

**The Influence of Agency Costs on Dividend Policy in an
Emerging Market:
“Evidence from the Tehran Stock Exchange”**

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Abstract

Dividend policy has long been an issue of interest in the financial literature. To date, a number of studies published on agency costs and dividend policy but most of them are on developed markets. It is well known that the emerging markets are quite different from developed markets in all respects. So, the existing published evidence is of limited relevance in identifying the influence of agency costs on dividend policy in an emerging market. The major objective of this paper is to identify the influence of agency costs on dividend policy in an emerging market. The Tehran Stock Exchange (TSE) listed non-financial sector companies for the period of 1997-2002 are considered as the sample of the study. Ordinary Least Square regression model employs to identify the influence of agency costs on dividend policy in an emerging market. The results indicate that number of common stockholders, collateralizable assets, and free cash flow positively related to dividend pay-out ratio. All of these coefficients are in the predicted direction and are quite consistent with the findings of Rozeff's study (1982) as well as those conducted so far. However, these results support Jensen's (1986) free cash flow hypothesis. Finally, these results suggest the influence of agency costs on dividend policy in an emerging market.

Keywords: Agency Cost, Dividend Policy, Emerging Market, Free Cash flow, Collateralizable Assets

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I- Introduction and Background

Corporate dividend policy has captured the interest of economists of this century and over the last five decades has been the subject of intensive theoretical modeling and empirical examination. A number of conflicting theoretical models (all lacking strong empirical support) define current attempts to explain corporate dividend behaviour. The major objective of this paper is to identify the influence of agency costs on dividend policy in an emerging market. Initial forays into theorizing corporate dividend policy are divided as to their prediction of the dividend payment's effect on share price. Over the last century, three schools of thought have emerged. One faction sees dividends as attractive and as a positive influence on stock price. A second bloc believes that stock prices are negatively correlated with dividend payout levels. The third group of theories maintains that firm dividend policy is irrelevant in stock price valuation. Theoretical and empirical models of corporate dividend policy of late better separate into a different taxonomy. In this taxonomy, the qualifying criterion is the nature of the market structure and/or the underlying rationale of the investor. Accordingly, recent models are broadly segregated, based on their rationale, into models formulated in states with full information, models in states with information asymmetries and models using behavioural principles. Section II is a brief review of theoretical models based on the last categorization, Section III describes the research methodology (data, dependent and independent variable, hypothesis and proposed model), the empirical evidence and the concluding remarks being presented in Section IV and V respectively.

II. Dividend Theories¹

A. Full Information Models-The Tax Factor

Tax-adjusted models surmise that investors require and secure higher expected returns on shares of dividend-paying stocks. The imposition of a tax liability on dividends causes the dividend payment to be grossed up to increase the shareholder's pre-tax return. Under capital asset pricing theory, investors offer a lower price for the shares because of the future tax liability of the dividend payment.

One consequence of the tax-adjusted model is the division of investors into dividend tax clienteles, an argument first proposed in the seminal work of Miller and Modigliani (1961). In later research, Modigliani (1982) finds that the clientele effect is responsible for only nominal alterations in portfolio composition rather than the major differences predicted by Miller (1977).

Masulis and Trueman (1988) model cash dividend payments as products of deferred dividend costs. Their model predicts that investors with differing tax liabilities will not be uniform in their ideal firm investment/dividend policy. As the tax liability on dividends increases (decreases), the dividend payment decreases (increases) while earnings reinvestment increases (decreases). Differences are minimized by segregation of investors into clienteles. The model developed by Farrar and Selwyn (1967) assumes that investors maximize after-tax income. In a partial equilibrium framework, investors have two choices. Individuals choose the amount of personal and corporate leverage and also whether to receive corporate distributions as dividends or capital gains. This model contends that no dividends should be paid; rather, that share repurchase should be used to distribute corporate earnings.

The Farrar and Selwyn (1967) model is extended into a general equilibrium framework by Brennan (1970). In this setting, investors maximize their expected utility of wealth. Although the model is more robust, the predictions are similar to those of the Farrar and Selwyn model; equilibrium with dividend-paying firms is not consistent with a zero required return per unit of dividend yield. Auerbach (1979a) develops a discrete-time, infinite-horizon model in which shareholders (as opposed to firm market value) maximize their wealth. If a capital gains/dividends tax differential exists, wealth maximization no longer implies firm market value maximization. Subsequently, Auerbach (1979b) posits that dividend distributions occur because of the consistent, long-term undervaluation of corporate capital. The undervaluation is the result of a dynamic process encompassing multiple periods of total reinvestment of all firm profits followed by firm returns less than the returns expected by investors.

Tax-adjusted models are criticized as incompatible with rational behavior; this criticism prompts Miller (1986) to suggest a strategy of tax sheltering of income by high-tax-bracket individuals. Individuals can refrain, of course, from purchasing dividend-paying shares to avoid the tax liability of these payments. Alternatively, using a strategy first advanced by Miller and Scholes (1978), shareholders can purchase dividend-paying stocks and receive the distributions, then simultaneously borrow funds to invest in tax-free securities.

