Journal of Financial Management Strategy
Alzahra University
Vol. 10, No. 38, Fall 2022

pp. 15-22

Research Paper

Investigating the Effect of Dividend Policy on the Fundamental Firm Value in Tehran Stock Exchange[1]

Mohammad Ebrahim Aghababaei[2], Mona Rashidi[3], Ehsan Tayebi Sani[4]

Received: 2021/10/21 Accepted: 2022/10/07

INTRODUCTION

Academic members were concerned for a long time about whether the payout policy of a firm is stock price-neutral or not. In the seminal paper, Miller and Modigliani (1961) assume a 100% payout and then find that the payout policy is irrelevant and that the investment policy is the sole determinant of the firm value in frictionless markets. DeAngelo and DeAngelo (2006) relax the 100% payout assumption and allow retention, keeping the investment policy fixed. They find that payout policy then impacts firm value. Thus, in contrast to the proposition of Miller and Modigliani (1961), dividend policy was found to be relevant. DeAngelo and DeAngelo (2007) demonstrate that if management stops distributing a certain proportion of earnings to shareholders and invests them into zero net present value (NPV) projects, then equity value drops by that proportion. Karpavičius (2014) shows that firms with more stable dividend streams are more valuable. Baker and Wurgler (2004a, b) report that the dividend premium computed as the difference between the average market-to-book ratios of dividend payers and nonpayers was negative for the US firms during the 1962-2000 period. In this study, we used a more appropriate methodology to estimate dividend premiums and analyze whether dividend policy impacts firm value or not. More specifically, we compute the dividend premium using panel data regressions for the sample of Iran firms on the Tehran Stock Exchange for eight years (2013-2020). There are several theories and explanations for why dividends should improve, reduce, or as Miller and Modigliani (1961) suggest, have no impact on firm values. The free cash flow hypothesis implies that dividend-paying stocks should be more valuable. According to

1. DOI: 10.22051/JFM.2022.38196.2609
2. Assistant Professor, Department of Financial Management and Financial Engineering, Faculty of Financial Sciences, Kharazmi University, Tehran, Iran. Corresponding Author, Email: m.aghababaei@khu.ac.ir
3. M.Sc. Department of Financial Engineering, Faculty of Financial Sciences, Kharazmi University, Tehran, Iran. Email: mona.rashidi@khu.ac.ir.
4. Assistant Professor, Department of Financial Management and Financial Engineering, Faculty of Financial Sciences, Kharazmi University, Tehran, Iran, Email: ehsan_taieby_sani@khu.ac.ir.

the classical agency theory, firm managers with substantial free cash flow are more likely to invest in negative NPV projects, even if paying out cash would be better for shareholders (Jensen (1986) and Stulz (1990)). Jensen (1986) suggests that firms can use cash dividends to mitigate agency costs associated with excess cash flow. It is essential to understand the channels through which dividends could impact firm value – that is, whether dividend payouts increase a firm's intrinsic value or whether investors' behavioral biases are behind the significant relationship between firm value and dividend policy, or whether both effects are present. According to the standard equity valuation models, if dividend initiations or increases in dividends impact equity value, the impact occurs because investors changed their views on the firm's expected profitability or risk, or both. If equity valuation changes but firm fundamentals remain constant, following the change in the dividend policy, then the difference in stock price is caused by the investors' behavioral biases or investor demand for dividend-paying stocks. This is known as the catering theory of dividends (Baker and Wurgler (2004b)). Dividend initiations are generally associated with a positive short-term and long-term impact on shareholder wealth. Asquith and Mullins (1983) find that the average cumulative abnormal returns during the three-trading-day window centered on the dividend initiation announcement date are 3.9%.

Yu and Karpavicios (2018) found a positive relationship between company value and dividend payout, they also realized that the amount of dividend payout for assets and shares is 7.10 and 17.1 percent respectively. They also stated that these values are average and may vary depending on the method used by the researcher. Finally, they compared the effects of dividends and repurchased shares on the company's value and showed that paying even a tiny number of dividends helps to improve and increase the company's value. This suggests that dividend-paying stocks should trade at a premium compared to non-dividend payers.

This study makes several contributions to the empirical corporate finance literature. Firstly, we show that dividend-payer status is associated with higher firm value, and the dividend premium is positive. Panel data regressions suggest that the dividend premium for firms' equity is 6.9%, and the dividend premium for firms' assets is 7.4%. Therefore, dividend-paying stocks become more attractive to investors. Secondly, to investigate the effect of company size on the dividend policy, we divide the existing companies into four samples and estimate the models for each one.

