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Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries

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This paper investigates the determinants of dividend policies for firms listed on Gulf Co-operation Council (GCC) country stock exchanges . This is a case study of emerging stock exchanges, where the determinants of dividend policy have received little attention. This study used a panel dataset of non-financial firms listed on the GCC country stock exchanges between the years of 1999 and 2003. Seven hypotheses pertaining to agency cost theory were investigated using a series of random effect Tobit models. The models considered the impact of government ownership, free cash flow, firm size, growth rate, growth opportunity, business risk, and firm profitability on dividend payout ratios. The results suggest that the main characteristics of firm dividend payout policy were that dividend payments related strongly and directly to government ownership, firm size and firm profitability, but negatively to the leverage ratio. These results, taken as a whole, indicate that firms pay dividends with the intention of reducing the agency problem and maintaining firm reputation, since the legal protection for outside shareholders was limited. In addition, and as a result of the significant agency conflicts interacting with the need to built firm reputation, a firm's dividend policy was found to depend heavily on firm profitability. This may indicate that listed firms in GCC countries alter their dividend policy frequently and do not adopt a long-run target dividend policy.

1. Introduction

Dividend policy is one of the most intriguing topics in financial research. Even now, economists provide considerable attention and thought to solving the dividend puzzle, resulting in a large number of conflicting hypotheses, theories and explanations. Researchers have primarily focused on developed markets; however, additional insight into the dividend policy debate can be gained by an examination of developing countries, which is currently lacking in the literature. Dividend policy in emerging markets is often different in its nature, characteristics, and efficiency, from that of developed markets. The purpose of this paper is to identify the factors that influence the dividend policy of firms listed in GCC countries, while focusing on agency and transaction cost theory.

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This study will contribute to existing knowledge in several ways. This paper is the first study (to the author's knowledge) to examine non-financial firms in the GCC countries, where GCC states represent an important region in the world and provide a framework for the stability of oil and gas supplies to the world at large. These countries own approximately 45% of the world's crude oil reserves and around 15% of the natural gas reserves. Furthermore, they account for nearly 15% of the international production of crude oil, and their crude oil exports reach around 20% of total international exports (IMF, 2007; Al-Ibrahim, 2004).

This paper will also provide new evidence of determinants influencing the amount of dividends paid by firms from an emerging market. This is important, as one would expect that the dividend policy in an emerging market would be different from that of a developed market. Since emerging stock markets generally share a number of similar characteristics, examining the dividend policy of firms listed on the GCC countries stock exchanges could present a rich-base for future comparative research in other emerging markets. Finally, this research highlights the differences between practices in established markets and emerging markets. This has implications for investors' investment decisions.

The paper is organised as follows. Section 2 presents an in-depth literature review on dividend policy. Section 3 discusses the research hypotheses related to the factors affecting dividend policy and the proxies used to represent such factors. The modelling framework and the measures of explanatory variables are described in Section 4. A discussion on data collection is presented in Section 5. Section 6 discusses random effect Tobit models and their estimations. The results and the associated discussions are presented in Section 7. Conclusions and future research suggestions are presented in Section 8.

2. Literature Review

Dividend policy has been the subject of considerable debate since Miller and Modigliani (1961) illustrated that under certain assumptions, dividends were irrelevant and had no influence on a firm's share price. Since then, financial researchers and practitioners have disagreed with Miller and Modigliani's proposition and have argued that they based their proposition on perfect capital market assumptions, assumptions that do not exist in the real world. Those in conflict with Miller and Modigliani's ideas introduced competing theories and hypotheses to provide empirical evidence to illustrate that when the capital market is imperfect, dividends do matter. For instance, the bird in the hand theory (predating Miller and Modigliani's paper) explains that investors prefer dividends (certain) to retained earnings (less certain): therefore, firms should set a large dividend payout ratio to maximise firm share price (Gordon, 1956; Lintner, 1956; Fisher, 1961; Walter, 1963; Brigham and Gordon, 1968).

In the early 1970s and 1980s, several studies introduced tax preference theory (Brennan, 1970; Elton and Gruber, 1970; Litzenberger and Ramaswamy, 1979; Litzenberger and Ramaswamy, 1982; Kalay, 1982; John and Williams, 1985; Poterba and Summers, 1984; Miller and Rock, 1985; Ambarish et al., 1987). This theory suggests that dividends are subject to a higher tax cut than capital gains. This theory further argues that dividends are taxed directly, while capital gains tax is not

realised until a stock is sold. Therefore, for tax-related reasons, investors prefer the retention of a firm's profit over the distribution of cash dividends. The advantage of capital gains treatment, however, may lead investors to favour a low dividend payout, as opposed to a high payout. In the early 1980s, signalling theory was analysed. It revealed that information asymmetry between managers and outside shareholders allows managers to use dividends as a tool to signal private information about a firm's performance to outsiders (Aharony and Swary, 1980; Asquith and Mullins, 1986; Kalay and Loewenstein, 1985; Healy and Palepu, 1988).

Another explanation for dividend policy is based on the transaction cost and residual theory. This theory indicates that firms incurring large transaction costs, will be required to reduce dividend payouts to avoid the costs of external financing (Mueller, 1967; Higgins, 1972; Crutchley and Hansen, 1989; Alli et al., 1993; Holder et al., 1998). A different explanation, which received little consideration prior to the 1980s, relates dividend policy to the effect of agency costs (La Porta et al., 2000). Agency costs, in this case, are costs incurred in monitoring company management to prevent inappropriate behaviour. Large dividend payouts reduce internal cash flows, forcing managers to seek external financing, and thereby, making them liable to capital suppliers, thus, reducing agency costs (Rozeff, 1982; Easterbrook, 1984; Lloyd, 1985; Crutchley and Hansen, 1989; Dempsey and Laber, 1992; Alli et al., 1993; Moh'd et al., 1995; Glen et al., 1995; Holder et al., 1998; Saxena, 1999).

Dividend policy has been analysed for many decades, but no universally accepted explanation for companies' observed dividend behaviour has been established. Brealey and Myers (2005) described dividend policy as one of the top ten most difficult unsolved problems in financial economics. This description is consistent with Black (1976) who stated that "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that don't fit together".What might be important to mention, is that researchers have primarily focused on developed markets, while little attention has been paid to dividend policy in emerging markets. As a result, this field is not well established in the financial literature. Dividend policy in emerging markets is often very different in its nature, characteristics, and efficiency, from that of developed markets. In particular, the case of the GCC countries has some interesting characteristics that make the study appropriate in terms of policy recommendations for the GCC countries and other emerging countries. First, the GCC environment is unique in that taxes are not paid on dividends, or capital gains. This leads investors, in these particular countries, to favour a large dividend payout. Second, the stock exchanges in these countries are more volatile and entail a certain degree of information asymmetry, in addition to an expectation that high agency costs will be incurred. Third, governments own a significant proportion of shares in the GCC listed firms, especially large-sized firms. Therefore, government participation might create a complex setting of agency theory, whereby government involvement may duplicate the agency problem and, at the same time, served managing.

