DIVIDEND POLICY AND CORPORATE GOVERNANCE IN SAUDI STOCK MARKET: OUTCOME MODEL OR SUBSTITUTE MODEL?

Hamdouni Amina*

Abstract

Theories suggest that corporate governance mechanisms affect corporate dividend policies. This study extends and tests the implications of two extant static agency models making opposite predictions. The outcome model predicts an increase in dividends when the corporate governance mechanisms improve, because shareholders are better able to force managers to disgorge cash. In contrast, the substitute model suggests that an improvement in the corporate governance mechanisms reduces the role of dividends in controlling agency costs, leading to a decrease in dividends. This paper investigates the dividend policy for firms listed on Saudi Arabia Stock Exchange. This is a case study of Saudi Stock Market, where the determinants of dividend policy have received little attention. This study use a panel dataset of non-financial firms listed on Saudi Arabia Stock Exchange between the years of 2007 and 2010. Based on a panel of 366 firm year observations of 99 Saudi firms, we provide evidence in outcome model or substitute model with ownership structure, board structure and debt policy. Three Tobit models are specified: In the first, we construct a governance index based on eight criteria: seven criteria which capture various aspects of a firm's structure, policies and practices that constitute good governance and a criterion that examines the company's compliance with Shariah law in all its activities. Therefore, we estimate the effect of corporate governance on dividend policy in the first model. In the second, we investigate how dividends interact with corporate governance mechanisms in a panel of data. We explore the relation between dividends and ownership structure (ownership concentration and managerial ownership), board structure (board size, Board independence and Chairman-CEO duality) and debt policy. In the final, another test of the substitute and the outcome models is built on the Jensen (1986) free cash flow theory, which states that dividend policy can extract surplus cash from management control by reducing free cash flow. In this third model, we examine how corporate governance improvements affect the dividends' sensitivity to free cash flows by focusing on the coefficients on the interactive variables of the ownership structure, board structure, debt policy and the free cash flow. For the three models, we divide sample in two subsamples and we compare the results obtained by using criteria of company's compliance with Shariah law. For the effects of corporate governance (measured by corporate governance score) on dividend levels, we find that dividend policy is a substitute model for good governance for all Saudi Arabia firms. When we select only Shariah compliant firms, results indicate also that dividend policy is a substitute model for good governance but results are insignificant. When we select only Non-Shariah compliant firms, results indicate the same conclusion. We find that governance is associated with fewer dividends, supporting the substitute model and indicating the influence of good governance by forcing less cash to be returned to investors. For the effects of corporate governance mechanisms on dividend levels, we find that the only variable affect the dividend levels for Non-Shariah compliant firms is the separation in the functions of chairman and of CEO supporting the substitute model. For Shariah compliant firms, dividend policy is an outcome for the separation in the functions of chairman and of CEO, and ownership concentration. Governance through the separation in the functions of chairman and of CEO and ownership concentration influences firms by forcing more cash to be returned to investors. For the effects of the corporate governance improvements on dividends' sensitivity to free cash flow, our results support the substitute hypothesis for Shariah compliant firms regardless the board independence, board meeting, managerial ownership and debt. Improvements in these corporate governance mechanisms reduce firms' need to force out the free cash flow through dividends. For Non-Shariah compliant firms, our results support the outcome model for managerial ownership and ownership concentration**,***.

Keywords: Dividend Policy, Corporate Governance, Corporate Ownership, Corporate Board, Debt Policy, Free Cash Flow, Outcome Model, Substitute Model, Shariah Governance

JEL Code: G34, G35

**Department of Finance and Investment, College of Economics and Administrative Sciences, Al-Imam Muhammad Ibn Saud Islamic University, Riyadh, Saudi Arabia*

***The paper was financially supported by SABIC chair for Islamic Financial Markets Studies at Imam University, Riyadh, Saudi Arabia.*

****The methodology of sample selection is used by Dr. Anis Zouari in his article entitled "Discriminating firm financial health using self-organizing maps: the case of Saudi Arabia". The article is being published.*

1 Introduction

Dividend policy is one of the most important areas in finance literature. Significant research has been done on corporate dividend policy and many researchers have studied why firms pay a substantial portion of their earnings as dividends if, according to Miller and Modigliani's (1961) dividend irrelevance proposition, dividend policy does not change shareholders' wealth. This is known as 'dividend puzzle' in finance literature (Black, 1976).

Dividend policy is one of the widely addressed topics in financial management. It is an important duty of a financial manager to formulate the company's dividend policy that is in the best interest of the company. Dividend policy is one of companies' decisions that are found to be influence by corporate ownership structure. Dividends can be used to mitigate agency problems in a company (Easterbrook, 1984; Jensen, 1986; Rozeff, 1982), thus substitute to other corporate mechanisms as monitoring tools such as ownership structure, board structure and debt policy. La Porta et al. (2000) discuss two models of the relation between ex ante agency problems and dividend policy: the "outcome model" and the "substitute model". The "outcome model" predicts that dividend is the result of good corporate governance mechanisms (ownership structure, board structure and debt policy) and the "substitute model" predicts that dividend substitute to ownership structure, board structure and debt policy.

Dividend policy in emerging markets is often different in its nature, characteristics, and efficiency, from that of developed markets (Al-Kuwari, 2009). And also, dividend policy in Shariah compliant companies is often different from traditional companies. The Shariah compliant companies have different characteristics and to our knowledge no studies have been conducted in this context. Islamic finance is governed by the law of Shariah (Muslims' law) which basically prohibits the interest rate as well as a kind of 'structured' uncertainty within financial contracts called gharar). Islamic debt securities market was developed to meet diverse risk-return profiles and the needs of issuers and investors who looked for a type of asset that complied with Shariah (Islamic law). Conventional bonds that yield interest, or riba, are of course prohibited under Shariah law. Zaher and Hassan (2001) provide an extensive survey of the Islamic finance contracting literature.

Financial economists try to give an answer to corporate governance role of dividend: are dividends complements to or substitutes for other measures? Based on the problem above, we identify three questions: what is the effect of corporate governance on dividend policy in Shariah compliant companies? What is the relation between dividends and ownership structure (ownership concentration and managerial ownership), between dividend and board structure (board size, Board independence and Chairman-CEO duality) and between dividend and debt? How corporate governance improvements affect the dividends' sensitivity to free cash flows?

The first objective of this research is to provide empirical evidence on the effect of corporate governance (using a governance index) on dividend policy in Shariah compliant companies. We specify criteria which capture various aspects of a firm's structure, policies and practices that constitute good governance. The second objective is o test the impact of ownership structure (ownership concentration and managerial ownership), board structure (board size, Board independence and Chairman-CEO duality) and debt on dividends. And the third objective is to determine how corporate governance improvements affect the dividends' sensitivity to free cash flows.

The paper proceeds with a discussion in the following section of the literature relevant to the corporate governance and dividend policy with particular focus on Shariah governance considered as a peculiar exclusively component to Islamic countries. Part Three describes the data and methodology, followed by results of the comparative analysis, univariate analysis and regression tests of factors influencing dividend policy in section Four. Section Five concludes with an overview of our findings, limitations of the study and suggestions for future research.

2 Are dividends complements to or substitutes for other corporate governance mechanisms?

The interaction of dividend policy and governance is central to the debate about the agency costs of free-cash-flow (Easterbrook (1984) and Jensen (1986)). Dividends help address agency problems between managers and outside investors. In Easterbrook's (1984) analysis, the monitoring role of dividends mitigates agency conflicts between managers and shareholders. The agency problem in Jensen's (1986) analysis arises from managers' incentives to consume private benefits, e.g., building their empires by investing free cash flows in negative net present value projects or spending cash on perquisites. Thus, dividends alleviate this problem by reducing free cash flows available to managers.

The amount of free cash flows, however, depends on the capital requirements of the firm to finance its growth. Generally, firms in a growth stage with abundant investment opportunities tend to have low free cash flows and, in turn, pay lower dividends. On the other hand, firms in a maturity stage with scarce profitable projects to invest tend to have high free cash flows and be able to make high dividend payments. Therefore, the firm's dividend policy appears to be affected by its life cycle. This is known as the life-cycle theory dividends. DeAngelo and DeAngelo (2006) results support the life-cycle theory of dividends. DeAngelo et al. (2006), Fama and

French (2001), Grullon et al. (2002) provide evidence supporting the life-cycle theory of dividends.

Rozeff (1982) is one of the first to propose a role for dividends in reducing agency-related losses, substituting for other bonding and auditing costs incurred by the firm. He finds that ownership concentration is negatively related to payout, which is consistent with the argument that greater insider concentration results in better monitoring thus reducing the need to pay dividends. Jensen et al. (1992) corroborate this using a system of equations to capture the simultaneous determination of ownership structures, debt, and dividend policy. Their results show that high insider ownership firms choose lower levels of both debt and dividends. Other agency related roles for dividends include: visibility (Easterbrook, 1984) where firms subject themselves to the scrutiny of capital markets by paying dividends and increasing frequency of capital raising; and committing free cash flows (Jensen, 1986) where dividends (or debt retirement) force managers to operate more efficiently and avoid unprofitable projects.

