Dividend Policy Behaviour in the Jordanian Capital Market

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ABSTRACT

The numerous published theoretical and empirical papers have kept dividend policy in its prominent status in the corporate finance literature. Much of the empirical research has been applied on companies listed on advanced stock markets. Employing the panel data methodology, this paper examines the dividend policy behaviour of companies listed on the Jordanian capital market. Based on the time period 1985-1999, it is concluded that Jordanian companies follow stable cash dividend policies. Moreover, the results indicate that the 1996 imposition of a 10 percent tax rate on dividends did not lead to any significant changes in their dividend policies.

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Keywords: Dividend policy; Stability; Jordanian capital market; Earnings per share;
Lagged dividend per share

I.   INTRODUCTION

Corporate finance can be thought of as the study of three main issues. First, in what long-lived assets should firms invest? The term capital budgeting is used to describe the process of making and managing expenditures on long-lived assets. Second, how can firms raise funds for their required capital investment projects? This question involves determining the "optimal" capital structure. Third, what proportion of net income should companies distribute to their shareholders (dividend policy).

In capital budgeting, it is well known that finance theory asserts that the Net Present Value (NPV) and Internal Rate of Return (IRR) are the best methods that should be used in the appraisal of capital investment projects. Indeed, techniques like the accounting rate of return are inefficient as it relies on profits and not cash flows and is not consistent with the maximization of shareholders' wealth.

The 1958 classical of Modigliani and Miller (MM) asserted that in an ideal world with perfect and complete capital markets and in the absence of taxes, the value of a firm depends only on its cash flows, and not on its debt-equity mix. In addition, the cost of capital is independent of capital structure, so that the choice between debt and equity is irrelevant and does not affect a firm's value. However, these conclusions are at variance with what one sees in the real world. The capital structure of companies does matter and banks are not likely to finance a project with one hundred percent debt.

The MM paper spurred financial economists to come up with the conditions under which an optimal financial structure would indeed matter. Broadly speaking, four theoretical approaches can be distinguished, and these are models based on tax consideration, bankruptcy and financial distress costs, agency costs and symmetric information issues. These theories identify many firm-specific factors that may affect a firm's optimal capital structure. Moreover, numerous papers examined the determinants of financing patterns of companies listed on advanced and emerging stock markets. These include, for example, Rajan and Zingales (1995), Colombo (1999), Bevan and Danbolt (2000), Mira (2001), Pandey (2001), Munteheri and Green (2002), Huang and Song (2002), and many others. Finally, recent papers (see Antoniou et al., 2002) examined the "dynamic" determinants of the capital structure of companies listed on the French, German and British stock exchanges by analyzing panel data using a two-step system-GMM procedure.

The dividend decision is probably the most controversial of the three issues of long-term financial decision making. Indeed, one of the pioneering papers on dividend policy was entitled "The Dividend Puzzle" (Black, 1976). Miller and Modigliani (1961) laid the theoretical foundation of dividend policy research. In a frictionless world, when the investment policy of a company is constant, its dividend payout policy has no impact on shareholders' wealth. In other words, higher dividend payout ratios lead to lower retained earnings and capital gains, and vice versa, leaving shareholders' wealth unaffected. Contrary to this theory however, Lintner (1956) showed that U.S. companies follow an adaptive process in their dividend policies. More specifically, companies do not tend to decrease dividends, and even if there is a decrease in net income, they tend to payout similar dividends to those distributed previously. Moreover, companies tend to increase dividends when they believe that there is a

"permanent" increase in their net income. More recent empirical papers have also supported dividend policy stability (see for example, Roy and Cheung,1985; Kato and Lowentein, 1995; Lasfer, 1996; Dewenter and Warther, 1998; Aivazian et al., 2001).

The dividend puzzle is even more serious if we take into consideration the fact that dividends might be taxed at a higher rate than capital gains. This is why "corporations have been substituting share repurchases for dividends. On the aggregate level, we show that while the average repurchase payout ratio significantly increased in the last two decades, the average payout ratio declined" (Grullon and Michaely, 2000, p.29).

