory is applicable in the region.

In the light of above, following may be hypothesized:

H1d: The positive relationship between IDV and dividend payment will increase/ decrease in the presence of corporate governance.

2.3.2.1.3 Masculinity and Dividend Payment

A society's degree of masculinity determines the level of emphasizes on the male characteristics of insolence, rivalry and achievement in relation to the female characteristics of nurture and support, and it also represents the willingness level of personnel performing these roles in the society. Societies possessing high degree of masculinity are inclined to show behavior towards attainment rather than harmony, conflict rather than collaboration, and intellectual independence rather than moral obligation. Japan is highest scoring country in the world and Netherland is the lowest in this regard. In other words, Netherland is the highest in Femininity. De Jong and Semenov (2002) argue that persons in the masculine society are performance focused, result oriented and independent. They are more materialistic and competitive, so managers are expected to be aggressive and assertive (Chang & Noorbakhs, 2009).

In masculine societies, individuals pay more weight to the reward which arises from opportunistic behaviors. The investors of such culture do not trust the firms which pay less dividend and they want firms to pay high dividend. Whereas, masculine managers tend to hold large amount of cash holdings to exploit investment opportunities rather than paying dividends to the shareholders and reducing available cash with them. Bae et al (2012) find negative relationship between MAS and dividend payment, whereas, Zhang and Ashraf (2014) identify positive relationship between the said variables.

In the light of above, next hypothesis is:

H1e: The dividend payout is negatively related with MAS;

Masculine managers are independent and so want to keep more cash with them to exploit future opportunities, so they pay lesser dividends. On the other hand masculine shareholders demand higher dividends. In MAS society agency problems would be more severe. In the presence of effective corporate governance it is expected that power of the shareholders would be strengthened which will force MAS managers to pay more dividends. On the other hand, as per substitute model there is an inverse relationship between corporate governance and dividend payment and so negative relationship between MAS and dividend payment would be strengthened in the presence of higher governance. So, the next hypothesis is:

H1f: The relationship of MAS with dividend payment would be positive/ negative in the presence of effective corporate governance.

2.3.2.1.4 Uncertainty Avoidance and Dividend Payment

Uncertainty avoidance captures the nervousness that community members feel when exposed to ambiguity and uncertainty. Low risk taking, higher level of resistance to change, comprehensive financial statements, lesser desire for personal growth and higher average age in senior posts are some characteristics of societies exhibiting high uncertainty avoidance.

According to birds in hand theory and catering theory, high uncertainty avert societies prefer to receive higher dividend but these theories ignore the fact that maintaining higher level of dividend for longer period of time is very difficult. Further, decision to pay dividend is in the hands of managers and in the case managers are of high uncertainty avoidance, they will prefer to maintain higher liquidity to cope with the uncertainties and will pay less dividend.

Based on the above discussion, next hypothesis is:

H1g: The companies in high uncertainty avoidance countries tend to have low dividend payouts.

Moreover, tendency of shareholders to demand dividend is based on protection they have with respect to their investments. The shareholders with higher UAI may be requiring more dividends than shareholders with lower UAI. On the other hand, managers with higher UAI tend to hold more cash and so make less payment of dividends to deal with future uncertainties. Nevertheless, strong good governance would persuade firms to pay more dividends as in the presence of higher corporate governance and strong shareholder rights, desire of the UAI shareholders to receive more dividends outweigh aspiration of the managers to pay lesser dividends. So, in the presence of good governance, managers of the firms may be forced to pay higher dividends even in higher UAI society. On the other hand, if dividend payment of the firms follows substitute model as proposed by La Porta et al. (2000), interaction of UAI with corporate governance may yield negative regression coefficient. So, next hypothesis is:

H1h: UAI and dividend payment are positively/ negatively related in the presence of higher corporate governance.

2.3.2.1.5 Long Term Orientation

Long term orientation (LTO) shows the degree of predilection for future rewards like firmness and economy. Contrary to this, short term orientation points out the degree of nurturing the qualities pertaining to present and past, specially, value for custom, satisfying social responsibilities and striving to maintain reputation (Hofstede, 2001)

As per Doney et al. (1998), persons with long term orientation believe in long term results and performance and are not involved in opportunistic behavior. This indicates that in long term orientation, agency problems are not so severe and shareholders are less likely to demand higher dividends for disciplining the managers. Investors with long term orientation tend to sacrifice today's consumption of dividends for more cash in future. The managers with long term orientation are likely to value long term investments and loans, preferring lower level of dividends.

From the above, following hypothesis may be developed:

H1i: Long term orientation has negative effect on dividend payment of the firms.

It is assumed that national culture and corporate governance are related to each other and if governance is improved, effect of culture is reduced (Bae et al., 2012; Fauver & McDonald, 2015). Keeping in view moderating effect of corporate governance, it is assumed that:

H1j: Long term orientation has positive/ negative effect on dividend payment of the firms when quality of governance is better.

2.3.2.2 Formal Institutions and Dividend Payment

In this section, the study presents the hypotheses to test related to formal institutions and dividend payment. In the literature, both country level corporate governance and shareholder rights are used to analyze effect of corporate governance on dividend payment. First, hypotheses related with the impact of country level corporate governance and shareholder rights on dividend payment is presented which is followed by impact of creditor rights and financial markets development on dividend payment policy by firms.

2.3.2.2.1 Corporate Governance and Dividend Payment

The shareholders desire to receive dividends if they perceive that managers or controlling shareholders will use resources of the firms for their own benefits. This situation may be overcome by investor protection as a control of expropriation (La Porta et al., 2000). However, country level corporate governance may also be used as a control device to address the issue (Mitton, 2004).

The payment of dividend is considered as outcome of good governance practices. The shareholders use good governance mechanism to force managers to disgorge cash holdings and pay more dividends. Alternatively, as per substitute model, dividends are considered as substitute of good governance, so firms pay more dividends when governance mechanism is not good or do not provide protection to the shareholders.

Gugler and Yurtoglu (2003), Mitton (2004), Jiaporne et al. (2011) and Marques (2013) provide support for outcome model, whereas, Jiraporn and Ning (2006), Officer (2006), and Esqueda (2016) find evidences in favor of substitute model of dividend.

This study formulate hypothesis according to the outcome model as well as substitute model for analyzing effect of corporate governance on dividend payment. In this line, this study expects a positive/negative relationship between firm country level corporate governance/ shareholder rights and dividend payout ratio. Thus, hypothesis to be tested is the following:

H2a: There is a positive/ negative relationship between corporate governance/ shareholder rights and dividend payment of the firms.

2.3.2.2.2 Creditor Rights and Dividend Payment Brockman and Unlu (2009) identify that dividend payment of the firms is influenced by creditors and not by shareholders of the firms. Accordingly, managers of the firms compensate creditors for poor legal protection by reducing amount of dividend to shareholders. This supports substitute model. However, creditors allow managers of the firms to pay more dividends when rights of shareholders and creditors are protected (Shao et al., 2013) So, it may be hypothesized that:

H2b: There is positive/ negative relationship between creditor rights and dividend payment.

2.2.2.2.3 Financial Development and Dividend Payment

Corporate governance is improved when stock prices fully reflect all information contained therein. In the presence of effective financial system, managerial incentives are structured and agency conflicts are reduced (Levy-Yeyatiet et al., 2004). The controlling shareholders and managers can only be disciplined when markets are well functioning and there is full disclosure of information and complete transparency. The shareholders can distinguish between good and bad firms in the presence of efficient and well functioning financial markets.

Brockman and Unlu (2011) argue that dividend payment of the firms is influenced by disclosure quality. They identify that in a disclosure environment which is opaque; managers build reputation among shareholders of the firms by paying more dividends. Hence, they follow substitution model under obscure disclosure environments. On the other hand, managers may reduce payment of dividends in a disclosure environment which is transparent, consistent with outcome model

Pinkowitz, Williamson and Stulz (2016) identify that in case of better financial development, friction in the markets is lower and so funds can be generated whenever needed for making investments. On the other hand, higher cash holdings may be the result of good economic activity and more cash holdings may be maintained by the firms in anticipation of good investments. So, it may be expected that:

H2c: There is positive/ negative relationship between financial development and dividend payment.

2.3.2.3 Firm Specific Factors and Dividend Payment

There are many theories which explain dividend payment of the firms. Also, many studies have provided empirical evidences about factors which affect dividend payout policy. Different studies in different countries have used different firm specific variables influencing dividend payment, so it is not possible to find out specific factors which can be generalized for firms all over the world. Nevertheless there are certain firm specific variables which have been used in study of both emerging and developing economies like profitability, liquidity, size and leverage.

For this study, firm specific determinants are selected on the basis of previous studies and dividend related theories. The review of literature and theories on dividend payment assert that following firm specific variables are important in determining dividend payment of the firms around the world: profitability, size, leverage, market risk, tangibility, financial risk, liquidity, growth, cash holdings and free cash flows. The detail of the selected firm specific determinants of dividend payment is appended as under:

2.3.2.3.1 Profitability

Profitability measures ability of the firm to generate earnings and provide indication whether firm is doing well or otherwise. In all studies in determinants of dividend payment, profitability is considered as important factor influencing dividend payments (Nissim& Ziv, 2001; Grullon et al., 2003; Kania& Bacon, 2005; Ayman, 2015; Mohammad et al., 2016, Najjar& Kilincarslan, 2018).

Amidu& Abor (2006) argue that profit is very important element in the financial statement and is commonly used to analyze its relationship with dividend payment of the firms. Muhammad et al. (2011) argue that profit shows capacity of the firm to pay dividends.

If firms face problem of information asymmetry, they pay more dividends which act as signals to the market about future prospects of the firms when it is difficult for the investors to differentiate good firms from bad firms, so investment decision may be obscured due to asymmetry problem. This makes them believe that profitability potential is high in dividend paying firms. As per Life cycle theory, young and small firms have unstable profit and higher growth, so they pay lesser dividends. On the other hand, mature and big firms have more profit and low growth, so they are inclined to pay more dividends.

Based on theories and previous studies, this study assumes that:

H3a: Profitability has positive impact on dividend payment of the firms around different regions of the world.

2.3.2.3.2 Size

In almost every study related to dividend payment size is used to show major impact on payment of dividends (Hellstrom& Inagambaev, 2012). There are many studies which indicate direct relationship between size and dividend payment (Malkawi, 2007; Ayman, 2015). The large firms are less risky and mature and thus can pay more dividends as compared to small firms.

Life cycle theory argues that young firms with high growth pay lesser dividends. On the other hand, mature and big firms with low growth are inclined to pay more

dividends. It is assumed that young firms are small in size whereas mature firms are large. So large firms pay more dividends than small firms. Further, large firms are considered to have more cash flows which causes agency problems between shareholders and managers and payment of dividends reduces this problem. This is in accordance with Agency theory (Jensen, 1986)

From the above, it may be hypothesized:

H3b: Size of the firm has positive impact dividend payment of the firms.

2.3.2.3.3 Leverage

The effect of leverage on dividend payment is found mixed in the literature. As per Frankin and Muthusamy (2010), dividend payment of a firm is affected by its leverage policy. There are studies which find negative relationship between leverage and dividend payment of the firms (Aivazian& Booth, 2003; Kuwari, 2009; Kumar, 2003; Malkavi, 2007 and Hellstorm&Inagambaev, 2012).

There are some studies which find positive relationship between leverage and dividend payment of the firms (Myers& Bacon, 2004; Rehman& Takumi, 2012). As per Myers and Bacon (2004) firms with large size and good reputation pay dividends to have easy access to external market even in high growth and leverage. There are some studies which find insignificant impact of leverage on dividend payment (Ho, 2003; Omar, 2009).

As per Agency theory (Jensen &Meckling, 1976) managers of the firms want to avoid the financial risk which may arise due to decrease in free cash flows by payment of dividend. So, managers want to keep cash flows to provide slack. Financial risk of the firms is increased in the presence of higher leverage, so managers of such managers tend to pay less dividends. The managers of levered firms want to use cash flows for payment of interest and principal amount of debt instead of dividend payment

On the basis of theories and empirical studies, next hypothesis may be as under:

H3c: Leverage has negative impact on dividend payment of the firms.

2.3.2.3.4 Liquidity

In the literature, effect of liquidity on dividend payment yield mixed results as both, positive and negative impacts, are found in previous studies. As per Franklin and Muthusamy (2010), for conservative firms, impact of liquidity on dividend policy is negative. Payment of dividend reduces available cash with the firms, so negative relationship between the said variables is found in many studies (Muhammad et al., 2011; Kania and Bacon, 2005).

There are also studies which find positive relationship of liquidity with dividend payment of the firms (Banerjee et al., 2002; Ho, 2003). The firms enriched in liquid assets face less financial risk and are able to pay more dividends, so positive relation between said variables is expected.

As per signaling theory (Bhattacharya, 1979), if managers have excess cash flows, it is an indication that resources of the firms will be miss utilized, so payment of dividend will not only reduces agency problems but also helps to combat problem of information asymmetry between managers, who are insiders, and investors, who are outsiders. Hence, it may be hypothesized that:

H3e: Liquidity has negative impact on dividend payment of the firms.

2.3.2.3.5 Asset Tangibility

As per Aivazian et al. (2003), availability of more tangible assets reduces payment of dividends by the firms. To them, if there are more investments in tangible assets, investment in short term assets will be decreased which are used as collateral to obtain short term loans. Thus borrowing capacity of the firms is reduced in the presence of tangible assets. This forces the firms to utilize internally generated funds thus decreasing the ability of the firms to pay dividends.

There are studies which find that tangibility negatively influences dividend payment of the firms (Al-Najjar and Kilincarslan (2018). Contrary to this, some studies find positive impact of tangibility on dividend payment (Akintoye, 2008; Mackie-Mason, 1990). They argue that investment in tangible assets increases performance of the firms so ability of the firms to pay dividends is enhanced.

Hence, it may be hypothesized that

H3e: There is a negative/ positive relationship between asset tangibility and dividend payment of the firms.

2.3.2.3.6 Growth Prospects

Growth prospects of a firm are anticipated to have negative effect on dividend payout. As per Peking order theory, internal resources are used by the firm firstly to funds their requirements. In case there is need of additional funds, it is preferable use debts first as it is less costly than equity. Equity should be last option as per packing order theory.

As per transaction cost theory, firms require more funds to finance their investment projects and growth firms tend to use internally generated funds rather paying dividends to shareholders as external financing is costly. Firms want to reduce transaction cost related to In order to avoid transaction cost related to external financing, firms reduce amount of dividends when there are growth opportunities (Fama& French; Ferris et al., 2006; Baker and wurgler).

On the other hand, La Porta et al.(2000) assume that growth positively influences payment of dividends for the firms operating in countries with poor shareholder protection. As per Porta et al.(2000), substitute model suggests that growth firms are in need of funds and to finance their projects in low shareholder protection countries, they need to access financial markets and by making payment of dividend to shareholder, they create reputation among them and hence they access capital markets at low costs. Hence, firms with more growth opportunities need to pay higher dividends in low shareholder protection countries as compared to their peers with low grow opportunities. Based on the above discussion, following hypothesis may be developed:

H3f: There is a positive/ negative relationship between growth prospects and dividend payments

2.3.2.3.7 Risk

As per Al- Najjar (2009), higher risk can lead a firm towards bankruptcy and reduces the chance to make payment of dividends. As per transaction cost theory, risk of the firm increases transaction cost of financing as firms have to depend more on external financing due to increase in income volatility. Increase in risk leads towards reduction in dividend payment (Farinha, 2003; Manos, 2002; Al-Najjar, 2009).

As per Amidu and Abor (2006) risk profile of the business is negatively related to payment of dividends. Risk may be measured in terms of price volatility. Price volatility indicates expectations of the investors about higher or lower earnings growth. Hence, next hypothesis is:

H3g: Risk has negative impact on dividend payment of the firms

2.3.2.3.8 Free Cash Flow

As per Jensen (1986) free cash flow in the hands of managers is the temptation for them to use it for their private benefits. It is also likely they will invest in negative NPV projects. Payment of dividends will reduce amount of free cash flows thus reducing risk of over investment.

Also, payment of dividends forces the managers to approach external markets for financing, thus enhancing monitoring by the markets. This also helps to reduce agency problems and causes increase in value of the firm.

Additionally, more supervision may be imposed on the managers if management of the business is more entrusted in the hands of family members (La Porta et al., 1999). By this, agency conflicts between managers and owners can also be reduced. In family owned business, family members have the executive positions and are also members of the board, whereas, other managers are involved only in operational matters. So they do not have power to use free cash flows for expropriation purpose (Aksu & Kosedag, 2006).

It is likely that large shareholders may implement policies in the firms which may benefit them at the cost of minority shareholders. Further, if they do not pay dividends, it may be assumed by the minority shareholders that excess cash flows

in the hands of controlling shareholders is a temptation for them to extract private benefits at the cost of minority shareholders, provided efficient monitoring is absent (Anderson & Reeb, 2003; Villalonga & Amit, 2006)

In view of above, it may be hypothesized that:

H3h: Free cash flows negatively influence dividend payment of the firms.

2.3.2.3.9 Cash Holdings

Cash holdings are taken as determinant of dividend payment by Shao et al. (2010). According to them, higher cash holdings lead to higher dividend payment. Hence, next hypothesis is:

H3i: There is a positive relationship between cash holdings and dividend payment.

2.4 Theoretical Framework on Cash Holdings

Cash is very essential for carrying out operations of the business. It helps firms to maintain requisite level of liquidity and facilitates in making various payments to discharge liabilities. In the literature, cash holdings mean cash or marketable securities or cash equivalents (Opler et al., 1999). Cash equivalents mean assets which are convertible into cash within a short period of time and thus are declared as highly liquid assets of the firm.

2.4.1 Theories of Cash Holdings

Although, previous papers discuss different theoretical models, yet relationship of these models with the theoretical foundations is ambiguous. This is due to the reason that there is overlap of theories to some extent with respect to their model explanations. As discussed above, decision to hold cash is not only determined by firm specific factors but also formal and informal institutions influence decision

of the firms to retain or distribute the cash reserves. Theoretical foundation is explored regarding informal institutions and formal institutions firstly and then theories related to firm specific determinants of cash holdings are presented.

2.4.1.1 National Culture and Cash Holdings

Although national culture has been shown to affect many economic and financial decisions, its influence on cash holdings has not been studied extensively. Chen et al.(2015) analyze how culture of the countries influence cash holdings of the firms operating therein. Both studies have the same notion that although investor protection and other country level characteristics in different countries are same, firms consider agency problems differently and value financial flexibility in different ways. They attribute these differences of perception to national culture which varies from one country to another country. Both papers use Hofstede's (1980, 2001) cultural dimensions to analyze impact of culture on cash reserves of the firms.

Chang and Noorbaksh (2009) identify that cash holdings of the firms are positively influenced by masculinity and uncertainty avoidance. Furthermore, Chen et al. (2015) identify that cash holdings are negatively influenced by individualism, whereas, uncertainty avoidance positively influences cash reserves of the firms. They identify that managers of the firms operating in high uncertainty avoidance countries want to hoard more cash as they have less tolerance towards uncertain situation and in order to avoid unpleasant circumstances like cash shortage they are more tempted to maintain higher cash reserves as a buffer to meet future contingencies especially financial distress. According to Chen et al.(2015) managers of firms operating in countries with high individualism index are overly confident and are over optimistic about future outcomes of the firms, thus undermine importance of keeping optimum cash reserves.

Leland (1968) identify that uncertainty has positive effect on precautionary demand for savings. It means with increase in uncertainty about future income, level of extra savings becomes higher. Moreover, level of savings is influenced not only

by uncertainty avoidance itself, level of individual cash demand is also affected by degree of tolerance of uncertainty. Van Asselt and Vos (2006) identify that in situations of uncertainty avoidance, precautionary principle is helpful. It means that more precautionary behaviors are expected from intolerant individuals. Individual tolerance for uncertainty or ambiguity varies from person to person and from one situation to another and it may be seen differently by different persons and on the basis of individual perception. Some feels more pressed for actions than others although they may be facing the identical situations. On the same analogy, individuals in more uncertainty avoidance culture are more careful about the future uncertainty and resultantly perform actions more cautiously than those living in low uncertainty avoidance culture

In short, apart from the firm specific and formal institutions, national culture has dominated influence on cash reserves of the firms around the world. Although, managers and investors take their financial decision to hold cash reserves based on objectivity, subjective perception, which is influenced by national culture, takes part in shaping their decisions.

2.4.1.2 Formal Institutions and Cash Holdings

The literature finds that not only firm specific variables affect cash holdings but also formal institutions including corporate governance, shareholder right, creditor right, financial market development significantly affect cash reserves maintained by the firms (La Porta et al. 2000; Officer, 2011; Michaely and Roberts, 2012; Grullon and Michaely, 2014; John, Knyazeva and Knyazeva, 2015; Bhattacharya, Li and Rhee, 2016)

A substantial amount of literature establish relationship between firm characteristics with country characteristic including, quality of law, enforcement of law, corruption control, investors protection etc. The literature reveals that a countrys characteristics have their effect on the investments made by the firms. If there is greater risk of expropriation of assets in the country, the firms will avoid to invest in such assets as are liquid and can be easily extracted or expropriated. Hence,

cash levels of the firms differ across the countries depending on the difference in institutions.

2.4.1.2.1 Corporate Governance

Although, certain amount of cash is necessary to run day to day operations of the business without facing financial difficulty and to provide buffer against costly external financing, having excessive cash may be damaging to the value of the firms and managers may use firms resources inefficiently for their private benefits instead of enhancing shareholders wealth (Dittmar and Mahrt-Smith, 2007). Although, a defense to shareholders against unproductive use of firm's resources is provided by effective corporate governance, question arises how does firm's value and ultimately use of cash reserves are impacted by good governance ?

From the above, it is revealed that one implication of agency theory on the effect of asymmetries between managers and shareholders is that in order to reduce points of differences between managers and shareholders, the level of cash holdings should be kept low if conflicts of interests between shareholders and managers are high. In the same way, OHara (1997) and Jain (2005) argue that corporate information to investors about cash flows and order flow are transferred in a better way through transparent secondary market trading environment. Transparent trading reduces agency problems by mitigating information asymmetries and results into higher investor protection and increase in valuation. The malpractices in the markets including insider trading and front-running are discouraged by better audit trails which also leads to better investor protection.

2.4.1.2.2 Shareholder Rights

In case of entrenched management, managers desire to keep more cash reserves with them so that their private benefits may be pursued. The legal relationship between shareholders and directors is determined by charters of incorporation, corporate law and other corporation bylaws. The legal framework determines to a great extent whether managers are tempted to protect interest of shareholders or give priority to their private benefits. When replacement of managers is difficult

for the shareholders, it is less likely that managers of the firms would work for interests of the shareholders and would behave in a way that is beneficial to shareholders. In such case, managers may be disciplined through market of corporate control to create value for shareholders.

When a firm does not perform better, they make become attractive takeover target for commercial buyers who buy the firm, replace the management, and improve its value and performance. Takeover protection mechanisms inhibit proper functioning of the market for corporate control and reduce its disciplining effect on management.

2.4.1.2.3 Creditors Right

The role of debt is very important in explaining the relationship between shareholders and managers. As already stated cash flow hypothesis argue that periodical debt payments act as disciplinary tool for management and force managers to approach capital markets when financing is required, thus preventing over investment.

John (1993) identify that debt can be indicative of good access to external financing. Contrary to this, high leverage may increase likelihood of financial distress which will increase presence of cash holdings more valuable. She indicates that when debt ratio is increased, liquid ratio of the firm is impaired.

Traditionally, it is assumed that only in the case of bankruptcy or in the situation when firms face financial distress, creditors would exercise their powers. However, current literature demonstrates that creditors can use their powers in many occasions even when financial distress is not a pressing matter. Brockman & Unlu (2009) identify, for example, that dividend payment of a firm is determined by creditor rights to a great extent. To them, in case of weak creditors' rights, they want managers of the firms to reduce dividend payment in accordance with the substitution model. In this way, poor creditor rights are substituted by lower dividends and hence agency costs of debt are mitigated.

2.4.1.2.4 Financial Market Development

Capital markets are inevitably influenced by capital markets. When a firm faces an unexpected change in investment opportunities or cash flows, the firm is forced to respond to these changes in an effective and appropriate manner, subject to availability of precautionary funds or its ability to access to external funds (Akguc and Choi, 2013). Due to market frictions, firms may give up positive NPV projects. Hence, a firms financing decisions are not separable from its investment decisions in the presence of market frictions. Kaplan and Zinglas (1999) assume that investment in a firm is not only determined by amount of internal resources but also level of financial frictions in the capital market. They also identify that a firms sensitivities to cash flow is higher with small financial constraints than a firm with more financial constraints.

Almeida, Campello, and Weisbach (2011) analyze relationship between investment and financial constraints, keeping in view the situation a firm face costly financing. In case of binding constraints, firms try to mitigate effect of expected financing constraints by selecting projects with lower risk and shorter payback periods as well as utilizing more liquid assets. The effect of financial constraints may be reduced by keeping more liquid assets; hence there is interdependence between financing decision including cash holdings and investment.

2.4.1.3 Firm Specific Factors and Cash Holdings

To provide and facilitate effective overview of theoretical foundations, this study provides theories as per following for firm specific determinants of cash holdings: trade off mode, pecking order and free cash flows theory/ agency theory.

2.4.1.3.1 Trade Off Theory

This theory states that value of the firm is maximum when marginal benefits of holding cash equate marginal costs of cash reserves. Cash holdings result in lower chance of financial distress, lower transaction cost and more opportunities to implement investment projects which may otherwise not be done due to financial

constraints (Guizani, 2017). Opportunity cost is the main cost to hold cash reserves. This cost is the difference between earning from the cash holdings and interest payment on the amount borrowed when needed (Dittmar et al., 2003).

Transaction cost motives and precautionary motives are related to this theory. As described in classic models in finance, when converting a non-cash financial asset into cash is associated with transaction, the demand for cash arises (Miller and Orr, 1966). Accordingly, benefit of economies of scale is associated with large firms so they have lesser cash reserves. These economies of scales are evidenced in the literature (Najjar& Belghitar, 2011). It is argued that when opportunity costs and financing costs are higher, the firms hold more cash (Miller & Orr, 1966; Dittmar et al., 2003).

2.4.1.3.2 Pecking Order Theory

This theory advocates absence of optimal cash level. According to this theory, firms follow pecking order of financing in order to reduce cost of information asymmetry (Myers and Majluf, 1984). Firstly, internal sources are used by the firm to finance its investments and then external sources of finance are utilized after internal sources are exhausted.

According to Myers (1984), the firms prefer debt over equity financing as less information cost is associated with debt as compared to equity. The hierarchal pattern of financing determines different financing and investment decisions and cash can be seen as an outcome (Dittmar et al., 2003). They are of the view that firms which have excess cash flows distribute dividend to shareholders; opt for debt and thus stockpile cash.

2.4.1.3.3 Agency Theory

Jenson (1986) assumes that when the firm is confronted with weak investment prospects, the entrenched managers would not increase payment of dividend to the shareholders rather they would prefer to retain cash with them for their discretionary uses. The discretionary cash in the hands of managers is known as excess cash holdings. It is argued by Dittmar et al. (2003) that firms operating

in the countries with more agency problems have excess cash holdings. Further, it is investigated by Pinkowitz, Stulz & Williamson (2006) and Dittmar and Smith (2007) that in case there is more agency problem between insiders and outsiders, value of cash is decreased. It is identified by Dittmar & Smith (2007) and Harford, Mansi, & Maxwell (2012) that although it is more likely that entrenched managers would hoard excess cash, they spend cash quickly.

The unanswered research issue is what factor(s) other than firm-specific factors and formal institutions explain dividend payment and cash holdings across the regions. Very few studies examine the effect of culture on corporate dividend payment and cash holdings. This study fills the gap by extending more dimension of formal and informal institutions around six regions of the world and worldwide. Moderating role of formal institution like worldwide governance for dividend payment and cash holdings is not addressed previously. The differences and similarities among different regions of the world with respect to said important financial decisions have not been analyzed previously.

2.4.2 Hypothesis Development of Cash Holdings

Literature reveals that not only firm specific variables affect cash holding decision but also formal institutional factors and national culture influence level of the cash which firms hold. In this section, hypotheses are developed for three types of variables separately. Also, hypotheses on moderating effect of formal institution like country governance on cash holdings are developed to extend the scope of study.

2.4.2.1 Cash Holdings and National Culture

Cash holding decisions are not only determined by firm specific factors and formal institutions but also by national culture of the country in which it operates. The hypothesis related to relationship between national culture and cash holdings are presented in this section. Also, hypotheses related to moderating role of country governance for cash holdings are illustrated.

2.4.2.1.1 Power Distance and Corporate Cash Holdings

Managers in high power distance cultures are dissatisfied with their career, and, hence, there are many examples of power abuse in the work place. In addition, high power distance cultures are characterized by showing no defense against power abuse by managers and superiors. Therefore, it is expected that managers in high power distance societies are more likely to pursue self-interested investments, and free cash in their hands enables them to overinvest and increase investment distortions. Hence, this study proposes that there will be more cash holdings in high power distance cultures, thus predicting a positive relationship between high power distance and cash holdings.

Pour, Amini& Duxbury (2015) argue that the informational asymmetry is more severe in higher power distance societies. This is because in such societies inequality is an accepted fact. In these societies everyone has his rightful place and power holders are entitled to privileges (Hofstede, 2001). Pour, Amini& Duxbury (2015) argue that superior information is considered as a privilege and there is minimum effort to increase transparency and reduce information asymmetry in high power distance cultures. In the work organization, in high power distance cultures, there is little openness with information; in fact information is constrained by managers (Hofstede, 2001). Furthermore, in high power distance societies there is a basic mistrust between powerful and powerless (Hofstede, 2001). Therefore, lower levels of trust are associated with power distance societies (Zheng et al., 2012). Consequently, in such societies with lower levels of trust, information asymmetry is more severe.

To summarize the above, following from both agency theory and asymmetric information perspectives, it may be expected that high power distance is positively related to the amount of cash in a firm. Therefore, next hypothesis is as follows:

H 4a: Firms in a high power distance culture hold more cash than firms in a lower power distance culture.

In high power distance society, there is a positive effect of PDI on cash holdings as in such societies; shareholders are not in a position to force managers of the

firms to disgorge cash reserves. However, as per outcome model, higher corporate governance or investor protection gives shareholders rights to force managers to keep level of cash lower in order to avoid expropriation of assets by them. On the other hand, as per substitute model, shareholders of the firms are less concerned with excess cash reserves held by the managers in the presence of higher corporate governance. In such situation, positive relationship between higher power distance and cash holdings is strengthened if corporate governance is strong. So, next hypothesis is:

H4b: The positive effect of PDI on cash holdings decreases/ increases with higher corporate governance.

2.4.2.1.2 Individualism and Corporate Cash Holdings

The people in individualistic culture are over confident and overly optimistic about their estimations (Van den Steen, 2004). They think they have more abilities than others but in fact they are not (Campbell et al., 2004). On the other hand, people from collectivist culture keep self-monitoring and are less subject to cognitive bias which arise from overconfidence (Biais et al., 2005)

The differences of attributes between individualistic and collectivist managers have implications on cash holding decisions of the firms. The managers of individualistic culture are overwhelmingly positive about future earnings and bright prospects of the firm and its financial position. Resultantly, there is a possibility that they underestimate actual need of the cash and tend to keep lower cash reserves as compared to managers of collectivist culture. The managers of collectivist culture want to maintain public image and they consider that more cash means firm is being well managed.

In an individualistic culture, managers are tempted to make over investments when they have excess cash. So it may be hypothesized:

H4c: The impact of individualism on cash reserves of the firms is negatives.

In countries with high IDV, managers of the firms may not be having higher amount of cash reserves as they are confident about future earnings of their firms and also because agency problems are more severe in a higher UAI society and to reduce this problem, managers prefer to hold less cash. Also, higher score of corporate governance in a country entitles shareholders of the firms to force managers to keep level of cash reserves lower. This will strengthen negative impact of IDV on cash reserves of the firms. Alternatively, if substitute model is applicable in the country, shareholders of the firms may not be feeling need to force managers to reduce cash reserves and so managers of the firms do not reduce cash reserves. In the light of above discussion, it may be hypothesized that:

H4d: The negative effect of IDV on cash holdings increases/ declines with increase in corporate governance.

2.4.2.1.3 Masculinity and Corporate Cash Holdings

Masculine cultures prefer individual decisions and favor rewards for performance while feminine cultures emphasize on equality of reward and group decisions. Zheng et al. (2012) argue that it is more likely that masculine managers would invest in negative NPV projects which may be beneficial for them and augments number of their under controlled assets at the cost of shareholders, that is, large empires and entrenchment (Malmendier and Tate, 2005; Zwiebel, 1996).

In masculine cultures, managers are less open to communication climates and have higher tendency to consider the manager role as particularly heroic (Hofstede, 2001). The problem of over investment may also be seen in managers of the firms operating in countries with higher masculine scores as such managers have tendency to make investments in risky projects. It is, therefore, anticipated that higher masculinity leads to higher cash reserves in the firms.

In societies characterized with masculinity people strive for material success (Zheng et al., 2012). In fact, in such cultures the focus is on material reward, performance, and competition (Hofstede, 2001). Under asymmetric information, investment's opportunities of the firms can not be evaluated by the investors as they do not have full information to make impartial evaluation. Hence, internal finance is the

most efficient option for the firms and it is preferred to debt and equity. In fact, investment opportunities may be perused successfully if the firms have sufficient internal cash reserves with the. Given the focus of masculine cultures is very much on success, internal finance is even more preferred in these cultures since due to problem of asymmetry information, external finance is considered costly. Therefore, it may be argued that in such cultures there is more focus on internal finance because it eases the successful implementation of investment opportunities.

Following from both agency theory and asymmetric information perspectives, it is proposed that there will be a positive relationship between masculinity and corporate cash holdings. The next hypothesis is as follows:

H4e: Masculinity has positive impact on cash reserves of the firms.

In high masculine society, managers and shareholders have different perceptions regarding cash reserves level. In a country without effective corporate governance, managers of the firms may be dominating and holding higher cash reserves. However, higher corporate governance gives shareholders rights to influence financial policies of the firms including cash holdings. Hence, it may be expected that temptation of high MAS managers to keep level of cash reserves higher is controlled by good corporate governance mechanisms. Hence, nest hypothesis is:

H4f: The positive relationship between MAS and cash holdings increases/ decreases with increase in corporate governance.

2.4.2.1.4 Uncertainty Avoidance and Corporate Cash Holdings

Leland (1968) identifies that uncertainty increases with precautionary demand of savings instead of consumption. It means when future income becomes uncertain, saving is increased. Level of saving is not only influenced by uncertainty, tolerance level of the investors towards uncertainty also has impact on levels of cash reserves desired by the individuals.

The basic aspect of uncertainty avoidance is the degree of tolerance which varies from individual to individual meaning that in an identical situation, one may feel more depressed than the other. It indicates that individuals with more uncertainty

avoidance would be more cautious and uncertain about future outcome than those with less uncertainty avoidance.

Li and Zahra (2012) argue that managers with less uncertainty avoidance are not uncomfortable with the unpredictability of future outcomes, so they are likely to invest in innovative projects. On the other hand, managers with more uncertainty avoidance would avoid innovative and risk taking projects as they do not tolerate ambiguity inherent in such types of projects.

From the above it may be assumed that precautionary motive is more applicable to uncertainty avoidance individuals and they demand more cash when they take financial decisions as a compensation of bearing uncertainty (Bates et al., 2009; Duchin, 2010).

The preceding discussion reveals that cash holdings of the firms are influenced by uncertainty avoidance. Managers of firms with more uncertainty avoidance would be less tolerant about uncertainty attached to project and so demand higher cash reserves as compensation. Whereas, managers with less uncertainty avoidance would be more comfortable with uncertain situation and future unpredictability. Thus following hypothesis may be developed:

H4g: Uncertainty avoidance has positive impact on cash reserves of the firms

Pinowitz et al. (2006) argue that financial management system of a firm is governed by the formal institutions of a country in which it operates. Li et al. (2006) are of the view that corporate risk taking is affected by cultural attributes including uncertainty avoidance and individualism. Chen et al. (2015) point out that cash holdings around the world are affected by both types of variables.

Dudley and Zhang (2016) document that shareholders in a country with better corporate governance and investor protection can use their legal power to force management to disgorge cash so that expropriation of assets may be avoided. Alternatively, shareholders in the country with better governance may be satisfied with legal power conferred to them by law and are less worried about risk of expropriation of assets by the management.

The tendency of shareholders to allow managers to hold cash reserves varies with the level of corporate governance and the protection of rights they receive by law. UAI is likely to have positive effect on cash holdings of the firms because higher cash reserves provide them with perception of financial stability and security. Nevertheless, corporate governance is negatively associated with cash holdings as per outcome hypothesis. As per outcome model, shareholders with higher corporate governance can force managers of the firms to disgorge cash holdings. On the other hand as per substitute model, shareholders of the firms are less concerned with the excess cash reserves held by the managers, so perception of higher UAI shareholders about expropriation of assets by the management is neutralized. Thus, shareholders may be comfortable with excess cash reserves maintained by managers of the firms if corporate governance is strong. Hence, next hypothesis is:

H4h: UAI has positive/negative relationship with cash holdings in the presence of higher corporate governance.

2.4.2.1.5 Long Term Orientation and Cash Holdings

The managers in high LTO society have attributes of prudence, self-sufficiency, prudence and patience. In such culture, investments with long term value generation capacity are given more value. Investors prefer long term value addition over short term returns. So, investors do not force managers to provide monthly or quarterly information about earnings and their return. In LTO society, managers of the firms focus on strategic investment decisions which have long lasting effect on value of the firm. The managers with such attribute avoid taking short-term investment decision which do not benefit investors over longer time periods,

As per Newman and Nollen (1996), in a culture consistent with LTO, focus of the management is to invest in long term projects and long term projects require maintaining employees of the firm for longer period of time. In order to sustain the employees, firms need to keep more cash. Also, investments in strategic assets demand firms to keep level of cash higher. So, it may be hypothesized that:

H4i: LTO has positive effect on cash holdings of the firms.

As stated above, effect of country governance on cash holdings is more pronounced than impact of LTO on cash holdings. So, it may be expected that interaction effect of country governance and LTO on cash holdings follows effect of country governance on cash holdings. So, it may be expected that:

H4j: The positive relationship between LTO and cash holdings increases/ decreases with increase in corporate governance.

2.4.2.2 Formal Institutions and Cash Holdings

Pinkowitz, Stulz and Williamson (2015) state that lesser cash holdings are expected by the firms when formal institutions become better because agency problems are better controlled in such institutions. On the other hands, if intuitions are unable to protect rights of the minority shareholders and poor governance in the country, there will be more temptation by the controlling managers or majority shareholders to use cash for their private benefits. These will results in exportation of the assets and reduction in the value of the firms. Also government officials and politicians take advantage of poor financial institutions and extract assets of the firms which reduce value of the firm.

Following are the formal institutions which are considered in this study to analyze their effect on cash holdings:

2.4.2.2.1 Country Governance

According to agency theory, firms with more agency problems have more cash holdings. Kusnadi, Y. (2011) identify that firms with weak governance is inclined to hoard more money as compared to the firms with strong governance. He finds that increase in agency conflict induces entrenched managers to stockpile more cash as this augments mistrust . Pinkowitz, Stulz and Williamson (2015) argue that cash holdings of the firms in the countries with good governance are lesser than firms in the countries with weak governance. Thus we hypothesize that:

H5a: Country governance is negatively/positively associated with cash holdings.

2.4.2.2.2 Shareholder Right Index

Dittmar et al. (2003) find negative relationship between shareholders right index and cash holdings. They argue that firms operating in the countries with poor shareholder rights have high cash holdings as compared to the countries where shareholders rights are strong. They have given two possible reasons for it. One reason may be that shareholders are not in a position to force managers to disgorge the funds. Thus managers do not care about maximizing shareholders wealth rather they use the cash for their private benefits. Second reason to hoard more cash may be that in the countries with lower shareholders rights, it is difficult to raise funds through markets. So managers are forced to stockpile cash in the wake of good investment opportunities.

On the other hand shareholder power hypothesis state that shareholders in the countries with high protected rights are less concerned with the cash stockpiled by the managers and thus allow managers to hoard money. Thus, it may be hypothesized that:

H5b: Shareholder rights protection is negatively/ positively associated with cash holdings.

2.4.2.2.3 Creditor Right Index

The effect of creditor rights on cash holdings can be viewed differently in the literature. Djankov (2007) argues that creditor rights reduce the conflicts between shareholders and creditors and thus increase the availability of credit. As availability of credit is accessible by the firms, tendency to hold cash for precautionary reasons reduces.

On the other hand, Acharya et al. (2011) posit that although increase in creditor rights increase supply of credit, firms borrow less and also reduces investments in risky assets. The cash reserves of the firms increase either because of lower investment by the firms or cash reserve is used as a substitute for the decreased leverage.

In an environment of strong creditor rights, creditors of a firm can take legal action to take control of the firms assets, can file petition for reorganization or lay off existing management. Ozelge and Saunders (2012) argue that there is a negative relationship between violations of credit covenant and CEO turnover. Based on the above discussion, it may be assumed that:

H5c: Creditor rights have positive/ negative effect on cash holdings.

2.4.2.2.4 Financial Market Developments

Also, development of financial markets has effect on decision to hold cash reserves (Fan, Wong, & Zhang, 2007). According to Capria et al.(2013), firms operating in the countries with more developed markets face less friction and expropriation by government officials and such firms may hold more cash. On the other hand, in a developed market, access to capital markets is easy and firms may intend to keep lower level of cash due to opportunity cost associated with cash holdings (Yuanto et al.,2015). According to Dittmar (2003), firms hold more cash when markets i.e. stock markets and debt markets are developed.

Empirical evidences provide mixed results regarding relationship between market development and cash holdings. Dittmar et al. (2003) identify positive relationship between capital market development and cash holdings, whereas, Ferreira and Vilela (2004) find that capital market development negatively influences cash reserves of the firms. However, Pinkowitz, Stulz and Williamson (2015) find positive significant effect of bond market development and cash holdings and insignificant positive relationship between stock market development and cash reserves. Similarly, Hall et al. (2014) find positive relationship between capital marker development and cash holdings for Eastern Europe.

This is contrary to the general view that cash holdings are driven by the inability of the firms to obtain finance from external markets. Instead, it is more convenient to hoard more cash when access to capital markets is easy. This supports agency view of holding cash. In the light of above, this study hypothesizes:

H5d: Financial market development is positively/ negatively associated with cash holdings.