The purpose of this paper is to investigate the relationship between dividend policy and company value in Tehran stock market companies. In this case, the way managers make decisions is important. They say how much of the profit will be distributed among the company's shareholders and how much will be invested in the form of retained earnings. This provides opportunities for company growth. This decision is so important that any sudden change in the dividend has information about the company's earnings and other influencing factors and leads to a change in the stock value. Reducing information inequality between managers and company owners is the basis of signaling models.

MATERIALS AND METHODS

To analyze how dividends impact firm value, we estimate the least-squares dummy variable models (the fixed effects models). We include firm and year-fixed

effects in the models to control for unobserved firm-level heterogeneity and time period-related factors. The dependent variable is either MA/A or ME/E.

The independent variables include the dividend-payer dummy (DIVD) and key firm characteristics. The selection of other independent variables is based on prior studies (see, for example, Coles et al. (2008), and Kalcheva and Lins (2007)). Specifically, we estimate the following models:

$$(MA/A)_{it} = \alpha_0 + \alpha_1(DIVD)_{it} + \alpha_2(ASSETS)_{it} + \alpha_3(NI/A)_{it} + \alpha_4(DEBT/A)_{it} + \alpha_5(CASH/A)_{it} + \alpha_6(PPE/A)_{it} + \alpha_7(CAPEX/A)_{it} + \alpha_8(VOL)_{it} + \lambda_i + \mu_i + \varepsilon_{it}$$

$$(ME/E)_{it} = \alpha_0 + \alpha_1(DIVD)_{it} + \alpha_2(ASSETS)_{it} + \alpha_3(NI/E)_{it} + \alpha_4(CASH/E)_{it} + \alpha_5(PPE/E)_{it} + \alpha_6(CAPEX/E)_{it} + \alpha_7(VOL)_{it} + \lambda_i + \mu_i + \varepsilon_{it}$$

where the indices i and t correspond to firm and year, respectively. λ and μ are time and firm fixed effects.

In all panel data models of this paper, the standard errors are corrected for clustering at the firm and year levels to account for potential heteroskedasticity and serial correlation within firms over time.

Model 1 in Table 1 and Model 2 in Table2 shows the results for MA/A and ME/E, respectively. In contrast to descriptive statistics, we find that there is a positive relation between dividend payer status and firm values the coefficient estimates for DIVD are positive and statistically significant at a 5% level. The coefficient estimate for DIVD in MA/A regression is 0.138914. The average MA/A of all firms in the sample is 1.88. Thus, the asset dividend premium is 7.4% (0.138914/1.88=0.074). Similarly, we compute the equity dividend premium and find that it is equal to 6.9%.

Tabel 1. Model1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-17.53253	0.823065	-21.30151	0.0000
DIVD	0.138914	0.068469	2.028863	0.0429
ASSETS	1.256118	0.054241	23.15816	0.0000
NIA	3.141177	0.283325	11.08682	0.0000
DEBTA	0.012614	0.145216	0.086864	0.9308
CASHA	0.894640	0.301672	2.965607	0.0031
PPEA	0.471313	0.130893	3.600748	0.0003
CAPEXA	0.072145	0.180198	0.400367	0.6890
VOL	-0.002759	0.000916	-3.012986	0.0027
R-squared	0.579481	Mean dependent var		2.912183
Adjusted R-squared	0.514082	S.D. dependent var		1.990505
S.E. of regression	1.187594	Sum squared resid		906.8741
F-statistic	8.860634	Durbin-Watson stat		1.489999
Prob(F-statistic)	0.000000			
R-squared	0.405184	Mean dependent var		1.883369
Sum squared resid	1019.108	Durbin-Watson stat		1.363189

Tabel 2. Model2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-19178.46	1319.416	-14.53557	0.0000
DIVD	182.5761	97.97258	1.863543	0.0628
ASSETS	1211.537	92.89122	13.04253	0.0000
NIE	5.288658	0.338885	15.60605	0.0000
CASHE	2.180060	0.478495	4.556078	0.0000
PPEE	-0.006650	0.155149	-0.042863	0.9658
CAPEXE	0.102081	0.207407	0.492180	0.6228
VOL	-5.420336	1.491114	-3.635093	0.0003
R-squared	0.713319	Mean dependent var		5838.290
Adjusted R-squared	0.669248	S.D. dependent var		10655.44
S.E. of regression	6481.083	Sum squared resid		2.71E+10
F-statistic	16.18585	Durbin-Watson stat		1.578472
Prob(F-statistic)	0.000000			

Firm size can be seen as one of the key determinants of a firm's decision to pay dividends. The life-cycle hypothesis suggests that young firms do not have redundant cash for dividends; however, mature firms that are large firms on average, have reliable cash flow streams and can"afford" to pay dividends (DeAngelo et al. (2006)). To ensure that firm size is not impacting our results, we re-estimate Equations (1) and (2) for the sample:

- without 25% smallest firms
- without 50% smallest firms
- without 75% smallest firms and
- without 25% smallest and 25% largest firms.

