

PROFITABILITY AND MARKET POWER ON DIVIDEND POLICY OF LISTED COMPANIES IN TEHRAN STOCK EXCHANGE

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Abstract: The aim of this study is to investigate the role of market power and profitability on dividend policy of listed companies in Tehran Stock Exchange. The research methodology is descriptive-documentary and using a practical approach. Sample's data were extracted from selected Stock Exchange companies between the years of 2010-2014 and were analyzed by using the Eviews 6 software. The results showed that among the eight profitability variables, accumulated profits to total assets ratio, asset growth rate, firm size, Market capitalization to book value ratio, return on assets and cash flow rate of return on assets, the Herfindahl-Hirschman index of all variables except variable of firm size, have a direct and significant effect on dividend payment.

Keywords: market power, profitability, dividend policy, Tehran Stock Exchange

1 Introduction

Dividend policy is one of the important areas of finance literature. Many researchers have studied the reason that companies pay a large part of their revenues as dividends. Dividend payments directly benefit the shareholders, and affect the company's ability to accumulate profits in order to take advantage of growth opportunities. Any investor considering ones' tastes, buys a company's stock if finds its dividend policy desirable. The amount of dividends proposed by the board usually contains information about management's expectations about future profitability of the company. The present study sought to examine the relationship between product market competition and incentives to distort the profits reported by their managers. A large literature in economics and accounting theoretical guidelines in this area have been provided that how competition can lead to the reduction of agency problems. In a number of studies, the structure of company's products market have been proposed as an effective factor that affect investment activities, financing, distribution of cash and corporate governance Denis et al., (1994), presented and analyzed the existing literature on the effects of product market competition on the accounting methods in two opposite perspectives. Their first view suggests that managers' incentives to manipulate earnings increased competition because when earnings show the existence of a competitive disadvantage (or advantage), competition will be punished (or rewarded) in stock market. The

second view suggests that if shareholders or their stock analysts have access to the real market, more difficult competition may be used to justify the positive and negative accruals inflated reported profits. When the shareholders or analysts have the ability to view the company's output, the company's managers who are pretending that they are efficient, not only need to manipulate accounting earnings, but if their activity is really effective, they must be used in real. In this context, misleading shareholders or analyst by higher output in competitive markets is costly. Therefore, managers must report lower earnings manipulation. In this regard, many previous studies have provided evidence. When the flow of information about the industry is low, product market competition has positive effects on earnings management. However, when the flow of information about the industry is high, the competition has negative effects on earnings management companies. Denis et al., (1994), also states that increased competition increases the risk of liquidation of the company. This in turn leads managers to turn to the capital increase and debt reduction. In total, such short-sightedness of the company due to competitive pressures lead managers to manipulate earnings to influence the market thought to attract funds through their short-term performance, survival of the company and other reasons.

1.1 Hypotheses

1. Profitability has a significant impact on dividends of listed companies in Tehran Stock Exchange.
2. The ratio of retained earnings over total assets (RE / TA) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.
3. Asset growth rate (AGR) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.
4. Company size (SIZE) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.
5. Market-to-book ratio: (M / B) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.
6. Return on Assets (ROA) has a significant impact on dividends paid by companies listed on Tehran Stock.
7. Cash-flow return on assets (CFROA) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.
8. Herfindahl-Hirschman index (HHI) has a significant impact on dividends paid by companies listed on Tehran Stock Exchange.(figure1)

1.2. Conceptual Model

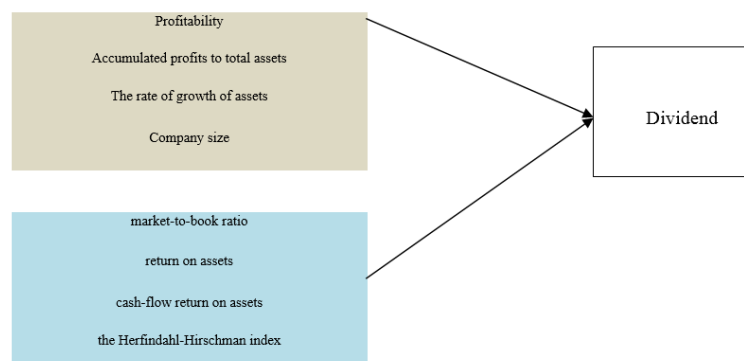


Fig 1. Conceptual Model

2. Market power

Market power in one country can be defined as a factor in price changes to higher levels of full competition. If a group of parties in a market compared with other groups have higher bargaining power, market power is created.

