academicJournals

Vol. 7(25), pp. 2432-2443, 7 July, 2013
DOI: 10.5897/AJBM11.1468
ISSN 1993-8233 © 2013 Academic Journals
http://www.academicjournals.org/AJBM

African Journal of Business Management

Full Length Research Paper

Ownership structure and dividend policy evidence from the Tehran stock market

Seyed Alireza Mosavi[1]*, Samira Honarbakhsh[2] and Mahnoosh Ghaedi[1]

[1]Department of Business Administration, Firoozabad Branch, Islamic Azad University, Firoozabad, Iran.
[2]Department of Accounting Administration, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.

Accepted 13 June, 2012

The major purpose of this paper is to identify and analyse the influence of concentrated ownership and institutional ownership on dividend policy for Chemical and Medical firms listed on the Tehran Stock Exchange (TSE) from 2002 to 2008. We used multiple regressions to examine the influence of ownership structure on dividend per share (DPS). The ownership structure variables used in this study include concentrated ownership and institutional ownership, while the control variables include free cash flow (FCF), leverage (Lev), growth opportunities (Q), and firm size. In order to test the hypotheses, the required data and information were collected from the annual reports of the official bulletins of the Tehran Stock Exchange (TSE), market information, stock organization library, and stock sites such as www.rdis.ir and www.irbourse.com. Based on a sample size of 35 chemical and medical firms listed on the TSE from 2002 to 2008, we found out that dividend payout is positively associated with concentrated ownership and institutional ownership. The results suggest that firms with high FCF, low leverage, low growth opportunities and higher size have higher distributed dividend level. For assistance to market analysts and other investors, regarding act to optimal investments and decisions, from an understanding of relationship between firm's ownership structure and dividend payout level.

Key words: Dividend policy, ownership structure, large shareholder, free cash flow, agency costs.

INTRODUCTION

Dividend payout decision is one of the fundamental components of corporate policy and has been viewed as an issue of interest in the financial literature. Dividend, reward to stockholder for their investment and risk bearing, depends on various factors (Kouki and Guizani, 2009). Examples of the main determinants used in prior studies include firm specific characteristics (such as leverage, business risk, profitability, asset structure, liquidity, firm size and growth opportunity) and corporate governance characteristics (Chang and Rhee, 1990; Holder et al., 1998; Aivazian et al., 2003; Ho, 2003; Al-Najjar and Hussainey, 2009).

Although, dividend payout is a major corporate decision faced by managers, it remains one of the puzzles in corporate finance (Al-Najjar and Hussainey, 2009). A large number of studies have examined the extent to which dividends provide value relevant information for investors to predict firms' future performance (Hanlon et al., 2007), while others have explored the potential factors that drive a firm to pay dividends (Al-Najjar and Hussainey, 2009).

The relationship between dividend policy and agency costs has been a recent development in the corporate finance theory focusing on the problem of how dividend policy can be used in reducing the agency cost. This association is based on the idea that monitoring of the firm and its management is helpful in reducing agency conflicts and in convincing the market that the managers are not in a position to abuse their position (Kouki and Guizani, 2009). This separation of ownership and

*Corresponding author. E-mail: ali_mosavi75@yahoo.com.

management in a corporation creates a principal-agent relationship. The advantages of such separation include the ability of share ownership to change without disturbing business operations, and the ability to hire managers with special knowledge and skills (Jensen and Meckling, 1976).

Dividend payouts reduce agency conflicts within the firm for two reasons. First, dividend payout reduces the amount of free cash flow (FCF), which might be spent by insiders; on projects for their own benefits at shareholder expense (DeAngelo et al., 2006). Second, dividends expose firms to more frequent inspections by the capital markets as dividend payout increase the likelihood of new common stock issue (Easterbrook, 1984). The basic motivation for the agency models of dividends is that unless a firm's profits are paid out as dividends, corporate managers may divert the cash flow for personal use or pursue unprofitable investment projects (Kouki and Guizani, 2009).

The major purpose of this paper is to identify and analyze the influence of shareholder identity on dividend policy in the case of Chemical and Medical firms listed by Tehran Stock Exchange (TSE) from 2002 to 2008. In the research there are 6 assumptions. This research investigate the relation between concentrated ownership (measured by the two largest shareholders), institutional ownership, free cash flow (FCF), leverage, growth opportunities, firm size with DPS. The finding of the study indicates that companies with highly concentrated ownership distribute more dividends. We show that there is a significantly positive correlation between the institutional ownership with the level of dividend distributed. The results suggest that firms with high FCF, low leverage, low growth opportunities and higher size have higher distributed dividend level.

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Agency theory

Agency relationship occurs whenever one party hires another one to act on behalf of its interest. In corporations, shareholders as owners of the firm delegate the managers to act on behalf of their interest, in this case shareholders are considered to be "principals", and managers are considered to be "agents" (Al-Najjar, 2009).

Some of the studies consider agency problems that arise because of asymmetric information and conflicting interests. The first type of agency problem is the conflict between the manager and the shareholders. Agency costs are incurred when the owner- manager departs from value maximizing decisions and when investors incur costs to monitor the manager. One of the mechanisms suggested to reduce agency costs is to decrease discretionary funds available to manager (Jensen and Meckling, 1976).