As a result of the GCC's characteristics, there is considerable interest in identifying dividend policy determinants for these companies, especially the validity of the agency explanation in the listed GCC firms. Thus, this paper continues the debate over dividends in the emerging market area, by presenting new evidence from GCC

countries. Therefore, it may be that additional insight into the dividend policy debate can be gained for the case of developing countries.

3. Factors Influencing Dividend Decision And Research Hypotheses

The previous section reviewed the framework of dividend policy and discussed several studies that tested dividend policy in emerging markets. This section formulates seven hypotheses to further examine the factors, which may affect corporate dividend policy. This section also explains the appropriate proxy variables used to measure the factors affecting dividend payouts.

Research Hypotheses

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 favour 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 favourable prices to themselves. Accordingly, the ownership structure in large firms may influence dividends and other financial policies (Desmetz, 1983; Desmetz and Lehn, 1985; Shleifer and Vishny, 1986; Morck et al., 1988; Schooley and Barney,1994; Fluck,1999; La Porta 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.

Glen et al. (1995), Gul (1999a), Naser et al. (2004) and Al-Malkawi (2007) specified that in emerging markets, government ownership is a major determinant of the dividend decision-making process. Gul (1999a) suggested a positive association between government ownership and dividends, arguing that firms with high government ownership find it less difficult to finance investment projects, and hence, can afford to distribute more dividends. Conversely, firms with lower (or no) government ownership face difficulties in raising money, and instead consequently rely on retained earnings for investments, thereby paying small dividends. Glen et al. (1995) argued that investors need to be protected in countries with poor legal systems. In addition, since governments are powerful investors, they should act as a safeguard for the minority shareholders by monitoring the insider shareholders and forcing them to disgorge cash. Naser et al. (2004) added that in an emerging market, where legal protection is limited, governments have a strong desire to build up firm reputations and avoid the exploitation of minority shareholders by paying them large dividends. They further asserted that the need for such a reputation has significant effects on young stock exchanges where there is no history of the good treatment of minority outside shareholders. In addition, this need is greater when there is high uncertainty about the future cash flow of firms.

In a recent study, Al-Malkawi (2007) found that, among large shareholders, the government is one of the most influential shareholders in affecting the dividend policy of firms listed on the Amman Stock Exchange. He explained that the government acted on behalf of the citizens, who did not control the firm directly. Therefore, in such firms, "a double principal-agent" conflict existed. This conflict may occur between citizens and government representatives, who might not act in the citizens' best interests and between government representatives and other managers. The solution to this problem is a larger payment of dividends, which reduces the cash flow available to managers, thus, reducing the agency problems of the firm. This explanation concurs with the findings of Gugler (2003), who examined the dividend policies of Australian firms.

Considering all previously discussed arguments, the following hypothesis can be formulated:

H1: The dividend payout is positively associated with government ownership

In which the percentage of shares held by the government can be used as an indicator of the firm ownership structure.

Free Cash Flow

The percentage of shares owned by different types of shareholders may not be the sole determinant of the dividend-agency relationship; the free cash flow may also be significant. 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 maximise 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). 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. Therefore, the second hypothesis becomes:

H2: The dividend payout is positively associated with free cash flow

The free cash flow to total asset ratio can be used as a proxy for the free cash flow variable.

Firm Size

Eddy and Seifert (1988), Jensen et al. (1992), Redding (1997), and Fama and French (2000) 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. Furthermore, Sawicki (2005) illustrated that dividend payouts can help to indirectly monitor the performance of managers in large firms. That is, in large firms, information asymmetry increases due to ownership dispersion, decreasing the shareholders' ability to monitor the internal and external activities of the firm, resulting in the inefficient control by management. Paying large dividends can be a solution for such a problem because large dividends lead to an increase in the need for external financing, and the need for external financing leads to an increase in the monitoring of large firms, because of the existence of creditors.

Other studies related the positive association between dividends and firm size to transaction costs. For example, Holder et al. (1998) revealed that larger firms have better access to capital markets and find it easier to raise funds at lower costs, allowing them to pay higher dividends to shareholders. This demonstrates a positive association between dividend payouts and firm size.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, 2000; Manos, 2002; Mollah 2002; Travlos et al., 2002; Al-Malkawi, 2007). Therefore, the hypothesis in regard to firm size is formulated as:

H3: The dividend payout is positively associated with firm size

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; Dempsey and Laber, 1992; Alli et al., 1993; Moh'd et al., 1995; Holder et al., 1998).

A number of other studies compared investment opportunity ratios to distinguish growth from non-growth firms (Murrali and Welch, 1989; Titman and Wessels, 1988; Gavers and Gavers, 1993; Moh'd et al., 1995). These studies revealed that growth firms, as compared to non-growth firms, exhibited a lower debt to reduce their dependence on external financing, which is costly. This explanation is consistent with Myers (1984), who stated that investment policy can be substituted for dividend payouts, therefore, reducing the agency problem, because it reduces the free cash flow. La Porta et al. (2000) investigated countries with high legal protection and revealed that fast-growth firms paid lower dividends, as the shareholders were legally protected, allowing them to wait to receive their dividends when the investment opportunities were good. On the other hand, in countries with low legal protection for shareholders, firms kept the dividend payout high , to develop and maintain a strong reputation, even when they had better investment opportunities. Several studies found that the sales/revenues growth rate was commonly used as a proxy variable for growth opportunities (Rozeff, 1982; Lloyd et al., 1985 ; Jensen et al, 1992 ; Alli et al., 1993 ; Moh'd et al., 1995 ; Holder et al., 1998; Chen et al., 1999;, Saxsena, 1999; Manos, 2002; Travlos, 2002). To retain comparability, this study also used this proxy for growth opportunities and tested the hypothesis that:

H4: The dividend payout is positively/negatively associated with growth opportunities.

Financial Leverage

A growing number of studies have found that the level of financial leverage negatively affects dividend policy (Jensen et al., 1992; Agrawal and Jayaraman, 1994; Crutchley and Hansen, 1989; Faccio et al., 2001; Gugler and Yurtoglu, 2003; Al-Malkawi, 2005). Their studies inferred that highly levered firms look forward to maintaining their internal cash flow to fulfil duties, instead of distributing available cash to shareholders and protect their creditors.

However, Mollah et al. (2001) examined an emerging market and found a direct relationship between financial leverage and debt-burden level that increases transaction costs. Thus, firms with high leverage ratios have high transaction costs, and are in a weak position to pay higher dividends to avoid the cost of external financing. To analyze the extent to which debt can affect dividend payouts, this study employed the financial leverage ratio, or ratio of liabilities (total short-term and long-term debt) to total shareholders' equity. Based on the above arguments, the following hypothesis was formulated for further investigation:

H5: The dividend payout is negatively associated with financial leverage.