Tabel 3. Model1

Sample4	Sample3	Sample2	Sample1	Variable
-22.76405*** (2.977458)	-25.09447*** (3.245146)	-24.35051*** (2.546323)	-23.44525*** (1.694089)	C
0.570928*** (0.211898)	0.321931** (0.152839)	0.160967 (0.129817)	0.420393*** (0.151745)	DIVD
1.740441*** (0.196944)	1.600959*** (0.194923)	1.647223*** (0.163989)	1.617167*** (0.108718)	ASSETS
3.084128* (1.622233)	1.778584*** (0.568692)	3.793549*** (0.602938)	3.364124*** (0.737542)	NI/A
-1.409801* (0.787170)	-0.399940 (0.529378)	-0.191887 (0.473933)	-0.045200 (0.340781)	DEBT/A
2.395050* (1.591686)	0.033975 (0.794302)	0.819957 (0.709077)	1.320750* (0.814177)	CASH/A
-0.367068 (0.489505)	1.456699*** (0.574875)	0.583451 (0.539308)	0.429851 (0.347885)	PPE/A
-1.602214 (1.747680)	0.124684 (0.477283)	0.308364 (0.587444)	-0.080050 (0.399472)	CAPEX/A
-0.006091** (0.002883)	-0.002939** (0.001375)	-0.004131*** (0.001488)	-0.004204*** (0.001687)	VOL
0.464481	0.676586	0.528333	0.446929	R-SQ
0.344588	0.588089	0.430855	0.352810	Adj R-SQ
3.874149	7.645341	5.420028	4.748551	F
0.000000	0.000000	0.000000	0.000000	Prob
411	257	544	668	observations
68	48	86	90	firms

***1% level;** 5% level;* 10% level

Tabel 4. Model2

Sample4	Sample3	Sample2	Sample1	Variable
-152.4466 (334.6681)	5184.113 (20860.10)	4459.441 (6801.071)	81026.05*** (32414.82)	C
-62.71320*** (24.96024)	-3025.947* (1920.260)	-1342.424* (889.7828)	-2077.379** (1015.252)	DIVD
47.57250** (24.05081)	-237.7067 (1313.432)	-237.7465 (454.0647)	-5370.606*** (2160.521)	ASSETS
0.416278* (0.261704)	3.560709*** (0.442339)	3.547225*** (0.285781)	3.918311*** (0.514168)	NI/E
0.236317 (0.220076)	2.683969*** (0.804848)	2.281620*** (0.519601)	3.018791*** (0.881118)	CASH/E
0.293319*** (0.114587)	0.252862* (0.160452)	0.311236*** (0.107278)	0.306849** (0.140468)	PPE/E
0.678138** (0.283360)	-0.439428** (0.190905)	-0.457280*** (0.130996)	-0.434877*** (0.126086)	CAPEX/E
-0.843705*** (0.249835)	-41.83204 (30.64052)	-26.67643* (15.92854)	8.363687 (26.39719)	VOL
0.729120	0.632677	0.648116	0.756053	R-SQ
0.719543	0.622351	0.643520	0.711502	Adj R-SQ
76.13587	61.26829	141.0327	16.97065	F
0.000000	0.000000	0.000000	0.000000	Prob
411	257	544	668	observation
68	48	86	90	firms

***1% level;** 5% level;* 10% level

According to the estimation results of the models, the virtual variable coefficient of dividends (DIVD) is negative and significant in all samples of model 2. As a result, by changing the size of the company, the relationship between the dividend policy and the intrinsic value of the company changes (the positive relationship or direct relationship between the dividend and the value of the company has become a negative relationship or the inverse relationship between the dividend and the value of the company). So, we conclude that the change in the size of the company causes a change in the relationship between the dividend and the value of the company. The size of the company as a control variable by dividing the companies into four samples in this research affects the relationship between the profit-sharing policy and the value of the company, and in model 2 for all samples, it has caused the sharing policy and the value of the company to have a negative and significant (inverse) relationship, which means that if the amount of cash profit increases, the value of the share and as a result, the value of the company will decrease. VOL variable in model 1 was negative and significant for all samples, which confirms the previous results. But this variable in

model 2 is meaningless for the first and third examples. The reason for this may be related to the estimation method of model 2 for the first (two-way fixed effects) and third (joint or combined effects).