These in the presence of asymmetric information, allow managers (the agents) to pursue their own objectives that may not be aligned with that of the owners (the principals). Hence, managers may conduct actions according to their own self-interest that may not always be beneficial for shareholders (Al-Najjar, 2009).

Managers might choose to invest even in the absence of positive net present value (NPV) projects. This will not only affect the firm's earnings, but also affect the possibility to attract external equity financing (Stulz, 1990).

No investor is willing to hold outside equity when management has the ability to divert cash flows as private benefits and when managerial manipulation of cash flow is costly to verify (Zsuzsanna, 1998).

The firm can solve this agency problem by limiting the free cash flow. An aspect of this is outlined in Jensen's free cash flow hypothesis which states that firms will prefer higher debt and thereby lower their free cash flow in the presence of agency problems. This reduces the cash available for the manager, and will as a result limit the possibility for investing in non profitable investment projects and perks (Dessi and Robertson, 2003).

Dividends play a role in controlling equity agency problems. When the firm increases its dividend payment, assuming it wishes to proceed with planned investment, it is forced to go to the capital markets to raise additional finance. This in turn leads to an investigation of management by potential investors, thus reducing agency problems (Easterbrook, 1984).

The second type of agency problems outlined by Jensen and Meckling is between debt holders and shareholders. An aspect of this conflict appears because of their different attitude towards risk. Shareholders might want to invest in risky projects were the profit is potentially large; this is especially the case for firms that are close to bankruptcy or that face financial distress. This is in conflict with the debt holder's interests (Harris and Raviv, 1991).

Shareholders capture the gain earned above the face value of the debt, having in mind that the firm's liabilities must be paid first, and will therefore benefit from large profits. In the case when investments fail, the debt holders bear the consequences. However, the shareholders reputational considerations can reduce this problem, by avoiding default investments and having a good history of repaying debt with the intention to attract potential lenders (Stacescu, 2010).

Mollah et al. (2000) test the influence of agency costs on dividend policy in an emerging market. The authors argue that the emerging markets are quite different from developed markets in all respects. The dividend behaviors of companies listed on these two markets are then assumed to be different. From a sample of 153 non-financial sector companies listed on Dhaka stock Exchange over the period of 1988 to 1997, Mollah et al. (2000) find a result supporting the agency cost theory of

dividend policy (Kouki and Guizani, 2009).

Signaling theory

In general, signaling theory implies that signaling through dividends give an indication of the firm's value, based on the assumption of asymmetric information. In signaling models the firms are fully financed with equity. The models predict that a high dividend or a rise in dividend typically signals good future prospects for the firm. The idea of these models is to explain the purpose of why firms pay a larger part of their earnings as dividends, which actually is more costly, and why there are positive share price reactions to higher dividends (Stacescu, 2010).

The information content of dividends (signaling) hypothesis predicts that dividends can be used to signal firm's future prospects and only good-quality firms can use such a device. The hypothesis can be examined by identifying the relationship between information asymmetry and dividend payouts. A potential proxy for the degree of information asymmetry is the trading volume of a firm's shares. In general, investors tend to invest in securities that are better known in the market, that is, with less information asymmetries (Aldin and Malkawi, 2007).

In other hand, it should be note that institutional investors play a significant role in transmitting information to other investors and the financial markets. This is because outsiders have different information to the insiders (asymmetric information). This gap in information means that the firm has to provide signals to the market about corporate performance (Gillan and Starks, 2003).

Signaling theory assumes that investors can deduce information regarding the future position of the firm through a signal which comes from any signaling mechanisms including ownership structure, capital structure, or dividend payment announcements (Al-Najjar, 2009).

Institutional investors are considered as one of the firms's signaling devices. Institutional ownership minimizes the need for dividends to signal good performance (Short et al., 2002). For signaling theory to stand, firms with poor future performance should not be able to imitate and transmit false signals to the market. Consequently, the market can rely on the signal to distinguish amongst firms. If these conditions are met, markets can react positively to any change in institutional ownership or any other signaling devices (Al-Najjar, 2009).

Large shareholders ownership (concentrated ownership)

Firms with concentrated ownership, generally have large shareholders that own a substantial amount of the stock. Such large shareholders have a significant financial investment in the firm and are interested in increasing the value of their holdings (Li et al., 2007).

As suggested, a potential remedy is to have a less dispersed share ownership structure: shareholders with a large stake in the company have a greater incentive to play an active role in corporate decisions because they partially internalize the benefits from their monitoring effort (Pagano and Roell, 1998).

Some authors suggest that management should be monitored, and this monitoring must be done by large shareholders. The presence of such shareholders mitigates the free rider problem of monitoring a management team, and hence reducing the agency costs. Shareholders with large stake have incentive to bear monitoring costs because gains from investing in monitoring activities exceed the costs (Grossman and Hart, 1980; Shleifer and Vishny, 1986).

In the firms with concentrated ownership, shareholders are likely to have sufficient power to protect their interests and actively monitor the firm's performance. These shareholders can use their voting power to make necessary changes more easily than the other shareholders (Li et al., 2007).