Business Risk

Several studies have been used to measure the beta value, as a proxy for the systematic risk where beta measures the stock's volatility in relation to the market (Rozeff, 1982; Lloyd et al., 1985; Alli et al., 1993; Moh'd et al., 1995; Casey and Dickens, 2000).

In addition, it has been argued that high-risk firms tend to have a higher volatility in their cash flows, than low-risk firms. Consequently, the external financing requirement of such firms will increase, driving them to reduce the dividend payout to avoid costly external financing (, Higgins, 1972; McCabe, 1979; Rozeff, 1982; Chang and Rahee, 1990; Chen and Steiner, 1999). Jensen et al. (1992) contended that greater systematic risk increased the uncertainty of the direct relationship between current and expected future profits. Hence, firms avoid commitment to pay large dividends, as the uncertainty about earnings increases. Moh'd et al. (1995) also reported an inverse relationship between the dividend ratio and intrinsic business risk, proxied by beta. They indicated that firms with unstable earnings paid lower dividends, in an attempt to keep the dividend payout stable and to avoid the high cost of external financing. In contrast, Mollah (2002) found that firms listed on the Dhaka Stock Exchange paid a large dividend, even though the beta for their stock was high. He then argued that in an emerging stock exchange, the dividend might not be the most appropriate tool to convey correct information about transaction costs to the market. This study uses beta as a common proxy for firm business risk, which represents a firm's operating and financial risk (Rozeff, 1982; Loyed et al., 1985; Jensen et al., 1992; Alli et al., 1993; Moh'd et al., 1995; Holder et al., 1998; Chen et al., 1999; Saxsena, 1999; Manos, 2002).

Based on the previous discussion, the following hypothesis was formulated:

H6: The dividend payout is negatively associated with systematic risk.

Profitability

The financial literature documents that a firm's profitability is a significant and positive explanatory variable of dividend policy (Jensen et al., 1992; Han et al., 1999; Fama and French, 2000). However, there is a significant difference between dividend policies in developed and developing countries. This difference has been reported by Glen et al. (1995), showing that dividend payout rates in developing countries are approximately two-thirds of those in developed countries. Moreover, emerging market corporations do not follow a stable dividend policy; dividend payment for a given year is based on firm profitability for the same year. La Porta et al. (2000) compared countries that had strong legal protection for shareholders with those that had poor shareholder legal protection, and related that to countries with inferior quality shareholder legal protection. Their conclusion was that shareholders will take whatever cash dividend they can get from firm profits, where a dividend is perceived as unstable. Wang et al. (2002) compared the dividend policy of Chinese and UK listed companies, and found that the former tended to vote for a higher dividend payout ratio, than the latter. Moreover, UK companies had a clear dividend policy in which annual dividend increases and all companies paid a cash dividend. In contrast, Chinese companies had unstable dividend payments and their dividend ratios were heavily based on firm earnings for the same year, not on any other factor. The latter finding was consistent with that of Adaoğlu (2000), who stated that the main determinant in the amount of cash dividends in the Istanbul Stock Exchange was earnings for the same year. Any variability in the earnings of corporations was directly reflected in the cash dividend level. A similar result was reported by Pandey (2001) for Malaysian firms. Al-Malkawi (2007) identified the profitability ratio as the key determinant of the corporate dividend policy in Jordan.

As a proxy, this study measured firm profitability by the return on equity (ROE) (Aivazian et al., 2003, ap Gwilym et al., 2004). The following hypothesis was formulated to test the ROE:

H7: The dividend payout is positively associated with a firm's current profitability

4. Theoretical Framework And Measures Of Variables

To investigate the seven hypotheses created in this study associated with the impact of agency and transaction costs on dividend payment ratios of GCC listed companies, this study undertook an empirical testing of a model with the following framework:

DIV = f (GOV, FCF, SIZE, GROW, LEV, BETA, PROF)

Where: the dividend payout ratio (DIV) is the dependent variable that is defined as:

DIV = (cash dividends/net profits)*100

The dividend payout ratio indicates the percentage of profits distributed by the company among shareholders out of the net profits, or what remains after subtracting all costs (e.g., depreciation, interest, and taxes) from a company's revenues. Most of the previous studies that investigated the impact of agency theory and transaction cost theory employed dividend payout ratios as a determinant of dividend in lieu of dividend per share and dividend yield (Rozeff, 1982; Lloyd,1985; Jensen et al., 1992; Dempsey and Laber, 1992; Alli et al., 1993; Moh'd et al., 1995; Holder et al., 1998; Chen et al., 1999; Saxena, 1999; Mollah et al., 2002; Manos, 2002; Travlos, 2002). The dividend payout ratio is also used in this research, rather than dividend per share and dividend yield, for two reasons. Firstly, the dividend payout ratio takes into consideration both dividend payout and dividend retention. Such a consideration is essential, because the hypotheses to be examined in this study are concerned with the relationship between the dividend payout and the amount of cash retained in the business, as well as how this may reduce agency costs and encourage future investment. Secondly, dividend per share and dividend yield were considered unsuitable, because neither takes into account the dividend paid in relation to the income level. It may also be true that the dividend yield model is considered a measure of firm value and a return to shareholders, and therefore, it may not necessarily be related to agency theory.

To investigate whether the dividend payout ratio is affected by ownership structure, the model uses the percentage of shares owned by the government (GOV), as has been used in several existing studies (Gul, 1999a; Gugler, 2003). Free cash flow (FCF) is a measure of how much cash a company has for ongoing activities and growth after paying its bills. FCF is calculated as:

FCF = (net profit – changes in fixed assets- changes in net working capital)/total assets

Firm size (SIZE) is measured as a natural logarithm of market capitalisation. This is due to the fact that large firms will pay large dividends to reduce agency costs (Ghosh and Woolridge, 1988; Eddy and Seifert, 1988; Redding, 1997). Growth rate (GROW) is measured as the growth rate of sales (Rozeff, 1982; Lloyd et al., 1985; Jensen et al., 1992; Alli et al., 1993; Moh'd et al., 1995; Holder et al., 1998; Chen et al., 1999; Sexsena, 1999; Manos, 2002; Travlos, 2002).

Leverage ratio (LEV) is measured as the debt to equity ratio as shown below:

LEV = total debt/shareholders' equity

Debt to equity ratio has also been used as a proxy by a number of existing studies (Jensen et al., 1992; Mollah,2001; and Al-Malkawi, 2005).
Business risk is denoted by BETA, a mathematical measure of the sensitivity of the rates of return on a given stock, compared with the rates of return on the market as a whole. It is used as a proxy for business risk (Rozeff, 1982; Lloyd et al., 1985; Jensen et al., 1992; Alli et al., 1993; Moh'd et al., 1995; Holder et al., 1998; Chen et al., 1999; Sexsena, 1999; Manos, 2002). Profitability (PROF) is the ratio of net profits to the amount of money that shareholders have put into the company. ROE has been used in several studies as a proxy for firm profitability (Aivazian et al., 2003, ap Gwilym et al., 2004.) and is calculated as follows:

PROF = (Net profit/shareholder's equity)*100

This creates the assumption that the dividend ratio per year is based on firm earnings for the same year.

