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EXPLORING DETERMINANTS OF DIVIDEND PAYOUT POLI- CIES: EVIDENCE FROM KU- WAIT STOCK EXCHANGE

Key Words

*Dividend policy; Free-
Cash Flow
(Overinvestment);
Growth Options;
Agency Cost;
Signalling Hypothesis.*

Abstract

The free cash flow overinvestment hypothesis has found support in the US market as a potential explanation for the observed dividend policies. In this study, we attempt to explore potential determinants for the observed dividend policies, as well as examining whether there is support for the free cash flow hypothesis in Kuwait. We found strong variation between dividend payers and non-payers in terms of operating performance, investment opportunities, size and leverage. Dividend payers have significantly higher earnings, higher market-to-book, and lower leverage. Our results also revealed that a firm's earnings are the major determinant of dividend payout decisions in Kuwait. Surprisingly, we found that dividend-payers have significantly higher growth options, contrary to the expectations of the free cash flow hypothesis. The results also imply the existence of the agency cost problem of free cash flow. Upon testing, however, there was no evidence to support its existence, and accordingly we conclude that the agency cost problem of free cash flow is irrelevant to dividend policy determination in Kuwait.

Introduction

The topic of dividend policy played a prominent role in corporate finance theory. Many alternative theories were proposed in the literature to examine different explanations, determinants and objectives

of such policies. This paper potentially contributes to emerging market literature by exploring determinants of dividend policies as well as testing one of the major theories proposed as a potential explanation for the observed dividend policies in Kuwait.

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It has been argued in the literature that dividend policies are explained mainly by two theories: free cash flow overinvestment and cash flow signaling. The free cash flow overinvestment hypothesis argues that when management has excess capacity it will invest in perquisites, and other negative net present value projects. Distributing dividend allows a firm to reduce the free cash flow, and thereby eliminate the incentive for wasteful investment and increase the firms value (Jensen, 1986). The second hypothesis argues that a firm's dividend policy conveys significant new information. Therefore, when a company pays dividend, this act conveys management's confidence about a prospect future. Lintner (1956) and Walter (1956) were among the first to use a firm's dividend policy to signal its earning quality.

To date, there has been little empirical analysis of the cross-sectional relation of corporate dividend policies, operating performance, and investment opportunities performed in Kuwait. With a view to gaining a better understanding of this issue, this paper is devoted to accomplishing three main objectives. First, we perform a comprehensive comparison between dividend payers and non-payers over a six-year period from 1997 to 2002 for a sample of firm's listed on Kuwait Stock Exchange (KSE). Second, we examine the

cross-sectional determinants of dividend payout decision. Finally, we check whether the support for the free cash flow hypothesis, which was documented in the US, can be extended to (KSE) listed firm's.

This research is motivated by the fact that only few studies about dividend policies were conducted on Kuwait Stock Exchange (KSE), one of the worlds major emerging markets. Al-Deehani and Al-Loughani (2004) and Al-Deehani (2004) conducted two survey studies on dividend policies. They analyzed the decision-makers' perceptions by directing seven questions to the CEOs, in an attempt to provide an explanation for the observed dividend policies in Kuwait. They concluded that the clientele-effect is among the most important determinants of dividend payment. The signaling motive ranked second in importance as a motive for paying dividend.

Using a different approach, we examined possible determinants of dividend policy by focusing on a firm's specific accounting figures. The statistical tests and results presented in this paper lead to three major conclusions. First, a significant variation exists between dividend payers and non-payers in terms of operating performance, growth options, leverage, size and firm's age. Specifically, dividend payers tend to have significantly high-

er earnings, higher growth options, lower leverage, larger size, and longer age (better reputation). Second, the higher the operating performance, the higher is the cash dividend payment. Across all proposed models and in both the OLS and GLS regressions, we found that a firm's operating performance is the major determinant of dividend payout decision after controlling several other variables. Surprisingly, however, inconsistent with the findings documented in the US by Smith and Watts (1992), Dickens, Casey and Newman (2003) and others with respect to the expectations of the free cash flow hypothesis, high growth firm's in Kuwait distribute higher dividends and have lower leverage. However, after dividing the sample to high growth and low growth firms to examine whether the agency cost problem of free cash flow is relevant to dividend payment decision in Kuwait, we found no evidence for its existence. Specifically, dividend payers are characterized to be high growth firms (high market to book) and to have significantly higher operating performance, which eliminates the possibility of the existence of the agency cost problem.

This paper is divided as follows: in the next section we will provide a

literature review on the dividend topic. Section 3 describes the data, variables, expectations and methodology. Section 4 presents the results of the three major tests performed in this study: the comparison between the dividend payers and non-payers; the cross-sectional analysis to explore determinants of dividend policies; and the free cash flow (i.e., over-investment) hypothesis analysis. In the last section, we summarize the results and draw conclusions.

Literature Review

Two major hypotheses⁽¹⁾ were proposed in the finance literature as potential explanations for the observed dividend policies. The first relates to the free cash flow over-investment hypothesis, whereas the second relates to the informational asymmetries between managers and investors. On average, the evidence is supportive to the free cash flow model (Nohel and Tarhan, 1998; Lang and Litzenberger, 1989; Perfect *et al.*, 1995). The free cash flow hypothesis posits that free cash flow is a potential explanation for the favorable market reaction of dividend announcements (Rozeff and Kinney, 1982; Jensen, 1986). Dividend payments arise in an attempt to

(1) Other theories were also proposed such as the residual theory of dividend payments, tax effect model (tax-preference theory), the clientele hypothesis of dividend policies, and the bird-in-the-hand theory.

overcome the agency cost problem that results from the separation of corporate ownership and management (Jensen, 1990). In privately held firm's with tight ownership, these agency costs are trivial. However, as the ownership becomes more atomistic, few investors have the incentive to monitor corporate managers (free-ride problem), and thereby, the agency problem becomes more important. In such firm's, managers have a tendency to retain cash flows by over-investing in negative net present value projects. As a result, they are penalized by a decline for their firm's share price and a loss for their jobs. However, managers who consider the preference of their investors regarding the dividend are rewarded by more job tenure and higher share price. Lang and Litzenberger (1989) find supporting evidence consistent with the free cash flow hypothesis. Specifically, they documented a strong positive correlation between dividend announcement and firm value for over-investors. That is, firm's with lower investment options experience higher average returns upon announcement of sizable dividend changes.

The second hypothesis relates to the signaling model (Ross, 1977; Brickley, 1982; John and Williams, 1985; Healy and Palepu, 1988). Specifically, it posits that dividend policies

convey significant information about a firm's earnings. That is, a firm's decision to pay dividend conveys information about its future prospects. The literature provides a strong documentation for the favorable market reaction of announcements of dividend increases (Pettit 1972; Bhattacharya 1979; Aharony and Swary 1980; Aharony and Swary 1980; Miller and Rock 1985; DeAngelo *et al.*, 1996; Benartzi *et al.*, 1997). However, the evidence was inconclusive regarding the explanation of the market reaction. Lee and Yan (2000) propose a model in which not all dividend changes are explained by new information about future earnings. They classify the dividend decisions into backward-looking and forward-looking. The backward-looking group reflects current and past earnings, and it represents non-information events. Whereas, the forward-looking group reflects managers' superior information about future earnings, and it represents information events. The results were supportive to their proposed signaling model. Specifically, they found that the market responds only strongly to the forward-looking group.

Nohel and Tarhan (1998) specifically examined the above two hypotheses in the context of stock repurchases⁽²⁾. Their evidence was

more supportive to the free cash flow hypothesis. Specifically, they used operating performance changes surrounding repurchase announcements to differentiate between the two hypotheses. They found that the improved operating performance following repurchases is limited to the low-growth firm's. Furthermore, the gains in the operating performance are generated by more efficient utilization of the assets.