Market power may be in the market order (monopsony) or product sale market (monopoly) to be created. Market power in the sale makes some part of the consumer surplus in the form of higher prices to be absorbed by the supplier as in exported product, it is in the form of earning higher prices from foreign consumers.

3. Parameters in market structure

Important aspect of market structure is focus. In other words, we by using the concept of focus we can study market structure and size of competition and monopoly in the markets or the economy. Focus shows how the market between different companies is divided, and is to measure the relative size of firms. If the market is more unfair in distribution, the focus will be higher. And in the same conditions as the number of firm increases, the degree of concentration will be less. In fact, the size of the focus tends to correlate closely with the number of firms and unequal distribution of firms in the market. Thus, the focus can be written as follows:

$$\begin{aligned} C &= f(n, i) \\ C_n &< 0 \\ C_i &> 0 \end{aligned} \quad (1)$$

In this regard, the letter C indicates the size of concentration, n represents the number of firms and i indicates inequality in the distribution of shares that can be measured with indicators such as variance and standard deviation of the distribution of firms' share of the market size. (Denis et al., 2008).

The focus must be distinguished between micro and macro levels. When the focus is on the economic level discussions, it means the share of a few big firms and companies from any or all of the economic sectors. To measure the concentration of macro usually 50 or 100 firms larger than the share of the total value produced in the economy is calculated. And firm concentration ratio is 50 or 100. In calculating the macro focus, the firms in terms of size (sales, net production and value added) are larger than other firms. These companies can be of different industries. While in the calculation of market concentration at the level of individual industries and companies, only firms are considered, in terms of activities and produced products (and production methods) they are similar or are in a particular industry according to standard industry classifications.

The number of firms in a market and market distribution, are two important aspects of market structure, which play a crucial role in the formation of market concentration. At the level of individual markets, market concentration is only in terms of the market distribution between firms producing a homogeneous product. In such case, we face inequality measure focus. However, if the number of firms on both side of the market and market distribution be noted, focus absolute criteria is created.

To calculate the concentration, there are different indicators, each of which has advantages and disadvantages. But a good concentration index criteria must be: 1. easily understood, 2. independent of market size; 3. of the size between zero and one, and be dimensionless; 4. Theoretical-based. To understand the criteria the concentration curve is used. Concentration curve, shows the relationship between cumulative production and cumulative relative frequency or firm.

In applied economics, there are several indices to measure market structure of which can be inverted to determine the number of firms, price discrimination, Lerner indices, interest rates, focus ratio, the Herfindahl index, Pricing - Cost Margin, Hannah index, Entropy Index. , the Gini coefficient, variance and the logarithm of the firm's size (Denis et al., 2008).

A- Inverse number of firms

This index is the simplest indicator of focus. One of the weaknesses of these indicators, is giving equal importance to all firms. (Denis et al., 2008).

B- The concentration ratios (CRi) (share of n top firms)

The concentration ratio indicates the size of the production (or sell) i largest enterprise to the size of the production (or sales) market. More specifically, concentration ratio indicates a firm with CR1. And shows that the largest firms on the market, the size of the share of production (or sales). And n firm concentration ratio shows the CRn. N represents the ratio of the size of the largest firms in the market to the size of the production (or sales) market. Since in a competitive market, the market size is distributed among many firms and consequently size of one firm concentration ratio (CR1), four firms (CR4), eight firms (CR8) and even 16 firms (CR16) will be small. In a complete monopoly market, a firm constitute the total market size. And one firm concentration ratio is close to one.

