



The Relationship between Cash Flow Uncertainty and Payout Dividend Policy

Roya Darabi^{1*}, Faezeh Pourahmadian², Arefeh Vahmiyan³
and Behrad Saleh⁴

¹Accounting Department, South Tehran Branch, Islamic Azad University, Tehran, Iran.

²Accounting Department, North Tehran Branch, Islamic Azad University, Tehran, Iran.

³Accounting Department, Arak Branch, Islamic Azad University, Arak, Iran.

⁴Accounting Department, Center Tehran Branch, Islamic Azad University, Tehran, Iran.

Authors' contributions

This work was carried out in collaboration between all authors. Author RD designed the study, wrote the protocol, and wrote the first draft of the manuscript. Author FP managed the literature searches, analyses of the study performed the spectroscopy analysis and author AV managed the experimental process and author BS identified the species of plant. All authors read and approved the final manuscript.

Research Article

Received 5th April 2013
Accepted 21st September 2013
Published 9th October 2013

ABSTRACT

Aims: The determinant of dividend policy is one of the biggest challenges that has long been the center of accounting and financial researcher and theoreticians' attention. In this study, four effects, namely, cash-flow uncertainty, earned/contributed capital mix, agency conflict and investment opportunities in payout dividend policy are simultaneously investigated in Tehran exchange stock.

Study Design: Many factors are proved to have an essential impact on the dividend policy; nevertheless, there are a lot of other potential factors, the effect thereof on the dividend policy has not been studied yet.

Place and Duration of study: The sample firms consisting of 140 TSE firms were studied in a 5-year period within 2007-2011.

Methodology: The method of this research is applied science based on the observations in order to find the correlation and relation between the parameters. The hypotheses of this study include 4 above parameters which have been tested according to the panel and consolidated regression. In this study, the simultaneous effects of four factors including

cash-flow uncertainty, earned/contributed capital mix, agency conflict and investment opportunities on the payout dividend policy are investigated.

Results: The findings of the study indicated that in these two foregoing tests, no evidences supporting the effect of cash flow uncertainty on the payout dividend policy were found and earned/contributed capital mix and estimation of investment opportunities have positive and significant effects on dividend payout. In addition, the summary of two regression tests implies the inverse and significant effect of agency conflict on the dividend payout.

Conclusion: The results of this research are useful for companies in decision making procedure, specifically when it comes to payout dividend.

Keywords: Payout dividend policy; cash flow uncertainty; earned/contributed capital mix; agency conflicts; investment opportunities.

1. INTRODUCTION

Cash dividend due to objectivity and tangibility is very important for some beneficiaries.

In fact, actual and potential users are seeking the financial information in order to be aware of the power of making liquidity and sometimes distribution thereof among the shareholders because this information provides not only a clear image of firm's current status but also the requirements for estimation and assessment of its future status that is doubtlessly important for decision-making processes. Dividend policy has direct effect on the shareholders' expectation, available cash resources, financing practices, financial structure and continuation of profit-making unit's operation [1]. The empirical studies and theories in this context are so different and sometimes contrary that in some financial management texts, they are referred as dividend dilemma [2]. Identification of dividend policy determination factors is one of the major concerns of enterprises beneficiaries. Many factors have been proved to have an essential impact on the dividend policy; nevertheless, there are a lot of other potential factors that affect thereof on the dividend policy which have not been studied yet. The objective of this study is to consider the effect of cash flow uncertainty, earned/contributed capital mix, agency conflict and investment opportunities on the payout dividend policy. Therefore, in this paper, the impact of these potential factors on the dividend policy of firms in Tehran Exchange Stock is investigated [3].

2. LITERATURE REVIEW & RESEARCH BACKGROUND

2.1 Literature Review

2.1.1 Dividend

Dividing the profit earned by the firm during a fiscal year to the shareholders or accumulating it in the firm is referred as dividend policy. The dividend is one of the factors for assessment of firm's performance. Commonly, the firms that divide the profit may not invest their profit. The dividend is dependent to the firm's investment policy. Most firms divide the considerable part of earned profit between the shareholders for two reasons; such firms have no operation profitability investment projects or intend to finance their required funds for the growth and investment of foreign resources. Dividend payout is correct in the event of lacking investment in operation profitability projects, but if the profit is divided and then the funds

required for the growth are financed through capital increase, the payout dividend policy will be encountered some problems [4]. In this study, the proportion of dividend to sale has been applied to determine dividend policy. Miller and Modigliani believe that shareholders' earning needs are different. Some need to receive dividend to secure living expenses while others do not. If they do receive dividend, they use it to buy stocks again. The first group has more dividends while the second group tries to distribute fewer ones. There is no convincing that following a type of dividend policy means higher value of stocks. Therefore, firms listed in Tehran Stock Exchange should determine their dividend amount with regard to investment opportunities. Firms with profit making investment opportunities should divide less profit while firms with limited investment opportunities should distribute more dividends. A firm determines dividend based on earning, the required investment share, and volume and finance provision method.