2.4.2.3 Company Specific Determinants of Cash Holdings

A firm's financial decisions have no impact on the value of the firm in a perfect market (Stiglitz, 1974). So, it may be assumed that a cash holding decision does not influence the value of the firm (Opler et al., 1999). Nevertheless, markets are not free from imperfections, so one cannot ignore the importance of cash reserves in any economy, whether developing or developed (Al-Najjar, 2013). Based on the previous literature, the following cash holding determinants are identified to analyze across different regions of the world.

2.4.2.3.1 Firm Size

Firm size is one of the most frequently used determinants in empirical cash holding research. The determinant is in general estimated by a firm's total assets or their logarithm. Overall, the corporate cash ratio decreases with increasing firm size as Opler et al. (1999), Lins et al. (2010) and Qiu & Wan (2015) report, amongst others. This is consistent with all major theories since a firm is believed to face cheaper possibilities of external financing. However, there are some deviations which indicate that firm size and cash holdings are positively related with each other. Examples include Ozkan & Ozkan (2004) and Liu et al. (2015). According to the shareholder power hypothesis, shareholders allow greater cash holdings to the management when their interests are sufficiently secured as it might be the case in large firms that are subject to increased external discipline and decreasing information asymmetries when it grows in size.

Based on the above, it may be argued that firm size is an important cash holding determinant though the direction of its relationship with cash holdings cannot be estimated with certainty. Thus we hypothesize the following:

H6a. Firm size has significant positive/negative effect on cash holdings.

2.4.2.3.2 Leverage

Another alternative to financing via cash holdings is switching to debt financing. Empirical results concerning relationship between leverage and cash holdings support negative relationship between said variables. As Kim et al. (1998), Acharya et al. (2008) and Chen et al. (2014) report, cash declines when leverage rises. All major theories predict the same as leverage reduces the danger of underinvestment and imposes incremental external monitoring on the management. Hence, on the basis of trade off theory and previous empirical findings our next hypothesis is:

H6b. Leverage and cash holdings are negatively associated with each other.

2.4.2.3.3 Dividend

Payouts to shareholders constitute the exact opposite of holding cash. Accordingly, majority of the research, such as Khieu and Pyles (2012) and Julio and Yook (2012), finds that dividend payments are negatively related with corporate cash level. However, there are several observations of a positive relationship between the said variables (Chen et al., 2012; Hill et al., 2014). Dividend has signaling power which aligns interest of the shareholders and managers, so negative relationship between dividend and cash holdings may be postulated. On the other hand, shareholders may allow the management to stockpile the cash as proposed by the shareholder power hypothesis. The general sign of the cash level and dividend remains ambiguous. On the basis of shareholder power hypothesis and previous empirical findings, it is hypothesized that:

H6c. Dividend is significantly and positively/ negatively related with cash holdings.

2.4.2.3.4 Financial Distress

A central determinant under analysis in cash holding research is financial distress which is defined as the probability of insolvency which constrains a firms liquidity. The determinant of liquidity constraint comprises many proxies such as the volatility of cash flows, credit ratings and Altmans Z-score. Two general trends are observed: First, financial distress increases the cash holdings (Opler et al.,

1999; Harford et al., 2008 ; Subramaniam et al., 2011). Second, according to Lins et al. (2010) and Khieu and Pyles (2012), the influence of the Altman Z-score on the corporate cash level cannot be determined unambiguously. This indicates a nonlinear influence of financial distress on the level of cash. Firms that face an increased but not yet severe danger of insolvency tend to hoard more cash to avoid huge external cost of financing. Firms closed to insolvency are unable to hoard incremental cash and exhaust their existing cash stock because they do not have another option of financing (Drobtz and Gruninger, 2007). It remains interesting to derive a general effect of financial distress on cash holdings across. So, our next hypothesis is:

H6d: Financial distress is significantly and positively/ negatively related with cash holdings.

2.4.2.3.5 Growth Opportunities

Due to high information asymmetry, growth firms have to face higher cost of external financing. Such firms also face higher cost of financial distress as value of such firms is decreased sharply after financial distress (Iskandar-Datta et al., 2014). So, having liquid assets in the growth firm provides an insurance against chances of financial distress and also enables the growth firms not to forego positive NPV investment opportunities.

This argument follows all major theories because high-growth firms usually face high information asymmetries and are aim to avoid underinvestment. Deviations from the prior observation are found by Khieu& Pyles (2012) and Bigelli& Vidal (2012) who point out growth opportunities do not increase cash holdings in mature and private companies. Also, after funding growth investments, firms may be facing decline in cash. It is unclear which relationship is more common in the finance literature (Weidman, 2016). In view of the above, it may be hypothesized that:

H6e: Growth opportunities have positive/ negative effect on cash holdings.

2.4.2.3.6 Investment Activities

Investment activities comprise capital expenditures as well as a firms acquisition expenditures. The prior is frequent control variable, while the latter is analyzed specifically by some studies. The cash level is mostly observed to decline when investment activity increases. Dittmar et al. (2003) and Hoberg et al. (2014) report this result for capital expenditures as well as Bates et al. (2009) and Oler&Picconi (2014) for acquisition expenditures. However, Opler et al (1999) and Huang et al. (2013) find a positive coefficient for capital expenditures, shedding doubt on direction of the association.

Harford (1999), Mikkelson and Partch (2003) and Harford et al. (2008) find an increased investment activity in firms with high cash holdings when applying investment models, still the direction of the investment activities influence is not clearly determined.

This study argues that one of the important determinants of cash holdings is capital expenditure, although sign of the direction between cash holdings and investments may not be predicted precisely. Hence, next hypothesis is:

H6f: Investments are positively/negatively and significantly associated with cash holdings.

2.4.2.3.7 Cash Flows

Kalcheva and Lins (2007) and DMello et al. (2008) correspond to the majority of research by reporting that cash flows have positive effect on cash holdings. This follows financing hierarchy of the pecking order theory but can also be explained in the spirit of the FCF hypothesis by increased discretionary potential induced by increased cash flows. Duchin (2010) and Chen et al. (2012) object to prior results and find a negative relationship. This observation suggests that the need to hoard cash declines with increased cash flows, either because the cost of external financing diminishes or because investments can be financed directly from current cash flows. However, on the basis of FCF and pecking order theory, it is hypothesized that:

H6g: Cash flows and cash holdings are positively related with each other.

2.4.2.3.8 Profitability

According to pecking order theory, cash is the outcome of investment and financing decisions (Dittmar et al., 2003). Hence, the firms with more profitability have more ability to pay dividend to their shareholders, meet debt obligation and accumulate cash. Ferreira and Vilela (2004) and Najjar and Clark (2017) also find the same results in their studies. The firms which are less profitable may not be able to stockpile cash and they have to rely on debt for financing their projects. Such firms may not be willing to issue equity as the same is costly and reduces value of the shares (Dittmar et al., 2003; Ferreira & Vilela, 2004; Najjar & Belghitar, 2011;). Hence, firms profitability is positively associated with cash holdings. On the basis of empirical findings and pecking order theory, it may be hypothesized that:

H6h: Profitability and cash holdings are positively related with each other.

2.4.2.3.9 Net Working Capital

An alternative to hoarding cash, without relying on external financing, is the maintenance of liquidity substitutes. These can be converted into cash easily as long as the transaction costs are not severe. Such liquidity substitutes are commonly measured by the net working capital. In general, cash holdings are found to decrease with an increase in net working capital as stated by Almeida et al. (2004), Subramaniam et al. (2011) and Liu et al. (2014). This corresponds to the trade-off theory because liquidity substitutes are able to avoid the costs of stockpiling cash, unless the liquidation of these substitutes is associated to high transaction costs, while preserving its benefits, i.e. financial flexibility. Hence, our next hypothesis is:

H6i: Net working capital has significant negative effect on cash holdings.

Chapter 3

Research Methodology

3.1 Introduction

This study analyzes effect of informal institutions and formal institutions along with firm specific variables as control variables, on two important financial decisions including cash holdings and dividend payment for 5,947 non-financial firms from six regions around the globe for the period from 2007 to 2016. This study also evaluates how national culture interacts with formal institution and influences perceptions of the managers about said financial decisions. This chapter provides data and methodology to obtain these objectives for examining hypotheses formulated in Chapter 2. Section 3.2 states details about data. Section 3.3 presents variables. Section 3.4 gives detail about panel data and estimation technique linked with panel data. Section 3.5 provides methodological framework and presents model specifications used for testing the hypothesis. Section 3.6 provides detail about different diagnostic tests used in the study.

3.2 Data and Sample

The data for dividend and cash holding decisions consist of culture, formal institutions and firm specific control variables from period 2007 to 2016. The population consists of all countries of the world; however due to the non availability of the

data sample covers 47 countries in six regions of the world. The detail about data on culture, formal institutions and firm specific control variables are appended below:

TABLE 3.1: Countries and Number of Observations

AFRCA		A.PAC.		EUROPE		M.EAST		N.AM		S.AM	
Country	Obs.	Country	Obs.	Country	Obs.	Country	Obs.	Country	Obs.	Country	Obs.
EGY	120	AUS	2220	AUT	100	ISR	450	MEX	270	ARG	250
NGA	40	CHN	570	BEL	320	KWT	120	USA	9870	BRA	230
SAF	840	HKG	3660	CZE	30	SAU	130			CHL	470
		IDN	440	DNK	450					COL	60
		IND	3040	FIN	540						
		JPN	5910	FRA	1200						
		KOR	5610	GER	1800						
		MYS	2650	GRC	610						
		NZL	120	HUN	40						
		PAK	490	IRL	180						
		PER	100	ITA	710						
		PHL	520	NLD	490						
		SGP	1510	NOR	270						
		THA	1550	POL	320						
		TWN	5190	PRT	150						
				SPN	340						
				SWE	690						
				SZL	820						
				TUR	620						
				UK	3360						
Total obs.	1,000		33,580		13,040		700		10,140		1,010

Note: This table presents detail of number of observation, name of countries and regions included in the study. Total number of observations under each region has been summed up separately. Total number of observations for the sample is 59,470.

3.2.1 National Culture

In this study, Hofstede (1980, 2001)'s cultural dimensions are used to measure the national culture. The scores on each cultural dimension are obtained from www.hofstede-insights.com. These cultural variables are commonly used in different economic and financial phenomena. Further, scores on national culture are available for larger set of countries.

3.2.2 Formal Institutions

Formal institutions used in this study are worldwide governance index, shareholder right index, creditor right index and financial development. This study obtains data of Worldwide Governance Indicators (WGI) from World Bank database.

Anti-director index (ADRI) from La Porta et al. (1998) as revised in Djankov et al. (2008) is used as proxy of shareholder rights. This study measures creditor rights using creditor protection index from Djankov, McLiesh, and Shleifer (2007). For financial developments, market capitalization of listed domestic companies (% of GDP) and domestic credit provided by financial sector (% of GDP) are used as proxies. The data on market capitalization and domestic credit are obtained from the World Bank.

3.2.3 Firm Specific Variables

For firm specific variables, this study uses World Scope database and Thomson Financial database to create the sample of 5,947 companies from 47 countries of the world. The data availability is the selection criteria for firms in World Scope and Thomson Financial databases across the period 2007-2016. For the purpose of analysis, only public limited companies have been included in the sample as said firms have greater availability of data for dividend payment and cash holdings as compared to private limited companies. Financial and utility firms are excluded from the sample as such firms are governed by certain regulations different from general firms. This follows Ferreira and Vilela (2004) and Opler et al. (1999). This study winsorizes all firm specific variables at 5 % as per Shao et al. (2010).

The sample is composed of six main regions of the world. These regions include Asia Pacific, Europe, Africa, Middle East, North America and South America as suggested by World Bank. The study of cash determinants across different regions enables us to generalize the effect of different factors on dividend payment and cash holdings. The detail is placed at Table 3.1

The table shows that there are 3 countries in Africa with 1,000 observations. In Asia Pacific region, 15 countries exist with 33,580 observations. Asia Pacific region is the most enriched region in the sample with respect to number of observations. Although, Europe has maximum number of countries in the sample i.e. 20, total number of observations is 13,040 which is lesser than that of Asia Pacific. Similarly, in Middle East, North America and South America, there are 3, 2 and 4

countries respectively with 700, 10,140 and 1,010 number of observations respectively. Among all countries of the six regions, USA has the highest number of observations i.e. 9,870 which is followed by Japan, Malaysia and Thailand with 5,910, 5,610 and 5,190 number of observations respectively.

3.3 Variables

The variables used in this study are classified into informal institutions, formal institutions and firm specific variables.

3.3.1 National Culture

Geert Hofstede conducted a very comprehensive study to estimate scores of national culture around 76 countries. His study is based on cultural values in work place. The data are gathered from IBM employees during the period from 1967 to 1973. There are six cultural dimensions of Hofstedes national culture which show independent predilections for one state of affairs over another that differentiate one country from the other; that is why, score of a country on cultural dimensions show comparative positions over other countries. This study uses first five dimensions to analyze their effects on dividend payment and cash holdings.

3.3.1.1 Individualism vs Collectivism

Individualism is the preference for a social network which is loosely- knit where individuals are thought to take care of themselves and their immediate families, whereas, in collectivism society there is tightly knit framework in which people in a group are expected to exchange their loyalty for each other. The higher score on this dimension shows predilection of the country towards individualism and lower score means collectivism dominates the society.

3.3.1.2 Power Distance

In a society with large degree of power distance people believe is differential relationship and accept differences among hierarchical relationship. That is why person at lower level in the society accepts supremacy of the person at the higher level and person at the above level expects from him to obey his orders or advices. Everyone is contended what he has with him and does not have concern with the superiority one has on another. In a society with lower power distance, people question about unequal power distribution and the person at lower lower want justification about unequal power distribution in the society and wants justification for it. Higher score in this dimension show that people in the country believe in higher power distance and vice versa.

3.3.1.3 Masculinity vs Femininity

In masculine society, people have preference for assertiveness, achievement, heroism and material rewards for triumph. On the other side, in feminine society, people take care for the weak and deprive segment of the society and believes in quality of life. They also cooperate with each other in different matters of the society.

3.3.1.4 Uncertainty Avoidance

It shows the degree to which people in the society feel uncomfortable with the ambiguity and uncertainty. The country higher in this score shows that people are curious about the change and believe in maintaining status co. Such countries maintain rigid codes of behavior and belief. The country weak in this score is more tolerant about the change and in such society, practice counts more than principles.

3.3.1.5 Long Term Orientation VS Short Term Orientation

The people in the country with higher score on this dimension encourage thrift and efforts in modern education as a mean to prepare for the future. The countries

lower in this dimension view societal change with suspicion and prefer to maintain time-honored traditions and norms. A description of Hofstede's cultural values is placed at Table 5.2 in Appendix.

3.3.2 Formal Institutions

Formal institutions used in this study are worldwide governance index, shareholder right index, creditor right index, financial development for which Market capitalization of listed domestic companies (% of GDP) and Domestic credit provided by financial sector (% of GDP) are used as proxies.

3.3.2.1 Worldwide Governance Index

WGI provides a summary of overall governance of a country. Six indicators including control of corruption, political stability, government effectiveness, rule of law, regulatory quality and voice and accountability are used for measuring overall governance. These indicators are obtained from combining hundred of variables. Following, Kaufmann, Kraay, and Mastruzzi (2009) and Pinkowitz, Stulz and Williamson (2015), this study uses average of the six indicators as proxy of overall governance of a country.

3.3.2.2 Shareholder rights index

The index is obtained from Djankov et al.(2007). The index scores from 0 to 5.

3.3.2.3 Creditor Right Index

Legal protection conferred to the creditors in case of liquidation of the debtor or reorganization is obtained from Djankov et al (2007).

3.3.2.4 Financial Development

For financial developments, market capitalization of listed domestic companies (% of GDP) and Domestic credit provided by financial sector (% of GDP) are used

as proxies. The scores range from 1 to 100. A description of formal institutions including shareholder rights index and creditor rights index is placed at Table 5.1 in Appendix

3.3.3 Firm Specific Variables for Dividend Payment

In this sub-section, detail about firm specific variables is demonstrated. Firm specific variables include dependent variable and independent variables. The detail is placed at Table 3.2

Dividend to Total Assets Ratio

This study uses dividend to total assets as dependent variable. As per Fidrmuck and Jacob (2010), there are many problems inherent in dividend to net income to be used as dependent variable in analysis of dividend payment decision: First, calculation of net income is subject to a countrys accounting conventions. Secondly, there are more chances of manipulation of net income which makes its comparability across countries or regions obscure. Third, before earnings are reported, a diversion of resources may occur and thus dividend to net income ratio may be an overestimation of share of true earning that is distributed in the form of dividends. Following Dittmat and Duchin (2010) and Bae et al. (2012) this study uses dividend ratio as dividend divided by total assets.

Profitability

Profitability is an independent variable which is used in examining its relationship with dividends. This study uses Return on assets (ROA) as proxy of profitability. The same measure is used by DeAngelo and DeAngelo (2006), Franklin and Muthusamy (2010), Ayman (2015) and NajjaramdKilincarslan (2018). ROA shows percentage of profit with respect to total assets deployed by the firm.

Size

Different proxies are used to measure size of the firm. The natural logarithm of total assets is used by Awan et al. (2011) and the same is used by this study.

Leverage

Following Malkawi (2007) and Franklin and Muthusamy (2010), debt to equity is used as measure of leverage to analyze its effect on dividend payment.

Liquidity

Myler and Bacon (2004) and Kania and Bacon (2005) use current ratio to measure of liquidity and this study also uses the same measured as current assets divided by total assets.

Asset Tangibility

Tangibility is measured as fixed assets divided by total assets. This ratio is used by Najjar and Kilincarslan (2018). The same ratio is also used by by this srtudy.

Growth Opportunity

Following Fidrmuc and Jacob(2010), this study takes sales growth as measure of growth.

Risk Both measures of risk including market risk and financial risk are found to have impact on dividend payment of the firms. So following Najjar and Kilincarslan (2018) this study uses stock return volatility as measure of market risk and Z-score as measure of financial risk.

Free Cash Flow

Free cash flow is measured as cash flow from operation less dividends less capital expenditures.

Cash Holdings

Cash holdings are measured as cash & cash equivalentents divided by total assets (Shao et al., 2010).

TABLE 3.2: Firm Specific Variables for Dividend Payment

	Variables	Symbol	Description
1	Dividend payout	DIVTA	Dividend / total assets
2	Profitability	ROA	Net Profit/Total Assets
3	Financial Risk	Z SCORE	ALTMAN Z SCORE
4	Market Risk	PV	Measure of a stock's average annual price movement to a high and low from a mean price for each year.
5	Tangibility	Tang	Fixed assets/Total assets
6	Liquidity	CR	Current Assets/Current Liabilities
7	Growth	SG	Sales growth
8	Leverage	LEVEQ	Long Term Debt/ Shareholders Funds
9	SIZE	LnTA	Natural Log of Total Assets
10	Cash holdings	CH	Cash & cash equivalents/Total assets
11	Free Cash Flows	FCF	Cash flows from operation-dividend-capital expenditures

Note: This table presents formulas for firm specific variables for dividend payment. Independent variable is Dividend divided by total assets. Independent variables are profitability, financial risk, market risk, tangibility, liquidity, growth, leverage, size, cash holdings and free cash flows.

3.3.4 Firm Specific Variables for Cash Holdings

In this sub-section, firm specific variables for cash holdings are discussed although many of variables have same definition as are of dividend payment

Cash Holdings

This study uses cash holdings as dependent variable. The literature has used two different definitions of cash holdings which as follows:

Cash holdings are cash and cash equivalents divided by total assets. This measure of cash holdings is used by Bates et al.(1999) and Ozakan and Ozkan (2004), among others. This calculates that portion of total assets which is in liquid form. This traditional measure is used by majority of the papers.

Firm Size

This study uses natural logarithm of total assets as measure of firm size as per Pinkowitz and Williamson (2001) and Ferreira and Vilela (2004).

Leverage

In lines with Ferreira and Vilela (2004) and Ozkan and Ozkan (2004), this study uses total debts to total assets as a measure of leverage to estimate its effect on cash holdings.

Dividend

Following Pinkowitz, Stulz and Williamson (2006) and Dittmat and Duchin (2010) and Bae et al. (2012), this study uses dividend ratio as dividend divided by total assets.

Financial Distress

Altman (1968) develop Z-score to estimate probability of a firm to face financial distress. It is calculated with the help of various financial ratios which are assigned with different weights. Higher score of Z-score shows lesser chances of facing financial distress by a firm.

Growth Opportunities

Following Opler et al.(1999) and Ozkan and Ozkan (2004), this study uses market to book ratio as a proxy of growth opportunities. Market to book ratio is calculated as market value of equity plus total liabilities divided by total assets

Investment Activities

For measuring investment activities, capital expenditures divided by total assets is used as proxy (Weidman, 2016)

Cash Flows

Following Ozkan and Ozkan (2004) and Ferreira and Vilela (2004), cash flows are estimated by cash flows from operations divided by total assets.

Profitability

This study uses Return on assets (ROA). The same measure is used by DeAngelo and DeAngelo (2006), Franklin and Muthusamy (2010), Ayman (2015) and NajjaramdKilincarslan (2018). ROA shows percentage of profit with respect to total assets deployed by the firm.

Net working Capital

In lines with Bates et al. (1999) and Ozkan and Ozkan (2004), this office uses net working capital as measure of liquidity to analyze its effect on cash holdings.

A description about firm specific variables for cash holdings is shown at Table 3.3

TABLE 3.3: Firm Specific Variables for Cash Holdings

VARIABLES	SYMBOL	DESCRIPTION
Cash holdings	CH	Cash and cash equivalents/Total assets
Firm Size	LnTA	Natural Log of Total Assets
Leverage	LEVDBT	Total debts/ Total assets
Dividend Payment	DIVNP	Cash dividend/Total assets
Capital Expenditure	INVST	Capital expenditure/Total assets
Market to Book ratio	MBR	Market capitalization + Total liabs/ assets
Cash flows	CF	Cash flow from operations/ Total assets
Profitability	ROA	Net Profit/ total assets
Net Working Capital	NWC	Current Assets Less Current Liabilities - cash & cash equivalent/ Total assets

Note: This table presents formulas for firm specific variables for cash holdings. Dependent variable is cash and cash equivalents divided by total assets. Independent variables are size, leverage, dividends, financial risk, and capital expenditure, market to book ratio, cash flows, profitability and net working capital.

3.4 Panel Data Analysis

The data for the study is composed of culture, formal institutions and firm specific control variables. The data on firm specific control variables is collected for different firms over different time periods, it is known as panel data or longitudinal data. This is due to the reason that it is composed of a time series dimension as well as cross-sectional dimension. The cross section data means that observations are being made at a single point of time across many firms or units. In the time series, same unit is measured over a time interval.

Panel data makes the data informative and chance of collinearity among independent variables is reduced. Additionally, individual heterogeneity is controlled through panel datasets. Regression coefficients can be biased if these problems are not removed or controlled (Baltagi, 2008; Matyas and Sevestre, 2008). Thus,

panel data analysis can provide useful information, whereas, in cross section data or time series data, such meaningful and useful information can not be extracted. Further, panel data set is more useful to analyze large and complex models. This is so because cross section provides data about individuals and firms for one time, whereas, it is attribute of the panel data that it provides variation in firms or individuals which occur over time (Wooldridge, 2002). Thus panel data has supremacy over cross section or time series data regarding provision of useful information to the decision makers.

The problems of cross section data or time series data i.e. multi-collinearity and autocorrelation may also be found in panel data analysis which are required to be addressed before making estimations. Further, panel data analysis may face problem of omitted variables i.e. firms may be bankrupt or merge.

In order to analyze effect of culture, formal institutions and firm specific control variables on dividend payment and cash holdings this study uses GMM methodology applied by Bae et al.(2012) with cross-section weights. GMM tests are applied to deal with endogeneity by taking lag values of firm specific determinants as instrument variables. Heteroskedasticity is the major problem which this study may encounter in panel data analysis and may make the results inconsistent. So to make estimators consistent this study uses (PCSE) correction to control for heteroskedasticity.

3.5 Methodological Framework

3.5.1 Dividend Payment

This section discusses how different firm specific variables, formal institutions and national culture affect dividend payment of the firms. The general form of the relationship between different factors and dividend payment is as under:

Dividend = f (National Culture, Formal Institution, Firm Specific Variable)

National culture includes Hofstede's (1980, 2001) cultural dimensions of Power distance index (PDI), Individuality (IDV), Uncertainty avoidance index (UAI), Masculinity (MAS) and Long term orientation (LTO). Formal institutions included in this study are worldwide governance index, shareholder rights index, creditor rights index, financial development which constitutes stock market capitalization as percentage of GDP and domestic credit provided by financial institutions as percentage of GDP. Firm specific variables affecting dividend payment include profitability, size, leverage, risk, tangibility, financial strength, liquidity, growth and free cash flow.

3.5.1.1 National Culture and Dividend Payment

In this section, hypotheses H1a, H1c, H1e, H1g and H1i are tested through equation (3.1) to (3.5) estimating effect of Hofstede's cultural dimensions including PDI, IDV, MAS, UAI, and LTO on dividend payment of the firms around different regions of the world. The culture components are added one by one to deal with multicollinearity.

H1a establishes negative relationship between power distance and dividend payouts. H1c states that IDV has positive effect on dividend payment of the firms as there are more agency problems in individualistic societies and to reduce said problems, managers have to pay more dividends. As per H1e, masculinity influences dividend payment of the firms negatively. As per hypothesis H1g, firms operating in countries with high scores on UAI tend to pay lower dividends because it is attribute of high uncertainty avoidance managers to keep higher level of cash reserves to face anticipated contingencies in future and maintain buffer money for uncertain change which may occur in forthcoming period, so they prefer to pay lesser dividends to shareholders. Further, H1i assumes that long term orientation negatively influences dividend payment of the firms.

In the light of above, equations from (3.1) to (3.5) are presented below to show effect of different dimensions of national culture on dividend payment.

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \gamma_1 PDI_i + \varepsilon_{it} \quad (3.1)$$

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \gamma_2 IDV_i + \varepsilon_{it} \quad (3.2)$$

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \gamma_3 MAS_i + \varepsilon_{it} \quad (3.3)$$

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \gamma_4 UAI_i + \varepsilon_{it} \quad (3.4)$$

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \gamma_5 LTO_i + \varepsilon_{it} \quad (3.5)$$

Where, DIV is dividend divided by total assets. Firm means firm specific variables as per Table 3.2; PDI is Hofstede's power distance index; IDV is Hofstede's individualism index; MAS is Hofstede's masculinity index; UAI is Hofstede's uncertainty avoidance index; LTO is Hofstede's long term orientation index.

3.5.1.2 Formal Institutions and Dividend Payment

In order to test hypothesis H2a developed in Chapter 2, Worldwide Governance Index (WGI) and shareholder rights index (Sri) are included in equation, along with control variables, one by one separately to avoid problem of multi collinearity in addition to firm specific variable, following methodologies of Shao et al.(2010), Fredmuk and Jacob (2010) and Bae et al.(2012) to examine the role of WGI in shaping dividend payment of the firms around different regions of the world.

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \beta_1 wgi_{it} + \varepsilon_{it} \quad (3.6)$$

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \beta_2 sri_i + \varepsilon_{it} \quad (3.7)$$

The literature also reveals that creditor rights influence dividend payments of the firms. Brockman and Unlu (2009) identify that creditors have more effect on dividend payment of the firms than shareholder rights. To test impact of creditor rights on dividend payment as hypothesized by H2b, equation 3.8 is used as under:

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \beta_3 cri_i + \varepsilon_{it} \quad (3.8)$$

As per hypothesis H2c financial development can have both positive/ negative effect on dividend payment of the firms. At one hand, better financial development lowers frictions in the market and so enables the firms paying dividend at higher rates. On the other hand, in line with substitution theory, effective financial development reduces the need to pay more dividends to develop reputations among shareholders. So, to test the hypothesis H2c, equation (3.9) is used by adding proxies of financial development including stock market capitalization as percentage of GDP (Mktcap) and domestic credit provided by financial institutions as percentage of GDP (Domcrdt). Hence, next model is:

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \beta_4 mktcap_{it} + \beta_5 domcrdt_{it} + \varepsilon_{it} \quad (3.9)$$

3.5.1.3 Firm Specific Variables and Dividend Payment

Hypotheses No. H3a to H3i establish effect of firm specific variables on dividend payment of the firms. The general specification of the model to test the said hypotheses is as under:

$$DIV_{it} = \alpha_0 + \sum_{j=1}^{10} \alpha_j Firm_{it} + \varepsilon_{it} \quad (3.10)$$

$$Firm_{it} = c \quad (ROA, LnTA, LEVEQ, CR, SG, ZSCORE, PV, Tang, CH, FCF)$$

Where, DIV is cash dividends divided by total assets; ROA is return on assets which is proxy of profitability; Lnta is natural logarithm of total assets that is proxy of size; LEVEQ is long term debt to shareholders equity to measure leverage of the firms; CR is current ratio calculated as current assets divided by current liabilities, is a proxy of liquidity; SG is sales growth which is used to measure growth of the firms; Z SCORE is Altmans Z Score which is a measure of financial distress, PV is price volatility to measure market risk; Tang means tangibility of the assets; CH is cash holdings as measured by cash & cash equivalents divided by total assets; FCF is free cash flows divided by total assets. All firm specific variables are calculated at Table 3.2.

3.5.2 Cash Holdings

3.5.2.1 National Culture and Cash Holdings

The effect of national culture on cash holdings is evidenced in the literature. The researches of Ramirez and Tadesse (2009) and Chen et al. (2015) show national culture influences cash holding decisions of the firms. . In this section, hypotheses H4a, H4c, H4e, H4g and H4i are tested through equation (3.11) to (3.15) estimating effect of Hofstede's cultural dimensions including PDI, IDV, MAS UAI, and LTO on cash holdings of the firms around different regions of the world.

According to H4a, managers operating in firms of high-power distance societies are more likely to pursue self-interested investments, and free cash in their hands enables them to over invest and increase investment distortions. So, positive relationship is predicted between PDI and cash holdings. Further, H4c predicts that managers of individualistic culture are more confident about future earnings of the firm and its financial position. Resultantly, they are likely to underestimate demand for cash as compared to managers of collectivist culture. In an individualistic culture, managers are tempted to make over investments when they have excess cash. As per hypothesis H4e, asymmetry of information and agency problems are more severe in masculine society, so it proposes positive relationship between MAS and cash reserves. As per hypothesis H4g, managers of firms

with more uncertainty avoidance are less tolerant about uncertainty attached to project and so demand higher cash reserves as compensation. Whereas, managers with less uncertainty avoidance are more comfortable with uncertain situation and future unpredictability. Further, H4i in Chapter 2 argue that managers in high LTO societies are likely to make strategic investments and also want to retain employees for longer period of time. Hence, firms in such culture maintain higher cash holdings as compared to firms in short term orientation.

In the light of above, equations from (3.11) to (3.15) are presented below to show effect of different dimensions of national culture on cash holdings.

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \gamma_1 pdi_i + \varepsilon_{it} \quad (3.11)$$

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \gamma_2 idv_i + \varepsilon_{it} \quad (3.12)$$

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \gamma_3 mas_i + \varepsilon_{it} \quad (3.13)$$

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \gamma_4 uai_i + \varepsilon_{it} \quad (3.14)$$

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \gamma_5 lto_i + \varepsilon_{it} \quad (3.15)$$

Where, CH is cash & cash equivalents by total assets. Firm means firm specific variables as per Table 3.3; PDI is Hofstede's power distance index; IDV is Hofstede's individualism index; MAS is Hofstede's masculinity index; UAI is Hofstede's uncertainty avoidance index; LTO is Hofstede's long term orientation index.

3.5.2.2 Formal Institutions and Cash Holdings

In order to test hypothesis H5a developed in Chapter 2, worldwide governance index (WGI) is included in equation (3.16) to examine the role of WGI in cash

holding decisions of the firms around different regions of the world.

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \beta_1 wgi_{it} + \varepsilon_{it} \quad (3.16)$$

Further, as per hypothesis H5b, firms with strong shareholder rights are expected to reduce/increase cash reserves of the firms. To this hypothesis, this study includes shareholder rights index (Sri) in equation (3.17) as under:

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \beta_2 sri_i + \varepsilon_{it} \quad (3.17)$$

To test impact of creditor rights on cash holdings as hypothesized by H5c, equation 3.18 is illustrated as under:

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \beta_3 cri_i + \varepsilon_{it} \quad (3.18)$$

To test the hypothesis H5d, equation (3.19) is formulated by adding proxies of financial development including stock market capitalization as percentage of GDP (Mktcap) and domestic credit provided by financial institutions as percentage of GDP (Domcrdt). Hence, next model is:

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \beta_4 mktcap_{it} + \beta_5 domcrdt_{it} + \varepsilon_{it} \quad (3.19)$$

3.5.2.3 Firm Specific Variables and Cash Holding

Hypotheses No. H6a to H6i establish effect of firm specific variables on cash holdings of the firms. The general specification of the model to test the said hypotheses is as under:

$$CH_{it} = \alpha_0 + \sum_{j=1}^9 \alpha_j Firm_{it} + \varepsilon_{it} \quad (3.20)$$

$Firm_{it} = c(LnTA, LEVEQ, DIVTA, ZSCORE, MBR, INVST, CF, ROA, NWC)$

Where, CH is cash & cash equivalents divided by total assets; Lnta is natural logarithm of total assets that is proxy of size; LEVEQ is long term debt to shareholder's equity to measure leverage of the firms; DIVTA is dividends divided by total assets; Z SCORE is Altmans Z Score which is a measure of financial distress, MBR is market to book ratio calculated as market capitalization + total liabilities divided by total assets; CF is cash flow from operations divided by total assets; ROA is return on assets which is proxy of profitability; NWC is current assets less current liabilities-cash & cash equivalent divided by total assets. All firm specific variables are calculated at Table 3.3.

3.5.3 Interaction Effect of National Culture and Governance on Dividend Payment and Cash Holdings

In order to analyze interaction effect of national culture and governance on dividend payment, equation (3.21) to (3.25). It is hypothesized at H1b, H1d, H1f, H1h and H1j that effect of national culture on dividend payment varies with the strength of corporate governance available in the country in which firms operate. The culture components are added one by one to deal with multicollinearity. In the absence of corporate governance, negative relationship between PDI and dividend payment is expected. However, interaction of PDI with corporate governance may decrease/ increase this negative relationship depending on the case outcome model or substitute model is followed in the region. This relationship is hypothesized at H1b. Equation (3.21) tests H1b established in Chapter 2. Further, as per Hypothesis H1d relationship between IDV and dividend payment will be influenced by outcome/substitute model prevalent in the country. H1d is estimated through equation (3.22).

As per H1e, effect of MAS on dividend payment is negative as in masculine society, agency problems are more severe and in the absence of effective corporate governance, managers of the firms would be reluctant to take decision regarding payment of dividend to the shareholders. However, as per outcome model, in the presence of strong corporate governance, shareholders can force the managers to

pay dividends as their rights are more protected in such societies. Hence, negative effect of MAS on dividend payment may turn to positive in the presence of corporate governance. Whereas, as per substitute model negative effect of MAS on dividend payment may be strengthened in the presence of effective corporate governance. Hypothesis H1f establishes interactive effect of MAS and corporate governance on dividend payment of the firms and equation (3.23) tests this relationship.

The shareholders with more UAI score desire to receive more dividends, whereas, managers in such societies tend to maintain higher level of cash reserves to deal with uncertainties and so less likely to pay higher dividends to the shareholders. However, in the presences of higher corporate governance and strong shareholder rights, demand of the shareholders to receive more dividends outweighs desires of the managers to pay lesser dividends. Hence, equation 3.24 estimates Hypothesis H1h which states that interaction of UAI and WGI positively/ negatively influence dividend payment of the firms around the world.

Further, as per H1i effect of LTO on dividend payment is negative, whereas, this negative relationship is influenced by the fact whether agency model is prevalent or substitute model is effective in the country in which firms operate. H1j assumes that LTO has positive/ negative effect on dividend payment of the firms in the presence of effective corporate governance. Equation (3.25) estimates this relationship to test hypothesis H1j.

$$DIV_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_1 PDI_i \times wgi_{it} + \varepsilon_{it} \quad (3.21)$$

$$DIV_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_2 IDV_i \times wgi_{it} + \varepsilon_{it} \quad (3.22)$$

$$DIV_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_3 MAS_i \times wgi_{it} + \varepsilon_{it} \quad (3.23)$$

$$DIV_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_4 UAI_i \times wgi_{it} + \varepsilon_{it} \quad (3.24)$$

$$DIV_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_5 LTO_i \times wgi_{it} + \varepsilon_{it} \quad (3.25)$$

Similarly, interaction effect of national culture and governance on cash holdings may be analyzed with the help of interaction of different dimensions of national culture with corporate governance through equation (3.26) to (3.30).

$$CH_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_1 PDI_i \times wgi_{it} + \varepsilon_{it} \quad (3.26)$$

$$CH_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_2 IDV_i \times wgi_{it} + \varepsilon_{it} \quad (3.27)$$

$$CH_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_3 MAS_i \times wgi_{it} + \varepsilon_{it} \quad (3.28)$$

$$CH_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_4 UAI_i \times wgi_{it} + \varepsilon_{it} \quad (3.29)$$

$$CH_{it} = \gamma_0 + \sum_{j=1}^{10} \gamma_j Firm_{it} + \theta_5 LTO_i \times wgi_{it} + \varepsilon_{it} \quad (3.30)$$

3.6 Estimation Technique

For the purpose of applying optimum approach for estimation of the model, it is important to consider context of the data and also objectives of the study. In order to decide the best approach to estimate a model, this study has to consider objective of the study and the context of the data. In the sample data, there are firm specific variables which are time variant and are unique to each firm. Further, there are formal institutions, out of which shareholder rights index and creditor rights index are time invariants and one value is available for each country whereas worldwide governance index, equity market capitalization and domestic bank credit are time variant meaning their values are changed over the period for

a country but for each firm of the country, values are same. Also all dimensions of national culture including power distance index, individualism, masculinity, uncertainty avoidance and long term orientation are time invariant. So, to estimate the model this study uses panel data, applying the Panel Generalized Method of Movement and lags of explanatory variables are used as instruments. The model is suitable for catering endogeneity problem present in the data. In GMM estimation, not all variables from regression are correlated with error term. As per Roodman (2009), lagged values of the variables may be taken as instruments. The value of J-statistics is significant for all regions under study which substantiate use of lag values as instrument variable in this study. As the results of LR test is insignificant, the study follows common effect technique instead of fixed effect model.

There is endogeneity between dividends and cash flow variables. In dividend equation cash flow appears on right hand side and similarly cash flow is determined by dividends. Therefore OLS gives biased results therefore Generalized Method of Moments is used. To confirm presence of endogeneity in the data, Durbin-Wu-Hausman test is applied. This test identifies endogenous regressors in the model. Endogenous variables are regressors which are affected by other variables in the system. The presence of endogeneity in the model indicates violation of one of assumptions of OLS which states that there is no correlation between independent variables and error terms. There result of Hausman Test is significant which confirm presence of endogeneity in the data, so suggest use of Generalized Method of Movement (GMM).

The Panel Generalized Method of Movement is applied and lags of explanatory variables are used as instruments. The model is suitable for catering endogeneity problem present in the data. In GMM estimation, not all variables from regression are correlated with error term. As per Roodman (2009), lagged values of the variables may be taken as instruments.

3.7 Diagnostic Tests

As per Gujarati (2009, p.507), estimations made from a chosen model are required to be logical and the results must support theory. In order to apply a OLS model, there are some assumptions which must be fulfilled so that more consistent and reliable results may be obtained i.e. First assumption of OLS model is that average of error terms should be zero meaning that $E(u_t)=0$. It explains that values of dependent variable are distributed around its mean, meaning that mean value of these deviations corresponding to a given independent variable should be zero. In other words, errors should not be affecting dependent variable.

Second assumption of a OLS model is variance of error terms should be constant i.e $\text{var}(u_t) = \sigma^2$. If this assumption is violated, we may face problem of heteroscedasticity. In the presence of heteroscedasticity, estimated coefficients are no more BLUE (best linear unbiased estimator) meaning that they no longer remain minimum variance estimators. One of the tests to check heteroscedasticity present in the model is Breusch-Pagan-Godfrey (BPG) test. Null hypothesis of BPG test is that error terms are homoscedastic. Eviews does not provide direct method to apply this method, so BPG is tested manually by taking square of residual terms as dependent variable and regressing the same on independent variables of the base model. Value of LM is obtained by multiplying number of observations with value of R-Square obtained from above regression. Value of Ch-Square is calculated by $@ \text{qchiq}(0.95, n-1)$, whereas, n is number of independent variables. If value of LM is greater than value of Ch-Square, it indicates presence of heteroscedasticity. In such situation, OLS model cannot be applied for estimation. That is why this study used GLS instead of OLS.

Next assumption is that there is no correlations between error terms i.e. $\text{cov}(u_i, u_j)=0$. If error terms are correlated, estimates obtained from OLS regression are no more inefficient. Durben-Watson (DW) test is used to confirm whether there is independence of error terms with each other (Brooks,2004,p.194).

Another assumption of OLS model is that error terms are normally distributed.

One method to check normality assumption is Jarque-Bera test. This test assumes normality of error terms in null hypothesis. Another method is through observation of histogram plot of residuals to see normality of residuals.

Presence of multicollinearity is violation of OLS assumption. Multicollinearity means unusual correlation among independent variables of a regression model. In case of multicollinearity, precision of estimators is lost meaning that although value of R-squared will be high, standard errors of individual coefficients will be high and reliability of inferences will be questionable (Brooks, 2004, p.201). Although, correlation matrix may be used to verify presence or absence of multicollinearity among regressors, this study calculates Variance inflator factor (VIF) to analyze multicollinearity problem in the model. Value of VIF more than 10 indicates presence of multicollinearity.

As per Brooks (2004, p.694), spurious regression may be resulted from use of non-stationery data, so stationarity of data must be confirmed before regression model is run. Further, coefficients of the model cannot be estimated validly if problem of non-stationary exists. Data is stationery when it has constant mean and variance. Also, each given lag of data series should have constant auto-covariance. Unit root test is used to confirm presence or absence of stationarity in the data series. As per Gujrati (2009, p. 821), DF test and ADF test tend to accept null hypothesis and hence are weak measures to check stationarity. Brooks (2004,p.548) recommends Levin, Lin and Chu (LLC) for panel data as it considers both time specific effects and entity specific effect. In this study, LLC method is used to check stationarity in the variables because it uses panel data. Null hypothesis of LLC test is that unit root is present, meaning that data is non- stationarity.

Chapter 4

Empirical Results

In this chapter, first of all descriptive statistics of the variables used in the study are narrated. Then data correlation is analyzed not only for overall sample but also for all regions under this study including Africa, Asia pacific, Europe, Middle East, North America and South America in order to analyze multi- collinearity problem between variables. In the last section, regression results are presented showing effect of national culture, formal institutions and firm specific on two important financial decisions including dividend payment and cash holdings.