The concentration ratio, market structure (competition and monopoly) is characterized to some extent, but does not provide comprehensive information about other firms in the market. The use of this index is high, it also has some weaknesses. The main limitation of this indicator is based on a point on the curve focus. Therefore, in calculating this index, much information is lost. The range of variation in these variables between zero and one hundred percent. One of the weaknesses of the index, is voluntary n. This index focuses only on information of first few firms. In other words, if a change is needed in the industry, so it does not affect large firms, does not change the size of the index. The concentration ratio largely depends on market definition. The broad market, decreases the concentration, whereas small market has usually adverse effect on concentration ratio.

C- The Herfindahl index

Herfindahl Index (HHI) is used to fix some defects of concentration ratio and negative indicators of firms suggested by Herfindahl, Herfindahl index, determines the distribution of market size and market structure which improves the ratio between existing firms focus. HI, is used to consider all the points of the focus curve, and the information is used around the curve, in fact, in this indicator, unlike the concentration index of all enterprise information is used to calculate the degree of concentration. Herfindahl index (HI) is calculated with the following formula:

$$HI = \sum_{i=1}^n S_i^2 \quad (2)$$

$$HI = \sum_{i=1}^n \left(\frac{X_i}{X}\right)^2 \quad (3)$$

In this formula, n is the number of firms in the market and S is firms' share of the total market size. In the above indicators, the number of firms (x) and the size of their relative shares is (xi) as considered in the calculation. If there are a large number of firms with the same relative size in the market, Herfindahl index is very small and is close to zero. And if a few firms and measures inequality exist in the market, this index will be close to one.

Easterbrook, (1984), extended Herfindahl index with further studies. He gathered curve slopes concentration, and achieved the Herfindahl index. If the total number of firms in industry A and sales of the ni firms in the industry be ai, the industry concentration curve slope is calculated as follows:

$$\text{Slope of the concentration curve} = \frac{\frac{a_i}{ni}}{\frac{A}{A \cdot ni}} = \frac{a_i}{A \cdot ni}$$

The total weight of slope (W_{TS}) with a market share of each firm can be written as follows:

$$W_{TS} = \sum_{i=1}^N \left(\frac{a_i}{A} \cdot \frac{1}{ni} \cdot \frac{a_i}{A} \right) \tag{4}$$

It is clear that if 1 = ni, the Herfindahl index will be as follows:

$$H = \sum_{i=1}^N \left(\frac{a_i^2}{A^2} \right) = \sum_{i=1}^N \left(\frac{a_i}{A} \right)^2 = \sum_{i=1}^N s_i^2 \tag{5}$$

In this respect, $\frac{a_i}{A}$ is the market share of each firm (Si). Herfindahl concentration index can be written using the inequality index called the coefficient of variation. The average size of firms in the industry is:

$$\mu = \frac{1}{N} \sum_{i=1}^N a_i \tag{6}$$

Therefore, firm's size variance will be equal to:

$$\sigma^2 = \frac{1}{N} \sum_{i=1}^N a_i^2 - \mu^2 \tag{7}$$

And so the square can be written as a coefficient of variation:

$$C^2 = \frac{\sigma^2}{\mu^2} = \frac{\frac{1}{N} \sum a_i^2 - \mu^2}{\mu^2} \tag{8}$$

With the above fraction separation and means insertion, the following equation is obtained:

$$H = \frac{C^2 + 1}{N} \tag{9}$$

After the Herfindahl index, the inequality depends in the distribution of firms in the market (C) and the number of firms in the market (N). if Square of the coefficient of variation be zero and N-1 N, the Herfindahl index will be equal to one, indicating the complete monopoly of the market. In contrast, if there is a large number and size of small firms, this index will be zero indicating perfect competition market. In the Herfindahl index (as opposed to focusing index), to the market share of each firm, be given its weight equal to the square. Thus, it is clear that larger firms are more important in measuring the degree of market concentration and the Herfindahl index.

Real markets according to the Herfindahl index of concentration and monopoly to competition can be divided into 7 categories (Table 1, 2). For example, if a market concentration index is 100 percent and a firm have all market shares, it is Monopoly. Monopoly a market where a firm will have between 50 to 100 percent of market shares is called "dominant firm" market, if the cumulative share of the top four firms is a total of 100-60 percent, it is called Tight Oligopoly. And if the market share of the top four firms is less than 40 percent it is called Loose Oligopoly. In closed multilateral monopoly market, as a limited number of firms are focused in the market. Collusion and cooperation and non-competitive behavior is likely.