In the countries when the legal and institutional frameworks do not offer sufficient protection for outside investors, concentrated ownership can mitigate the shareholder conflicts. The benefits of large shareholding highlighted in the theoretical and empirical literature may be summarized in terms of the convergence of interest hypothesis and the efficient monitoring hypothesis. According to these hypotheses, large shareholders play a basic role in corporate governance and hence reduce agency costs (La Porta et al., 1999; Bebchuk, 1999; Gomes, 2000).

According to the substitute model of dividends developed by La Porta et al. (2000), dividend policy can be seen as a substitute for conflicts of interests between insiders and outsiders. Zwiebel (1996) argues that managers voluntary pay dividends in order to avert challenges for control. Myers (2000) proposes that managers can continue in their current positions only if outside equity investors believe that corporate insiders will pay future dividends (Kouki and Guizani, 2009).

Faccio et al. (2001) relate dividends rates to the discrepancy that exists between the shareholder's ownership rights and its control rights. The ratio of ownership and control rights is used as a measure of the corporation's vulnerability to insider expropriation within a group of corporations. Faccio et al. (2001) find that the presence of multiple large shareholders in Europe minimizes the expropriation activity of the controlling shareholder, thus resulting in higher dividend payments, while in Asia, lower dividend rates are being observed. They conclude that the controlling shareholder collaborate with other large shareholders to expropriate the

minority shareholders in Asia. Several single country studies that analyze the effect of other large shareholders, particularly the second largest shareholder on dividend policy yield mixed results (Mazna Ramli, 2010).

Gugler and Yurtoglu (2003), investigate the relationship between dividends, ownership structures and control rights for German firms. They find large shareholding of the largest owner reduces the dividends payout ratio, while shareholding by the second larger owner increases it (Kouki and Guizani, 2009). Khan (2006), analyzed the ownership structure of 330 large listed UK firms, her results indicated negative relationship between dividends and ownership concentration (Afza and Hassan, 2010).

MAJ (majority of share) is a dummy variable that takes the value 1 if the ownership is concentrated in the hands of two shareholders and 0 if the ownership is dispersed and the two largest shareholders do not have a high ownership (ownership is concentrated if two largest shareholders have more of 50% shares). As a result, we formulate our H1 as follows:

H_1: There is a positive relationship between concentrated ownership and dividend payout ratio.

Institutional ownership

INST is the percentage of equity owned by institutional investors. Institutional block holders may act as a monitoring device on the firm's managers (Kouki and Guizani, 2009).

Institutional investors are considered the key players in most financial markets and their influence on corporate governance is increasing because of the privatization policy adopted by various countries (Al-Najjar, 2009). Accordingly, one can argue that major actors in many corporate governance systems are institutional investors. Institutional owners may affect management's activities directly through their ownership, and indirectly by their capability to trade their shares (Gillan and Starks, 2003).

Large institutional investors are more willing and able to monitor corporate management than are smaller and more diffuse owners (Shleifer and Vishny, 1986; Allen and Michaely, 2001). Financial institutions play a governance role in the firm. They are more likely to access information and monitor managers (Khan, 2005).

Short et al. (2002) examine the link between dividend policy and institutional ownership for UK firms. They find a positive association between dividends and institutional shareholders (Al-Najjar, 2009).

Han et al. (1999), test the agency cost based hypothesis, which predicts, dividend payout to be inversely related to the degree of institutional ownership, predicting the dividends to be positively related with the institutional ownership (Han et al., 1999).

Therefore, for institutional controlled firms, we expect a high dividend payout. As a result, we formulate H2 as follows:

H_2: There is a positive relationship between institutional shareholders ownership and dividend payout ratio.

Free cash flow (FCF)

Another agency problem concerns the free cash flow problem between the manager and the shareholders. Managers may want to over invest, invest despite a lack of positive NPV projects, and they may distribute retained earnings for their personal benefits. A remedy for the agency problem, between the shareholders and the manager, is to limit the free cash available to the manager. This can be done by increasing the amount of leverage in the firm (Stacescu, 2010).

When a firm has free cash flows, managers are not allowed to expend them on unprofitable projects but they are forced to distribute these funds as dividends (Kouki and Guizani, 2009).

Based on the study of Jensen, firms with substantial free cash flows have a tendency to have high agency costs. The existence of free cash flow may lead management to undertake sub-optimal investment projects. To reduce cash flows available to managers and then reduce agency costs, Jensen suggests that it is better to return the excess cash to shareholders as dividend in order to reduce the possibility of these funds being wasted on unprofitable projects (Jensen, 1986).

Free cash-flow (FCF), is defined as cash flow per unit of asset. The author defines FCF as the funds available to managers before discretionary capital investment decisions. Needed capital expenditure is subtracted from these cash flows to account for investment in positive-NPV projects (Kouki and Guizani, 2009).

Jensen's free cash-flow hypothesis suggest that if firms have cash in excess of their requirement of investment in positive-NPV projects, it is better to pay these cashes as dividend in order to reduce managerial discretionary funds and thus avoid agency costs of free cash-flow (Jensen, 1986).

Rozeff (1982), Jensen et al. (1992) and Mollah et al. (2000) find a support of this hypothesis, thus, we predict a positive relationship between free cash-flow and dividend payout ratio. As a result, we formulate H3 as follows:

H_3: There is a positive relationship between free cash flow and dividend payout ratio.