2.1.2 Cash-Flow uncertainty

Cash flow is considered as an appropriate factor for costs and benefits of an investment project because cash flow introduces the actual purchasing power acquired or lost by the business unit. When an asset is purchased, the purchasing power is lost proportionally. When the net cash flow in connection with the said asset is earned in the future periods, the purchasing power is acquired. Future cash flow earned by an asset is the cash flows earned in connection therewith and it is provided at the disposal of business unit for the purpose of dividend payout to the shareholders or interest to the creditors or financing the new investments. The said cash flow is a flow of purchasing power that is made through applying the discussed asset and hence it is deemed as a factor of asset productivity. In general, there is no certainty for the cases of future cash flow and only the estimations of these flows are available for assessment of capital projects. The estimations applied in the most cases are called as expected cash flow. According to the general viewpoint, one of the factors affecting the firms' payout dividend policy is their cash flow uncertainty [5]. The firms listed in Tehran Exchange Stock which have high uncertainty in cash flow distribute less cash dividend due to fear from cash shortage. Instead they keep sources from operation in the firm. Furthermore, the cost for external financing compared to internal financing for firms with unstable cash flow is higher. They have more problems in their debt payment. Therefore; creditors view their risk higher; consequently, the cost of external financing which is in fact their expected return is higher. For this reason, we used standard deviation as a criterion to predict uncertainty in cash flow.

2.1.3 Earn/contributed capital mix

The capital structure reflects the firm strategies, also the financing policies of a firm such as design, schedule and publication of a special debt form the capital structure of long-term resources mixing [6]. The funds required for the firm such as long-term debt securities, preferred stock capital and common stock capital include accumulated and mere profit of stock. Capital structure means the type and rate of different published securities [7]. The purpose of capital structure determination is to specify the composition of financial resources for maximizing the shareholders' wealth. The firm managers should design an optimal capital structure useful for the firm. It is possible if all factors in connection with making decision on capital structure are analyzed appropriately [2]. The proportion of the market value to the book value shows that the stocks are transacted several times higher than the book value. Stock values of the most firms listed in Tehran Stock Exchange are transacted nearly equal to the book value. Smart people collect stocks at this time. Therefore, in most cases this proportion is an appropriate criterion for investment. In fact, it is regarded as a criterion for

shareholders to measure the value. A firm with low E/P means that its stocks do not have high value.

2.1.4 Agency conflict

The managers are empowered to make decision on behalf of the institutes. Nonetheless, the personal goals of managers are different from shareholders goals (maximizing the shareholders' wealth). Agency theory is proceeding with the conflict of potential benefits between managers and shareholders. An agency refers to the condition that an executive owns less than 100% of its normal stocks. If a firm is managed by an executive or by partnership, it can be supposed that the owner executive works to improve his welfare. This welfare is in the form of asset increase, more free time and so on. If the executive of such a firm sells the stocks to outsiders, there will be a sort of interest conflict. While he manages the entity with peace of mind and sensitivity, lower share of the economic value belongs to him. On the other hand, this happens when he bears less cost. Accordingly, he tries to secure the shareholders' interests in the most appropriate way. For this reason, to measure agency conflict, we used sum of natural and juristic persons' shares because of having the most shares of the firm.

2.1.5 Investment opportunities

The investment opportunities are very effective on the firm financing. Combination of actual assets (the available investments of a firm that has been applied formerly) and investment opportunities affects the capital structure, maturity and structure of debt obligations, payout dividend policy, award contracts and accounting policies of a firm [8]. The investment opportunities are evaluated in terms of firm's calculated value by the available investments applied formerly; the lower the firm's value by these investments, the higher the investment opportunities will be [9]. The appropriate investment opportunity (growth) as a potential factor affecting the payout dividend policy of firms was ever considered by the researchers of this context. It is notable that the low rate of dividend doesn't necessarily mean the high growth opportunities, but it may refer to the liquidity problems of firm in financing the cash profit or even agency problems; consequently, it is expected that the firm dividend policy will be related to their investment opportunities as well [2]. RE/TE One of the effective factors on the dividend policy is based on life cycle theory. The higher this proportion, the more mature will be the firm. Dividend distribution mostly signify information about the firms transient from growth to maturity and the extent of its reliance on internal financing (retained earnings) and external financing. The firms with higher Re/Te listed in Tehran Stock Exchange are more mature and dependent on internal financing. Since they do not need external financing and they have extra financial resources, they can afford to distribute more cash dividend.