According to the Herfindahl index, the market index of less than 1,000 (0.1 of 1) is competitive market. And if the market has more than 1,800 HI index (0.18 of 1), it is considered as non-competitive market.

Table 1. Spectrum of market structure and its characteristics in terms of number and size of firms

Market features	(HI)	(CR _i)	Description
More than 50 rival firm, are owned without any market share	0HI→	CR ₁ →0	Perfect competition
High effective number of competing firms, no more than 10% of the market are monopolized.	15 < (1/HI) ≤ 30	CR ₁ < 10	Monopolistic Competition
4 firms, with a maximum of 40% of the market monopoly.	10 < (1/HI) ≤ 15	CR ₄ < 40	open Oligopoly
4 firm, at least 40% and maximum 60% of the market have a monopoly.	6 < (1/HI) ≤ 10	40 ≤ CR ₄ ≤ 60	Oligopoly
4 firm, at least 60% of their market monopoly.	3 < (1/HI) ≤ 6	CR ₄ > 60	Closed monopoly
A firm has a monopoly over 50 percent of the market.	1 < (1/HI) ≤ 3	CR ₁ ≥ 50	Dominant firm
A firm's overall market monopoly.	1HI→	CR ₁ →100	Complete monopoly

It should be noted that presented criteria are only applicable in firms and active firms in the market; as in this paper, some of these indices considered the entire country as a firm in the process of production market structure and world trade calculations. The concentration ratio and Herfindahl index compared to other proposed measures are used in the calculation of the global market and accessing their data is easier. There are also other indicators such as the Lerner Index, interest rates and price discrimination specific firms active in the market, which focus primarily on variable of market price.

Despite the development of market analysis methods and presentation of new indicators, still Herfindahl and concentration indices are widely used. These indicators, maintained their effectiveness, as some of the studies that have used the Herfindahl index and concentration ratio are available.

4. Dividend Policy

Dividend policy is one of the most important issues in financial literature. The dividend represents a major cash payments and one of the most important choices and decisions that managers encounter. The manager must decide how much of the profit should be split, and how much investment in the company should be done again in the form of retained earnings. Despite the fact that dividend payments directly benefit the shareholders, the company's ability to accumulate profits in order to take advantage of growth opportunities is influenced (Grullon et al., 2002). In addition, the policy on the stock market has information content. And changing it contains information for shareholders.

Dividend policy is an important aspect of financial management because managers decide on the basis of the results of operations framework that how much of the company's profit should be distributed among shareholders and how much should be kept in the firm. While investors are interested to receive their annual profit from investment, managers consider the cheapest and the most important source for funding for growth, development and financial needs to not to share their profits, therefore there is a conflict between these two groups that needs to find an optimal solution.

There are some factors that affect the company's dividend policy

- Current cash flows are prospects of future cash flows, so with the increase in current operating cash flow, the director predicts higher future operating cash flows and dividend increases;
- Companies with growth opportunities, need financing, so they distribute little profit;
- Information asymmetry reduces the tendency of managers for external financing. So, in such situation managers reduce the dividend to increase financial resources;
- Debts of the company is an effective factor in dividend policy. To a certain extent companies can satisfy needed finance through borrowings, more borrowing will lead to an increase in debt and financial risk. So between debt repayment and dividend declaration, debt repayment is usually preferred;
- Dividend is a function of the company's profitability. In other words, profitable companies have more ability to pay more dividends;
- Company size also affect dividend policy. Small firms compared with large firms, have more difficulties in their funding. The dividend has positive relationship with company's size. The alternative view is that larger companies have more debt. Because creditors to larger firms have more confidence, so less profit will be divided;
- Dividend is a function of the previous year dividend;
- Corporate Governance is means of a balance between shareholders and management that reduces the agency problems and reduces the possibility that managers take the less than optimal dividend policy. (Easterbrook, 1984)