4.1 Summary Statistics of Data

This section begins with summary statistics of data. The mean, median, maximum and minimum values and standard deviation are discussed.

Tables 4.1 to 4.7 present descriptive statistics of informal institutions, formal institutions and firm specific variables for dividend payment and for cash holdings in respect of overall sample and other six regions of the world.

From national culture of Hofstede (1980,2001), five dimensions are used in this study. The average value of PDI is 55.30 and median value is 57 for the overall sample as shown at Table 4.1. The maximum and minimum values of PDI are 100

and 11 with standard deviation of 18.28. Similarly, average values of other dimensions of IDV, MAS, UAI and LTO are 53.83, 55.61, 62.14 and 58.41 respectively with median values of 48, 46, 64 and 51 respectively. The maximum, minimum and standard deviation for the said variables for overall sample are also placed at table [4.1](#).

TABLE 4.1: Descriptive Statistics (Overall Sample)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.018	0.008	0.201	0.000	0.026
DIVNP	0.294	0.159	4.372	-1.957	0.483
PDI	55.298	57.000	104.000	11.000	18.278
IDV	53.830	48.000	91.000	13.000	28.585
MAS	55.609	56.000	95.000	5.000	18.280
UAI	62.142	64.000	112.000	8.000	22.855
LTO	60.060	51.134	486.532	6.801	34.242
SRI	3.913	4.000	5.000	0.000	0.947
CRI	2.214	2.000	4.000	0.000	1.035
WGI	73.011	83.993	98.874	0.000	19.463
MKTCAP	144.766	88.119	1254.465	0.000	238.157
DOMCRDT	160.402	158.746	363.250	-10.152	89.689
ROA	0.025	0.036	0.349	-0.715	0.103
LNTA	6.106	5.892	11.015	0.668	1.938
LEVEQ	0.670	0.406	6.977	-2.562	0.911
PV	33.435	32.420	63.820	5.540	11.137
TANG	0.300	0.267	0.833	0.008	0.213
ZSCORE	3.316	2.373	19.486	-0.861	3.329
CR	2.036	1.554	9.186	0.345	1.595
SG	0.062	0.032	1.123	-0.482	0.262
CH	0.148	0.107	0.674	0.000	0.134
FCFTA	0.039	0.003	84.916	-91.710	1.656
LEVDBT	0.227	0.208	0.816	0.000	0.177
CAPX	0.044	0.031	0.207	0.000	0.043
MBR	1.533	1.137	7.871	0.284	1.255
CF	0.066	0.065	0.510	-0.425	0.101
NWC	0.027	0.024	0.439	-0.392	0.163

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKTCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Overall sample. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 59,470 observations from 2007-2016.

Formal institutions used in this study include worldwide governance, shareholder right index, creditor right index, market capitalization and domestic credit provided by financial institutions as percentage of GDP. Table 4.1 shows descriptive statistics of the said formal institutions for overall sample. The average value of worldwide governance index is 73.01 and median value is 83.99. These scores are awarded by World Bank out of 100 on the basis of different measures of governance in a country. Maximum and minimum values of worldwide governance index are 98.87 and 0.00 for the overall sample. The standard deviation for the said variable is 19.46.

The average value of shareholder rights index for the overall sample is 3.91 and median value is 4.0. This score is out of 5 from La Porta et al. (1998) as revised by Djankov et al. (2008). The maximum and minimum values of shareholder right index are 5 and 0 respectively with standard deviation of 0.95 for the overall sample. Similarly, average and median values of creditor rights index are 2.21 and 2 respectively. These scores are developed by Djankov, McLiesh, and Shleifer (2007) and score to each country is awarded out of 4. The maximum and minimum values of creditor rights index for the overall sample are 4 and 0 respectively. The standard deviation for the said variable is 1.04.

One of formal institutions is market capitalization as percentage of GDP of the country. The average and median values of market capitalization for the overall sample are 144.77 % and 88.12 % respectively. The maximum and minimum values of the said variable are 1,254.46% and 0 respectively with standard deviation of 238.18 %.

Another formal institution used in this study is domestic credit provided by financial institutions as percentage of GDP. The average value of domestic credit is 160.4 % and median value is 158.75 %. The maximum and minimum values are 363.25% and 10.15 % respectively. The standard deviation for the said variable is 89.69 %.

Table 4.1 describes mean, median, maximum, minimum and standard deviation of firm specific variables, formal institutions and informal institutions in respect of dividend payment and cash holdings for the overall sample. The table states

that average value of dividend to total assets ratio for the overall sample is 1.8% and median value of the said ratio is 0.8%. It means on the average all firm in the sample pay 1.8% of total assets. The maximum and minimum values for the said ratio are 20.1% and 0% respectively. The standard deviation for the said ratio is 2.6% which is higher when it is compared with average value of the ratio.

Cash holdings ratio shows percentage of cash & cash equivalents to total assets of the firm. Average value of this ratio is 14.8 % and median value is 10.7 % for the overall sample. Maximum and minimum values are 67.4 % and 0 % respectively. Standard deviation of cash holding ratio is 13.4 %. It is revealed from Table 4.1 that average values of other firm specific variable including profitability, size, long term debt to equity, price volatility, tangibility, Z-score, current ratio, sales growth, free cash flows, total debt to total assets, investments, market to book ratio, cash flows and net working capital are 2.5%, 6.11, 67 %, 33.43%, 30.0%, 3.32, 2.04, 6.2%, 3.9%, 22.7%, 4.4%, 1.53, 6.6% and 2.7 % respectively. Similarly, median, maximum and minimum values and standard deviation in respect of said firm specific variables for overall sample are shown at Table 4.1.

Table 4.2 depicts descriptive statistics of culture, formal institutions and firm specific variables for Africa region. With respect to firm specific variables, it shows that average dividend to net profit is 43% for 100 firms of Africa. The median value of dividend to net profit is 34.7 %, whereas, maximum and minimum value of dividend to net profit ratios are 200.74% and -57.7%. The standard deviation of dividend to net profit ratio is 54.8%. Average and median values of dividend as percentage of net profit for Africa are not only higher than of overall sample but also higher than of firms in other regions of the world. Only South America has slightly higher dividend to net profit ratio than Africa i.e. 43.2%. However, median value of the said ratio for South America is lesser than Africa i.e. 22.6% as compared to 34.7 % of Africa.

TABLE 4.2: Descriptive Statistics (Africa)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.039	0.022	0.187	0.000	0.045
DIVNP	0.430	0.347	2.737	-0.577	0.548
PDI	52.551	49.000	80.000	49.000	8.636
IDV	59.211	65.000	65.000	25.000	13.826
MAS	60.911	63.000	63.000	45.000	5.608
UAI	52.632	49.000	80.000	49.000	9.665
LTO	30.170	34.000	34.000	6.801	9.187
SRI	4.741	5.000	5.000	3.000	0.641
CRI	2.931	3.000	4.000	2.000	0.381
WGI	52.914	53.232	95.744	22.008	11.620
MKTCAP	61.218	63.875	113.907	9.909	15.423
DOMCRDT	21.735	0.524	234.174	-10.152	47.828
ROA	0.076	0.068	0.253	-0.112	0.074
LNTA	6.278	6.426	9.324	0.668	1.819
LEVEQ	0.597	0.340	3.750	0.000	0.814
PV	31.415	29.955	56.250	16.480	9.385
TANG	0.360	0.332	0.833	0.023	0.236
ZSCORE	3.642	3.114	11.755	-0.015	2.396
CR	1.604	1.362	4.648	0.345	0.901
SG	0.047	0.029	0.636	-0.419	0.214
CH	0.121	0.094	0.417	0.000	0.101
FCFTA	0.006	0.008	0.282	-0.671	0.077
LEVDBT	0.189	0.154	0.648	0.000	0.165
CAPX	0.063	0.051	0.207	0.002	0.049
MBR	1.663	1.366	4.311	0.284	0.915
CF	0.112	0.103	0.320	-0.058	0.087
NWC	-0.001	-0.008	0.395	-0.344	0.165

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Africa region. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. All firm specific variables are defined at table 3.2 and table 3.3. The data covers 1,000 observations from 2007-2016.

The higher percentage of dividend payment might be due to the higher shareholder protection which is available to shareholders of the firms operating in Africa. Average shareholder rights index is 4.74 for Africa with median value of 5. These values are highest than any other region of the world. As per agency view proposed by La Porat et al. (1997) and further verified by Officer (2006), Harford et al.(2008) and other scholars, managers of the firm operating in countries having strong strong shareholders' rights tend to pay higher level of dividends because due to higher power, shareholders have legal rights to compel managers to pay higher level of dividends.

Average value of cash holdings for Africa is 12.1 % and median value is 9.47 % for Africa region. Maximum and minimum values are 41.7 % and 0 % respectively. Standard deviation of cash holding ratio is 10.1 %. The average and median values of cash holdings for Africa are higher than overall sample and other regions like Asia Pacific, Europe, Middle East and North America. Only South America has higher average and median values of cash holdings i.e. 9 % and 7.7 % respectively. Again this reduced cash holdings in Africa may be explained with the help of agency view which states that shareholders of the firms in countries with strong shareholder rights may force managers to disgorge cash reserves (Dittmar et al. (2003). Similarly descriptive statistics in respect of other firm specific determinants of dividend payment and cash holdings are shown at table 4.2.

Table 4.3 depicts descriptive statistics of culture, formal institutions and firm specific variables for Asia Pacific. The table shows that average dividend to net profit is 28.6% of net profit of 3,358 firms of Asia Pacific. The median value of dividend to net profit is 15.1 %, whereas, maximum and minimum value of dividend to net profit ratios are 200.16 % and -48.5% respectively. The standard deviation of dividend to net profit ratio is 46.6%.

TABLE 4.3: Descriptive Statistics (Asia Pacific)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.016	0.007	0.106	0.000	0.024
DIVNP	0.286	0.151	2.161	-0.485	0.466
PDI	64.783	60.000	104.000	22.000	15.686
IDV	37.191	26.000	90.000	14.000	22.858
MAS	55.429	48.000	95.000	34.000	19.688
UAI	66.853	69.000	92.000	8.000	23.631
LTO	70.735	87.406	100.000	21.159	25.946
SRI	4.288	4.500	5.000	1.000	0.796
CRI	2.546	2.000	4.000	0.000	0.742
WGI	66.472	72.873	97.788	0.000	20.199
MKTCAP	181.215	82.842	1254.465	6.781	308.651
DOMCRDT	147.174	151.041	363.250	0.000	104.012
ROA	0.025	0.031	0.194	-0.272	0.083
LNTA	5.653	5.480	9.603	2.630	1.644
LEVEQ	0.636	0.376	3.399	0.000	0.769
PV	35.238	34.770	59.030	15.130	10.939
TANG	0.320	0.301	0.783	0.009	0.205
ZSCORE	3.342	2.220	19.486	0.012	3.688
CR	2.115	1.556	9.186	0.440	1.757
SG	0.073	0.033	1.123	-0.482	0.294
CH	0.153	0.117	0.535	0.006	0.130
FCFTA	-0.012	-0.004	1.409	-10.069	0.118
LEVDBT	0.221	0.201	0.625	0.000	0.173
CAPX	0.044	0.029	0.193	0.000	0.046
MBR	1.438	0.996	7.871	0.312	1.415
CF	0.057	0.056	0.361	-0.166	0.090
NWC	0.024	0.023	0.381	-0.351	0.162

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Asia Pacific. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 33,580 observations from 2007-2016.

Average dividend to net profit for Asia Pacific is lower than overall sample and all other regions under study except North America where this ratio is 20.7 %. The shareholder rights index of Asia Pacific is higher than all the regions except Africa where this value is 4.74. This phenomena is against the agency view and may be better explained with the help of shareholder power hypothesis. According to shareholders power hypothesis, shareholders of the firms in strong shareholder rights countries tolerate lower payment of dividends by the firms as they feel secured by the rights granted to them by the law. So, in Asia Pacific region, there is application of shareholders power hypothesis or substitute theory of dividend. Further, Table 4.3 describes average, median, maximum, minimum and standard deviation values of other firm specific variable for Asia Pacific.

Table 4.4 shows descriptive statistics of culture, formal institutions and firm specific variables for Europe.

TABLE 4.4: Descriptive Statistics (Europe)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.022	0.014	0.132	0.000	0.029
DIVNP	0.359	0.259	2.432	-0.624	0.538
PDI	42.739	35.000	68.000	11.000	14.691
IDV	70.637	71.000	89.000	27.000	15.732
MAS	51.877	66.000	88.000	5.000	20.926
UAI	60.067	59.000	112.000	23.000	24.628
LTO	57.175	51.134	82.872	24.433	15.292
SRI	3.647	3.500	5.000	2.000	1.019
CRI	2.294	2.000	4.000	0.000	1.338
WGI	83.430	88.094	98.874	14.772	16.210
MKTCAP	80.945	68.116	266.995	0.000	55.613
DOMCRDT	157.451	159.573	248.931	18.798	38.540
ROA	0.035	0.040	0.205	-0.233	0.080
LNTA	6.505	6.308	11.015	2.622	2.082
LEVEQ	0.751	0.471	4.275	0.000	0.910
PV	29.808	28.620	52.130	14.510	9.355
TANG	0.262	0.221	0.788	0.008	0.207
ZSCORE	2.926	2.357	11.717	0.248	2.307
CR	1.656	1.419	4.912	0.458	0.948
SG	0.032	0.016	0.601	-0.382	0.195
CH	0.134	0.095	0.528	0.005	0.122
FCFTA	0.202	0.004	84.916	-91.710	3.519
LEVDBT	0.225	0.210	0.618	0.000	0.164
CAPX	0.041	0.031	0.154	0.001	0.035
MBR	1.487	1.231	4.402	0.620	0.814
CF	0.075	0.060	0.510	-0.138	0.110
NWC	0.010	0.011	0.359	-0.392	0.163

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Europe. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 13,040 observations from 2007-2016.

The tables show that average dividend to net profit is 35.9% for 1,304 firms of Europe. The median value of dividend to net profit is 25.9 %, whereas, maximum and minimum value of dividend to net profit ratios are 200.43 % and -62.4%. The standard deviation of dividend to net profit ratio is 53.8%. Average value of dividend to net profit for Europe is higher than overall sample, Asia, Middle East and North America but lesser than South America and Africa for which this ratio has value of 43.2 % and 43 % respectively. Median value of dividend to net profit ratio for Europe is higher than overall sample, Asia, Middle East ,North America and South America but lesser than Africa.

Table 4.5 describes descriptive statistics of culture, formal institutions and firm specific variables for Middle East. The tables show that average dividend to net profit is 32.6% of 70 firms of Middle East. The median value of dividend to net profit is 0 %, whereas, maximum and minimum value of dividend to net profit ratios are 200.96 % and -29.9%. The standard deviation of dividend to net profit ratio is 49.2%.

TABLE 4.5: Descriptive Statistics (Middle East)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.027	0.000	0.198	0.000	0.047
DIVNP	0.326	0.000	2.096	-0.299	0.492
PDI	31.379	13.000	95.000	13.000	34.225
IDV	47.500	54.000	54.000	25.000	12.104
MAS	49.914	47.000	60.000	47.000	5.426
UAI	80.776	81.000	81.000	80.000	0.417
LTO	211.261	197.032	486.532	35.516	148.504
SRI	3.103	4.000	4.000	0.000	1.669
CRI	3.000	3.000	3.000	3.000	0.000
WGI	72.361	68.491	90.443	64.840	8.335
MKTCAP	113.081	81.460	299.574	49.689	72.048
DOMCRDT	89.333	87.703	135.129	68.599	11.783
ROA	0.023	0.035	0.240	-0.314	0.107
LNTA	6.103	5.938	10.525	2.981	1.842
LEVEQ	0.992	0.488	6.977	0.000	1.529
PV	35.102	33.575	56.760	17.580	10.806
TANG	0.277	0.203	0.829	0.012	0.230
ZSCORE	3.099	2.344	11.043	0.057	2.473
CR	1.922	1.685	5.259	0.485	1.034
SG	0.059	0.040	0.645	-0.393	0.205
CH	0.170	0.139	0.510	0.006	0.131
FCFTA	-0.001	0.012	0.210	-0.485	0.092
LEVDBT	0.251	0.230	0.733	0.000	0.197
CAPX	0.040	0.027	0.172	0.001	0.039
MBR	1.541	1.290	3.797	0.683	0.776
CF	0.071	0.075	0.265	-0.169	0.092
NWC	0.023	0.011	0.341	-0.321	0.141

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Middle East. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 700 observations from 2007-2016.

The average value of dividend to total assets ratio for Middle East is 2.7% and median value of the said ratio is 0%. The maximum and minimum values for the said ratio are 19.8 % and 0% respectively. The standard deviation for the dividend to total assets ratio is 4.7%. Average value of cash holdings for Middle East is 17.0 % and median value is 13.9 %. Maximum and minimum values are 51.0 % and 0.6 % respectively. Standard deviation of cash holding ratio is 13.1 %.

Average cash holdings for Middle East are higher than overall sample and all other regions under study. The reason for this may be ascribed by agency theory according to which shareholders of firms operating in countries with weak shareholder rights index are unable to force managers to disgorge cash holdings. Average shareholder rights index for Middle East is lower than overall sample and all other regions except North America which has average value of shareholder rights index as 3. The shareholders in Middle East have second lowest shareholder rights index among all the regions but highest level of cash holdings which shows application of agency theory in Middle East. Further, Table 4.5 shows average, median, maximum, minimum and standard deviation values of other culture, formal institutions and firm specific variables for Middle East.

Table 4.6 reveals descriptive statistics of firm specific variables, formal institutions and national culture for North America. The table depicts that average dividend to net profit is 20.7% of net profit for 1,014 firms of North America. The median value of dividend to net profit is 0 %, whereas, maximum and minimum value of dividend to net profit ratios are 150.0 % and -39.2%. The standard deviation of dividend to net profit ratio is 36.2%.

TABLE 4.6: Descriptive Statistics (North America)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.014	0.004	0.087	0.000	0.020
DIVNP	0.207	0.000	1.504	-0.392	0.362
PDI	41.092	40.000	81.000	40.000	6.601
IDV	89.376	91.000	91.000	30.000	9.821
MAS	62.186	62.000	69.000	62.000	1.127
UAI	46.959	46.000	82.000	46.000	5.796
LTO	25.652	25.693	25.693	24.181	0.243
SRI	3.000	3.000	3.000	3.000	0.000
CRI	0.973	1.000	1.000	0.000	0.161
WGI	84.264	84.547	86.903	56.239	4.003
MKTCAP	123.819	136.690	168.067	78.746	22.940
DOMCRDT	233.120	234.403	251.099	109.428	19.386
ROA	0.004	0.043	0.198	-0.715	0.168
LNTA	7.022	7.220	11.007	2.057	2.207
LEVEQ	0.673	0.420	5.447	-2.562	1.252
PV	32.978	30.745	63.820	14.040	12.520
TANG	0.268	0.192	0.823	0.013	0.228
ZSCORE	3.757	2.913	16.236	-0.861	3.339
CR	2.356	1.855	9.118	0.516	1.721
SG	0.066	0.044	1.051	-0.402	0.229
CH	0.155	0.096	0.674	0.003	0.164
FCFTA	0.007	0.033	0.753	-3.979	0.176
LEVDBT	0.249	0.228	0.816	0.000	0.203
CAPX	0.045	0.032	0.184	0.002	0.041
MBR	1.904	1.517	6.200	0.733	1.178
CF	0.074	0.089	0.264	-0.425	0.122
NWC	0.061	0.047	0.439	-0.334	0.165

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of North America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 10,140 observations from 2007-2016

Further, Table 4.6 shows descriptive statistics of culture and formal institutions and other firm specific variables for North America. Average value of worldwide governance for North America is higher than overall sample and all other regions under study which shows superior governance situation of North America.

Table 4.7 shows descriptive statistics of culture, formal institutions and firm specific variables for South America. The tables show that average dividend to net profit is 43.2% of /100 firms of North America. The median value of dividend to net profit is 22.6 %, whereas, maximum and minimum value of dividend to net profit ratios are 437.2 % and -195.7%. The standard deviation of dividend to net profit ratio is 90.6%. Average value of dividend to net profit for South America is higher than overall sample and other regions under study.

TABLE 4.7: Descriptive Statistics (South America)

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
DIVTA	0.030	0.014	0.201	0.000	0.043
DIVNP	0.432	0.226	4.372	-1.957	0.906
PDI	61.139	63.000	69.000	49.000	7.366
IDV	31.515	23.000	46.000	13.000	10.758
MAS	41.851	49.000	64.000	28.000	13.409
UAI	83.366	86.000	86.000	76.000	4.242
LTO	30.227	30.982	43.829	13.098	9.154
SRI	3.673	4.000	5.000	2.000	1.082
CRI	1.406	1.000	2.000	0.000	0.600
WGI	62.929	54.710	84.792	35.738	19.359
MKTCAP	67.169	73.374	156.403	6.274	44.141
DOMCRDT	84.701	101.064	127.792	21.962	34.537
ROA	0.062	0.054	0.349	-0.117	0.080
LNTA	6.639	6.513	10.029	3.235	1.772
LEVEQ	0.624	0.441	2.991	-0.080	0.670
PV	25.889	25.850	47.130	5.540	10.445
TANG	0.434	0.439	0.827	0.013	0.228
ZSCORE	2.905	2.351	11.666	0.224	2.187
CR	1.571	1.401	3.752	0.435	0.784
SG	0.079	0.049	0.775	-0.324	0.231
CH	0.090	0.077	0.287	0.003	0.070
FCFTA	-0.013	0.006	0.541	-4.172	0.239
LEVDBT	0.227	0.229	0.573	0.000	0.157
CAPX	0.056	0.043	0.187	0.002	0.046
MBR	1.419	1.211	4.189	0.507	0.772
CF	0.094	0.082	0.321	-0.084	0.085
NWC	0.011	0.000	0.343	-0.300	0.145

Note: This table describes descriptive statistics for dividend and cash holding determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of South America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. The scores from all dimensions of national culture are obtained from www.hofstede-insights.com, All firm specific variables are defined at table 3.2 and table 3.3. The data covers 1,010 observations from 2007-2016

Further, Table 4.7 shows average, median, maximum, minimum and standard deviation values of other firm specific variable including profitability, size, long term debt to equity, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, free cash flows, total debt to total assets, investments, market to book ratio, cash flows and net working capital. It further shows descriptive statistics of formal institutions and national culture for South America.

4.2 Correlation Results

The correlation results are presented in this section. Firstly, correlation relationships among different variables in respect of dividend payment are discussed which is followed by correlation statistics for cash holdings.

4.2.1 Data Correlation for Dividend Payment

In this sub-section, correlation between variables for overall sample as well as all regions under study is analyzed for dividend payment. Tables 4.8 to 4.14 describe correlation between variables for dividend payment in respect overall sample and other six regions of the world.

In Table 4.18, correlation matrix between dividend payment and independent variables is presented for overall sample. The correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.401, 0.097, -0.140, -0.321, -0.019, 0.287, 0.057, -0.033, 0.169, 0.101 and -0.016 respectively. The highest value of correlation is 0.401 which is between dividends and profitability. Similarly correlations between dividend payment and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are -0.049, -0.043, 0.015, -0.046 and -0.169 respectively. The correlations between dividend payment and PDI,(IDV), (MAS), (UAI) and Long term orientation (LTO) are -0.036, -0.004, -0.097, -0.099 and

-0.064 respectively. There is lower correlation between dividend payment and dimensions of national culture.

Further, correlation among firm specific variables at Table 4.8 reveals that there is no possibility of multi- collinearity as correlation coefficients are lesser than 0.70 for all variables. Highest correlation for firm specific variables is between liquidity and equity to total assets which is 0.584, for rest of firm specific variables; correlation coefficients are even lower than this. Similarly, correlations among variables of formal institutions and national culture are not problematic with respect to multi- collinearity.

The correlations between firm specific variables and formal institutions show that said two types of variables are poorly correlated and there is no possibility of multi-collinearity between them. Similarly, correlations between firm specific variables and national culture reveal that said variables have low correlation with each other. The variables of formal institutions and national culture have also low correlation with each other.

Summing up, in overall sample, correlations among independent variables are not so severe that could cause problem of multi-collinearity. Hence, it is expected that while regressing and national culture firm, formal institutions and specific variables on dividend payment, multi- collinearity will not be a problem.

Table 4.9 shows correlation for Africa region. The table shows correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.681, -0.043, -0.0132, -0.178, 0.024, 0.631, 0.160, -0.006, 0.210, 0.093 and -0.062 respectively. Similarly correlations between dividend payment and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are 0.101, -0.115, 0.044, 0.061 and 0.0169 respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are 0.175, -0.146, -0.080, 0.083 and -0.139 respectively. It is revealed from the above that firm specific variables are more correlated with dividends than formal or informal institutions.

In firm specific variables only profitability and z-score may cause problem of low multi-collinearity as correlation coefficient is 0.724 between them. For all other firm specific variables, correlation coefficients are lesser than threshold value of multi-collinearity. In formal institutions, the correlation coefficients between shareholder rights index is -0.698. For all other variables of formal institutions, correlation coefficients are lesser than the said value. Most of the variables of national culture are strongly correlated with each other i.e. correlation coefficients are more than 0.90 indicating severe problem of multi collinearity. However, as per model specification, variables of national culture will be regressed on dividend payment separately along with firm specific variables. Hence, problem of multi-collinearity is unlikely to arise in the regression.

The correlations between firm specific variables and formal institutions show that said two types of variables are poorly correlated and there is no possibility of multi-collinearity between them. Highest correlation coefficient in variables of national culture is between worldwide governance and creditor rights index which is 0.938 which may be problematic if both are taken together in the regression. The correlations between firm specific variables and national culture reveal that said variables have low correlation with each other. The correlation matrix between variables of formal institutions and national culture show that shareholder rights index is strongly correlated with all dimensions of national culture, whereas, creditor rights index has strong correlations with masculinity and uncertainty avoidance index. Worldwide governance index and market capitalization are poorly correlated with national culture. Domestic credit by financial institutions, however, is strongly correlated with PDI, IDV and LTO.

Table 4.10 shows correlation for Asia Pacific. The table shows that correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.460, 0.073, -0.238, -0.314, -0.062, 0.293, 0.110, -0.026, 0.244, 0.201 and 0.051 respectively. Similarly correlations between dividend payment and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are -0.120,

-0.141, -0.083, -0.047 and -0.202 respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are 0.001, -0.021, -0.106 and -0.147 respectively.

The correlations among different variables of firm specific factors may not cause multi-collinearity as correlation coefficients are not strong. Only exception is between leverage and equity to total assets where correlation coefficient is -0.738. Similarly, correlation between domestic credit and worldwide governance index is 0.70 and for other variables of formal institutions, correlations are not strong enough. Different dimensions of national culture have also no problem of multi-collinearity among them.

Further, firm specific variables are not strongly correlated with either formal institutions or national culture in Asia Pacific region. Also, formal institutions and national culture have no problem of multi-collinearity with each other.

Table 4.11 shows correlation matrix for Europe. The table shows that correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.501, 0.078, -0.157, -0.285, -0.026, 0.509, 0.168, -0.009, 0.216, 0.101 and -0.041 respectively. The correlations between dividend payment and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are 0.064, 0.057, 0.050, 0.067 and -0.028 respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are -0.128, 0.067, -0.059, -0.138 and -0.012 respectively. The above results show that firm specific results are more strongly correlated with dividend payment than formal or informal factors.

In firm specific variables, the correlation between leverage and equity to total assets is -0.672. For other firm specific variables, correlations are even lesser than this for Europe region. The correlations among variables of formal institutions are lesser than 0.70 meaning that it is unlikely that multi-collinearity would be present among them. In national culture variables, UAI is positively correlated with PDI with coefficient of 0.831 and with IDV with coefficient of -0.748. For other variables of national culture, correlation coefficients are lesser than 0.70.

Firm specific variables have low correlation with formal institutions and with different dimensions of national culture. Similarly, formal institutions are not strongly correlated with national culture.

Table 4.12 shows correlation matrix for Middle East. The table shows that correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.562, 0.179, -0.035, -0.382, 0.300, 0.409, 0.102, -0.028, 0.178, -0.050 and -0.019 respectively. The correlations between dividend payment and worldwide governance index, shareholder rights index, market capitalization and domestic credit are 0.222, -0.238, 0.215 and 0.171 respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are 0.238, -0.238, 0.238, -0.238 and -0.143 respectively.

In firm specific variables, correlation coefficients are lesser than 0.70, so low chance of multi-collinearity among them. Formal institutions and national culture may cause problem of multi-collinearity because of high correlations among their variables.

Firm specific variables are not strongly correlated with either formal institutions or national culture. The factors of formal institutions including worldwide governance and domestic credit are strongly correlated with PDI, IDV, MAS, UAI and LTO thus causing severe problem of multi-collinearity if they are combined together in regression models. Creditor rights index show nil value because of the reason that for all three countries of the Middle East including Israel, Kuwait and Saudi Arab, value of creditor rights index is same i.e. 3.

Table 4.13 shows correlation matrix for North America. The table shows that correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.275, 0.244, 0.030, -0.435, 0.069, 0.112, -0.075, -0.089, -0.018, -0.066 and 0.004 respectively. The correlations between dividend payment and worldwide governance index, creditor rights index, market capitalization and domestic credit are -0.068, -0.062, 0.058 and -0.036

respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are 0.062, -0.062, 0.062, 0.062 and -0.062 respectively.

The correlations among firm specific variables show that all correlation coefficients of the variables are lesser than 0.70, hence trivial chances of multi-collinearity. Among formal institutions, worldwide governance index and domestic credit are strongly correlated with creditor rights index with correlation coefficients of 0.968 and 0.882 respectively. Similarly, domestic credit is positively correlated with worldwide governance with correlation coefficient of 0.865. All dimensions of national culture are amazingly correlated with each other with correlation coefficient of either 1 or -1.

Firm specific variables have low correlation with formal institutions and national culture. Worldwide governance index, creditor rights index and domestic credit are strongly correlated with all variables of national culture thus indicative of high multi-collinearity.

Table 4.14 shows correlation matrix for South America. The table shows that correlations between dividends and firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, sales growth, equity to total assets, cash holdings and free cash flows are 0.546, -0.011, -0.185, -0.132, -0.044, 0.448, -0.026, 0.019, 0.245, -0.010 and -0.309 respectively. The correlations between dividend payment and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are 0.096, 0.121, 0.057, 0.115 and 0.100 respectively. The correlations between dividends and PDI, IDV, MAS, UAI and LTO are 0.125, -0.099, -0.085, -0.046 and 0.087 respectively.

The table further reveals that firm specific variables are not strongly correlated so lesser chance of multi-collinearity among them. Among formal institutions, worldwide governance and market capitalization are strongly correlated with creditor rights index with correlation coefficients of 0.912 and 0.719 respectively. Worldwide governance and market capitalization have correlation coefficient of 0.862. Domestic credit has correlation coefficients of 0.835 and 0.798 with shareholder

rights index and worldwide governance index respectively. The variables of national culture do not have multi-collinearity problem for South America region.

Firm specific variables are not strongly correlated with formal and informal institutions. For formal institutions, shareholder rights index has strong correlation with PDI and LTO with correlation coefficients of 0.936 and 0.907 respectively. Creditor rights index has correlation coefficient of -0.965 with MAS. Worldwide governance index is strongly correlated with IDV and MAS with correlation coefficients of -0.750 and -0.981 respectively. Similarly, market capitalization strongly negatively correlated with IDV and MAS with correlation coefficients of -0.751 and -0.829 respectively. Domestic credit has also strong negative correlation with PDI and MAS.

Summing up, it is evident from the previous discussion that firm specific variables are not strongly correlated with each other and also with formal and informal institutions. So, it is unlikely they would cause problem of multi-collinearity in regression. Formal institutions and national culture have some problems of multi-collinearity among themselves and also with each other in most of the regions. In order to avoid problem of multi-collinearity in formal and informal institutions and also between them, this study uses all variables separately with firm specific variables in the regression models to analyze impact of firm specific, formal and informal variables on dividend payment.

4.2.2 Data Correlation for Cash Holdings

Table 4.15 shows correlation matrix for overall sample. The table depicts that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.162, -0.352, 0.100, 0.306, -0.150, 0.203, 0.017, -0.051 and -0.100 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are 0.044, -0.031, 0.035, 0.107 and 0.098 respectively.

The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are -0.027, 0.004, 0.039, 0.064 and 0.067 respectively.

The correlations among firm specific variables of cash holdings are not strongly correlated with one another, so lesser chances of multi-collinearity. The highest correlation for firm specific variables is between cash flows and profitability which is 0.541. For other variables, correlations are even lesser than this. Firm specific variables are not strongly correlated with formal and informal institutions. The correlations among formal and informal institutions and with each other have already been discussed above.

Table 4.16 shows correlation matrix for Africa region. The table depicts that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.109, -0.219, 0.090, 0.166, -0.158, 0.039, 0.199, 0.154 and -0.294 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are -0.006, 0.085, 0.021, 0.078 and -0.097 respectively. The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are -0.097, 0.093, 0.074, -0.075 and 0.091 respectively.

The correlations among different variables of firm specific variables are not problematic except profitability and Z-score which have correlation coefficient of 0.718, indicative of moderate multi-collinearity. Firm specific variables are not strongly correlated to formal or informal institutions.

Table 4.17 shows correlation matrix for Asia Pacific. The table depicts that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.097, -0.417, 0.201, 0.284, -0.145, 0.146, 0.119, 0.062 and -0.025 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are 0.0132, -0.074, 0.095, 0.131 and 0.132 respectively. The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are -0.094, 0.053, 0.033, 0.111 and 0.102 respectively.

Table 4.18 shows correlation matrix for Europe. The table reveals that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.170, -0.259, 0.101, 0.324, -0.059, 0.272, 0.092, 0.045 and -0.200 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are -0.142, -0.027, -0.014, 0.059 and -0.018 respectively. The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are 0.054, -0.126, 0.036, 0.035 and 0.052 respectively.

The correlations among firm specific variables show that Z-score and market to book ratio have correlation coefficient of 0.722. For other firm specific variables, possibility of multi- collinearity is not probable. In Europe, formal institutions are not severely correlated with each other . For Firm specific variables are not strongly correlated with formal institutions and national culture.

Table 4.19 shows correlation matrix for Middle East. The table reveals that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.262, -0.394, 0.050, 0.319, -0.301, 0.205, -0.163, -0.154 and -0.076 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, market capitalization and domestic credit are 0.203, 0.212, -0.190 and -0.050 respectively. The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are -0.212, 0.212, -0.212, 0.212 and 0.059 respectively.

Table 4.20 shows correlations for North America. The table reveals that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital are -0.290, -0.311, -0.066, 0.381, -0.248, 0.373, -0.222, -0.229, 0.229 and -0.220 respectively. The correlations between cash holdings and worldwide governance index, creditor rights index, market capitalization and domestic credit are 0.055, 0.054, -0.006 and 0.052 respectively. The correlations

between cash holdings and PDI, IDV, MAS, UAI and LTO are -0.054, 0.054, -0.054, -0.054 and 0.054 respectively.

The correlation matrix of firm specific variables reveals that only profitability and cash flows have correlation coefficient of 0.772. Rest of the firm specific variables have correlation coefficients lesser than 0.700, thus causing no problem of multi-collinearity. In formal institutions, creditor rights index has correlation coefficient of 0.968 and 0.882 with worldwide governance index and domestic credit respectively. Worldwide governance index has correlation coefficient of 0.865 with domestic credit. In informal institutions, all variables are perfectly correlated with each other. The firm specific variables are not strongly correlated with formal and informal institutions.

Table 4.21 shows correlations for South America. The table reveals that correlations between cash holdings and firm specific variables including size, leverage, dividend, Z-score, investments, market to book ratio, free cash flows, profitability and net working capital 0.041, -0.028, -0.010, 0.121, 0.031, 0.125, 0.187, 0.129 and -0.084 respectively. The correlations between cash holdings and worldwide governance index, shareholder rights index, creditor rights index, market capitalization and domestic credit are -0.154, -0.013, -0.140, -0.095 and -0.094 respectively. The correlations between cash holdings and PDI, IDV, MAS, UAI and LTO are 0.015, 0.126, 0.146, -0.118 and 0.026 respectively.

In firm specific variables, Z-score and market to book ratio have correlation coefficient of 0.704. Other firm specific variables have lesser than 0.70 correlation coefficients. Firm specific variables are not strongly correlated with either formal or informal institutions.

Like dividend payment, in case of cash holdings, firm specific variables have no or very low chances of multi-collinearity with each other and with formal and informal variables. However, formal and informal institutions have severe problem of multi-collinearity especially in Middle East, North America and South America.

TABLE 4.8: Correlation Matrix of Dividend Policy (Overall Sample)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MKTCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH	
DIVTA	1.000																				
PDI	-0.036	1.000																			
IDV	-0.004	-0.622	1.000																		
MAS	-0.097	-0.141	0.256	1.000																	
UAI	-0.099	0.062	-0.307	0.130	1.000																
LTO	-0.064	0.022	-0.482	0.010	0.436	1.000															
SRI	-0.043	0.312	-0.144	0.032	-0.043	0.133	1.000														
CRI	0.015	0.120	-0.110	-0.131	-0.007	0.272	0.622	1.000													
WGI	-0.049	-0.619	0.621	0.211	0.142	-0.098	-0.029	0.079	1.000												
MKTCAP	-0.046	0.127	0.207	-0.146	0.186	-0.035	0.301	0.429	0.274	1.000											
DOMCR	-0.169	-0.415	0.432	0.591	0.213	0.025	-0.005	-0.102	0.663	0.159	1.000										
ROA	0.401	0.050	-0.076	-0.023	-0.026	0.010	0.032	0.002	-0.085	-0.066	-0.109	1.000									
LNTA	0.097	-0.178	0.206	0.081	0.005	-0.076	-0.169	-0.157	0.173	0.000	0.182	0.227	1.000								
LEVEQ	-0.140	-0.002	-0.022	-0.005	0.034	0.030	-0.038	-0.052	-0.046	-0.061	-0.012	-0.086	0.221	1.000							
PV	-0.321	0.121	-0.054	-0.134	-0.011	0.022	0.095	0.132	-0.129	0.180	-0.117	-0.361	-0.412	0.018	1.000						
TANG	-0.019	0.116	-0.170	-0.003	0.043	-0.017	-0.003	-0.035	-0.171	-0.122	-0.119	0.021	0.088	0.158	-0.091	1.000					
ZSCORE	0.287	-0.045	0.036	-0.058	-0.057	-0.048	-0.005	0.030	0.040	0.016	-0.021	0.267	-0.084	-0.255	0.004	-0.141	1.000				
CR	0.057	0.013	0.043	0.009	-0.027	-0.046	0.002	0.021	0.051	0.105	0.047	0.025	-0.191	-0.298	0.066	-0.236	0.421	1.000			
SG	-0.033	0.030	0.012	-0.013	-0.035	-0.029	0.032	0.026	-0.019	0.050	-0.038	0.133	-0.006	-0.006	0.099	-0.033	0.094	-0.002	1.000		
CH	0.101	-0.027	0.004	0.039	0.064	0.067	-0.031	0.035	0.044	0.107	0.098	-0.051	-0.162	-0.248	0.118	-0.347	0.306	0.495	0.014	1.00	

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of overall sample. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 59,470 observations from 2007-2016

TABLE 4.9: Correlation Matrix of Dividend (Africa)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH
DIVTA	1.000																			
PDI	0.175	1.000																		
IDV	-0.146	-0.966	1.000																	
MAS	-0.080	-0.779	0.915	1.000																
UAI	0.083	0.789	-0.922	-1.000	1.000															
LTO	-0.139	-0.951	0.999	0.934	-0.940	1.000														
SRI	-0.115	-0.891	0.978	0.979	-0.982	0.988	1.000													
CRI	0.044	-0.242	0.486	0.797	-0.787	0.530	0.657	1.000												
WGI	0.101	-0.001	0.252	0.607	-0.594	0.300	0.440	0.938	1.000											
MCAP	0.061	-0.197	0.337	0.508	-0.502	0.362	0.432	0.596	0.596	1.000										
DOMCR	0.169	0.920	-0.819	-0.549	0.562	-0.793	-0.698	0.037	0.264	0.013	1.000									
ROA	0.681	-0.004	0.039	0.088	-0.086	0.045	0.065	0.132	0.129	0.135	-0.005	1.000								
LNTA	-0.043	-0.105	0.126	0.142	-0.142	0.129	0.137	0.119	0.132	0.113	-0.086	-0.058	1.000							
LEVEQ	-0.132	0.058	-0.078	-0.097	0.097	-0.081	-0.089	-0.094	-0.076	-0.017	0.036	-0.256	0.188	1.000						
PV	-0.178	0.123	-0.143	-0.154	0.154	-0.146	-0.152	-0.120	-0.101	0.002	0.052	-0.134	-0.128	-0.024	1.000					
TANG	0.024	0.245	-0.258	-0.241	0.243	-0.258	-0.255	-0.138	-0.058	-0.064	0.196	-0.090	0.135	0.253	0.102	1.000				
ZSCORE	0.631	-0.126	0.170	0.215	-0.214	0.178	0.197	0.212	0.176	0.176	-0.085	0.724	-0.077	-0.394	-0.117	-0.197	1.000			
CR	0.160	-0.241	0.235	0.192	-0.195	0.231	0.218	0.065	0.020	0.076	-0.226	0.249	-0.108	-0.302	0.033	-0.195	0.444	1.000		
SG	-0.006	-0.071	0.079	0.081	-0.081	0.080	0.082	0.057	0.024	0.148	-0.084	0.209	0.004	0.024	0.171	-0.052	0.132	0.006	1.000	
CH	0.093	-0.093	0.088	0.068	-0.069	0.086	0.080	0.016	-0.004	0.076	-0.100	0.160	-0.116	-0.198	0.156	-0.302	0.163	0.286	0.090	1.000

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of Africa region. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 1,000 observations from 2007-2016.