2.2 Research Background

Lintner [10] and Brav, Graham, Harvey and Michaely [11] have applied studies titled payout policy in 21st century that consider the cash flow uncertainty as a key parameter in payout policy. In other studies applied by the same researchers, they concluded that 2/3 of cash flows earned from firm dividend payout determines the cash flow stability as an important factor affecting the dividend decisions.

Chay and Suh [5] have studied the impact of cash flow uncertainty on the dividend amount and probability in different countries. They come to the conclusion that cash flow uncertainty and earned/contributed capital mix are important parameters of payout policy in most

countries, and the results obtained from this research don't provide a strong support of the effects of agency conflict hypotheses and investment opportunities on the payout dividend policy.

Brockman and Unlu [12] provided a study on earned/contributed capital mix, payout dividend policy and international disclosure quality, and they found out that the theory of life cycle can explain the cash dividend payout all over the world and firm's disclosure environment has an effective role in cash dividend payout through its impact on agency costs; life cycle theory indicates that earned/contributed capital mix is effective on determination of dividend policy [13].

Tsionas et al. [14] investigated the ownership centralization and performance of 107 firms in international shipping industry. In summary, there is a positive and significant relationship between ownership centralization and the improvement of firms' performance in shipping industry.

3. RESEARCH HYPOTHESES

According to the theoretical literature and objectives of this study, the following hypotheses were compiled:

- H1: A significant relationship exists between cash flow uncertainty and payout dividend policy.
- H2: A significant relationship exists between earned/contributed capital mix and payout dividend policy.
- H3: A significant relationship exists between agency conflict and payout dividend policy.
- H4: A significant relationship exists between investment opportunities and payout dividend policy.

4. MATERIALS AND METHODS

According to the objectives, this research is an applied study that upon approving the applied science in relation to the effect of dividend payout on the cash flow uncertainty and other potential parameters in payout dividend, it may be used in practice by the different decision makers in the activities related to stock exchange. The descriptive-correlative method is applied in this study. The statistical data has been collected by organizational documents and evidences and factors affecting the dividend payout are investigated. The data is tested and analyzed by means of multivariable panel and consolidated regression model and Pearson regression analysis for different industries. The analysis has been provided using SPSS and EVIEWS.

The local range of this research includes all Tehran Stock Exchange firms. Its temporal range is the time interval within 2007-2011. The sampling is applied according to the following conditions:

- The name of samples has been registered in TSE until the end of 2011.
- The data and information required for this research (five-year period 2007-2011) have been submitted to the TSE.
- The profit after deducting the tax within the 5-year period is positive.
- The fiscal year of that firm ends on December 20 of every year.

- The type of studied firms is manufacturing.
- The studied firms should not be financial and investment intermediation (because the nature of their activities is varied).
- They have not changed the fiscal year during the research period.

In order to collect the data, different methods are used that in a classification they are known as primary and secondary data. The secondary data is extracted from documents and evidences and the primary data is obtained by the researcher as the first-hand data and mostly through observation, interview and questionnaire. In this study, the theoretical data and findings of previous researches and data required for this study have been exactly extracted from secondary references.

4.1 Research Variables

4.1.1 Independent variables

Cash flow uncertainty: It has been calculated by standard deviation of annual stock returns within two recent years that includes the end of current fiscal year. Its calculation formula is as relationship 1:

$$\sigma = \sqrt{\frac{1}{n-1} \sum_{i=0}^n (r_i - E(r))^2} \quad \text{Relationship (1)}$$

Earned/contributed capital mix: it is obtained through dividing the accumulated profit by the shareholders' equity.

Agency conflict: It is obtained through ownership centralization index and it is calculated based on the total stock of natural or legal entities that have more than 10% of the firm stock at the disposal.

Investment opportunities: It is obtained according to the ratio of shareholders' equity market value obtained through multiplying the stock number by the price of stock published at the end of period to the book value of shareholders' equity equal to the registered value of shareholders' equity in the balance sheet.