More recent articles on the dividend topic have concentrated on dividend trend and magnitude. Fama and French (2000) argued that the number and percent of dividend paying firm's had decreased significantly over the period from 1978-1998 and concluded that dividend is disappearing. However, DeAngelo, DeAngelo and Skinner (2004) found that, despite the fact that the number of dividend payers decreased by over 50%, over the past twenty years, aggregate dividend paid by industrial firm's increased. They concluded that dividend is not disappearing and that earnings concentration and volume are increasing.

Meggison (1998) provided a brief summary on the observed dividend policy patterns. Among the most important is that larger, more profitable and established firm's in mature industries tend to pay higher fractions of their earnings than younger firm's with more growth options. Therefore, profitability levels, capital investment needs, and asset characteristics seem to be important determinants of a firm's dividend policy decision (Smith and Watts, 1992; Gaver and Gaver, 1993; and Peterson and Gary, 1983).

Another pattern for the observed dividend policies described by Megginson (1998) is the dividend smoothing pattern. Specifically, firm's tend to maintain a constant dividend payout ratio for long periods of time and avoid dividend fluctuations because markets react negatively to announcements of dividend cuts and eliminations and positively to announcements of dividend increases and initiations (Healy and Palepu 1988; Michaely, Thaler and Woomack 1995; Christie 1994; and Lipson, Maquieira and Megginson 1995). In a classic article, Lintner (1956) documented that corporate managers approach dividend deci-

(2) There are two types of stock repurchases: Dutch auction self-tender offer and fixed-price self-tender offer. In a Dutch auction self-tender managers specify a range of prices within which shareholders can tender and the responses to the self-tender offer determine the price that will be paid to tendering shareholders. In a fixed-price self-tender offer managers specify a single price at which managers can tender (Lie and McConnell, 1998).

sions with great care and with the idea that the percentage of payout ratio selected will become a constant expense of the company for the foreseeable future.

Finally, Jain, Shekhar & Torby (2003) examined determinants of dividend initiations by newly public firm's. Their results generally indicate that dividend initiations depend on growth rate, external financing needs and profitability. Specifically, dividend initiation firm's exhibit slower growth and superior post IPO operating performance compared to non-dividend firm's. In this paper, we also attempt to apply the same comparison between dividend payers and non-payers, as well as finding major determinants of dividend payout policies for a sample of firm's listed on KSE. Additionally, we test the free cash flow hypothesis, described above, as a potential explanation for the observed dividend payout policies.

Data, Variables, Expectations and Methodology

Our data consists of all listed firm's on Kuwait Stock Exchange (KSE). The financial sector which includes commercial banks, investment, insurance, and real estate firm's was excluded from

the sample. These firm's were excluded because of their managerial differences relative to the industrial firm's and their vital economic role, as well as their exposure to higher degrees of regulations and monitoring by the central bank⁽³⁾. We collected detailed financial data from two major sources: several issues of the investor's guide published by Kuwait Stock Exchange (KSE) for the years from 1997 to 2002 for the manufacturing, services, and foods sectors and several issues of the investors pocket guide published by the National Investment Company for unavailable data in the KSE investor's guides.

The total number of listed firm's on KSE during year 2002 for the three sectors included in the study was 42. However, four newly listed firm's during 2002 were excluded to reach a final sample of 38 firm's with a total number of 228 observations for the six-year period. Further, ten observations were excluded for the following reasons: three firm's have only 5-year data (listed on KSE in 1998); one firm has only 4-year data (listed in 1999), and one firm has only 1-year data, because it was dropped out of the exchange in 1998. Therefore, our final sample included 218 observations for a total number of 38 firm's.

(3) In a future research, we will devote a separate study to dividend characteristics and determinants for the financial sector in Kuwait.

Table 1
Sample Description According to Industry Sector

	Manufacturing	Services	Food	All
No. of firms	21 (55%)	13 (34%)	4 (11%)	38
Mean age (2002)	24.4	23.9	31.5	25.0
% of years paid dividend	75.4	64.0	79.1	71.9
Mean size (2002)	61,643.3	77,988.1	63,341.3	67,569.6
Mean cash dividend	2,572.2	4,370.0	2,590.7	3,019.4
Median cash dividend	1,321.3	304.5	2,019.0	1,000.4
Percentage of cash dividend (%)	38.5	51.7	9.8	100.0
Median size (2002)	43,656.5	23,967.0	52,126.5	41,819.0
Mean ROA (%)	7.8	8.0	6.5	7.7
Mean leverage (%)	7.4	10.1	8.3	8.4

Notes: In calculating the means and medians of cash dividend, ROA and leverage, the six-year data for each firm is used.

Table 1 divides the sample according to the industry type and reports some summary statistics for the full sample. Three main sectors are included in this study with a total number of 38 firm's: 21 (55%) from the manufacturing sector, 13 (34%) from the service sector, and only 4 firm's (11%) from the foods sector. The service sector has the highest percentage of cash dividend (51.7%) of the total cash dividend. The average firm's age for the full sample is 25 years starting from incorporating year to year 2002. Approximately, 72 percent of the firm's in the sample pay cash dividends with the highest average for the food industry (79.1%) and

the lowest for the service sector (64%). Finally, the service sector has, on average, the highest return on assets ratio (8%) and debt ratio (10.1%), whereas the food industry has the lowest return on assets ratio (6.5%).

We used several tests to examine the determinants of dividend payments and the free cash flow hypothesis. Following is an explanation of the variables, expectations and methodological approach:

Definition of Dividend Payers

We define dividend payers as firm's which pay cash dividend at the end of the year⁽⁴⁾. We were not able to use other definitions applied previously in

(4) We tried to apply the dividend definition used previously by Healy and Palepu (1988) and Asquith and Mullins (1983) to the analysis but it was impossible. The availability of only six years' data makes it impossible to apply dividend initiation definition. Finding either the first dividend in a firms history or the first dividend after a long hiatus reduces the number of observations to only ten, which reduces the statistical significance for such a small number of observations.

Table 2
Variables Description and Calculation

Variable	Explanation
1 Assets-in-place (AIP)	The ratio of net fixed assets over the book value of total assets.
2 Market-to-book (MTB)	The ratio of market value of equity plus book value of debt divided by the book value of total assets.
3 Firms size	The log transformation of the book value of total assets.
4 Leverage I	The ratio of total value of total debt outstanding over the book value of total assets.
5 Leverage II	The ratio of long-term debt over the value of the book value of total assets.
6 Dividend yield (DY)	The ratio of KD amount of cash dividend divided by the average price per share.
7 Earning per share (EPS)	The ratio of net income over the number of shares outstanding.
8 Dividend per share (DPS)	The ratio of KD amount of cash dividend divided by the number of shares outstanding.
9 Return on assets I (ROA)	The ratio of net income divided by the book value of total assets.
10 Return on assets II (ROA II)	The ratio of gross profit divided by the book value of total assets.
11 Return on equity (ROE)	The ratio of net income divided by the book value of equity.
12 Price	The average price = (beginning year stock price + end of year stock price) / 2.
13 Firm's age	Firms age is calculated by subtracting current year (1997, 2002) from the year of incorporating.

Notes: Data were compiled from several issues of Investors Guide published by the KSE management. Six-year data are used for each firm from 1997-2002.

the literature, such as dividend initiators, for several reasons: 1) the limited number of industrial firm's listed on KSE; 2) the availability of data for a limited number of years in the Investor Guide published by KSE; 3) the majority of firm's listed on KSE are relatively new; and 4) The inconsistency in dividend patterns used by the majority of firm's listed on KSE. Accordingly, we performed all tests by using the dividend payers versus non-dividend payers definition. Finally, extending the number of years will

lead to losing more firm's from the sample, which will reduce the statistical significance of the tests.