5. Data

In order to test the seven hypotheses related to dividend policies of the firms listed on the GCC countries' stock exchanges, the factors representing the characteristics of the firms need to be collected. As discussed previously, the dependent variable of the proposed dividend policy model is the annual dividend ratio paid by a firm, and the explanatory variables are percentages of shares of the firm held by the government, free cash flow, firm size (i.e., market capitalisation), firm growth rate, leverage ratio, business risk and firm profitability. The primary idea was to test the dividend policies of the firms listed on the GCC stock exchanges. The intention was to assemble a large sample (cross-sectional and time-series data) to obtain a good result, collecting data of the above factors for both financial and non-financial firms, for as many years as possible. At the same time, it was essential that the time period in which the factors were observed be the same for all firms. Due to limited information on financial firms, and the problem of missing data, it was not possible to collect the required data related to financial firms for the same time period. For similar reasons, the required data for non-financial firms were only available for the five years from 1999 to 2003. Although 245 non-financial firms were listed on the stock exchanges of GCC countries, the required data were available for 191 non-financial firms from 1999 to 2003.

Table 1 shows the total number of non-financial firms listed on each stock exchange of GCC countries. This table also reveals the number of firms for which the required

data were available. It can be seen that the Muscat Stock Exchange (MSE) had the highest number of non-financial firms (i.e., 75 firms), while the Doha Stock Exchange (DSE) had the lowest number of non-financial firms (i.e., 10 firms) for which the required data were available. Table 1 also illustrates that data were available for only 53% of the firms listed on the DSE. 9 out of 19 firms did not publish the required data prior to 2003, and therefore, these firms were excluded from the sample.

Table 1: Non-financial firms within GCC countries' stock exchanges

Market name	Total number of Listed firms	Total number of firms for which required data were available	% of available firms
Kuwait Stock Exchange (Kuwait)	59	37	63%
Saudi Arabia Stock Exchange (Saudi Arabia)	62	57	92%
Muscat Stock Exchange (Oman)	92	75	82%
Doha Stock Exchange (Qatar)	19	10	53%
Bahrain Stock Exchange (Bahrain)	13	12	92%
Total	**245**	**191**	**78%**

Both the dividend payout ratio and the factors affecting the dividends for 191 non-financial firms from 1999 to 2003 were collected. The primary source of these data was the 2004 Gulf Investment Guide (GIG) (Zughaibi and Kabbani institution), used to obtain the majority of the data. In addition, the directories of the national stock exchanges for each state were obtained to provide data that were not available in the Gulf Investment. However, it was difficult to obtain data on government ownership and business risk (BETA). Such data were obtained from a Saudi financial consulting firm, Zughaibi and Kabbani (www.zkfc.com). Government ownership data for Kuwait were gathered from the daily national newspapers from 1999 to 2003. Government ownership data for Qatar were obtained from an unpublished report supplied by the Doha Stock Exchange. The data on business risk for all firms, listed in the GCC stock exchanges, were also collected from Zughaibi and Kabbani.

6. Random Effects Tobit Models

Most existing studies employed a linear regression model, such as a multiple regression, random effects and fixed effects linear model, to investigate dividend payout ratios. In such models, it is assumed that the values of all dependent and explanatory variables are treated as known for the entire sample. However, there are some cases, in real-life, where the sample is limited by truncation or censoring. Censoring of a sample only occurs when the explanatory variables are observed for the entire sample, but there is limited information about the response variable for a portion of the sample (Long, 1997). In other words, the response variable is not observed for the entire range of the sample. For example, many of the non-financial firms in the GCC stock exchange do not pay dividends (the response variable of the dividend policy model) to their shareholders (Table 2). Therefore, the dividend payout ratios by these firms are not observed, even though the characteristics of the firms (the explanatory variables of the model) are observed for all firms. Truncation limits the sample more severely, than censoring by excluding the observations based

on a threshold of the dependent variable. An example of a truncation sample, in our case, would be one that excluded from the sample, those firms that do not pay dividends. It is worth noting that censoring does not change the sample, but truncation does.

Table 2: Listed number of non-financial firms and the summary of their dividend payouts

Country	Total number of firms	Number of firms never paid dividend	Number of firms who did not pay dividend consistently	Number of firms always paid dividend
Bahrain	12	0	1	11
Saudi arabia	57	18	20	19
Kuwait	37	2	24	11
Muscat	75	36	24	15
Doha	10	1	2	7
Total	**191**	**57**	**71**	**63**
Percentage	**100%**	**30%**	**37%**	**33%**

The firms in our sample were divided into two categories: (1) firms about whom the information on the explanatory variables, such as firms' characteristics (e.g., government ownership, and free cash flow), as well as the response variables, such as the dividend payout ratio, is available, (2) firms about whom only the information on the explanatory variables is available. Therefore, our sample is a censored sample. The appropriate model for such a censored sample is the Tobit model (Tobin, 1958).

The structural equation of the standard Tobit model is:

$$y_i^* = \boldsymbol{x}_i\boldsymbol{\beta} + \varepsilon_i \qquad (1)$$

Where: y_i^* is the latent dependent variable observed for values greater than 0 and censored for values less than, or equal to, 0. $\boldsymbol{x}_i$ is the vector of the explanatory variables observed for all cases, $\boldsymbol{\beta}$ is the vector of coefficients to be estimated, and ε_i is the error term which is assumed to be independently normally distributed, that is, $\varepsilon_i \sim N(0,\sigma^2)$.The censored variable, observed over the entire range, is defined by the following measurement equation:

$$y_i = \begin{cases} y_i^* & \text{if } y^* > 0 \\ 0 & \text{if } y^* \le 0 \end{cases} \qquad (2)$$

Estimation of the structural equation by OLS is conducted with the censored sample by taking $y = 0$ when $y^* \le 0$, or the truncated sample (that is, the sample with only $y > 0$), gives inconsistent estimates, that is, it underestimates the intercept and overestimates the slope, or vice versa (Long, 1997; Gujarati, 2003; Woolbridge,

2002; Hsiao, 2002). These studies have suggested the use of the Tobit model presented below:

Substituting equation (1) in (2) results in:

$$y_i = \begin{cases} \boldsymbol{x}_i\boldsymbol{\beta} + \varepsilon_i & \text{if } y^* > 0 \\ 0 & \text{if } y^* \le 0 \end{cases} \qquad (3)$$

