

MARKET POWER AND DIVIDEND POLICY: EVIDENCE FROM COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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Abstract

Existing literature indicates a strong relationship between risk and dividend policy of the firm, and at the same time, between firm's market power and its risks, and hence, arguing the relationship between market power and dividend policy is not improbable either. Therefore, the question that is raised in this study is that whether firm's market power can affect its dividend policy in listed firms in Tehran Stock Exchange or not. For this purpose, the data of 116 firms listed in Tehran Stock Exchange during 2009 to 2013 and panel data model have been used. The results show that there is not a significant relationship between market power and dividing or not dividing of earnings, and there is a significant inverse relationship between market power and the amount of dividend of firms listed in Tehran Stock Exchange.

Keywords: Firm's market power, industry level competition, dividend, dividend policy, Tehran Stock Exchange

INTRODUCTION

Accounting performance and procedures have had significant changes over the centuries, and have evolved from relatively simple recordings in ancient times to the modern computerized and sophisticated accounting systems. But during these changes, the ultimate goal of accounting, that is providing accounting information for users, has remained unchanged. In fact, accounting is an information system that is responsible for collecting, classifying, summarizing, and

reporting economic and financial events of an organization, as the most important subset of management information systems.

Although most users of these information are shareholders and managers of an enterprise, but the management provide outsiders with various information as well, due to its tasks and responsibilities towards different groups of users of financial information, and also due to legal requirements or requests of business partners or enterprise's funders. These reports are presented within a specific framework to external users of financial information, and the accuracy of these information and reports is confirmed by independent auditors. One of the items of financial statements which is considered as a criterion to evaluate the performance and profitability of the enterprise is "earnings reporting".

As you know, the earnings per share is acquired by dividing the net profit of the firm by the number of shares, and dividend is dividing part or all of earnings per share. Dividend policy and its effects is a controversial issue that has attracted the attention of many researchers over the years. This study investigates the firm's product market pricing power on its dividend policy. The question that is raised in this study is that whether firm's market power can affect its dividend policy in listed firms in Tehran Stock Exchange or not.

THEORETICAL PRINCIPLES

Numerous experimental and theoretical studies have investigated the effect of firm's market power on its risk. In the first study, Sullivan's experimental study (1978) showed an inverse relationship between the beta of capital assets valuation model and the market power. Sullivan (1978) argued that a firm with market power can affect major changes in social, economic, and political events, or have a more successful response than they have, and thus it will be less exposed to the systematic risk. This idea was formulated by Subrahmanyam and Thomadakis (1980) and Booth (1980 and 1981). In their study, they examined the effect of price uncertainty on capital costs. Due to the limitation of demand price elasticity which firms with market power face, economic privileges resulting from the decision for optimal production allow firm to mitigate the impact of widespread economic shocks. Thus, systematic risk and equity cost are subsequently reduced. However, Hu and Robinson (2006) concluded that firms in concentrated industries gain lower capital market returns after controlling accepted risk factors. They argued that firms in concentrated industries face less bankruptcy risk or have fewer innovations, and thus will have a lower capital cost, which is in accordance with Sullivan's (1978) initial work.

In addition, several studies have examined the potential impact of market power on idiosyncratic risk of the firm. For example, Gasper and Massa (2006) found that firms with higher market power will have less idiosyncratic volatility as well. They explained that the firm's

market power helps firm to reserve firm-specific shocks from product market or to reduce information uncertainty which investors of the firm face it. However, risk has always been an important determinant for dividend policy. Graham and Dodd (1951), raised the first debate about the relationship between risk and dividend. Lintner (1956) also showed that conservative managers are not usually reluctant to increase dividends. Baker et al (1985) found that the most important determinant of dividend policy is the firm's forecasted level of future profitability. Brav et.al (2005) concluded that more than two-thirds of financial managers of firms which distribute dividends have considered the sustainability of future profitability as an important factor for dividend policy. Numerous empirical studies have also examined the relationship between dividend policy and systematic and idiosyncratic risk. Dyl and Weigand (1998) found that after the distribution of dividends, both total risk and systemic risk reduce. To explain this relationship, they argued that the distribution of dividends contains information about risk reduction because it indicates that management believes that the firm's future profitability will be more and more sustainable. Grullon et.al (2002) found that after an increase in dividends, the risk is reduced (dividend contains information about firm's risk reduction of future cash flows). Hoberg and Prabhala (2009) also found that firms with systematic and idiosyncratic risk would pay less dividends.

A review of the existing literature shows that there is a strong relationship between risk and firm's dividend policy, and considering the relationship between market power and its risk, the argument of the relationship between market power and dividend will also be acceptable.

REVIEW OF LITERATURE

Datta et.al (2013) examined the relationship between products market power, industry structure, and earnings management. Their investigations showed an inverse relationship between products market power and earnings management, that is, the more the firm's power in pricing its products is, the less it will be involved in earnings management. They also concluded that there is a direct relationship between an increase in market competition and an increase in earnings management, and firms operating in more competitive firms deal more with earnings management.