Dividend Decision

Our major dependent variable in the analysis is a firm's dividend decision. We used several alternative proxies for dividend payment policies. A firm's dividend policy can be represented by several alternative variables: dividend yield, dividend per share, and dividend payout ratio. Dividend yield is measured as dividend divided

by the price (D_{jt}/P_{jt}), where D_{jt} is dividend per share for firm j in year t and P_{jt} is average firm j 's share price. Dividend per share is calculated as the ratio of cash dividend standardized by the average number of shares outstanding. The last variable is dividend payout ratio, which is calculated as cash dividend divided by net earnings (D_{jt}/NI_{jt}). This ratio reflects the amount of cash dividend paid to investors per year. Higher values of the previous ratios reflect higher percentage of earnings distributed.

Potential Factors Influencing Dividend Decision

Firm's Earnings

The most effective variable that can affect a firm's dividend policy decision is the net income component. Commonly, firm's distribute earnings when they attain favorable end-of-year net earnings. In this study, the operating performance variable was calculated as the net income divided by the book value of total assets (ROA). However, this item is obscured by special items and ignores the interest expenses, which can severely affect the earning component. Therefore, we introduce another more

precise and cleaner measure of earnings. It is measured as the gross profit divided by the book value of total assets (ROA2) (Barber and Lyon, 1996; Cole and Mehran, 1998; Kaplan, 1989, and others). This measure reflects the real earnings generated by the firm's operation. We divided the gross profit over the book value of total assets to measure performance. Upon testing, however, no significant difference was found between the two measures⁽⁵⁾. Due to the nature of Kuwait market we expect earning, measured basically by operating performance, to be the most important determinant of dividend decision.

Investment Opportunities

Large, established, and publicly traded firm's in mature industries tend to have more agency costs. Jensen (1986) and Easterbrook (1984) argued that the payout of dividend to shareholders can decrease the agency cost, and subsequently can enhance value. A firm's ability to pay dividend, however, can highly be influenced by its investment opportunities (Smith and Watts, 1992; Jain *et al.*, 2003). Firms with fewer growth opportunities and higher free cash flow tend to have

(5) The main reason for not finding a significant difference between the two measures is attributed to the fact that in Kuwait there is almost no taxes (3%) compared to the US. Second, most of our sample firms have a significantly low long-term debt indicating low interest charges. In addition, most of the firms in our sample rely heavily on income from investment, which tends to overstate the operating performance.

more agency cost and are more likely to distribute dividend. Whereas, firm's with more growth opportunities and lower free cash flow tend to have less agency cost and are less likely to distribute dividend. In more established and efficient markets, like the US market, higher asset in place (AIP) and lower market to book (MTB)⁽⁶⁾ ratios should be associated with higher dividend payout ratios (Barclay, Smith & Watts, 1998). However, it is highly possible that the findings documented in the US will be inconsistent in newer and less efficient markets such as KSE. Therefore, we predict that due to the nature of the Kuwaiti market the agency cost of free cash flow⁽⁷⁾ can be easily documented. Accordingly, we predict that firm's with fewer growth opportunities will pay lower dividends than firm's with higher growth opportunities.

Another explanation is proposed by Rozeff and Kinney (1982). They argued that using external capital lowers the agency cost through providing effective monitoring by the market. Therefore, firm's with fewer growth opportunities (lower MTB and higher AIP) could pay lower dividends to

escape higher degrees of monitoring by the market. Specifically, larger and more established firm's with less growth option are highly exposed to the market monitoring⁽⁸⁾. In some cases, these firm's with high debt ratios have dividend covenants that specify an upper limit on their dividend. Therefore, the higher the dividend constraints for firm's with few growth options, the lower the dividend payout ratio. On the other hand, firm's with more growth options and no dividend constraints will distribute more dividends to enhance value. Accordingly, firm's with fewer growth options will pay lower dividends.

Leverage

Leverage level can affect a firm's decision to pay dividend and the level of payout ratio. Two alternative expectations could be used to predict the relation between debt ratio and payout ratio. The first predicts a negative relation between the two variables. Specifically, under this expectation we assume that firm's use debt to cover their need for funds; consequently these firm's with higher levels of debt, on average, will have higher possibility to face financial

(6) Following a methodological approach used by Barclay, Smith and Watts (1998), we used both asset-in-place (AIP) and market to book (MTB) to measure growth options. Higher AIP and lower MTB indicate fewer growth opportunities.

(7) We thank the referee for pointing out this direction in the analysis, which enriched the present research.

(8) These firms have more debt obligations and more stock issues. Therefore, they are exposed to more market monitoring.

distress, and thereby lower ability to pay dividends. Therefore, leverage should have a negative relation with dividend payout ratio. The second assumes that firm's may increase their debt deliberately for tax purposes to maximize their earnings (Modigliani & Merton, 1963). Consequently, a positive relation may exist between leverage and payout ratio. Additionally, higher leverage could also provide a positive signal about a firm's financial position through mitigating the "information asymmetry" problem. Accordingly, higher dividend payout ratio could be associated with higher debt ratio as well. Barclay, Smith and Watts (1998) found evidence consistent with the latter argument. By testing the relation between a firm's investment opportunities and both its leverage and dividend payout ratio they found lower debt ratios and payout ratios to be associated with high growth firm's, which tend to be new firm's with bigger information asymmetry problem and lower access to capital market financing. However, firm's with fewer growth options have higher leverage and dividend payout ratios. Their findings can be justified by the fact that the higher leverage is a signal of more stable earnings and a higher ability to pay dividends. Further, firm's with higher leverage have less informational asym-

metries, and thereby have easier excess to external financing. Jain *et al.*, (2003) found significant support for the above argument as well. Specifically, they documented significantly higher leverage for the dividend initiator sample compared to the non-dividend initiator sample.

In the US, firm's have tax advantage when increasing their leverage (Modigliani & Merton, 1963; Merton, 1977); however, in Kuwait taxes have a trivial value compared to those of the US, and accordingly there is no tax deductibility advantage.⁽⁹⁾ In Kuwait, therefore, higher leverage reflects the real need for funds and should be associated with lower dividend payout ratio. Hence, we predict a negative relation between dividend payout ratio and debt ratio.

Firm Age

In this study, we used a firm's age to proxy for it's stability. In addition, a firm's age is a good indicator of it's reputation and experience in the market place. Therefore, we expect higher payout ratio to be associated with older and more established firm's. We used the date of incorporating as an alternative to the date of listing on the stock exchange to measure a firm's age.

(9) Firms in the US may increase their debt in an attempt to decrease taxes, and thereby increase profits.

Firm Size

Firm size has a significant effect on the payout ratios. Larger firm's tend to have higher payout ratios (Smith and Watts, 1992). We hypothesize that lower return variance of larger firm's enables them to have higher payout ratios. Additionally, if larger firms tend to have more stable returns and be older and more established than smaller firms we predict a positive relation between the payout ratio and firm size. We measure firm size by the log transformation of the book value of total assets.

Models Description

We estimated several models for our analysis. The first estimated model is a logit regression model, which examines the relation between a dummy dividend variable (as dependent variable)—which is set equal to 1 if the firm is a dividend payer and 0 otherwise—and several profitability measures along with a set of control variables.

In addition, we estimated another set of linear models that examines the relation between alternative measures of dividend payout policies as dependent variables and profitability measures with a set of control variables. In this set of models, we used both

ordinary least square estimation (OLS) and generalized linear model estimation (GLM). The generalized linear model estimation takes into account the covariance structure of the residuals that may arise in the type of data in hand. The structure of the panel data is composed of 38 firm's, with 6-year data for each firm. Such data may conceal correlations among the 6-year data within each firm. Therefore, we estimated the GLM regression models of type,

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + u_{it}$$

Where Y_{it} is the value of the dependent variable for firm i at year t , $i = 1, \dots, 38$; $t = 1, \dots, 6$, denoting years from 1997 to 2002; and X_{jit} is value of j th explanatory variable for firm i in year t , $j = 1, \dots, k$; and assuming the following residual covariance structure,

$$E(u'u) = \begin{bmatrix} \Omega & 0 & \dots & 0 \\ 0 & \Omega & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \dots & \Omega \end{bmatrix} \quad \text{where } \Omega = \begin{bmatrix} 1 & \rho & \rho^2 & \dots & \rho^5 \\ \rho & 1 & \rho & \dots & \rho^4 \\ \rho^2 & \rho & 1 & \dots & \rho^3 \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ \rho^5 & \rho^4 & \rho^3 & \dots & 1 \end{bmatrix}$$

to consider the correlation that may exist among the 6-year data within each firm. However, in the OLS model estimation procedure, we assumed the residual covariance structure to be $E(u'u) = \sigma^2 I$.