Notice that the observed 0's on the dependent variable can mean either a "true" 0 or censored data (that is, cannot be observed). At least some of the observations in a sample must be censored data, otherwise y_i would always equal y_i^* and the true model would be a linear model, rather than a Tobit, model. The use of OLS estimation in the presence of censoring has been found to result in inconsistent estimates. The suitable estimation method, therefore, is the Maximum Likelihood (ML) estimator, as such estimates are consistent and asymptotically normal (Greene, 2003, Long 1997). This being the case, the observations were divided into two groups: (1) uncensored observations in which ML behaves the same way as the linear regression model, (2) censored observations where the specific value of y_i^* is not known, but the probability of being censored is used. According to Long (1997), the log-likelihood function for both censored and uncensored observations is given by:

$$\ln L(\beta \mid y, x) = \sum_{y_i>0}(-\ln\sigma + \ln\phi(\frac{y_i - \boldsymbol{x}_i\boldsymbol{\beta}}{\sigma}) + \sum_{y=0}\ln(1-\Phi(\frac{\boldsymbol{x}_i\boldsymbol{\beta}}{\sigma})) \qquad (5)$$

Where: $\phi(.)$ and $\Phi(.)$ represent the probability density function (pdf) and cumulative density function (cdf) of the standard normal distribution, all other terms in this model have been defined previously. The standard Tobit model may not be appropriate for the modelling of censored panel data, due to the presence of unobserved heterogeneity. Therefore, the unobserved effects (fixed and random) need to be taken into consideration. This resulted in two types of unobserved effects in Tobit models: (1) fixed, and (2) random. The literature suggests that the estimation of a fixed effects Tobit model is complex. This is because, at the present time, there is no feasible estimator for a fixed effects Tobit model (STATA, 2000). Therefore, the fixed effects Tobit model is not considered in this study. The random effects Tobit model is presented as follows (Long, 1997):

$$y_{it} = \begin{cases} \boldsymbol{x}_{it}\boldsymbol{\beta} + \alpha_i + \varepsilon_{it} & \text{if } y^* > 0 \\ 0 & \text{if } y^* \le 0 \end{cases} \qquad (4)$$

Where: α_i is the unobserved firm-specific effect assumed to be uncorrelated with $\boldsymbol{x}_{it}$, and independently and identically distributed with a zero mean and constant variance, that is, $\alpha_i \sim N(0, \sigma_u^2)$. The ML estimator is used to estimate the models parameters.

7. Results And Discussions

Table 3 presents the descriptive statistics for the variables , related to firms' characteristics, included in the models to examine the dividend policy of non-financial firms listed on the stock exchanges of GCC countries for 1999 to 2003. The mean of the dividend payout ratio of the 191 non-financial firms indicates that the firms distributed an average of 43% of their net profits as dividends. The standard deviation of the dividend payout ratio was 59.8, suggesting that the dividend payout ratio was highly dispersed. It is noticeable that the Q2 of the dividend payout ratio paid by the firms, where the government owned a proportion of the shares, was higher (45%) than that of all firms (7%). This is largely due to the fact that a large proportion of firms did not pay dividends, either consistently, or for some of the years. For instance, it was found that 30% of the firms (i.e., 57 firms) did not pay a dividend during the study period and 37% of the firms (i.e., 71 firms) paid a dividend for some years, but did not pay a dividend for all years. The third quartile, Q3, (i.e., 75th percentile) of the dividend payout ratio is 77.6, implying that 25% of firms paid dividend above 77.6%.

Table 3: Descriptive statistics of the variables used in the study for the non-financial firms listed on the GCC countries' stock exchanges for the period of 1999 to 2003

Variables	Mean		Std. Dev.		Quartiles					
					Q1		Q2		Q3	
	ALL	GS	**ALL**	GS	**ALL**	GS	**ALL**	GS	**ALL**	GS
Dividend ratio (DIV)	**42.858**	48.526	**59.811**	59.019	**0.00**	0.00	**7.00**	45.00	**77.60**	79.20
Government ownership (GOV)	**10.098**	18.358	**17.512**	20.152	**0.00**	3.00	**1.00**	8.00	**10.22**	30.00
Free cash flow (FCF)	**0.003**	0.019	**0.261**	0.247	**-0.10**	-0.09	**0.02**	0.03	**0.12**	0.14
Market Capitalisation (MC) $000	**629179**	981619	**3810788**	5102016	**9984**	6669	**53269**	26975	**210600**	210956
Growth rate (GROW)	**0.428**	0.515	**2.722**	3.027	**-0.02**	-0.01	**0.05**	0.05	**0.20**	0.19
Firm leverage (LEV)	**204.875**	108.420	**2714.892**	171.528	**17.30**	15.10	**49.90**	45.20	**129.00**	133.00
Business risk (BETA)	**0.394**	0.333	**0.474**	0.475	**0.01**	0.01	**0.28**	17.00	**0.72**	0.57
Firm profitability (PROF)	**8.649**	9.744	**12.558**	11.068	**0.00**	0.00	**5.50**	7.30	**13.80**	15.00

key:
ALL= Data for all firms
GS =Data from the firms where the government owned a proportion of shares

Multicollinearity between explanatory variables may result in the wrong signs, or implausible magnitudes, in the estimated model coefficients, and the bias of the standard errors of the coefficients. To avoid this problem, the Variance Inflation Factor (VIF) test was used. The results of this test are presented in Table 4. The mean VIF was 1.06, which is much lower than the threshold of 10. The VIF for individual variables was also very low. This indicates that the explanatory variables included in the model were not substantially correlated with each other.

Table 4: Variance Inflation Factor (VIF) for the explanatory variables

Variables	VIF	Tolerance
Firm Size (MC)	1.09	0.9186
Government ownership (GOV)	1.09	0.9196
Firm profitability (PROF)	1.08	0.9271
Free cash flow (FCF)	1.08	0.9302
Business risk (BETA)	1.05	0.9519
Growth rate (GROW)	1.01	0.9949
Firm leverage (LEV)	1.00	0.9976
Mean VIF	1.06	

To further test whether the explanatory variables were correlated, a pair-wise correlation matrix among the explanatory variables was estimated. The results are illustrated in Table 5, where it can be seen that the correlation coefficients were low (all < 0.300), suggesting that there was no multicollinearity problem among these variables.

Table 5: Correlation coefficients among the explanatory variables

Variables	GOV	FCF	MC	GROW	LEV	BETA	PROF
Government ownership (GOV)	1.0000						
Free cash flow (FCF)	0.1006	1.0000					
Firm size (MC)	0.2516	0.0229	1.0000				
Growth rate (GROW)	-0.0112	-0.0346	-0.0204	1.0000			
Firm leverage (LEV)	-0.0308	-0.0355	-0.0071	0.0084	1.0000		
Business risk (BETA)	0.0785	0.1135	0.1511	-0.0616	-0.0091	1.0000	
Firm profitability (PROF)	0.1089	0.2367	0.0202	0.0046	-0.0297	0.1239	1.0000

Since the dataset is a time-series cross-sectional dataset, the random effects (RE) Tobit model was used, instead of the standard Tobit model. The estimation results for the random effects Tobit model are presented in Table 6. The model parameters were estimated using the maximum likelihood estimation (MLE) method.