A number of possible explanations of the dividend puzzle have been proposed in the literature. For example, firms signal future prospects (profitability) by paying dividends (Bhattacharya, 1979). In other words, firms that stop paying dividends or reduce dividends, experience share price decreases and hence incur higher costs due to the resultant rise in the cost of issuing new common equity. While this theory is supported by Aharony and Swany (1980), and Asquith and Mullins (1983), more recent evidence by DeAngelo et al. (1996), and Benartzi et al. (1997) showed that current dividend changes do not really help predict companies' future earnings. Agency models have also been proposed to explain the dividend puzzle. According to these theories (e.g., Jensen, 1986; Fluck, 1995; Myers, 1996; Gomes, 1996), if profits are retained, they may be diverted to unprofitable projects which benefit company insiders or used (by insiders) for personal use. In other words, shareholders prefer dividends over retained earnings.

Much of the empirical research about dividend policy has been applied on companies listed on advanced stock markets. Glen et al. (1995), however, state that dividend payout ratios in developing countries are about two thirds that of OECD countries. In addition, while these companies have target payout ratios, they do not follow stable dividend policies. Similarly, Adaoglu (2000) examined the dividend policy of corporations which are listed on the Istanbul stock exchange. Contrary to the empirical evidence which supports stability in the dividend behaviour of corporations in developed capital markets, the empirical results show that Turkish companies follow unstable cash dividend policies. In a more recent paper, Aivazian et al. (2001) examined the dividend behaviour of firms operating in eight developing countries as well as 100 US firms over the time period 1981-1990. In this study, it is stated that "the coefficient estimates on lagged dividends in these countries are well below the US estimates of 0.834-0.809, ranging from 0.083-0.120 in Turkey to 0.611-0.580 in Zimbabwe. The results for Turkey are readily explained by the dividend payment regulations, while it is puzzling that among our sample of developing countries, Zimbabwe and Jordan display the "stickiest" dividends, since both countries measured very poorly on our measures of financial market development. This may be martially attributable to the relatively small sample sizes for these countries" (Aivazian et al. 2001, p.29).

The focus of this paper is on answering three questions. First, do Jordanian listed companies follow stable cash dividend policies like those trading in more advanced capital markets? Second, are current dividends more sensitive to past dividends or to

current earnings? Finally, has the 1996 introduction of dividend tax had any impact on the dividend behaviour of listed companies?

The remainder of the paper is organized as follows. Section II provides some basic information about the Jordanian stock exchange (Amman Securities Market, ASM). In addition, this section highlights the regulatory environment for dividend policy in Jordan. Section III reviews the relevant literature. Section IV presents the data and methodology. In section V, we present and discuss the empirical results. Finally, section VI concludes the paper.

II.   AMMAN SECURITIES MARKET: SOME BACKGROUND INFORMATION

The ASM was formed on 1 January 1978. Since its formation, the market has experienced some growth in a number of aspects. Table 1 reports the number of listed companies and the ratios of market capitalization and size of new issues to GDP. When judged by the ratio of market capitalization to GDP, the increase from 37 percent in 1978 to about 76-80 percent in 2001/2 indicates the importance of the market in the national economy. Moreover, the relative size of new issues (stocks and bonds) to GDP is also an indication of the importance of the primary market.

Table 1
Listed companies and market size

Year	No. of Listed Companies	Capitalization of the Market as a % of GDP	New Issues as a % of GDP
1978	66	37%	3%
1980	71	42%	5%
1984	103	46%	2%
1988	105	49%	1%
1992	103	65%	2%
1996	97	73%	4%
1998	99	79%	2%
1999	99	73%	1%
2000	101	59%	2%
2001	102	76%	1%
2002	102	80%	1%

Source: Various ASM Annual Reports.

The performance of the ASM is less impressive if we consider the market value of traded shares. As Table 2 indicates, the market experienced sharp fluctuations (falls) in 1994-1996.