Leverage

Leverage (LEV) may influence firm's choices of payout policy. This variable is defined as the long term debt

deflated by the book value of equity (Kouki and Guizani, 2009). Debt level is a ratio which shows total debt as a percentage of shareholders' funds. It measures the extent to which a firm is financed by external funds. Agency models suggest that dividend payments and capital structure can reduce the problems related to information asymmetry (Al-Najjar and Hussainey, 2009). According to Jensen and Meckling (1976), Jensen (1986) and Stulz (1988), financial leverage has an important role in monitoring managers thus reducing agency costs arising from the shareholder-manger conflict (Kouki and Guizani, 2009).

Dividends and debt financing can serve as a mechanism to reduce cash flow under management control, and help to mitigate the agency problems (Al-Najjar and Hussainey, 2009).

Therefore, a negative relationship is expected between dividend policy and leverage. In the same vein, Jensen et al. (1992) and Aivazian et al. (2003) argued that a firm's leverage is a key factor explaining the firm's decision to pay dividend. They found a negative association between firm's leverage and dividends. They argued that "Firms with relatively less debt and more tangible assets have greater financial slack and more able to pay and maintain their dividends". This means that firms with low-debt ratios are willing to pay more dividends. This result is supported by the agency costs theory of dividend policy (Jensen et al., 1992; Aivazian et al., 2003).

When a firm acquires debt financing it commits itself to fixed financial charges embodied in interest payments and the principal amount, and failure to meet these obligations may lead the firm into liquidation. The risk associated with high degrees of financial leverage may therefore result in low dividend payments because, ceteris paribus, firms need to maintain their internal cash flow to pay their obligations rather than distributing the cash to shareholders (Aldin and Malkawi, 2007).

Moreover, Rozeff points out that those firms with high financial leverage tend to have low payouts ratios to reduce the transaction costs associated with external financing (Rozeff, 1982).

The existence of agency problems between shareholders and debt holders can be an explanation of why outside capital is considered more expensive than internal funds. These agency problems can lead to a need for more monitoring by the lenders. Higher agency costs, which again leads to a presumably lower supply of debt. This implies that leverage is to some degree exogenous, not decided by the firm but by the lenders. The capital structure will not entirely be the firm's choice. Further, the lenders will most likely restrict the dividend payments to secure their positions, concerning the possibility of default. Therefore, one would expect to observe a negative relationship between dividends with leverage (Stacescu, 2010). As a result, we formulate H4 as follows:

H_4: There is a negative relationship between leverage and dividend payout ratio.

Growth opportunities

Future growth opportunities, Q, are measured as the ratio of market to book value of equity (Lang and Litzinberger, 1989; Gadhoum, 2000; Farinha, 2002; Kouki and Guizani, 2009).

The concept of growth opportunities refers to the extent to which a firm sustains the level of growth at a rate which is deemed to be high in comparison to the majority of firms (Al-Najjar and Hussainey, 2009). Growth opportunities variable was used in prior research as a key determinant of dividend policy. The higher the firm's growth opportunities, the more the need for funds to finance expansion, and the more likely the firm is to retain earnings than pay them as dividends (Chang and Rhee, 1990).

Firms with high growth opportunities are often characterised as young firms in the early stages of their business cycle. These firms often have many investment opportunities, and have a great need for financing. As a consequence, earnings are retained in the firm to finance positive NPV projects and are not used to pay dividends. When the firm's growth opportunities decreases, the amount of free cash increase and can be paid out as dividends. Consequently, one would in general expect firms with higher growth opportunities to have lower dividend payments (Stacescu, 2010).

In the same vein, Myers and Majluf (1984), Holder et al. (1998); Gul and Kealey (1999), Ho (2003) and Aivazian et al. (2003) argued that firms with high-growth opportunities would be expected to have different investment opportunity and hence they expected low-dividend payments for high-growth firms (Al-Najjar and Hussainey, 2009).

Firms with high growth and investment opportunities will need the internally generated funds to finance those investments, and thus tend to pay little or no dividends (Aldin and Malkawi, 2007).

Since firms prefer to avoid transaction costs due to external financing and retain a greater proportion of cashes if they have opportunities of growth (Kouki and Guizani, 2009). As a result, we formulate H5 as follows:

H_5: There is a negative relationship between firms' growth opportunities and dividend payout ratio.

Firm size

Size is a control variable that measures the size of the firm (Kouki and Guizani, 2009). Firm size variable has become a key variable in prior literature to explain the firm's decision to pay dividends. Firms can be categorized

according to their size (measured by market capitalization, total sales or total assets) for the purpose of statistical analyses (Al-Najjar and Hussainey, 2009).

For the present paper, we use total sales as a proxy for the firm size.

Smith and Watts (1992), document that firms with more assets in place have higher dividend payout ratios. However, Gadhoum (2000) showed that the signaling efficiency of dividends diminishes for the larger firms; since larger firms produce much information than smaller one. Therefore, the inclusion of size may be best regarded as a simple control variable, with no particular sign expectation (Kouki and Guizani, 2009).

A large firm typically has better access to capital markets and finds it easier to raise funds with lower cost and fewer constraints compared to a small firm. This suggests that the dependence on internal funding decreases as firm size increases. Therefore, ceteris paribus, large firms are more likely to afford paying higher dividends to shareholders (Aldin and Malkawi, 2007).