As can be seen from Table 6, the statistically significant variables at the 95% confidence level are government ownership, firm size, firm leverage and firm profitability. The insignificant variables are free cash flow, growth rate and business risk. Since the variables of free cash flow, growth rate, and business risk were not significant, H3, H4, and H6 could not be supported by the data from the 191 non-financial firms considered in this study. The significant variables are discussed in more detail below.

Table 6 : Estimation results for the random effects Tobit model

	Model A		Model B	
Explanatory Variables	Coeff	t-stat	Coeff	t-stat
Government ownership (GOV)	**0.9071**	**4.96**	**0.7853**	**4.00**
Free cash flow (FCF)	-1.1757	-0.09	1.3283	0.11
ln(Firm size (MC) in US$)	**10.5845**	**4.96**	**11.3535**	**3.79**
Growth rate (GROW)	-0.8066	-0.65	-0.7939	-0.62
Firm leverage (LEV)	**-0.0705**	**-2.7**	**-0.0568**	**-2.15**
Business risk (BETA)	-9.7570	-1.21	-8.6363	-1.03
Firm profitability (ROE)	**1.0668**	**4.16**	**0.9813**	**3.68**
Country-specific dummies				
Saudi Arabia (Reference)			-	-
Bahrain			**45.1264**	**2.92**
Kuwait			**28.6671**	**2.47**
Oman			-1.4781	-0.10
Qatar			15.6187	0.97
Constant	-109.8740	-4.71	-130.5485	-3.42
Descriptive statistics				
Wald statistic	110.7800		131.6200	
P-value>Wald statistic	0.0000		0.0000	
Observations	929		929	
Left-censored observations	460		460	
Uncensored observations	469		469	
Log-likelihood function	-3073.3784		-3063.6868	
Akaike Information criterion (AIC)	6162.7568		6143.3736	

As can be seen, two types of models were estimated: (1) the RE Tobit model, estimated without country-specific dummies (Model A), and (2) the RE Tobit model, estimated with country-specific dummies (Model B). The dummy variable for Saudi Arabia was taken as a reference, when the other four dummy variables (Bahrain, Kuwait, Oman, and Qatar) were estimated. Even though both models provided similar results, in terms of their significant variables, the value of the log likelihood function was higher in Model B, suggesting that it was superior to Model A. However, the number of parameters were different in these two models. Therefore, the Akaike Information Criterion (AIC) was used to control for parameters, while comparing the goodness-of-fits for these models. The smaller the value of the AIC, the better the result. AIC for Model A was 6162.76 and for Model B was 6143.37, suggesting that Model B is superior to Model A. It was also noticed that the values of the coefficients in Model B were smaller than those of Model A, for some variables. This is not surprising, as the country specific dummies in Model B will tend to offset some of the effects of the explanatory variables.

The RE Tobit model, with country-specific dummies, were also estimated after removing the outliers found in the sample data associated with the GCC stock exchanges. Even though the sets of significant and insignificant variables of this model were the same as the model with the outliers included, the values of the parameters were different (Table 7). Moreover, the log likelihood value of the RE

Tobit model, after removing the outliers, was higher than that of the model before removing the outliers. However, the number of observations between these models was different.

The Bayesian Information Criterion (BIC) was used to control for the number of observations, while comparing the goodness-of-fit between these models. The smaller the value of the BIC, the better the goodness-of-fit. The BIC for the RE Tobit, after removing the outliers, was 6048 and for the RE Tobit model, before removing the outliers, was 6202.56. This result suggests that excluding the outliers offers an improvement. Therefore, the rest of the interpretation of the results will be based on the RE Tobit model, with the outliers excluded.

Table 7: Estimation results for random effects Tobit model: The results prior to, and after, removing the outliers

	RE Tbit model (before removing outlieres)		**RE Tbit model (after removing outlieres)**	
Explanatory Variables	Coeff	t-stat	Coeff	t-stat
Government ownership (GOV)	**0.7853**	**4.00**	**0.7150**	**4.05**
Free cash flow (FCF)	1.3283	0.11	4.0360	0.36
ln(Firm size (MC) in US$)	**11.3535**	**3.79**	**9.0409**	**3.29**
Growth rate (GROW)	-0.7939	-0.62	-2.4158	-1.06
Firm leverage (LEV)	**-0.0568**	**-2.15**	**-0.0495**	**-2.09**
Business risk (BETA)	-8.6363	-1.03	-6.1822	-0.81
Firm profitability (ROE)	**0.9813**	**3.68**	**1.1923**	**4.17**
Constant	-130.5485	-3.42	-102.2439	-2.93
Descriptive statistics				
Wald statistic	131.6200		135.4500	
P-value>Wald statistic	0.0000		0.0000	
Observations	929		920	
Left-censored observations	460		455	
Uncensored observations	469		456	
Log-likelihood function	-3063.6868		-2986.5688	
Bayesian Information Criterion(BIC)	6202.5600		6048.0000	

As discussed in the methodology section, the coefficients of the RE Tobit model represent the underlying propensity to pay a dividend, that is, the impact of a change in an explanatory variable on the unconditional expectation of the unobserved or latent variable, y^*. Figure 1 illustrates the comparison between the model predicted dividend ratio value at the expected $E(y^* \mid x)$ and the observed dividend ratio.

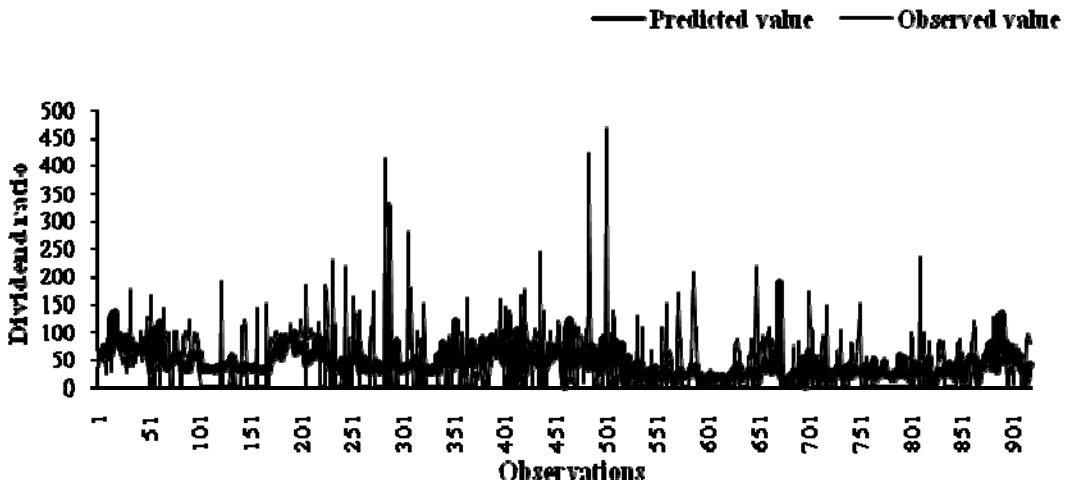

Figure 1: Observed and predicted values of the dividend ratio

It can be seen from Figure 1, that the random effects Tobit model, with country dummies, over-predicts the dividend ratio. One measure of accuracy is the model prediction error (MPE). This is given by:

$$MPE = \frac{\sum_{i=1}^{920}(y_i) - \sum_{i=1}^{920}(\hat{y}_i)}{\sum_{i=1}^{920}(y_i)} * 100 \qquad (5)$$

All symbols are as previously defined. The results reveal that the MPE is -1.36%.