An additional consideration in investigating the agency conflict role of dividends is governance provided by legal mechanisms protecting the interests of minority shareholders, as argued by Shleifer and Vishney (1997). La Porta et al. (2000) provide an argument for why a legal view yields a better understanding of corporate governance than the conventional bank / market distinction. In another paper, La Porta et al. (2000) discuss two models of the relation between ex ante agency problems and dividend policy: the "outcome model" and the "substitute model." In the outcome model, the payment of dividends is the result of effective governance. Well-governed firms pay dividends because strong governance makes expropriation from shareholders more difficult and shareholders successfully pressure managers to distribute excess cash. In the substitute model, the payment of dividends replaces other corporate governance mechanisms that firms employ to convince shareholders that they will not be expropriated. In the latter scenario, dividends are expected to vary inversely with the minority shareholder protection. Their results support the former model; firms in countries with better minority shareholder legal protection pay higher dividends. Supporting evidence is provided by Mitton (2004) who uses composite scores of corporate governance for firms in nineteen emerging markets and finds that good governance is associated with higher dividend payout; however this relationship is significant only in countries with good investor protection.

H_1: (outcome/substitute): The dividend payout is positively/negatively associated with corporate governance score.

2.1 Ownership structure

In a modern corporate environment where there is a large separation between ownership and management, conflicts of interest can arise between managers, inside owners (controlling shareholders), and outside shareholders, such as minority shareholders. Referring to this problem, Jensen and Meckling (1976) describe the firm as a nexus of contracting relationships among individuals. However, when the manager makes a decision, it tends to be in favor of the agent, rather than of the firm. La Porta et al. (2000) illustrated that managers may take advantage of their authority to benefit themselves by diverting firm assets to themselves through theft, excessive salaries or sales of assets at favorable prices to themselves. Accordingly, the ownership structure in large firms may influence dividends and other financial policies (Desmetz and Lehn, 1985; Shleifer and Vishny, 1986; Morck et al., 1988; Schooley and Barney, 1994; Fluck, 1999; La Porta et al., 2000; Gugler and Yurtoglu, 2003). Several studies have suggested that dividend payouts can play a useful role in reducing the conflict between inside and outside owners. When insider owners pay cash dividends, they return corporate earnings to investors and can no longer use these earnings to benefit themselves (La Porta et al., 2000). Nevertheless, the percentage of earnings that can be used as dividends depends upon the ownership structure of the firm. In the outcome model, the payment of dividends is the result of effective governance to reduce free cash flow problem. In the substitute model, the payment of dividends replaces other corporate governance mechanisms that firms employ to convince shareholders that they will not be expropriated.

Firms with strong governance are those with governance mechanisms that align the interests of managers and shareholders and designed to reduce agency problems between shareholders and managers. These governance characteristics are ownership concentration and managerial ownership (Jensen and Meckling, 1976). The role of ownership structure (Morck et al., 1988) in monitoring management and so improving firm performance has been largely investigated in empirical corporate governance literature. The corporate governance literature argues that increasing stock ownership by managers and directors can be an effective control mechanism designed to reduce the moral hazard behavior of firm managers. The presence of shareholders holding a high proportion of the firm's capital constitutes another way to mitigate the effects of the separation of ownership and control on firm value. Firms with blockholder ownership are expected to have less agency problems.

H_2: (outcome/substitute): The dividend payout is positively/negatively associated with ownership concentration.

H_3: (outcome/substitute): The dividend payout is positively/negatively associated with managerial ownership.

2.2 Board structure

2.2.1 Board independence

As indicated by Belden et al. (2005), it is believed that the outside directors on the company board tend to reduce the agency cost in the firm. They also noted that the outside directors represent the shareholders effectively and ensure their rights in the company. As a result, they concluded that the more outside members there were on the board, the more dividends the company was willing to pay. This is consistent with Kowalewski et al. (2007) who mentioned that shareholders preferred to receive dividends if the insider directors were occupying the board, as they worried about how the management would decide on their earnings.

Furthermore, it was cited by Bathala and Rao (1995) that the firm with a high debt ratio indicated high risk and this led to an agency problem. To avoid this problem, non-executive directors should be included on the board to protect shareholders' rights. A large number of studies argued that board independence is related positively with the dividend payout ratio (Jiraporn et al., 2008; Borokhovich et al., 2005; Bathala and Rao, 1995). However, Al-Najjar and Hussainey (2009) examined the relationship between dividend policy and outsider directorship for 400 non-financial UK firms. They reported a negative association between the number of outside directors and the amount of dividend paid.

According to La Porta et al. (2000), in the outcome model, the payment of dividends is the result of effective governance to reduce free cash flow problem with using outside directors in the board. In the substitute model, the payment of dividends replaces the presence of outside directors in the board.

H_4: (outcome/substitute): The dividend payout is positively/negatively associated with board independence.

2.2.2 Board size

The size of the board of directors depends on the complexity of business and the availability of relevant experience and skills set. A board with very few members may not be equipped to deliver the governance roles that are expected. Large boards may also at times be non-functional and may not help in mitigating the agency conflicts between managers and shareholders. Larger boards may lead to higher dividend payouts if different board members appeal different clientele. Similarly smaller boards may or may not lead to higher dividend payout. Smaller boards are likely to be more entrenched and when they are motivated by considerations of raising equity from markets in the future, these boards may attempt to pay higher dividends as a way to establish reputation (La Porta et al., 2000). Boards in this case are acting as substitutes for lack of shareholder rights. Jiraporn and Ning (2006) find evidence of substitution effect between shareholders rights and dividend payout for a sample of US firms. They find that firms that have weak shareholders rights have paid generous dividends compared to firms that have better shareholder rights. Belden et al. (2005) argue that the greater the size of board membership, the higher is the dividend paid to shareholders. He argued that this was because more people monitoring the decisions made by the chief executive officer.

H_5: (outcome/substitute): The dividend payout is positively/negatively associated with board size.

2.2.3 Chairman-CEO duality

One of the key monitoring mechanisms advocated by the agency perspective is the separation of the roles of CEO from chairperson. If the two roles are not separated, this means that the CEO also chairs the group of people in charge of monitoring and evaluating the CEO's performance, and hence duality exists. This situation also gives rise to possible conflict of interest and may impair the independence of the monitoring group. This is because in such situation, the ability of the CEO/Chairperson to exercise independent self-evaluation is questionable (Rechner and Dalton, 1989). Fosberg and Nelson (1999) discovered that firms that switch to the dual leadership structure (separated roles between the CEO and the chairman) to control agency problems experienced a significant improvement in performance which is measured by the operating income before depreciation, interest and taxes to total assets ratio. On the contrary, Rechner and Dalton (1989) found no significant difference between shareholders returns of companies with CEO duality and those that separate the two roles. Chairman-CEO duality and dividend may be complement or substitute according La Porta et al. (2000).

H_6: (outcome/substitute): The dividend payout is positively/negatively associated with Chairman-CEO duality.

2.3 Financial leverage

The relationship between dividend and leverage can be viewed on the basis of many important theories in the field of corporate finance. According to the agency problems shareholders and debtholders can lead to a need for more monitoring by the lenders, which again leads to a presumably lower supply of debt. This implies that capital structure will not entirely be the firm's choice. Further, the lenders will most likely restrict the dividend payments to secure their positions, concerning the possibility of default.

Therefore, one would expect to observe a negative relationship between dividend and leverage.

A growing number of studies have found that the level of financial leverage negatively affects dividend policy (Jensen et al., 1992; Gugler and Yurtoglu, 2003; Al-Malkawi, 2007). Their studies inferred that highly levered firms look forward to maintaining their internal cash flow to fulfill duties, instead of distributing available cash to shareholders and protect their creditors.

Debt principal and interest payments reduce the ability of firms to have residual income to guarantee dividend payment. Consequently, it is expected that debt would impact negatively on the amount of dividend paid for a period. Al-Kuwari (2009) confirms that dividend policy is negatively related to leverage ratio. Nonetheless, the use of debt has been associated with lower agency cost and enhanced firm profitability, both of which have the tendency of improving dividend payment.

Both types of system, Islamic and interest-based, issue credit to finance assets of the firm. The difference is that the interest-based banks treat the amount advanced (equivalent to the purchase price) as principal loan while Islamic banks treat the amount due at maturity (selling price) as principal loan. The principal has to be the amount that a bank advances in favor of the customer and not the amount the bank expects to retrieve. In this way it is clear that the profit added to the principal is nothing but riba. It is also true because Islamic system uses the same formulas and annuity tables for computing amount due and monthly installments for bai-muajjal and ijarah transactions which are used by the interest-based banks.

Debt in Islamic finance will have the same consequences as the debt in the conventional system, and can therefore be seen as a governance mechanism. It may have a monitoring role in reducing the agency costs of free cash flow. According to Jensen and Meckling (1976), Jensen (1986) and Stulz (1988), financial leverage has an important role in monitoring managers thus reducing agency costs arising from the shareholder-manager conflict.

By referring to La Porta et al. (2000), in the outcome model, the payment of dividends is the result of using debt as an effective governance mechanism to reduce free cash flow problem. In the substitute model, the payment of dividends replaces the debt policy.

H_7: (outcome/substitute): The dividend payout is positively/negatively associated with financial leverage.