Dividend policy is part of the company's policy that specifies the company's profit. In general, the relationship between dividends and earnings per share reflects the company's dividend policy. Dividend policy is the most important issues in financing literature. Many researchers, have provided theoretical and empirical evidence concerning the dividend policy measures. However, the issue of dividend policy remains unresolved and specific guidelines regarding optimal dividend policy has not occurred. Stock companies usually conduct specific policy decisions. In formulating this policy several factors such as policies in similar companies, dividend policy, the legal limits and stable profitability are used and considered. Despite multiple policies, companies often use policies such as fixed amount dividends, a fixed percentage of profits, dividends margin and dividend surplus

4.1. Factors Affecting Dividend Policy

Understanding the factors influencing dividend policy, in addition to protecting the interests of investors leads to the company's growth, profitability and satisfaction, and ultimately enhance the possibility of the stakeholders of company policies. Based on explanations and theories that were expressed factors affecting the company's dividend policy can be identified. The main aim is to investigate the factors affecting the dividend policy and the possibility of payment of dividends of listed companies on the Stock Exchange in order to identify a set of variables together, and explain dividend policy and dividends payments in stock companies.

4.2. Profitable investment opportunities

One of the factors determining dividend policy is profitable investment opportunities. Based on studies conducted by Grullon et al., (2002), many companies follow the theory of surplus dividend. They decide to pay dividends when they expect to have surplus funds investments. The company first determines needed funds from retained earnings for its long-term projects, then it will distribute the excess to shareholders. It is therefore profitable investment opportunities on dividend policy can affect each institution. Companies that have more growth opportunities for profitable investment in the future growth and positioning distribute a smaller percentage of their profits to the shareholders.

4.3. Debt ratio (leverage)

The ratio of corporate debt plays a key role in explaining dividend policy. (Howe et al., 1992), suggest that companies with lower debt in their capital structure, have a greater ability to distribute dividends. According to agency theory, companies with lower debt ratio have greater ability to distribute dividends to their shareholders, while, in theory, signaling the opposite is true. The company with ratio of debt; to finance the debt in order to pay interest and principal at maturity, it may retain a greater percentage of the profits in the company or based on debt contracts it is required not to distribute a percentage of profits.

On the other hand, increasing leverage (debt-to-equity ratio) increases financial risk in order to reduce this risk, companies are forced to reduce the percentage distribution of profits.

4.4. Institutional Ownership

Institutional ownership is stock percentage of total capital shares held by state companies and public. These companies include insurance companies, financial institutions, banks, public companies and other parts of the state. This variable is also used with the same definition in researches of (Howe et al., 1992). There are two conflicting views on the relationship between institutional ownership and dividend policy:

Inverse correlation (negative): (Howe et al., 1992), believed that in existence of a conflict of interest, external monitor or external activity is an important control element. Institutional shareholders are a group of foreign observers. If large institutional investors act as representatives of the regulatory act and dividends be paid to reduce agency costs, based on the theory of representing relationship between dividend policy and institutional ownership should be substitute. In this regard, a negative correlation between the percentage of stock owned by institutional owners and dividend policy is necessary. (Howe et al., 1992), states that according to message theory, managers indicate their future benefits with higher awareness and more information. It can be argued that dividend and institutional investors may not be considered as an alternative means of messaging. The presence of large shareholders may reduce the need to use dividends as the message of proper performance because same shareholders can act as a credible message. Institutional owners may transmit to the market that agency costs is decreased due to monitor activity of this shareholders group.

Asset structure is another factor of assets structure. (Howe et al., 1992), showed in their study that companies with higher tangible assets have greater ability to exercise their dividend policy.

4.5. Growth Opportunities

(Howe et al., 1992), argued that higher growth opportunities need further financing and therefore have a higher chance to maintain profits. Also, Grullon et al., (2002) showed that companies with higher growth opportunities have less dividend payout ratio, this negative relationship supported dividend policy of stock by representation theory of dividend policy. As ratio of market value to book value of a company be more, distribution of profits is lower. According to the theory of "investment opportunities" as company's investment opportunities be more, its market capitalization compared to its book value is more on average, because unlike balance sheet, stock prices reflect the company's intangible assets such as the company's growth opportunities ahead of them (Easterbrook, 1984).