In addition, a paired sample t-test was conducted to determine whether the means of the observed value and the model predicted value were the same. The results are presented in Table 8. In Table 8, it can be seen that the p-value associated with the test was 0.29, implying that the means were not significantly different.

Table 8: A paired sample t-test

	Observation	**Mean**	**Standard error**
Observed value	920	41.89467	1.810964
Predicted value	920	43.95026	0.7232347
t-statistic	-1.0541		
p-value	0.292		
Decision	**means are not different**		

However, the main interest is to estimate both the marginal effects (ME) and the elasticities of both censored (y) and uncensored ($y > 0$) variables, with respect to the continuous independent variables included in Model B. The results are illustrated in Table 9 for ME and Table 10 for the elasticities. The ME and elasticities were evaluated at the means of the variables. It is noticeable that the marginal effects of

market capitalisation (MC) were relatively low. This is because the units of the MC were in thousands of US dollars (i.e., US $1000).

Table 9 : Marginal effects (ME) on both censored and uncensored variables (ME) with respect to the continuous explanatory variables

Explanatory Variables	ME of E(y|x)	ME for E(y|y>0,x)
Government ownership (GOV)	**0.3934**	**0.2801**
Free cash flow (FCF)	2.2206	1.5813
Firm size (MC) in 000 US$	**8E-06**	**5.6E-06**
Growth rate (GROW)	-1.3292	-0.9465
Firm leverage (LEV)	**-0.0272**	**-0.0194**
Business risk (BETA)	-3.4015	-2.4222
Firm profitability (PROF)	**0.6560**	**0.4671**

The sign of the marginal effect of a variable was the same as the sign of corresponding coefficient from the RE Tobit model (Table 7). As can be seen, the marginal effects of the independent variables on the censored (y) and uncensored ($y > 0$) variables were lower than for the marginal effects of the variables on y^*. One explanation for this is the relative expected values of latent, censored, and uncensored variables. These values were found to be $E(y^* \mid x) = 13.79$, $E(y \mid x) = 43.95$, and $E(y \mid y > 0, x) = 74.37$.

If one unit in an explanatory variable was changed, then the amount of the dividend ratio paid by the firms that always paid a dividend (i.e., $y > 0$) would be less affected than the amount of the dividend ratio by all firms included in the sample. This is also true for the case of the elasticities shown in Table 10. For instance, if all else were equal, a 10% increase in government ownership would lead to an increase of 1% in the dividend payout ratio for all firms included in the sample, and only 0.4% for the firms who always paid the dividend.

Table 10: Elasticities of both censored (y) and uncensored ($y > 0$) variables, with respect to the continuous explanatory variables

Explanatory Variables	Elasticities	
	Censored variable	Uncensored variable
Government ownership (GOV)	**0.0937**	**0.0391**
Free cash flow (FCF)	0.0002	0.0001
Firm size (MC) in 000 US$	**0.1171**	**0.0488**
Growth rate (GROW)	-0.0094	-0.0039
Firm leverage (LEV)	**-0.0682**	**-0.0284**
Business risk (BETA)	-0.0313	-0.0130
Firm profitability (PROF)	**0.1314**	**0.0548**

The statistically significant variables at the 95% confidence level were government ownership (H1), firm size(H3), firm leverage (H5), and firm profitability (H6). The insignificant variables were free cash flow, growth rate, and business risk. As a result, the hypotheses H2, H4 and H6 could not be supported by the data from the 191 non-financial firms considered in this study. The interpretation of the significant variable is given below.

Government ownership appears to be a statistically significant determinant of dividend policy in the companies listed on the stock exchanges of GCC countries. This result supports Hypothesis (H1), which suggests that government ownership and the dividend ratio should have a positive relationship. The slope coefficient of this variable is 1.08, suggesting that a 1 unit increase in government ownership would have an increase of 1.08 units in the dividend ratio (ceteris paribus). Furthermore, the elasticity of the dividend payout ratio, with respect to government ownership, is found to be 0.25, suggesting that a 10% increase in government ownership would increase the dividend ratio by 2.5%. One explanation for the positive association between the dividend payout ratio and government ownership is that firms in which the governments own a percentage of their shares are able to pay higher dividends, because government ownership itself can attract external funds more easily. Consequently, they have less difficulty raising external funds to finance investments. In contrast, firms with low, or no, government ownership are more likely to experience difficulty raising funds and are, therefore, likely to depend on retained earnings for investment purposes, thus reducing the dividend payout (Gul, 1999a).

Another possible reason for this positive relationship is that in GCC countries, where the legal protection for outside shareholders is poor, investors need to be protected. Because the government, which may be seen as acting on behalf of minority shareholders, is a powerful investor, the controlling shareholders may be forced to pay a large dividend to avoid exploiting minority shareholders, and thereby, reducing agency conflict (Glen et al., 1995; Naser, 2004). An alternative hypothesis suggests that government involvement may exacerbate the agency problem. It may also promote a positive association between their ownership and dividend payout. In this case, agency problems may occur between citizens (who are not directly in control) and government representatives, since they might not act in the best interests of citizens. In addition, this may be true between the state-owner and other managers, because managers often look to benefit themselves in the expense of outside shareholders. Therefore, governments may solve this problem by encouraging the company to pay large dividends, which would reduce free cash flow in the hands of managers, and, at the same time, be in line with the preference of outside shareholders (Al-Malkawi, 2005).

furthermore , the governments of GCC countries are looking to diversify their economic resources, because of ongoing deficits in state budgets and the negative impact on the economies of GCC countries of fluctuations in the price of, or decreased demand for, crude oil. One way to diversify their economic resources, and reduce the dependency on oil revenue and the government sector, would be to develop and encourage investment in the private sector. Therefore, governments may force firms to pay large dividends, so that these large dividends can enhance the reputation of the private sector by suggesting that the exploitation of minority shareholders is avoided. This good reputation may then attract small or minority shareholders to invest in such companies

In summary, government ownership was found to have a significant effect in promoting dividend payouts. There could be several reasons for this association: (i)

government ownership itself attracts external funds more easily, (ii) a government shareholder, in countries where the legal protection is weak, becomes a powerful investor able to force the firm to disgorge cash , to avoid exploiting minority shareholders, (iii) to reduce the doubled agency conflict, and (iv) to attract investment in the private sector.