Table 2
Trading activity on the secondary market

Year	Trading Volume as a % of Market Capitalization	Trading in Ten Most Active Shares as a % of Market Trading Volume
1978	2%	75%
1980	8%	66%
1984	6%	56%
1988	12%	50%
1992	39%	48%
1996	7%	53%
1998	11%	68%
1999	9%	61%
2000	10%	65%
2001	15%	66%

Source: Various ASM Annual Reports.

Moreover, it must also be pointed out that 10 companies in each year accounted for a large proportion of the total trading volume. In other words, most listed shares are thinly traded on the secondary market. Indeed the fact that in 2000 and 2001 only 10 companies accounted for about 65% and 66% of the total market trading volume respectively and the market value of these companies' shares account for about 70% of the capitalization of all listed companies, we can state that the Jordanian stock exchange is highly concentrated in both market value of companies and trading volume.

The order-driven market making system of the ASM has no designated liquidity providers and orders are prioritized for execution in terms of price and time. By submitting a limit order, a trader provides liquidity for other market participants who demand immediacy. In other words, investors can trade via market orders and consume liquidity in the market.

As it stands, the trading mechanism in ASM suffers from one major weakness; lack of immediacy. If, for example, there is an imbalance between buy and sell orders during a trading day, successive buy (sell) orders may well get noted on the trading board without counter sell (buy) orders arriving at the market. Furthermore, any imbalance that might occur between buy and sell orders would cause the price of a stock to change. This is due to the absence of somebody (dealer) who stands ready and willing to buy a stock at the bid and sell a stock at the ask. This is perhaps why the trading volume in the shares of only 10 companies accounts for more than 70 percent of the trading volume in the shares of all listed companies.

Given the importance of the ASM in the national economy, the Jordanian capital market has seen the introduction of a number of major changes. At the forefront of these changes is the June 2000 implementation of the Electronic Trading System (ETS). This system was bought from the Paris Bourse and its' cost (10.5 million French Francs) was funded by the French government. Moreover, the Paris Bourse provided the necessary training to ensure the successful implementation of the system. This event

can be considered as a qualitative leap because it means more transparency and safety for traders and investors. The system ensures a fair and orderly entrance of all buying and selling orders into the computer and an accurate matching of supply and demand in the determination of securities prices. However, it must be noted that the market-making mechanism of the market has not changed. In other words, the "old" manual trading mechanism with which the market started has simply been replaced by an electronic system.

Since the establishment of the Jordanian capital market, investors have been enjoying a zero tax rate on capital gains and dividends. However, in 1996, the Government imposed a 10 percent tax rate on dividends. Due to this significant regulatory change and the fact that most of the distributed dividends are cash dividends (stock dividends have been rarely used), this study focuses on 2 periods (1984-1995 and 1996-1999) to examine the impact (if any) on the dividend policy behaviour of listed Jordanian companies.

III.   DIVIDEND POLICY: A LITERATURE REVIEW

In his classic paper, Lintner (1956) put forward the following model:

$$D^{*}_{i,t} = r_i P_{i,t} \qquad\qquad\qquad (1)$$
$$D_{i,t} - D_{i,t-1} = \alpha_i + c_i (D^{*}_{i,t} - D_{i,t-1}) + \varepsilon_{i,t} \qquad\qquad (2)$$

where $D^{*}_{i,t}$ is the targeted (optimum) level of dividends in time period t (company i), r_i is the target payout ratio, $P_{i,t}$ is the level of net profit, $D_{i,t}$ is the actual dividend payment in time period t and $\varepsilon_{i,t}$ is the error term.

If we look at expression (2), we can see that dividend payments are not immediately adjusted to their optimum (target) level. They are partially adjusted in each period. The positive α_i (constant) reflects that companies are reluctant to cut dividends. The coefficient (c_i) reflects the stability in dividend changes and signifies the fact that companies may not wish to immediately adjust dividend payments to the target ratio.
If we combine expressions (1) and (2), we arrive at the following model:

$$D_{i,t} = \alpha_{i,t} + bP_{i,t} + dD_{i,t-1} + \varepsilon_{i,t} \qquad\qquad (3)$$

where $b = cr$ and $d = (1-c)$.
To test for the stability in dividend policy, the above model (3) can be modified as follows:

$$DPS_{i,t} = \alpha_1 + \beta_1 EPS_{i,t} + \beta DPS_{i,t-1} + \varepsilon_{i,t} \qquad\qquad (4)$$

where $DPS_{i,t}$ is the dividend per share in time period t (company i) and $EPS_{i,t}$ is earnings per share in time period t (company i).