More specifically, Holder et al. (1998), Gul and Kealey (1999), Koch and Shenoy (1999), Chang and Rhee (1990), Ho (2003), Aivazian et al. (2003) and Al-Najjar and Hussainey (2009), argued that large firms are more likely to be mature and thus have easier access to capital markets, and should be able to pay more dividends. This indicates that large firms can afford to pay higher dividends than the smaller ones. In other words, they argued that firm size can serve as an index for the cost of external debt financing, and hence a positive relationship is expected between firm size and dividend policy, indicating that large firms will have less issuing costs (Al-Najjar and Hussainey, 2009). As a result, we formulate H6 as follows:

H_6: There is a positive relationship between firm size and dividend payout ratio.

Variables definitions

In this paper, dividend per share (DPS) is dependent variable, concentration ownership and institutional ownership are independent variables, and free cash flow (FCF), leverage, growth opportunities and firm size are control variables. These Variables are summarized in the Table 1.

RESEARCH METHODS

The correlation research method was used to determine the relationship between concentrated ownership (more of 50% shares in the hands of two largest shareholders), institutional ownership, free cash flow (FCF), leverage, growth opportunities, and firm size with DPS. Multiple regressions were applied for testing the relationship between these variables. Also we determine an optimal model for forecast of dividend. We consider the empirical model described as follows:

$$Div_{it} = \beta_0 + \beta_{1i}Maj_{it} + \beta_{2i}\,Inst_{it} + \beta_{3i}\,Fcf_{it} + \beta_{4i}Lev_{it} + \beta_{5i}Q_{it} + \beta_{6i}Size_{it} + \varepsilon_{it}$$

β = Regression coefficients.
Div = Dividend per share.
Maj = Two Largest shareholders ownership (Majority of share).
Inst = Institutional shareholders ownership.
Fcf = Free cash flow per share.
Lev = Leverage.
Q = Growth opportunities (Tobin's Q).
Size = Size of the firm.
ε_{it} = Residual error for firm i at year t.

Sample selection

The sample was chosen from the Chemical and Medical firms listed on the Tehran stock exchange (TSE), for the period 2002 to 2008, using the following criteria:

1) Firms were listed at TSE during years 2002 to 2008.
2) Ownership data was available for all years under study.
3) Should not have change in the fiscal year for study period.

The data used in the analysis were collected from the annual reports of the official bulletins of the Tehran stock exchange, Rahavard Novin software, Tadbir Pardaz softer, Sahra softer, stock organization library and stock sites such as www.rdis.ir and www.irbourse.com. The final sample contains 35 firms from 50 firms in the chemical and medical industries listed on TSE.

DATA ANALYSIS

Pearson correlation coefficient and multivariate regression were used to analyze data. Initial data was inserted in Excel and SPSS software was applied to analyze the data statistically.

Ho= Data is normal
H_1= Data is abnormal

Following Table 2, Sig=0.275>0.05. Thus result shows that data is normal.

Correlation matrix

Table 3 presents correlation matrix of the variables included in the tests. As predicted by the theory, the FCF is negatively correlated with growth and the size of the firm. Managers that have discretionary funds tend to reduce the debt in order to maintain the funds under their discretion for their private consumption. Moreover, if the firm does not have investment opportunities, the funds available after financing positive NPV projects are higher. In addition, for larger firms, FCF is low because these firms produce much information than smaller one and their manager are monitored, thus they are not allowed to waste the funds of the firm. In other hand, Table 3 shows that there is positive correlation between size and growth of the firm.

Hypotheses testing and results

A total optimum model was used for predicting the

Table 1. Description of the variables.

Name of the variable	Proxies	Calculation
DPS	Dividend per share	Total dividend distributed / the number of outstanding equity
MAJ	Ownership of the two largest shareholders	Dummy variable which equal 1 if the ownership is concentrated, 0 otherwise. (ownership is concentrated if two largest shareholders have the more of 50% shares)
INST	Ownership of institutional investors	% of equity holds by institutional investors (Banks, insurance firms, pension funds….)
FCF	Free cash flow per share	Gross profit × (1- tax rate)+ depreciation – capital expense - increase in working capital
Lev	Leverage	Long term debt / book value of equities
Q	Tobin's Q	Market to book value of equity
SIZE	Size of the firm	Log of total sales

Table 2. One-sample Kolmogorov-Smirnov Test.

		DIV
N		**245**
Normal parameters[a.b]	Mean	835.0517
	Standard deviation	720.02891
Most extreme differences	Absolute	0.064
	Positive	0.064
	Negative	-0.044
Kolmogorov-Smirnov Z		0.995
Asymp. Sig. (2-tailed)		0.275

[a]Test distribution is normal; [b]Calculated from data.

dividend per share. We entered variables into the model respectively. 6 models were defined and finally the last model (6) including all variables was defined as an optimum model for predicting the dividend. As a result, the regression model is written as follows:

$Div_{it} = \beta_0 + \beta_{1i}FCF_{it} + \beta_{2i}SIZE_{it} + \beta_{3i}MAJ_{it} + \beta_{4i}INST_{it} + \beta_{5i}LEV_{it} + \beta_{6i}Q_{it} + \varepsilon_{it}$

Presenting total optimum model based on model 6 (T-test)

Optimum model was model 6, which had a more determination coefficient than the previous ones. In fact, when all variables were beside each other, they could present a more precise prediction of the dividend per share and in this paper the optimum model was 6 (Table 4). The optimal regression model is written as follows:

DIV = -1910.444 + 0.304FCF + 205.730SIZE + 307.767MAJ + 3.967INST - 98.368LEV - 32.939Q

Table 3. Correlation matrix of variables.