TABLE 4.10: Correlation Matrix of Dividend (Asia Pacific)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH	
DIVTA	1.000																				
PDI	0.001	1.000																			
IDV	-0.021	-0.293	1.000																		
MAS	-0.106	-0.254	0.334	1.000																	
UAI	-0.147	-0.540	0.095	0.249	1.000																
LTO	-0.158	-0.284	-0.511	0.098	0.544	1.000															
SRI	-0.141	0.312	0.341	0.073	-0.010	-0.264	1.000														
CRI	-0.083	0.088	0.403	-0.397	0.065	-0.097	0.459	1.000													
WGI	-0.120	-0.581	0.558	0.309	0.584	0.073	0.255	0.482	1.000												
MCAP	-0.047	0.050	0.508	-0.220	0.238	-0.145	0.347	0.703	0.419	1.000											
DOMCR	-0.202	-0.447	0.355	0.741	0.558	0.396	0.213	0.113	0.700	0.182	1.000										
ROA	0.460	0.095	-0.118	-0.010	-0.076	-0.025	-0.012	-0.140	-0.159	-0.106	-0.113	1.000									
LNTA	0.073	-0.068	0.026	0.126	0.143	0.126	-0.039	-0.001	0.110	0.067	0.191	0.197	1.000								
LEVEQ	-0.238	0.028	-0.074	0.005	-0.002	0.059	-0.008	-0.083	-0.084	-0.076	-0.028	-0.185	0.192	1.000							
PV	-0.314	0.034	0.106	-0.270	-0.070	-0.050	0.082	0.219	-0.051	0.206	-0.166	-0.311	-0.311	0.118	1.000						
TANG	-0.062	0.021	-0.105	0.000	-0.057	-0.037	-0.058	-0.169	-0.138	-0.192	-0.109	-0.013	0.063	0.185	-0.083	1.000					
ZSCORE	0.293	-0.053	0.024	-0.107	-0.012	-0.043	-0.017	0.081	0.037	0.004	-0.057	0.242	-0.009	-0.243	-0.009	-0.098	1.000				
CR	0.110	0.001	0.080	-0.033	-0.001	-0.068	0.020	0.112	0.085	0.102	0.014	0.046	-0.171	-0.372	0.009	-0.261	0.378	1.000			
SG	-0.026	0.017	0.065	-0.030	-0.046	-0.075	0.021	0.045	-0.005	0.046	-0.048	0.171	0.026	0.021	0.103	-0.032	0.070	-0.023	1.000		
CH	0.201	-0.094	0.053	0.033	0.111	0.102	-0.074	0.095	0.132	0.131	0.132	0.062	-0.097	-0.323	0.002	-0.384	0.284	0.517	-0.018	1.000	

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of Asia Pacific. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKT CAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 33,580 observations from 2007-2016.

TABLE 4.11: Correlation Matrix of Dividend (Europe)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH
DIVTA	1.000																			
PDI	-0.128	1.000																		
IDV	0.067	-0.491	1.000																	
MAS	-0.059	0.033	0.199	1.000																
UAI	-0.138	0.831	-0.748	0.104	1.000															
LTO	-0.012	-0.004	0.126	0.342	0.168	1.000														
SRI	0.057	-0.421	0.617	0.156	-0.690	-0.204	1.000													
CRI	0.050	-0.556	0.576	0.361	-0.614	0.035	0.614	1.000												
WGI	0.064	-0.461	0.463	0.054	-0.433	0.322	0.288	0.142	1.000											
MCAP	0.067	-0.200	0.417	0.344	-0.426	0.079	0.493	0.262	0.272	1.000										
DOMCR	-0.028	-0.282	0.293	0.152	-0.410	-0.136	0.523	0.350	0.433	0.437	1.000									
ROA	0.501	-0.065	0.065	-0.004	-0.084	0.054	0.037	0.024	0.078	0.069	-0.014	1.000								
LNTA	0.078	0.016	0.003	-0.006	0.056	0.111	-0.066	-0.061	0.019	-0.041	-0.023	0.156	1.000							
LEVEQ	-0.157	0.105	-0.139	-0.008	0.158	-0.060	-0.097	-0.066	-0.115	-0.113	0.002	-0.203	0.232	1.000						
PV	-0.285	0.087	-0.125	0.022	0.060	-0.170	-0.010	0.028	-0.193	-0.060	-0.056	-0.313	-0.391	0.003	1.000					
TANG	-0.026	0.067	-0.179	0.029	0.131	-0.135	-0.099	-0.025	-0.180	-0.086	-0.072	0.001	0.156	0.141	-0.127	1.000				
ZSCORE	0.509	-0.161	0.115	-0.018	-0.194	0.036	0.111	0.090	0.127	0.149	0.028	0.507	-0.207	-0.376	-0.039	-0.177	1.000			
CR	0.168	-0.082	0.002	0.046	-0.056	0.098	0.008	0.029	0.019	0.097	-0.029	0.150	-0.216	-0.314	0.045	-0.136	0.497	1.000		
SG	-0.009	-0.044	0.040	0.009	-0.055	0.011	0.039	0.022	0.039	0.054	-0.020	0.228	-0.012	-0.044	0.022	-0.045	0.162	0.013	1.000	
CH	0.101	0.054	-0.126	0.036	0.035	0.052	-0.027	-0.014	-0.142	0.059	-0.018	0.045	-0.170	-0.155	0.173	-0.222	0.324	0.395	0.028	1.000

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of Europe. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKT CAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 13,040 observations from 2007-2016.

TABLE 4.12: Correlation Matrix of Dividend (Middle East)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH
DIVTA	1.000																			
PDI	0.238	1.000																		
IDV	-0.238	-1.000	1.000																	
MAS	0.238	1.000	-1.000	1.000																
UAI	-0.238	-1.000	1.000	-1.000	1.000															
LTO	-0.143	-0.637	0.637	-0.637	0.637	1.000														
SRI	-0.238	-1.000	1.000	-1.000	1.000	0.637	1.000													
CRI	NA	NA	NA	NA	NA	NA	NA	NA												
WGI	0.222	0.985	-0.985	0.985	-0.985	-0.626	-0.985	NA	1.000											
MCAP	0.215	0.921	-0.921	0.921	-0.921	-0.589	-0.921	NA	0.907	1.000										
DOMCR	0.171	0.427	-0.427	0.427	-0.427	-0.276	-0.427	NA	0.455	0.367	1.000									
ROA	0.562	0.209	-0.209	0.209	-0.209	-0.126	-0.209	NA	0.200	0.214	0.064	1.000								
LNTA	0.179	0.165	-0.165	0.165	-0.165	-0.087	-0.165	NA	0.168	0.144	0.079	0.382	1.000							
LEVEQ	-0.035	-0.163	0.163	-0.163	0.163	0.080	0.163	NA	-0.169	-0.148	-0.063	-0.001	0.365	1.000						
PV	-0.382	0.014	-0.014	0.014	-0.014	-0.089	-0.014	NA	-0.024	0.017	-0.096	-0.523	-0.510	-0.095	1.000					
TANG	0.300	0.478	-0.478	0.478	-0.478	-0.326	-0.478	NA	0.469	0.442	0.203	0.252	0.285	0.127	-0.216	1.000				
ZSCORE	0.409	0.297	-0.297	0.297	-0.297	-0.264	-0.297	NA	0.300	0.320	0.068	0.337	-0.164	-0.362	-0.080	-0.042	1.000			
CR	0.102	0.191	-0.191	0.191	-0.191	-0.125	-0.191	NA	0.201	0.187	0.122	0.014	-0.193	-0.350	0.124	-0.246	0.551	1.000		
SG	-0.028	-0.011	0.011	-0.011	0.011	0.001	0.011	NA	-0.048	0.032	-0.122	0.188	0.092	0.059	0.022	0.059	0.049	-0.051	1.000	
CH	-0.050	-0.212	0.212	-0.212	0.212	0.059	0.212	NA	-0.203	-0.190	-0.050	-0.154	-0.262	-0.153	0.173	-0.433	0.319	0.617	-0.056	1.000

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of Middle East. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 700 observations from 2007-2016

TABLE 4.13: Correlation Matrix of Dividend (North America)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH
DIVTA	1.000																			
PDI	0.062	1.000																		
IDV	-0.062	-1.000	1.000																	
MAS	0.062	1.000	-1.000	1.000																
UAI	0.062	1.000	-1.000	1.000	1.000															
LTO	-0.062	-1.000	1.000	-1.000	-1.000	1.000														
SRI	NA	NA	NA	NA	NA	NA	NA													
CRI	-0.062	-1.000	1.000	-1.000	-1.000	1.000	NA	1.000												
WGI	-0.068	-0.968	0.968	-0.968	-0.968	0.968	NA	0.968	1.000											
MCAP	0.058	0.099	-0.099	0.099	0.099	-0.099	NA	-0.099	-0.124	1.000										
DOMCR	-0.036	-0.882	0.882	-0.882	-0.882	0.882	NA	0.882	0.865	0.319	1.000									
ROA	0.275	0.037	-0.037	0.037	0.037	-0.037	NA	-0.037	-0.041	0.042	-0.016	1.000								
LNTA	0.244	0.053	-0.053	0.053	0.053	-0.053	NA	-0.053	-0.057	0.051	-0.026	0.409	1.000							
LEVEQ	0.030	0.019	-0.019	0.019	0.019	-0.019	NA	-0.019	-0.023	0.032	-0.005	0.065	0.255	1.000						
PV	-0.435	-0.081	0.081	-0.081	-0.081	0.081	NA	0.081	0.092	-0.172	0.006	-0.500	-0.629	-0.110	1.000					
TANG	0.069	0.079	-0.079	0.079	0.079	-0.079	NA	-0.079	-0.075	-0.006	-0.077	0.063	0.214	0.174	-0.166	1.000				
ZSCORE	0.112	-0.038	0.038	-0.038	-0.038	0.038	NA	0.038	0.043	0.052	0.058	0.278	-0.234	-0.231	0.034	-0.285	1.000			
CR	-0.075	-0.060	0.060	-0.060	-0.060	0.060	NA	0.060	0.059	0.000	0.059	0.001	-0.310	-0.192	0.155	-0.307	0.527	1.000		
SG	-0.089	-0.022	0.022	-0.022	-0.022	0.022	NA	0.022	-0.013	-0.026	-0.011	0.055	-0.059	-0.037	0.100	-0.083	0.137	0.031	1.000	
CH	-0.066	-0.054	0.054	-0.054	-0.054	0.054	NA	0.054	0.055	-0.006	0.052	-0.229	-0.290	-0.212	0.288	-0.401	0.381	0.519	0.087	1.000

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of North America. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 10,140 observations from 2007-2016.

TABLE 4.14: Correlation Matrix of Dividend (South America)

Variable	DIVTA	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DOMCR	ROA	LNTA	LEVEQ	PV	TANG	ZSCORE	CR	SG	CH
DIVTA	1.000																			
PDI	0.125	1.000																		
IDV	-0.099	-0.578	1.000																	
MAS	-0.085	-0.345	0.637	1.000																
UAI	-0.046	-0.640	-0.179	-0.425	1.000															
LTO	0.087	0.721	0.007	-0.324	-0.641	1.000														
SRI	0.121	0.936	-0.395	-0.462	-0.606	0.907	1.000													
CRI	0.057	0.117	-0.444	-0.965	0.560	0.249	0.296	1.000												
WGI	0.096	0.409	-0.750	-0.981	0.403	0.268	0.470	0.912	1.000											
MCAP	0.115	0.519	-0.751	-0.829	0.210	0.297	0.526	0.719	0.862	1.000										
DOMCR	0.100	0.789	-0.679	-0.788	-0.143	0.646	0.835	0.641	0.798	0.722	1.000									
ROA	0.546	0.055	-0.147	0.016	0.007	-0.100	-0.018	-0.055	0.022	0.088	-0.022	1.000								
LNTA	-0.011	0.418	-0.259	-0.198	-0.233	0.315	0.404	0.107	0.223	0.252	0.376	-0.045	1.000							
LEVEQ	-0.185	0.110	0.059	-0.029	-0.137	0.200	0.158	0.026	0.009	-0.013	0.108	-0.257	0.278	1.000						
PV	-0.132	-0.194	0.593	0.487	-0.323	0.105	-0.117	-0.413	-0.542	-0.458	-0.397	-0.151	-0.082	0.113	1.000					
TANG	-0.044	-0.034	-0.206	-0.233	0.255	-0.111	-0.043	0.233	0.244	0.215	0.082	-0.098	0.170	-0.040	-0.191	1.000				
ZSCORE	0.448	-0.088	-0.019	0.104	0.056	-0.179	-0.145	-0.107	-0.084	0.000	-0.147	0.644	-0.198	-0.330	0.004	-0.164	1.000			
CR	-0.026	0.049	-0.156	-0.147	0.096	-0.018	0.036	0.130	0.159	0.158	0.096	0.139	-0.065	-0.217	-0.252	-0.100	0.212	1.000		
SG	0.019	0.002	-0.023	0.043	-0.011	-0.047	-0.026	-0.054	-0.032	0.183	-0.116	0.172	0.042	-0.028	0.061	0.006	0.102	0.022	1.000	
CH	-0.010	-0.015	0.126	0.146	-0.118	0.026	-0.013	-0.140	-0.154	-0.095	-0.094	0.129	0.041	0.041	0.094	-0.259	0.121	0.328	0.054	1.000

Note: This table describes data correlation for dividend determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR,SG,CH and FCFTA in respect of South America. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.2. The data covers 1,010 observations from 2007-2016.

TABLE 4.15: Correlation Matrix of Cash Holdings (Overall Sample)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC
CH	1.000																			
PDI	-0.027	1.000																		
IDV	0.004	-0.622	1.000																	
MAS	0.039	-0.141	0.256	1.000																
UAI	0.064	0.062	-0.307	0.130	1.000															
LTO	0.067	0.022	-0.482	0.010	0.436	1.000														
SRI	-0.031	0.312	-0.144	0.032	-0.043	0.133	1.000													
CRI	0.035	0.120	-0.110	-0.131	-0.007	0.272	0.622	1.000												
WGI	0.044	-0.619	0.621	0.211	0.142	-0.098	-0.029	0.079	1.000											
MCAP	0.107	0.127	0.207	-0.146	0.186	-0.035	0.301	0.429	0.274	1.000										
DCR	0.098	-0.415	0.432	0.591	0.213	0.025	-0.005	-0.102	0.663	0.159	1.000									
LNTA	-0.162	-0.178	0.206	0.081	0.005	-0.076	-0.169	-0.157	0.173	0.000	0.182	1.000								
LEVDBT	-0.352	0.016	-0.027	-0.038	0.010	-0.005	-0.063	-0.088	-0.064	-0.055	-0.028	0.196	1.000							
DIVTA	0.100	-0.036	-0.004	-0.097	-0.099	-0.064	-0.043	0.015	-0.049	-0.046	-0.169	0.097	-0.202	1.000						
ZSCOR	0.306	-0.045	0.036	-0.058	-0.057	-0.048	-0.005	0.030	0.040	0.016	-0.020	-0.084	-0.395	0.286	1.000					
CAPX	-0.150	0.023	-0.007	-0.018	-0.040	-0.070	0.000	-0.032	-0.079	-0.066	-0.101	0.088	0.103	0.081	0.033	1.000				
MBR	0.203	-0.096	0.095	-0.073	-0.090	-0.069	-0.052	-0.018	0.056	0.003	0.004	-0.090	-0.074	0.239	0.375	0.063	1.000			
CF	0.017	-0.054	0.030	0.005	-0.048	-0.054	-0.061	-0.081	-0.001	-0.095	-0.039	0.157	-0.164	0.355	0.198	0.192	0.083	1.000		
ROA	-0.051	0.050	-0.076	-0.023	-0.025	0.010	0.032	0.002	-0.085	-0.066	-0.109	0.227	-0.208	0.400	0.267	0.098	0.018	0.541	1.000	
NWC	-0.100	-0.021	0.040	0.030	-0.066	-0.026	-0.013	-0.061	0.025	-0.022	0.015	-0.124	-0.302	0.065	0.175	-0.130	-0.079	0.012	0.187	1.000

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of overall sample. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 59,470 observations from 2007-2016.

TABLE 4.16: Correlation Matrix of Cash Holdings (Africa)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC
CH	1.000																			
PDI	-0.097	1.000																		
IDV	0.093	-0.966	1.000																	
MAS	0.074	-0.779	0.915	1.000																
UAI	-0.075	0.789	-0.922	-1.000	1.000															
LTO	0.091	-0.951	0.999	0.934	-0.940	1.000														
SRI	0.085	-0.891	0.978	0.979	-0.982	0.988	1.000													
CRI	0.021	-0.242	0.486	0.797	-0.787	0.530	0.657	1.000												
WGI	-0.006	0.012	0.240	0.598	-0.585	0.288	0.430	0.936	1.000											
MCAP	0.078	-0.192	0.331	0.503	-0.497	0.356	0.427	0.593	0.584	1.000										
DCR	-0.097	0.916	-0.811	-0.537	0.550	-0.784	-0.688	0.051	0.293	0.034	1.000									
LNTA	-0.109	-0.105	0.126	0.142	-0.142	0.129	0.137	0.119	0.114	0.103	-0.069	1.000								
LEVDBT	-0.219	0.035	-0.059	-0.088	0.087	-0.063	-0.075	-0.103	-0.085	-0.016	0.026	0.219	1.000							
DIVTA	0.090	0.181	-0.154	-0.090	0.093	-0.147	-0.124	0.035	0.090	0.049	0.178	-0.054	-0.224	1.000						
ZSCOR	0.166	-0.126	0.170	0.215	-0.214	0.178	0.197	0.212	0.168	0.172	-0.077	-0.077	-0.489	0.623	1.000					
CAPX	-0.158	0.099	-0.083	-0.046	0.047	-0.079	-0.065	0.025	0.021	-0.010	0.078	0.021	0.020	0.124	-0.010	1.000				
MBR	0.039	0.085	0.003	0.141	-0.136	0.021	0.074	0.300	0.312	0.236	0.176	0.085	-0.127	0.644	0.739	0.169	1.000			
CF	0.199	0.146	-0.124	-0.072	0.074	-0.118	-0.100	0.029	0.051	0.039	0.126	-0.079	-0.218	0.535	0.415	0.395	0.489	1.000		
ROA	0.154	0.010	0.022	0.069	-0.068	0.029	0.047	0.116	0.110	0.115	0.009	-0.079	-0.334	0.672	0.718	0.115	0.601	0.579	1.000	
NWC	-0.294	-0.242	0.234	0.188	-0.190	0.230	0.215	0.058	0.004	0.031	-0.228	-0.126	-0.220	0.091	0.273	-0.255	-0.058	-0.191	0.185	1.000

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Africa region. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 1,000 observations from 2007-2016.

TABLE 4.17: Correlation Matrix of Cash Holdings (Asia Pacific)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC	
CH	1.000																				
PDI	-0.094	1.000																			
IDV	0.053	-0.293	1.000																		
MAS	0.033	-0.254	0.334	1.000																	
UAI	0.111	-0.540	0.095	0.249	1.000																
LTO	0.102	-0.284	-0.511	0.098	0.544	1.000															
SRI	-0.074	0.312	0.341	0.073	-0.010	-0.264	1.000														
CRI	0.095	0.088	0.403	-0.397	0.065	-0.097	0.459	1.000													
WGI	0.132	-0.581	0.558	0.309	0.584	0.073	0.255	0.482	1.000												
MCAP	0.131	0.050	0.508	-0.220	0.238	-0.145	0.347	0.703	0.419	1.000											
DCR	0.132	-0.447	0.355	0.741	0.558	0.396	0.213	0.113	0.700	0.182	1.000										
LNTA	-0.097	-0.068	0.026	0.126	0.143	0.126	-0.039	-0.001	0.110	0.067	0.191	1.000									
LEVDBT	-0.417	0.046	-0.087	-0.052	-0.030	0.036	-0.014	-0.065	-0.108	-0.064	-0.080	0.158	1.000								
DIVTA	0.201	0.001	-0.021	-0.106	-0.147	-0.158	-0.141	-0.083	-0.120	-0.047	-0.202	0.073	-0.274	1.000							
ZSCOR	0.284	-0.053	0.024	-0.107	-0.012	-0.043	-0.017	0.081	0.037	0.004	-0.057	-0.009	-0.350	0.293	1.000						
CAPX	-0.145	-0.008	0.035	-0.036	-0.088	-0.106	0.007	-0.060	-0.077	-0.084	-0.111	0.077	0.098	0.082	0.061	1.000					
MBR	0.146	-0.030	-0.006	-0.132	-0.012	-0.003	-0.021	0.072	-0.003	0.004	-0.068	-0.150	-0.087	0.206	0.282	0.082	1.000				
CF	0.119	0.005	-0.058	0.030	-0.039	-0.046	-0.046	-0.132	-0.071	-0.118	-0.063	0.139	-0.211	0.443	0.185	0.221	0.089	1.000			
ROA	0.062	0.095	-0.118	-0.010	-0.076	-0.025	-0.012	-0.140	-0.159	-0.106	-0.113	0.197	-0.229	0.460	0.242	0.109	0.036	0.530	1.000		
NWC	-0.025	0.041	-0.022	0.020	-0.039	-0.024	0.045	-0.033	-0.039	-0.039	-0.028	-0.131	-0.346	0.097	0.117	-0.156	-0.076	-0.039	0.198	1.000	

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Asia Pacific. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 33,580 observations from 2007-2016.

TABLE 4.18: Correlation Matrix of Cash Holdings (Europe)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC	
CH	1.000																				
PDI	0.054	1.000																			
IDV	-0.126	-0.491	1.000																		
MAS	0.036	0.033	0.199	1.000																	
UAI	0.035	0.831	-0.748	0.104	1.000																
LTO	0.052	-0.004	0.126	0.342	0.168	1.000															
SRI	-0.027	-0.421	0.617	0.156	-0.690	-0.204	1.000														
CRI	-0.014	-0.556	0.576	0.361	-0.614	0.035	0.614	1.000													
WGI	-0.142	-0.461	0.463	0.054	-0.433	0.322	0.288	0.142	1.000												
MCAP	0.059	-0.200	0.417	0.344	-0.426	0.079	0.493	0.262	0.272	1.000											
DCR	-0.018	-0.282	0.293	0.152	-0.410	-0.136	0.523	0.350	0.433	0.437	1.000										
LNTA	-0.170	0.016	0.003	-0.006	0.056	0.111	-0.066	-0.061	0.019	-0.041	-0.023	1.000									
LEVDBT	-0.259	0.115	-0.194	-0.050	0.189	-0.101	-0.140	-0.110	-0.139	-0.156	-0.025	0.224	1.000								
DIVTA	0.101	-0.128	0.067	-0.059	-0.138	-0.012	0.057	0.050	0.064	0.067	-0.028	0.078	-0.208	1.000							
ZSCOR	0.324	-0.161	0.115	-0.018	-0.194	0.036	0.111	0.090	0.127	0.149	0.028	-0.207	-0.506	0.509	1.000						
CAPX	-0.059	0.008	-0.042	0.003	0.031	-0.008	-0.026	0.012	-0.068	-0.034	-0.095	0.112	0.099	0.110	0.052	1.000					
MBR	0.272	-0.193	0.142	-0.034	-0.229	0.014	0.144	0.105	0.140	0.174	0.057	-0.045	-0.187	0.500	0.722	0.090	1.000				
CF	0.092	-0.058	0.015	-0.039	-0.040	0.050	-0.025	-0.020	0.054	-0.001	-0.034	-0.069	-0.129	0.232	0.263	0.100	0.232	1.000			
ROA	0.045	-0.065	0.065	-0.004	-0.084	0.054	0.037	0.024	0.078	0.069	-0.014	0.156	-0.253	0.501	0.507	0.130	0.350	0.234	1.000		
NWC	-0.200	-0.125	0.084	0.000	-0.075	0.136	-0.008	-0.008	0.162	0.045	-0.030	-0.171	-0.275	0.119	0.303	-0.067	-0.005	0.036	0.200	1.000	

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Europe. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 13,040 observations from 2007-2016.

TABLE 4.19: Correlation Matrix of Cash Holdings (Middle East)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC
CH	1.000																			
PDI	-0.212	1.000																		
IDV	0.212	-1.000	1.000																	
MAS	-0.212	1.000	-1.000	1.000																
UAI	0.212	-1.000	1.000	-1.000	1.000															
LTO	0.059	-0.637	0.637	-0.637	0.637	1.000														
SRI	0.212	-1.000	1.000	-1.000	1.000	0.637	1.000													
CRI	NA	NA	NA	NA	NA	NA	NA	NA												
WGI	-0.203	0.985	-0.985	0.985	-0.985	-0.626	-0.985	NA	1.000											
MCAP	-0.190	0.921	-0.921	0.921	-0.921	-0.589	-0.921	NA	0.907	1.000										
DCR	-0.050	0.427	-0.427	0.427	-0.427	-0.276	-0.427	NA	0.455	0.367	1.000									
LNTA	-0.262	0.165	-0.165	0.165	-0.165	-0.087	-0.165	NA	0.168	0.144	0.079	1.000								
LEVDBT	-0.394	-0.041	0.041	-0.041	0.041	0.126	0.041	NA	-0.050	-0.043	-0.017	0.376	1.000							
DIVTA	-0.050	0.238	-0.238	0.238	-0.238	-0.143	-0.238	NA	0.222	0.215	0.171	0.179	-0.029	1.000						
ZSCOR	0.319	0.297	-0.297	0.297	-0.297	-0.264	-0.297	NA	0.300	0.320	0.068	-0.164	-0.547	0.409	1.000					
CAPX	-0.301	0.216	-0.216	0.216	-0.216	-0.100	-0.216	NA	0.199	0.192	0.013	0.233	0.407	0.140	-0.123	1.000				
MBR	0.205	0.176	-0.176	0.176	-0.176	-0.231	-0.176	NA	0.178	0.229	0.006	-0.061	-0.212	0.342	0.737	0.057	1.000			
CF	-0.163	0.131	-0.131	0.131	-0.131	-0.089	-0.131	NA	0.130	0.129	0.084	0.385	0.092	0.552	0.235	0.212	0.145	1.000		
ROA	-0.154	0.209	-0.209	0.209	-0.209	-0.126	-0.209	NA	0.200	0.214	0.064	0.382	-0.012	0.562	0.337	0.150	0.139	0.751	1.000	
NWC	-0.076	0.115	-0.115	0.115	-0.115	0.083	-0.115	NA	0.120	0.113	0.056	-0.134	-0.248	0.007	0.164	-0.175	-0.136	-0.054	0.121	1.000

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of Middle East. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 700 observations from 2007-2016.

TABLE 4.20: Correlation Matrix of Cash Holdings (North America)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC
CH	1.000																			
PDI	-0.054	1.000																		
IDV	0.054	-1.000	1.000																	
MAS	-0.054	1.000	-1.000	1.000																
UAI	-0.054	1.000	-1.000	1.000	1.000															
LTO	0.054	-1.000	1.000	-1.000	-1.000	1.000														
SRI	NA	NA	NA	NA	NA	NA	NA													
CRI	0.054	-1.000	1.000	-1.000	-1.000	1.000	NA	1.000												
WGI	0.055	-0.968	0.968	-0.968	-0.968	0.968	NA	0.968	1.000											
MCAP	-0.006	0.099	-0.099	0.099	0.099	-0.099	NA	-0.099	-0.124	1.000										
DCR	0.052	-0.882	0.882	-0.882	-0.882	0.882	NA	0.882	0.865	0.319	1.000									
LNTA	-0.290	0.053	-0.053	0.053	0.053	-0.053	NA	-0.053	-0.057	0.051	-0.026	1.000								
LEVDBT	-0.311	0.010	-0.010	0.010	0.010	-0.010	NA	-0.010	-0.015	0.041	0.002	0.211	1.000							
DIVTA	-0.066	0.062	-0.062	0.062	0.062	-0.062	NA	-0.062	-0.068	0.058	-0.036	0.244	0.002	1.000						
ZSCOR	0.381	-0.038	0.038	-0.038	-0.038	0.038	NA	0.038	0.043	0.052	0.058	-0.234	-0.492	0.112	1.000					
CAPX	-0.248	0.185	-0.185	0.185	0.185	-0.185	NA	-0.185	-0.182	-0.003	-0.180	0.122	0.128	0.028	-0.099	1.000				
MBR	0.373	-0.050	0.050	-0.050	-0.050	0.050	NA	0.050	0.050	0.145	0.108	-0.191	0.008	0.172	0.511	-0.058	1.000			
CF	-0.222	0.010	-0.010	0.010	0.010	-0.010	NA	-0.010	-0.005	-0.013	-0.014	0.378	-0.120	0.284	0.211	0.193	-0.105	1.000		
ROA	-0.229	0.037	-0.037	0.037	0.037	-0.037	NA	-0.037	-0.041	0.042	-0.016	0.409	-0.164	0.275	0.278	0.074	-0.148	0.772	1.000	
NWC	-0.220	-0.033	0.033	-0.033	-0.033	0.033	NA	0.033	0.031	-0.015	0.025	-0.143	-0.271	-0.031	0.242	-0.107	-0.243	0.140	0.247	1.000

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of North America. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 10,140 observations from 2007-2016

TABLE 4.21: Correlation Matrix of Cash Holdings (South America)

Correlation	CH	PDI	IDV	MAS	UAI	LTO	SRI	CRI	WGI	MCAP	DCR	LNTA	LEVDBT	DIVTA	ZSCOR	CAPX	MBR	CF	ROA	NWC	
CH	1.000																				
PDI	-0.015	1.000																			
IDV	0.126	-0.578	1.000																		
MAS	0.146	-0.345	0.637	1.000																	
UAI	-0.118	-0.640	-0.179	-0.425	1.000																
LTO	0.026	0.721	0.007	-0.324	-0.641	1.000															
SRI	-0.013	0.936	-0.395	-0.462	-0.606	0.907	1.000														
CRI	-0.140	0.117	-0.444	-0.965	0.560	0.249	0.296	1.000													
WGI	-0.154	0.409	-0.750	-0.981	0.403	0.268	0.470	0.912	1.000												
MCAP	-0.095	0.519	-0.751	-0.829	0.210	0.297	0.526	0.719	0.862	1.000											
DCR	-0.094	0.789	-0.679	-0.788	-0.143	0.646	0.835	0.641	0.798	0.722	1.000										
LNTA	0.041	0.418	-0.259	-0.198	-0.233	0.315	0.404	0.107	0.223	0.252	0.376	1.000									
LEVDBT	-0.028	0.228	-0.057	-0.162	-0.144	0.291	0.282	0.136	0.144	0.115	0.255	0.360	1.000								
DIVTA	-0.010	0.125	-0.099	-0.085	-0.046	0.087	0.121	0.057	0.096	0.115	0.100	-0.011	-0.210	1.000							
ZSCOR	0.121	-0.088	-0.019	0.104	0.056	-0.179	-0.145	-0.107	-0.084	0.000	-0.147	-0.198	-0.431	0.448	1.000						
CAPX	0.031	-0.065	-0.024	-0.084	0.124	-0.047	-0.048	0.102	0.074	0.058	-0.017	0.121	0.080	0.010	-0.030	1.000					
MBR	0.125	0.013	0.110	0.105	-0.121	0.065	0.025	-0.102	-0.121	-0.016	-0.061	0.018	-0.090	0.445	0.704	0.072	1.000				
CF	0.187	-0.024	-0.010	-0.018	0.040	-0.026	-0.024	0.022	0.016	0.058	-0.026	0.068	-0.201	0.435	0.342	0.310	0.401	1.000			
ROA	0.129	0.055	-0.147	0.016	0.007	-0.100	-0.018	-0.055	0.022	0.088	-0.022	-0.045	-0.288	0.546	0.644	0.087	0.489	0.491	1.000		
NWC	-0.084	-0.055	-0.053	-0.109	0.140	-0.050	-0.041	0.124	0.109	0.082	0.012	-0.248	-0.170	0.026	0.262	-0.120	-0.093	-0.145	0.191	1.000	

Note: This table describes data correlation for cash holdings determinants consisting of national culture dimensions including PDI, IDV, MAS, UAI and LTO; formal institutions including SRI, CRI, WGI, MKCAP, DOMCRDT and firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC in respect of South America. National culture dimensions includes Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Formal institutions include worldwide governance index (WGI) from World bank, Shareholder rights index (SRI) from Djankov et al. (2007), Creditor rights index (CRI) from Djankov et al. (2008), Market Capitalization as percentage of GDP (MKTCAP) from World bank and Domestic credit provided by financial institutions as percentage of GDP (DOMCRDT) from World bank. All firm specific variables are defined at table 3.3. The data covers 1,010 observations from 2007-2016

4.3 Regression Results

In this section, regression results of our models from 3.1 to 3.30 are presented. The models from 3.1 to 3.10 are related to dividend payment and 3.11 to 3.20 belong to cash holdings. Further, from Models 3.21 to 3.25, interaction effect of formal and informal institutions is observed on dividend payment and from Model 3.26 to 3.30, different dimensions of national culture are interacted with country governance to analyze moderating effect of country governance on cash holdings. General to specific approach is used in this study where firstly effect of different dimensions of culture are estimated through model 3.1 to 3.5 along with control variables. Secondly, from Model 3.6 to 3.9, variables of formal institutions including worldwide governance index, shareholder rights index, creditor rights index and financial development including market capitalization and domestic credit provided by financial institutions are estimated one by one along with control variables. Thirdly, in Model 3.10, only firm specific variables are estimated. All models from 3.1 to 3.10 are run to analyze impact of informal institutions, formal institutions and firm specific variables on dividend payment. The said 10 models are run for overall sample and six regions of the world. The regressions results on dividend payment for overall sample and other regions of the world are presented at table [4.22](#) to Table 4.28

Models 3.11 to 3.20 are run for cash holdings. Impact of different dimensions of national culture including PDI, IDV, MAS, UAI and LTO is estimated one by one along with control variables on cash holdings. Models 3.16 to 3.19 estimate impact of formal institutions including worldwide governance index, shareholder rights index, creditor rights index and financial development including market capitalization and domestic credit provided by financial institutions one by one along with control variables. . Model 3.20 is run for firm specific variables. The results are placed at Table 4.29 to [4.35](#).

In Models 3.21 to 3.25, country governance is interacted with each dimension of national culture to analyze moderating effect of country governance on dividend payment along with different dimensions of national culture and control variables

in respect of overall sample and all regions under study. The results are placed at Table 4.36 to Table 4.42.

From Model 3.26 to 3.30, interaction effect of formal and informal culture on cash holdings is observed for overall sample and all regions under study. The results are placed at Table Table 4.43 to Table 4.49.

4.3.1 Regression Results of Dividend Payment

In this sub-section, regression results of dividend payment are discussed for overall sample and for all regions of the world. The focus of this sub-section is on Models 3.1 to 3.10. The results of regressions for overall sample and other regions are discussed jointly for the purpose of simplicity in the light of hypothesis developed in Chapter 2.

4.3.1.1 Power Distance Index (PDI) and Dividend Payment

The results of Model 3.1 at Table 4.22 to Table 4.28 show effect of one Hofstede's (1980,2001) cultural dimensions i.e. PDI along with control variables on dividend payment of the firms for overall sample and other regions under study.

The results show that PDI has significant negative effect on dividend payment for overall sample, Europe and North America. It has significant positive impact on dividend payment for Africa, Asia Pacific and South America. PDI has insignificant effect on dividend payment for Middle East. The negative relationship between PDI and dividend payment is in line with studies of Fidrmuc and Jacob (2010) and Zheng and Ashraf (2014). It also confirms hypothesis H1a.

The positive relationship between PDI and dividend payment in Africa, Asia Pacific and South America may be due to the reason that median values of WGI are 53.23, 72.87 and 54.71 respectively in the said countries which are lower than overall sample, Europe and North America which have median values of WGI as 83.99, 88.09 and 84.55 respectively. The managers of firms in regions with weak governance pay more dividend to develop reputation among shareholders even PDI

is higher in said regions. The median values of PDI for Africa, Asia Pacific and South America are 49, 60 and 63 respectively which are higher than of overall sample, Europe and North America with 57, 35 and 40 respectively.

4.3.1.2 Individualism (IDV) and Dividend Payment

The effect of IDV along with control variables on dividend payment is estimated in Model 3.2 for overall sample and other regions of the world at Table 4.22 to Table 4.28. The results of Model 3.2 show impact of IDV on dividend payment is positive and significant and for overall sample, Asia Pacific, Europe, North America and South America. Model 3.2 suggests negative effect of IDV on dividend payment at 1 % level for Africa and at 10 % level for Middle East.

The positive effect of individualism on dividend payment is in accordance with studies of Fidrmuc and Jacob (2010) and Zheng and Ashraf (2014). It also confirms hypothesis H1c.

4.3.1.3 Masculinity (MAS) and Dividend Payment

In Model 3.3, effect of MAS is estimated on dividend payment along with firm specific variables for overall sample and other six regions at Table 4.22 to Table 4.28. The results of Model 3.3 further show that MAS has negative significant effect on dividend payment for overall sample and others in regions including Africa, Asia Pacific, Europe, North America and South America. The relation between two variables is insignificant for Middle East. The negative significant effect of MAS on dividend is in line with studies of Bae et al. (2012) and also with hypothesis H1e

As per Bae et al. (2012), negative relation between MAS and dividend payment is in accordance with asymmetric compensation effect and negates signaling effect. So, masculine managers tend to hold large amount of cash holdings to exploit investment opportunities rather than paying dividends to the shareholders, thus reducing available cash with them.

4.3.1.4 Uncertainty Avoidance (UAI) and Dividend Payment

Model 3.4 predicts impact of UAI on dividend payment for overall sample and all other regions under study at Table 4.22 to Table 4.28.

Model 3.4 suggests that UAI has negative significant effect on dividend payment for overall sample, Asia Pacific, Europe, Middle East, North America and South America. The relationship between said two variables is positive and significant for Africa.

Negative effect of UAI on dividend payment is in line with studies of Khambata and Liu (2005), Fidrmuc and Jacob (2010), Bae et al(2012), Zheng and Ashraf (2014). The results also support hypothesis H1g.

The managers in countries with higher UAI score tend to hold more cash to cover unexpected losses and financial deficiencies in the future. The results show that in most of the regions, managers perspective is dominant, although investors perspective may be reverse to this. The positive relationship between UAI and dividend payment in Africa only indicates that shareholders perspective dominate in the said region where higher UAI leads to higher dividend payment.

4.3.1.5 Long Term Orientation (LTO) and Dividend Payment

In Model 3.5, effect of LTO along with control variables on dividend payment is estimated for overall sample and other six regions of the world at Table 4.22 to Table 4.28. The results of Model 3.5 show that LTO has significant negative effect on dividend payment for overall sample, Africa, Asia Pacific and Europe as shown at Table 4.23, Table 4.24 and Table 4.25 respectively. LTO has significant positive effect on dividend payment for North America and South America at Table 4.27 and Table 4.28 respectively. The relationship between said two variables is insignificant for Middle East as shown at Table 4.26.

Negative significant effect of LTO on dividend payment is in lines with Khambata and Liu (2005), Bae et al. (2012) and Zheng and Ashraf (2014). This also confirms hypothesis H1i. The positive significant relationship between LTO and

dividend payment for North America and South America is inconsistent with previous studies. Median values of LTO are 25.63 and 30.98 for North America and South America respectively which are lower than that of overall sample and other regions. The lower scores of North America and South America show that these societies are not driven by long term orientation and so shareholders in such regions prefer to obtain higher level of dividends.

Doney et al. (1998) state that in society with short-term orientation, opportunistic behavior is more probable to prevail so in such society agency conflicts are more severe. To reduce these agency problems, shareholders in short-term orientation may be demanding more dividend as a disciplining mechanism.

4.3.1.6 Worldwide Governance Index (WGI) and Dividend Payment

The results of Model 3.6 at Table 4.22 to Table 4.28 depict effect of worldwide governance on dividend payment along with control variables for overall sample and other regions of the world under study. The results show that Worldwide governance index in Model 3.26 has negative and significant effect on dividend payment in overall sample, Asia Pacific and Middle East as shown at Table 4.22 , Table 4.24 and Table 4.26 respectively, whereas, it is positively and significantly related with dividend payment in Europe, North America and South America as is depicted at Table 4.25, Table 4.27 and Table 4.28 respectively.

The negative relationship between worldwide governance index and dividend payment is in line with substitute model of dividend and is supported by studies of Jiraporn and Ning (2006) and Esqueda (2016). The positive relationship between worldwide governance index and dividend payment follows outcome model of dividend. This relationship is supported by La Porta et al. (2000) and subsequent results of Bae et al. (2012), Gugler and Yurtoglu (2003), Jiraporn et al. (2011), Mitton (2004) and Marques (2013) The positive/ negative effect of worldwide governance index on dividend payment also supports hypothesis H2a.

4.3.1.7 Shareholder Right Index (SRI) and Dividend Payment

Model 3.7 at Table 4.22 to Table 4.28 reveals effect of shareholder right index on dividend payment along with control variables in respect of overall sample and other regions of the world. It is pertinent to mention here that in the literature both shareholder rights and worldwide governance are used as measure of corporate governance and so in this study same hypothesis is used for the said variable. Hence, effect of shareholder rights also refers to hypothesis H2a.

The results of Model 3.7 at Table 4.22, Table 4.23, Table 4.24, and Table 4.26 indicate that shareholder rights index has negative and significant effect on dividend payment in overall sample, Africa, Asia Pacific and Middle East respectively, whereas, it has significant positive effect on dividend payment in Europe and South America as shown at Table 4.25 and Table 4.28 respectively. The negative relationship between shareholder rights index and dividend payment follows substitute model of dividend and positive relationship between the said variables is in line with outcome theory of dividend.

4.3.1.8 Creditor Right Index (CRI) and Dividend Payment

The results of Model 3.8 at Table 4.22 to Table 4.28 show impact of creditor rights index along with control variables on dividend payment for overall sample and other six regions of the world. The results of Model 3.4 reveal that creditor rights index has positive significant effect on dividend payment for overall sample, Europe, North America and South America. The positive relationship between creditor rights index and dividend payment is in accordance with substitute model of dividend which states that creditors with strong rights tolerate large payment of dividends by the managers. This positive relationship is also in line with studies of Brockman and Unlu (2009), Byrne and O Connor, 2012 and Shao et al. (2013). The effect of creditor rights index is negative on dividend payment in Africa and Asia Pacific. This positive relationship follows outcome model of dividend which states that creditors with strong rights exert their power to refrain the managers of firms from making higher payment of dividend. Nevertheless, results of Model 3.8

for creditor rights support hypothesis H2b which state that creditor rights index has positive/ negative impact on dividend payment

4.3.1.9 Financial Development and Dividend Payment

In Model 3.9, effect of financial development as proxied by market capitalization and domestic credit provided by financial institutions along with control variables is analyzed on dividend payment of the firms in overall sample and other regions under study at Table 4.22 to Table 4.28.

The results of Model 3.9 show that one component of financial development i.e. market capitalization has positive and significant effect on dividend payment for overall sample, Asia Pacific and Europe, whereas, it is negatively significantly related with dividend payment for Middle East and North America. However, effect of market capitalization on dividend payment is insignificant for Africa and South America.

The results of Model 3.9 for other component of financial development i.e. domestic credit provided by financial development has significant negative effect on dividend payment for overall sample, Asia Pacific and Europe and significant positive effect on dividend payment for Africa, North America and South America. The relationship between the said two variables is insignificant for Middle East.