The above model (4) has been used by many researchers to test the stability of dividend policies in various stock markets. These include Brittain (1964, 1966), Fama and Babiak (1968), Fama (1974), Dwenter and Warther (1998) and others. These

studies agree with the results of Lintner's (1956) classical paper. In other words, US and British corporations follow stable dividend policies.

More recently, a number of empirical studies examined dividend policy stability in other capital markets. For example, Kato and Lowentein (1995) find that Japanese companies follow stable dividend policy. Similarly, this conclusion was arrived at by Shevlin (1982), Leithner and Zimmermann (1993), and Lasfer (1996) who examined Canadian, European, and British corporations respectively.

As far as emerging stock markets are concerned, Adaoglu (2000) examined the dividend policy of Turkish corporations. Contrary to the empirical evidence which supports stability, his empirical results show that Turkish companies follow unstable cash dividend policies. Based on the empirical results, it is stated that the "significant explanatory variables are the earnings per share ($EPS_{i,t}$) and the positive constant term (α_i). The lagged dividends per share explanatory variable ($DPS_{i,t-1}$) is statistically insignificant. The statistical insignificance of DPS_{i-1} is the final indicator of dividend instability, since in order to follow a stable dividend policy, management has to consider the past dividends per share trend" (Adaoglu, 2000, p.19). In a more recent paper, Aivazian et al. (2001) examine the dividend behaviour of firms operating in eight developing countries as well as 100 American firms over the time period 1981-1990. "The coefficient estimates on lagged dividends in these countries are well below the US estimates of 0.834-0.809, ranging from 0.083-0.120 in Turkey to 0.611-0.580 in Zimbabwe. The results for Turkey are readily explained by the dividend payment regulations, while it is puzzling that among our sample of developing countries, Zimbabwe and Jordan display the "stickiest" dividends, since both countries measured very poorly on our measures of financial market development. This may be partially attributable to the relatively small sample sizes for these two countries"(Aivazian et al., 2001, p. 29). In this paper, we take a longer time period (1985-1999) than that used by Aivazian et al. and moreover, the issues of the imposition of dividend tax is also examined in this paper.

IV   THE METHODOLOGY AND DATA

Based on the previous section's discussion, we use the following model to test for stability in the dividend policy of listed Jordanian companies.

$$DPS_{i,t} = \alpha_i + \beta_1 EPS_{i,t} + \beta_2 DPS_{i,t-1} + \varepsilon_{i,t} \qquad (5)$$

where $DPS_{i,t}$ is dividend per share (i) in time period (year) t, $EPS_{i,t}$ is earning per share (i) in time period t, $DPS_{i,t-1}$ is dividend per share (i) in time period t-1 and $\varepsilon_{i,t}$ is the error term.

Based on the time period (1984-1999), all listed companies are considered for inclusion in our sample. However, those companies which did not have at least 12 years of cash dividends (during the period of the study) are excluded. This is based on Dewenter and Warther's (1998) strategy and the reason for exclusion is to have enough cash dividend years for testing stability. This methodology enabled us to determine a total of 44 listed companies.

The sample data for the 44 companies enabled us form a 660 – observations balanced panel data and this number is felt large enough to arrive at meaningful statistical results. Furthermore, it must be pointed out that due to the fact that these companies constitute those who distributed cash dividends in at least 12 years during the time period of the study, it is felt that the sample is a good representation of dividend policy in the Jordanian capital market.

Employing the panel data methodology, we use the pooled ordinary least squares, the fixed effects model, and the random effects model to choose the more appropriate model for our sample.