4.1.2 Dependent variable

It is indeed the same payout dividend policy that has been obtained from ratio of dividend to the net sale.

4.1.3 Control variables

Firm size: It was extracted by means of normal logarithm of total firm assets in year t.

Operational profitability: it was obtained by dividing the operational profit by total assets.

Cash holding: it was obtained from ratio of sum total of cash flow and short-term investment to the total assets.

4.2 Research Models and Testing

The population of this study consists of Tehran Stock Exchange firms, of which 140 firms have been selected as the sample. These firms pertain to 24 different industries. The data are referred to a time interval of 5 years within 2007-2011. The objective of this study is to consider and to test the effect of some explanatory variables on a dependent variable. Four variables are dependent and three variables are control variables. To select one of the panel or consolidated models, chow test was used. Whereas Fisher statistic calculated for the test (1.22) is lower than critical value and error range is higher than 0.05, and intercept equity has not been rejected for many years, panel method has been used instead of consolidated method; and because of serial self-correlation in this study, by incorporation of adjust return AR (1), it is removed and the model applied therein is explained as model 1:

$$DV/S = \alpha + \beta_1.SRVOL + \beta_2.RE/TE + \beta_3.CON + \beta_4.MBR + \beta_5.TA + \beta_6.ROA + \beta_7.CASH + AR \quad \text{Model (1)}$$

In this model:

- α = constant element
- β = regression coefficient
- SRVOL= Cash flow uncertainty
- RE/TE= Earn/contributed capital mix
- CON= Agency conflict
- MBR= Investment opportunities
- TA= Firm size
- ROA= Operation profitability
- CASH= Cash holding

In section factors test, Fisher statistic test rejects the equity of firms' gradient and it supports the application of consolidated model. In Hussmann test, applying the random effects are rejected and use of fixed effects is recommended. In this study, in addition to the panel regression test that includes the firms and years, using the model including time and sectional series is preferred. Therefore, the data has been analyzed again by consolidated regression; the used model is as model 2:

$$DV/S = \alpha + \beta_1.SRVOL + \beta_2.RE/TE + \beta_3.CON + \beta_4.MBR + \beta_5.TA + \beta_6.ROA + \beta_7.CASH \quad \text{Model (2)}$$

5. RESULTS

Co linearity relationship in model (non-strong relationship between independent variables):

One way for identifying the collinear or non-collinear relationship is to examine the correlation relationship between the independent variables. In the event, the correlation between independent variables is not strong so co linearity problem is not occurred. To examine the co linearity relationship between the independent variables, Pearson correlation coefficient has been used. As it is observed in Table 1, the intensity of relationship between explanatory variables is not high, consequently their simultaneous entry into the model may not cause co linearity problem.

Table 1. Summary of co linearity relationship test

CASH	ROA	Log(TA)	MBR	CON	RE/TE	SRVOL	Transitive
-.014	.003	-.095	-.034	-.075	-.002	1	SRVOL
.156	.438	.098	.250	.083	1	-.002	RE/TE
-.032	.113	.137	.144	1	.083	-.075	CON
.112	.380	.019	1	.144	.250	-.034	MBR
.039	.037	1	.019	.137	.098	-.095	Log(TA)
.224	1	.037	.380	.113	.438	.003	ROA
1	.224	.039	.112	-.032	.156	-.014	CASH

By virtue of the result of chow test, application of panel model has been preferred. The summary of model 0 and Durbin-Watson statistic obtained from model demonstrates the serial self-correlation.

Considering the self-correlation in model 0, it has been improved by incorporating adjust return AR (1) as an explanatory variable to the model and self-correlation has been obviated. Statistic f is higher than critical value and its calculated significance range is lower than 0.05 that implies the linear relationship between explanatory variable and dependent variable. The coefficient of determination (0.8577) indicates that the explanatory variables of model are able to explain the payout dividend variable. According to the results obtained in Table 2, hypotheses test analysis by panel regression model was conducted.

H1: A significant relationship exists between cash flow uncertainty and payout dividend policy.

To respond this hypothesis, the impact of explanatory factor of cash flow uncertainty on payout dividend policy has been tested according to the theory of probabilities and beside other explanatory variables in a panel regression model. The T statistic calculated for this independent variable (0.68) is lower than absolute critical value (1.96); in other words, its significance level is higher than 0.05 that is not qualified for rejection of hypothesis 0. Nonetheless, the effect of cash flow on the payout dividend policy is inverse, but no significant relationship is observed.