RESULTS AND DISCUSSION

The results of the research show that with the change in company size, the relationship between the dividend policy and the intrinsic value of the company changes. So, we conclude that the change in the size of the company causes a change in the relationship between the dividend and the value of the company. The size of the company as a control variable by dividing the companies into four samples in this research affects the relationship between the profit-sharing policy and the value of the company. And in model 2 for all samples, it has caused the sharing policy and the value of the company to have a negative and significant (inverse) relationship, which means that if the amount of cash profit increases, the value of the share and as a result, the value of the company will decrease. The results also show a positive and significant relationship between the dividend paid by the company and the value of the company.

On the other hand, the results of the research are contrary to the Baker and Wergler (2004). In their research, they calculated the dividend payout by using two ratios of the market to book value of stocks and assets and estimated these two values as negative (dividend payout is expressed as negative). Considering the importance of this issue, this research intends to express the relationship between dividends on the value of shares, and as a result, on the value of the company by estimating the dividend in the form of a number (percentage). The result of this research (positive effect) shows the value of the share (increasing the share price), and in obtaining the fair value of the share and comparing this value with the market value of the share, it will help the investor in making a decision to buy and sell shares as well as identifying the fundamental shares. Therefore, it leads to better and more informed investments as a result of obtaining higher profits and returns.

CONCLUSION

In this paper, we analyze whether dividend policy can be seen to impact firm value during the 2013-2020 period. We find a positive relation between firm value and dividend payout. Thus, the dividend premium is positive. Panel data regressions suggest that the dividend premium for firms' equity is 6.9%, and the dividend premium for firms' assets is 7.4%. Therefore, the price of shares with cash dividends is higher than shares with accumulated profits. It was also stated that the change in the size of the company causes a change in the profit-sharing policy. It was also shown that company size has a positive and significant effect on the probability of cash dividend distribution. Changes in the company's assets have a negative and significant relationship with the probability of cash dividend distribution. The results of the research are contrary to the results of Yu's research. They stated that changing the size of the company does not affect the relationship between the profit-sharing policy and the value of the company. Our results show that when dividend payout is positive, company managers are willing to pay dividends. Due to the importance of this issue for investors, accountants, and

financial managers, some suggestions are provided for further research and investigations.

- Taking into consideration the companies of the Tehran stock exchange
- Considering tax as a factor affecting the number of dividends
- Classification of companies based on industries

Keywords: Dividend Premium; Dividend Policy; Firm Value.

JEL Classification: G3, G35.

References

Baker, M., Wurgler, J. (2004) a." Appearing and disappearing dividends: The link to catering incentives".

Baker, M., Wurgler, J. (2004) b. "A catering theory of dividends".

Bhattacharya, S.(1979)." Imperfect information, dividend policy, and" the bird in the hand" fallacy".

Coles, J.L., Daniel, N.D., Naveen, L.(2008)." Boards: Does one size fit all? "*Journal of Financial Economics.*

DeAngelo, H., DeAngelo, L.(2006)." The irrelevance of the MM dividend irrelevance theorem". *Journal of Financial Economics*.

DeAngelo, H., DeAngelo, L., Stulz, R.M.(2006)." Dividend policy and the earned contributed capital mix a test of the life-cycle theory". *Journal of Financial Economic.*

DeAngelo, H., DeAngelo, L.(2007)." Payout policy pedagogy: What matters and why". *European Financial Management*.

Denis, D.J., Osobov, I.(2008)." Why do firms pay dividends? International evidence on the determinants of dividend policy". *Journal of Financial Economics.*

Yu, Fan., Karpavičius, Sigita. (2018)." Dividend premium: Are dividend-paying stocks worth more?" *International Review of Financial Analysis*.

Jensen, M.C. (1986). "Agency cost of free cash flow, corporate finance, and takeovers". *American Economic*.

Jiang, Z., Kim, K.A., Lie, E., Yang, S. (2013). "Share repurchases, catering, and dividend substitution". *Journal of Corporate Finance*.

Karpavičius, S. (2014). "Dividends: Relevance, rigidity, and signaling". *Journal of Corporate Finance.*

Kulchania, M. (2013). "Catering driven substitution in corporate payouts". *Journal of Corporate Finance.*

Nur Rochmah, Hidayati, Ardianto, Ardianto. (2020)." Catering dividend: Dividend premium and free cash flow on dividend policy". Cogent Business & Management.

Li, W., Lie, E. (2006).” Dividend changes and catering incentives”. *Journal of Financial Economics*.

Lintner, J. (1956).” Distribution of incomes of corporations among dividends, retained earnings, and taxes”.

Miller, H.M., Modigliani, F. (1961).” Dividend policy, growth, and the valuation of shares”.