Huang and Lee (2013) investigated the relationship between market structure and firm's credit risk in a study entitled "Product Market Competition and Credit Risk" and came to the conclusion that there is a direct and positive relationship between the two. That is, the more the industry competition is (which may be due to the small size or large number of firms), the more the firm's credit risk will be.

Fosu (2013) examined the impact of capital structure and product market competition on firm's performance. The results of his studies showed that significant relationship exists between capital structure and firm's performance, but product market competition has not affected firm's performance. Of course, the variable of product market competition enhances the positive impact of capital structure on firm's performance.

Meanwhile, Beiner et.al had found an inverse relationship between product market competition and firm's performance in a study entitled "Product Market Competition, Managerial Incentives, and Firm's Valuation". Thus, when product market competition increases, firm's value is reduced. It is noteworthy that they mentioned the paucity of empirical literature about the impact of competition on managerial incentives as the reason of their research work.

Kale and Loon (2011) investigated the impact of product market power on stock market liquidity. They concluded that market power increases stock liquidity because it reduces returns volatility. That is, firms with more product market power have more stable cash flows, and this stability increases stock price and value, and thus, increases stock market liquidity. It is worth mentioning that this result has been stable by using different criteria for liquidity, volatility, and market power.

In studying product market competition and managerial incentives by using replaceable criteria of product, market size, and entrance costs to calculate product market competition, Karuna (2007) showed that firms in more competitive industries monitor their managers more than firms operating in less competitive environments. Also, 1) when industry competition is more intense, firms offer stronger incentives; 2) Competition is multi-dimensional in its relation with incentives; 3) and industry features play an important role in influencing the incentives.

Hypotheses

1. Firm's product market power significantly affects dividing or not dividing of earnings by the firm.
2. Firm's product market power significantly affects the amount of firm's dividend.

METHODOLOGY

This is an applied study in terms of classification-based objectives, descriptive in terms of methodology, and a correlation study among descriptive studies. The approach of the study is ex-post facto (using the data of past events). To test the hypotheses, multivariate regression method is used. To ensure the reliability of the results, default regression tests have been used.

Population and sample

The population of the study includes all firms listed in Tehran stock Exchange. The sample is selected by elimination method based on the following conditions:

1. Their financial period ends at the end of March each year, so that the data can be put together and used in pool and panel forms.
2. Do not have changes in their financial period, so that the results of financial performance can be comparable.
3. The required data for the variables be available during 2009 to 2013, so that calculations can be performed without flaw to the extent possible.
4. Be not among insurance companies, banks, financial and credit institutions, and insurance.

After eliminating firms which lack the mentioned criteria, 116 firms remained as the screened sample from among all firms listed in Tehran Stock Exchange, and their data for 4 years (2009 to 2013) were extracted from financial statements, reports of the Board of Directors to the normal General Assembly, Tadbir Pardaz software, and a software produced by "Research, Development, and Islamic Studies of Stock Exchange" unit.

Variables and the model of the study

To test the hypotheses the following model, which is adopted from a model proposed by Booth and Zhou (2015), is used.

$$\text{DividendPolicy}_{i,t} = \beta_0 + \beta_1 \text{MarketPower}_{i,t-1} + \beta_2 \text{FirmSize}_{i,t-1} + \beta_3 \text{Profitability}_{i,t-1} + \beta_4 \text{GrowthOpportunities}_{i,t-1} + \beta_5 \text{RetainedEarnings}_{i,t-1} + \varepsilon_{i,t}$$

Where:

Dependent variable

DividendPolicy_{i,t}= dividend policy of firm i in year t for the first and second research hypothesis, which is calculated from two aspects to test the first and second hypothesis. In order to test the first hypothesis: if the firm divides earnings, this variable will be one, and otherwise, it will be zero. In order to test the second hypothesis: it will be the ratio of total dividends of the firm to its total assets.

Independent variable

MarketPower_{i,t-1}= Market power of firm i in year t-1. Based on the existing literature, adjusted Lerner index is used to calculate product market pricing power. The first step is calculated as follows (cost margin- cost of sales):

$$\text{PCM} = \text{LI} = (\text{Sales} - \text{COGS} - \text{SG\&A}) / \text{Sales}$$

Where: **Sales**= sales revenue; **COGS**= cost of sales; and **SG&A**= general and administrative costs. Although cost margin- cost of sales is used to calculate product market power, but this criterion dose not preserve firm-specific factors affecting product market pricing power from extensive industry factors. This criterion may fluctuate due to industry-specific signs that may be irrelevant to firm's market pricing power. Thus, this study uses Lerner's adjusted industry index to calculate firm's market pricing power, and it is calculated as follows (Datta et.al, 2013):

$$\text{Market power} = LI_i - \sum_{i=1}^N \omega_i LI_i$$

Where:

LI_i = Lerner index for firm i (it is presented above), **ω_i**= the ratio of sales of firm i to total industry sales. **N** indicates total number of firms in the industry. Adjusted Lerner index calculates a small amount of the market power within a firm's industry, and therefore, clears the effects of extensive factors of a shared industry for all firms of a particular industry. In other words, it calculates the firm's product market power (to the extent possible) without the features of the specific industry.