4.6. Company size

The effective factors on their dividend policy and dividend payments is size of the company. (Howe et al., 1992), found that corporates have greater access to capital markets and have more ability to pay dividends to shareholders of the smaller companies. With regard to the issue of "political costs", size of the company can be considered a reflection of the political effects that cannot be raised for small companies. Company size is a factor that affects the efficiency of the company. Company size can be replaced with risks that cannot be justified by beta. As company is smaller, there will be less liquidity of its shares. Therefore, the expected return on investment increases. According to Ritter (Howe et al., (1992), small companies because of more uncertainty about the future of their intrinsic value have a higher risk compared with large companies and investors are more vulnerable to speculative purposes. Therefore, the pricing of the shares of small companies is higher than actually expected.

4.7. Dividend payout policy

Due to factors affecting the dividend policy of which are explained, the behavior is usually of profit-sharing institutions are placed under one of the four distinct policies.

1. The payment of a fixed percentage of the net profits

In practice, very few institutions follow the policy and its reason is clear. The net profit figure is not predictable in many institutions because profits fluctuate with changes in economic conditions and conditions within the institution.

This policy causes major fluctuations in the dividend. And so shareholders rarely able to predict certain level of dividend.

2. Regular Dividend

This type of policy is the most common stock dividend policy. Institutions will have to dividend at a level that can sustain it in the years thereafter. And only this level will increase in the future if they ensure they are able to pay the new level and profit sharing.

3. Multiple increases

Based on this policy, rather than expecting an increase in profits in order to ensure a higher level far than the dividend, it is better to continually attempting to increase the dividend to a fixed rate. Naturally, such a policy also indicates that the Institute has been successful in communicating with shareholders about the dividend.

4. Extra dividends payment

This policy will apply to institutions that divide the profits into two parts. A portion of the dividend as smoothly and the rest would be done as an additional benefit.

4.8. Asset growth rate

The study of changes in fixed assets which companies are the main sources of future growth and development is very important. The main methods for the development of a company's activities by increasing a company's fixed assets can be acquired by another company, the increase in capital (equity) and the use of credit and debit cited. But the important point is that with the development of fixed assets, the company's returns decreases over time. While the decline in fixed assets of the company makes returns increase over time. Reduction of the company's assets and consequently the volume of investment in fixed assets can be used to redeem the shares, repayment of debt and payment of dividends to shareholders (Easterbrook, 1984).

4.9. Market value to book value

The ratio of price to book value or share price divided by book value per share gives a new benchmark. Which can be many times the book value of its shares will be traded. If the status of the economy in exchange for various political crises and so is undesirable and the value of the shares is declined, companies' shares will be equal to the book value. In this case, smart people buy stock. Therefore, in many cases, it could be considered as the benchmark for investment.

The ratio of price to book value, which is one of the financial ratios is used to measure the market price. This type of measure to measure the value created for shareholders is also considered.

This ratio which is dependent on the market price of the stock is obtained by dividing market share price to the book value.

The ratio of market value to book value is a measure of investment opportunities. According to this theory, companies release shares when the ratio of market value to book value of the shares is high. This is because managers believe that shares in market is in fact determined more than reality.

4.10. Return on assets

Return on assets is one of the financial ratios, obtained by dividing net income plus interest expense to total assets. ROA is concerned with production and sales skills and is not affected by corporate financial structure. Because of in calculating profit

with the rate of return on assets, earnings faults can be seen here, too. Given that the net book value of assets is shown on the balance sheet, therefore, the real value of assets may be lower or higher than their book values. Therefore, low ROA does not mean that assets must be utilized elsewhere. The high ROA does not mean that the company had to purchase the assets and business.

4.11. Free Cash Flow

Jensen defines free cash as the operating profit after taxes plus non-cash expenses after deduction of investment (increase in variation) in working capital, property, plant, equipment and other assets (Denis et al., 1994).

Free cash flow allows management in the absence of proper corporate governance structure to act to manipulate earnings. Denis et al., (2008), argues that manipulate earnings in companies with high free cash flow is higher. Research also shows that companies that have more free cash flow with greater representation are facing the problem of cost. Especially in firms with low investment opportunities, there is a low growth.