The use of dividend-specific, personal tax shelters (for example, the existing dividend income exemption) to avoid tax liabilities is advanced by DeAngelo and Masulis (1980). They contend that the Miller and Scholes' (1978) tax shelter strategy is not sufficient to induce positive dividend payment at equilibrium. Fung and Theobald (1984) model tax shelters that are not based on

interest charges and apply the theoretical results to French, German, British, and U.S. tax systems.

B. Models of Information Asymmetries

1. Signaling Models

The market imperfection of asymmetric information is the basis for three distinct efforts to explain corporate dividend policy. The mitigation of the information asymmetries between managers and owners via unexpected changes in dividend policy is the cornerstone of dividend signaling models. Agency cost theory uses dividend policy to better align the interests of shareholders and corporate managers. The free cash flow hypothesis is an ad hoc combination of the signaling and agency costs paradigms; the payment of dividends can decrease the level of funds available for perquisite consumption by corporate managers.

Akerlof's (1970) model of the used car market as a pooling equilibrium in the absence of signaling activities illuminates the costs of information asymmetries. The generalization of Akerlof's model by Spence (1973, 1974) became the prototype for all financial models of signaling. The model defines a unique and specific signaling equilibrium in which a job seeker signals his/her quality to a prospective employer. Although the scenario is developed using the employment market, Spence contends that extension to a *limited* number of other settings (admissions procedures, promotions, and credit applications) is possible.

Bhattacharya (1979, 1980), Talmor (1981), Hakansson (1982), John and Williams (1985), Miller and Rock (1985), Bar-Yosef and Huffman (1976), Makhija and Thompson (1986), Ambarish, John and Williams (1987), Ofer and Thakor (1987), Kumar (1988), Kale and Noe (1990), Rodriguez (1992), and many others offer signaling models of corporate dividend policy.

The proponents of signaling theories believe that a corporate dividend policy used as a means of putting the message of quality across has a lower cost than other alternatives.² The use of dividends as signals implies that alternative methods of signaling are not perfect substitutes (Asquith and Mullins, 1986).

2. Agency Cost

The recognition of potential agency costs associated with the separation of management and ownership is not new; differences in managerial and shareholder priorities have been recognized for more than three centuries. Adam

Smith (1937) adjudged the management of early joint stock companies to be negligent in many of their activities. These problems were especially prevalent in the British East Indies Company and attempts to monitor managers were largely unsuccessful because of inefficiencies and costs associated with shareholder monitoring (Kindleberger, 1984). Scott (1912) and Carlos (1992) question these assertions--while control and organization were less than ideal, the continued success and long life of the corporation imply generally sound managerial practices. Although some fraud no doubt existed, the majority of managerial activities coincided with shareholder desires.

Modern agency theory seeks to explain corporate capital structure as the result of attempts to minimize the costs associated with the separation of corporate ownership and control. Agency costs are lower in firms with high managerial ownership stakes because of the better alignment of shareholder and manager goals (Jensen and Meckling, 1976) and in firms with large block shareholders that are better able to monitor managerial activities (Shleifer and Vishney, 1986). Agency problems result from information asymmetries, potential wealth transfers from bondholders to stockholders through the acceptance of high-risk and high-return projects by managers, and failure to accept positive net present value projects and perquisite consumption in excess of the level consumed by prudent corporate managers (Barnea, Haugen, and Senbet, 1981).

Dividend policy influences these relations in two ways. Fama and Jensen (1983a, 1983b) espouse that potential shareholder and bondholder conflicts can be mitigated by covenants governing claim priority. These orderings can be circumvented by large dividend payments to stockholders.³ Debt covenants to minimize dividend payments are necessary to prevent bondholder wealth transfers to shareholders (John and Kalay, 1982). Although potentially substantial in precipitation of agency costs, its dividend policy is not a major source of bondholder wealth expropriation. In firms where dividend payouts are limited by bondholder covenants, dividend payout levels are still below the maximum level allowed by the constraints (Kalay, 1982 b).

The second way dividend policy affects agency costs is the reduction of these costs through increased monitoring by capital markets. Large dividend payments reduce funds available for perquisite consumption and investment opportunities and require managers to seek financing in capital markets. The efficient monitoring of capital markets reduces less-than optimal investment activity and excess perquisite consumption and hence reduces the costs associated with ownership and control separation (Easterbrook, 1984).

3. The Free Cash Flow Hypothesis

Prudent managers working in the shareholders' best interests should invest in all profitable opportunities. Management and ownership separation affords corporate managers the temptation, however, to consume or otherwise waste surplus funds. The inefficient use of funds in excess of profitable investment opportunities by management was first recognized by Berle and Means (1932). Jensen's (1986) free cash flow hypothesis updated this assertion, combining market information asymmetries with agency theory. The funds remaining after financing all positive net present value projects cause conflicts of interest between managers and shareholders. Dividend and debt interest payments decrease the free cash flow available to managers to invest in marginal net present value projects and manager perquisite consumption. This combination of agency and signalling theory should better explain dividend policy than either theory alone, but the free cash flow hypothesis does a better job of rationalizing the corporate takeover frenzy of the 1980's (Myers, 1987 and 1990) than it does of providing a comprehensive and observable dividend policy.