2.4 Free cash flow

Jensen (1986) defined free cash flow as the cash flow in excess of the funds required for all projects with a positive net present value (NPV). He demonstrated that as the free cash flow increases, it raises the agency conflict between the interests of managerial and outside shareholders, leading to a decrease in the performance of the company. While shareholders desire for their managers to maximize the value of their shares, the managers may have a different interest and prefer to derive benefits for themselves. Jensen's free cash flow hypothesis has been supported by subsequent studies by Jensen et al. (1992) and Smith and Watts (1992). La Porta et al. (2000) added that when a firm has a free cash flow, its managers will engage in wasteful practices, even when the protection for inventors improves. A number of studies have suggested that firms with a greater "free cash flow" need to pay more dividends to reduce the agency costs of the free cash flow (Jensen, 1986; Holder et al., 1998; La Porta et al., 2000; and Mollah et al., 2002). In the outcome model, the payment of dividends is the result of effective governance to reduce free cash flow problem. In the substitute model, the payment of dividends replaces other corporate governance mechanisms that firms employ to convince shareholders that they will not be expropriated. Increasing in agency costs of free cash flows means that dividend payments are more likely to be used as a mechanism that helps mitigate this agency problem and substitute to other mechanisms.

Based on the findings of the above studies, it can be speculated that there is a positive relationship between the free cash flow and the dividend payout ratio.

H_8: The dividend payout is positively associated with free cash flow.

2.5 Shariah governance

Shariah governance is a component that is peculiar exclusively to Islamic countries. In the Muslim countries, Shariah stands as either a binding or persuasive source of legislation, its role in the legislative and regulatory development in such countries is highly significant. According to Shariah scholars, the objective of corporate governance "is to ensure 'fairness' to all stakeholders to be attained through greater transparency and accountability". Good governance is consistent with Islamic principles, such as preventing gharar (risk, uncertainty, and hazard) and avoiding business transactions that cause injustice in any form to any of the parties.

The hearts of corporate governance are structures and processes that require individuals participating in corporate enterprise to exercise professional discretion in a way that demonstrates integrity, judgment, and transparency. These principles are central to Shariah and Islamic finance.

The various principles of good governance and codes of best practice developed internationally over the last decade can be seen as embodying the notion that best practice is not just about attaining maximum profitability or economic efficiency or fair dealing, but is about endeavoring to make sure that companies are directed and controlled according to moral standards

acceptable to the general community (Gooden, 2001). In Islamic markets, companies with good governance are those that apply the rules of Shariah, are those directed and controlled according to Shariah standards.

In Saudi Arabia, The passive model is exclusive to Shariah governance model. Saudi Authority Monetary Agency (SAMA) treats Islamic financial institutions (IFIs) equal to their conventional counterparts. SAMA has yet to issue legislation pertaining to Islamic finance and guidelines on Shariah governance system. There is no national Shariah advisory board or any institutions to be the sole authoritative body in Islamic finance. The existing Shariah governance system as practiced by IFIs in the Kingdom is a product of self initiative rather than regulatory requirement or regulator's direction. For these reasons, we must define a set of criteria to differentiate between different Saudi firms on grounds of Shariah governance.

In 2006, the Islamic Financial Services Board (IFSB) in Malaysia adopted the principles of corporate governance issued by the Organization of Economic Cooperation and Development (OECD) and the Basel Committee and issued its Guiding principles that should be committed by the management of Islamic financial institution toward the stakeholders. The document sets out seven guiding principles of prudential requirements in the area of corporate governance for institutions offering only Islamic financial services (IIFS). Also, The Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI) prepares accounting, auditing, governance, ethics and Shariah standards for Islamic financial institutions and the industry. AAOIFI has issued a total of 42 standards covering the areas of accounting, auditing, ethics, and governance for Islamic financial institutions.

In practice, there are Islamic Market Indexes that defined the screening criteria for equities that streamlines the process for determining Shariah compliance for publicly-listed companies (Dow Jones Islamic Indexes, Global Islamic Index Series (GIIS), S&P 500 Shariah, FTSE Global Islamic Index Series…).

We try to make a compromise between the criteria adopted in calculating indices "Islamic" in the international markets[1]. Before a security can be classified "Shariah compliant", it must pass two levels of screening. Each level consists of proprietary formulas and associated tests based on criteria established by prominent Shariah scholars.

•The first test, an Industry Test, screens the core businesses of companies for compliance (The core activities of the companies should not be Shariah incompatible: Financial services based on interest; gambling; …).

•The second test is comprised of a series of five Financial Tests. Companies that generate interest income or incur interest expense below certain benchmarks are classified as compliant. The five Financial Tests are:

1. Debt to Total Assets: Debt to Asset ratio should be less than 33%.

2. Non-compliant Investments to Total Assets: The ratio of non compliant investments to total assets should be less than 33%.

3. Non-compliant Income to Total revenue – Purification of Non-compliant income: The ratio of non compliant income to total revenue should be less than 5%.

4. Illiquid Assets to Total Assets: The ratio of illiquid assets to total assets should be at least 20%.

5. Net Liquid Assets to Share Price: The market price per share should be greater than the net liquid assets per share calculated as: (Total Assets – Illiquid Assets – Total Liabilities) divided by number of shares.

•These tests incorporate and refine the screens introduced by the Dow Jones Islamic Market Index's Shariah Board in 1998 and later by FTSE.

Companies that pass both the Industry Test and Financial Test are included in the Shariah compliant group. Sometimes, companies have Data Unavailable for many reasons, for example financial data is incomplete and it's not possible de conduct these two test. We can use the information in Tadawul. Some mutual Fund invests in listed equity securities that comply with Shariah-guidelines and form part of Tadawul all share index and provide a list of those companies.

2.6 Firm size

Eddy and Seifert (1988), Jensen et al. (1992), Redding (1997), and Fama and French (2001) indicated that large firms distribute a higher amount of their net profits as cash dividends, than do small firms. Several studies have tested the impact of firm size on the dividend-agency relationship. Lloyd et al. (1985) were among the first to modify Rozeff's model by adding "firm size" as an additional variable. They considered it an important explanatory variable, as large companies are more likely to increase their dividend payouts to decrease agency costs. Their findings support Jensen and Meckling's (1976) argument, that agency costs are associated with firm size. They were of the view that for large firms, widely spread ownership has a greater bargaining control, which, in turn, increases agency costs.

The positive relationship between dividend payout policy and firm size is also supported by a growing number of other studies (Eddy and Seifert, 1988; Jensen et al., 1992; Redding, 1997; Holder et al., 1998; Fama and French, 2001; Manos, 2002; Mollah et al., 2002; Travlos et al., 2002; Al-Malkawi, 2007).

H_9: The dividend payout is positively associated with firm size.

2.7 Growth opportunities

A review of the literature revealed several explanations for the relationship between growth opportunities and dividend policy. One explanation was that a firm tended to use internal funding sources to finance investment projects if it had large growth opportunities and large investment projects. Such a firm chooses to cut, or pay fewer dividends, to reduce its dependence on costly external financing. On the other hand, firms with slow growth and fewer investment opportunities pay higher dividends to prevent managers from over-investing company cash. As such, a dividend here would play an incentive role, by removing resources from the firm and decreasing the agency costs of free cash flows (Jensen, 1986; Lang and Litzenberger, 1989; Al-Malkawi, 2007). Consequently, dividends were found to be higher in firms with slow growth opportunities, compared to firms with high-growth opportunities, as firms with high-growth opportunities have lower free cash flows (Rozeff, 1982; Lloyd et al., 1985; Jensen et al., 1992; Holder et al., 1998).

H_{10}: The dividend payout is negatively associated with growth opportunities.

2.8 Profitability

The financial literature documents that a firm's profitability is a significant and positive explanatory variable of dividend policy (Jensen et al., 1992; Fama and French, 2000). As a proxy, this study measured firm profitability by the return on equity (ROE) (Aivazian et al., 2003).

H_{12}: The dividend payout is positively associated with a firm's current profitability.

2.9 How do governance improvements affect dividends' role in controlling the free cash flow?

Another test of the substitute and the outcome models is built on the Jensen (1986) free cash flow theory, which states that dividend policy can extract surplus cash from management control by reducing free cash flow. Hence a testable implication of the outcome model is that controlling for the growth opportunities, an improvement in corporate governance mechanisms will increase the sensitivity of dividends to free cash flow, because firms with more free cash flow will be forced to pay higher dividends. Thus the outcome model predicts a positive coefficient on the interactive variable between the change in the corporate governance mechanisms and the free cash flow measure. However, substitute model would predict a negative coefficient on the interactive variable because improvements in other corporate governance variables reduce investors' need to force out the free cash flow through dividends. An insignificant coefficient will imply that the corporate governance improvements do not affect dividends through the free cash flow.

H_{11}: (outcome/substitute): Corporate governance improvements affect positively/negatively the dividends' sensitivity to free cash flows.

3 Empirical design and data

3.1 Specification of the three models and method of estimation

We perform both univariate analysis and multivariate regression analysis to test the hypotheses on the relationships between corporate governance and dividend levels.

The dividend decision firms have only two options, either to pay or to not pay dividends. This gives the dependent variable (dividends) a special feature in that it takes two outcomes. It is either equal to zero or positive. Dividends can never be negative. Therefore, OLS is not an appropriate method to analyze the payment of dividends, because of the nature of the dependent variable. Because the dividends paid by firms can only be positive or nil, the appropriate technique in this case is to apply Tobit estimation. Kim and Maddala (1992) explicitly supported this claim (see also Anderson, 1986, and Huang, 2001).