Results

Comparison between Dividend and Non-Dividend Payers

We divide the sample into two groups: dividend payers and non-dividend payers. We performed a parametric *t*-test and nonparametric Mann-Whitney test to examine major variation between the two groups. Table 3 reports the results of the parametric comparison *t*-test, which exhibits significant variation between the two groups. The three profitability-measure variables, ROA, ROE, and EPS were significantly higher for dividend payers with *t* statistics sig-

nificant at the 1% level (5.659, 4.231, and 7.608, respectively). Leverage was significantly lower for the dividend payers (*t* statistics of -3.290). A firm's age that is used to proxy for a firm's stability and reputation was significantly higher for dividend payers (*t* statistics of 4.202).

In Table 4, we repeated the previous comparison by using a non-parametric (Mann-Whitney) test. The non-parametric test results confirm the *t* test results. Specifically, the three measures of profitability were significantly higher for the dividend payers (*z* statistics of 7.352 for ROA, 6.895 for ROE, and 8.059 for EPS).

Table 3
A Comparison between Dividend Payers and Non-Dividend Payers,
Using Parametric *t*-test

variable	mean		t statistic	p-value
	dividend	no-dividend		
Total assets (000s KD)	57,538	42,336	1.881*	.061
Current liabilities (000s KD)	14,084	8,206	2.290**	.023
Long-term liabilities (000s KD)	4,867	7,017	- 0.935	.351
Net income (000s KD)	6,243	983	4.776***	.000
Gross profit (000s KD)	7,241	4,013	2.072**	.040
Return on assets: ROA (%)	10.1	2.1	5.659***	.000
Return on equity: ROE (%)	15.3	3.2	4.231***	.000
Earning per share: EPS (%)	4.4	0.5	7.608***	.000
Leverage I (%)	27.5	32.8	- 1.681*	.094
Leverage II (%)	6.8	12.5	- 3.290***	.000
Assets in place: AIP	25.8	31.3	- 1.767*	.079
Market to book: M/B	1.54	1.41	1.350	.179
Price earning ratio: P/E	26.8	33.5	- 0.417	.677
Firms age (years)	24.4	19.1	4.202***	.000

Notes: *, ** and *** denote significance at 10%, 5% or 1% levels, respectively. In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

Table 4
A Comparison between Dividend Payers and Non-Dividend Payers, Using
Nonparametric Mann-Whitney Test

variable	Dividend payers		Non-dividend payers		z statistic	p-value
	median	(mean rank)	median	(mean rank)		
Total assets (000s KD)	32,562	(108.7)	34,699	(109.8)	0.124	.901
Current liabilities (000s KD)	3,935	(108.9)	3,927	(109.4)	0.055	.956
Long-term liabilities (000s KD)	749	(102.6)	1,654	(124.4)	2.410**	.016
Net income (000s KD)	2,720	(124.5)	538	(69.4)	5.810***	.000
Gross profit (000s KD)	1,905	(102.2)	1,544	(82.8)	2.141**	.032
Return on assets: ROA (%)	9.3	(128.6)	2.3	(58.9)	7.352***	.000
Return on equity: ROE (%)	13.2	(127.4)	3.1	(62.0)	6.895***	.000
Earning per share: EPS (%)	2.3	(128.6)	0.4	(52.2)	8.059***	.000
Leverage I (%)	20.0	(104.9)	33.3	(119.6)	1.559	.119
Leverage II (%)	2.6	(99.8)	8.2	(132.5)	3.444***	.001
Assets in place: AIP	27.6	(104.5)	31.5	(120.5)	1.684*	.092
Market to book: M/B	1.41	(110.7)	1.27	(92.3)	1.969**	.049
Price earning ratio: P/E	12.1	(97.8)	21.7	(121.8)	2.574**	.010
Firms age (years)	23.0	(118.9)	20.0	(83.7)	3.711***	.000

Notes: *, ** and *** denote significance at 10%, 5% or 1% levels, respectively. In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

The leverage and the firm's size coefficients were also highly significant at the 1% level and in the same direction. Dividend payers have a significantly lower leverage (z statistics 3.444) and a higher age (z statistics 3.711). The lower leverage associated with the dividend payers is consistent with our expectations. The market-to-book coefficient was also opposite to what is documented in the US (Smith and Watts, 1992) and consistent with our expectations. Specifically, we hypothesized lower dividend for firm's with fewer growth options (lower MTB).

We considered another data division method by giving more consideration for a firm's attitude towards dividend. Specifically, we noticed that some firm's always distribute cash dividends across the six-year period, whereas others always do not pay dividend, and some firm's mostly pay or mostly do not pay. Therefore, we divide the sample into three main groups: always group (includes firm's that always pay dividend), mostly group (includes firm's that pay dividend in more than 50 % of the time), and rarely group (includes firm's that never pay or pay dividend in less than 50% of the time), and then performed

Table 5
A Comparison among Three Subsamples Grouped According to Dividend Paying Status, Using one-way Analysis of Variance (ANOVA) Parametric Test

variable	means according to payment frequency			t statistic	p-value
	always	mostly	rarely		
Total assets (000s KD)	74,309	37,998	39,569	6.995***	.001
Fixed assets (000s KD)	15,796	9,287	12,832	2.447*	.089
Current liabilities (000s KD)	20,413	6,107	7,741	8.464***	.000
Long-term liabilities (000s KD)	60,392	29,538	73,130	1.397	.025
Net income (000s KD)	9,163	1,965	1,297	13.960***	.000
Gross profit (000s KD)	10,400	2,453	3,866	8.798***	.000
Return on assets: ROA (%)	12.2	6.0	3.7	17.393***	.000
Return on equity: ROE (%)	18.9	8.3	5.9	10.517***	.000
Earning per share: EPS (%)	6.2	1.5	1.1	33.736***	.000
Leverage I (%)	29.8	22.2	35.0	6.281***	.002
Leverage II (%)	5.8	6.2	14.5	17.129***	.000
Assets in place: AIP	22.0	30.0	31.9	5.032***	.007
Market to book: M/B	1.76	1.36	1.32	12.327***	.000
Price earning ratio: P/E	18.2	36.4	35.1	0.719	.489
Firms age (years)	28.9	24.8	18.6	4.625**	.016

Notes: *, **, and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* Group “always” denotes firms that always pay dividend.

* Group “mostly” denotes firms that pay dividend more than 50% of the time.

* Group “rarely” denotes firms that pay 50% or less of the time.

one-way ANOVA parametric and Kruskal-Wallis non-parametric tests.

Table 5 reports the results of the one-way ANOVA parametric test, which examines the differences in means among the three groups. The test reveals several outcomes. First, the first group that always pay dividend tend to be larger in size with the highest reported value in total assets. Second, the KD value of net income and gross profit was significantly higher in the first group compared to the second and third groups. Third, all

profitability measures were significantly higher in the first and second groups than the third group, indicating evidence consistent with our expectations that dividend decisions are dictated by recent earnings. Fourth, both leverage measures were significantly lower in the first two groups compared to the third group. Reported means for Leverage II were 5.8 and 6.2 respectively, for the first two groups and 14.5 for the third group, indicating significantly lower debt for dividend payers. Market to

book (the growth opportunities proxy variable) was significantly higher in the first group compared to the other two groups. The asset in place variable was lower for the first group than the other two groups. The previous results indicate that firm's with fewer investment opportunities pay lower dividend. Finally, firm's age was, as expected, significantly higher for the first group. The second group ranked second and the third group ranked third.