C. Behavioural Models

No paradigm discussed thus far completely explains observed corporate dividend behaviour. Investor behaviour is substantially influenced by societal norms and attitudes (Shiller, 1984). Unfortunately, this motivation has been ignored by financial theorists for the most part because of the difficulty of introducing investor behaviour into traditional financial pricing models (Arbel, Carvell and Postnieks, 1988). According to Shiller (1989), including these influences in modeling efforts can enrich the development of a theory to explain the endurance of corporate dividend policy.

Ordinary investors are faced not with risk, but with uncertainty—a lack of concise judgment and sense of objective evidence (Knight, 1964). Social pressures can lead to errors in judgment and trading activities by shareholders that cannot be logically explained. These errors in judgment are only mistakes, not lapses of rational investment activity. Mass investor psychology profoundly influences aggregate market activity (Shiller, 1984).

Dividend policy is inconsistent with wealth maximization of the shareholder and is better explained by the addition of a socioeconomic-behaviour paradigm into economic models. Dividend payouts can be viewed as the socioeconomic repercussion of corporate evolution—the information

asymmetries between managers and shareholders cause dividends to be paid to increase the attractiveness of equity issues (Frankfurter and Lane, 1992).

The systematic relation between industry type and dividend policy reported by Michel (1979) implies that managers are influenced by the actions of executives from competitive firms when determining dividend payout levels. Managers, realizing that shareholders desire dividends, pay or increase dividends to mollify investors (Frankfurter and Lane, 1992). Dividend payments to shareholders should help increase the corporation's stability by serving as a ritualistic reminder of the managerial and owner relationship (Ho and Robinson, 1992). As Frankfurter and Lane (1992) contend, dividends are partially a tradition and partially a method to allay investor anxiety.

1. Managerial Surveys

Lintner (1956) surveyed corporate chief executive officers and chief financial officers and found that dividend policy is an active decision variable because managers believe that stable dividends lessen negative investor reactions. The active determination of dividend policy implies that the level of retained earnings and savings is a dividend decision by product. Darling (1957), Turnovsky (1967), and Fama and Babiak (1968) find empirical support for Lintner's findings; dividends are a function of current and past profit levels, and expected future earnings, and are negatively correlated with changes in the level of sales. Current income remains the critical determinant of corporate dividend policy 25 years after Lintner's original survey (DeAngelo, DeAngelo, and Skinner, 1992).

Other factors not considered by Lintner (regulatory constraints, investment magnitude, debt and firm size) also affect dividend policy. Variations in dividend policy are primarily due to a combination of endogenous and exogenous elements (Dhrymes and Kurz, 1964). Harkins and Walsh (1971) find that shareholder dividend desires and management need of retained earnings for investment opportunities conflict. A compromise policy partially satisfying both parties is chosen. Managers consider current and expected earnings, dividend payment history, and dividend level stability, cash flows and investment opportunities, and shareholder desires in their determination of the payout level.

Surveys of chief financial officers (CFO's) by Baker, Farrelly, and Edelman (1985) and Baker and Farrelly (1988) confirm the Lintner (1956) results. The CFO's cite the importance of dividend continuity, the belief that share prices are affected by dividend policy, and the difference in classification of regular and unusual cash flows as important determinants of dividend policy.

Managerial views of dividend policy are essentially unchanged 30 years after Lintner's study; dividends are paid because shareholders expect continued dividend growth and managers believe investors want to receive dividends. Managers believe that dividend payments are necessary to maintain or increase share price and to attract new investors. Dividend payout policy is determined using criteria including sustainability, current firm profitability, future cash flow expectations, and industry norms.

2. Theoretical Behavioural Models

Feldstein and Green (1983) model the corporate dividend decision as the last step in a process that evaluates inputs from five sources. First, dividend policy is a consequence of investor consumption needs. The tax liabilities from dividend payment are less than the transaction costs of selling shares to provide income if earnings are retained. Second, the market value of retained earnings is less than the market value of dividends. Third, dividend payment is consistent with steady state growth and an optimal debt/equity ratio. Fourth, dividend payments are a by product of the separation of corporation owners and managers; dividend payments help to diminish the agency costs arising from separation of corporate owners and managers and are used for signaling activities. Finally, although asymmetric information and agency costs are present in the model, the paradigm is not dependent on these markets imperfections. The involvement of shareholders with diverse tax liabilities and diversification goals in an equilibrium with uncertainty results in dividend payments.

Shefrin and Statman (1984) explain dividend preference by using the theory of self control (Thaler and Shefrin, 1981) and the descriptive theory of choice under uncertainty (Kahneman and Tversky, 1982). Information models are used to justify the presence of corporate dividends while the tax liability of dividends is used as a counter-argument. This model is also consistent with dividend clienteles.

Dividends and capital gains are not always perfect substitutes (even in a world without taxes and transaction costs) because of a lack of self-control to delay gratification (Thaler and Shefrin, 1981). In financial theory, dividends and capital gains have the same value; this is not the case in a world modeled using the theory of self-control. Dividend checks are appreciated more than capital gains and provide an automatic control device on spending levels (Thaler, 1980). Risky alternatives, costs, and payoffs are evaluated separately.