The positive effect of financial development on dividend payment is in line outcome hypothesis, whereas, negative relationship between the said two variables is consistent with substitute theory. Nevertheless, significant relationship between financial development and dividend payment supports hypothesis H2c.

TABLE 4.22: Impact of culture components with Formal Institutions and Controls on Dividend (Overall Sample)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	0.028*** (32.575)	0.025*** (18.569)	0.033*** (23.797)	0.031*** (31.764)	0.029*** (28.317)	0.030*** (19.419)	0.028*** (28.951)	0.025*** (23.418)	0.031*** (22.722)	0.026*** (23.104)
pdi	-0.00003*** (-13.017)									
idv		0.00003*** (16.745)								
mas			0.00013*** (-15.689)							
uai				-0.0001*** (-24.957)						
lto					0.00006*** (-14.568)					
wgi						-0.00006*** (-26.860)				
sri							-0.0004*** (-9.661)			
cri								0.0008*** (9.601)		
mcap									0.000002*** (5.005)	
domcrdt									0.00004*** (-18.853)	
ROA	0.047*** (9.003)	0.047*** (8.965)	0.046*** (8.688)	0.045*** (8.864)	0.047*** (8.882)	0.043*** (8.945)	0.046*** (8.935)	0.046*** (9.005)	0.040*** (8.354)	0.046*** (8.962)
LNTA	0.00005** (1.963)	0.00001 (0.054)	0.0002*** (8.322)	0.0002*** (6.679)	0.00004* (1.805)	0.0003*** (10.654)	0.00008*** (3.254)	0.0001*** (5.008)	0.0005*** (21.277)	0.0001*** (4.396)
LEVEQ	-0.001*** (-18.024)	-0.001*** (-18.102)	-0.002*** (-17.589)	-0.001*** (-19.541)	-0.001*** (-19.513)	-0.002*** (-18.166)	-0.001*** (-18.635)	-0.002*** (-18.373)	-0.002*** (-18.976)	-0.002*** (-18.518)
PV	-0.0005*** (-29.483)	-0.0005*** (-31.371)	-0.0005*** (-31.940)	-0.0005*** (-29.596)	-0.0005*** (-30.422)	-0.0005*** (-29.225)	-0.0005*** (-29.731)	-0.0005*** (-31.799)	-0.0005*** (-29.329)	-0.0005*** (-31.705)
TANG	-0.0005*** (-2.264)	-0.0003 (-1.308)	-0.000 (-1.082)	-0.001*** (-3.115)	-0.001*** (-3.969)	-0.001*** (-6.783)	-0.001*** (-3.354)	-0.004* (-1.750)	-0.001*** (-6.224)	-0.002*** (-3.112)
ZSCORE	0.001*** (18.224)	0.001*** (18.808)	0.001*** (18.015)	0.001*** (17.838)	0.001*** (18.412)	0.001*** (17.302)	0.001*** (17.326)	0.001*** (18.136)	0.001*** (18.283)	0.001*** (17.558)
CR	-0.001*** (-12.273)	-0.001*** (-12.341)	-0.001*** (-13.979)	-0.001*** (-12.906)	-0.001*** (-12.021)	-0.001*** (-12.947)	-0.001*** (-12.275)	-0.001*** (-12.595)	-0.001*** (-14.743)	-0.001*** (-12.471)
SG	-0.004*** (-7.374)	-0.004*** (-7.348)	-0.004*** (-6.892)	-0.004*** (-7.154)	-0.004*** (-7.263)	-0.004*** (-7.086)	-0.004*** (-7.247)	-0.004*** (-7.390)	-0.004*** (-7.327)	-0.004*** (-7.343)
EQTA	-0.0008** (-2.429)	-0.000 (-1.066)	-0.001 (-1.351)	0.002*** (5.073)	0.0003 (1.034)	-0.0003 (-0.766)	-0.0008** (-2.539)	-0.002*** (-5.417)	-0.0008** (-2.367)	-0.001*** (-3.166)
CH	0.010*** (10.175)	0.011*** (11.427)	0.012*** (10.287)	0.015*** (12.280)	0.013*** (11.373)	0.011*** (10.414)	0.010*** (9.759)	0.011*** (10.504)	0.015*** (12.546)	0.010*** (10.153)
FCFTA	-0.0002*** (-4.467)	-0.0002*** (-4.591)	-0.0001*** (-3.054)	-0.0002*** (-6.039)	-0.0002*** (-4.466)	-0.0001*** (-3.603)	-0.0001*** (-4.237)	-0.0002*** (-5.289)	-0.00008*** (-3.444)	-0.0001*** (-3.945)
Adj. R-sq.	0.473	0.474	0.494	0.491	0.476	0.473	0.465	0.481	0.510	0.472
J-stats.	4447.963***	4466.881***	4841.306 ***	4785.268***	4492.751***	4451.312***	4309.787***	4588.702***	4758.273***	4834.864***
LR Test (Prob)	0.741	0.659	0.659	0.356	0.225	0.256	0.560	0.364	0.325	0.365
	Cross-sections included: 5947					Total panel (unbalanced) observations: 59458				

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of overall sample. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 59,470 observations from 2007-2016.

TABLE 4.23: Impact of Culture Components with Formal Institutions and Controls on Dividend (Africa)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	-0.049*** (-7.372)	0.028*** (5.342)	0.070*** (6.910)	-0.040*** (-6.222)	0.020*** (4.267)	0.003 (0.712)	0.050*** (7.060)	0.019*** (2.832)	-0.004 (-0.963)	0.005 (1.356)
pdi	0.0009*** (8.770)									
idv		-0.0005*** (-9.102)								
mas			-0.001*** (-7.655)							
uai				0.0007*** (7.777)						
lto					-0.0008*** (-9.097)					
wgi						-0.018*** (-6.859)				
sri							-0.012*** (-8.837)			
cri								-0.006*** (-2.800)		
mktcap									-0.00006 (-1.504)	
domcrdt									0.0001*** (7.815)	
ROA	0.223*** (14.402)	0.223*** (14.206)	0.227*** (14.413)	0.227*** (14.398)	0.223*** (14.134)	0.226*** (14.603)	0.223*** (14.197)	0.229*** (14.619)	0.226*** (14.690)	0.228*** (14.821)
LNTA	0.0005 (1.367)	0.0005 (1.561)	0.0004 (1.178)	0.0004 (1.222)	0.0005 (1.564)	-0.0007** (-2.012)	0.0005 (1.512)	-0.0003 (-0.983)	0.0003 (1.034)	-0.0006* (-1.890)
LEVEQ	0.003** (2.486)	0.003** (2.389)	0.002** (2.056)	0.002** (2.068)	0.003** (2.362)	0.002* (1.779)	0.002** (2.252)	0.002** (1.907)	0.003*** (2.589)	0.002* (1.778)
PV	-0.0005*** (-6.927)	-0.0004*** (-6.725)	-0.0004*** (-6.384)	-0.0004*** (-6.399)	-0.0004*** (-6.680)	-0.0004*** (-5.741)	-0.0004*** (-6.545)	-0.0004*** (-6.032)	-0.0004*** (-6.090)	-0.0004*** (-5.880)
TANG	0.015*** (5.060)	0.015*** (5.136)	0.015*** (5.174)	0.015*** (5.164)	0.015*** (5.167)	0.022*** (7.049)	0.015*** (5.215)	0.020*** (6.494)	0.016*** (5.508)	0.021*** (6.979)
ZSCORE	0.008*** (15.996)	0.009*** (16.313)	0.009*** (16.077)	0.009*** (16.115)	0.009*** (16.358)	0.008*** (14.946)	0.009*** (16.420)	0.008*** (15.260)	0.008*** (15.789)	0.008*** (14.903)
CR	-0.0001 (-0.092)	-0.0001*** (-0.083)	-0.0005 (-0.419)	-0.0004 (-0.401)	-0.0001 (-0.104)	-0.002 (-1.524)	-0.0003 (-0.216)	-0.001 (-1.204)	-0.0006 (-0.556)	-0.002 (-1.576)
SG	-0.018*** (-6.479)	-0.018*** (-6.611)	-0.019*** (-6.765)	-0.019*** (-6.765)	-0.018*** (-6.641)	-0.019*** (-6.934)	-0.019*** (-6.734)	-0.019*** (-6.828)	-0.017*** (-6.318)	-0.019*** (-7.003)
EQTA	-0.009 (-1.536)	-0.010* (-1.737)	-0.012** (-2.037)	-0.012** (-2.026)	-0.011* (-1.778)	-0.012** (-2.088)	-0.011* (-1.892)	-0.013*** (-2.212)	-0.008 (-1.401)	-0.012** (-2.054)
CH	0.017*** (2.729)	0.018*** (2.762)	0.015*** (2.247)	0.015** (2.270)	0.018*** (2.750)	0.011* (1.751)	0.017*** (2.621)	0.012** (1.901)	0.018*** (2.842)	0.011* (1.737)
FCFTA	-0.073*** (-9.627)	-0.073*** (-9.665)	-0.074*** (-9.558)	-0.074*** (-9.574)	-0.073*** (-9.665)	-0.078*** (-9.611)	-0.073*** (-9.632)	-0.079*** (-9.619)	-0.075*** (-9.685)	-0.078*** (-9.599)
Adj. R-sq.	0.662	0.663	0.679	0.662	0.678	0.685	0.683	0.672	0.673	0.683
J-stats.	179.724***	178.555***	169.802***	170.288***	177.935***	162.522***	175.243***	162.236***	160.992***	177.014***
LR Test (Prob)	0.369	0.256	0.745	0.963	0.202	0.365	0.225	0.369	0.312	0.697
Cross-sections included: 100										
										Total panel (unbalanced) observations: 988

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of Africa region. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,000 observations from 2007-2016.

TABLE 4.24: Impact of Culture Components with Formal Institutions and Controls on Dividend (Asia Pacific)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	0.015*** (28.699)	0.016*** (34.766)	0.026*** (51.422)	0.023*** (47.454)	0.023*** (50.586)	0.022*** (45.797)	0.029*** (46.327)	0.018*** (38.267)	0.022*** (53.108)	0.016*** (35.763)
pdi	0.00002*** (3.996)									
idv		0.00002*** (7.958)								
mas			-0.0001*** (-55.750)							
uai				-0.0001*** (-52.494)						
lto					-0.0001*** (-55.408)					
wgi						-0.0001*** (-41.868)				
sri							-0.003*** (-31.870)			
cri								-0.001*** (-14.051)		
mktcap									0.000001*** (7.107)	
domcrdt									-0.00004*** (-78.598)	
ROA	0.069*** (79.201)	0.071*** (81.158)	0.069*** (81.106)	0.065*** (74.489)	0.068*** (79.026)	0.061*** (69.769)	0.073*** (83.523)	0.068*** (78.451)	0.060*** (74.044)	0.070*** (80.931)
LNTA	-0.00004 (-1.211)	-0.00009*** (-2.967)	0.00008*** (2.728)	0.0003*** (8.104)	0.0002*** (5.503)	0.0003*** (8.790)	-0.0001*** (-3.587)	0.00001 (0.392)	0.0004*** (14.114)	-0.00006* (-1.719)
LEVEQ	-0.001*** (-13.736)	-0.001*** (-13.487)	-0.001*** (-13.695)	-0.001*** (-10.652)	-0.001*** (-11.905)	-0.0009*** (-10.841)	-0.001*** (-15.021)	-0.001*** (-13.448)	-0.001*** (-16.423)	-0.001*** (-13.786)
PV	-0.0003*** (-52.937)	-0.0003*** (-53.833)	-0.0004*** (-63.259)	-0.0003*** (-58.808)	-0.0003*** (-57.993)	-0.0003*** (-57.181)	-0.0003*** (-48.460)	-0.0003*** (-50.471)	-0.0004*** (-73.947)	-0.0003*** (-52.573)
TANG	-0.0008*** (-2.682)	-0.0006** (-2.103)	-0.002*** (-6.371)	-0.002*** (-9.010)	-0.001*** (-3.408)	-0.001*** (-9.704)	-0.002*** (-7.035)	-0.001*** (-4.692)	-0.003*** (-12.446)	-0.0008*** (-2.668)
ZSCORE	0.0008*** (31.726)	0.0008*** (31.549)	0.0008*** (29.638)	0.0007*** (30.973)	0.0007*** (31.540)	0.0008*** (31.819)	0.0007*** (30.959)	0.0007*** (31.582)	0.0007*** (31.231)	0.0008*** (31.500)
CR	-0.0009*** (-16.627)	-0.0008*** (-16.444)	-0.0008*** (-16.107)	-0.001*** (-21.207)	-0.001*** (-22.469)	-0.001*** (-20.358)	-0.0007*** (-13.781)	-0.0007*** (-16.847)	-0.001*** (-21.417)	-0.0008*** (-16.202)
SG	-0.003*** (-17.565)	-0.003*** (-17.844)	-0.003*** (-18.802)	-0.003*** (-19.000)	-0.004*** (-20.528)	-0.003*** (-16.194)	-0.003*** (-18.042)	-0.003*** (-16.550)	-0.003*** (-19.840)	-0.003*** (-17.574)
EQTA	0.007*** (13.994)	0.007*** (13.542)	0.006*** (11.653)	0.009*** (19.748)	0.008*** (16.765)	0.010*** (21.668)	0.006*** (11.732)	0.008*** (15.830)	0.008*** (17.039)	0.007*** (13.774)
CH	0.018*** (28.588)	0.017*** (28.545)	0.020*** (34.274)	0.023*** (32.132)	0.023*** (36.192)	0.021*** (31.994)	0.015*** (24.773)	0.018*** (29.132)	0.025*** (43.575)	0.017*** (28.420)
FCFTA	-0.014*** (-23.215)	-0.014*** (-22.636)	-0.014*** (-22.780)	-0.013*** (-21.139)	-0.013*** (-21.404)	-0.014*** (-21.892)	-0.015*** (-24.079)	-0.014*** (-23.071)	-0.012*** (-21.975)	-0.014*** (-23.182)
Adj. R-sq.	0.413	0.436	0.432	0.415	0.477	0.413	0.412	0.437	0.445	0.442
J-stats.	1970.504***	1961.529***	2171.065***	2245.256***	2215.691***	2166.488***	2131.027***	1984.817***	2355.586***	2147.045***
LR Test (Prob)	0.369	0.225	0.365	0.114	0.697	0.256	0.123	0.223	0.314	0.693
Cross-sections included: 3358										
									Total panel (balanced) observations: 33580	

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of Asia Pacific. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 33,580 observations from 2007-2016.

TABLE 4.25: Impact of Culture Components with Formal Institutions and Controls on Dividend (Europe)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	0.017*** (22.212)	0.012*** (12.915)	0.017*** (20.452)	0.017*** (22.277)	0.023*** (27.035)	0.015*** (14.479)	0.010*** (11.516)	0.012*** (15.382)	0.016*** (18.038)	0.014*** (19.107)
pdi	-0.0001*** (-14.644)									
idv		0.00003*** (5.757)								
mas			-0.00004*** (-8.186)							
uai				-0.00007*** (-19.314)						
lto					-0.0001*** (-21.359)					
wgi						0.0028*** (15.767)				
sri							0.001*** (12.017)			
cri								0.001*** (12.188)		
mktcap									0.00002*** (8.900)	
domcrdt									0.00002*** (-7.356)	
ROA	0.050*** (24.979)	0.048*** (24.243)	0.050*** (24.956)	0.050*** (25.195)	0.049*** (24.574)	0.048*** (24.142)	0.049*** (24.421)	0.048*** (24.302)	0.048*** (24.198)	0.049*** (24.244)
LNTA	0.001*** (19.841)	0.001*** (18.091)	0.001*** (17.415)	0.001*** (19.626)	0.001*** (20.579)	0.001*** (17.720)	0.001*** (19.061)	0.001*** (19.626)	0.001*** (18.383)	0.001*** (18.095)
LEVEQ	-0.00004 (-0.297)	-0.00006 (-0.466)	-0.00002* (-1.689)	0.0001 (1.108)	-0.0005*** (-3.663)	-0.0002 (-1.180)	-0.0001 (-0.090)	-0.0001 (-0.487)	-0.00002 (-0.176)	-0.00002 (-1.272)
PV	-0.0005*** (-42.001)	-0.0005*** (-40.994)	-0.0005*** (-42.458)	-0.0004*** (-41.131)	-0.0005*** (-47.116)	-0.0005*** (-42.461)	-0.0005*** (-41.567)	-0.0005*** (-43.153)	-0.0005*** (-42.297)	-0.0005*** (-43.352)
TANG	0.002*** (3.923)	0.001*** (3.260)	0.001*** (2.927)	0.002*** (4.827)	0.0001 (0.422)	0.001** (2.335)	0.001*** (3.365)	0.001*** (2.707)	0.001 (1.467)	0.001*** (2.690)
ZSCORE	0.005*** (55.843)	0.005*** (56.144)	0.005*** (57.690)	0.005*** (55.164)	0.006*** (58.012)	0.005*** (56.179)	0.005*** (55.513)	0.005*** (56.444)	0.005*** (55.779)	0.005*** (57.415)
CR	-0.002*** (-12.145)	-0.001*** (-9.912)	-0.001*** (-10.062)	-0.001*** (-10.665)	-0.001*** (-8.334)	-0.001*** (-10.386)	-0.001*** (-9.714)	-0.001*** (-10.468)	-0.001*** (-10.636)	-0.001*** (-10.483)
SG	-0.012*** (-24.657)	-0.012*** (-24.460)	-0.012*** (-23.829)	-0.013*** (-25.455)	-0.012*** (-24.567)	-0.012*** (-24.189)	-0.012*** (-24.919)	-0.012*** (-24.915)	-0.012*** (-24.616)	-0.012*** (-24.228)
EQTA	-0.002** (-2.153)	-0.002*** (-2.719)	-0.003*** (-3.425)	-0.002** (-2.352)	-0.005*** (-5.198)	-0.003*** (-2.907)	-0.002** (-2.462)	-0.002** (-2.250)	-0.002** (-2.443)	-0.003*** (-3.057)
CH	-0.002** (-2.271)	-0.004*** (-3.872)	-0.004*** (-4.525)	-0.002** (-2.243)	-0.003*** (-3.146)	-0.005*** (-4.411)	-0.003*** (-3.423)	-0.003*** (-3.454)	-0.005*** (-4.658)	-0.004*** (-4.444)
FCFTA	-0.0001*** (-3.131)	-0.0001*** (-3.329)	-0.0001*** (-2.943)	-0.0002*** (-3.497)	-0.0001*** (-3.118)	-0.0001*** (-3.066)	-0.0001*** (-3.488)	-0.0001*** (-3.425)	-0.0001*** (-3.320)	-0.0001*** (-3.065)
Adj. R-sq.	0.544	0.539	0.550	0.553	0.544	0.574	0.544	0.569	0.558	0.558
F-stat.	1463.857***	1295.117***	1328.448***	1438.214***	1372.335***	1271.309***	1330.405***	1346.323***	1195.650***	1417.779***
LR Test (Prob)	0.963	0.697	0.314	0.226	0.976	0.697	0.693	0.363	0.897	0.369
Cross-sections included: 1304							Total panel (balanced) observations: 13040			

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of Europe. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from *www.hofstede-insights.com*. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 13,040 observations from 2007-2016.

TABLE 4.26: Impact of Culture Components with Formal Institutions and Controls on Dividend (Middle East)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	0.013** (2.268)	0.019*** (2.588)	0.017** (2.261)	0.255* (1.742)	0.066 (1.487)	0.017** (2.461)	0.017** (2.540)	NA	-0.001 (-0.113)	0.011* (1.832)
pdi	0.00003 (1.605)							NA		
idv		-0.0001* (-1.664)								
mas			0.0002 (-1.377)							
uai				-0.003* (-1.664)						
lto					-0.001 (-0.825)					
wgi						-0.0002* (-1.791)				
sri							-0.001* (-1.664)			
cri								NA		
mktcap								NA		
domcrdt									-0.00003** (-1.968)	
ROA	0.138*** (11.496)	0.138*** (11.485)	0.140*** (11.657)	0.138*** (11.485)	0.144*** (11.301)	0.140*** (11.669)	0.138*** (11.485)	NA	0.141*** (11.702)	0.140*** (11.718)
LNNTA	0.001 (1.285)	0.001 (1.281)	0.001** (2.205)	0.001 (1.281)	-0.001* (-1.690)	0.001** (2.238)	0.001 (1.281)	NA	0.001*** (2.979)	0.001* (1.844)
LEVEQ	-0.001* (-1.762)	-0.001* (-1.766)	-0.001 (-1.471)	-0.001* (-1.766)	-0.001** (-2.199)	-0.001 (-1.455)	-0.001* (-1.766)	NA	0.0004 (-1.388)	-0.001 (-1.629)
PV	-0.0003*** (-5.240)	-0.0003*** (-5.240)	-0.0003*** (-4.577)	-0.0003*** (-5.240)	-0.0005*** (-6.342)	-0.0003*** (-4.564)	-0.0004*** (-5.240)	NA	-0.0003*** (-4.560)	-0.0004*** (-5.027)
TANG	0.016*** (4.011)	0.016*** (4.049)	0.020*** (4.875)	0.016*** (4.049)	0.023*** (4.658)	0.021*** (5.090)	0.016*** (4.049)	NA	0.020*** (4.988)	0.018*** (4.824)
ZSCORE	0.004*** (5.877)	0.004*** (5.893)	0.004*** (5.834)	0.004*** (5.893)	0.004*** (5.561)	0.004*** (5.929)	0.004*** (5.893)	NA	0.004*** (5.937)	0.004*** (5.658)
CR	-0.002 (-1.306)	-0.002 (-1.295)	-0.001 (-0.605)	-0.002 (-1.295)	0.0005 (0.346)	-0.001 (-0.542)	-0.002 (-1.295)	NA	-0.001 (-0.840)	-0.001 (-1.052)
SG	-0.009*** (-3.284)	-0.009*** (-3.281)	-0.009*** (-3.469)	-0.009*** (-3.281)	-0.011*** (-3.772)	-0.010*** (-3.630)	-0.009*** (-3.281)	NA	-0.008*** (-2.954)	-0.009*** (-3.381)
EQTA	-0.002 (-0.326)	-0.002 (-0.354)	0.002 (0.433)	-0.002 (-0.354)	-0.021*** (-3.561)	0.002 (0.338)	-0.002 (-0.354)	NA	0.006 (1.132)	0.002 (0.368)
CH	0.011 (1.516)	0.011 (1.515)	0.007 (0.940)	0.011 (1.515)	0.006 (0.723)	0.007 (0.926)	0.011 (1.515)	NA	0.007 (0.926)	0.009 (1.237)
FCFTA	-0.077*** (-7.254)	-0.077*** (-7.251)	-0.082*** (-7.917)	-0.077*** (-7.251)	-0.087*** (-7.219)	-0.082*** (-7.939)	-0.077*** (-7.251)	NA	-0.082*** (-7.861)	-0.080*** (-7.725)
Adj. R-sq.	0.445	0.448	0.446	NA	0.473	0.446	0.446	0.446	0.446	0.445
J-stats.	47.919***	47.934***	47.843***	47.934***	39.613***	48.186***	47.934***	NA	49.355***	51.887***
LR Test (Prob)	0.976	0.697	0.112	0.369	0.145	0.323	0.222	0.367	0.124	0.678
Cross-sections included:	70									
									Total panel (balanced) observations:	700

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of Middle East. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 700 observations from 2007-2016.

TABLE 4.27: Impact of Culture Components with Formal Institutions and Controls on Dividend (North America)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	0.042*** (45.570)	0.032*** (27.195)	0.076*** (12.719)	0.044*** (40.244)	-0.034*** (-3.028)	0.027*** (11.250)	NA	0.034*** (37.146)	0.038*** (27.100)	0.038*** (59.187)
pdi	-0.0001*** (-6.387)									
idv		0.00007*** (6.387)								
mas			-0.0006*** (-6.387)							
uai				-0.0001*** (-6.387)						
lto					0.003*** (6.387)					
wgi						0.0001*** (5.009)				
sri							NA			
cri								0.004*** (6.387)		
mktcap									-0.00005*** (-13.418)	
domcrdt									0.00003*** (5.017)	
ROA	0.009 (12.082)	0.009*** (12.082)	0.009*** (12.082)	0.009*** (12.082)	12.083*** (0.001)	0.009*** (12.079)	NA	0.009*** (12.0282)	0.009*** (11.838)	0.009*** (11.989)
LNTA	-0.0004*** (-7.200)	-0.0003*** (-7.200)	-0.0003*** (-7.200)	-0.0004*** (-7.200)	-0.0004*** (-7.200)	-0.0003*** (-7.251)	NA	-0.0003*** (-7.200)	-0.0003*** (-7.474)	-0.0003*** (-7.227)
LEVEQ	-0.0002*** (-3.084)	-0.0002*** (-3.084)	-0.0001*** (-3.084)	-0.0002*** (-3.084)	-0.0002*** (-3.084)	-0.0001*** (-3.034)	NA	-0.0001*** (-3.084)	-0.0002*** (-2.813)	-0.0002*** (-3.215)
PV	-0.0007*** (-79.550)	-0.0007*** (-79.550)	-0.0007*** (-79.550)	-0.0007*** (-79.550)	-0.0007*** (-79.550)	-0.0007*** (-79.482)	NA	-0.0007*** (-79.550)	-0.0007*** (-83.880)	-0.0007*** (-79.173)
TANG	-0.0003 (-0.810)	-0.0003 (-0.810)	-0.0003 (-0.810)	-0.0003 (-0.810)	-0.0003 (-0.810)	-0.0003 (-0.871)	NA	-0.0002 (-0.810)	-0.0004 (-1.175)	-0.0003 (-0.814)
ZSCORE	0.0008*** (19.970)	0.0008*** (19.970)	0.0008*** (19.970)	0.0008*** (19.970)	0.0008*** (19.970)	0.0008*** (19.901)	NA	0.0008*** (21.391)	0.0009*** (20.009)	0.0009*** (20.009)
CR	-0.0005*** (-8.019)	-0.0005*** (-8.019)	-0.0005*** (-8.019)	-0.0005*** (-8.019)	-0.0005*** (-8.019)	-0.0005*** (-7.927)	NA	-0.0005*** (-8.133)	-0.0005*** (-7.879)	-0.0005*** (-7.879)
SG	-0.005*** (-16.144)	-0.005*** (-16.144)	-0.005*** (-16.144)	-0.005*** (-16.145)	-0.005*** (-16.144)	-0.005*** (-15.871)	NA	-0.005*** (-16.144)	-0.006*** (-16.589)	-0.005*** (-16.072)
EQTA	-0.009*** (-22.316)	-0.009*** (-22.316)	-0.009*** (-22.316)	-0.009*** (-22.316)	-0.009*** (-22.316)	-0.009*** (-22.327)	NA	-0.009*** (-23.306)	-0.010*** (-22.269)	-0.009*** (-22.269)
CH	0.004*** (5.515)	0.004*** (5.515)	0.004*** (5.515)	0.004*** (5.515)	0.004*** (5.515)	0.004*** (5.488)	NA	0.004*** (6.088)	0.004*** (6.088)	0.004*** (5.372)
FCFTA	-0.009*** (-12.525)	-0.009*** (-12.525)	-0.009*** (-12.525)	-0.010*** (-12.525)	-0.010*** (-12.525)	-0.0001*** (-12.594)	NA	-0.009*** (-12.525)	-0.010*** (-12.827)	-0.010*** (-12.515)
Adj. R-sq.	0.558	0.558	0.558	0.558	0.558	0.558		0.558	0.569	0.556
J-stats.	1067.386***	1067.386***	1067.386***	1067.386***	1067.386***	1068.889***		1067.386***	1028.681***	1155.059***
LR Test (Prob)	0.235	0.976	0.897	0.112	0.976	0.236	0.214	0.478	0.323	0.369
	Cross-sections included: 1014						Total panel (balanced) observations: 10140			

Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of North America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 10,140 observations from 2007-2016.

TABLE 4.28: Impact of Culture Components with Formal Institutions and Controls on Dividend (South America)

Variables	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
C	-0.016*** (-2.995)	0.006 (1.485)	0.021*** (4.807)	0.097*** (7.384)	0.000 (0.131)	0.004 (0.948)	0.0001 (0.040)	0.007* (1.901)	0.003 (0.926)	0.011*** (3.020)
pdi	0.0005*** (6.481)									
idv		0.0002*** (2.839)								
mas			-0.0002*** (-4.279)							
uai				-0.0009*** (-7.063)						
lto					0.0006*** (10.130)					
wgi						0.0001*** (3.504)				
sri							0.005*** (8.810)			
cri								0.003*** (3.821)		
mktcap									0.00003 (-1.250)	
domcrdt									0.0001*** (4.845)	
ROA	0.155*** (15.310)	0.162*** (16.412)	0.158*** (16.778)	0.151*** (14.784)	0.148*** (15.691)	0.158*** (16.477)	0.157*** (17.060)	0.159*** (16.812)	0.158*** (17.129)	0.161*** (15.937)
LNTA	0.0004 (1.289)	0.002*** (5.645)	0.001*** (4.004)	0.001*** (3.150)	0.0004 (1.406)	0.001*** (3.706)	-0.00002 (-0.058)	0.001*** (4.939)	0.0004 (1.356)	0.002*** (5.326)
LEVEQ	-0.002*** (-3.214)	-0.003*** (-3.771)	-0.002*** (-3.387)	-0.002*** (-3.499)	-0.002*** (-2.939)	-0.002*** (-3.609)	-0.002*** (-2.858)	-0.002*** (-3.509)	-0.002*** (-2.509)	-0.003*** (-3.862)
PV	-0.0002*** (-3.468)	-0.0003*** (-4.369)	-0.0001** (-2.082)	-0.0004*** (-5.487)	-0.0004*** (-5.721)	-0.0001* (-1.761)	-0.0003*** (-4.154)	-0.0002*** (-2.734)	-0.0001** (-2.082)	-0.0002*** (-3.493)
TANG	0.005* (1.815)	0.003 (1.077)	0.000 (-0.120)	0.007*** (2.626)	0.002 (0.647)	0.0003 (0.110)	0.005** (2.021)	0.00002 (0.009)	0.003 (1.233)	0.002 (1.018)
ZSCORE	0.005*** (9.210)	0.004*** (8.785)	0.004*** (9.230)	0.005*** (9.203)	0.005*** (9.900)	0.004*** (8.999)	0.005*** (9.673)	0.004*** (9.271)	0.004*** (9.199)	0.004*** (8.757)
CR	-0.008*** (-11.261)	-0.008*** (-10.987)	-0.009*** (-11.283)	-0.008*** (-10.916)	-0.010*** (-13.439)	-0.009*** (-11.274)	-0.009*** (-12.233)	-0.009*** (-11.025)	-0.008*** (-11.320)	-0.008*** (-11.055)
SG	-0.010*** (-4.887)	-0.010*** (-4.430)	-0.009*** (-4.036)	-0.010*** (-4.906)	-0.008*** (-3.714)	-0.009*** (-4.311)	-0.009*** (-4.457)	-0.008*** (-3.949)	-0.007*** (-2.824)	-0.010*** (-4.536)
EQTA	-0.003 (-0.968)	-0.008** (-2.210)	-0.003 (-0.747)	-0.006 (-1.525)	0.008** (2.252)	-0.004 (-1.114)	0.001 (0.348)	-0.004 (-1.007)	-0.001 (-0.299)	-0.008*** (-2.152)
CH	0.040*** (5.049)	0.034*** (4.363)	0.039*** (5.033)	0.034*** (4.291)	0.033*** (4.306)	0.041*** (5.060)	0.038*** (5.139)	0.037*** (4.837)	0.039*** (5.189)	0.038*** (4.556)
FCFTA	-0.057*** (-10.797)	-0.059*** (-10.487)	-0.056*** (-10.634)	-0.058*** (-10.838)	-0.055*** (-10.755)	-0.057*** (-10.649)	-0.056*** (-10.682)	-0.057*** (-10.553)	-0.056*** (-10.815)	-0.058*** (-10.578)
Adj. R-sq.	0.445	0.455	0.493	0.452	0.470	0.478	0.440	0.456	0.477	0.505
J-stats.	77.938***	67.131***	71.425***	77.812***	86.743***	71.080***	82.768***	70.481***	69.708***	74.407***
LR Test (Prob)	0.675	0.326	0.145	0.212	0.396	0.698	0.697	0.226	0.795	0.697
	Cross-sections included: 101					Total panel (balanced) observations: 1010				

*Note: This table describes regression results for dividend determinants consisting of national culture, formal institutions and firm specific control variables in respect of South America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,010 observations from 2007-2016.*

4.3.1.10 Firm Specific Variables and Dividend Payment

In Model 3.10, firm specific variables including profitability, size, leverage, price volatility, tangibility, Z-score, current ratio, growth, cash holdings and free cash flow are regressed on dividend payment measured by dividend to total assets.

The results of regression of Model 3.10 show that profitability has positive effect on dividend payment for overall sample as well as for all regions under study. This is evident from Table 4.22 to Table 4.28. The regression coefficient of ROA for overall sample at Table 4.22 for Model 3.10 is 0.0460 which is significant at 1 % level. It means if there is one percent increase in profitability of the firms in overall sample, dividend of the firms will be increased by 0.046%. This positive impact of profitability on dividend payment is consistent for all regions under study.

Apart from agency theory, signaling theory and life-cycle theory support positive influence of profitability on dividend payment of the firms. There are studies including Aivazian and Booth (2003), Malkawi (2007), Kuwari (2009), Ayman (2015), Mohammad et al.(2016) and Najjar and Kilincarslan (2018) that confirm this relationship. This also confirms hypothesis H3a.

In Model 3.10, Size has varying effect on dividend payment across the regions. In overall sample, Europe, Middle East and South America, Size positively influences dividend payment of the firms. Nevertheless, size is significant at 1% level for Europe and South America and at 10 % level for Middle East. For Africa, Asia Pacific and North America, Size is significantly and negatively related with dividend payment.

The positive relationship of size and dividend payment is in accordance with life-cycle theory and agency theory. Also, positive relationship between the said variables is supported by Denis and Osobov (2007), Kuwari (2009) and Ayman (2015). The significant positive effect of firm size on dividend payment also confirms H3b.

Model 3.10 further suggests that leverage negatively influences dividend payment for overall sample, Asia Pacific, North America and South America and has significant positive effect for Africa, whereas, result is insignificant for Europe and Middle East.

The negative effect of leverage on dividend payment is supported by Agency theory which posits that highly levered firms have financial risks and so maintains cash flows to reduce this risk, thus are tempted to pay lesser dividends. In the literature, Aivazian and Booth (2003), Malkawi (2007), Hellstrom and Inagambaev (2012), Najjar and Kilincarslan (2018) find negative impact of leverage on dividend payment. Hypothesis No.3c also predicts that both variables are negatively associated. However, Ho (2003) and Omar (2009) identify insignificant impact of leverage on dividend payment of the firms.

Model 3.10 in overall sample and in Asia Pacific, Europe, North America and South America suggests significant negative relationship of liquidity with dividend payment. This negative relationship is in accordance with studies of Kania and Bacon (2005), Muthusamy (2010) and Muhammad et al.(2011) and hypothesis H3d of this study. For Africa and Middle East, relationship between the two variables is insignificant. Anil and Kapoor (2008) also find insignificant effect of liquidity on dividend payment of the firms in their studies.

The results of Model 3.10 further state that tangibility influences dividend payment negatively and significantly in overall sample and Asia Pacific. Aivazian et al.(2003), Al-Najjar (2009) and Al-Najjar and Hussainey (2009) also find the same relationship in their studies and is consistent with H5 also. In Africa, Europe and Middle East, Model 3.1 shows positive and significant influence of tangibility on dividend payment which is in line with study of Akintoye (2008) and also with H5 which predicts positive relationship between the said two variables. Tangibility shows insignificant relationship with dividends in North America and South America which is not in line with past recherches and also with hypothesis H3d.

Model 3.10 suggests that growth negatively influences dividend payment of the firms not only for overall sample but also for all regions under study. This result is in accordance with hypothesis H3e, pecking order theory and transaction cost theory and confirms hypothesis H6. This study is alleged with studies of Fama and French (2001), Baker and Wurgler (2004), Ferris et al. (2006) and Al-Najjar and Kilincarslan (2018). Nevertheless, negative relationship between growth and

dividend payment is inconsistent with substitute theory of La Porta et al.(2000) and studies of Al-Najjar (2009) and Kirkulak and Kurt (2010).

The results of Model 3.10 further depict that price volatility has negative and significant impact on dividend payment in respect on all regions of the world under study and for overall sample. This indicates that higher risk leads to lower payment of dividends by the firms. This result provides supports for hypothesis H3f which postulates negative relationship between the said variables. Previous studies including Manos (2002), Farinha (2003) and Al-Najjar (2009) also find negative relationship between the said variables.

Model 3.10 further reveals that Z-score has positive and significant effect on dividend payment across all the regions and overall sample. Z-score is a measure of financial strength meaning that higher score of Z-score means that firm is away from financial risk. The positive relationship between Z-score and dividend payment signifies that there is negative relationship between financial risk and dividend payment. This finding further strengthens hypothesis H3g

The results of Model 3.10 show negative and significant relationship between free cash flows and dividend payment for overall sample and all regions under study. This result confirms hypothesis H3h. As per agency theory, higher payment of dividend reduces amount of available free cash flows. Further, previous works of Jensen and Meckling (1976), Rozeff (1982) and Easterbrook (1984) also supports this view point.

Model 3.1 reveals that cash holdings have positive significant effect on dividend payment for overall sample, Africa, Asia Pacific, North America and South America. This is consistent with hypothesis H9 and with study of Shao et al.(2010). Nevertheless, cash holdings have negative and significant effect on dividend payment for Europe and insignificant relationship in Middle East. These results are not in accordance with hypothesis Hi.

4.3.2 Regression Results of Cash Holdings

In this section, effects of informal institutions and formal institution on cash holdings are discussed along with firm specific variables as control variables, in respect of overall sample and all other regions under study at Table 4.29 to Table 4.35.

The effects of different dimensions of national culture including Power distance, Individualism, masculinity, power distance and long term orientation on cash holding decision are discussed in Model 3.11 to 3.15. The effects of formal institution including worldwide governance index, shareholder rights index, creditor rights index and financial development proxied by market capitalization and domestic credit provided by financial institutions are estimated in Model 3.16 to 3.19. And, finally, the effects of firm specific variables including size, dividend, leverage, market to book ratio, Z-score, profitability, net working capital, investments and cash flows on cash holdings are analyzed in Model 3.20.

4.3.2.1 Power Distance Index (PDI) and Cash Holdings

In Model 3.11, effect of PDI along with control variables on cash holdings is estimated for overall sample and all six regions under study at Table 4.29 to Table 4.35.

The results of Model 3.11 show that PDI has negative and significant effect on cash holdings for Africa, Asia Pacific and Middle East as shown at Table 4.30, Table 4.31 and Table 4.33 respectively and is positively related with cash reserves for Europe at Table 4.32. PDI has no significant relationship with cash reserves for overall sample, North America and South America as depicted at Table 4.29, Table 4.34 and Table 4.35 respectively.

The negative relationship between PDI and cash holdings in Africa, Asia Pacific and Middle East may be due to the reason that median values of WGI are 53.23, 72.87 and 68.49 respectively in the said regions which are lower than Europe which has median value of WGI as 88.09. The managers of firms in regions with weak governance may hold lesser cash reserves in an effort to alleviate agency problems

arises due to excessive cash reserves. PDI is unable to explain its relationship with cash holdings in overall sample, North America and South America.

4.3.2.2 Individualism (IDV) and Cash Holdings

In Model 3.12, effect of IDV along with control variables on cash holdings is estimated for overall sample and other regions under study with some exceptions.

IDV has positive and significant effect on cash holdings for Africa, Asia Pacific, Middle East, and South America as shown at Table 4.30, Table 4.31, Table 4.33 and Table 4.35 respectively and significant negative effect on cash reserves for overall sample and Europe as shown at Table 4.29 and Table 4.32 respectively. Both variables have insignificant relationship for North America at Table 4.34.

Negative relationship between IDV and cash holdings is in accordance with study of Chen et al. (2015) and also in line with hypothesis H4c. According to Chen et al (2015), managers in the individualistic society tend to overestimate future earning of their firms and spend more cash on acquisitions and capital expenditures, thus reducing level of cash. Li et al. (2013) document that individualism is positively related to corporate risk taking, so managers of individualistic culture tend to spend more cash on R&D activities. This explanation is from perspective of managers.

However, positive significant relationship between individualism and cash holdings may be explained from investors perspectives. From investors point of view, it may be expected that investors in such society want to protect their interests and they are sensitive about spending by the management. Investors in individualistic societies are aware off managers over confidence and want the managers to spend less on acquisitions and mergers and accumulate more cash. So reduction in acquisition and research expenditures may cause increase in cash holdings which may be observed in Africa, Asia Pacific, Middle East, and South America as shown at Table 4.30, Table 4.31, Table 4.33 and Table 4.35 respectively.

4.3.2.3 Masculinity (MAS) and Cash Holdings

In Model 3.13, effect of MAS along with control variables on cash holdings is estimated for overall sample and other regions under study.

MAS has positive and significant effect on cash holdings for overall sample, Africa, Asia Pacific, Europe and South America. MAS and cash holdings are negatively and significantly related for Middle East as shown at Table 4.33. Both have insignificant relationship for North America at Table 4.34.

Bae et al. (2012) also find positive relationship between MAS and cash holdings in their study. This also confirms hypothesis H4e. As per Bae et al. (2012), managers in masculine culture believe in performance. When they face new investments, they examine the situation by themselves; conclude the analysis by their own and take decisions without consulting other. They are willing to be penalized for their wrong decisions and expect to be rewarded for their excellent performance. So, they develop a tendency to hold more cash so that they make take their decisions independently without going into financial market which is subject to external disciplines and scrutiny.

4.3.2.4 Uncertainty Avoidance Index (UAI) and Cash Holdings

In Model 3.14, effect of UAI along with control variables on cash holdings is estimated for overall sample and other regions under study.

UAI has positive and significant effect on cash holdings for overall sample, Asia Pacific, Europe, and Middle East as shown at Table 4.29, Table 4.31, Table 4.32 and Table 4.33 respectively and is negatively and significantly related with cash reserves for Africa and South America as shown at Table 4.30 and Table 4.35 respectively. Both variables have insignificant relationship for North America at Table 4.34.

Managers in uncertainty avoidance culture have disliking for uncertainty and ambiguity and preference to hold more cash to hedge against future cash shortage (Chang and Noorbaksh, 2009; Chen et al. (2015)). This also confirms hypothesis H4g.