H2: A significant relationship exists between earned/contributed capital mix and payout dividend policy.

To respond this hypothesis, the impact of explanatory factor of earned/contributed capital mix on payout dividend policy has been tested according to the theory of probabilities and beside other explanatory variables in a panel regression model. The T statistic calculated for this independent variable (7.889) is higher than absolute critical value (1.96); in other words, its significance level is lower than 0.05 that is qualified for rejection of hypothesis 0. It means that the effect of earned/contributed capital mix on the payout dividend policy is direct and significant.

H3: A significant relationship exists between agency conflict and payout dividend policy.

To respond this hypothesis, the impact of explanatory factor of agency conflict on payout dividend policy has been tested according to the theory of probabilities and beside other explanatory variables in a panel regression model. The T statistic calculated for this independent variable (-2.257) is higher than absolute critical value (1.96); in other words, its

significance level is smaller than 0.05 that is qualified for rejection of hypothesis 0. It means that the effect of agency conflict on the payout dividend policy is inverse and significant.

H4: A significant relationship exists between investment opportunities and payout dividend policy.

To respond this hypothesis, the impact of explanatory factor of investment opportunities on payout dividend policy has been tested according to the theory of probabilities and beside other explanatory variables in a panel regression model. The T statistic calculated for this independent variable (1.963) is higher than absolute critical value (1.96); in other word, its significance level is lower than 0.05 that is qualified for rejection of hypothesis 0. It means that the effect of investment opportunities on the payout dividend policy is direct and significant.

Table 2. Summary of panel regression test

Dependent Variable: dividend policy – Method : Sum squared residue						
140 company - within the 5-year period						
Punctual level	T	Canonical error	Coefficient	Transitive name		
0.0125	-2.505004	0.045552	-0.114109	Stable coefficient	C	β_0
0.4930	-0.685958	0.000172	-0.000118	Cash flow uncertainty	SRVOL	β_1
0.0000	7.889105	0.010509	0.082905	Earn/contributed capital mix	RE/TE	β_2
0.0243	-2.257565	0.008627	-0.019476	Agency conflict	CON	β_3
0.0500	1.963812	0.001684	0.003308	Investment opportunities	MBR	β_4
0.0147	2.444808	0.007975	0.019497	Company size	Log(TA)	β_5
0.0000	13.09285	0.028352	0.371206	Operation profitability	ROA	β_6
0.0000	5.598984	0.030152	0.168821	Cash holding	CASH	β_7
0.0000	30.15955	0.023483	0.708243	Inverted adjust return roots	AR(1)	β_8

R2=0.8577, AdR2=0.8560, F=520.70, D.W=2.08, S.E. of regression=0.069373, Sum squared residue=3.3255

In addition to the results mentioned for responding the hypotheses, whereas the data is in terms of year-firm, other analyses have been provided based on the consolidated regression model. In this model, the effect of 7 explanatory variables including 4 independent variables and 3 control variables on the dependent variable has been studied. The summary of results obtained in Table 3 indicated that Durbin-Watson statistic has been placed within the range of 1.70 to 2.30 which shows no serial self-correlation. F statistic is higher than critical value and its calculated significance level is lower than 0.05 that implies a linear relationship between at least one of explanatory variables and dependent variable. The T statistic calculated for independent variable of cash flow uncertainty is lower than absolute critical value (1.96) that doesn't show the significance of the effect of this independent variable on the dependent variable of payout dividend policy. The T statistic calculated for three other independent variables including earned/contributed capital mix, estimation of agency conflict

and estimation of investment opportunities is higher than absolute critical value (1.96) that shows the significant effect of these variables on the dependent variable of payout dividend policy. The effect of agency conflict is inverse and earned/contributed capital mix and investment opportunities effect is direct. The T statistic calculated for 3 control variables including firm size, operational profitability and cash holding is higher than absolute critical value (1.96) that shows the significance effect of these variables on the dependent variable. The impact of firm size on the dependent variable is inverse and on operational profitability and cash holding is direct. The summary of this model is very similar to the estimated model for hypotheses test.