The greater effects shown following dividend decreases also support this contention; losses are more significant than gains. Kahneman and Tversky (1982) posit that the sale of shares of stock causes more investor regret and anxiety than the spending of the cash received from dividend payments. A subsequent price rise of shares sold for income needs increases the shareholders' contrition. Clearly, in this model, capital gains and dividends are not perfect substitutes. Regret aversion can induce a preference for dividends through the use of a consumption rule based on the utilization of dividends, not invested with age and negatively correlated with income.

Marsh and capital. Dividend yields are positively correlated with the planned dissaving rate. If dissaving is positively related to age and negatively related to income, portfolio dividend yields will be positively correlated Merton (1986) develop a rational expectations model of dividend policy as management's response to permanent earnings. In equilibrium, dividend levels are determined using future earnings expectations. Using dividends as signals is incompatible with this model.

III. Data and Method

III. A. Data and Sample

Tehran Stock Exchange listed non-financial sector companies over the period of 1997-2002 formed the sample of the study. Financial sector is excluded from the sample because they maintain different type of accounting records which makes a problem to cope with conventional accounting system. It is worth to mention here that some companies are excluded from the sample because either all of the company or market data of those companies are unavailable. So, the sample size became smaller than the actual companies listed in Tehran Stock Exchange. The final sample consists 189 Tehran stock Exchange listed non-financial sector companies. All the required data are collected from the annual reports of the Tehran Stock Exchange listed companies from 1997 to 2002.

III. B. Selection of Variables

The **dependent variable** of the study is the dividend **pay-out ratio (DPR)**. Dividend payout ratio is a percentage of profit paid as dividend. If firms pay relatively low levels of dividend which may show higher dividend pay-out ratio if the profits are very low. And on the other hand, if the firm maintains the absolute amount of dividend that could show increased dividend pay-out ratio if the firm do this in case of falling profits. Usually, dividend pay-out ratio is

defined as dividend / net profit after taxes but this could create problems sometimes because many companies pay dividends in excess of net profit after taxes and some companies also pay dividends when net profit after taxes are even negative. The payment of dividend from negative profit creates a discontinuity in the variable with negative values being rather meaningless. It is considered dividend pay-out ratio as dividend divided by operating profits where dividend is the annual equity dividend and operating income is the income from operation (gross profit - operating expenses). Similar proxy has been used by Jensen *et al.* (1992) and Short (1996).

III. B. I. Independent Variables

As agency theory concern, widely spread ownership have more bargain power and more influence on management and in this case management used to pay more dividends to control the influence of wide spread ownership and to reduce agency cost. The number of common stockholders is considered as the proxy of **dispersion of ownership** for agency cost arises for the conflict between manager and shareholder. It is hypothesized a positive relationship between number of common stockholders and dividend pay-out ratio because as number of common stockholders increases, the agency problems becomes more severe, the need for monitoring actions also increases; hence, dividend can alleviate this problem. Similar type of proxy of agency cost variable for the conflict between manager and shareholder is used by Rozeff (1982), Jensen *et al.* (1992), Alli *et al.* (1993), Holder *et al.* (1998), and Saxena (1999).

Jensen's (1986) hypothesis suggests that firms with more growth opportunities have lower free cash flow and therefore, it needs to pay lower dividends to reduce the agency cost of **free cash flow**. Jensen's free cash flow hypothesis was supported by Rozeff (1982), Jensen *et al.* (1992) and Smith and Watts (1992). The ratio of free cash flow to total assets is considered as the proxy of free cash flow for agency cost arises for free cash flow. It is hypothesize a positive relationship between free cash flow and dividend pay-out ratio because a firm with more free cash flow pays higher amount of dividend to reduce agency cost (Jensen, 1986). Similar proxy is used by Holder *et al.* (1998).

The ratio of net fixed assets to total assets is considered as the proxy of **collateralizable assets** for the agency cost arises for the conflict between

Table 1: A Brief Summary of the Major Studies on Determinants of Dividend Policy

Author	Data Set	Dependent Variable	Method	Findings Regarding the Agency Cost Theory
1. Rozeff, 1982	1000 US cross-sectional non-regulated firms from 64 spans over the period of 1974-80	Dividend Pay-out Ratio	OLS	Agency Cost: Support
2. Gerber, 1988	Primary and secondary data from NYSE listed 11 large firms for the period of 1977-86	Target Pay-out Ratio	OLS	Agency Cost: Support
3. Jensen <i>et al.</i> , 1992	Cross-section of 565 US firms in 1982 and 632 US firms in 1987 respectively	Dividend Pay-out Ratio	3 Stage Least Square (3SLS)	Agency Cost: Support
4. Alli <i>et al.</i> , 1993	Cross-section of 105 US non-financial sector firms over the period of 1983- 85	Dividend Pay-out Ratio	2 Stage Multivariate ((a) Factor Analysis and (b) OLS)	Agency Cost: Support
5. Holder <i>et al.</i> , 1998	Cross-section of 477 US firms over the period of 1983-90 Mean Std. Deviation of	Dividend Pay-out Ratio	OLS	Agency Cost: Support
6. Saxena, 1999	Cross-section of randomly selected 333 NYSE listed regulated and nonregulated firms over the period of 1981-90	Dividend Pay-out Ratio	OLS	Agency Cost: Support

shareholder and bondholder and it is hypothesized a positive relationship between collateralizable assets and dividend pay-out ratio because a firm with more collateralizable assets have fewer agency problems between shareholder and bondholder which leads to the higher level of dividend payments (Titman and Wessels, 1988). Similar proxy is used by Alli *et al.* (1993).