Table 6 reports the results of Kruskal-Wallis nonparametric test by examining variations among the previous three groups. Again the results confirm the findings reported in the ANOVA test. All profitability measures were significantly higher for the first group with mean ranks of 144.8, 144.4, and 151.1 for ROA, ROE, and EPS, respectively. The third group has the lowest mean ranks for all profitability measures. Moreover, leverage measures are significantly lower for the first two groups compared to the third group. This result confirms our argument of low leverage for dividend payers. The low leverage and high earnings associated with the first group (always pay) provides initial support for the free cash-flow hypothesis (Jensen, 1986). Note that the lower leverage indicates lack of need for external financing. However, the MTB and the AIP median and mean

rank figures show that dividend payers with high earnings and low leverage are not low growth firm's. In fact, when low growth firm's pay lower dividend this may initially indicate the existence of the agency problem of free cash flow. Later in the paper, we will further investigate this issue.

The last comparison test in this study is another Kruskal-Wallis nonparametric test to examine variation among the three groups on a year-by-year basis. In the previous test (results shown in Tables 5 and 6), we ignored the correlation that may exist within each firm among the 6 years. Thus, Table 7 reports the results of Kruskal-Wallis test for the comparison among the three groups across all years.

Again, the three measures of profitability were significantly higher, at the 1 % level, for the first group across the six years. The second group ranked second and the third group ranked last. This result, which was robust for the three measures and for the six years, provides further and stronger support for the notion that firm's with higher earnings pay more dividends. Additionally, the leverage measure was significantly lower at the 1% level for the first group only in the last three years.

The market to book variable was significant at near the 1% level across

Table 6
A Comparison among Three Subsamples Grouped According to Dividend Paying Status, Using Kruskal-Wallis Nonparametric Test

variable	medians according to payment frequency (mean rank)			Chi-square	p-value
	always	mostly	rarely		
Total assets (000s KD)	44,708.0 (116.8)	32,029.5 (97.2)	34,829.0 (108.2)	3.690	.158
Fixed assets (000s KD)	4,209.0	5,952.5 (104.8)	7,550.0 (103.4)	2.490 (118.9)	.288
Current liabilities (000s KD)	4,396.0 (118.8)	2,465.0 (92.3)	4,562.0 (110.4)	6.779**	.034
Long-term liabilities (000s KD)	503.0 (93.9)	1,207.0 (106.3)	652.0 (131.3)	13.274***	.001
Net income (000s KD)	3,683.5 (141.8)	1,207.0 (95.4)	652.0 (77.8)	42.775***	.000
Gross profit (000s KD)	4,232.0 (119.8)	1,473.0 (76.8)	1,539.0 (83.0)	24.784***	.000
Return on assets: ROA (%)	11.0 (144.8)	6.1 (96.6)	2.5 (69.4)	57.053***	.000
Return on equity: ROE (%)	15.9 (144.4)	7.3 (90.8)	4.1 (75.7)	51.881***	.000
Earning per share: EPS (%)	4.05 (151.1)	1.15 (86.7)	0.58 (65.7)	79.228***	.000
Leverage I (%)	18.9 (108.2)	18.8 (90.5)	35.2 (127.2)	10.936***	.004
Leverage II (%)	2.4 (87.0)	3.1 (108.8)	10.9 (138.5)	25.063***	.000
Assets in place: AIP	19.6 (92.3)	33.3 (116.4)	30.7 (123.4)	10.539***	.005
Market to book: M/B	1.59 (133.5)	1.23 (90.0)	1.15 (81.0)	32.518***	.000
Price earning ratio: P/E	12.0 (97.7)	15.6 (106.3)	16.9 (110.3)	1.678	.432
Firms age (years)	27.0 (24.4)	24.0 (19.3)	21.0 (13.6)	6.343**	.042

Notes: *, **, and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* Group "always" denotes firms that always pay dividend.

* Group "mostly" denotes firms that pay dividend more than 50% of the time.

* Group "rarely" denotes firms that pay 50% or less of the time.

Table 7
A Comparison among Three Subsamples Grouped According to Dividend Paying Status on Year by Year Basis, Using Kruskal-Wallis Nonparametric Test

variable	payment frequency	mean rank according to payment frequency and year					
		1997	1998	1999	2000	2001	2002
ROA	always	22.8	25.3	25.7	25.5	23.5	25.3
	mostly	14.7	14.5	15.8	18.3	18.9	16.4
	rarely	10.6	12.7	13.0	9.1	12.9	13.1
	<i>p</i> -value	0.008***	0.004***	0.006***	0.000***	0.047**	0.011**
ROE	always	22.9	25.4	26.9	25.3	23.1	25.0
	mostly	13.1	13.6	14.6	17.4	18.9	14.6
	rarely	12.2	13.5	12.8	10.2	13.5	15.2
	<i>p</i> -value	0.008***	0.004***	0.001***	0.001***	0.079*	0.021**
EPS	always	22.5	25.9	28.5	26.1	25.6	25.7
	mostly	13.9	12.7	14.5	16.8	16.7	14.7
	rarely	9.3	11.3	10.6	9.6	12.3	14.1
	<i>p</i> -value	0.004**	0.000***	0.000***	0.000***	0.006**	0.008***
Leverage I	always	19.5	18.6	20.4	17.6	17.8	17.1
	mostly	13.7	16.6	14.6	16.7	15.7	16.1
	rarely	16.8	20.5	21.5	21.4	23.8	24.5
	<i>p</i> -value	0.349	0.691	0.272	0.545	0.187	0.133
Leverage II	always	15.1	17.2	17.4	13.5	12.8	13.3
	mostly	16.5	17.6	19.6	20.5	19.1	18.3
	rarely	20.6	21.4	20.6	23.6	27.3	28.5
	<i>p</i> -value	0.406	0.589	0.738	0.043**	0.004***	0.004***
AIP	always	15.0	17.3	15.5	14.4	16.0	16.1
	mostly	18.0	20.9	20.0	19.5	20.5	20.4
	rarely	19.1	17.8	22.8	23.2	21.6	21.6
	<i>p</i> -value	0.564	0.676	0.216	0.104	0.367	0.400
M/B	always	20.9	22.9	25.5	24.7	23.8	23.9
	mostly	15.7	15.4	14.2	14.1	14.9	14.8
	rarely	12.4	13.1	14.9	14.1	12.5	12.4
	<i>p</i> -value	0.110	0.046**	0.010**	0.012**	0.013**	0.011**
P/E	always	12.5	20.3	16.2	17.6	17.5	14.5
	mostly	16.2	18.3	21.8	20.4	11.7	20.2
	rarely	21.4	13.9	20.0	18.0	22.7	18.6
	<i>p</i> -value	0.096*	0.334	0.398	0.795	0.040**	0.367

Notes: *, **, and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* Group “always” denotes firms that always pay dividend.

* Group “mostly” denotes firms that pay dividend more than 50% of the time.

* Group “rarely” denotes firms that pay 50% or less of the time.

all years except for year 1997. This result confirms our findings of a positive relation between the market to book and dividend payout ratio. However, this relation is not consistent with the findings documented previously by Smith and Watts (1994). We attribute this inconsistency to both the attitude common among decision makers in the Kuwaiti firm's towards excess cash flow management and to the existence of the agency problem of free cash flow.

In sum, all the previous comparison tests confirm that dividend payers tend to have significantly higher earnings, lower leverage, higher growth options, larger size and to be more stable (longer age). The highly significant return on assets suggests that

dividend decisions in Kuwait are dictated by recent earnings. Moreover, the highly significant low leverage with the substantial high earnings provides initial support for the existence of the agency problem of free cash-flow. Overall, firm's pay higher cash dividend when the reported end of year earnings are high and pay no dividend when the reported end of year earnings are low or negative.