Negative relationship between UAI and cash holdings for Africa and South America may be explained from investors perspective. As per Rao, Orlova and Kang (2017), investors in high uncertainty avoidance society would not like tendency of uncertainty avoidance managers to hold more cash reserves, thus they value such firms lower than optimal. This may enforce managers of the firms to lower level of cash in uncertainty avoidance culture.

4.3.2.5 Long Term Orientation and Cash Holdings

In Model 3.15, effect of LTO and control variables on cash holdings is analyzed for overall sample and all six regions at Table 4.29 to Table 4.35.

LTO has positive and significant effect on cash holdings for overall sample, Africa, Asia Pacific, Europe, Middle East and South America and insignificant effect on cash reserves for North America.

Chang and Noorbakhsh (2009) document positive impact of LTO on cash holdings. The same results are observed in this study which support hypothesis H4i.

4.3.2.6 Worldwide Governance Index (WGI) and Cash Holdings

In model 3.16, effect of worldwide governance index on cash holdings is estimated for overall sample and for other regions under study as shown at Table 4.29 to Table 4.35.

Worldwide governance has positive and significant effect on cash holdings for overall sample, Africa, and Asia Pacific as shown at Table 4.29, Table 4.30 and Table 4.31 respectively, whereas, it is negatively and significantly related with cash reserves for Europe, Middle East and South America as shown at Table 4.32, Table 4.33 and Table 4.35 respectively. The results on effect of worldwide governance index on cash holdings support hypothesis H5a. Both variables have insignificant relationship for North America as shown at Table 4.34.

The negative coefficient of worldwide governance index indicates that improvement in country governance reduces the need to hoard cash. This shows that

shareholders of the countries with strong country governance have power to force managers of the firms to reduce cash holdings. As per Chen et al. (2012), cash holdings are reduced through effective governance mechanisms which align interests of managers and shareholders and so Jensen free cash flow problem is reduced. Effective governance also helps to reduce financial constraints which help the firms to access external financing at lower cost thus reducing the need to hoard cash reserves.

Lin et al.(2016), however, argue that there is a positive relationship between effective governance mechanisms and cash holdings. According to them, free cash flow hypothesis (Jensen, 1986) suggests that firms with abundant free cash are more likely to engage in value-decreasing investment and suffer from greater agency problems. This is because retaining cash reduces market monitoring on managerial actions and managers are able to pursue personal goals without the need to raise funds from bond or equity markets. Strong governance can help align managers and shareholders interests. Thus in countries with strong governance, shareholders are less concerned with cash holding tendency of the managers. Pinkowitz, Stulz and Williamson (2015) also find positive relationship between worldwide governance index and cash holdings for US and foreign companies, though insignificant. Also, Najjar and Basil (2015) find insignificant relationship between governance and cash holdings for UK SMEs.

4.3.2.7 Shareholder Right Index (SRI) and Cash Holdings

The impact of shareholder rights index along with control variables on cash holdings is analyzed in Model 3.17 for overall sample and other six regions of the world at Table 4.29 to Table 4.35.

Shareholder rights index has significant negative effect on cash holdings for overall sample, Asia Pacific and Europe as shown at Tables Table 4.29, Table 4.31 and Table 4.32 respectively, whereas, it is significantly positively related with cash reserves for Africa and Middle East as shown at Table 4.30 and Table 4.34 respectively. The results on effect of shareholder rights index on cash holdings support

hypothesis H5b. The relationship between two variables is insignificant for South America at Table 4.35.

The negative relationship between shareholder rights index is in accordance with agency theory and studies of Dittmar et al. (2003), Ferreira & Vilela (2004) and Akguc and Choi (2013). This may be interpreted as that managers of such firms want to hoard more money which may be used for extracting their private benefit. The shareholders in the countries with strong shareholder right may force the managers of the firms to disgorge cash.

The positive relationship between shareholder rights index and cash holdings is supported by shareholder power hypothesis. It means that country with strong shareholder right may allow managers of the firms to hoard cash due to the reason that there prevails more social trust in the countries (Dudley and Zhang, 2016). Also, substitute hypothesis state that shareholders are less concerned with the more cash holdings by the managers.

4.3.2.8 Creditor Right Index (CRI) and Cash Holdings

In Model 3.18, effect of creditor rights index along with control variables on cash holdings is estimated for overall sample and six regions under study at Table 4.29 to Table 4.35.

The creditor rights index has significant positive effect on cash holdings for Africa and Asia Pacific at Table 4.30 and Table 4.31 respectively. It is significantly negatively related with cash reserves for overall sample, Europe and South America as shown at Tables Table 4.29, Table 4.32 and Table 4.35 respectively. For North America, both variables have insignificant relationship.

The positive relationship between shareholder rights index and cash holdings is in accordance with agency theory according to which stronger creditor rights enable creditors to force managers of the firms to hoard more cash so that firms may be able to refund their principal amount along with interest payment. This point of view is also supported by Acharya et al. (2011). On the other hand negative relationship between creditor rights index and cash reserves is advocated by Djankov

et al.(2007) who posit that strong creditor rights increase the availability of the credit, so there is lesser need to hoard cash holdings. Nevertheless, the results of this study supports H5c which state that creditor rights index has positive/negative and significant effect on cash holdings.

4.3.2.9 Financial Development and Cash Holdings

In Model 3.19, effect of financial development measured as market capitalization and domestic credit provided by financial institutions along with control variables on cash holdings for overall sample and other six regions of the world at Table 4.29 to Table 4.35.

Market capitalization has positive and significant effect on cash holding for overall sample, Africa, Asia Pacific and Europe as shown at Tables Table 4.29, Table 4.30, Table 4.31 and Table 4.32 respectively, whereas, it is negatively and significantly related with cash reserves for Middle East, North America and South America at Tables Table 4.33, Table 4.34 and Table 4.35 respectively.

Domestic credit provided by financial institutions has positive and significant effect on cash holdings for overall sample, Asia Pacific and North America as shown at Tables Table 4.29, Table 4.31 and Table 4.34 and negative and significant effect on cash reserves for Africa, Europe and South America at Table 4.30, Table 4.32 and Table 4.35 respectively. Both variables are insignificant for Middle East as shown at Table 4.33.

Positive relationship between financial development and cash holdings is in accordance with agency theory and studies of Dittmar et al. (2003) and Pinkowitz, Stulz and Williamson (2015). Negative effect of financial development on cash reserves is in line with studies of Ferreira and Vilela (2004) and Yuanto et al. (2015). The results of this study also confirms hypothesis H5d.

TABLE 4.29: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (Overall Sample)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.197*** (124.242)	0.197*** (172.976)	0.173*** (130.832)	0.160*** (113.584)	0.161*** (118.049)	0.194*** (144.348)	0.224*** (129.615)	0.200*** (143.211)	0.177*** (153.809)	0.196*** (172.286)
pdi	-0.00002 (-1.114)									
idv		-0.0002*** (-16.419)								
mas			0.0004*** (33.182)							
uai				0.0005*** (43.828)						
lto					0.0005*** (50.703)					
wgi						0.00003** (2.144)				
sri							-0.006*** (-23.189)			
cri								-0.001*** (-5.594)		
mktcap									0.00004*** (27.597)	
domcrdt									0.0001*** (46.117)	
LNTA	-0.004*** (-32.474)	-0.004*** (-25.622)	-0.005*** (-36.325)	-0.004*** (-32.405)	-0.003*** (-26.162)	-0.004*** (-32.449)	-0.005*** (-37.350)	-0.005*** (-33.802)	-0.006*** (-45.411)	-0.004*** (-33.569)
LEVDBT	-0.218*** (-132.662)	-0.218*** (-132.900)	-0.215*** (-130.458)	-0.213*** (-131.249)	-0.213*** (-130.760)	-0.218*** (-132.233)	-0.221*** (-135.179)	-0.219*** (-131.576)	-0.207*** (-127.454)	-0.218*** (-132.991)
DIVTA	0.136*** (10.560)	0.130*** (10.102)	0.162*** (12.423)	0.172*** (13.471)	0.157*** (12.520)	0.137*** (10.618)	0.134*** (10.341)	0.135*** (10.395)	0.216*** (16.484)	0.136*** (10.574)
ZSCORE	0.008*** (57.533)	0.008*** (57.724)	0.008*** (57.801)	0.009*** (58.411)	0.009*** (58.388)	0.008*** (57.378)	0.008*** (57.576)	0.008*** (57.417)	0.008*** (57.367)	0.008*** (57.376)
CAPX	-0.394*** (-64.763)	-0.395*** (-65.055)	-0.392*** (-64.412)	-0.376*** (-62.734)	-0.373*** (-61.472)	-0.393*** (-64.406)	-0.388*** (-64.137)	-0.393*** (-64.575)	-0.361*** (-59.043)	-0.394*** (-64.895)
MBR	0.005*** (14.131)	0.005*** (16.150)	0.005*** (14.796)	0.005*** (15.481)	0.005*** (15.812)	0.005*** (13.899)	0.004*** (13.906)	0.005*** (14.256)	0.004*** (12.398)	0.005*** (14.002)
CF	0.035*** (9.724)	0.040*** (11.121)	0.035*** (9.534)	0.038*** (10.740)	0.047*** (13.081)	0.035*** (9.679)	0.029*** (8.037)	0.035*** (9.495)	0.038*** (10.534)	0.035*** (9.717)
ROA	-0.090*** (-20.428)	-0.098*** (-22.192)	-0.089*** (-20.160)	-0.092*** (-21.281)	-0.099*** (-23.012)	-0.090*** (-20.264)	-0.085*** (-19.095)	-0.090*** (-20.374)	-0.076*** (-17.270)	-0.090*** (-20.582)
NWC	-0.171*** (-96.384)	-0.167*** (-93.438)	-0.171*** (-95.953)	-0.164*** (-92.574)	-0.163*** (-91.771)	-0.171*** (-97.009)	-0.174*** (-97.519)	-0.172*** (-95.451)	-0.169*** (-95.771)	-0.171*** (-97.151)
Adj. R-sq.	0.443	0.444	0.452	0.463	0.463	0.442	0.446	0.441	0.473	0.442
J-stats.	4730.115***	4757.053***	4902.681***	5128.747***	5109.682***	4720.011***	4778.260***	4694.668***	4847.520***	5238.801***
LR Test (Prob)	0.232	0.254	0.657	0.576	0.125	0.964	0.459	0.234	0.245	0.463
Cross-sections included: 5947										
							Total panel (unbalanced) observations: 59458			

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of overall sample. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 59,470 observations from 2007-2016

TABLE 4.30: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (Africa)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.252*** (13.634)	0.090*** (8.617)	-0.004 (-0.202)	0.237*** (13.911)	0.106*** (11.038)	0.121*** (9.356)	0.039** (2.594)	0.077*** (4.684)	0.127*** (11.436)	0.137*** (14.409)
pdi	-0.002*** (-7.518)									
idv		0.001*** (7.998)								
mas			0.003*** (7.223)							
uai				-0.002*** (-7.275)						
lto					0.002*** (7.992)					
wgi						0.0003* (1.791)				
sri							0.025*** (7.772)			
cri								0.022*** (4.275)		
mktcap									0.0006*** (5.565)	
domcrdt									-0.0003*** (-6.743)	
LNTA	-0.004*** (-4.320)	-0.004*** (-4.424)	-0.004*** (-3.895)	-0.004*** (-3.921)	-0.004*** (-4.394)	-0.003*** (-2.692)	-0.004*** (-4.212)	-0.003*** (-2.956)	-0.004*** (-4.023)	-0.003*** (-2.628)
LEVDBT	-0.059*** (-4.114)	-0.054*** (-3.825)	-0.040*** (-2.887)	-0.041*** (-2.923)	-0.053*** (-3.724)	-0.027* (-1.916)	-0.047*** (-3.358)	-0.027* (-1.933)	-0.060*** (-4.176)	-0.031** (-2.271)
DIVTA	-0.084 (-1.359)	-0.063 (-1.014)	-0.051 (-0.805)	-0.051 (-0.798)	-0.059 (-0.954)	-0.140** (-2.230)	-0.051 (-0.814)	-0.108* (-1.691)	-0.088 (-1.471)	-0.154** (-2.486)
ZSCORE	0.012*** (5.298)	0.013*** (5.629)	0.016*** (7.086)	0.015*** (7.029)	0.013*** (5.776)	0.019*** (8.843)	0.014*** (6.339)	0.019*** (8.748)	0.013*** (5.500)	0.018*** (8.748)
CAPX	-0.515*** (-12.954)	-0.510*** (-12.900)	-0.491*** (-12.429)	-0.492*** (-12.446)	-0.508*** (-12.849)	-0.463*** (-11.608)	-0.501*** (-12.657)	-0.469*** (-11.945)	-0.513*** (-12.674)	-0.467*** (-11.734)
MBR	-0.028*** (-7.290)	-0.033*** (-8.883)	-0.041*** (-11.017)	-0.041*** (-10.993)	-0.034*** (-9.272)	-0.042*** (-10.167)	-0.037*** (-10.357)	-0.044*** (-10.836)	-0.032*** (-8.105)	-0.039*** (-10.965)
CF	0.160*** (6.548)	0.160*** (6.597)	0.161*** (6.510)	0.161*** (6.515)	0.160*** (6.601)	0.163*** (6.561)	0.161*** (6.578)	0.162*** (6.535)	0.156*** (6.523)	0.162*** (6.616)
ROA	0.206*** (4.880)	0.210*** (4.967)	0.201*** (4.746)	0.201*** (4.758)	0.210*** (4.958)	0.169*** (4.032)	0.207*** (4.886)	0.176*** (4.214)	0.219*** (5.141)	0.168*** (4.022)
NWC	-0.288*** (-25.889)	-0.290*** (-25.914)	-0.285*** (-25.260)	-0.286*** (-25.288)	-0.290*** (-25.867)	-0.265*** (-24.252)	-0.289*** (-25.630)	-0.270*** (-24.449)	-0.289*** (-25.678)	-0.264*** (-24.395)
Adj. R-sq.	0.485	0.484	0.474	0.474	0.483	0.453	0.480	0.457	0.480	0.455
J-stats.	93.816***	93.679***	89.928***	90.105***	93.391***	82.660***	92.075***	84.206***	83.759***	92.456***
LR Test (Prob)	0.352	0.324	0.356	0.475	0.247	0.759	0.479	0.964	0.396	0.796
	Cross-sections included: 100					Total panel (unbalanced) observations: 988				

*Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of Africa region. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,000 observations from 2007-2016.*

TABLE 4.31: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (Asia Pacific)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.242*** (111.561)	0.204*** (119.687)	0.186*** (99.559)	0.169*** (91.720)	0.156*** (86.938)	0.170*** (88.232)	0.252*** (100.629)	0.189*** (93.622)	0.181*** (110.897)	0.205*** (128.039)
pdi	-0.001*** (-25.996)									
idv		0.00004** (2.079)								
mas			0.0003*** (21.310)							
uai				0.001*** (39.826)						
lto					0.001*** (54.799)					
wgi						0.001*** (30.842)				
sri							-0.011*** (-24.528)			
cri								0.006*** (12.342)		
mktcap									0.00003*** (24.475)	
domcrdt									0.0002*** (46.687)	
LNTA	-0.002*** (-11.256)	-0.002*** (-9.079)	-0.002*** (-11.133)	-0.003*** (-14.289)	-0.003*** (-16.460)	-0.003*** (-13.256)	-0.002*** (-9.629)	-0.002*** (-9.729)	-0.005*** (-21.784)	-0.002*** (-9.067)
LEVDBT	-0.268*** (-117.888)	-0.272*** (-116.438)	-0.267*** (-113.786)	-0.262*** (-113.002)	-0.266*** (-118.600)	-0.259*** (-109.955)	-0.276*** (-120.308)	-0.269*** (-115.816)	-0.242*** (-102.411)	-0.273*** (-117.918)
DIVTA	0.497*** (23.832)	0.483*** (23.099)	0.526*** (24.890)	0.585*** (27.468)	0.609*** (29.938)	0.539*** (25.529)	0.435*** (20.467)	0.487*** (23.339)	0.613*** (29.005)	0.483*** (23.129)
ZSCORE	0.005*** (30.856)	0.005*** (32.017)	0.005*** (33.708)	0.005*** (30.899)	0.005*** (30.647)	0.004*** (30.877)	0.005*** (32.385)	0.004*** (31.047)	0.005*** (33.872)	0.005*** (32.067)
CAPX	-0.368*** (-46.549)	-0.378*** (-47.416)	-0.373*** (-46.561)	-0.349*** (-43.961)	-0.332*** (-42.164)	-0.361*** (-45.572)	-0.367*** (-46.291)	-0.374*** (-47.222)	-0.335*** (-42.566)	-0.376*** (-47.261)
MBR	0.002*** (6.980)	0.003*** (7.679)	0.003*** (8.689)	0.002*** (6.404)	0.001*** (4.255)	0.002*** (7.477)	0.002*** (7.332)	0.002*** (7.197)	0.003*** (7.872)	0.002*** (7.542)
CF	0.052*** (9.828)	0.055*** (10.364)	0.050*** (9.342)	0.052*** (9.845)	0.052*** (9.997)	0.055*** (10.426)	0.052*** (9.901)	0.059*** (11.084)	0.059*** (11.429)	0.055*** (10.252)
ROA	-0.036*** (-5.289)	-0.048*** (-7.064)	-0.050*** (-7.262)	-0.043*** (-6.289)	-0.049*** (-7.327)	-0.035*** (-5.195)	-0.043*** (-6.294)	-0.045*** (-6.632)	-0.031*** (-4.683)	-0.049*** (-7.240)
NWC	-0.136*** (-56.471)	-0.139*** (-56.820)	-0.137*** (-56.093)	-0.133*** (-54.523)	-0.133*** (-55.470)	-0.133*** (-54.647)	-0.140*** (-57.149)	-0.137*** (-55.990)	-0.127*** (-52.178)	-0.139*** (-56.861)
Adj. R-sq.	0.483	0.469	0.472	0.489	0.508	0.483	0.474	0.473	0.504	0.468
J-stats.	3140.646***	2960.939***	2997.085***	3209.814***	3472.725***	3138.834***	3021.672***	3009.569***	3106.325***	3288.391***
LR Test (Prob)	0.420	0.369	0.456	0.756	0.470	0.123	0.796	0.776	0.696	0.368
	Cross-sections included: 3358					Total panel (balanced) observations: 33580				

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of Asia Pacific. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 33,580 observations from 2007-2016.

TABLE 4.32: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (Europe)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.095*** (32.894)	0.208*** (56.259)	0.115*** (41.980)	0.094*** (33.732)	0.088*** (30.184)	0.211*** (53.065)	0.165*** (51.372)	0.138*** (50.208)	0.145*** (43.232)	0.124*** (47.506)
pdi	0.001*** (20.148)									
idv		-0.001*** (-33.282)								
mas			0.0002*** (8.946)							
uai				0.0005*** (26.856)						
lto					0.001*** (23.123)					
wgi						-0.001*** (-28.602)				
sri							-0.011*** (-23.097)			
cri								-0.006*** (-17.516)		
mktcap									0.00003*** (3.607)	
domcrdt									0.0001*** (-11.018)	
LNTA	-0.003*** (-11.929)	-0.003*** (-10.188)	-0.003*** (-11.808)	-0.003*** (-12.722)	-0.004*** (-14.278)	-0.003*** (-10.451)	-0.003*** (-13.049)	-0.003*** (-12.063)	-0.003*** (-11.232)	-0.003*** (-11.457)
LEVDBT	-0.098*** (-24.927)	-0.114*** (-31.689)	-0.092*** (-23.079)	-0.111*** (-30.134)	-0.083*** (-21.282)	-0.107*** (-27.008)	-0.105*** (-28.115)	-0.099*** (-25.253)	-0.093*** (-23.607)	-0.093*** (-23.259)
DIVTA	-0.118*** (-4.758)	-0.147*** (-5.722)	-0.128*** (-5.137)	-0.102*** (-4.050)	-0.094*** (-3.779)	-0.170*** (-6.808)	-0.129*** (-5.026)	-0.126*** (-4.866)	-0.153*** (-6.000)	-0.141*** (-5.634)
ZSCORE	0.022*** (35.251)	0.020*** (31.700)	0.023*** (35.391)	0.021*** (33.361)	0.022*** (35.801)	0.022*** (34.830)	0.021*** (33.368)	0.022*** (34.261)	0.023*** (35.271)	0.023*** (35.367)
CAPX	-0.226*** (-15.036)	-0.221*** (-15.109)	-0.224*** (-14.724)	-0.224*** (-15.013)	-0.220*** (-14.486)	-0.256*** (-17.533)	-0.206*** (-13.672)	-0.220*** (-14.449)	-0.237*** (-15.684)	-0.225*** (-14.862)
MBR	-0.007*** (-5.690)	-0.002 (-1.622)	-0.010*** (-7.579)	-0.004*** (-3.127)	-0.010*** (-8.160)	-0.005*** (-3.710)	-0.005*** (-4.078)	-0.007*** (-5.581)	-0.009*** (-7.170)	-0.010*** (-7.316)
CF	0.038*** (6.789)	0.025*** (4.305)	0.038*** (6.974)	0.031*** (5.504)	0.034*** (6.008)	0.038*** (6.957)	0.029*** (5.051)	0.030*** (5.186)	0.036*** (6.410)	0.038*** (6.801)
ROA	-0.092*** (-8.675)	-0.089*** (-8.509)	-0.093*** (-8.812)	-0.088*** (-8.332)	-0.086*** (-8.167)	-0.098*** (-9.431)	-0.088*** (-8.373)	-0.086*** (-8.034)	-0.091*** (-8.545)	-0.090*** (-8.457)
NWC	-0.228*** (-64.368)	-0.225*** (-60.662)	-0.232*** (-63.464)	-0.229*** (-63.458)	-0.235*** (-64.622)	-0.216*** (-58.600)	-0.231*** (-62.861)	-0.235*** (-65.773)	-0.232*** (-63.341)	-0.232*** (-63.419)
Adj. R-sq.	0.432	0.437	0.419	0.461	0.421	0.439	0.441	0.420	0.413	0.413
J-stats.	992.554***	1013.195***	941.409***	1116.373***	948.625***	1022.682***	1028.037***	945.381***	836.627***	1021.492***
LR Test (Prob)	0.968	0.236	0.763	0.356	0.302	0.956	0.125	0.964	0.325	0.655
Cross-sections included: 1304										
							Total panel (balanced) observations: 13040			

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of Europe. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 13,040 observations from 2007-2016.

TABLE 4.33: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (Middle East)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.199*** (12.374)	0.052*** (2.877)	0.283*** (11.702)	-5.623*** (-14.233)	-1.207*** (-13.243)	0.228*** (11.116)	0.114*** (6.869)	NA	0.191*** (9.284)	0.176*** (11.631)
pdi	-0.001*** (-15.178)									
idv		0.002*** (14.702)								
mas			-0.003*** (-5.846)							
uai				0.072*** (14.702)						
lto					0.036*** (15.444)					
wgi						-0.001*** (-3.735)				
sri							0.018*** (14.702)			
cri								NA		
mktcap									-0.0004*** (-11.206)	
domcrdt									0.0002 (0.786)	
LNTA	-0.002 (-0.846)	-0.001 (-0.715)	-0.005** (-2.452)	-0.001 (-0.715)	-0.001 (-0.459)	-0.005*** (-2.647)	-0.001 (-0.715)	NA	-0.005*** (-2.592)	-0.006*** (-3.355)
LEVDBT	-0.022 (-1.273)	-0.023 (-1.338)	-0.018 (-1.044)	-0.023 (-1.338)	-0.032 (-1.548)	-0.018 (-1.039)	-0.023 (-1.338)	NA	-0.007 (-0.391)	-0.014 (-0.853)
DIVTA	-0.065 (-1.142)	-0.062 (-1.071)	-0.195*** (-2.738)	-0.062 (-1.071)	-0.157** (-2.065)	-0.202*** (-2.865)	-0.062 (-1.071)	NA	-0.198*** (-2.998)	-0.187*** (-2.913)
ZSCORE	0.045*** (14.929)	0.045*** (14.826)	0.039*** (12.902)	0.045*** (14.826)	0.043*** (12.590)	0.038*** (12.822)	0.045*** (14.826)	NA	0.041*** (13.863)	0.038*** (12.869)
CAPX	-0.210*** (-3.363)	-0.215*** (-3.419)	-0.343*** (-4.996)	-0.215*** (-3.419)	-0.168*** (-2.449)	-0.362*** (-5.324)	-0.215*** (-3.419)	NA	-0.291*** (-4.333)	-0.397*** (-6.092)
MBR	-0.063*** (-9.539)	-0.063*** (-9.473)	-0.035*** (-5.415)	-0.063*** (-9.473)	-0.055*** (-7.458)	-0.034*** (-5.355)	-0.063*** (-9.473)	NA	-0.039*** (-6.125)	-0.037*** (-5.771)
CF	-0.008 (-0.186)	-0.009 (-0.195)	0.028 (0.583)	-0.009 (-0.195)	-0.002 (-0.038)	0.030 (0.625)	-0.009 (-0.195)	NA	0.011 (0.229)	0.026 (0.542)
ROA	-0.320*** (-6.336)	-0.322*** (-6.336)	-0.304*** (-5.576)	-0.322*** (-6.336)	-0.310*** (-5.761)	-0.301*** (-5.450)	-0.322*** (-6.336)	NA	-0.284*** (-5.387)	-0.285*** (-5.162)
NWC	-0.266*** (-12.795)	-0.270*** (-12.839)	-0.160*** (-6.877)	-0.270*** (-12.839)	-0.198*** (-7.839)	-0.166*** (-7.139)	-0.270*** (-12.839)	NA	-0.182*** (-7.982)	-0.184*** (-8.615)
Adj. R-sq.	0.575	0.567	0.455	0.567	0.611	0.444	0.567		0.503	0.436
J-stats.	95.540***	92.426***	59.270***	92.426***	91.918***	56.869***	92.426***		65.208***	60.981***
LR Test (Prob)	0.475	0.698	0.568	0.267	0.365	0.256	0.659	0.964	0.697	0.369
Cross-sections included: 70										
									Total panel (balanced) observations: 700	

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of Middle East. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 700 observations from 2007-2016.

TABLE 4.34: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (North America)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.188*** (37.482)	0.180*** (30.098)	0.212*** (7.546)	0.189*** (33.380)	0.133** (2.501)	0.187*** (16.084)	NA	0.182*** (36.927)	0.185*** (25.326)	0.185*** (47.483)
pdi	-0.0001 (-0.975)									
idv		0.0001 (0.975)								
mas			-0.0004 (-0.975)							
uai				-0.0001 (-0.975)						
lto					0.002 (0.975)					
wgi						-0.00003 (-0.203)	NA			
sri										
cri								0.003 (0.975)		
mktcap									-0.0001*** (-3.907)	
domcrdt									0.0005* (1.843)	
LNTA	-0.005*** (-13.645)	-0.005*** (-13.645)	-0.005*** (-13.645)	-0.005*** (-13.645)	-0.005*** (-13.645)	-0.005*** (-13.639)	NA	-0.005*** (-13.645)	-0.005*** (-13.546)	-0.005*** (-13.669)
LEVDBT	-0.161*** (-47.485)	-0.161*** (-47.485)	-0.161*** (-47.485)	-0.161*** (-47.485)	-0.161*** (-47.485)	-0.161*** (-47.493)	NA	-0.161*** (-47.485)	-0.161*** (-47.357)	-0.161*** (-47.472)
DIVTA	-0.239*** (-7.387)	-0.239*** (-7.387)	-0.239*** (-7.387)	-0.239*** (-7.387)	-0.239*** (-7.387)	-0.239*** (-7.458)	NA	-0.239*** (-7.387)	-0.238*** (-7.375)	-0.240*** (-7.432)
ZSCORE	0.018*** (35.694)	0.018*** (35.694)	0.018*** (35.694)	0.018*** (35.694)	0.018*** (35.694)	0.018*** (35.681)	NA	0.018*** (35.694)	0.018*** (35.283)	0.018*** (35.676)
CAPX	-0.582*** (-38.522)	-0.582*** (-38.522)	-0.582*** (-38.522)	-0.582*** (-38.522)	-0.582*** (-38.522)	-0.585*** (-38.586)	NA	-0.582*** (-38.522)	-0.580*** (-38.178)	-0.585*** (-39.102)
MBR	0.005*** (4.083)	0.005*** (4.083)	0.005*** (4.083)	0.005*** (4.083)	0.005*** (4.083)	0.005*** (4.118)	NA	0.005*** (4.083)	0.005*** (4.564)	0.005*** (4.126)
CF	-0.029*** (-2.765)	-0.029*** (-2.765)	-0.029*** (-2.765)	-0.029*** (-2.765)	-0.029*** (-2.765)	-0.029*** (-2.677)	NA	-0.029*** (-2.765)	-0.033*** (-3.079)	-0.028*** (-2.687)
ROA	-0.166*** (-21.299)	-0.166*** (-21.299)	-0.166*** (-21.299)	-0.166*** (-21.299)	-0.166*** (-21.299)	-0.167*** (-21.331)	NA	-0.166*** (-21.299)	-0.164*** (-20.939)	-0.166*** (-21.348)
NWC	-0.297*** (-57.595)	-0.297*** (-57.595)	-0.297*** (-57.595)	-0.297*** (-57.595)	-0.297*** (-57.595)	-0.297*** (-57.574)	NA	-0.297*** (-57.595)	-0.296*** (-56.767)	-0.297*** (-57.636)
Adj. R-sq.	0.572	0.572	0.572	0.572	0.572	0.572		0.572	0.575	0.572
J-stats.	1356.627***	1356.627***	1356.627***	1356.627***	1356.627***	1355.696***		1356.627***	1247.199***	1507.359***
LR Test (Prob)	0.697	0.658	0.657	0.699	0.968	0.256	0.769	0.126	0.567	0.365
Cross-sections included: 1014							Total panel (balanced) observations: 10140			

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of North America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 10,140 observations from 2007-2016.

TABLE 4.35: Impact of Culture Components with Formal Institutions and Controls on Cash Holdings (South America)

Variables	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20
C	0.065*** (4.193)	0.000 (0.008)	0.004 (0.466)	0.233*** (6.751)	0.041*** (6.408)	0.082*** (13.285)	0.052*** (7.914)	0.071*** (12.899)	0.057*** (9.698)	0.049*** (8.773)
pdi	-0.0003 (-1.087)									
idv		0.001*** (10.951)								
mas			0.001*** (10.971)							
uai				-0.002*** (-5.259)						
lto					0.0005** (2.323)					
wgi						-0.001*** (-10.682)				
sri							-0.001 (-0.640)			
cri								-0.018*** (-10.550)		
mktcap									0.0001** (-2.204)	
domcrdt									-0.0001* (-1.699)	
LNTA	0.003** (2.418)	0.004*** (4.655)	0.003*** (4.290)	0.001 (0.989)	0.001 (1.230)	0.004*** (4.472)	0.002** (2.188)	0.003*** (3.439)	0.004*** (4.377)	0.002*** (2.701)
LEVDBT	0.001 (0.056)	0.011 (0.758)	0.009 (0.600)	-0.009 (-0.591)	-0.005 (-0.318)	0.009 (0.570)	0.00009 (0.006)	0.008 (0.493)	0.006 (0.424)	-0.001 (-0.083)
DIVTA	-0.269*** (-6.315)	-0.253*** (-6.316)	-0.261*** (-6.845)	-0.312*** (-8.194)	-0.301*** (-7.330)	-0.257*** (-6.731)	-0.275*** (-6.460)	-0.273*** (-7.227)	-0.250*** (-5.979)	-0.278*** (-6.900)
ZSCORE	0.006*** (3.699)	0.007*** (4.235)	0.006*** (3.759)	0.006*** (3.812)	0.007*** (3.414)	0.006*** (4.018)	0.006*** (3.432)	0.005*** (3.385)	0.006*** (3.767)	0.006*** (3.806)
CAPX	-0.094** (-2.382)	-0.063*** (-1.699)	-0.067* (-1.780)	-0.061 (-1.527)	-0.076** (-1.967)	-0.066* (-1.744)	-0.093** (-2.373)	-0.067* (-1.796)	-0.088** (-2.293)	-0.088** (-2.424)
MBR	-0.001 (-0.358)	-0.006 (-1.268)	-0.003 (-0.669)	-0.002 (-0.396)	-0.001 (-0.241)	-0.004 (-1.052)	-0.001 (-0.196)	-0.001 (-0.152)	-0.002 (-0.400)	-0.001 (-0.311)
CF	0.130*** (4.709)	0.124*** (4.248)	0.128*** (4.432)	0.126*** (4.422)	0.133*** (4.810)	0.123*** (4.237)	0.132*** (4.775)	0.132*** (4.689)	0.130*** (4.490)	0.132*** (4.771)
ROA	0.107*** (3.581)	0.110*** (3.533)	0.108*** (3.441)	0.096*** (3.299)	0.098*** (3.582)	0.113*** (3.451)	0.104*** (3.604)	0.103*** (3.536)	0.105*** (3.232)	0.102*** (3.539)
NWC	-0.066*** (-4.673)	-0.054*** (-3.620)	-0.047*** (-3.294)	-0.064*** (-4.434)	-0.071*** (-4.998)	-0.049*** (-3.393)	-0.066*** (-4.802)	-0.047*** (-3.179)	-0.051*** (-3.630)	-0.067*** (-4.678)
Adj. R-sq.	0.134	0.182	0.192	0.164	0.164	0.191	0.133	0.198	0.163	0.133
J-stats.	16.587***	23.392***	24.990***	20.844***	20.844***	24.762***	16.491***	25.925***	18.811***	18.271***
LR Test (Prob)	0.697	0.232	0.609	0.356	0.967	0.364	0.560	0.169	0.926	0.989
Cross-sections included: 101										
										Total panel (balanced) observations: 1010

Note: This table describes regression results for cash holding determinants consisting of national culture, formal institutions and firm specific control variables in respect of South America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores are obtained from www.hofstede-insights.com. Formal institutions include WGI from World bank, SRI from Djankov et al. (2007), CRI from Djankov et al. (2008), MKTCAP and DOMCRDT from World bank. All firm specific variables are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,010 observations from 2007-2016.

4.3.2.10 Firm Specific Variables and Cash Holdings

In this Model, effects of firm specific variables on cash holdings are estimated and results are placed at Table 4.29 to Table 4.35 in respect of overall sample and other regions including Africa, Asia Pacific, Europe, Middle East, North America and South America.

In this part, equation (3.20) is estimated for the overall sample and other regions of the world which shows financial factors that influence the cash holding decision of non-financial firms worldwide and across the regions. The results for overall sample are placed at Table 4.29 and for other regions at Table 4.30 to Table 4.35. Table 4.29 to Table 4.34 state that for overall sample, Africa, Asia Pacific, Europe, Middle East and North America, size and cash holdings are negatively related with each other which show that large firms hoard lesser amount of cash reserves as they can easily access financial markets when they need money to finance their projects. However, size has significant positive effect on cash holdings for South America as shown at Table 4.35.

The results for overall sample show that coefficient of size is -0.004 which means that one percent increase in size causes decrease of 0.004 % in cash holdings. Negative significant association of size with cash holdings is supported by pecking order theory, trade off theory and studies of Lins et al. (2010) and Qiu and Wan (2015), whereas, positive relationship between the said variables is endorsed by Ozkan and Ozkan (2004). Nevertheless, consistent with H6a, this study finds that size has significant positive effect on cash holdings.

For the overall sample, Africa, Asia Pacific, Europe and North America, this study finds that leverage has negative and significant effect on cash holdings as shown at Table 4.29, Table 4.30, Table 4.31, Table 4.32 and Table 4.34 respectively. This result is in accordance with Acharya et al. (2008), Al- Najjar (2012), Chen et al. (2014) and Guizani (2017) who also find the same effect in their studies. Thus, such firms have to rely less on cash holdings to finance their investments as they have more ability to access external funds. As per pecking order theory, little cash holdings and high levels of debt occur simultaneously when firms investments

are more than retained earnings (Ferreira & Vilela, 2004). Further, according to free cash flow hypothesis, capital markets monitor the firms more strictly and so managers are prevented to use cash at their discretion. Transaction cost motive supports that less cash holdings are associated with high levered firms because such firms bear higher costs on investment in liquid assets.

The results of Model 3.20 also show that dividend payments are positively associated with cash holdings for overall sample and Asia Pacific as shown at Table 4.29 and Table 4.31 respectively, whereas, dividends have significant negative effect on cash reserves for Africa, Europe, Middle East, North America and South America as shown at Table 4.30, Table 4.32, Table 4.33, Table 4.34 and Table 4.35 respectively. The reason why Asia Pacific dominates the results of overall sample is the number of observation which is more than 56 % for Asia Pacific. Chen et al. (2012) and Hill et al. (2014) find positive relationship in their studies. Further, signaling theory and shareholders power hypothesis also support that dividend payments are positively related with cash holdings. However, pecking order theory and trade off theory predict that dividend payments are negatively associated with cash holdings. Khieu and Pyles (2012) and Julio and Yook (2012) and Al-Najjar (2013) also find negative relationship between the said variables. Nevertheless, the results support H6c which state that dividend is positively/ negatively and significantly related with cash holdings.

For the overall sample and other six regions at Table 4.29 to Table 4.35, Z-score is positively related with cash holdings. The same relationship is also observed by Opler et al. (1999), Harford et al. (2008) and Subramaniam et al. (2011) in their studies. However, according to Lins et al. (2010) and Khieu and Pyles (2012), the influence of Altman Z-score on the corporate cash level cannot be determined unambiguously. Nevertheless, in the results, Z-score and cash holdings are significantly related with each other which confirm hypothesis H6d that financial distress has significant positive/ negative effect on cash holdings.

It is observed from the Table 4.29, Table 4.31 and Table 4.34 that market to book value ratio is positively associated with cash holdings for overall sample, Asia Pacific and North America respectively. Table 4.30, Table 4.32 and Table 4.33,

however, find negative relationship between the said variables for Africa, Europe and Middle East respectively. Market to book ratio is insignificantly related with cash holdings for South America as shown at Table 4.35. Foley et al. (2007), Iskandar-Datta et al. (2014) and Chen et al. (2015) also find that growth has positive effect on cash reserves. Khieu and Pyles (2012) and Bigelli and Vidal (2012), however, find that growth is negatively related with cash holdings. The results of the analysis confirm hypothesis H6e that growth has significant positive/negative effect on cash holdings.

It is revealed from the tables Table 4.29 to Table 4.35 that investments have significant negative effect on cash holdings for overall sample and all other six regions. Dittmar et al. (2003) and Hoberg et al. (2014) also report negative relationship for capital expenditures as well as Bates et al. (2009) and Oler and Picconi (2014) for acquisition expenditures. Also, the results are in lines with pecking order theory. In contrast to above, Opler et al (1999), Mikkelson and Partch (2003), Harford et al. (2008) and Huang et al. (2013) find significant positive effect between the said variables in their studies. Nevertheless, the results support the hypothesis H6f that investments have significant effect on cash holdings.

The results at tables Table 4.29, Table 4.30, Table 4.31, Table 4.32 and Table 4.35 show that cash flows are positively and significantly related with cash reserves for overall sample, Africa, Asia Pacific, Europe and South America respectively and Table 4.34 indicates that cash flows are negatively associated with cash reserves for North America. The positive results are in accordance with pecking order theory and free cash flow hypothesis. Also, Kalcheva and Lins (2007), DMello et al. (2008) and Weidemann (2016) find the same results in their studies. Duchin (2010) and Chen et al. (2012) find that cash flows have negative impact on cash holdings. Nevertheless, the results support hypothesis H6g that cash flows and cash holdings are positively and significantly associated with each other.

Table 4.30 and Table 4.35 show that profitability is positively related with cash holdings for Africa and South America respectively, whereas, Table 4.29, Table 4.31, Table 4.32, Table 4.33 and Table 4.34 reveal that it is negatively associated with cash reserves for overall sample, Asia Pacific, Europe, Middle East and North

America respectively. The positive relationship between profitability and cash holdings are in accordance with studies of Dittmar et al., (2003), Ferreira and Vilela (2004), Al-Najjar and Belghitar, (2011), and Al-Najjar and Clark (2016) but also in line with pecking order theory and hypothesis H6h.

It is revealed from the Table 4.29 to Table 4.35 that net working capital is negatively associated with cash holdings for the overall sample and all other six regions. Almeida et al. (2004), Bates et al. (2009), Subramaniam et al. (2011), Al-Najjar, 2013 and Liu et al. (2014) find the same relationship in their studies. The results are in accordance with trade off theory also and confirms hypothesis H6i which state that net working capital is negatively associated with cash holdings.

To conclude, there are some variables including size, leverage, Z-score, investments, cash flows and net working capital which have similar significant relationships with cash holdings almost across the regions. Dividends have positive effect on cash holdings for overall sample and Asia Pacific, whereas, for other regions under study both are negatively related. Market to book ratio has positive effect on cash holdings for overall sample, Asia Pacific and North America, whereas, for Africa, Europe and Middle East it affects cash reserves negatively. Profitability has positive effect on cash holdings for Africa and South America and for all other regions including overall sample.

4.3.3 Interaction Effect of Country Governance and National Culture on Dividend Payment

In this section, effects of interaction of country governance and different dimension of national culture including PDI, IDV, MAS, UAI and LTO are estimated by testing models 3.21 to 3.25 respectively. Hypothesis H1b, H1d, H1f, H1h and H1j are tested and the results are reported at Tables Table 4.36 to Table 4.42.

4.3.3.1 Interaction Effect of Country Governance and PDI on Dividend Payment

In this sub-section, results of interaction effect of country governance and PDI on dividend payment are reported along with control variables.

Table 4.36 shows that interaction effect of country governance and PDI on dividend payment is negative and significant for overall sample. Table 4.22 depicts that PDI and worldwide governance both have negative effect on dividend payment for overall sample. This study hypothesizes that negative interaction effect of WGI and PDI on dividend payment for overall sample is driven by country governance and not by PDI. This also confirms hypothesis H1b.

The results of model 3.21 further reveals that interaction effect of PDI and country governance on dividend payment is negative and significant for Africa and Asia Pacific and North America as shown at Table 4.37, Table 4.38 and Table 4.41 respectively whereas, the same is positive and significant for Europe and South America as depicted at Table 4.39 and Table 4.42 respectively. The interaction of PDI and country governance yields insignificant result for Middle East as shown at Table 4.40.

Country governance has negative and significant effect on dividend payment for overall sample, Africa and Asia Pacific as shown at Table 4.22, Table 4.23 and Table 4.24 respectively. Whereas, country governance positively influences dividend payments in Europe, North America and South America as shown at Table 4.25, Table 4.27 and Table 4.28 respectively. The results of model 3.21 reveals that negative interaction effect of PDI and country governance on dividend payment for overall sample, Africa and Asia Pacific and positive effect for Europe, North America and South America is due to dominant impact of country governance on dividend payment in respect of respective regions. This also verifies hypothesis H1b which assumes that negative or positive effect of interaction of country governance and PDI on dividend payment depends on country governance. Nevertheless, results are not consistent for Middle East. The results in this sub section imply that PDI has supplement effect on dividend payment as in the presence of

corporate governance, negative/positive effect of PDI on dividend payment does not remain persistent.