The **independent variables**, their proxies, and the calculations are shown in the following table:

Table 2: A brief description of the independent variables

Dividend Theories	Name of the Variables	Proxies	Calculations
Agency Cost	(1)Dispersion of Ownership (2) Free Cash Flow (3)Collateralizable Assets	(1) Number of Common Stockholders (2) Free Cash Flow (3)Collateralizable Assets	(1) Natural Log of Number of Common Stockholders (2) (Net Profit After Tax-Dividend + Depreciation) / Total Assets (3) Ratio of Net Fixed Assets to Total Assets

III. C. Methodology

III. C. I. Hypothesis

Ho: There is no significant influence of Agency Cost on Dividend Policy.

III. C. II. Proposed Model

OLS models run over the period of 1997-2002 to identify the influence of agency costs on dividend policy.

OLS Regression Model:

Dividend Pay-out Ratio (DPR)= $a + \beta_1$ Dispersion of Ownership (DOWNER) + β_2 Free Cash Flow (FCF) + β_3 Collateralizable Assets (COLLASS) + e

Table 3: Descriptive Statistics of the Variables

Variables	Mean	Standard Deviation	Minimum	Maximum
DPR	0.6090	0.42636	-.37	1.98
Dower	0.7776	1.68093	1.41	10.83
FCF	0.1711	0.11153	-0.22	0.59
Collass	0.2040	0.10349	0.01	0.82

IV. Empirical Evidences

The mean dividend pay-out ratio over the period of 1997-2002 is 0.6099. This result indicates that dividend pay-out ratio in Tehran Stock Exchange is quite high. This is the indication of closely held nature of the firms listed in Tehran Stock Exchange.(TSE)

Table 4: Correlation Matrix: Pearson Indices

Variables	DPR	DOWNER	FCF	COLLASS
DPR	1	---	---	---
Downer	.207***	1.000	---	---
FCF	.743***	.609***	1.000	---
Collass	.609***	0.492***	.547**	1.000

Note : ***Significant at 1% level

**Significant at 5% level

The Pearson's correlation matrix shows the expected relationship of all the independent variables with dividend pay-out ratio. However, the correlation matrix also shows the correlation between the independent variables is either moderate degree but less .8 which suggests the absence of multicollinearity between independent variables. As suggested by Bryman and Cramer (1997), the Pearson's r between each pair of independent variables should not exceed 0.80; otherwise independent variables with a coefficient in excess of 0.80 may be suspected of exhibiting. Multicollinearity is usually regarded as a problem because it means that regression coefficients may be unstable (Bryman and Cramer, 1997). Several scholars including Mendenhall and Sincich (1989), Hair

et al., (1995), and Freund and Wilson (1998), state that multicollinearity can be quite difficult to detect where there are more than two independent variables. Moreover, the collinearity diagnostics provided by SPSS including collinearity statistics (Tolerance and Variance Inflated Factor 'VIF'), condition index, and variance proportion support the Pearson's correlation coefficients and document no proof of multicollinearity problem in the regression model.

Table 5: Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
Model					R Square Change	F Change	df1	df2	Sig. F Change	
1	.823	.678	.677	.24527	.678	659.787	3	941	.000	1.954

a - Predictors: (Constant), DOWNER, COLLASS, FCF

b- Dependent Variable: DPR

The overall Fscore=661.501 regression models and the values are significant at 5% level ($p < .000$). the adjusted R^2 is 0.677 for regression models.

The coefficients of agency cost theory variables are in the predicted direction in the regression models and all of these variables are highly significant.

The impact of DOWNER, the variable measuring ownership dispersion, on the target payout ratio, is found to be positive. As predicted it appears that increases in the dispersion of ownership increases the collective action problem of monitoring and thus the need for the dividend induced capital market monitoring.

The standardized beta coefficients of the natural log of common stockholders is 335 for regression model and the coefficients is significant at 5% level. These results indicate that firms pay higher amount of dividends as monitoring and bonding package when increase the number of common to reduce agency cost. These results, however, support the empirical findings of Jensen and Meckling (1976), Rozeff (1982), Easterbrook (1984), Crutchley and Hansen (1989), Jensen et al. (1992), Alli et al. (1993), and Saxena (1999).

Table 6 : Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-.423	.034			-12.331	.000	-.490	-.355					
	COLLASS	.876	.095	.210		9.258	.000	.690	1.061	.606	.289	.171	.665	1.504
	FCF	1.649	.096	.426		17.113	.000	1.460	1.838	.744	.487	.317	.552	1.812
	DOWNER	8.588E-02	.006	.335		13.904	.000	.074	.098	.698	.413	.257	.591	1.691

a Dependent Variable: DPR

The impact of FCF, the variable measuring free cash flow, on the target payout ratio, is found to be positive. The standardized beta coefficients of free cash flow is .426 for regression models and the coefficients insignificant at 5% level. These results, however, support Jensen's (1986) free cash flow hypothesis that if firms have free cash flow then the firms either pay dividends or retire its debts to reduce the agency cost of free cash flow.