In addition to the above, and due to the imposition of dividend tax in 1996, the research period 1985-1999 is divided into two sub-periods (1985-1995 and 1996-1999). The dummy variable approach is the used to test for any structural shift in the Lintner's model due to the regulatory change in taxes. Here we choose to introduce dummy variables into the model to measure the differential intercept and the differential earnings per share coefficient.

V.   THE EMPIRICAL RESULTS

In Table 3, we report the total net profit, cash dividends, and the dividend payout ratio of all listed companies for some selected years during the period 1978-1999. For the two sub-periods (1985-1995 and 1996-1999), the t-test and the Mann-Whitney test show that the mean dividend payout ratios are equal.

In addition, Table 4 reports some descriptive statistics about the dividend payout ratios of each sector in the market. Clearly, the banking (industrial) sector has the lowest (highest) mean payout ratio.

Table 3
Total Net Profit, Cash Dividends, and Payout Ratios
($ million)

Year	Net Profit	Cash Dividends	Payout Ratio
1978	378	153	0.405
1980	635	262	0.412
1982	868	417	0.480
1984	510	475	0.931
1986	872	391	0.448
1988	1320	514	0.389
1990	2542	823	0.324
1992	2221	1035	0.466
1994	2501	1061	0.424
1996	3264	1184	0.363
1998	3491	1467	0.420
1999	3474	1521	0.438

Table 4
Payout Ratio: Some Descriptive Statistics for all listed Companies

Sector	Mean	Std. Deviation	Minimum	Maximum
Banking	0.268	0.048	0.200	0.370
Insurance	0.512	0.101	0.390	0.680
Services	0.565	0.107	0.440	0.700
Industrial	0.709	0.222	0.530	1.190

In Table 5, we report some descriptive statistics about the three main variables which are used in this paper. Clearly, dividend per share, dividend payout ratio and earnings per share reflect some significant deviations and this can be seen from their respective standard deviations.

Table 5
Some Descriptive Statistics

The descriptive statistics are based on the final sample of 660 company-year observations. Dividend per share (DPS) is equal to total cash dividends divided by number of subscribed shares. Earnings per share (EPS) is equal to net profits divided by number of subscribed shares.

Statistic	DPS	EPS
Mean	0.234	0.663
Standard Deviation	0.514	2.574
Minimum	0.000	-0.673
Maximum	4.000	28.298

Table 6 reports the estimates of Lintner's model. Based on the results reported in this Table, we can make the following comments. First, the high and significant value of the Hausman statistic indicates that the fixed-effect model is the most appropriate specification of Lintner's model. Second, the values of the constant term are positive and significant. This indicates that companies are reluctant to decrease their cash dividends and prefer to gradually increase them. Third, the coefficient of the lagged dividend per share is positive and significant. This indicates that our sample of companies have stable dividend policies. However, this value which is equal to 0.480 is relatively low. For example, the value of this coefficient for U.S. companies is equal to 0.834 (Aivazian et al. 2001). In other words, the speed of adjustment (c) in the Jordanian case is equal to 0.520. When the Lintner adjustment factor is equal to +1, this means that companies do not smooth dividends at all. Finally, the earnings per share coefficient is positive, low and significant (0.041). This indicates that any change in earnings is not directly reflected in cash dividends.

Table 6
Lintner Model Estimations

The estimation results are based on the 660 firm-year observations. The dependent variable is dividend per share **(**$DPS_{i,t}$**)** The independent variables are earnings per share ($EPS_{i,t}$) and lagged dividend per share ($DPS_{i,t-1}$). Regression 1 is estimated using ordinary least squares. Regression 2 is estimated using the random effects model and regression 3 is estimated using fixed effects.

Equation: $DPS_{i,t} = \alpha_1 + \beta_1\, EPS_{i,t} + \beta_2\, DPS_{i,t-1}$

Coefficient	Regression 1	Regression 2	Regression 3
α_1	0.027	0.036	
	(5.096[*])	(4.476[*])	
β_1	0.050	0.055	0.041
	(11.273[*])	(12.349[*])	(8.032[*])
β_2	0.732	0.681	0.480
	(33.161[*])	(29.692[*])	(14.907[*])
Adjusted R ^{2}	0.949	0.949	0.955
Hausman Test			82.441[*]

* indicates that the t-statistic is significant at the 0.01 level.