Cross-Sectional Determinants of Dividend Payout Decision

We performed a logistic regression to examine potential determinants of dividend payout decision. Table 8 shows the results of the two proposed regression models. The major dependent variable is a dummy variable that

Table 8
Determinants of Dividend Policy of Kuwaiti Firms, Using Logistic Regression

Dependent variable: Dividend (yes/no)				
	Model 1		Model 2	
	Coefficient	t-value	Coefficient	t-value
Intercept	0.1653	0.049	4.098	1.139
Return on assets	10.642	3.758***		
Earnings per share			59.814	4.548***
Leverage	- 4.1446	- 2.571**	- 5.086	- 2.995***
Market to book	0.2661	0.794		
Assets in place			- 0.8598	- 0.968
Firms age	0.0964	3.592***	0.0810	3.104***
Firms size	- 0.1134	- 0.582	- 0.2986	- 1.395

Notes:

*, ** and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* The dependent variable in both models is a dummy variable that equals 1 for dividend payer and equals 0 otherwise.

is set equal to 1 when the firm pays cash dividend, and equals 0 otherwise. In both models, the results confirm the previous findings; the ROA and the EPS coefficients were highly significant at the 1% level with t-values of 3.758 and 4.548 respectively, indicating higher earnings for dividend payers. That is, current earnings dictate dividend-paying decision.

The leverage coefficient is also consistent with our expectations. Significant at the 5% level in the first model (t-value of -2.571) and at the 1% level in the second model, dividend payers have significantly lower leverage ratios. This result can be explained by our second argument that debt in Kuwait has no tax advantage, and therefore, higher leverage reflects the real need for external financing. Moreover, leverage is considered to add burden to firm's, and thereby restrict their ability to pay dividend.

Both variables used to proxy for growth options were not significant in the logistic regression. Finally, the coefficient on firm's age, used to proxy for firm's stability, was highly significant at the 1% level in both models (t-value of 3.592 and 3.104 respectively) as hypothesized. Dividend payers tend to be older, more stable and more established than non-dividend payers.

Overall, the logistic regression results suggest that dividend payers have higher earnings, lower leverage, better reputation and experience as measured by firm's age, than non-payers.

Table 9 reports the results of three models in which three alternative dependent variables were used to proxy for dividend payout decisions; log cash dividend, dividend per share, and dividend yield. In Panel A, the main independent variable is the firm's ROA with a set of control variables. While in Panel B the main independent variable is the firm's EPS. Additionally, we used both ordinary least squares and generalized linear models to test the main determinants of dividend policies. Across the twelve models, the earning variables were significant at the 1% level indicating a significant positive relation between earnings and dividend payments. Specifically, the higher the reported end of year earnings, the higher the dividend yields. This finding suggests that the dividend decision is concurrent with the end of year reported earnings.

The second variable that was highly significant across 7 out of the 12 estimated models is the leverage variable. The coefficients were negative indicating, an inverse relation between leverage and dividend. As

Table 9
Determinants of Dividend Payment Decision for Kuwaiti Industrial Firms,
Using OLS and GLM Estimation

	Dependent variable					
	log (Cash dividend)		Dividend per share		Dividend yield	
	OLS	GLM	OLS	GLM	OLS	GLM
Panel A: Main independent variable is the return on assets						
Intercept	- 9.209 (.159)	- 8.1990 (.308)	- 0.0477* (.097)	- 0.0375 (.427)	0.0172 (.668)	0.0298 (.544)
Return on assets	23.62*** (.000)	19.99*** (.000)	0.1400*** (.000)	0.0388*** (.000)	0.1342*** (.000)	0.1189*** (.000)
Assets in place	- 2.2159 (.238)	- 2.2917 (.295)	- 0.0211** (.011)	- 0.0220*** (.009)	- 0.0143 (.233)	- 0.0202 (.157)
Leverage	- 13.258*** (.000)	- 12.662*** (.003)	- 0.0114 (.498)	- 0.0140 (.307)	- 0.0475** (.042)	- 0.0424 (.101)
Firms age	0.1642*** (.000)	0.1779*** (.002)	0.0001 (.483)	.0006 (.178)	0.0005* (.053)	0.0006* (.075)
Firms size	0.8988** (.019)	0.8378* (.076)	0.0035** (.036)	0.0029 (.292)	0.0006 (.792)	- 0.0001 (.972)
R^2	0.289		.286		0.193	
F statistic	16.91***		16.7***		9.62***	
Model p -value	(.000)		(.000)		(.000)	
Panel B: Main independent variable is earning per share						
Intercept	- 0.4282 (.947)	- 0.3351 (.966)	0.0226 (.404)	0.0222 (.446)	0.1102** (.015)	0.1158** (.020)
Earning per share	49.39*** (.000)	47.17*** (.000)	0.7587*** (.000)	0.7525*** (.000)	0.4639*** (.000)	0.4965*** (.000)
Assets in place	- 0.6791 (.717)	- 0.8665 (.692)	- 0.0056 (.476)	- 0.0047 (.573)	- 0.0097 (.467)	- 0.0101 (.490)
Leverage	- 15.512*** (.000)	- 13.975*** (.001)	- 0.0198 (.207)	- 0.0199 (.226)	- 0.0658** (.010)	- 0.0599** (.028)
Firms age	0.1610*** (.000)	0.1682*** (.003)	- 0.0001 (.461)	- 0.0001 (.532)	0.0003 (.267)	0.0004 (.300)
Firms size	0.3988 (.296)	0.3835 (.406)	- 0.0011 (.5065)	- 0.0011 (.534)	- 0.0046* (.081)	- 0.0051* (.083)
R^2	0.297		0.722		0.290	
F statistic	17.51***		107.7***		16.45***	
Model p -value	(.000)		(.000)		(.000)	

Notes:

* , ** and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* The GLM estimation considers the covariance structure of the residuals.

leverage decreases dividend payments increase. This finding indicates that firm's with low leverage have less need for external funds, which suggests excess capacity, and thereby a higher ability to pay dividend.

In the previous test, we did not account for the high number of zeros in the dependent variable—when a firm does not pay cash dividend the dependent variable is zero; therefore, in Table 10, we repeated the test by censoring all the zeros. That is, we

repeated estimating the previous twelve models by only regressing the non-zero dividend data. The R square for the new models increased significantly giving more power to the test. The results were also significant at the 1% level for all the models except the models with the dividend yield as a dependent variable. However, we can still strongly conclude that the higher the earnings, the higher the dividend. The leverage variable exhibits a less significant pattern than that showed in the previous regression. Specifically, it

Figure 1
Testing the Existence of the Agency Cost Problem of Free-cash-flow

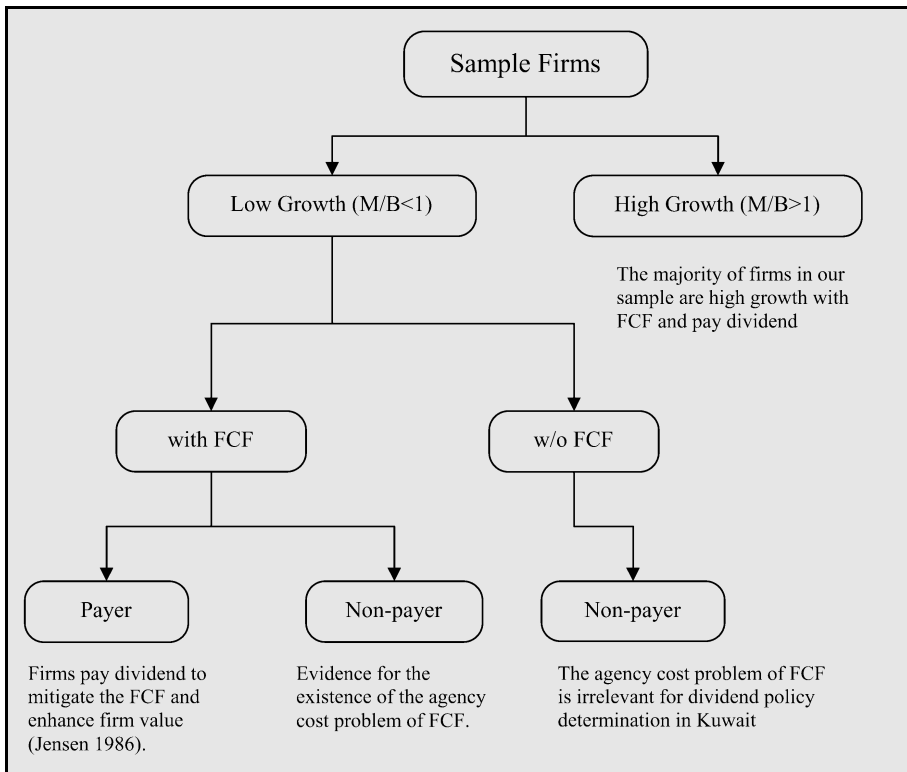


Table 10
Determinants of Dividend Payment Decision for Kuwaiti Industrial Firms,
Using OLS and GLM Estimation.