In addition, the impact of COLLASS, the variable measuring collateralizable assets, on the target payout ratio, is found to be positive. The standardized coefficients of collateralizable assets are .210 for the regression models and the coefficients are statistically significant at 5% level. These results view that the firms with more collateralizable assets have less conflicts between shareholders-bondholders and consequently pay more dividends. Moreover, these results support the empirical evidences of Titman and Wessels (1988) and Alli et al (1993).

Finally, the empirical evidences document the influence of agency cost on dividend policy of the companies listed on TEHRAN stock Exchange. And the most significant variables of agency cost theory are free cash flow, Dispersion of Ownership, Collateralizable Assets respectively

V. Conclusion

A vast majority of the studies conducted on dividend policy but some important issues are still remain unresolved and there is no such recognized study found about the influence of agency costs on dividend policy of the companies listed on Tehran Stock Exchange. The major objective of this study is to identify the influence of agency costs on dividend policy in an emerging market. Ordinary Least Square model is tested on the Tehran Stock Exchange data over the period of 1997-2002 to identify the influence of agency costs on dividend policy on which no study conducted yet. The Pearson's correlation matrix shows the expected relationship of all the independent variables with dividend pay-out ratio. However, the regression coefficients of all the variables are in the predicted direction which also supports the correlation results.

The coefficients of number of common stockholders is positively related to dividend pay-out ratio which indicate that firms pay higher amount of dividends as monitoring and bonding package when increase the number of common stockholders to reduce agency cost.

However, free cash flow coefficient is positively related to dividend pay-out ratio which indicates that if firms have free cash flow then the firms either pay dividends or retire its debts to reduce the agency cost of free cash flow. In addition, the coefficient of collateralizable assets is positively related to dividend pay-out ratio which indicates the influence of agency cost arises for the conflict between shareholder-bondholder on dividend pay-out ratio. These results are consistent with the previous empirical studies and support the influence of agency cost on dividend policy in an emerging market.

Finally, the more influential factors of agency costs in an emerging market are FCF, DOWNER, COLLAS respectively, and collateralizable assets. This research will explore the avenues of further research on dividend policy of an emerging market and bring some new ideas which will draw attention to the security analysts, portfolio investors, and regulatory bodies of an emerging market like Tehran Stock Exchange. The major limitation of the study is the exclusion of financial sector. Among others, consideration of only five years period and use of only secondary data are most remarkable limitations. However, it is suggested to conduct further research considering more sample period and either incorporating financial sector or separate study for both financial and non-financial sectors. In addition, it is also suggested to conduct further research on both primary and secondary data. Besides these, it is also suggested to conduct further research on different emerging markets which could strengthen the empirical findings of the influence of agency costs on dividend policy.

Even though there are many limitations of this study, it will open up new horizons in the area of capital market research in an emerging market like Tehran Stock Exchange. However, it is believable that this research would be the pioneering study in this area in an emerging market like Tehran Stock Exchange.

References

- 1- Akerlof, George, 1970, The Market for 'Lemons': Quality Uncertainty and the Market Mechanism, *The Quarterly Journal of Economics*, 84, 488-500.
- 2- Alli et al (1993), 'Determinants of Corporate Dividend Policy: A Factorial Analysis', *The Financial Review* (November), PP. 523-547.

- 3- Ambarish, Ramasastry, Kose John and Joseph Williams, 1987, Efficient Signaling with Dividends and Investments, *The Journal of Finance*, 42, 321-343.
- 4- Arbel, Avner, Steven Carvel and Erik Postnieks, 1988, The Smart Crash of October 19th, *Harvard Business Review*, 66, May-June, 124-136.
- 5- Auerbach, Alan J., 1979a, Share Valuation and Corporate Equity Policy, *Journal of Public Economics*, 11, 291-305. , 1979b, Wealth Maximization and the Cost of Capital, *The Quarterly Journal of Economics*, 93, 433-446., 1983, Stockholder Tax Rates and Firm Attributes, *Journal of Public Economics*, 21, 107-127.
- 6- Baker, H. Kent and Gail E. Farrelly, 1988, Dividend Achievers: A Behavioral Perspective, *Akron Business and Economic Review*, 19, 79-92.
- 7- Baker, H. Kent, Gail E. Farrelly and Richard B. Edelman, 1985, A Survey of Management Views on Dividend Policy, *Financial Management*, 14, Autumn, 78-84.
- 8- Barnea, Amir, Robert A. Haugen and Lemma W. Senbet, 1981, Market Imperfections, Agency Problems, and Capital Structure: *A Review*, *Financial Management*, 10, summer, 7-22.
- 9- Bar-Yosef, Sasson and Richard Kolodny, 1976, Dividend Policy and Capital Market Theory, *The Review of Economics and Statistics*, 58, 181-190.
- 10- Benartzi, Shlomo, Michaely, Roni and Richard Thaler. 1997. "Do Changes in Dividends Signal the Future or the Past?" *The Journal of Finance* 52:1007-1034.
- 11- Berle, Adolf A. and Gardiner C. Means, 1932, *The Modern Corporation and Private Property*, New York: The Macmillan Company.
- 12- Bhattacharya, Sudipto, 1979, Imperfect Information, Dividend Policy, and "the Bird in the Hand" Fallacy, *Bell Journal of Economics*, 10, 259-270. 1980, Nondissipative Signaling Structures and Dividend Policy, *The Quarterly Journal of Economics*, 95, 1-24.
- 13- Brennan, Michael J., 1970, Taxes, Market Valuation, and Corporation Financial Policy, *National Tax Journal*, 23, 417-427.
- 14- Carlos, Ann M., 1992, Principal-Agent Problems in Early Trading Companies: A Tale of Two Firms, *The American Economic Review*, 82, 140-145.
- 15- Darling, Paul G., 1957, The Influence of Expectations and Liquidity on Dividend Policy, *Journal of Political Economy*, 65, 209-224.