The evaluation of the determinants of the dividend policy is carried out using the general specification of the censored data estimation, namely the Tobit model.

The three models are used to meet our research objectives. The investigation in the three models concludes about the outcome model or the substitute model of dividend policy developed by La Porta et al. (2000). For the first model, we study the effect of Corporate Governance measured by Governance Score on dividend policy of Saudi Arabia firms.

$$DIV_{it} = \alpha_0 + \alpha_1 CGS_{it} + \alpha_2 SIZE + \alpha_3 ROA_{it} + \alpha_4 GROWTH_{it} + \alpha_5 DEBT_{it} + \varepsilon_{1it} \quad (1)$$

For the second model, we study the effect of Corporate Governance mechanisms (board structure, ownership structure, debt policy, free cash flow, and corporate governance score) on dividend policy of Saudi Arabia firms.

$$DIV_{it} = \beta_0 + \beta_1 TCA_{it} + \beta_2 DUAL_{it} + \beta_3 INDEP_{it} + \beta_4 BM_{it} + \beta_5 MOWN_{it} + \beta_6 CONC_{it} + \beta_7 FCF_{it} + \beta_8 DEBT_{it} + \beta_9 INDUS_{it} + \beta_{10} SIZE_{it} + \beta_{11} GROWTH_{it} + \beta_{12} TANG_{it} + \beta_{13} ROA_{it} + \varepsilon_{2it} \quad (2)$$

For the third model, we study the effects of corporate governance improvements on dividends' sensitivity to free cash flows of Saudi Arabia firms.

$$\begin{aligned} DIV_{it} = {} & \gamma_0 + \gamma_1 TCA * FCF_{it} + \gamma_2 DUAL * FCF_{it} + \gamma_3 INDEP * FCF_{it} + \gamma_4 BM * FCF_{it} \\ & + \gamma_5 MOWN * FCF_{it} + \gamma_6 CONC * FCF_{it} + \gamma_7 DEBT * FCF_{it} \\ & + \gamma_8 CGS * FCF_{it} + \gamma_9 INDUS_{it} \\ & + \gamma_{10} SIZE_{it} + \gamma_{11} GROWTH_{it} + \gamma_{12} TANG_{it} + \gamma_{13} ROA_{it} + \varepsilon_{3it} \end{aligned} \quad (3)$$

For the three models, we divide sample in two subsamples and we compare the results obtained by using criteria of company's compliance with Shariah law. Companies that pass both the Industry Test and Financial Test are included in the Shariah compliant group.

3.2 Definition of the variables

The endogenous variable (dependent) is Dividend policy measured by Dividend payout ratio. Exogenous variables, as control variables, included Corporate Governance Score (CGS), ownership concentration (CONC), managerial ownership (MOWN), board size (TCA), the accumulation of functions of the CEO (DUAL), the board meeting (BM), the presence of external and independent administrators (INDEP), free cash flow (FCF), firm's size (SIZE), performance (ROA), growth opportunities (GROWTH), debt policy (DEBT), industry classification (INDUS), growth (GROWTH) and fixed assets (TANG) (see table (1)).

Table 1. Definition and measurement of the variables

Variables associated to Dividend policy		
Dividend policy	**DIV**	Dividends/earnings ratio
Variables associated to corporate governance		
Corporate Governance	**CGS**	Index score
Ownership structure	Managerial ownership **MOWN**	Percentage of share owned by directors $\text{MOWN} = \frac{\text{AMMOUNT OF SHARES OWNED BY DIRECTORS}}{\text{TOTAL OF SHARES}}$
	Ownership concentration **CONC**	Percentage of share owned by the largest five shareholders in a firm. $\text{CONC} = \frac{\text{AMMOUNT OF SHARES OWNED BY THE 5 SHAREHOLDERS}}{\text{TOTAL OF SHARES}}$
Board structure	Board's dimension **TCA**	Number of member that integrate the board.
	Accumulation of function of CEO and Chairman **DUAL**	Dichotomy variable (Dummy) that will be 1 when there is separation of functions, 0 otherwise.
	Presence of independent administrators **INDEP**	Proportion of the extern and independent administrators. $\text{INDEP} = \frac{\text{NUMBER OF THE INDEPENDENT ADMINISTRATORS}}{\text{NUMBER OF MEMBER THAT INTEGRATE THE BOARD}}$
	Board meeting **BM**	Number of the board meeting
Free Cash Flow	**FCF**	$\text{FCF} = \frac{\text{CF}}{\text{Tobin Q}_{t-1}}$
Debt policy	**DEBT**	$\text{DEBT} = \frac{\text{BOOK VALUE OF TOTAL DEBT}}{\text{BOOK VALUE OF TOTAL ASSETS}}$
Control variables		
Firm size	**SIZE**	Log (Total Assets)
Performance	**ROA**	Performance of the firm measured by the ROA $\text{ROA} = \frac{\text{NET INCOME}}{\text{TOTAL ASSETS}}$
Growth Opportunities	**GROWTH**	$\text{GROWTH} = \frac{\text{TOTAL ASSETS}_t - \text{TOTAL ASSETS}_{t-1}}{\text{TOTAL ASSETS}_{t-1}}$
Industry classification	**INDUS**	Dichotomy variable (Dummy) that will be 1 if the firm belongs to the industry sector and 0 otherwise.
Fixed assets	**TANG**	$\text{TANG} = \frac{\text{FIXED ASSETS}}{\text{TOTAL ASSETS}}$

3.2.1 How to calculate index score?

We construct a governance index based on eight criteria: seven which capture various aspects of a firm's structure, policies and practices that constitute good governance practices and a criterion that examines the company's compliance with Shariah law in all its activities. A total score for each firm is calculated each year. The rating is on a scale of zero to eight, with a higher score indicating better governance. All of the information is from the annual report.

Questions focus on: ownership concentration, managerial ownership, board independence, board size, Chairman and CEO separation, number of board meeting, debt policy, and company's compliance with Shariah law in all its activities.

In practice, there are Islamic Market Indexes that defined the screening criteria for equities that streamlines the process for determining Shariah compliance for publicly-listed companies (Dow Jones Islamic Indexes, Global Islamic Index Series (GIIS), S&P 500 Shariah, FTSE Global Islamic Index Series…).

We try to make a compromise between the criteria adopted in calculating indices "Islamic" in the international markets.

Before a security can be classified "Shariah compliant", it must pass two levels of screening. Each level consists of proprietary formulas and associated tests based on criteria established by prominent Shariah scholars.

•The first test, an Industry Test, screens the core businesses of companies for compliance (The core activities of the companies should not be Shariah incompatible: Financial services based on interest; gambling; …).

•The second test is comprised of a series of five Financial Tests. Companies that generate interest income or incur interest expense below certain benchmarks are classified as compliant. The five Financial Tests are:

1. Debt to Total Assets: Debt to Asset ratio should be less than 33%.

2. Non-compliant Investments to Total Assets: The ratio of non-compliant investments to total assets should be less than 33%.

3. Non-compliant Income to Total revenue – Purification of Non-compliant income: The ratio of non-compliant income to total revenue should be less than 5%.

4. Illiquid Assets to Total Assets: The ratio of illiquid assets to total assets should be at least 20%.

5. Net Liquid Assets to Share Price: The market price per share should be greater than the net liquid assets per share calculated as: (Total Assets – Illiquid Assets – Total Liabilities) divided by number of shares.

•These tests incorporate and refine the screens introduced by the Dow Jones Islamic Market Index's Shariah Board in 1998 and later by FTSE.

Companies that pass both the Industry Test and Financial Test are included in the Shariah compliant group and we add one point to the governance score if company passes both industry test and financial test.

3.3 Sample selection

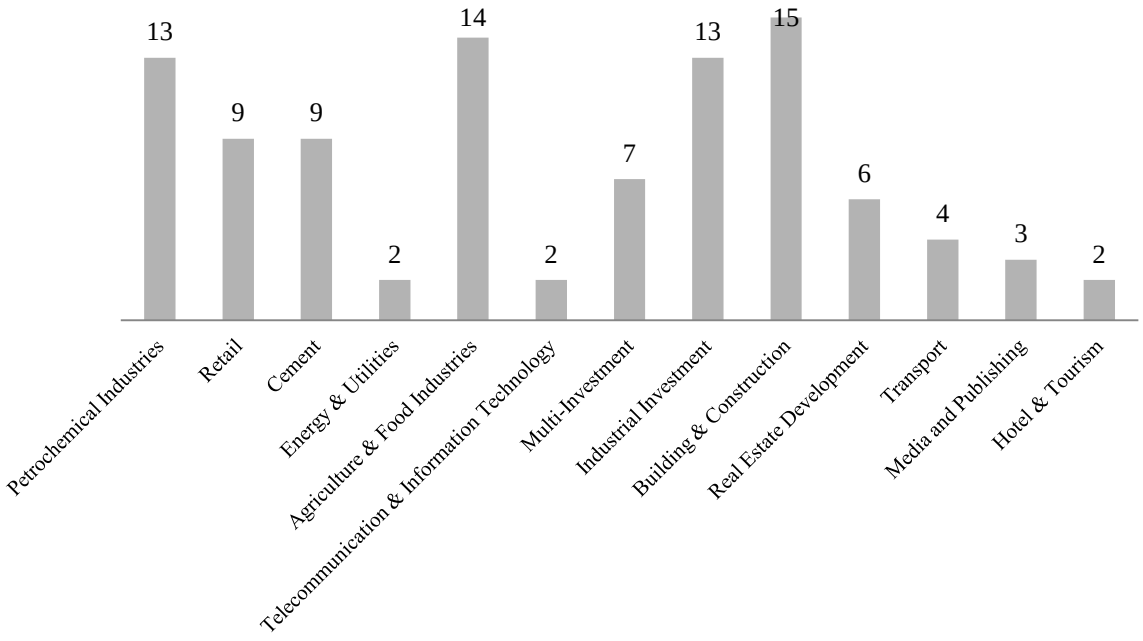
Our sample consists on firms listed on the Saudi Stock Exchange. Data are hand-collected. We have used two data sources for the compilation of our sample: The website "argaam.com" for data relating to companies and corporate governance mechanisms in the financial reports of listed companies in the market and also the website "tadawul.com" for information on prices and stock returns. The analysis is about the period from 2007 to 2010. The year 2006 serves to calculate some parameters that are variations. We have constructed a data panel of non-financial quoted Saudi companies for the period ranging from 2007 to 2010. Our initial sample consisted of 150 firms listed on the Saudi Stock Exchange.