Given the high expectations, executives of companies where cash flows are high and have low growth, maintain a higher level of excess cash to operate inefficient investments. To hide the effects of such practices, they attempt to manage earnings. Also, given that many real earnings management through non-transparent activities of earnings management is through accruals. And manipulation of accruals are more likely to be identified by auditors and inspectors. This increases the incentive to manipulate the actual activities.

5. Research Methodology

The research methodology in terms of classification is based on objective and applied research. The aim of applied research is development of practical knowledge in a particular field. The research in terms of methodology and the nature used correlation approach.

The study population involves companies in Tehran Stock Exchange during the years of 2010-2014 as a total of 475 manufacturing companies.

To select sample of the FA sampling (screening) is used. And companies studied in order to test hypotheses, have been selected so that all the following conditions must be met:

In terms of comparability, the fiscal period should be ended in March. This limitation is due to having same time periods in creating variables in the calculation, so that conditions and seasonal factors do not affect choosing variables and factors.

Companies that are listed in the Tehran Stock Exchange prior to 2014.

Companies in which the desired data is available.

During the study, companies should not change their financial years.

Companies should not be other than banks and financial institutions (investment companies, financial intermediaries, holding companies, banks and leasing).

According to the above conditions 75 companies have been chosen and continued to be analyzed.

5.1. Variables

In order to assess market power and dividend policies, the regression model is used:

$$\text{Div Pay} = \alpha_0 + \beta_1 \text{profitability} + \beta_2 \text{RE/TA} + \beta_3 \text{AGR} + \beta_4 \text{SIZE} + \beta_5 \text{M/B} + \beta_6 \text{ROA} + \beta_7 \text{CFROA} + \beta_8 \text{HHI} + \epsilon_t$$

Profitability:

Net sales revenue minus the cost of goods sold and operating costs associated with the ongoing operations of the entity.

Size:

Different criteria for measuring variable of "company size" exists which include: total assets, sales and number of employees. In this study, the logarithm of total assets to measure the variable of "company size" used (Denis et al., 1994).

AGR: asset growth rate

Growth of assets according to total assets growth.

ROA: Return on Assets

Return on assets is defined as operating income divided by total assets.

Div Pay: Dividends paid

Dividing the dividend payment of dividends on the net profit.

RE / TA: total assets / retained earnings = RE / TA

M / B: market value per share/ Book value per share = M / B

CFROA: cash flow (CF) / Return on Assets (ROA) = CFROA

HHI: Herfindahl index

With further studies (Denis et al., 1994), could extend the Herfindahl index. He added curve slopes concentration to obtain the Herfindahl index. If the total number of firms in an industry is A and sales of the industry is ni, and the firms is ai, then the slope of the curve in this industry concentration is calculated as follows:

$$\text{Slope of the concentration curve} = \frac{\frac{a_i}{A}}{ni} = \frac{a_i}{A \cdot ni}$$

The total weight of slopes with a market share of each firm can be written as follows:

$$\sum_{i=1}^N \left(\frac{a_i}{A} \cdot \frac{1}{ni} \cdot \frac{a_i}{A} \right) \quad (10)$$

It is clear that if $1 = ni$, the Herfindahl index will be as follows:

$$H = \sum_{i=1}^N \left(\frac{a_i^2}{A^2} \right) = \sum_{i=1}^N \left(\frac{a_i}{A} \right)^2 = \sum_{i=1}^N s_i^2 \quad (11)$$

In this respect, $\frac{a_i}{A}$ is the market share of each firm (Si). Herfindahl concentration index can be written using the

inequality index called the coefficient of variation. The average size of firms in the industry is:

$$\mu = \frac{1}{N} \sum_{i=1}^{i=N} a_i \tag{12}$$

Therefore, firm's size variance will be equal to:

$$\sigma^2 = \frac{1}{N} \sum_{i=1}^{i=N} a_i^2 - \mu^2 \tag{13}$$

And so the square can be written as a coefficient of variation:

$$C^2 = \frac{\sigma^2}{\mu^2} = \frac{\frac{1}{N} \sum_{i=1}^{i=N} a_i^2 - \mu^2}{\mu^2} \tag{14}$$

With the above fraction separation and means insertion, the following equation is obtained:

$$H = \frac{C^2 + 1}{N} \tag{15}$$

Information and data needed for research obtained from the library method, with the application of new achievements, and by referring to the Tehran Stock Exchange and the financial statements of listed companies in Tehran Stock Exchange in the period of 2009- 2013. In this regard, in addition to the basic financial statements, the financial statements of exchange information is used, too.