- 16- DeAngelo, Harry, Linda De Angelo and Douglas J. Skinner, 1992, Dividends and Losses, *The Journal of Finance*, 57, 1837-1863.
- 17- DeAngelo, Harry and Ronald W. Masulis, 1980. "Leverage and Dividend Irrelevancy under Corporate and Personal Taxation." *The Journal of Finance* 35: 453-464.
- 18- Dhrymes, Phoebus J. and Mordecai Kurz, 1964, On the Dividend Policy of Electric Utilities, *The Review of Economics and Statistics*, 46, 76-81.
- 19- Easterbrook, F. H. (1984), 'Two Agency Cost Explanations of Dividends', *American Economic Review* (June), PP.650-59.
- 20- Fama, Eugene F. and Harvey Babiak, 1968, Dividend Policy: An Empirical Analysis, *Journal of American Statistical Association*, 63, 1132-1161.
- 21- Fama, Eugene F. and Harvey Babiak, 1968, Dividend Policy: An Empirical Analysis, *Journal of American Statistical Association*, 63, 1132-1161.
- 22- Fama, Eugene F. and Michael C. Jensen, 1983a, Separation of Ownership and Control, *Journal of Law & Economics*, 26, 301-325.
- 23- -----, 1983b, Agency Problems and Residual Claims, *Journal of Law & Economics*, 26, 327-349.
- 24- Farrar, Donald E. and Lee L. Selwyn, 1967, Taxes, Corporate Financial Policy and Return to Investors, *National Tax Journal*, 20, 444-462.
- 25- Feldstein, Martin S. and Jerry Green, 1983, Why Do Companies Pay Dividends?, *The American Economic Review*, 73, 17-30.
- 26- Frankfurter, George M. and Jaisik Gong, 1992, Empirical Tests of a Dividend Signaling Equilibrium Model, *Unpublished working paper*.
- 27- -----, 1993, Time-Series Cross-Sectional Tests of Dividend Policy Determinants, *Unpublished working paper*.
- 28- Frankfurter, George M. and William R. Lane, 1992, The Rationality of Dividends, *International Review of Financial Analysis*, 1, 115-129.
- 29- Fung, William K. H. and Michael F. Theobald, 1984, Dividends and Debt under Alternative Tax Systems, *Journal of Financial and Quantitative Analysis*, 19, 59-72.
- 30- Hakansson, Nils H. 1982. "To Pay or Not to Pay Dividend." *The Journal of Finance* 37:415-428.
- 31- Harkins, Edwin P. and Francis J. Walsh, Jr., 1971, *Dividend Policies and Practices*, New York: The Conference Board, Inc.
- 32- Ho, Kwok and Chris Robinson, 1992, Dividend Policy Is Relevant in Perfect Markets, *Unpublished working paper*.
- 33- Holder et al (1998), 'Dividend Policy Determinants: An Investigation of the Influences of Stakeholder Theory', *Financial Management* (Autumn).