4.3.3.2 Interaction Effect of Country Governance and IDV on Dividend Payment

Equation 3.22 estimates interaction effect of corporate governance and IDV on dividend payment in respect of overall sample and all six regions under study. The results of equation 3.22 shows that interaction effect of corporate governance and IDV on dividend payment is negative and significant for Africa, Asia Pacific and Middle East as depicted at Table 4.37, Table 4.38 and Table 4.40 respectively and positive and significant for overall sample, Europe, North America and South America as shown at Table 4.36, Table 4.39, Table 4.41 and Table 4.42 respectively. The effect of country governance on dividend payment is negative for Africa, Asia Pacific and Middle East as shown at Table 4.23, Table 4.24 and Table 4.26 respectively, whereas, the same is positive for Europe, North America and South America as revealed in Table 4.25, Table 4.27 and Table 4.28 respectively. It is obvious from the above that interaction effect of corporate governance and IDV on dividend payment follows impact of corporate governance on dividend payment, disregarding effect of IDV on dividend payments. This also verifies hypothesis H1d. The interaction effect of corporate governance and IDV on dividend payment is inconsistent with H1d for overall sample as effect of corporate governance on dividend payment is negative as shown at Table 4.22, whereas, Table 4.36 shows positive interaction effect of corporate governance and IDV on dividend payments. Nevertheless, for six regions, results are consistent with H16. This also shows that corporate governance moderates effect of IDV on dividend payment as in the presence of corporate governance, effect of IDV on dividend payment is not validated.

TABLE 4.36: Impact of Moderating Role of WGI on Culture Components for Dividend (Overall Sample)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.026255*** (75.8326)	0.025779*** (74.14113)	0.027262*** (79.85705)	0.026679*** (77.06703)	0.027261*** (79.17331)
ROA	0.044282*** (72.79795)	0.046419*** (75.90792)	0.043079*** (70.66563)	0.043656*** (73.42488)	0.044189*** (75.85068)
LNTA	2.62E-04*** (10.17631)	0.000080*** (3.069923)	0.000316*** (13.07073)	0.000313*** (12.71737)	0.000252*** (10.41305)
LEVEQ	-0.00161*** (-31.9289)	-0.00148*** (-29.0653)	-0.00165*** (-33.111)	-0.00163*** (-32.5018)	-0.00159*** (-31.8682)
PV	-0.00049*** (-105.849)	-0.00048*** (-102.321)	-0.00051*** (-109.855)	-0.00049*** (-108.103)	-0.0005*** (-109.879)
TANG	-0.00105*** (-5.10684)	-0.00055*** (-2.71457)	-0.00114*** (-5.7347)	-0.00139*** (-6.72739)	-0.00161*** (-7.92057)
ZSCORE	0.001405*** (58.27681)	0.001366*** (56.11017)	0.001425*** (58.35396)	0.001387*** (58.31709)	0.001376*** (58.3394)
CR	-0.00079*** (-18.7387)	-0.00081*** (-19.6162)	-0.00077*** (-18.7531)	-0.00079*** (-18.7533)	-0.00084*** (-20.2261)
SG	-0.0037*** (-23.6821)	-0.0038*** (-24.5332)	-0.00378*** (-24.1012)	-0.00372*** (-23.9074)	-0.00382*** (-24.6521)
EQTA	-0.000566* (-1.69652)	-0.000877*** (-2.68229)	-0.00075** (-2.28709)	-0.00021 (-0.6256)	-0.00024 (-0.72334)
CH	0.010999*** (23.54226)	0.010639*** (21.86763)	0.011629*** (25.6499)	0.011896*** (26.12296)	0.011537*** (25.50326)
FCFTA	-0.00012*** (-3.99915)	-0.00015*** (-4.92103)	-0.000074*** (-2.63782)	-0.00013*** (-4.30902)	-0.000094*** (-3.25745)
WGI*PDI	-0.000045*** (-25.9131)				
WGI*IDV		0.000005*** (4.486348)			
WGI*MAS			-0.000053*** (-48.424)		
WGI*UAI				-0.000052*** (-46.2913)	
WGI*LTO					-0.000054*** (-45.1941)
Ad. R-sq.	0.479546***	0.473819***	0.483536***	0.486631***	0.479219***
J-statistic	(4566.302)	(4462.693)	(4639.86)	(4697.692)	(4551.119)
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.369	0.256	0.745	0.963	0.202
Cross-sections: 5947				Observations: 59458	

Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of overall sample. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 59,470 observations from 2007-2016.

TABLE 4.37: Impact of Moderating Role of WGI on Culture Components for Dividend (Africa)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.009348** (2.180955)	0.01544*** (3.469237)	0.015459*** (3.322767)	0.013657*** (2.97307)	0.015047*** (3.394688)
ROA	0.229346*** (14.60013)	0.223126*** (14.18316)	0.227611*** (14.45687)	0.228441*** (14.49515)	0.222824*** (14.17022)
LNTA	-0.00012 (-0.32462)	0.000513 (1.509273)	0.000329 (0.946718)	0.000219 (0.625112)	0.00052 (1.5325)
LEVEQ	0.00218** (1.978914)	0.002417** (2.274632)	0.002191** (2.029768)	0.002188** (2.01367)	0.002452** (2.310464)
PV	-0.00041*** (-6.08815)	-0.00044*** (-6.56848)	-0.00043*** (-6.32401)	-0.00042*** (-6.23036)	-0.00044*** (-6.60787)
TANG	0.018606*** (6.063975)	0.015107*** (5.210467)	0.015694*** (5.25127)	0.01643*** (5.441667)	0.015062*** (5.204199)
ZSCORE	0.008457*** (15.44556)	0.008805*** (16.41237)	0.008621*** (15.91853)	0.008594*** (15.77082)	0.008801*** (16.4038)
CR	-0.000116 (-0.99247)	-0.0002.31 (-0.19824)	-0.00058 (-0.49841)	-0.00073 (-0.62346)	-0.0001.86 (-0.1599)
SG	-0.01902*** (-6.84163)	-0.01858*** (-6.72583)	-0.01895*** (-6.77661)	-0.01907*** (-6.80042)	-0.01851*** (-6.69709)
EQTA	-0.013** (-2.17339)	-0.01113* (-1.87077)	-0.01248** (-2.07068)	-0.01272** (-2.10934)	-0.01091* (-1.83789)
CH	0.012967** (1.984435)	0.016912*** (2.622937)	0.013897** (2.137138)	0.013662** (2.091334)	0.017259*** (2.677713)
FCFTA	-0.078*** (-9.6044)	-0.07343*** (-9.64031)	-0.07508*** (-9.56378)	-0.0761*** (-9.57594)	-0.0734*** (-9.65439)
WGI*PDI	-0.000102*** (-4.24489)				
WGI*IDV		-0.000038*** (-8.86681)			
WGI*MAS			-0.000093*** (-7.07384)		
WGI*UAI				-0.000086*** (-6.32236)	
WGI*LTO					-0.000667*** (-8.979)
Ad. R-sq.	0.662223*** (162.2537)	0.679678*** (175.523)	0.669595*** (167.6867)	0.666575*** (165.4321)	0.680817*** (176.4391)
J-statistic	0.0000	0.0000	0.0000	0.0000	0.0000
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.369	0.256	0.745	0.963	0.202
Cross-sections: 100				Observations: 988	

*Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of Africa region. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,000 observations from 2007-2016*

TABLE 4.38: Impact of Moderating Role of WGI on Culture Components for Dividend (Asia Pacific)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.015644*** (36.77008)	0.015897*** (35.00536)	0.019677*** (45.38501)	0.017013*** (40.93685)	0.018797*** (44.8724)
ROA	0.062178*** (72.4195)	0.066109*** (74.97788)	0.060318*** (73.77766)	0.060088*** (73.12223)	0.061848*** (76.08345)
LNTA	0.000321*** (10.35462)	0.000102*** (3.012765)	0.000256*** (8.709175)	0.000377*** (12.67757)	0.000292*** (9.956715)
LEVEQ	-0.00081*** (-10.1598)	-0.00114*** (-13.6248)	-0.00115*** (-15.0851)	-0.00087*** (-11.354)	-0.00094*** (-12.2949)
PV	-0.0003*** (-55.9975)	-0.00032*** (-52.0473)	-0.00037*** (-67.2288)	-0.00031*** (-62.5727)	-0.00032*** (-63.7726)
TANG	-0.00284*** (-10.4484)	-0.00131*** (-4.39666)	-0.00257*** (-10.3703)	-0.0032*** (-12.6958)	-0.00299*** (-12.1143)
ZSCORE	0.000765*** (32.69788)	0.000815*** (32.20743)	0.00077*** (32.19049)	0.000766*** (33.32265)	0.00079*** (36.25006)
CR	-0.0011*** (-21.6328)	-0.00092*** (-17.348)	-0.00098*** (-20.2932)	-0.0011*** (-22.982)	-0.00113*** (-24.343)
SG	-0.00312*** (-17.2382)	-0.00295*** (-16.1278)	-0.00301*** (-17.2193)	-0.00321*** (-18.4263)	-0.00339*** (-19.6112)
EQTA	0.010603*** (22.47188)	0.008206*** (16.50753)	0.008215*** (18.20318)	0.010217*** (22.69951)	0.009096*** (20.54307)
CH	0.020649*** (30.93942)	0.018645*** (30.29409)	0.021435*** (37.14661)	0.021204*** (35.81049)	0.020448*** (36.79878)
FCFTA	-0.01318*** (-21.9261)	-0.01442*** (-23.4295)	-0.0127*** (-21.9395)	-0.01224*** (-21.4156)	-0.01193*** (-21.0926)
WGI*PDI	-0.000102*** (-53.6388)				
WGI*IDV		-0.000378*** (-17.3291)			
WGI*MAS			-0.000931*** (-65.0806)		
WGI*UAI				-0.000863*** (-67.0052)	
WGI*LTO					-0.000993*** (-81.2168)
Ad. R-sq.	0.441096***	0.418961***	0.453035***	0.455839***	0.474991***
J-statistic	(2209.428)	(2018.693)	(2318.712)	(2345.068)	(2532.658)
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.254	0.569	0.659	0.954	0.282
Cross-sections: 3358				Observations: 33580	

*Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of Asia Pacific. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 33,580 observations from 2007-2016*

TABLE 4.39: Impact of Moderating Role of WGI on Culture Components for Dividend (Europe)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.010948*** (14.6293)	0.010839*** (14.438)	0.013318*** (17.49179)	0.013146*** (17.36011)	0.013213*** (17.33301)
ROA	0.049312*** (24.82937)	0.049047*** (24.73581)	0.048661*** (24.37407)	0.049111*** (24.54806)	0.048786*** (24.4294)
LNTA	0.000923*** (19.66469)	0.000938*** (20.00778)	0.000865*** (18.30276)	0.000857*** (18.20354)	0.00085*** (17.99749)
LEVEQ	0.000102 (0.769374)	0.000102 (0.769279)	-0.000288 (-0.21548)	-0.000408 (-0.30581)	-0.000248 (-0.18574)
PV	-0.00045*** (-41.6879)	-0.00045*** (-42.0275)	-0.00046*** (-42.7631)	-0.00046*** (-42.3038)	-0.00046*** (-42.292)
TANG	0.001676*** (4.028131)	0.001576*** (3.78378)	0.001021** (2.449108)	0.001289*** (3.100977)	0.001272*** (3.049977)
ZSCORE	0.005258*** (54.77212)	0.005249*** (54.63954)	0.005359*** (55.72581)	0.005376*** (55.99259)	0.005359*** (55.72263)
CR	-0.00157*** (-11.583)	-0.00151*** (-11.1357)	-0.00149*** (-10.7266)	-0.00154*** (-11.1353)	-0.00154*** (-11.1078)
SG	-0.01216*** (-24.9227)	-0.01223*** (-25.0836)	-0.0121*** (-24.6252)	-0.01203*** (-24.4538)	-0.01204*** (-24.4987)
EQTA	-0.0014 (-1.58707)	-0.00149* (-1.68844)	-0.002** (-2.26156)	-0.0021** (-2.3726)	-0.00195** (-2.19299)
CH	-0.00212** (-2.14461)	-0.00181* (-1.82892)	-0.00396*** (-3.98608)	-0.00388*** (-3.90848)	-0.00376*** (-3.79312)
FCFTA	-0.00015*** (-3.3844)	-0.00016*** (-3.49266)	-0.00015*** (-3.30724)	-0.00014*** (-3.12319)	-0.00014*** (-3.18508)
WGI*PDI	0.000088*** (16.96324)				
WGI*IDV		0.000039*** (17.39387)			
WGI*MAS			0.000020*** (7.373469)		
WGI*UAI				0.000028*** (8.024997)	
WGI*LTO					0.000021*** (7.685396)
Ad. R-sq.	0.563375*** (1403.011)	0.562489*** (1397.971)	0.546133*** (1308.472)	0.549955*** (1328.805)	0.547691*** (1316.717)
J-statistic	0.0000	0.0000	0.0000	0.0000	0.0000
Prob(J-stat)	0.325	0.569	0.975	0.963	0.698
LR Test (Prob)					
Cross-sections: 1304				Observations: 13040	

Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of Europe. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 13,040 observations from 2007-2016.

TABLE 4.40: Impact of Moderating Role of WGI on Culture Components for Dividend (Middle East)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.008518 (1.349365)	0.017074*** (2.644605)	0.012631** (2.131894)	0.014527** (2.391675)	0.066415 (1.48685)
ROA	0.140216*** (11.71167)	0.137638*** (11.42089)	0.138314*** (11.4786)	0.137878*** (11.43303)	0.144254*** (11.30148)
LNTA	0.000984** (2.091981)	0.00062 (1.372893)	0.000871** (1.937528)	0.000778* (1.735837)	-0.00081* (-1.68968)
LEVEQ	-0.00055 (-1.48965)	-0.00066* (-1.76378)	-0.00058 (-1.60324)	-0.00061* (-1.67155)	-0.00096** (-2.19903)
PV	-0.00035*** (-4.67461)	-0.00038*** (-5.1601)	-0.00035*** (-4.76496)	-0.00036*** (-4.90629)	-0.00056*** (-6.3423)
TANG	0.019263*** (4.50998)	0.017272*** (4.499345)	0.019694*** (5.224111)	0.018962*** (5.10282)	0.022678*** (4.658474)
ZSCORE	0.003658*** (5.730475)	0.003887*** (6.003932)	0.003916*** (6.015848)	0.003937*** (6.043571)	0.003852*** (5.561015)
CR	-0.00099 (-0.76926)	-0.00136 (-1.11579)	-0.00082 (-0.65708)	-0.00098 (-0.78805)	0.000470 (0.346345)
SG	-0.00944*** (-3.46419)	-0.00913*** (-3.28601)	-0.00925*** (-3.38601)	-0.00919*** (-3.34589)	-0.01133*** (-3.77246)
EQTA	0.002699 (0.517756)	-0.00256 (-0.48309)	-0.00069 (-0.1377)	-0.00167 (-0.32944)	-0.02087*** (-3.5615)
CH	0.007497 (1.024022)	0.010185 (1.434039)	0.007702 (1.080556)	0.008518 (1.200137)	0.005533 (0.722503)
FCFTA	-0.081430*** (-7.84515)	-0.0777*** (-7.3069)	-0.0803*** (-7.70001)	-0.0793*** (-7.55467)	-0.0868*** (-7.21888)
WGI*PDI	-0.000023 (-0.81419)				
WGI*IDV		-0.000078** (-2.02793)			
WGI*MAS			-0.000085** (-2.04024)		
WGI*UAI				-0.000056** (-2.12824)	
WGI*LTO					-0.000888 (-0.82534)
Ad. R-sq.	0.445195*** (47.74192)	0.446783*** (48.04319)	0.446809*** (48.04812)	0.446978*** (48.08043)	0.444526*** (39.61271)
J-statistic	0.0000	0.0000	0.0000	0.0000	0.0000
Prob(J-stat)	0.697	0.456	0.897	0.963	0.679
LR Test (Prob)					
Cross-sections: 70				Observations: 700	

*Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of Middle East. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 700 observations from 2007-2016.*

TABLE 4.41: Impact of Moderating Role of WGI on Culture Components for Dividend (North America)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.047815*** -30.63464	0.032855*** -30.77888	0.025015*** -7.91184	0.052907*** -23.08059	0.027593*** -13.1325
ROA	0.00912*** -12.07004	0.00914*** -12.08968	0.009128*** -12.06863	0.009108*** -12.05443	0.009138*** -12.08251
LNTA	-0.00035*** (-7.15779)	-0.00035*** (-7.22089)	-0.00035*** (-7.26272)	-0.00035*** (-7.13666)	-0.00035*** (-7.24561)
LEVEQ	-0.0002*** (-3.13801)	-0.0002*** (-3.06169)	-0.00019*** (-3.0362)	-0.0002*** (-3.17097)	-0.00019*** (-3.04201)
PV	-0.00066*** (-79.396)	-0.00066*** (-79.5733)	-0.00066*** (-79.3816)	-0.00066*** (-79.2435)	-0.00066*** (-79.5105)
TANG	-0.00028 (-0.77094)	-0.0003 (-0.83589)	-0.00032 (-0.88781)	-0.00027 (-0.75227)	-0.00031 (-0.8654)
ZSCORE	0.000816*** -20.03098	0.000812*** -19.9382	0.00081*** -19.89359	0.000818*** -20.06382	0.000811*** -19.9066
CR	-0.00051*** (-8.07693)	-0.00051*** (-7.98748)	-0.0005*** (-7.9006)	-0.00052*** (-8.09503)	-0.0005*** (-7.93815)
SG	-0.00558*** (-16.3604)	-0.00545*** (-16.0266)	-0.00539*** (-15.8207)	-0.00563*** (-16.463)	-0.00541*** (-15.895)
EQTA	-0.00939*** (-22.2836)	-0.00942*** (-22.3224)	-0.00944*** (-22.3269)	-0.00938*** (-22.2609)	-0.00943*** (-22.3273)
CH	0.003767*** -5.522884	0.003761*** -5.510196	0.003743*** -5.475203	0.003764*** -5.5171	0.003752*** -5.492739
FCFTA	-0.00983*** (-12.4649)	-0.0099*** (-12.564)	-0.00991*** (-12.5972)	-0.0098*** (-12.4272)	-0.00992*** (-12.5909)
WGI*PDI	0.000003*** -6.85377				
WGI*IDV		0.000001*** -6.141393			
WGI*MAS			0.000003*** -4.241121		
WGI*UAI				-0.000004*** (-6.7423)	
WGI*LTO					0.000005*** -5.262229
Ad. R-sq.	0.557446***	0.55807***	0.558356***	0.557143***	0.558251***
J-statistic	-1065.267	-1067.963	-1069.199	-1063.958	-1068.745
Prob(J-stat)	0.000	0.000	0.000	0.000	0.000
LR Test (Prob)	0.222	0.256	0.659	0.659	0.659
Cross-sections : 1014					Observations: 10140

*Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of North America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 10,140 observations from 2007-2016.*

TABLE 4.42: Impact of Moderating Role of WGI on Culture Components for Dividend (South America)

Variables	3.21	3.22	3.23	3.24	3.25
C	0.003149	-0.00059	-0.004004	0.006079	0.00659*
	-0.80734	(-0.13744)	(-0.5567)	-1.597283	-1.878374
ROA	0.15692***	0.153771***	0.159345***	0.15964***	0.148655***
	-16.6921	-15.61921	-15.49588	-16.26969	-16.60018
LNTA	0.000698**	0.001712***	0.001363***	0.00129***	0.000534*
	-2.25335	-5.880914	-4.609551	-4.439978	-1.86529
LEVEQ	-0.00215***	-0.00273***	-0.00272***	-0.00258***	-0.00197***
	(-3.34769)	(-3.76353)	(-4.03299)	(-3.73917)	(-3.19355)
PV	-0.000903	-0.0003***	-0.00023***	-0.00015**	-0.00019***
	(-1.45315)	(-4.5498)	(-3.73269)	(-2.14373)	(-3.18363)
TANG	0.000256	-0.00067	0.003751	0.000946	-0.00258
	-0.106594	(-0.25939)	-1.471677	-0.357681	(-1.1002)
ZSCORE	0.004261***	0.004688***	0.004312***	0.00416***	0.004516***
	-9.22998	-9.396139	-8.904308	-8.834435	-10.03406
CR	-0.0088***	-0.00962***	-0.00781***	-0.00833***	-0.00975***
	(-11.7294)	(-12.1013)	(-10.744)	(-10.9601)	(-12.8482)
SG	-0.00917***	-0.00867***	-0.01034***	-0.00956***	-0.00763***
	(-4.33133)	(-3.76602)	(-4.71353)	(-4.38649)	(-3.79993)
EQTA	-0.00259	-0.00104	-0.0093**	-0.00572	0.004008
	(-0.69504)	(-0.26699)	(-2.49925)	(-1.48402)	-1.075449
CH	0.042116***	4.08E-02***	0.038079***	0.039852***	0.037613***
	-5.353632	-4.920974	-4.572403	-4.839749	-5.267488
FCFTA	-5.59E-02***	-5.71E-02***	-5.82E-02***	-5.73E-02***	-0.005.48***
	(-10.7194)	(-10.4036)	(-10.558)	(-10.6042)	(-10.8917)
WGI*PDI	0.000003***				
	-5.036562				
WGI*IDV		0.000007***			
		-5.908266			
WGI*MAS			0.000007**		
			-2.460067		
WGI*UAI				0.000001**	
				-2.207451	
WGI*LTO					0.000006***
					-8.042909
Ad. R-sq.	0.463395***	0.482572***	0.44907***	0.449114***	0.488378***
J-statistic	-73.61177	-79.41926	-69.53749	-69.54952	-81.26333
Prob(J-stat)	0.000	0.000	0.000	0.000	0.000
LR Test (Prob)	0.697	0.369	0.745	0.698	0.202
	Cross-sections: 101			Observations: 1010	

*Note: This table describes regression results for moderating role of WGI on culture components for dividend along with firm specific control variables in respect of South America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCFTA and are defined at table 3.2. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,010 observations from 2007-2016*

4.3.3.3 Interaction Effect of Country Governance and MAS on Dividend Payment

The interaction effect of corporate governance and MAS on dividend payment is negative and significant for overall sample, Africa, Asia Pacific and Middle East as shown at Table 4.36, Table 4.37, Table 4.38 and Table 4.40 respectively and positively significant for Europe, North America and South America as depicted at Table 4.39, Table 4.41 and Table 4.42 respectively. The results are consistent with hypothesis H1f as effect of corporate governance on dividend payment is negative for overall sample, Africa, Asia Pacific and Middle East and positive for Europe, North America and South America. This clearly demonstrates that interaction effect of MAS and corporate governance on dividend payment is dependent on impact of corporate governance on dividend payments meaning that cultural impact is of lesser importance when corporate governance is incorporated in the model along with MAS.

4.3.3.4 Interaction Effect of Country Governance and UAI on Dividend Payment

UAI has negative and significant effect on dividend payment for overall sample, Asia Pacific, Europe, Middle East, North America and South America as shown at Table 4.22, Table 4.24, Table 4.25, Table 4.26, Table 4.27 and Table 4.28 respectively. This relationship is influenced by corporate governance when interaction effect of corporate governance and UAI on dividend payments is taken into consideration.

The results of equation 3.24 reveal that interaction effect of corporate governance and UAI is negative and significant for overall sample, Africa, Asia Pacific and Middle East respectively as shown at Table 4.36, Table 4.37, Table 4.38 and Table 4.40 respectively and positive and significant for Europe and South America as shown at Table 4.39 and Table 4.42 respectively. The same results are hypothesized at H1h. However, results are inconsistent for North America at Table 4.41 where interaction effect of corporate governance and UAI on dividend payment is negative

and significant whereas effect of corporate governance on dividend payment is positive as shown at Table 4.27. The interaction effect of corporate governance and UAI on dividend payment follows impact of corporate governance on dividend payments in respective regions.

4.3.3.5 Interaction Effect of Country Governance and LTO on Dividend Payment

Equation 3.25 estimates interaction effect of corporate governance and LTO on dividend payment. It is revealed that interaction effect of corporate governance and LTO on dividend payment is negatively significant for overall sample, Africa and Asia Pacific as shown at Table 4.36, Table 4.37 and Table 4.38 respectively and positively significant for Europe, North America and South America as depicted at Table 4.39, Table 4.41 and Table 4.42 respectively. The results have the same explanation as for above cultural dimensions.

Corporate governance has more pronounced impact on dividend payment than national culture. Corporate governance moderates cultural effect in explaining dividend payment across the regions under study. National culture plays supplementary roll for dividend payment and presence of corporate governance overthrows effect of national culture on dividend payment.

4.3.3.6 Interaction Effect of Country Governance and National Culture on Cash Holdings

In this sub section, interaction effect of corporate governance and different dimensions of national culture including PDI, IDV, MAS, UAI and LTO on cash holdings is analyzed. Equations 3.26 to 3.30 estimate the results and test hypotheses H4b, H4d, H4f, H4h and H4j. The results of models are placed at Tables Table 4.43 to Table 4.49 for overall sample and other six regions under study.

4.3.3.7 Interaction Effect of Country Governance and PDI on Cash Holdings

Equation 3.26 estimates interaction effect of corporate governance and PDI on cash holdings for overall sample and six regions of the world. The results of the equation reveal that interaction effect of corporate governance and PDI on cash holdings is positive and significant for overall sample, Africa, Asia Pacific and Middle East as shown at Table 4.43, Table 4.44, Table 4.45 and Table 4.47 respectively and positive and significant for Europe and South America as depicted at Table 4.46 and Table 4.49 respectively. The interaction effect of corporate governance and PDI on cash holdings is insignificant for North America as shown at Table 4.48.

Corporate governance has significant positive effect on cash holdings for overall sample, Africa, Asia Pacific and Middle East as shown at Table 4.29, Table 4.30, Table 4.31 and Table 4.33 respectively and negative and significant effect for Europe and South America as shown at Table 4.32 and Table 4.35 respectively. Corporate governance has insignificant impact on cash holdings for North America as shown at Table 4.34.

PDI has negative and significant effect on cash holdings for Africa, Asia Pacific and Middle East as shown at Table 4.30, Table 4.31 and Table 4.33 respectively; positive and significant impact for Europe as shown at Table 4.32 and insignificant results for overall sample, North America and South America as depicted at Table 4.29, Table 4.34 and Table 4.35 respectively, interaction of PDI with corporate governance yields results which follow effect of corporate governance on cash holdings. This confirms hypothesis H4b which states that interaction effect of PDI and corporate governance on cash holdings depends on impact of corporate governance on cash reserves.

4.3.3.8 Interaction Effect of Country Governance and IDV on Cash Holdings

The results of equation 3.27 at Table 4.43, Table 4.44, Table 4.46 and Table 4.48 show that interaction effect of corporate governance and IDV on cash holdings is

positive and significant for overall sample, Africa, Asia Pacific and Middle East respectively and negatively significant for Europe as depicted at Table 4.46. The interaction effect of corporate governance and cash holdings is insignificant for North America and South America as shown at Table 4.48 and Table 4.49 respectively.

The results in this sub section are consistent with hypothesis H4d for all the regions except Middle East where interaction impact of WGI and IDV on cash holdings is positive and significant and effect of corporate governance on cash holdings is negative and significant and also for South America where interaction impact of WGI and IDV on cash holdings is insignificant, whereas, impact of corporate governance on cash holdings is negative for the said region.

TABLE 4.43: Impact of Moderating Role of WGI on Culture Components for cash Holdings (Overall sample)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.191236*** (169.712)	0.194946*** (170.3844)	0.192644*** (170.1171)	0.188586*** (166.5629)	0.188917*** (165.0216)
LNTA	-0.00545*** (-40.706)	-0.00452*** (-32.5391)	-0.00532*** (-39.5748)	-0.00549*** (-41.3892)	-0.00509*** (-38.5806)
LEVDBT	-0.21093*** (-128.327)	-0.21686*** (-131.508)	-0.21255*** (-129.03)	-0.20853*** (-126.662)	-0.21017*** (-126.443)
DIVTA	0.159056*** (12.28091)	0.13683*** (10.52447)	0.161191*** (12.36957)	0.170119*** (13.15994)	0.155297*** (11.98986)
ZSCORE	0.008206*** (57.5874)	0.008332*** (57.51172)	0.008241*** (57.48531)	0.008272*** (57.98194)	0.008414*** (58.2087)
CAPX	-0.38016*** (-62.2232)	-0.39408*** (-64.8078)	-0.38478*** (-62.9785)	-0.37548*** (-61.7702)	-0.3762*** (-62.0028)
MBR	0.004499*** (14.04874)	0.004683*** (14.54617)	0.004465*** (13.87282)	0.00473*** (14.71143)	0.004799*** (14.68661)
CF	0.033578*** (9.312109)	0.036234*** (9.926582)	0.03202*** (8.807519)	0.032802*** (9.167951)	0.034926*** (9.677411)
ROA	-0.07844*** (-17.6769)	-0.08983*** (-20.1468)	-0.08116*** (-18.2594)	-0.07837*** (-17.7542)	-0.08587*** (-19.6142)
NWC	-0.1729*** (-97.8743)	-0.17084*** (-95.5059)	-0.17279*** (-97.1889)	-0.17176*** (-97.6908)	-0.1706*** (-96.635)
WGI*PDI	0.000397*** (37.25557)				
WGI*IDV		0.000022*** (3.265332)			
WGI*MAS			0.000228*** (32.96861)		
WGI*UAI				0.000334*** (46.17918)	
WGI*LTO					0.000283*** (37.21112)
Ad. R-sq.	0.456781***	0.444016***	0.454719***	0.463118***	0.456791***
J-statistic	(5000.606)	(4749.316)	(4959.216)	(5129.806)	(4990.714)
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.967	0.256	0.768	0.879	0.697
	Cross-sections: 5947			Observations: 59458	

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of overall sample. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 59,470 observations from 2007-2016.*

TABLE 4.44: Impact of Moderating Role of WGI on Culture Components for Cash Holdings(Africa)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.119353*** (12.21155)	0.115561*** (12.34515)	0.114865*** (11.93206)	0.11565*** (11.95761)	0.116379*** (12.50779)
LNTA	-0.00303*** (-3.14713)	-0.00415*** (-4.2048)	-0.00363*** (-3.71974)	-0.00346*** (-3.56085)	-0.00423*** (-4.27503)
LEVDBT	-0.02953** (-2.12663)	-0.04761*** (-3.3854)	-0.03803*** (-2.72282)	-0.03542** (-2.53935)	-0.04939*** (-3.50426)
DIVTA	-0.09559 (-1.498)	-0.05483 (-0.87666)	-0.06047 (-0.94965)	-0.06757 (-1.0584)	-0.05646 (-0.90547)
ZSCORE	0.01806*** (8.401571)	0.014026*** (6.301058)	0.016145*** (7.366331)	0.016731*** (7.666941)	0.013654*** (6.113248)
CAPX	-0.47474*** (-12.0855)	-0.5013*** (-12.6798)	-0.48838*** (-12.3674)	-0.48453*** (-12.2884)	-0.50364*** (-12.7407)
MBR	-0.04362*** (-10.9011)	-0.03682*** (-10.2375)	-0.04162*** (-11.0168)	-0.04252*** (-11.0242)	-0.03574*** (-9.9282)
CF	0.162251*** (6.526365)	0.160652*** (6.587953)	0.160877*** (6.50365)	0.161128*** (6.496075)	0.160597*** (6.598123)
ROA	0.181794*** (4.332543)	0.206721*** (4.885285)	0.197261*** (4.667106)	0.193555*** (4.586795)	0.207875*** (4.91364)
NWC	-0.27366*** (-24.5884)	-0.28852*** (-25.6409)	-0.28312*** (-25.098)	-0.28076*** (-24.9436)	-0.28907*** (-25.7267)
WGI*PDI	0.000567*** (4.873522)				
WGI*IDV		0.000764*** (7.679474)			
WGI*MAS			0.000683*** (6.693716)		
WGI*UAI				0.000806*** (6.282202)	
WGI*LTO					0.001462*** (7.792808)
Ad. R-sq.	0.460301*** (85.17982)	0.479947*** (92.08846)	0.470883*** (88.8373)	0.467906*** (87.79354)	0.481251*** (92.56542)
J-statistic					
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.869	0.298	0.705	0.903	0.692
	Cross-sections: 100			Observations: 988	

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of Africa region. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively The data covers 1,000 observations from 2007-2016*

TABLE 4.45: Impact of Moderating Role of WGI on Culture Components for Cash Holdings (Asia Pacific)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.202043*** (124.6326)	0.199005*** (123.3418)	0.198494*** (121.7712)	0.199994*** (123.0302)	0.201218*** (123.9649)
LNTA	-0.0022*** (-10.5706)	-0.00246*** (-11.7699)	***-0.00253 (-12.0642)	-0.00242*** (-11.6286)	-0.00236*** (-11.3679)
LEVDBT	-0.26977*** (-115.569)	-0.26344*** (-111.8695)	-0.26429*** (-112.1998)	-0.26723*** (-114.094)	-0.26855*** (-114.803)
DIVTA	0.513851*** (24.02702)	0.509608*** (24.1677)	0.548298*** (25.59387)	0.541004*** (25.07959)	0.548353*** (25.10518)
ZSCORE	0.004513*** (31.18978)	0.004498*** (31.94677)	0.004576*** (32.07656)	0.004506*** (30.94326)	0.004503*** (30.64433)
CAPX	-0.37355*** (-47.0612)	-0.37297*** (-47.1488)	-0.36906*** (-46.3996)	-0.37044*** (-46.667)	-0.37117*** (-46.7222)
MBR	0.002293*** (6.896968)	0.002581*** (7.830251)	0.002543*** (7.676569)	0.002207*** (6.63142)	0.002102*** (6.296265)
CF	0.055527*** (10.4134)	0.056814*** (10.71203)	0.05184*** (9.720723)	0.054929*** (10.3085)	0.054209*** (10.16578)
ROA	-0.04802*** (-7.03709)	-0.03954*** (-5.8027)	-0.04511*** (-6.61915)	-0.04712*** (-6.91278)	-0.04899*** (-7.17871)
NWC	-0.13686*** (-55.9424)	-0.13486*** (-55.7029)	-0.13551*** (-55.4694)	-0.13551*** (-55.5207)	-0.13585*** (-55.5274)
WGI*PDI	0.000127*** (10.69589)				
WGI*IDV		0.000264*** (19.87731)			
WGI*MAS			0.000207*** (22.83709)		
WGI*UAI				0.000138*** (17.05862)	
WGI*LTO					0.000124*** (15.11751)
Ad. R-sq.	0.476845***	0.476845***	0.479636***	0.476633***	0.475942***
J-statistic	(3061.66)	(3061.66)	(3096.079)	(3059.062)	(3050.593)
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.969	0.696	0.945	0.890	0.958
Cross-sections: 3358					Observations: 33580

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of Asia Pacific. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively The data covers 33,580 observations from 2007-2016*

TABLE 4.46: Impact of Moderating Role of WGI on Culture Components for Cash Holdings (Europe)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.134141*** (51.15394)	0.141664*** (54.20248)	0.12602*** (48.07701)	0.123648*** (47.18478)	0.125577*** (47.89855)
LNTA	-0.003*** (-11.9688)	-0.00321*** (-12.7771)	-0.00289*** (-11.4143)	-0.0029*** (-11.4404)	-0.0029*** (-11.4367)
LEVDBT	-0.09886*** (-25.1548)	-0.10725*** (-28.8259)	-0.09393*** (-23.6508)	-0.09244*** (-23.2207)	-0.09369*** (-23.5001)
DIVTA	-0.13448*** (-5.31284)	-0.12841*** (-4.98718)	-0.14235*** (-5.6571)	-0.14094*** (-5.61836)	-0.14326*** (-5.70502)
ZSCORE	0.022399*** (35.02855)	0.021814*** (34.14886)	0.022565*** (35.33048)	0.022578*** (35.32697)	0.022618*** (35.37926)
CAPX	-0.2346*** (-15.8935)	-0.22559*** (-15.5492)	-0.22779*** (-15.0695)	-0.22475*** (-14.7876)	-0.22783*** (-15.0744)
MBR	-0.00686*** (-5.18747)	-0.00476*** (-3.59119)	-0.00885*** (-6.73239)	-0.00953*** (-7.30689)	-0.00914*** (-6.9535)
CF	0.035155*** (6.285015)	0.030165*** (5.281013)	0.036956*** (6.658674)	0.037528*** (6.795871)	0.037656*** (6.823092)
ROA	-0.08903*** (-8.38653)	-0.0891*** (-8.43888)	-0.08865*** (-8.32719)	-0.09*** (-8.45557)	-0.08973*** (-8.43446)
NWC	-0.22901*** (-63.2211)	-0.22767*** (-63.2651)	-0.23198*** (-63.493)	-0.23235*** (-63.1589)	-0.23195*** (-63.1638)
WGI*PDI	-0.00051*** (-17.7226)				
WGI*IDV		-0.00034*** (-27.1321)			
WGI*MAS			-0.000076*** (-5.11832)		
WGI*UAI				0.000010 (0.545975)	
WGI*LTO					-0.000050*** (-3.34564)
Ad. R-sq.	0.423115*** (957.3433)	0.451257*** (1073.257)	0.413094*** (918.7499)	0.413037*** (918.5342)	0.413803*** (921.4368)
J-statistic					
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.809	0.768	0.745	0.963	0.292
Cross-sections: 1304				Observations: 13040	

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of Europe. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 13,040 observations from 2007-2016*

TABLE 4.47: Impact of Moderating Role of WGI on Culture Components for Cash Holdings (Middle East)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.172739*** -10.88192	0.118071*** -7.000405	0.17036*** -11.396	0.156034*** -10.20252	-1.20671*** (-13.2431)
LNTA	-0.0043** (-2.20712)	-0.00158 (-0.82763)	-0.00599*** (-3.42246)	-0.0049*** (-2.78757)	-0.00106 (-0.4586)
LEVDBT	-0.01664 (-0.99602)	-0.02833* (-1.64945)	-0.01469 (-0.91118)	-0.02141 (-1.31069)	-0.03223** (-1.54815)
DIVTA	-0.18*** (-2.61958)	-0.06916 (-1.13515)	-0.15983** (-2.55167)	-0.12773** (-2.08044)	-0.15739*** (-2.06461)
ZSCORE	0.040818*** -13.94241	0.042619*** -13.83773	0.038161*** -13.11195	0.039268*** -13.36253	0.042864*** -12.58991
CAPX	-0.28622*** (-4.47879)	-0.2873*** (-4.32378)	-0.38628*** (-5.98827)	-0.35356*** (-5.41684)	-0.16804** (-2.44947)
MBR	-0.03917*** (-6.32215)	-0.05943*** (-8.30741)	-0.04103*** (-6.26403)	-0.04666*** (-6.90356)	-0.05454*** (-7.4582)
CF	0.015518 -0.348547	0.001897 -0.040145	0.021867 -0.467259	0.021032 -0.447411	-0.00172 (-0.03764)
ROA	-0.29989*** (-5.81644)	-0.32804*** (-6.04621)	-0.28838*** (-5.25861)	-0.30539*** (-5.57077)	-0.30986*** (-5.76104)
NWC	-0.15877*** (-7.30252)	-0.28046*** (-11.9598)	-0.20752*** (-8.55474)	-0.23701*** (-9.64637)	-0.19816*** (-7.83911)
WGI*PDI	-0.00082*** (-11.3473)				
WGI*IDV		0.001246*** -10.02018			
WGI*MAS			-0.00002*** (-6.017468)		
WGI*UAI				-0.00001*** (-3.17951)	
WGI*LTO					-0.000157*** (-14.29552)
Ad. R-sq.	0.519672***	0.494174***	0.43868***	0.446644***	0.610933***
J-statistic	-76.62543	-69.28973	-55.62788	-57.42008	-91.91769
Prob(J-stat)	0.000	0.000	0.000	0.000	0.000
LR Test (Prob)	0.369	0.980	0.845	0.359	0.697
Cross-sections: 70				Observations: 700	

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of Middle East. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 700 observations from 2007-2016*

TABLE 4.48: Impact of Moderating Role of WGI on Culture Components for Cash Holdings (North America)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.195768*** (25.08775)	0.182672*** (32.63576)	0.193371*** (12.4389)	0.205862*** (18.28846)	0.185357*** (17.95965)
LNTA	-0.00484*** (-13.6544)	-0.00484*** (-13.6414)	-0.00484*** (-13.6399)	-0.00484*** (-13.6622)	-0.00484*** (-13.6393)
LEVDBT	-0.1606*** (-47.5076)	-0.16059*** (-47.4805)	-0.1606*** (-47.5103)	-0.1606*** (-47.5282)	-0.1606*** (-47.4886)
DIVTA	-0.23843*** (-7.3684)	-0.23971*** (-7.4104)	-0.24223*** (-7.48954)	-0.23842*** (-7.36743)	-0.2409*** (-7.44795)
ZSCORE	0.018*** (35.70983)	0.017996*** (35.68656)	0.017993*** (35.68156)	0.018001*** (35.71989)	0.017995*** (35.6813)
CAPX	-0.58113*** (-38.5479)	-0.58302*** (-38.5377)	-0.58533*** (-38.6275)	-0.58079*** (-38.585)	-0.58421*** (-38.5738)
MBR	0.004783*** (4.068301)	0.004817*** (4.096869)	0.004854*** (4.128989)	0.004775*** (4.062462)	0.004837*** (4.113687)
CF	-0.0295*** (-2.77961)	-0.02916*** (-2.73722)	-0.02816*** (-2.63496)	-0.02939*** (-2.77297)	-0.02871*** (-2.69009)
ROA	-0.16612*** (-21.3095)	-0.1663*** (-21.307)	-0.16675*** (-21.3511)	-0.16614*** (-21.3236)	-0.16651*** (-21.3248)
NWC	-0.29688*** (-57.6236)	-0.29666*** (-57.58)	-0.29651*** (-57.5806)	-0.29695*** (-57.6447)	-0.29657*** (-57.5737)
WGI*PDI	-0.000003* (-1.64644)				
WGI*IDV		0.000002 (0.497803)			
WGI*MAS			-0.000002 (-0.57508)		
WGI*UAI				-0.000005** (-2.01128)	
WGI*LTO					-0.000003 (-0.0688)
Ad. R-sq.	0.572254*** (1357.434)	0.572028*** (1356.179)	0.57191*** (1355.529)	0.572348*** (1357.954)	0.571954*** (1355.772)
J-statistic					
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.969	0.256	0.697	0.569	0.697
Cross-sections: 1014				observations: 10140	

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of North America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively The data covers 10,140 observations from 2007-2016*

TABLE 4.49: Impact of Moderating Role of WGI on Culture Components for Cash Holdings (South America)

Variables	3.26	3.27	3.28	3.29	3.30
C	0.049197*** (6.769579)	0.049779*** (6.707074)	0.050052*** (6.738912)	0.050061*** (7.018869)	0.049223*** (6.661303)
LNTA	0.003548*** (4.019021)	0.002041*** (2.310574)	0.001856** (2.110828)	0.004035*** (4.693044)	0.002609*** (2.928886)
LEVDBT	0.006533*** (0.514539)	-0.00151 (-0.11772)	-0.00238 (-0.18626)	0.010036 (0.795829)	0.001289 (0.100942)
DIVTA	-0.25084*** (-5.36736)	-0.28394*** (-5.99721)	-0.28809*** (-6.08792)	-0.24108*** (-5.23573)	-0.27127*** (-5.73638)
ZSCORE	0.005754*** (3.231929)	0.006162*** (3.342215)	0.006218*** (3.365562)	0.005699*** (3.283357)	0.005994*** (3.280221)
CAPX	-0.09474*** (-2.46319)	-0.0885*** (-2.30077)	-0.08639*** (-2.24743)	-0.08979** (-2.34194)	-0.09319*** (-2.42003)
MBR	-0.00083*** (-0.21514)	-0.00059 (-0.14844)	-0.00063*** (-0.15823)	-0.00144 (-0.38098)	-0.00054 (-0.13797)
CF	0.131557*** (5.240432)	0.133074*** (5.276137)	0.13309*** (5.279123)	0.130525*** (5.237609)	0.132723*** (5.261727)
(ROA	0.105243*** (2.975165)	0.10138*** (2.880812)	0.100663*** (2.86888)	0.106444*** (3.044544)	0.103169*** (2.913449)
NWC	-0.05707*** (-4.23337)	-0.06828*** (-5.07744)	-0.06924*** (-5.16021)	-0.0518*** (-3.87976)	-0.06472*** (-4.79056)
WGI*PDI	-0.000217*** (-3.51152)				
WGI*IDV		0.000036 (0.269538)			
WGI*MAS			0.000075 (0.723699)		
WGI*UAI				-0.000246*** (-5.29711)	
WGI*LTO					-0.000121 (-1.0907)
Ad. R-sq.	0.143134***	0.132628***	0.133029***	0.155969***	0.133628***
J-statistic	(17.85476)	(16.4284)	(16.48227)	(19.64532)	(16.56268)
Prob(J-stat)	0.0000	0.0000	0.0000	0.0000	0.0000
LR Test (Prob)	0.697	0.569	0.885	0.809	0.690
Cross-sections: 101			Observations: 1010		

*Note: This table describes regression results for moderating role of WGI on culture components for cash holdings along with firm specific control variables in respect of South America. National culture dimensions include Power distance index (PDI), Individualism (IDV), Masculinity (MAS), Long term orientation (LTO) and Uncertainty avoidance index (UAI). The scores from all dimensions of national culture are obtained from www.hofstede-insights.com. Worldwide governance index (WGI) from World bank is taken as proxy for corporate governance. Firm specific control variables consist of LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC and are defined at table 3.3. GMM is used as estimation technique. Lags of explanatory variables are used as instruments. J test supports instruments are valid. The ***, **, * indicates significance at 1%, 3%, 10% respectively. The data covers 1,010 observations from 2007-2016*

4.3.3.9 Interaction Effect of Country Governance and MAS on Cash Holdings

The interaction effect of corporate governance and MAS on cash holdings as estimated by equation 3.28 reveals that the said impact is positive and significant for overall sample, Africa and Asia Pacific as shown at Table 4.43, Table 4.44 and Table 4.45 respectively and negative and significant for Europe and Middle East at Table 4.46 and Table 4.47 respectively. The interaction effect of corporate governance and MAS is insignificant for North America and South America as shown at Table 4.48 and Table 4.49 respectively.