In the first step, we exclude all firms categorized as "Financials" and focus exclusively on non-financial firms because banks and insurances are subject to specific rules and regulations and their leverage is severely affected by exogenous factors (Following Rajan and Zingales, 1995).

In the second step, we limit our sample to companies for which annual reports were available. The final sample consisted of 99 firms with a total of 396 firm year observations (see figure 1).

We apply two screening test. Companies that pass both the Industry Test and Financial Test are included in the Shariah compliant group. Applying the Shariah screening tests leads to a total of 308 firm-year observations in Shariah compliant group and 88 firm-year observations in Non-Shariah compliant group.

Figure 1. Industry distribution of sample firms



4 Results

4.1 Summary statistics

Table (2) shows the statistic descriptive of the characteristic of the endogenous and exogenous variables in the relationship between dividend, board structure, ownership structure, free cash flow and debt policy of this study. It is mainly about the average values, the standard deviation as well as the minimal and maximal values of distributions. A typical firm in our sample on average pays out 39.57% of its earnings.

Table 2. Descriptive data for final sample of 99 firms (396 firm year observations)

Panel A: Descriptive data for continuous variables

	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
DIV	0.39	0.26	4.61	0.00	0.53	396
TCA	7.43	7.00	12.00	4.00	1.64	396
INDEP	0.35	0.33	1.00	0.00	0.15	396
BM	4.59	4.00	10.00	1.00	1.68	396
MOWN	0.10	0.07	0.67	0.00	0.12	396
CONC	0.36	0.35	0.95	0.00	0.23	396
FCF	0.02	0.01	1.90	-0.26	0.10	396
DEBT	0.12	0.06	0.66	0.00	0.15	396
CGS	4.90	5.00	15.00	1.00	1.41	396
SIZE	6.25	6.17	8.50	4.77	0.70	396
GROWTH	0.18	0.07	12.63	-0.62	0.73	396
TANG	0.41	0.40	0.93	2.56E-05	0.24	396
ROA	0.07	0.06	0.43	-0.58	0.09	396

Panel B: Descriptive data for dummy variables

Variables	Mean	No. of firms coded "1"	No. of firms coded "0"
DUAL	0.83	330	66
INDUS	0.38	152	244

Concerning the members' number that composes the board (TCA), we can affirm that despite the fact that an ideal number does not exist, the average is within the expected values. In fact, our sample presents an average of 8 members in the board with a maximum that reaches 12 members and minimum 7 members. The variable that measures the percentage of not executive and independent members (INDEP)

indicates that, on average one third (35.7 %) of the members of the board are not executive members, fact that also agrees with the recommendations of corporate governance. In a majority number of firms (83.33 %), the functions of chairman and of CEO (DUAL) were separated. The mean number of board of meetings (BM), over the period of the study, is 5. The statistics show that over half of the observations had 4 annual meetings (median=4). The minimum number of meeting in a year is 1 while the maximum is 10.

While analyzing the ownership structure we ascertain that, on average the managerial ownership (MOWN) holds around 10.71 % of the capital of the firms. The distribution of managerial ownership (MOWN) is skewed. The average managerial holding is 10.71% but the median is less than 1%. Minimum and maximum values of the stocks owned by directors (managerial ownership) are 0 % and 67.32 % respectively with standard deviation is 12.67%. We also verify that the variable that represents the major shareholders, who hold at least 5 % of the capital (CONC), in these firms, was quite concentrated, as on average (36.08 %), with a maximum that reaches 95%, almost one third of the capital, belongs to blocks of shareholders.

It is also shown that a firm in our sample on average has a free cash flow ratio 2 % and minimum and maximum values are -0.26 and 1.9 respectively with standard deviation is 10 %. It is shown also that a firm in our sample on average has a governance index 4.9. The rating is on a scale of zero to eight, with a higher score indicating better governance.

For the variable that represents the debt ratio (DEPT), mean value is 0.12. We verify that 12% of the liabilities of the firms are represented by the long term debt obtained. It shows that the firms in Saudi Arabia use debt not so much for financing their activity. Minimum value of using debt is 0 (0%) and maximum value is 0.66 (66%) with standard deviation is 0.15 (15%).

Concerning control variables, performance proxied by return on asset (ROA) has mean value 7.12%. Minimum and maximum values are -58.97% and 43 % respectively with standard deviation is 9.26%.

According to table (2), mean, minimum and maximum values of size (SIZE) measured by the natural log of the total value of assets are respectively 6.25, 4.77 and 8.5. Mean value of fixed assets (TANG) is 41.82%. For firms in the sample, fixed assets represent 41.82% of total assets. The mean percentage of growth opportunities (GROWTH) is 18.22%. Finally, 38% of firms belong to the industry sector (INDUS).

4.2 Analysis of correlations

Before we perform univariate and multivariate analyses, we examine the relationships between a firm's dividend level and key test variables of governance as well as the relationships among other variables. Table (3) reports correlation statistics among variables used in various analyses. Multicollinearity refers to a situation in which two or more explanatory/independent variables in multiple regression models are highly correlated. It can be detected through analyzing the Pearson correlation matrix. If the Pearson correlation coefficient exceed 0.7 (limit fixed by Kervin (1992)), we conclude the presence of multicollinearity.

Table 3. The correlation matrix of the independent and dependant variables

	DIV	TCA	DUAL	INDEP	BM	MOWN	CONC	FCF	DEBT	INDUS	SIZE	GROWTH	TANG	ROA	CGS
DIV	1.00														
TCA	-0.01	1.00													
DUAL	0.06	0.11	1.00												
INDEP	0.04	-0.07	-0.00	1.00											
BM	-0.03	0.01	-0.11	0.09	1.00										
MOWN	-0.04	-0.08	-0.01	0.03	-0.12	1.00									
CONC	0.09	0.12	-0.04	-0.08	0.09	0.10	1.00								
FCF	-0.11	-0.04	0.02	0.02	0.07	0.03	0.06	1.00							
DEBT	-0.10	0.17	0.02	-0.16	-0.00	0.00	0.17	-0.07	1.00						
INDUS	0.04	0.13	0.14	-0.08	0.02	-0.08	-0.04	-0.07	0.31	1.00					
SIZE	0.09	0.12	0.05	-0.08	-0.01	0.08	0.45	-0.02	0.05	0.23	1.00				
GROWTH	-0.05	-0.03	0.02	-0.01	0.04	0.05	0.08	0.08	0.08	-0.01	0.07	1.00			
TANG	0.03	0.11	-0.08	0.01	0.07	0.04	0.19	-0.05	0.25	0.30	0.12	-0.07	1.00		
ROA	0.19	-0.09	0.04	0.09	-0.01	0.01	0.22	0.30	-0.18	-0.01	-0.01	0.08	0.03	1.00	
CGS	0.03	0.24	0.26	0.32	0.27	0.23	0.23	0.09	-0.34	-0.11	-0.17	0.02	-0.01	0.20	1.00

Looking first at the relationships between dividend and board structure variables, members' number that composes the board (TCA) is negatively correlated with dividend level (DIV) (-0.01). The interpretation is that increases in members' number that composes the board precede decreases in dividend level. Hence, firms with larger board tend to pay lower dividends. For the other board structure variables,

(DUAL) and (INDEP) are positively correlated with dividend level (DIV). Firms with high percentage of not executive and independent members (INDEP) and with a separation in the functions of chairman and of CEO (DUAL) tend to pay higher dividends.

The correlation analysis hows different relationships between dividend variable and the two ownership structure variables. (CONC) and (MOWN) are respectively positively and negatively correlated with dividend level (DIV). Pearson correlation coefficients of ownership concentration and managerial ownership are respectively 0.09 and -0.04. The interpretation is that increases in ownership concentration and decreases in managerial ownership precede increases in dividend level.

Governance index (CGS) is positively correlated with dividend level. The interpretation is that good governance increase dividend payout. For Free Cash Flow (FCF) and debt (DEBT), there is a negative relation between the two variables and dividend level.

Among the five control variables, (SIZE), (TANG), (INDUS) and (ROA) are also positively correlated with dividend level. (ROA) is highly positively correlated with dividend level (0.19). But, (GROWTH) is negatively correlated with dividend level.