Control variables

FirmSize_{i,t-1}= The size of firm i in year t-1, which is he natural logarithm of total assets (Tavakolnia and Hazrati, 2014).

Profitability_{i,t-1}= The profitability of firm i in year t-1, which is the ratio of net profit to total assets (Malekian et.al., 2014).

GrowthOpportunities_{i,t-1}= Growth opportunities of firm i in year t-1, which is the ratio of market value to book value of the equity (Booth and Zhou, 2015).

RetaindEarnings_{i,t-1}= Retained earnings of firm i in year t-1, which is the ratio of retained earnings to total assets (Booth and Zhou, 2015).

ANALYSIS AND FINDINGS

The data for 116 firms of the sample over the 2009-2013 period were extracted from databases and transferred to Excel software. After performing necessary calculations for dependent and independent variables, the data required for statistical analysis were stored in appropriate files and processed in Eviews soft wares.

The results of testing the first hypothesis are presented in Table 1 by using logistic regression.

Table 1. The results of estimates of coefficients of testing the first hypothesis

Variable	Coefficients	Z statistics	Significance level
Fixed amount	4.485	0.88	0.378
Firm's market power	0.767	0.669	0.503
Firm's size	-0.148	-0.821	0.411
profitability	11.877	5.128	0.000
Growth opportunities	1.5	6.907	0.000
Retained earnings	21.555	4.976	0.000
Mc.Faden R-square		0.678	
LR statistics		188.735	
LR statistics significance		0.000	

Given the results of Table 1, since t statistics for the variable of firm's market power is less than ± 1.965 and its significance level is greater than 0.05, a significant relationship does not exist between firm's market power and dividing or not dividing of earnings. Thus, the first hypothesis is rejected.

In addition, about the power of the model it should be noted that the significance level of LR statistics is below 0.05, which indicates that the model is valid. LR statistics is 188.735, which reflects the high power of the model. MC. Faden coefficient is 0.687, indicating that 68 percent of the changes of independent variable can be explained by control and dependent variables.

Using fixed effects model and EGLS method, the results of testing the second hypothesis are presented in Table 2.

Table 2. The results of estimates of coefficients of testing the second hypothesis

Variable	Coefficients	T statistics	Significance level
Fixed amount	-0.041	-0.839	0.401
Firm's market power	-0.154	-2.666	0.007
Firm's size	0.022	4.668	0.000
profitability	0.011	0.229	0.818
Growth opportunities	0.005	2.484	0.013
Retained earnings	0.048	2.054	0.04
F statistics	42.685	R-square	0.789
F statistics significance	0.000	Adjusted R-square	0.763
Using EGSL method and eliminating the effects of variance method dissimilarity	Dourbin- Watson statistics		2.214

Given the results of Table 2, since t statistics of firm's market power variable is greater than -1.965 and its significance level is less than 0.05, an inverse and significant relationship exists

between firm's market power and the amount of dividend of firms listed in Tehran Stock Exchange. Thus, the second hypothesis is accepted.

As is evident, Durbin-Watson statistics is 2.214, which is between 1.5 and 2.5 and indicates that the model is significant. Also, significance level of F statistics is 0.000, which is less than 0.05 and indicates that the model is significant. Another significant point in Table 2, is the R-square of the model. The amount of R-square of the model is about 78, indicating that 78 percent of the changes of independent variable can be explained by control and dependent variables, which is an acceptable amount.

CONCLUSION

As has been evident in the results, testing the significance of coefficient based on the equations of fitted regression showed briefly that a significant relationship does not exist between market power and dividing or not dividing of earnings in firms listed in Tehran Stock Exchange. To explain this result, that product market competition cannot explain dividing or not dividing of earnings of firms listed in Tehran Stock Exchange, it is worth mentioning that if the results of firm's operations indicate profitability, the firm must divide earnings. Yet, some firms refuse to divide earnings between shareholders for some reasons. In these cases, firms add annual net profit to retained earnings. According to Namazi (2010), there are some restrictions on how to divide earnings in the commercial code of most countries. In Iran's Commercial code, cases 90 and 140 can be referred to. But in some cases and for specific purposes, firms avoid it. It seems that the division or non-division of cash dividends in Iran is under the influence of particular implementations which are independent from financial and competitive variables.

To explain the inverse impact of pricing power in product market, it should be noted that if the firm decides to divide earnings, then this amount will be affected by market power in the product market to some extent. In other words, an increase in market power in the product market will lead to less division of cash dividend between shareholders. Yet, in testing the first hypothesis, it was found out that management has decided not to divide cash dividend by taking into account cases independent from firm's market power in this study, and therefore, firm's market power cannot affect management's decision to divide cash dividend or not.

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