	SIZE	MAJ	FCF	LEV	Tobin Q	INST
SIZE	1	0.017	-0.092	0.178	0.274	-0.24
MAJ		1	-0.192	0.153	0.130	-0.210
FCF			1	0.081	-0.017	-0.067
LEV				1	-0.147	-0.121
Tobin Q					1	0.006
INST						1

The correlation matrix shows that variables are lowly correlated.

Table 4. Variables entered.

Model	Variables entered	Method
1	FCF	Step wise
2	SIZE	Step wise
3	MAJ	Step wise
4	INST	Step wise
5	LEV	Step wise
6	Tobin Q	Step wise

Table 5. Coefficients of model 6.

Model 6	VIF	t	Standardized coefficients	Unstandardized coefficients	B	Sig
			Beta	Std. Error		0.021
Constant		-2.319		823.729	-1910.444	0.000
FCF	1.100	6.798	0.339	0.045	0.304	0.005
SIZE	1.367	2.840	0.158	72.445	205.730	0.000
MAJ	1.187	3.705	0.192	83.068	307.767	0.001
INST	1.251	3.526	0.188	1.125	3.967	0.007
LEV	1.142	-2.724	-0.139	36.111	-98.368	0.012
Tobin Q	1.196	-2.521	-0.131	13.066	-32.939	0.021

As it is seen in optimum model, free cash flow was entered with coefficient equal to 0.304. Thus, there was a positive relationship between free cash flow with dividend per share. Coefficients of size, Maj and Inst variables interred to optimal model are positive, thus relation between firm size, 2 large shareholders and institutional ownership with dividend per share are positive. In other words coefficients of leverage and growth opportunities are negative, thus there is a negative relationship between leverage and growth opportunities with dividend per share. Meanwhile, based on the results of Table 5, VIF coefficient related to the variables entered in the final model indicated that no major change occurred in that coefficient in relation with the first figure, and there was no collinear between independent variables in the final model.

Conclusion

This paper provides an empirical examination of the agency theory explanation of the dividend policy in Tehran Stock Exchange. The major objective of this study is to identify the influence of large shareholders ownership on the level of dividend distributed. To reach this objective, we have used a sample of 35 Chemical and Medical firms listed at Tehran Stock Exchange over the period 2002 to 2008. Our results suggest that ownership structure approach is highly relevant to an understanding of corporate dividends policy in Tehran Stock Exchange. The result shows that companies make higher dividend payout as the shareholding of the largest shareholder increase and ownership structure in these firms is concentrated. More precisely, we find that the higher the ownership of the two largest shareholders, the higher the dividend payment. However, we find that more of 70% sample firms have concentrated ownership. Also we find that there is a significantly positive correlation between the institutional ownership and dividend per share.

The regression results show a positive effect of the free

cash flow on dividend policy. The high cash available, equal the high dividend per share. Moreover, we find that firms with high leverage tend to distribute a lower level of dividends and firms with better investment opportunities are less likely to pay dividends. Our empirical evidence about the effect of firm size on the level of dividend shows a positive and significant effect. Larger firms are more likely to pay out dividends.

REFERENCES

Afza T, Hassan M H (2010). “Ownership Structure and Cash Flows As Determinants of Corporate Dividend Policy in Pakistan”, Int. Bus. Res. 3(3):1-12.

Aivazian V, Booth l, Cleary S (2003). “Do emerging market firms follow different dividend policies from US firms?”. J. Financ. Res. 26(3):371-387.

Aldin H, Al-Malkawi N (2007). “Determinants of Corporate Dividend Policy in Jordan: An Application of the Tobit Model”. J. Econ. Admin. Sci. 23(2):44-70.

Allen F, Michaely R (2001). “Payout policy” working paper, the Wharton school.

Al-Najjar B, Hussainey K (2009). “The association between dividend payout and outside directorships”, J. Appl. Account. Res. 10(1):4-19.

Al-Najjar (2009). “Corporate governance and institutional Ownership”, evidence from Jordan. 10(2):176-190

Bebchuk LA, Kraakman R , Triantis G (1999).“Stock pyramids, cross-ownrship, and dual-class equity: the creation and agency costs of separating control from cash-flow rights”, NBER Working paper 6951.

Chang RP, Rhee SG (1990). “The impact of personal taxes on corporate dividend policy and capital structure decisions”. Financ. Manage. 19(2):21-31.

DeAngelo H, DeAngelo L, Stulz R (2006). “Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory”. J. Financ. Econ. 81(2):227-254.

Dessi R, Robertson D (2003). “Debt, Incentives and Performance: Evidence from UK Panel Data.” Econ. J. 113(490):903-919.

Easterbrook F (1984). “Two agency cost explanations of dividends”, Am. Econ. Rev. 74:650-659.

Farinha J (2002).” Dividend policy, corporate governance and the managerial entrenchment hypothesis: An empirical analysis”, Working paper.