Results in table (3) indicate that all Pearson correlation coefficients are less than 0.7. These statistically correlations, however, have not created any serious problem of multicollenearity as regression diagnostics for the main analysis do not indicate the existence of any such problems. Thus, we conclude the absence of a multicollinearity problem.

4.3 Univariate analysis

Table (4) presents univariate test results on differences in means and medians of firms' dividend levels based on Shariah compliance criteria.

Table 4. Univariate analysis. Based on Shariah compliance criteria

	Shariah compliant firms	**Non-Shariah compliant firms**	**t-statistics**	**z-statistics**
	Mean (Median)	**Mean (Median)**		
DIV	0.42 (0.00)	0.30 (0.34)	1.84*	3.42*
TCA	7.34 (7.00)	7.77 (8.00)	2.18**	4.78**
DUAL	0.84 (1.00)	0.79 (1.00)	1.07	1.16
INDEP	0.36 (0.33)	0.32 (0.33)	2.01*	4.05*
NR	4.46 (4.00)	5.69 (5.00)	0.63	0.39
MOWN	0.10 (0.07)	0.09 (0.09)	0.65	0.43
CONC	0.44 (0.40)	0.33 (0.30)	3.72***	13.85***
FCF	0.03 (0.02)	0.01 (0.009)	1.48	2.21
DEBT	0.06 (0.04)	0.34 (0.36)	22.79***	519.63***
CGS	5.24 (5.00)	3.78 (4.00)	9.69***	94.06***

As shown in this table, dividend level (DIV) is significantly higher in Shariah compliant firms than in Non-Shariah compliant firms in terms of both mean values. Hence, firms operating in accordance with Shariah tend to pay more dividends. When analyzing difference in members' number that composes the board (TCA) and in independence of the board, we observe significantly result in means and medians. Other important result is the difference between Shariah compliant firms and Non-Shariah compliant firms in terms of ownership concentration (CONC). Firms in accordance with Shariah present a percentage of ownership concentration equal to 44% but Non-Shariah compliant firms present a percentage of ownership concentration equal to 33%. This difference is significant at 1%.

We observe also that firms in accordance with Shariah differ to Non-Shariah compliant firms in term of debt ratio (DEBT). 6% is the debt ratio in Shariah compliant firms and 34% is the debt ratio in Non-Shariah compliant firms. This result confirms the Shariah role in reducing debt.

Corporate Score (CGS) appears an important variable in distinguishing Shariah compliant firms and Non-Shariah compliant firms. The Corporate Score means are respectively 5.24 and 3.78 for Shariah

compliant firms and Non-Shariah compliant firms. Thus, we find interesting results as reported in this table: if the firm operates in accordance with Shariah, she presents good governance.

4.4 Effects of corporate governance (CGS) on dividend levels

Table (5) reports the regression coefficients estimated from several different models of random effects Tobit regression. The results are about the effect of Corporate Governance measured by Governance Score on dividend policy of Saudi Arabia firms. The object of this investigation is to conclude about the outcome model or the substitute model of dividend policy developed by La Porta et al. (2000). The outcome model predicts a positive relationship between Corporate Governance and dividend policy. According to this model, dividend policy is a result of good governance. But the substitute model predicts a negative relationship between Corporate Governance and dividend policy and conclude that the dividend policy substitute to corporate governance. The first column reports the effect of Corporate Governance on Dividend policy of all firms. Column 2 reports the effect of Corporate Governance on dividend policy of Shariah compliant firms, and the column 3 reports results of the effect of Corporate Governance on dividend policy of Non-Shariah compliant firms.

Table 5. Regression results of model 1. Effect of governance score on dividend level

	Model 1					
	All firms		**Shariah compliant firms**		**Non-Shariah compliant firms**	
Explanatory Variables	**Coeff**	**T-stat**	**Coeff**	**T-stat**	**Coeff**	**T-stat**
CGS	-0.05**	-1.99	-0.03	-1.17	-0.21**	-2.41
SIZE	0.04*	1.71	0.04	1.41	0.08	1.50
ROA	3.29***	7.82	2.87***	7.01	7.31***	3.82
GROWTH	-0.18	-1.61	-0.18	-1.33	-0.27	-1.03
DEBT	-0.69*	-1.95	-0.71	-1.13	-0.81	-1.15
Descriptive statistics						
Left censored obs	170		119		51	
Uncensored obs	226		189		37	
Total obs	396		308		88	

For all Saudi Arabia firms, Corporate Governance Score (CGS) is significant at 5% and negative. The negative governance coefficient is consistent with a substitute model role for dividend (Column 1). However, when we select only the Shariah compliant firms, we find the same negative coefficient and this coefficient is insignificant (column 2). When we select only the Non-Shariah compliant firms, we find the same negative coefficient and this coefficient is significant at 5% (Column 3). The results about Corporate Governance conclude on the substitute model. The negative relationship for all firms, for Shariah Compliant firms, and for Non-Shariah compliant firms conclude that the Saudi Arabia firms pay highest dividends when they have the lowest Governance Score, and when they have a highest Governance Score, they pay fewer dividends. Our results do not support evidence provided by Mitton (2004) who uses composite scores of corporate governance for firms in nineteen emerging markets and finds that good governance is associated with higher dividend payout.

The table (5) reports also the effects of the control (or specific firms) variables on dividend policy. Size coefficient is positive for the three regressions but significant only when we select all Saudi Arabia firms. This result concludes that small firms pay lower dividend, and large firms pay more dividends. This result is consistent with Eddy and Seifert (1988), Jensen et al. (1992), Redding (1997), and Fama and French (2001) results who indicated that large firms distribute a higher amount of their net profits as cash dividends, than do small firms.

Performance variable is significant at 1% for the three regressions and positive. This result concludes on the positive relationship between performance and dividend policy. The financial literature documents that a firm's profitability is a significant and positive explanatory variable of dividend policy (Jensen et al., 1992; Fama and French, 2000). As a proxy, this study measured firm profitability by the return on equity (ROE) (Aivazian et al., 2003). Our result show that the coefficient for debt is insignificant when estimated Shariah compliant firms and Non-Shariah compliant firms. Debt variable is significant only in the first column when we choose al Saudi Arabia firms in the regression. We conclude on the negative relationship between debt policy and dividend policy.

4.5 Effects of corporate governance mechanisms on dividend levels

Table (6) reports the regression coefficients estimated from several different models of random effects Tobit regression. The results are about the effect of Corporate Governance Mechanisms (board structure, ownership structure, financial leverage, free cash flow, and Shariah governance) on dividend policy of Saudi

Arabia firms. The object of this investigation is to conclude about the outcome model or the substitute model of dividend policy developed by La Porta et al. (2000). The outcome model predicts a positive relationship between corporate governance mechanisms and dividend policy. According to this model, dividend policy is a result of other corporate governance mechanisms. But the substitute model predicts a negative relationship between corporate governance mechanisms and dividend policy and conclude that the dividend policy substitute to other corporate governance mechanisms. The first column reports the effect of corporate Governance mechanisms on dividend policy of all firms. Column 2 reports the effect of corporate governance mechanisms on dividend policy of Shariah compliant firms, and the column 3 reports results of the effect of corporate governance mechanisms on dividend policy of Non-Shariah compliant firms.

Table 6. Regression results of model 2. Effects of corporate governance mechanisms on dividend level

	Model 2					
	All firms		**Shariah compliant firms**		**Non-Shariah compliant firms**	
Explanatory Variables	**Coeff**	**T-stat**	**Coeff**	**T-stat**	**Coeff**	**T-stat**
TCA	0.01	0.50	-0.00	-0.00	-0.11	-0.85
DUAL	0.21***	1.74	0.31***	2.82	-0.57	-1.45
INDEP	0.14	0.48	-0.25	-0.87	0.85	0.85
BM	-0.02	-0.73	-0.02	-0.87	-0.12	-0.99
MOWN	-0.40	-1.35	-0.18	-0.69	-6.26	-2.45
CONC	0.44***	2.37	0.57***	2.65	-0.37	-0.41
FCF	-8.76***	-4.48	-8.68***	-4.21	-23.32	-2.06
DEBT	-0.92**	-2.75	-1.20**	-2.12	-1.43	-1.47
CGS	-0.08	-2.21	-0.06	-1.40	0.04	0.23
INDUS	-0.029	-0.26	-0.02	-0.28	0.50	1.28
SIZE	0.02	0.69	0.05	1.42	0.18	1.03
GROWTH	0.04	0.26	0.18	1.10	0.15	0.54
TANG	0.03	0.19	-0.21	-1.18	0.97	1.16
ROA	4.96***	7.31	4.20***	6.86	16.76	2.07
Descriptive statistics						
Left censored obs	170		119		51	
Uncensored obs	226		189		37	
Total obs	396		308		88	

Looking at the first the relationships between dividend and board structure variables, members' number that composes the board (TCA) is positively correlated with dividend level in column 1 when we choose all Saudi Arabia firms. The interpretation is on the outcome model. But members' number that composes the board (TCA) is negatively correlated with dividend level in column 2 when we choose Shariah compliant Saudi Arabia firms and in column 3 when we choose Non-Shariah compliant Saudi Arabia firms. The interpretation is on the substitution model. All members' number that composes the board (TCA) coefficients are insignificant. The negative coefficients are consistent with Belden et al. (2005) who argue that the greater the size of board membership, the higher is the dividend paid to shareholders. He argued that this was because more people monitoring the decisions made by the chief executive officer. The negative coefficients are also consistent with La Porta et al., (2000) and Jiraporn and Ning (2006).