The results of equation 3.28 verify hypothesis H4f for overall sample and other regions under study except South America where interaction effect of corporate governance and MAS should have been negative instead of insignificant.

4.3.3.10 Interaction Effect of Corporate Governance and UAI on Cash Holdings

The interaction effect of corporate governance and UAI on cash holdings is positive and significant for overall sample, Africa and Asia Pacific as shown at Table 4.43, Table 4.44 and Table 4.45 respectively, whereas, it is negative and significant for Middle East, North America and South America as shown at Table 4.47, Table 4.48 and Table 4.49. Table 4.46 reveals that interaction effect of corporate governance and UAI on cash holdings is insignificant for Europe. Insignificant result for Europe and significant negative coefficient of UAI for North America are inconsistent with hypothesis H29. For overall sample and other four regions under study, results are consistent with H4h which assumes that interaction effect of corporate governance and UAI on cash holdings is driven by corporate governance.

4.3.3.11 Interaction Effect of Country Governance and LTO on Cash Holdings

Finally, equation 3.30 estimates interaction effect of corporate governance and LTO on cash holdings for , Africa, Asia Pacific, Europe, Middle East, North

America and South America. The results of the equation state that interaction effect of corporate governance and LTO on cash holdings is positive and significant for overall sample, Africa and Asia Pacific as shown at Table 4.43, Table 4.44 and Table 4.45 respectively and negative and significant for Europe and Middle East as reflected at Table 4.46 and Table 4.47 respectively. For North America and South America, interaction effect of the said variables on cash holdings is insignificant as shown at Table 4.48 and Table 4.49 respectively.

The insignificant interaction effect of corporate governance and LTO on cash holdings for South America is inconsistent with hypothesis H45 which assumes negative and significant interaction effect of corporate governance and LTO on cash holdings as impact of corporate governance on cash holdings is negative and significant as shown at Table 4.45. For overall sample and other regions except South America, results are consistent with hypothesis H4j.

4.4 Results of Diagnostic Tests

This section provides results of different diagnostic tests applied in the study. The tests are applied on overall sample for ease as data for different regions of the world is extracted from it. The detail of different tests and their results are appended below:

4.4.1 Panel Unit Root Test

The results of Leven, Lin & Chu approach test for determination of unit root for dividend payment and cash holdings determinants are placed at Table 4.50 and Table 4.51 respectively. The significant values of firm specific variables for dividend payment and cash holdings show stationarity of data as null hypothesis for Leven, Lin & Chu approach is that unit root is present.

TABLE 4.50: Panel Unit Root Test(Dividend Payment)

Leven, Lin & Chu approach
Null: Unit root (assumes common root process)

Variable	Statistic	Prob.**	Sections	Obs
Divta	-508.864	0.0000	4837	43533
ROA	-379.357	0.0000	5910	53190
LnTa	-313.393	0.0000	5776	51984
LevEq	-26713.5	0.0000	5722	51498
CR	-2155.32	0.0000	5902	53118
SG	-199.654	0.0000	5947	53523
Zscore	-45863.6	0.0000	5905	53145
PV	-21.7086	0.0000	5864	52776
Tang	-14809.6	0.0000	5861	52725
CH	-496.639	0.0000	5901	53109
FCF	-149.442	0.0000	5874	52866

Note: This table describes results of Durbin-Watson test for dividend determinants consisting of firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCF in respect of overall sample. All firm specific variables are defined at table 3.2.

TABLE 4.51: Panel Unit Root Test(Cash Holdings)

Leven, Lin & Chu approach
Null: Unit root (assumes common root process)

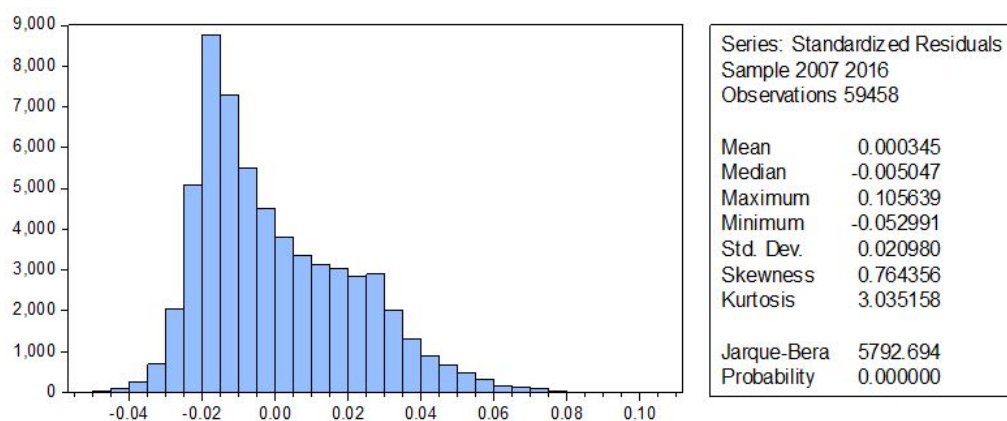
Variable	Statistic	Prob.**	Sections	Obs
CH	-496.639	0.0000	5901	53109
LnTa	-313.393	0.0000	5776	51984
LevDbt	-21587.5	0.0000	5725	51501
Divta	-508.864	0.0000	4837	43533
Zscore	-45863.6	0.0000	5905	53145
MBR	-1270.4	0.0000	5858	52722
INVST	-281.754	0.0000	5907	53163
CF	-163.03	0.0000	5906	53154
ROA	-379.357	0.0000	5910	53190
NWC	-151.041	0.0000	5887	52983

Note: This table describes results of panel unit root test for cash holding determinants consisting of firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC. All firm specific variables are defined at table 3.3.

4.4.2 Normality Test

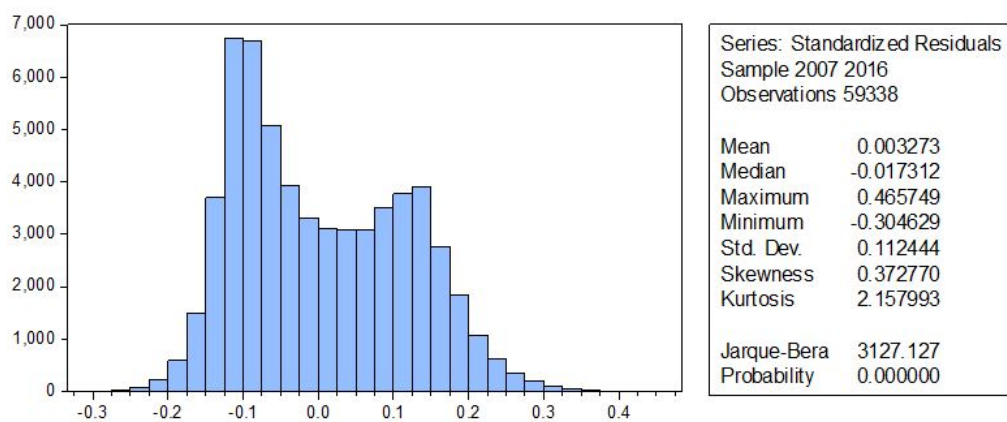
The results of normality test for dividend payment and cash holding determinants are placed at Table 4.52 and Table 4.53 respectively. The p-value of Jarque Bera test is significant rejecting normality assumption. Nevertheless, values of skewness and kurtosis for dividend payment and cash holding determinants show that non-normality is not so severe. The histogram plot of residuals also depict that residuals are not very away from normality.

TABLE 4.52: Normality Test (Dividend))



Note: This table describes results of normality test for dividend policy determinants. Normality of data is determined by significance value of Jarque-Bera which assumes residuals are normally distributed.

TABLE 4.53: Normality Test (Cash Holdings))



Note: This table describes results of normality test for cash holding determinants. Normality of data is determined by significance value of Jarque-Bera which assumes residuals are normally distributed.

4.4.3 Test for Checking Heteroskedasticity

The results of Breusch Pagan-Godfrey (BPG) test for checking heteroskedasticity in the models for dividend payment and cash holdings are placed at Table 4.54 and Table 4.55 respectively. The p-value for F-statistics is significant for both models showing that null hypothesis of homoskedasticity should be rejected, thus confirming presence of heteroskedasticity.

TABLE 4.54: Breusch Pagan-Godfrey (Test for Checking Heteroskedasticity for Dividend)

Dependent Variable: UTSQR
 Method: Panel Least Squares
 Date: 05/22/19 Time: 00:54
 Sample: 2007 2016
 Periods included: 10
 Cross-sections included: 5947
 Total panel (unbalanced) observations: 59458

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.00083	4.45E-05	18.66111	0.000
ROA	0.001476	6.70E-05	22.02414	0.000
LNTA	-4.56E-05	3.57E-06	-12.7688	0.000
LEVEQ	-3.78E-05	7.97E-06	-4.739637	0.000
PV	-8.68E-06	6.21E-07	-13.97739	0.000
TANG	0.000219	2.97E-05	7.357141	0.000
ZSCORE	0.0001	2.09E-06	47.97802	0.000
CR	-6.45E-05	5.15E-06	-12.52675	0.000
SG	-0.00027	2.29E-05	-11.66122	0.000
EQTA	-0.00031	4.15E-05	-7.366085	0.000
CH	0.000915	5.31E-05	17.24325	0.000
FCFTA	-1.28E-05	3.54E-06	-3.620576	0.000
R-squared	0.076491	Mean dependent var		0.000509
Adjusted R-squared	0.07632	S.D. dependent var		0.001485
S.E. of regression	0.001427	Akaike info criterion		-10.2658
Sum squared resid	0.121108	Schwarz criterion		-10.264
Log likelihood	305204.5	Hannan-Quinn criter.		-10.2653
F-statistic	447.607	Durbin-Watson stat		0.902274
Prob(F-statistic)	0.000			

Note: This table describes results of Breusch Pagan-Godfrey test for dividend determinants consisting of firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCF in respect of overall sample. All firm specific variables are defined at table 3.2

TABLE 4.55: Bruce Pagan (Test for Checking Heteroskedasticity for Cash Holdings)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent Variable: UTSQR				
Method: Panel Least Squares				
Date: 05/22/19 Time: 02:07				
Sample: 2007 2016				
Periods included: 10				
Cross-sections included: 5935				
Total panel (unbalanced) observations: 59338				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.023868	0.000452	52.76218	0.000
LNTA	-0.00115	5.34E-05	-21.49775	0.000
LEVDBT	-0.01384	0.000632	-21.92113	0.000
DIVTA	0.015484	0.004219	3.670387	0.000
ZSCORE	0.00108	3.49E-05	30.92992	0.000
CAPX	-0.0604	0.002315	-26.08815	0.000
MBR	0.001534	8.56E-05	17.92634	0.000
CF	-0.00964	0.001169	-8.243796	0.000
ROA	-0.02678	0.001216	-22.01781	0.000
NWC	-0.03217	0.000639	-50.33596	0.000
LTO	-3.00E-05	2.83E-06	-10.59191	0.000
R-squared	0.119382	Mean dependent var		0.013296
Adjusted R-squared	0.119233	S.D. dependent var		0.024813
S.E. of regression	0.023286	Akaike info criterion		-4.6817
Sum squared resid	32.17072	Schwarz criterion		-4.68003
Log likelihood	138912.4	Hannan-Quinn criter.		-4.68118
F-statistic	804.2701	Durbin-Watson stat		0.772084
Prob(F-statistic)	0.000			

Note: This table describes results of Breusch Pagan-Godfrey test for cash holding determinants consisting of firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC. All firm specific variables are defined at table 3.3

4.4.4 VIF Test for Multicollinearity

The results for VIF test for checking multicollinearity in dividend payment and cash holding determinants are placed at Table 4.56 and Table 4.57 respectively. The value of VIF for each variable of dividend payment and cash holding determinants is less than 10 which means there is no problem of multicollinearity among independent variables.

TABLE 4.56: Results of VIF Test for Multicollinearity (Dividend)

Dependent Variable: DIVTA						
R-squared						0.262134
Adjusted R-squared						0.261998
S.E. of regression						0.022539
Number of observations						59458
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Std. Dev	VIF
C	0.034192	0.000703	48.65365	0.000	–	0.000
ROA	0.073048	0.001059	69.01015	0.000	0.103018	1.39303
LNTA	-0.00036	5.73E-05	-6.35709	0.000	1.937315	1.44228
LEVEQ	-0.00193	0.000126	-15.34	0.000	0.910707	1.54113
PV	-0.00055	9.81E-06	-56.4385	0.000	1.594198	0.02863
TANG	0.000374	0.000473	0.790373	0.000	0.261933	1.79657
ZSCORE	0.001699	3.30E-05	51.41636	0.000	3.326806	1.41066
CR	-0.0015	8.13E-05	-18.4003	0.000	3.13405	7.59861
SG	-0.00709	0.000362	-19.5871	0.000	0.213376	0.69831
EQTA	-0.00315	0.000656	-4.79963	0.000	0.218116	2.3962
CH	0.022107	0.000838	26.37751	0.000	0.134322	1.48294
FCF	-4.32E-06	3.03E-07	-14.2843	0.000	316.715	1.07786

Note: This table describes results of VIF test for dividend determinants consisting of firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCF in respect of overall sample. All firm specific variables are defined at table 3.2

TABLE 4.57: Results of VIF Test for Multicolleneority (Cash Holdings)

Dependent Variable: CH

R-squared	0.26381
Adjusted R-squared	0.263686
S.E. of regression	0.115317
Number of observations	59338

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Std. Dev	VIF
C	0.196646	0.00224	87.78296	0.000		0.000
LNTA	-0.00431	0.000264	-16.3112	0.000	1.937719	1.16771
LEVDBT	-0.24428	3.13E-03	-78.1075	0.000	0.176761	1.36412
DIVTA	0.197871	0.020891	9.471741	0.000	0.026229	1.33976
ZSCORE	0.008555	1.73E-04	49.46258	0.000	3.328919	1.47994
CAPX	-0.44638	0.011466	-38.9314	0.000	0.042881	1.0787
MBR	0.008672	4.24E-04	20.4625	0.000	1.255349	1.26417
CF	0.020686	5.79E-03	3.572495	0.000	0.101097	1.5289
ROA	-0.16829	0.006023	-27.941	0.000	0.103089	1.72027
NWC	-0.19014	0.003164	-60.0852	0.000	0.163213	1.18995
LTO	0.000255	1.40E-05	18.19545	0.000	34.24183	1.02545

Note: This table describes results of VIF test for cash holding determinants consisting of firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC. All firm specific variables are defined at table 3.3

4.4.5 Durbin-Watson test for Autocorelation

The results for DW test for checking autocorelation in dividend payment and cash holding determinants are placed at Table 4.58 and Table 4.59 respectively. The value of DW test is less than 2 for both models confirming presence of autocorelation.

As per Gujarati (2004, p.453), when there are problems of heteroskedasticity and autocorelation in the model, it is GLS, not OLS, which provides BLUE results. Being suffered from said problems, this study uses GLS for estimating determinants of dividend payment and cash holdings.

4.5 Results of Diagnostic Tests

This section provides results of different diagnostic tests applied in the study. The tests are applied on overall sample for ease as data for different regions of the world is extracted from it. The detail of different tests and their results are appended below:

4.5.1 Panel Unit Root Test

The results of Leven, Lin & Chu approach test for determination of unit root for dividend payment and cash holdings determinants are placed at Table 4.50 and Table 4.51 respectively. The significant values of firm specific variables for dividend payment and cash holdings show stationarity of data as null hypothesis for Leven, Lin & Chu approach is that unit root is present.

4.5.2 Normality Test

The results of normality test for dividend payment and cash holding determinants are placed at Table 4.52 and Table 4.53 respectively. The p-value of Jarque Bera test is significant rejecting normality assumption. Nevertheless, values of skewness and kurtosis for dividiedn policy and cash holding determinants show that

non-normality is not so severe. The histogram plot of residuals also depict that residuals are not very away from normality.

4.5.3 Test for Checking Heteroskedasticity

The results of Breusch Pagan-Godfrey (BPG) test for checking heteroskedasticity in the models for dividend payment and cash holdings are placed at Table 4.54 and Table 4.55 respectively. The p-value for F-statistics is significant for both models showing that null hypothesis of homoskedasticity should be rejected, thus confirming presence of heteroskedasticity.

4.5.4 VIF Test for Multicollinearity

The results for VIF test for checking multicollinearity in dividend payment and cash holding determinants are placed at Table 4.56 and Table 4.57 respectively. The value of VIF for each variable of dividend payment and cash holding determinants is less than 10 which means there is no problem of multicollinearity among independent variables.

4.5.5 Durbin-Watson Test for Autocorelation

The results for DW test for checking autocorelation in dividend payment and cash holding determinants are placed at Table 4.58 and Table 4.59 respectively. The value of DW test is less than 2 for both models confirming presence of autocorelation.

As per Gujarati (2004, p.453), when there are problems of heteroskedasticity and autocorelation in the model, it is GLS, not OLS, which provides BLUE results. Nevertheless, this study uses GMM for estimating determinants of dividend payment and cash holdings as said model also addresses problem of heteroskedasticity.

TABLE 4.58: Table for Checking Autocorrelation (Dividend)

Dependent Variable: DIVTA
 Method: Panel Least Squares
 Date: 05/22/19 Time: 17:12
 Sample: 2007 2016
 Periods included: 10
 Cross-sections included: 5947
 Total panel (unbalanced) observations: 59458

Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	0.034192	0.000703	48.65365	0.000
ROA	0.073048	0.001059	69.01015	0.000
LNTA	-0.00036	5.73E-05	-6.357092	0.000
LEVEQ	-0.00193	0.000126	-15.33995	0.000
PV	-0.00055	9.81E-06	-56.43854	0.000
TANG	0.000374	0.000473	0.790373	0.429
ZSCORE	0.001699	3.30E-05	51.41636	0.000
CR	-0.0015	8.13E-05	-18.40029	0.000
SG	-0.00709	0.000362	-19.58712	0.000
EQTA	-0.00315	0.000656	-4.799632	0.000
CH	0.022107	0.000838	26.37751	0.000
FCF	-4.32E-06	3.03E-07	-14.28428	0.000
R-squared	0.262134	Mean dependent var		0.017865
Adjusted R-sq.	0.261998	S.D. dependent var		0.026237
S.E. of regression	0.022539	Akaike info criterion		-4.7469
Sum squared resid	30.20022	Schwarz criterion		-4.74508
Log likelihood	141132.5	Hannan-Quinn criter.		-4.74633
F-statistic	1919.89	Durbin-Watson stat		0.696695
Prob(F-statistic)	0.000			

Note: This table describes results of Durbin-Watson test for dividend determinants consisting of firm specific variables including ROA, LNTA, LEVEQ, PV, TANG, ZSCORE, CR, SG, CH and FCF in respect of overall sample. All firm specific variables are defined at table 3.2

TABLE 4.59: Table for Checking Autocorrelation (Cash Holdings)

Dependent Variable: CH
 Method: Panel Least Squares
 Date: 05/22/19 Time: 17:04
 Sample: 2007 2016
 Periods included: 10
 Cross-sections included: 5935
 Total panel (unbalanced) observations: 59338

Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	0.196646	0.00224	87.78296	0.000
LNTA	-0.00431	0.000264	-16.3112	0.000
LEVDBT	-0.24428	0.003128	-78.10749	0.000
DIVTA	0.197871	0.020891	9.471741	0.000
ZSCORE	0.008555	0.000173	49.46258	0.000
CAPX	-0.44638	0.011466	-38.9314	0.000
MBR	0.008672	0.000424	20.4625	0.000
CF	0.020686	0.00579	3.572495	0.000
ROA	-0.16829	0.006023	-27.941	0.000
NWC	-0.19014	0.003164	-60.08518	0.000
LTO	0.000255	1.40E-05	18.19545	0.000
R-squared	0.26381	Mean dependent var		0.147728
Adjusted R-sq.	0.263686	S.D. dependent var		0.134389
S.E. of regression	0.115317	Akaike info criterion		-1.48208
Sum squared resid	788.9332	Schwarz criterion		-1.48041
Log likelihood	43982.7	Hannan-Quinn criter.		-1.48156
F-statistic	2125.957	Durbin-Watson stat		0.517486
Prob(F-statistic)	0.000			

Note: This table describes results of Durbin Watson test for cash holding determinants consisting of firm specific variables including LNTA, LEVDBT, DIVTA, ZSCORE, CAPX, MBR, CF, ROA and NWC. All firm specific variables are defined at table 3.3

Chapter 5

Conclusion and Recommendations

In this chapter, first of all, summary of research findings and conclusion drawn based on these findings are presented in section 5.1. Implications of the study are discussed in the section 5.2. Limitations & future directions are narrated in section 5.3.

5.1 Summary and Conclusions

In this study, impact of national culture and formal institutions along with firm specific variables as control variables, on two important financial decisions including dividend payment and cash holdings has been analyzed over six regions of the world including Africa, Asia Pacific, Europe, Middle East, North America and South America. 5,947 firms are analyzed from 47 countries to achieve the objective of this study.

First of all, effect of different dimensions of national culture including PDI, IDV, MAS, UAI and LTO on dividend payment is observed along with firm specific variables. PDI has significant negative effect on dividend payment for overall sample, Europe and North America. It is significantly and positively related with dividend payment for Africa, Asia Pacific and South America. PDI has insignificant effect

on dividend payment for Middle East. The managers of firms in regions with weak governance pay more dividend to develop reputation among shareholders even PDI is higher in said regions.

IDV on dividend payment is significant positive for overall sample, Asia Pacific, Europe, North America and South America and negative effect on dividend payment for Middle East. The positive effect of individualism on dividend payment is in accordance with studies of Fidrmuc and Jacob (2010) and Zheng and Ashraf (2014). MAS has significant negative effect on dividend payment for overall sample and others in regions including Africa, Asia Pacific, Europe, North America and South America. The relation between two variables is insignificant for Middle East.

UAI has significant negative effect on dividend payment for overall sample, Asia Pacific, Europe, Middle East, North America and South America. The relationship between said two variables is positive and significant for Africa. Negative effect of UAI on dividend payment is in line with studies of Khambata and Liu (2005), Fidrmuc and Jacob (2010), Bae et al(2012), Zheng and Ashraf (2014). LTO has significant negative effect on dividend payment for overall sample, Africa, Asia and Europe and significant positive effect on dividend payment for North America and South America. The relationship between said two variables is insignificant for Middle East.

Further, impact of formal institutions including worldwide governance index, shareholder rights index, creditor rights index and financial development on dividend payment is analyzed across the regions.

Worldwide governance index has significant and negative effect on dividend payment in overall sample, Africa, Asia Pacific and Middle East, whereas, it is positively and significantly related with dividend payment in Europe, North America and South America. Further, shareholder rights index has significant and negative effect on dividend payment in overall sample, Africa, Asia Pacific and Middle East, whereas, it has significant positive effect on dividend payment in Europe and South America.

Creditor rights index has positive effect on dividend payment for overall sample, Europe, North America and South America. The effect of creditor rights index is negative on dividend payment in Africa and Asia Pacific.

Market capitalization has significant and positive effect on dividend payment for overall sample, Asia Pacific and Europe, whereas, it is significantly negatively related with dividend payment for Middle East and North America. Domestic credit provided by financial institutions has significant negative effect on dividend payment for overall sample, Asia Pacific and Europe and significant positive effect on dividend payment for Africa, North America and South America. The positive effect of financial development on dividend payment is in line outcome hypothesis, whereas, negative relationship between the said two variables is consistent with substitute theory.

Also, effect of firm specific variables on dividend payment is analyzed. For dividend payment, it is observed that profitability has positive effect on dividend payment for overall sample as well as for all regions under study. In overall sample, Europe, Middle East and South America, size has significant positive effect on dividend payment of the firms. For Africa, Asia Pacific and North America, size is significantly negatively related with dividend payment.

It is further found that leverage has positive effect on dividend payment for overall sample, Africa, Asia Pacific, North America and South America, whereas, result is insignificant for Europe and Middle East. In overall sample, Asia Pacific, Europe, North America and South America liquidity has negative relationship with dividend payment. For Africa and Middle East, relationship between said two variables is insignificant.

The results further reveal that tangibility influences dividend payment significantly and negatively in overall sample and Asia Pacific. In Africa, Europe and Middle East, tangibility has significant and positive influence on dividend payment. Tangibility shows insignificant relationship with dividends in North America and South America. Further, growth, price volatility and free cash flows have significant and negative effect and Z-score has positive effect on dividend payment not only for overall sample but also for all regions under study. Cash holdings have significant

positive effect on dividend payment for overall sample, Africa, Asia Pacific, North America and South America, whereas, cash holdings have significant and negative effect on dividend payment for Europe and insignificant relationship in Middle East.

Further, effects of national culture and formal institutions, along with firm specific variables as control variables, on cash holdings are analyzed across the regions.

Among dimensions of national culture, PDI has significant negative effect on cash holdings for Africa, Asia Pacific and Middle East and is positively related with cash reserves for Europe and no significant relationship for overall sample, North America and South America.

IDV has significant positive effect on cash holdings for Africa, Asia Pacific, Middle East and South America, and significant negative effect on cash reserves for overall sample and Europe. Both variables have insignificant relationship for North America. MAS has significant positive effect on cash holdings for overall sample, Africa, Asia Pacific, Europe and South America and is significantly and negatively related with cash reserves for Middle East. Both have insignificant relationship for North America.

UAI has significant positive effect on cash holdings for overall sample, Asia Pacific, Europe, and Middle East and is significantly and negatively related with cash reserves for Africa and South America. Both variables have insignificant relationship for North America.

MAS has significant negative effect on dividend payment for overall sample and others regions including Africa, Asia Pacific, Europe, North America and South America. The relation between two variables is insignificant for Middle East.

LTO has significant positive effect on cash holdings for overall sample, Africa, Asia Pacific, Europe, Middle East and North America and insignificant effect on cash reserves for South America.

Similarly, country governance has significant negative effect on cash holdings for Europe, Middle East and South America and significant positive effect for overall sample, Africa and Asia Pacific. WGI has insignificant impact on cash holdings

for North America. Like dividend payment, PDI, IDV, MAS, UAI and LTO have varying effects on cash holdings for different regions of the world but interaction of WGI and national culture on cash holdings follows impact of WGI on cash holdings. The interaction effect of WGI and different dimensions of national culture on cash holdings is significantly negative for Europe and Middle East (only exception is with WGI and IDV) and significantly positive for overall sample, Africa and Asia Pacific. The interaction effect of WGI and national culture is insignificant for North America (only exception is with WGI and UAI). The interaction of WGI with PDI and UAI has negative effect on cash holdings, whereas, interaction effect of WGI with IDV, MAS and LTO is insignificant for South America.

Out of formal institutions, worldwide governance has significant positive effect on cash holdings for overall sample, Africa, and Asia Pacific, whereas, it is significantly and negatively related with cash reserves for Europe, Middle East and South America. Shareholder rights index has significant negative effect on cash holdings for overall sample, Asia Pacific and Europe, whereas, it is significantly and positively related with cash reserves for Africa and Middle East. The relationship between two variables is insignificant for South America.

The creditor rights index has significant positive effect on cash holdings for Africa and Asia Pacific and is significantly and negatively related with cash reserves for overall sample, Europe and South America. For North America, both variables have insignificant relationship.

Market capitalization has significant positive effect on cash holding for overall sample, Africa, Asia Pacific and Europe, whereas, it is significantly and negatively related with cash reserves for Middle East, North America and South America. Domestic credit provided by financial institutions has significant positive effect on cash holdings for overall sample, Asia Pacific and North America and significant negative effect on cash reserves for Africa, Europe and South America. Both variables have insignificant relationship for Middle East.

The results of study reveal that there are some variables including size, leverage, Z-score, investments, cash flows and net working capital which have similar significant relationships with cash holdings almost across the regions. Dividends have

positive effect on cash holdings for overall sample and Asia Pacific, whereas, for other regions under study both are negatively related. Market to book ratio has positive effect on cash holdings for overall sample, Asia Pacific and North America, whereas, for Africa, Europe and Middle East it affects cash reserves negatively. Profitability has positive effect on cash holdings for Africa and South America and negatively associated with cash reserves for overall sample, Asia Pacific, Europe, Middle East and North America.

The difference of effect of different determinants of cash holdings across the regions is due to application of different financial and economic theories in the regions. The directions of relationship of firm specific variables with dividend payment and cash holdings, whether positive or negative, across the regions are supported by empirical evidences also.

To give conclusive remarks regarding effect of national culture on dividend payment and cash holdings across the regions is not easy as every relationship has some deviations along with regions. However, generally it is found that IDV has positive effect on dividend payment and is negatively related with cash holdings. UAI, LTO, PDI and MAS are negatively related with dividend payment and have positive relationship with cash holdings in most of the regions. These results are from managers perspectives. Otherwise results may be explained from investors perspective.

The interaction effects of country governance and national culture on dividend payment and cash holdings are also analyzed in this study. It is revealed from the analysis that interaction effect of country governance and national culture on dividend payment and cash holdings follows impact of country governance on the said financial decisions, hence, country governance plays moderating role for both financial decisions. .

5.2 Implications

This study has theoretical as well as practical implications regarding impact of culture, formal institutions and firm specific control variables on dividend payment

and cash holdings. The sample consists of 5,947 firms from 47 countries categorized into six regions, thus providing a good opportunity to analyze variation in said financial decisions across the regions.

This study applies the existing theories. Different dimensions of national culture show different relationships with dividend payment and cash holdings in the regions under study. For example, positive effect of individualism on dividend payment in overall sample, Europe, North America and South America shows presence of agency problems where individualistic societies suffer from more conflict of interest between shareholders and managers and dividends are used as a tool to minimize such problems. Similarly, negative effect of uncertainty avoidance on dividend payment or its positive effect on cash holdings may be explained with reference to birds in hand theory.

Different dimensions of national culture including PDI, IDV, MAS, UAI and LTO have been shown to influence dividend payment and cash holdings around different regions of the world. This study attempts to establish relationship of different traditional theories of dividend payment and cash holdings with national culture. Different dimensions of national culture show different relationships with dividend payment and cash holdings in the regions under study, also, theoretical justification is made in the study. The strongest theoretical implication related to interaction of country governance and national culture with reference to dividend payment and cash holdings is the identification of the fact that interaction effect of country governance and national culture on dividend payment and cash holdings follows impact of country governance on the said financial decisions rather impact of different dimensions of national culture on dividend payment and cash holdings.

Also, effect of formal institution including WGI, shareholder right index, creditor right index and financial development on dividend payment and cash holdings is analyzed through the regions under study. Theoretical relationship between formal institutions and dividend payment and cash holdings are developed not for overall sample but also for different regions of the world. Previous research in these areas is used to enhance theoretical justification of the association between the

said variables. Different regions show different directions of relationships between formal institutions and financial decisions which have their own justifications.

In this study different theories of dividend payment related to firm specific variables including birds in hand theory, signaling theory, agency theory, life cycle theory, catering theory have been tested. Also, theories of cash holdings including trade off theory, pecking order theory and agency theory are analyzed with reference to firm specific factors. Testing theories across different regions of the world augments the existing research which is not explored previously.

5.2.1 Practical Implications

This study is of immense importance for academicians and corporate practitioners. The analysis of two important financial decisions including dividend payment and cash holdings across different regions of the world paves a way for scholars to analyze impact of different firm specific variables, formal institutions and national culture in a broader way. Previous studies limit such analysis to only firm specific variables or formal institutions or informal institutions. Also, no study is previously found to examine said financial decisions across different regions of the world.

The importance of our findings lies in the evidence that culture affects dividend payment and cash holdings per se but also in highlighting the interplay between culture (that is, individuals values, such as family security, public image, or self-discipline), on the one hand, and investors and managers views toward agency and information asymmetry problems, on the other side.

Positive relationship between worldwide governance and dividend payment in Europe, North America and South America shows application of agency problems in the said regions. International managers need to take care of such issue while operating their firms in said regions. Policy makers of countries in Europe and the other two regions need to establish and implement such formal rules and mechanisms as provide protection to the investors.

Further, negative relationship between long term orientation and dividend payment in overall sample, Africa, Asia Pacific, Europe and Middle East indicates that, shareholders of firms of countries in the said regions desire lesser dividend consumptions. The interaction effect of national culture and country governance on dividend payment and cash holdings also reveal moderating effect of country governance.

Culture is important and can not be ignored while addressing policy implications as culture effects are long lasting and transmit through generations and changes take longer time as compared to formal institutions.

The analysis of 5,947 firms worldwide enables to generalize the results of the study throughout the regions. This study may help international corporate managers to analyze behavior of different firm specific variables, along with formal and informal culture. One of the important findings of the study is that national culture is of less importance in the presence of country governance. It means that corporate managers, while formulating financial policies, should weigh different mechanisms of country governance more than national culture. Effectiveness of country governance in the regions has more importance than national culture prevalent in the regions.

5.3 Limitations and Future Directions

Although this study tries to cover many of firm specific variables, formal and informal institutions and number of countries categorized into six regions, yet due to limitation of time and unavailability of the data, all aspects of dividend payment and cash holding decisions could not be explored.

5.3.1 Limitations

This study analyzes dividend payment and cash holding decisions across the six regions for 47 countries. For formal institutions, worldwide governance index developed by World Bank is taken as proxy of country governance. country governance

at firm level could not be used due to unavailability of data which could be more useful for making analysis of the firms. Effect of corporate and personal taxes on dividend payment is very important which could not be taken into account due to data limitations. Due to differences of data type and regulations, financial firms in the countries under regions could not be made part of sample for study and only non financial firms analyzed in the study.

5.3.2 Future Directions

Future scholars may investigate other financial decisions including capital structure and investments across the regions by using the same methodology used in this study. Also, country wise study may help the corporate managers working in the specific countries to analyze financial decisions more critically. Instead of using country level country governance, firm level country governance may be more useful to analyze impact of formal institutions on financial decisions. Data on different dimensions of national culture developed by Hofstede (1980,2001) is available for limited number of countries. Some other dimensions of national culture covering more countries may be used to enhance scope of the study.

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Appendix-A

TABLE 5.1: Region Wise Values of Shareholder Rights Index and Creditor Rights Index

Sr.No.	Country	Country Code	SRI	CRI
1	Argentina	ARG	2	1
2	Australia	AUS	4	3
3	Austria	AUT	2.5	3
4	Belgium	BEL	3	2
5	Brazil	BRA	5	1
6	Chile	CHL	4	2
7	China	CHN	1	2
8	Colombia	COL	3	0
9	Czech Republic	CZE	4	3
10	Denmark	DNK	4	3
11	Egypt	EGY	3	2
12	Finland	FIN	3.5	1
13	France	FRA	3.5	0
14	Germany	DEU	3.5	3
15	Greece	GRC	2	1
16	Hong Kong	HKG	5	4
17	Hungary	HUN	2	1
18	India	IND	5	2
19	Indonesia	IDN	4	2
20	Ireland	IRL	5	1
21	Israel	ISR	4	3
22	Italy	ITA	2	2
23	Japan	JPN	4.5	2
24	Korea	KOR	4.5	3
25	Kuwait	KWT	0	3
26	Malaysia	MYS	5	3
27	Mexico	MEX	3	0
28	Netherlands	NLD	2.5	3
29	New Zealand	NZL	4	4
30	Nigeria	NGA	4	4
31	Norway	NOR	3.5	2
32	Pakistan	PAK	4	1
33	Peru	PER	3.5	0
34	Philippines	PHL	4	1
35	Poland	POL	2	1
36	Portugal	PRT	2.5	1
37	Saudi Arab	SAU	0	3
38	Singapore	SGP	5	3
39	South Africa	ZAF	5	3
40	Spain	ESP	5	2
41	Sweden	SWE	3.5	1
42	Switzerland	CHE	3	1
43	Taiwan	TWN	3	2
44	Thailand	THA	4	2
45	Turkey	TUR	3	2
46	United Kingdom	GBR	5	4
47	United States	USA	3	1

Note: This table presents values of shareholder rights index and creditor rights index in respect of 47 countries under study. The values of shareholder rights index are obtained from Djankov and others (2008). The values of creditor rights index are obtained from Djankov, McLiesh, and Shleifer (2007).

TABLE 5.2: Hofstede's Cultural values

Sr.No	Country	Country Code	pdi	idv	mas	uai	lto
1	Argentina	ARG	49	46	56	86	20
2	Australia	AUS	38	90	61	51	21
3	Austria	AUT	11	55	79	70	60
4	Belgium	BEL	65	75	54	94	82
5	Brazil	BRA	69	38	49	76	44
6	Chile	CHL	63	23	28	86	31
7	China	CHN	80	20	66	30	87
8	Colombia	COL	67	13	64	80	13
9	Czech Republic	CZE	57	58	57	74	70
10	Denmark	DNK	18	74	16	23	35
11	Egypt	EGY	70	25	45	80	7
12	Finland	FIN	33	63	26	59	38
13	France	FRA	68	71	43	86	63
14	Germany	DEU	35	67	66	65	83
15	Greece	GRC	60	35	57	112	45
16	Hong Kong	HKG	68	25	57	29	61
17	Hungary	HUN	46	80	88	82	58
18	India	IND	77	48	56	40	51
19	Indonesia	IDN	78	14	46	48	62
20	Ireland	IRL	28	70	68	35	24
21	Israel	ISR	13	54	47	81	38
22	Italy	ITA	50	76	70	75	61
23	Japan	JPN	54	46	95	92	88
24	Korea	KOR	60	18	39	85	100
25	Kuwait	KWT	90	25	40	80	-
26	Malaysia	MYS	104	26	50	36	41
27	Mexico	MEX	81	30	69	82	24
28	Netherlands	NLD	38	80	14	53	67
29	New Zealand	NZL	22	79	58	49	33
30	Nigeria	NGA	80	30	60	55	13
31	Norway	NOR	31	69	8	50	35
32	Pakistan	PAK	55	14	50	70	50
33	Peru	PER	64	16	42	87	25
34	Philippines	PHL	94	32	64	44	27
35	Poland	POL	68	60	64	93	38
36	Portugal	PRT	63	27	31	104	28
37	Saudi Arab	SAU	95	25	60	80	36
38	Singapore	SGP	74	20	48	8	72
39	South Africa	ZAF	49	65	63	49	34
40	Spain	ESP	57	51	42	86	48
41	Sweden	SWE	31	71	5	29	53
42	Switzerland	CHE	34	68	70	58	74
43	Taiwan	TWN	58	17	45	69	93
44	Thailand	THA	64	20	34	64	32
45	Turkey	TUR	66	37	45	85	46
46	United Kingdom	GBR	35	89	66	35	51
47	United States	USA	40	91	62	46	26

Note: This table describes Hofstede's cultural indexes for Power distance, individualism, masculinity, uncertainty avoidance and long term orientation. All values are obtained from www.hofstede-insights.com