	Dependent variable					
	log (Cash dividend)		Dividend per share		Dividend yield	
	OLS	GLM	OLS	GLM	OLS	GLM
Panel A: Main independent variable is the return on assets						
Intercept	- 4.5086*** (.001)	- 1.9777 (.268)	- 0.0659** (.049)	- 0.0424 (.428)	- 0.1825 (.735)	- 0.2726 (.780)
Return on assets	7.3160*** (.000)	5.6448*** (.000)	0.2283*** (.000)	0.0825*** (.000)	- 0.3900 (.384)	- 0.1506 (.617)
Assets in place	0.1439 (.720)	0.1361 (.769)	- 0.0220** (.031)	- 0.0257** (.018)	0.280* (.087)	0.0607 (.727)
Leverage	- 2.4264*** (.007)	- 1.4799 (.111)	0.0148 (.506)	0.0028 (.886)	- 0.0958 (.795)	0.0604 (.846)
Firms age	- 0.0226** (.021)	- 0.0169 (.222)	- 0.0002 (.452)	0.0004 (.423)	- 0.0001 (.973)	0.0071 (.471)
Firms size	1.0863*** (.000)	0.9368*** (.000)	0.0047** (.015)	0.0034 (.277)	0.0146 (.644)	0.0130 (.820)
R^2	0.642		0.363		0.027	
F statistic	52.34***		16.66***		0.808	
Model p -value	(.000)		(.000)		(.546)	
Panel B: Main independent variable is earning per share						
Intercept	- 2.4627* (.064)	0.1816 (.923)	0.0165 (.619)	0.0158 (.649)	- 0.2063 (.699)	- 0.3692 (.707)
Earning per share	10.181*** (.000)	10.690*** (.000)	0.7986*** (.000)	0.7952*** (.000)	- 0.1554 (.814)	0.3353 (.573)
Assets in place	0.3858 (.354)	0.3627 (.449)	- 0.0108 (.301)	- 0.0101 (.347)	0.258 (.118)	0.0890 (.614)
Leverage	- 3.2246*** (.000)	- 1.7232* (.064)	- 0.0265 (.244)	- 0.0250 (.285)	- 0.077 (.834)	0.0878 (.779)
Firms age	- 0.0242** (.016)	- 0.0200 (.174)	- 0.0003 (.250)	- 0.0003 (.271)	- 0.0004 (.923)	0.0065 (.513)
Firms size	0.9875*** (.000)	0.1105*** (.000)	- 0.0005 (.813)	- 0.0004 (.832)	0.0149 (.641)	0.0173 (.764)
R^2	0.626		0.737		0.020	
F statistic	49.14***		82.55		0.595	
Model p -value	(.000)		(.000)		(.704)	

Notes:

*, **, and *** denote significance at 10%, 5% or 1% levels, respectively.

* In these models we re-estimated the models in Table 9 by censoring the zeros in the dependent variable.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

* The GLM estimation considers the covariance structure of the residuals.

was only significant in three models, indicating lower debt ratios for dividend payers. Finally, a firm's size was also highly significant at the 1% level in three models, indicating a higher dividend for larger firm's.

In contrast to the findings documented in our previous comparison tests with respect to the positive relation between growth opportunities and dividend payment, in none of the regression models performed in the last two Tables was this relation significant. We attribute this result to the nature of the dependent variable which does not consider the magnitude and level of cash dividend. Therefore, we further classified the sample into two groups to test the agency cost of the free cash flow hypothesis.

Testing the Free Cash Flow

The earlier analysis revealed several outcomes: 1) dividend payers have significantly higher earnings than non-payers and the higher the earnings the higher the dividend payment; 2) dividend payers have lower leverage; 3) dividend payers tend to be both larger in size and more established (measured by their age); and 4) dividend payers are, on average, high growth firm's (higher MTB). The above results suggest that the free cash flow hypothesis, proposed by Jensen (1986), is not necessarily supported but the agency cost of free cash flow,

i.e., over-investment, seems to exist among dividend payers depending on the scale of realized earnings. Specifically, the positive relation between growth opportunities and dividend payment presents opposite support to what the free cash flow hypothesis predicts. Thus, we proposed three alternative potential expectations to be associated with low growth firm's (Figure 1), viz. 1) when low firm's have excess cash-flow they should cope with this problem and pay cash dividend to protect shareholders wealth and enhance value (Jensen 1986); 2) however, if these firm's, with free cash flow, are not willing to pay cash dividend then an agency cost of free cash flow exists; and 3) but when low growth firm's have low earnings (low cash-flows), then the agency cost problem of free cash flow is irrelevant to dividend policy determination. Following a methodological approach of Lang & Litzenberger (1989), we divided the sample into two groups: high growth firm's ($MTB > 1$) and low growth firm's ($MTB < 1$).

Table 11 identifies the results of both the parametric t-test and the non-parametric Mann-Whitney test for the classified sample. Our main objective in this test is to determine the earning power of each group to examine the free cash flow hypothesis. If the realized earnings are higher for low growth firm's then the FCF hypoth-

Table 11
A t-test and Mann-Whitney Comparison Tests Between Firms
with M/B < 1 (low growth) and M/B > 1 (high growth)

variable	group	All years	2000	2001	2002
A. Parametric t-test		Mean according to M/B and year			
ROA	M/B < 1	4.3	2.7	5.5	2.0
	M/B > 1	8.8	8.1	11.1	9.5
	p-value	0.000***	0.188	0.095*	0.000***
ROE	M/B < 1	5.8	4.4	8.2	3.0
	M/B > 1	13.5	16.6	15.3	14.5
	p-value	0.000***	0.388	0.082*	0.000***
EPS	M/B < 1	1.0	1.1	1.3	0.5
	M/B > 1	3.8	4.0	6.0	5.2
	p-value	0.000***	0.008***	0.018**	0.000***
B. Mann-Whitney test		Mean rank according to M/B and year			
ROA	M/B < 1	70.9	12.5	13.1	7.1
	M/B > 1	114.9	20.8	20.6	20.2
	p-value	0.000***	0.034**	0.030**	0.000***
ROE	M/B < 1	67.3	12.1	13.1	6.6
	M/B > 1	115.9	21.0	20.6	20.3
	p-value	0.000***	0.023**	0.033**	0.000***
EPS	M/B < 1	63.9	12.4	12.5	6.6
	M/B > 1	115.7	20.9	21.0	20.3
	p-value	0.000***	0.031**	0.014**	0.000***
N	M/B < 1	45	10	14	7
	M/B > 1	165	26	20	27

Notes: *, ** and *** denote significance at 10%, 5% or 1% levels, respectively.

esis is supported; however, if the realized earnings are lower for low growth firm's then the FCF hypothesis is not supported. Both tests revealed that low growth firm's have significantly lower earnings (at the 1% level), measured by all proxies of earnings, than high growth firm's. This result suggests that low growth firm's have a lower ability to pay cash dividend to their shareholders. Additionally, this result is evident on the absence of the over-investment pro-

blem, which states that firm's with excess cash flow and few growth opportunities invest in negative net present value projects. Accordingly, these firm's are subject to sizable agency cost if the excess cash flow is not distributed to shareholders. Therefore, we can conclude that the agency problem of free cash flow is irrelevant to dividend policy determination in Kuwait since the majority of dividend payers are high growth firm's.