For the separation in the functions of chairman and of CEO (DUAL), the coefficients in the first and second column are positive and significant at 1% but negative and insignificant in the third column. The results confirm the outcome model. Dividend policy is the result of the separation in the functions of chairman and of CEO.

For the independent members (INDEP), the coefficients in column 1 and 3 are positive. Dividend policy is the result of the independence of the members of the board. According to Bathala and Rao (1995), the firm with a high debt ratio indicated high risk and this led to an agency problem. To avoid this problem, non-executive directors should be included on the board to protect shareholders' rights. A large number of studies argued that board independence is related positively with the dividend payout ratio (Jiraporn et al., 2008; Borokhovich et al., 2005; Bathala and Rao, 1995). In the second column, for Shariah compliant firms, the dividend policy substitute to the independence of the members of the board. Shariah compliant firms tend to pay a highest dividend when they have the lowest independent member's ratio and tend to pay lowest dividend when they have the highest independent member's ratio. Al-Najjar and Hussainey (2009) examined the relationship between

dividend policy and outsider directorship for 400 non-financial UK firms. They reported a negative association between the number of outside directors and the amount of dividend paid.

For ownership structure, managerial ownership coefficients are negative. We conclude to substitution model. But these coefficients are insignificant. Ownership concentration coefficients are positive and significant at 1% when we choose all Saudi Arabia firms (column 1) and when we select only Shariah compliant firms. The coefficient is negative and insignificant when we select only the Non-Shariah compliant firms. Dividend policy for all firms and more specifically for Shariah compliant firms is the result of ownership concentration. We conclude for the outcome model. Many research find that the ownership structure in large firms may influence dividends and other financial policies (Desmetz and Lehn, 1985; Shleifer and Vishny, 1986; Morck et al., 1988; Schooley and Barney,1994; Fluck,1999; La Porta et al., 2000; Gugler and Yurtoglu, 2003).

For Free Cash Flow and debt policy, we conclude for the substitute model when we select all Saudi Arabia firms, and when we select only Shariah compliant firms. The Free Cash Flow coefficients and debt coefficients in column 1 and 2 are negative and significant at 1%. But The Free Cash Flow coefficients and debt coefficients in column 3 when we select only the Non-Shariah compliant firms are respectively negative and positive and are insignificant. Negative coefficients are consistent with the results of Jensen (1986), Holder et al., (1998), La Porta et al., (2000), and Mollah et al., (2002). A growing number of studies have found that the level of financial leverage negatively affects dividend policy (Jensen et al., 1992; Gugler and Yurtoglu, 2003; Al-Malkawi, 2007). Our negative Fee Cash Flow results are in contradiction with a number of studies suggested that firms with a greater "free cash flow" need to pay more dividends to reduce the agency costs of the free cash flow (Jensen, 1986; Holder et al., 1998; La Porta et al., 2000; and Mollah et al., 2002).

For the control variables, only performance coefficients are significant in column 1 and 2. The performance coefficients are positive. Dividend policy is positively related to performance of Saudi Arabia firms. The financial literature documents that a firm's profitability is a significant and positive explanatory variable of dividend policy (Jensen et al., 1992; Fama and French, 2000).

4.6 Effects of corporate governance improvements on dividends' sensitivity to free cash flows

Table (7) reports the regression coefficients estimated from several different models of random effects Tobit regression. The results are about the effect of Corporate Governance improvements on dividends' sensitivity to free cash flows of Saudi Arabia firms. The object of this investigation is to conclude about the outcome model or the substitute model of dividend policy developed by La Porta et al. (2000). The table (7) concludes on how corporate governance improvements affect the dividends' sensitivity to free cash flow focusing on the coefficients on the interactive variables. This is another test of the substitute and the outcome models building on the Jensen (1986) free cash flow theory. Jensen (1986)' model which states that dividend policy can extract surplus cash from management control by reducing free cash flow.

Table 7. Regression results of model 3. Effects of corporate governance improvements on dividends' sensitivity to free cash flows

	Model 3					
	All firms		**Shariah compliant firms**		**Non-Shariah compliant firms**	
Explanatory Variables	**Coeff**	**T-stat**	**Coeff**	**T-stat**	**Coeff**	**T-stat**
TCA*FCF	-0.25	-0.50	-0.71	-1.55	-2.76	-1.01
DUAL*FCF	0.59	0.22	2.09	0.68	20.81	1.16
INDEP*FCF	-16.77***	-2.64	-25.93***	-4.18	10.97	0.40
BM*FCF	-1.28**	-2.02	-1.49**	-2.55	-2.30	-0.91
MOWN*FCF	-14.32*	-1.70	-18.47**	-2.40	135.07**	2.17
CONC*FCF	4.54	1.08	-1.07	-0.26	40.99*	1.88
DEBT*FCF	-3.32	-0.38	-44.21***	-2.79	-10.89	-0.30
CGS*FCF	0.64	0.53	2.43**	2.08	-9.91**	-1.99
INDUS	-0.05	-0.60	-0.08	-0.94	0.54*	1.68
SIZE	0.00	0.38	0.04***	2.95	-0.18	-2.36
GROWTH	0.00	0.01	0.38**	2.13	-0.03	-0.14
TANG	-0.07	-0.39	-0.30*	-1.68	0.78*	1.71
ROA	5.30***	9.42	4.70***	9.00	17.33***	3.04
Descriptive statistics						
Left censored obs	170		119		51	
Uncensored obs	226		189		37	
Total obs	396		308		88	

Hence a testable implication of the outcome model is that controlling for the growth opportunities, an improvement in corporate governance will increase the sensitivity of dividends to free cash flow, because firms with more free cash flow will be forced to pay higher dividends.

The outcome model predicts a positive relationship on the interaction variables between the change in the corporate governance and the free cash flow measure. But the substitute model predicts a negative relationship on the interaction variables between corporate governance mechanisms and the free cash flow measure because improvement in other corporate governance variables reduce firms' need to force out the free cash flow through dividends.

The first column reports the effect of Corporate Governance improvements on dividends' sensitivity to free cash flows of all firms. Column 2 reports the effect of Corporate Governance improvements on dividends' sensitivity to free cash flows of Shariah compliant firms, and the column 3 reports results of the effect of Corporate Governance improvements on dividends' sensitivity to free cash flows of Non-Shariah compliant firms.

The interaction of FCF with the eight measures of the corporate governance improvements show mitigated results. For board structure, the interaction of FCF with members' number that composes the board and the separation in the functions of chairman and of CEO are insignificant. These insignificant coefficients will imply that the corporate governance improvements through members' number that composes the board and the separation in the functions of chairman and of CEO do not affect dividends through the free cash flow. For the independent members that compose the board, the coefficients are negative when we choose all Saudi Arabia Firms, Shariah compliant firms and positive when we select Non-Shariah compliant firms but are significant only when we select all Saudi Arabia Firms and Shariah compliant firms. For board meeting, the coefficients are negative and significant in the columns 1 and 2 but negative and insignificant in column 3. The negative and significant coefficients indicate that the improvements in these corporate governance mechanisms (the independent members that compose the board and board meeting) affect the dividend payouts through free cash flow. The improvements in these corporate governance mechanisms have reduced the importance of dividend policies in controlling agency costs. This is support the substitute hypothesis.

For the ownership structure, the managerial ownership interactions with FCF coefficients are negative and significant in the columns 1 and 2 but positive and significant in column 3. The improvements in managerial ownership affect the dividend payouts through free cash flow. This improvement has reduced the importance of dividend policies in controlling agency costs. This is support the substitute hypothesis for Shariah compliant firms. But for Non-Shariah compliant firms, the positive coefficient on the interactive variable between managerial ownership and the free cash flow measure confirm the outcome model. For the ownership concentration, the interactions with FCF coefficients are insignificant in the columns 1 and 2 but positive and significant in column 3. For Shariah compliant firms, the corporate governance improvements through ownership concentration do not affect dividends through the free cash flow. However, for Non-Shariah compliant firms, the corporate governance improvements through ownership concentration affect dividends through the free cash flow and have reduced the importance of dividend policies in controlling agency costs. This is support the substitute hypothesis.

For debt policy, debt interactions with FCF coefficients are negative in three columns but significant only in columns 2. For Shariah compliant firms, the corporate governance improvements through debt policy affect dividends through the free cash flow and have reduced the importance of dividend policies in controlling agency costs. This is support the substitute hypothesis.

The negative coefficients make the evidence that when better alternative corporate governance mechanisms become available, dividends become less important in controlling agency costs supporting Jensen (1986).

5 Conclusion

Our investigation into dividend policy focuses firstly on the effects of corporate governance on dividend levels, secondly on the effects of corporate governance mechanisms on dividend levels, and thirdly on the effects of the corporate governance improvements on dividends' sensitivity to free cash flow. We compare also results from all Saudi Arabia firms, Shariah compliant firms and Non-Shariah compliant firms.

For the effects of corporate governance (measured by corporate governance score) on dividend levels, we find that dividend policy is a substitute model for good governance for all Saudi Arabia firms. When we select only Shariah compliant firms, results indicate also that dividend policy is a substitute model for good governance but results are insignificant. When we select only Non-Shariah compliant firms, results indicate the same conclusion. We find that governance is associated with fewer dividends, supporting the substitute model and indicating the influence of good governance by forcing less cash to be returned to investors.