Table 3. Summary of consolidated regression test

Dependent Variable: dividend policy – Method : Sum squared residue 140 company - within the 5-year period						
Punctual level	T	Canonical error	coefficient	Transitive name		
0.0003	3.611346	0.061574	0.222365	Stable coefficient	C	β_0
0.8370	0.205871	0.000158	0.000032	Cash flow uncertainty	SRVOL	β_1
0.0000	7.248309	0.008944	0.064826	Earn/contributed capital mix	RE/TE	β_2
0.0026	-3.025147	0.015856	-0.047967	Agency conflict	CON	β_3
0.0000	9.656155	0.001225	0.011826	Investment opportunities	MBR	β_4
0.0136	-2.475209	0.010465	-0.025902	Company size	Log(TA)	β_5
0.0000	11.52839	0.024499	0.282438	Operation profitability	ROA	β_6
0.0000	6.309370	0.022890	0.144422	Cash holding	CASH	β_7

R²=0.936, AdjR²=0.923, F=21.464, D.W=1.874, S.E. of regression=0.068, Sum squared residue=3.2649

5.2 Pearson Correlation Coefficient for Different Industries

To test the relationship between quantitative variables, Pearson correlation coefficient was used; in this study, the coefficient of correlation between dependent variable and explanatory variables of 24 industries has been investigated separately.

6. DISCUSSION AND CONCLUSION

In general, according to the results of panel and consolidated regression models, it is concluded that T statistic calculated for independent variable of cash flow uncertainty is lower than absolute critical value (1.96) that indicates no significant effect of this independent variable on the dependent variable of payout dividend policy. T statistic calculated for three other independent variables including earned/contributed capital mix, estimation of agency conflict and investment opportunities is higher than absolute critical value (1.96) that shows the effect of these variables on the dependent variable of payout dividend policy. The effect of agency conflict estimation is inverse and the effect of earned/contributed capital mix and investment opportunities is direct. T statistic calculated for three control variables including firm size, operational profitability and cash holding is

higher than absolute critical value 1.96 that indicates the significant effect of these variables on the dependent variable. The firm size has inverse effect on the dependent variable and direct impact on the operational profitability and cash holding. The summary of study applied by Chay and Suh [5] on 7 great countries shows that cash flow uncertainty and earned/contributed capital mix are assumed as two dominant parameters in the payout dividend policy of countries and the results don't lead to the strong support of agency conflict and investment opportunities hypotheses in payout dividend policy.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Lee B, Suh J. Determinants of Share Repurchases: international evidence; 2008. Available at SSRN: <http://ssrn.com/abstract=1209843>.
2. Chay J, Suh J. How Corporate Governance Affects Payout Policy under Agency Problem and External Financing Constraints. *Journal of Banking & Finance*. 2009;33:2093-2101.
3. Chen J, Dhiensiri N. Determinants of dividend policy: the evidence from New Zealand. *International Research Journal of Finance Economics*. 2009;34:1450-2887.
4. Grullon G, Michaely R, Swaminathan B. Are dividend changes assign of firm maturity? *Journal of Business*. 2002;75:387- 424.
5. Chay J, Suh J. Payout Policy and Cash -flow Uncertainty. *Journal of Financial Economics*. 2009;93:88-107.
6. Myers SC. The Capital Structure Puzzle. *Journal of finance*. 1984;39. Available on line at: www.ecsocman.edu.
7. Myers SC. Capital structure: some legal and policy; 2000. Available on line at: www.oecd.org.
8. Adam T, Goyal V. The Investment Opportunity Set and its Proxy Variables: Theory and Evidence; 2006. Available on line at: www.ssrn.com.
9. Myers S. Determinants of corporate borrowing. *Journal of Financial Economics*. 1977;5:147-175.
10. Lintner J. Distribution of incomes of operations among dividends, retained earnings, and taxes. *American Economic Review*. 1956;46:97-113.
11. Brav A, Graham J, Harvey C, Michaely R. Payout Policy in the 21st century. *Journal of Financial Economics*. 2005;77:483-527.
12. Brockman P, Unlu E. Earned/contributed capital, dividend policy, and disclosure quality; an international study. *Journal of Banking & Finance*. 2010;35:1610-1625.
13. San suk T, Maung Chonburi A. Life-cycle theory and free cash flow hypothesis: evidence from dividend policy in Thailand. *International Journal of Financial Research*. 2011;2(2). Available on line at: www.sciedu.ca/ijfr.

14. Tsionas MG, Merikas AG, Merika AA. Concentrated Ownership and Corporate Performance Revisited: The case of shipping. *Transportation Research part E*. 2012;48:843-852. Available on line at: www.sciencedirect.com.

© 2014 Darabi et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<http://www.sciencedomain.org/review-history.php?iid=290&id=22&aid=2236>