- 34- Jensen, Michael C. and William H. Meckling, 1976, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics*, 3, 305-360.
- 35- Jensen, Michael C., 1986, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *The American Economic Review*, 76, 323-329.
- 36- Jensen et al. (1992), 'Simultaneous Determination of Insider Ownership, Debt and Dividend Policies', *Journal of Financial and Quantitative Analysis* (June), PP. 247-263.
- 37- John, Kose and Joseph Williams, 1985, Dividends, Dilution, and Taxes: A Signalling Equilibrium, *The Journal of Finance*, 40, 1053-1070.
- 38- Kale, Jayant R. and Thomas H. Noe. 1990. "Dividends, Uncertainty, and Underwriting Costs under Asymmetric Information." *The Journal of Finance*, 13, 265-277.
- 39- Kalay, A. (1982), 'Stockholder-Bondholder Conflict and Dividend Constraints', *Journal of Financial Economics* (June), PP. 211-33.
- 40- Kahneman, Daniel and Amos Tversky, 1982, The Psychology of Preferences, *Scientific American*, 246, 167-173.
- 41- Kindleberger, Charles P., 1984, A Financial History of Western Europe, London: George Allen & Unwin.
- 42- Knight, Frank H, 1964, *Uncertainty and Profit*, London: Augustus M. Kelley, Bookseller.
- 43- Kumar, Praveen, 1988, Shareholder-Manager Conflict and the Information Content of Dividends, *The Review of Financial Studies*, 1, 111-136.
- 44- Kosedag, Arman and David Michayluk. 2000. "Dividend Initiations in reverse-LBO firms." *Review of Financial Economics*, 9:55-63.
- 45- Lintner, John, 1956, Optimal Dividends and Corporate Growth under Uncertainty, *The Quarterly Journal of Economics*, 78, 49-95.
- 46- Makhija, Anil K. and Howard E. Thompson, 1986, Some Aspects of Equilibrium for a Cross- Section of Firms Signaling Profitability with Dividends: A Note, *The Journal of Finance*, 41, 249-253.
- 47- Masulis, Ronald W. and Brett Trueman, 1988, Corporate Investment and Dividend Decisions under Differential Personal Taxation, *Journal of Financial and Quantitative Analysis*, 23, 369-386.
- 48- Michel, Allen J., 1979, Industry Influence on Dividend Policy, *Financial Management*, 8, Fall, 22-26.
- 49- Miller, Merton H., 1977, Debt and Taxes, *The Journal of Finance*, 32, 261-275.

- 50- ----- , 1986, Behavior Rationality in Finance: The Case of Dividends, *The Journal of Business*, 59, S451-S468.
- 51- Miller, Merton H and Franco Modigliani, 1961, Dividend Policy, Growth, and the Valuation of Shares, *The Journal of Business*, 34, 411-433.
- 52- Miller, Merton H. and Kevin Rock, 1985, Dividend Policy under Asymmetric Information, *The Journal of Finance*, 40, 1031-1051.
- 53- Miller, Merton H. and Myron S Scholes, 1978, Dividends and Taxes, *Journal of Financial Economics*, 6, 333-364.
- 54- ----- , 1982, Dividends and Taxes: Some Empirical Evidence, *Journal of Political Economy*, 90, 1118-1141.
- 55- Modigliani, Franco, 1982, Debt, Dividend Policy, Inflation and Market Valuation, *The Journal of Finance*, 37, 255-273.
- 56- Myers, Stewart C., 1984, The Capital Structure Puzzle, *The Journal of Finance*, 39, 575-592.
- 57- Ofer, Aharon R and Anjan V. Thakor, 1987, A Theory of Stock Price Responses to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends, *The Journal of Finance*, 42, 365-394
- 58- Rodriguez, Ricardo J., 1992, Quality Dispersion and the Feasibility of Dividends as Signals, *The Journal of Financial Research*, 15, 307-315.
- 59- Rozeff, Michael S., 1982, Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios, *The Journal of Financial Research*, 5, 249-259.
- 60- Saxena, A. K. (1999), 'Determinants of Dividend Policy: Regulated Versus Unregulated Firms', Financial Management Association Conference.
- 61- Scott, William Robert, 1912, *The Constitution and Finance of English, Scottish, and Irish Joint Stock Companies to 1720*, Cambridge: Cambridge University Press.
- 62- Shefrin, Hersh M. and Meir Statman, 1984, Explaining Investor Preference for Cash Dividends, *Journal of Financial Economics*, 13, 253-282.
- 63- Shiller, Robert J., 1984, Stock Prices and Social Dynamics, *Brookings Papers on Economic Activity*, 457-510.
- 64- ----- , 1986, The Marsh-Merton Model of Managers' Smoothing of Dividends, *The American Economic Review*, 76, 499-503.
- 65- ----- , 1989, Fashions, Fads, and Bubbles in Financial Markets, in *Market Volatility*, Cambridge, Massachusetts: MIT Press.
- 66- Shleifer, Andrei and Robert W. Vishney, 1986, Large Shareholders and Corporate Control, *Journal of Political Economy*, 94, 461-488.
- 67- Short, H. (1996), 'Firm Performance, Ownership, Financial Structure and Compensation: The Role of Institutional Shareholders in the Governance of

- UK Corporations', Unpublished Ph.D. Dissertation, Leeds University Business School, University of Leeds, UK.
- 68- Smith, C. W., Jr., and R. Watts (1992), 'The Investment Opportunity Set and Corporate Financing, Dividend, and Compensation', *Journal of Financial Economics* (December), PP. 263-292.
- 69- Talmor, Eli, 1981, Asymmetric Information, Signaling, and Optimal Corporate Financial Decisions, *Journal of Financial and Quantitative Analysis*, 16, 413-435.
- 70- Thaler, Richard H., 1980, Toward a Positive Theory of Consumer Choice, *Journal of Economic Behavior and Organization*, 1, 39-60.
- 71- Thaler, Richard H. and Hersh M Shefrin, 1981, An Economic Theory of Self Control, *Journal of Political Economy*, 89, 392-410.
- 72- Turnovsky, Stephen J., 1967, The Allocation of Corporate Profits Between Dividends and Retained Earnings, *The Review of Economics and Statistics*, 49, 583-589.
- 73- Venkatesh, P.C., 1989, The Impact of Dividend Initiation on the Information Content of Earnings.