Gadhoum Y (2000). “Family control and grouping: possible expropriation via dividends”, working paper, CENTOR.

Hanlon M, Myers J, Shevlin T (2007). “Are dividends informative about future earnings?”, working paper, University of Michigan, Ann Arbor, MI.

Harris M , Raviv A (1991). “The theory of capital structure.” J. Financ. 46(1):297-355.

Gillan S, Starks L (2003). “Corporate governance, corporate ownership, and the role of institutional investors: A global perspective”.J. Appl. Financ. 13:4–22.

Gomes A (2000). “Going public without Governance: Managerial reputation effects”. J . Financ. 52:615-646.

Han Ki C, Suk Hun Lee, David Y Suk (1999). “Institutional Shareholders and Dividends”. J. Financ. Strateg. Decis. 12(1):53–62.

Ho H (2003). “Dividend policies in Australia and Japan”. Int. Adv . Econ. Res. 9(2):91-100.

Holder ME, Langrehr FW, Hexter JL (1998). “Dividend policy determinants: an investigation of the influences of stakeholder theory”, Financ. Manage. 27(3):73-82.

Jensen G, Solberg D, Zorn T (1992). “Simultaneous determination of insider ownership, debt, and dividend policies”.J. Financ. Quant. Anal. 27:247-263.

Jensen M (1986). “Agency costs of Free cash-flow, corporate finance and Takeovers”, American Economic Review. 76:323-329.

Jensen M, Meckling W (1976). “Theory of the firm: Managerial behaviour, Agency costs and ownership structure”. J. Finance. Econ. 3:305-360.

Khan T (2005). “Company dividends and ownership structure: evidence from UK panel data”, working paper, Nuffield College, Oxford.

Khan, T. (2006). Companies dividend and ownership structure: Evidence from UK panel data, The Economic Business Research 3(3): 116, C172-C189.

Kouki M, Guizani M (2009). “Ownership Structure and Dividend Policy Evidence from the Tunisian Stock Market”. Eur. J. Sci. Res. 25(1):42-53.

Lang HP, Litzenberger RH (1989). “Dividend announcements: cash flow signalling vs. free cash flow hypothesis? ” J. Financ. Econ. 24:181-191.

La Porta R, Lopez –De- Silanes F, Shleifer A (1999). “Corporate ownership around the world”. J. Financ. 54:471-517.

Li H, Wang Z, Deng X (2007). “Ownership, independent directors, agency costs and financial distress”, evidence from Chinese listed companies. 8(5):622-636.

Mazna Ramli N (2010). “Ownership Structure and Dividend Policy: Evidence from Malaysian Companies”, Int. Rev. Bus. Res. 6(1):170-180.

Pagano M, Roell A (1998). “the choice of stock ownership structure: agency costs, monitoring, and the decision to go public”. Q. J. Econ.

Rozeff M (1982). “Growth, Beta and agency Costa as Determinants of Dividend payout Ratios”. J. Financ. Res. 5:249-259.

Shleifer A, Vishny R (1986). “Large Shareholders and corporate control”. J. Polit. Econ. 94:461-488.

Short H, Keasey K., Duxbury D (2002). “Capital Structure, Management Ownership and Large External Shareholders”: An UK Analysis. Int. J. Econ. Bus. 9(3):375–399.

Stacescu B (2010). “Debt Capacity and Payout Policy”, Master Thesis, BI Norwegian School of Management, Study Programme: Master of Science in Business and Economics, Financ. pp. 1-88

Stulz RM (1990). “Managerial discretion and optimal financing policies.” J. Financ Econ. 26:3-27.

Zsuzsanna F (1998). “Optimal Financial Contracting: Debt versus Outside Equity.” Rev. Financ. Stud. 11(2):383-418.

Appendix

Table 1. Model summary[g].

Model	R	R Square	Adjusted R Square	Std. error of the estimate	Durbin-Watson
1	0.479[a]	.229	0.226	629.13045	
2	0.578[b]	.334	0.329	585.84459	
3	0.633 [c]	.401	0.393	556.97649	
4	0.651[d]	.424	0.414	547.31264	
5	0.668[e]	.446	0.435	537.78220	
6	0.679 [f]	.460	0.447	531.85631	1.892

[a]Predictors: (Constant), FCF; [b]Predictors: (Constant), FCF, SIZE; [c]Predictors: (Constant), FCF, SIZE, MAJ; [d]Predictors: (Constant), FCF, SIZE, MAJ, INST; [e]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV; [f]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV, Tobin Q; [g]Dependent variable: DIV.

Table 2. ANOVA[g].

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	28606834	1	28606834.11	72.275	.000[a]
	Residual	96180644	243	395805.120		
	Total	1.25E+08	244			
2	Regression	41729718	2	20864858.98	60.793	.000[b]
	Residual	83057760	242	343213.886		
	Total	1.25E+08	244			
3	Regression	50023781	3	16674593.59	53.750	.000[c]
	Residual	74763698	241	310222.811		
	Total	1.25E+08	244			
4	Regression	52895208	4	13223801.96	44.145	.000[d]
	Residual	71892271	240	299551.127		
	Total	1.25E+08	244			
5	Regression	55666361	5	11133272.22	38.496	.000[e]
	Residual	69121117	239	289209.695		
	Total	1.25E+08	244			
6	Regression	57464148	6	9577357.918	33.858	.000[f]
	Residual	67323331	238	282871.138		
	Total	1.25E+08	244			

[a]Predictors: (Constant), FCF; [b]Predictors: (Constant), FCF, SIZE; [c]Predictors: (Constant), FCF, SIZE, MAJ; [d]Predictors: (Constant), FCF, SIZE, MAJ, INST; [e]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV; [f]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV, Tobin Q; [g]Dependent variable: DIV.