For the effects of corporate governance mechanisms on dividend levels, we find that the only variable affect the dividend levels for Non-Shariah compliant firms is the separation in the functions of chairman and of CEO supporting the substitute model. For Shariah compliant firms, dividend policy is an

outcome for the separation in the functions of chairman and of CEO and ownership concentration. Governance through the separation in the functions of chairman and of CEO and ownership concentration influences firms by forcing more cash to be returned to investors.

For the effects of the corporate governance improvements on dividends' sensitivity to free cash flow, our results support the substitute hypothesis for Shariah compliant firms regardless the board independence, board meeting, managerial ownership and debt. Improvements in these corporate governance mechanisms reduce firms' need to force out the free cash flow through dividends. For Non-Shariah compliant firms, our results support the outcome model for managerial ownership and ownership concentration.

The substitution model makes the evidence that when better alternative corporate governance mechanisms become available, dividends become less important in controlling agency costs supporting Jensen (1986). The outcome model makes evidence that dividend policy is the result of good corporate governance.

References

1. Aivazian, V., L. Booth, and S. Cleary, (2003). "Do Emerging Market Firms Follow Different Dividend Policies from U.S. firms?", Journal of Financial Research, 26, 371-387.
2. Al-Kuwari, D. (2009). "Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries". Global Economy & Finance Journal, 2 (2), 38-63.
3. Al-Malkawi, H. N., (2007). "Determinant of Corporate Dividend Policy in Jordan". Journal of Economic and Administrative Since, 23, 44-71.
4. Al-Najjar, B. and Hussainey, K. (2009). "The Association between Dividend Payout and Outside Directorships". Journal of Applied Accounting Research, 10(1), 4-19.
5. Anderson, G. J. (1986). "An Application of the Tobit Model to Panel Data: Modelling Dividend Behaviour in Canada". Working Paper, MacMaster University.
6. Bathala, C. T. and Rao, R. P. (1995). "The Determinants of Board Composition: An Agency Theory Perspective ". Managerial and Decision Economics, 16, 59-69.
7. Baysinger, B. and Butler, H. (1985). "Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition". Journal of Law, Economics, and Organization, 1, 101-124.
8. Belden, S., Fister, T. and Knapp, B. (2005). "Dividends and Directors: Do Outsiders Reduce Agency Costs?. Business and Society Review, 110(2), 171-180.
9. Bhagat, S and B, Black (2002). "The non- correlation between board independence and long-term firm performance". Journal of Corporation Law, 27, 231-274.
10. Black, F., (1976). The Dividend Puzzle, Journal of Portfolio Management, 2, 5-8.
11. Borokhovich, K. Brunarski, K. Harman, Y. and Kehr, J. (2005). "Dividends, Corporate Monitors and Agency Costs". The Financial Review, 40(1), 37-65.
12. Brickley, J. A., J. F. Coles, and R. L. Terry. (1994). "Outside Directors and the Adoptions of Poison Pills." Journal of Financial Economics, 35, 371-390.
13. DeAngelo, H., DeAngelo, L., (2006). The irrelevance of the MM dividend irrelevance theorem. Journal of Financial Economics, 79, 293-315.
14. DeAngelo, H., DeAngelo, L., Stulz, R., (2006). "Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory". Journal of Financial Economics, 81, 227–254.
15. Demsetz, H., & Lehn, K. (1985). "The structure of corporate ownership: Causes and consequences". Journal of Political Economy, 93(6), 1155–1177.
16. Easterbrook, F., (1984). "Two Agency Costs Explanations of Dividends". American Economic Review, 74, 650-659.
17. Eisenberg T., Sundgren S. et Wells M., (1998). "Larger board size and decreasing firm value in small firms ", Journal of Financial Economics, 48, 25-54.
18. Fama, E., French, K., (2001). "Disappearing dividends: changing firm characteristics or lower propensity to pay?". Journal of Financial Economics, 60, 3-43.
19. Fama, Eugene F., (1980). "Agency Problems and the Theory of the Firm", Journal of Political Economy, 88, 288-307.
20. Fluck, Z., (1999). "The Dynamics of the Manager-Shareholder Conflict." Review of Financial Studies, 12, 379-404.
21. Fosberg, R.H. and Nelson, M.R. (1999). 'Leadership structure and firm performance'. International Review of Financial Analysis, 8(1), 83-96.
22. Gooden, S.. (2001). "Participation of Stakeholders in the Corporate Governance of Islamic Financial Institutions". New Horizon, 114, 12-15.
23. Gugler, K., and B. B. Yurtoglu, (2003). "Corporate Governance and Dividend Pay-out Policy in Germany." *European Economic* Review, 47, 731 – 758.
24. Holder, M.E., Langrehr, F.W. and Hexter, J.L., (1998). "Dividend policy determinants: an investigation of the influences of stakeholder theory". Financial Management (Financial Management Association), 27(3), 73-82.
25. Huang, Ho-Chuan River. (2001). "Bayesian Analysis of the Dividend Behaviour". Applied Financial Economics, 11, 333-339.
26. Jensen, G., Solberg, D., and Zorn, T., (1992). 'Simultaneous Determination of Insider Ownership, Debt, and Dividend Policies'. Journal of Financial and Quantitative Analysis, 27, 247-263.
27. Jensen, M., (1986). "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers". American Economic Review, 76, 323-329.
28. Jensen, M.C., (1993). "The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems". Journal of Finance, 48, 831-880.
29. Jensen, Michael, and William, Meckling. (1976). "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure". Journal of Financial Economics, 4, 305-360.
30. Jiraporn, P. and Ning, Y. (2006). "Dividend Policy, Shareholder Rights, and Corporate Governance." Journal of Applied Finance, 16(2), 24-36.

31. Jiraporn, p., Kim J. and Kim, Y. (2008). "Dividend Policy and Corporate Governance Quality", Working Paper. Pennsylvania State University.
32. Kim, Byeong Soo, and G. S. Maddala. (1992). "Estimation and Specification Analysis of Models of Dividend Behavior Based on Censored Panel Data". Empirical Economics, 17, 111-124.
33. Kowalewski, O., Stetsyuk, I. and Talavera. (2007). "Corporate Governance and Dividend Policy in Poland". Working Paper. German Institute for Economic Research.
34. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R, (2000). "Agency problems and dividend policies around the world." Journal of Finance, 55, 1-33.
35. Lang, L., and R. Litzenberger, (1989). "Dividend Announcements: Cash Flow Signalling vs. Free Cash Flow Hypothesis". Journal of Financial Economics, 24, 181-191.
36. Lloyd, W., J. Jahera and D. Page, (1985). "Agency Costs and Dividend Payout Ratios". Quarterly Journal of Business and Economics, 24, 19-29.
37. Manos, R., (2002), Dividend Policy and Agency Theory: Evidence on Indian Firms , Working Paper, Institute for Development Policy and Management, University of Manchester.
38. Miller, M.H. and Modigliani, F.,(1961). "Dividend policy, growth and valuation of shares". Journal of Business, 34(4), 411-433.
39. Mitton, T., (2004). "Corporate governance and dividend policy in emerging markets". Emerging Markets Review, 5, 409-426.
40. Mollah, S., K. Keasey, and H. Short, (2002). "The Influence of Agency Costs on Dividend Policy in an Emerging Market: Evidence from the Dhaka Stock Exchange", Working Paper.
41. Morck, R., A. Shleifer and R. Vishny, (1988). "Management Ownership and Market Valuation: An Empirical Analysis". Journal of Financial Economics, 20, 293-315.
42. Rechner P. et Dalton D., (1989). "The impact of CEO as board chairperson on corporate performance: evidence vs rhetoric", Academy of Management Executive, 3, 141-143.
43. Rechner P. et Dalton D., (1991). "CEO Duality and Organizational Performance: A Longitudinal Analysis". Strategic Management Journal, 12, 155-160.
44. Rozeff, M., (1982). "Growth, Beta, and Agency Costs as Determinants of Dividend Payout Ratios". Journal of Financial Research, 5, 249-259.
45. Schooley, D.K. and L.D. Barney Jr, (1994). "Using dividend policy and managerial ownership to reduce agency costs". Journal of Financial Research, 17(3), 363-373.
46. Shleifer, A. and R.W. Vishny. (1986). "Large Shareholders and Corporate Control." The Journal of Political Economy, 94(3):461.
47. Shleifer, A. and R.W. Vishny. (1997). "A survey of corporate governance." The Journal of Finance, 52(2), 737.
48. Smith, C. and R.Watts, (1992). "The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies". Journal of Financial Economics, 32, 263-292.
49. Stulz, R., 1988. "Managerial control of voting rights: Financing policies and the market for corporate control". Journal of Financial Economics, 20, 25-54.
50. Travlos, N., V. Murinde, and K. Naser, (2002). "Dividend Policy of Companies Listed on Young Stock Exchanges: Evidence from the Muscat Stock Exchange", Working Paper.
51. Weisbach, M. S.. (1988). "Outside Directors and CEO Turnover". Journal of Financial Economics, 20, 431-460.
52. Yermack, D.. (1996). "Higher Market Valuation of Companies with a Small Board of Directors". Journal of Financial Economics, 40,185-211.