Firm size was also found to be a statistically significant determinant of dividend policy. This result supports the Hypothesis (H4) that predicts that firm size and dividend ratio should have a positive association. The slope coefficient of this variable was 2.02E-05. It is noticeable that the value of this coefficient is relatively low. This is because the units of the firm size variable is large, being in US $1000. Nevertheless, this result suggests that the dividend ratio increases with firm size. In addition, the elasticity of the dividend payout ratio, with respect to firm size, is found to be approximately 0.3, suggesting that a 10% increase in firm size, if all else were equal, would lead to an increase of about 3% in the dividend ratio. This result is in line with previous studies, namely, that larger firms are capable of paying larger dividends (Eddy and Seifert, 1988; Jensen et al., 1992; Redding, 1997; Holder et al., 1998; Fama and French, 2000; Manos 2002; Mollah 2002; Travlos et al., 2002; Al-Malkawi 2005). As mentioned previously, larger firms pay a higher cash dividend for several reasons. First, large firms face high agency costs as a result of ownership dispersion, increased complexity, and the inability of shareholders to monitor firm activity closely. Hence, such firms pay a larger dividend to reduce agency costs (Jensen and Meckling, 1976; Lloyd et al., 1985). Second, as a result of the weak control in monitoring management in large firms, a large dividend payout increases the need for external financing, which, in turn, leads to the increased monitoring of large firms by creditors. This may be a quality that is attractive to the shareholders (Sawicki, 2005). Another explanation for this positive association might be related to large firms' easier access to capital markets, and their ability to raise funds with lower issuance costs for external financing. Consequently, large firms are better able than small firms to distribute higher dividends to shareholders (Holder et al., 1998).

The firm profitability ratio appeared to be a very strong and statistically significant determinant of the dividend payout ratio. This result supports Hypothesis H9, which predicted that firm profitability and the dividend ratio should have a positive association. The slope coefficient of this variable was 2.89, suggesting that a 1 unit increase in firm profitability would increase 2.89 units in dividend payout ratio (ceteris paribus). In addition, the elasticity of the dividend payout ratio, with respect to firm profitability, was found to be 0.58, suggesting that, if all else were equal, a 10% increase in firm profitability would lead to an increase of about 5.8% in the dividend payout ratio. This is consistent with the observation that firms normally pay a higher dividend ratio when there is a rise in firm profitability.

The observed positive association between dividend payout and current firm profitability is in line with the results of Jensen et al. (1992), Han et al. (1999) and Fama and French (2000). The appearance of profitability as an important factor influencing the dividend ratio is supported by Adaoğlu (2000), Pandy (2001), Wang et al. (2002), and Al-Malkawi (2005), who indicated that the dividend decision of firms listed on emerging stock exchanges was based on their realised earnings for the same year, which might illustrate that, for these firms, the dividend smoothness/stability was less important. This finding might be related to the fact that

in GCC countries, as in other developing countries, there is inferior shareholder legal protection; consequently, shareholders will take whatever cash dividend they can get from firm profits (La Porta et al., 2000).

The ***Leverage ratio*** was found to be strongly statistically significant and negatively associated with the dividend payout ratio. This means that if the leverage ratio of a firm increased, the dividend payout ratio paid by the firm decreased. This is consistent with Hypothesis H6. The marginal effects of this variable on y and $y > 0$ were found to be -0.03 and -0.02, respectively, suggesting that a unit increase in the leverage ratio would lead to a decrease of 0.03 units in the dividend payout ratio for all firms, and 0.02 units for the firms who always paid dividends if all other factors remained constant. The corresponding elasticities of the dividend payout ratio, with respect to the leverage ratio, were -0.07 and -0.03, respectively, implying that a 10% increase in the leverage ratio would lead to a decrease of about 0.7% in the dividend payout ratio for all firms and 0.3% for the firms who always pay dividends, if all other factors were to remain constant. The reason for this negative association is that highly levered firms carry a large burden of transaction costs from external financing. In this case, firms need to maintain their internal source of funds to meet their duties, instead of distributing the available cash to shareholders as dividends (Crutchley Hansen 1989; Mollah, 2001; Faccio et al., 2001; Aivazian et al., 2004; Naser et al., 2004; Al-Malkawi, 2005). Furthermore, Jensen et al. (1992) and Agrawal and Jayaraman (1994) indicated that because levered firms had a greater commitment to their creditors, the discretionary funds available to managers would be reduced. This suggests that agency costs will also be reduced. They also conclude that debt can be a substitution for a dividend.

Statistically insignificant variables

The appearance of government ownership, firm size, and firm profitability as the significant explanatory variables, support the idea that the main aim of non-financial firms listed on the GCC countries is to reduce agency conflict and maintain firm reputation.However, a number of variables appeared to be statistically insignificant: free cash flow, growth rate, and business risk. What might be notable here is that free cash flow was the only agency theory explanatory variable found to have no influence on dividend policy, and therefore, Hypothesis H4 (the positive association between the amount of dividend payment and free cash flow) cannot be supported. This might be because the variable , government ownership, actually forced firms with high free cash flow to pay dividends. La Porta et al. (2000) supported this view and proposed an outcome model in which firms in countries with high legal protection paid higher dividends than firms in countries that had poor legal protection.

The common transaction cost variables, growth rate, leverage ratio and business risk, also appeared as insignificant variables. This suggests that transaction costs do not have a direct influence on the dividend payout policy. In other words, the firms listed on the GCC countries' stock exchanges took into account agency conflict and firm reputation, more than transaction costs, when they were making the decision to pay dividends.

8. Conclusions

The main purpose of this paper was to determine the dividend policies of the non-financial firms listed on the GCC countries (i.e., Kuwait, Saudi Arabia, Muscat, Doha, Bahrain) stock exchanges for the period of 1999-2003, and to explain their dividend payment behaviour. Since a significant number of listed firms chose not to distribute cash dividends, in some or all of the years within the study period, the random effects Tobit model was an appropriate model for testing dividend policy. A series of random effects Tobit models were estimated and seven research hypotheses were tested.

The statistically significant variables included government ownership, firm size, leverage ratio and firm profitability. The results indicated that the firms in which the government owned a proportion of the shares, paid higher dividends compared to the firms owned completely by the private sector. Furthermore, the results illustrated that the firms chose to pay more dividends when firm size and profitability were high. The model also revealed that the leverage ratio was an additional variable that affected the dividend payout ratio of a firm. One way to extend this study is to investigate the dividend payout ratios of individual states and compare the results with those of GCC countries. Another is to extend this analysis by disaggregating the firms into sectors, such as the service and industry sector. Such an analysis will assist in identifying the sectors whose firms hand out the greatest dividends, and those that offer the least.

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