Table 3. Coefficients[a].

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	572.496	56.649		10.106	.000		
	FCF	.430	.051	.479	8.501	.000	1.000	1.000
	SIZE							
	MAJ							
	INST							
	LEV							
	Tobin Q							
2	(Constant)	-4254.409	782.395		-5.438	.000		
	FCF	.376	.048	.419	7.868	.000	.968	1.033
	SIZE	429.056	69.388	.330	6.183	.000	.968	1.033
	MAJ							
	INST							
	LEV							
	Tobin Q							
3	(Constant)	-3974.384	745.810		-5.329	.000		
	FCF	.322	.047	.359	6.898	.000	.919	1.089
	SIZE	380.595	66.631	.292	5.712	.000	.948	1.054
	MAJ	430.628	83.283	.269	5.171	.000	.919	1.088
	INST							
	LEV							
	Tobin Q							
4	(Constant)	-3258.673	768.464		-4.241	.000		
	FCF	.314	.046	.350	6.829	.000	.915	1.092
	SIZE	305.969	69.770	.235	4.385	.000	.835	1.197
	MAJ	380.161	83.445	.237	4.556	.000	.884	1.132
	INST	3.558	1.149	.168	3.096	.002	.811	1.232
	LEV							
	Tobin Q							
5	(Constant)	-2620.229	782.745		-3.347	.001		
	FCF	.303	.045	.337	6.681	.000	.910	1.099
	SIZE	255.809	70.445	.197	3.631	.000	.791	1.264
	MAJ	334.943	83.283	.209	4.022	.000	.857	1.167
	INST	3.984	1.138	.189	3.503	.001	.800	1.251
	LEV	-111.791	36.115	-.158	-3.095	.002	.895	1.117
	Tobin Q							
6	(Constant)	-1910.444	823.729		-2.319	.021		
	FCF	.304	.045	.339	6.798	.000	.909	1.100
	SIZE	205.730	72.445	.158	2.840	.005	.732	1.367
	MAJ	307.767	83.068	.192	3.705	.000	.842	1.187
	INST	3.967	1.125	.188	3.526	.001	.800	1.251
	LEV	-98.368	36.111	-.139	-2.724	.007	.876	1.142
	Tobin Q	-32.939	13.066	-.131	-2.521	.012	.836	1.196

[a]Dependent variable: DIV.

Table 4. Excluded variables[f].

Model		Beta In	t	Sig.	Partial correlation	Collinearity statistics		
						Tolerance	VIF	Minimum tolerance
1	MAJ	.311 [a]	5.675	.000	.343	.937	1.067	.937
	INST	.308 [a]	5.738	.000	.346	.974	1.027	.974
	LEV	-.238 [a]	-4.330	.000	-.268	.978	1.022	.978
	Tobin Q	-.279 [a]	-5.182	.000	-.316	.992	1.008	.992
	SIZE	.330 [a]	6.183	.000	.369	.968	1.033	.968
2	MAJ	.269 [b]	5.171	.000	.316	.919	1.088	.919
	INST	.217 [b]	3.907	.000	.244	.844	1.185	.839
	LEV	-.174 [b]	-3.263	.001	-.206	.930	1.075	.920
	Tobin Q	-.190 [b]	-3.460	.001	-.218	.876	1.141	.855
	SIZE							
3	MAJ							
	INST	.168 [c]	3.096	.002	.196	.811	1.232	.811
	LEV	-.136 [c]	-2.630	.009	-.167	.908	1.101	.897
	Tobin Q	-.150 [c]	-2.825	.005	-.179	.855	1.170	.849
	SIZE							
4	MAJ							
	INST							
	LEV	-.158 [d]	-3.095	.002	-.196	.895	1.117	.791
	Tobin Q	-.152 [d]	-2.916	.004	-.185	.855	1.170	.756
	SIZE							
5	MAJ							
	INST							
	LEV							
	Tobin Q	-.131 [e]	-2.521	.012	-.161	.836	1.196	.732
	SIZE							

[a]Predictors: (Constant), FCF; [b]Predictors: (Constant), FCF, SIZE; [c]Predictors: (Constant), FCF, SIZE, MAJ; [d]Predictors: (Constant), FCF, SIZE, MAJ, INST; [e]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV; [f]Predictors: (Constant), FCF, SIZE, MAJ, INST, LEV, Tobin Q; [g]Dependent variable: DIV.

Table 5. Residuals statistics[a].

	Minimum	Maximum	Mean	Std. deviation	N
Predicted value	-711.1509	2742.0017	911.8776	485.29249	245
Residual	-1642.0016	1957.2329	.0000	525.27639	245
Std. predicted value	-3.344	3.771	.000	1.000	245
Std. residual	-3.087	3.680	.000	.988	245

[a]Dependent variable: DIV.