Table 12
Cross-Sectional Analysis for the Relation between
the Operating Performance and M/B

Dependent variable: M/B				
	Model 1		Model 2	
	Coefficient	p-value	Coefficient	p-value
Intercept	2.974***	0.000	2.512***	0.000
Return on assets	1.331***	0.000	2.054***	0.004
Leverage	- 0.405	0.480	- 0.288	0.292
Dividend per share			6.051***	0.000
Dividend (yes/no)	0.046	0.658		
Firms age	- 0.016***	0.001	- 0.014***	0.002
Firms size	- 0.047	0.249	- 0.077**	0.049
R2	0.163		0.224	
F statistic	7.884***		11.60***	
Model p-value	(.000)		(.000)	

Notes:

*, **, and *** denote significance at 10%, 5% or 1% levels, respectively.

* In calculating firms age, we subtracted current year (1997, , 2002) from the year of incorporating.

Finally, in Table 12 we performed a robustness test for the above results in which we explored the relation between a firm's growth options, earnings and dividend variables. In the first model, we used a binary variable for dividend status (1 for dividend payers, and 0 for dividend non-payers) and in the second model we used the dividend payout ratio. In both models, the two earning measures were positive and highly significant. Inconsistent with the free cash flow hypothesis expectation, higher growth firm's pay, on average, significantly higher dividend and have higher earnings. Furthermore, the relation is significantly positive, that is, the higher the MTB, the higher the earnings and cash dividend.

In fact, this result also implies that low growth firm's tend to have lower earnings and pay lower dividend. In sum, the results shown in Tables 11 and 12, collectively, lead us to conclude that the agency cost problem of free cash flow is irrelevant to dividend policy determination in Kuwait.

Summary and Conclusions

In this research paper, we attempt to examine potential determinants of dividend policies used by decision makers in Kuwait. We included firm's from three main sectors: manufacturing, services, and foods, which are listed on Kuwait stock Exchange. The study includes three major parts. In the first part, we conducted a

comprehensive comparison between dividend payers and non-payers by using both parametric and non-parametric tests. In the second part, we estimated several regression models to explore potential determinants of dividend policies and decisions. In the third part, we attempted to further examine whether the agency cost problem of free cash flow is relevant to explaining dividend policy determination in Kuwait.

However, this research was constrained by several limitations and caveats. Among the most important is the unavailability of a full set of reliable financial data. The only data that are available, both publicly and privately, are the limited data published for investors by the KSE and several other investment companies. However, for research purposes, limited data are available⁽¹⁰⁾. Additionally, there are no available databases in Kuwait as the ones available in the US such as COMPUSTAT for financial data; Lexis Nexus that includes complete annual reports and all types of data associated with public firm's; and Security Data Company database that has all types of financial data.

In spite of the above limitations, we were able to hand-collect all available data that can be used for the

benefit of this study. Our main findings can be summarized as follows. A significant variation exists between dividend payers and non-payers in terms of profitability, leverage, size, age and growth options. Specifically, dividend payers have significantly higher earnings than non-payers. This result implies that dividend payments are dictated by current earnings. Furthermore, consistent with our prediction of lower dividend for firm's with lower debt, we found that dividend payers have significantly lower leverage. This finding is contrary to what was documented in the US, mainly due to the absence of tax advantage of debt in Kuwait.

Both the OLS and GLS regression tests as well as the logistic regression revealed robust and significant evidence for the notion that the reported end-of-year earnings are the main determinant of dividend payout decision (measured by several alternative variables). Moreover, the higher the firm's earning, the higher is its dividend payment. Surprisingly, however, our analysis revealed contrary support for the relation documented in the US between growth options and payout ratio, though consistent with our prediction. Firms with few growth

(10) In the US all firms have to file a registration statement with all financial and non-financial data included. This filing is forced by the Security and Exchange Company and is available for users on EDGAR on line.

opportunities pay lower cash dividend than high growth firm's, which is tentatively consistent with the free cash flow hypothesis (Jensen, 1986). However, after dividing the sample into high MTB and low MTB, the analysis revealed another surprising finding. Dividend cash payments were associated more, on average, with high growth firm's with excessive earnings than with the low growth firm's. Specifically, our finding of lower earnings and dividend payout ratio for low growth firm's reveals that the agency cost problem of free cash flow is irrelevant to dividend determination decision in Kuwait. These findings collectively suggest that industrial firm's in Kuwait, on average, rely mainly on earnings in their dividend decision. Moreover, larger and older firm's pay higher cash dividend than smaller and younger firm's. Finally, our evidence suggests that high growth firm's pay higher cash dividend to enhance value.

Overall, the results collectively suggest that the free cash flow is irrelevant to dividend determination

in Kuwait, and so is the agency cost of free cash flow. This is very different from the wide support for this theory in the US (Nohel & Tarhan, 1998, Lang & Litzenberger, 1989). In Kuwait, earning mainly determines dividend decision, which implies that, according to this policy, dividend will follow the pattern of a firm's earnings; when earnings are stable then dividends are stable and when they are volatile so will be the dividend. Therefore, we can conclude that dividend smoothing is not a major issue to Kuwaiti firm's. Accordingly, firm's in Kuwait should realize the advantages of dividend smoothing since markets react negatively to announcements of dividend cuts and eliminations and positively to dividend increases and initiations. This paper contributes to the existing literature in several ways. It provides an empirical test for the free cash flow overinvestment hypothesis outside the US borders. Additionally, it helps policy makers in Kuwaiti firm's to consider the advantages of dividend smoothing when making their dividend decisions.

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الملخص

محددات سياسات توزيع الأرباح النقدية: دليل من سوق الكويت للأوراق المالية

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تهدف هذه الدراسة أساساً إلى البحث عن العوامل المؤثرة في سياسات توزيع الأرباح، إضافة إلى تحديد مدى انطباق نظرية التدفقات النقدية الفائضة (Free-cash flow over-investment) على السوق الكويتية. حيث لاقت نظرية التدفقات النقدية الفائضة قبولا في السوق الأمريكي بوصفها أحد التفسيرات المحتملة لسياسات توزيع الأرباح. ودلت نتائج هذه الدراسة على وجود اختلاف كبير بين الشركات الموزعة للأرباح النقدية؛ من حيث الربح التشغيلي، والفرص الاستثمارية، وحجم الأصول والمديونية. حيث تميزت الشركات الموزعة للأرباح بربحية أعلى ونسبة سوقية إلى دفترية أعلى ومديونية أقل. ولقد أشارت النتائج إلى أن العامل الرئيس في قرارات توزيع الأرباح في نهاية السنة في الشركات الكويتية محل الدراسة هو الأرباح المحققة في نهاية السنة المالية، على خلاف ما هو معمول به عالمياً. ولقد وجدنا أيضاً أن الشركات الموزعة للأرباح لديها فرص نمو أعلى وذلك على عكس توقعات نظرية التدفقات النقدية الفائضة. وأخيراً، أشارت نتائج الدراسة إشارة غير مباشرة إلى وجود مشكلة تكلفة الوكالة (Agency Cost problem)، ولكن لم نجد أي دليل يؤكد وجود هذه المشكلة. لذا، نستطيع أن نستنتج أن مشكلة تكلفة الوكالة المرتبطة بالتدفقات النقدية الفائضة ليس لها أي علاقة بسياسات توزيع الأرباح في السوق الكويتية في الفترة المدروسة.

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