In addition to the above, the 44 companies were classified according to their industrial sector. This exercise led to the formation of 9 banks (135 balanced panel data), 10 insurance companies (150 observations), 6 services companies (90 observations), and 19 industrial companies (285 observations). The above analysis was applied to these groups of companies separately and the results are fairly similar to those reported in Table 6. In other words, companies which are listed on the Jordanian capital market follow stable dividend policies. Indeed the OLS estimates of the coefficient of lagged dividend per share (0.606), reported by Aivazian et al. (2001, p.42), is even lower than the value (0.732) reported in this study (regression 1 in Table 6). Moreover, the value of this coefficient is much higher than those reported (by Aivazian et al.) for the Korean, Malaysian, Pakistani, and Turkish companies.

To detect whether a structural shift in the Lintner's model due to the 1996 tax imposition on distributed cash dividends, we introduced dummy variables into the model. The empirical results, reported in Table 7, support the results reported in Table 3. In other words, the statistically insignificant differential intercept coefficient (-0.019) and the statistically insignificant differential slope coefficient (0.012) reflect the fact that the imposition of tax on dividends had no impact on the dividend behaviour of the sample of companies.

Table 7
Imposition of Dividend Tax Impact
(1985-1995 and 1996-1999)
Fixed Effect Model

Equation: $DPS_{i,t} = \alpha_1 + \alpha_2\,D_{i,t} + \beta_1 EPS_{i,t} + \beta_2 DPS + \beta_3\,(D_{i,t}\,EPS_{i,t})$
$D_{i,t}$: o for the 1985-1995 period and 1 for the 1996-1999 period
α_2 : the differential intercept coefficient
β_3 : the differential slope coefficient

The First Period (1985-1995):	The Second Period (1996-1999):
$DPS_{i,t} = \alpha_1 + \beta_1 EPS_{i,t} + \beta_2\,DPS_{i,t-1}$	$DPS_{i,t} = (\alpha_1+\alpha_2)+(\beta_1+\beta_3)EPS_{i,t}+\beta_2 DPS_{i,t-1}$
$\beta_1 = $ 0.040 $\beta_2 = $ 0.476	$\beta_1 + \beta_3 = $ 0.040 + 0.012 $\beta_2 = 0.476$
(7.531^*) (14.669^*)	(7.531^*) (0.341) (14.669^*)
Adjusted $R^2 = 0.955$	
Hausman Test $= 85.432^*$	

*Significant at the 0.01 level.

VI.   A SUMMARY AND CONCLUSIONS

Following the publication of Lintner's (1956) classic paper, there has been a numerous number of studies which examine the question of dividend policy. Based on the available evidence, it seems that corporations which are listed on advanced stock markets follow stable dividend policies. On the other hand, companies in less developed markets follow less stable dividend policies. "Emerging market firms often do have a target payout ratio like their developed country counterparts, but they are generally less concerned with volatility in dividends over time and, consequently, dividend smoothing over time is less important" (Glen et al., 1995, p.24).

The empirical research in this paper focused on the time period 1985-1999. Based on a sample of 44 Jordanian companies which are listed on ASM, the empirical evidence shows that these companies follow stable dividend policies. Indeed the results indicate that lagged dividend per share is more important than current earnings per share in determining current dividend per share. Moreover, the empirical results indicate that the 1996 imposition of taxes on dividends did not have any significant impact on the dividend behaviour of the listed companies.

Based on the empirical findings of this paper, a number of related further research can be suggested. First, what are the determinants of the dividend behaviour of Jordanian companies? Are the explanatory power of main stream dividend policy theories applicable to the Jordanian capital market? What is the value relevance of dividends per share relative to earnings per share? What is the relationship between stock prices and dividends per share?

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