In this study, to analysis the data, analysis panel is used. Panel data analysis has high validity among researchers. A panel, is a cross-sectional sample or group of data which is comprehensive. Which is examined and surveyed periodically in a certain period. Data Panel analysis provides the possibility of conducting regression research both in space and time dimension. The next place to set the units sectional can include countries, states, counties, businesses, goods, groups or even single individuals. Dimension of time is observation of a set of variables that reflect the characteristics of the units during a specific time period. As noted, the tools used to collect data, includes statistical analysis and database analysis by using the software that are analyzed by descriptive and inferential statistics.

6. Data Description

The following table the indices including mean and median central and dispersion indices such as standard deviation, skewness and kurtosis are calculated for different variables. As average is greater than mean because the average will be affected by these values. In these cases, the data distribution is skewed to the right. In some cases, left. The distribution of any variable is skewed to the left or right. And if the mean and the median variables are equal, distribution of variables is symmetrical. This feature is important because symmetry is one of the characteristics of normal distribution. It will be discussed in the next section. (Skewness and kurtosis of the normal distribution is zero).

$$Div Pay = \alpha_0 + \beta_1 \text{profitability} + \beta_2 RE/TA + \beta_3 AGR + \beta_4 SIZE + \beta_5 M/B + \beta_6 ROA + \beta_7 CFROA + \epsilon_t$$

Table 2 Data Description

	Div Pay	HHI	SIZE	RE/TA	AGR	profitability	M/B	CFROA	ROA
Average	40.04	0.155	12.81	3.08	4.60	157.3	5.7	0.59	0.20
Mean	16.010	0.157	12.62	2.10	2.26	129.2	1.72	0.60	0.10
max	2540.025	0.219	17.39	16.15	42.05	2192.5	42.05	1.31	0.55
min	438.6-	0.001	10.09	0.303	0.30	0.000	0.47	0.000	0.7
Standard deviation	150.59	0.0112	1.31	2.65	6.77	169.98	8.19	0.25	0.20

To calculate coefficients, first the diagnostic panel and data compilation (homogeneous) is determined or with their effects

(heterogeneity), the Chow test and F Limer statistics are used. The results are shown in Table 3, 4

Table 3: determine homogeneous or heterogeneous sections

Hypothesis 0	Statistic F	The significance level	Test result
Combined model is proper	0.830163	0.7494	confirmed

The probability value is equal to 0.74, so the hypothesis 0 as the use of combined model (or models without effects or homogeneous) is confirmed. To evaluate the hypothesis test of market power and dividend policies, regression model is used as below:

$$Div Pay = \alpha_0 + \beta_1 \text{profitability} + \beta_2 RE/TA + \beta_3 AGR + \beta_4 SIZE + \beta_5 M/B + \beta_6 ROA + \beta_7 CFROA + \beta_8 HHI + \epsilon_t$$

The results are shown below in Table 4 panel:

Table 4: model with the combined effects

DIV PAY				
Research variables Factor	Coefficient	Standard deviation	T Statistics	significance level
Fixed amount	8106.7	18408.3	0.44	0.65
PROFIT	38690.8	6468.53	5.98	0.0000
RE/TA	37.06	10.79	3.43	0.0006
AGR	4102.2	269.62	15.21	0.0000
CFROA	29300.8	3910.20	7.49	0.0000
M/B	81.52	12.02	6.77	0.0000
SIZE	656.8-	1382.10	0.47-	0.63
ROA	9.14E-05	2.67E-05	3.42	0.0006
HHI	0.052	0.008	6.05	0.000

Coefficient of determination	0.71	Statistic F	56.45
Adjusted coefficient of determination	0.67		
Durbin-Watson statistic	2.25	significance level of F	0.0000

In Table (3) the model is estimated by the combined effects, significance level of F is equal to 0.000. The amount is less than 0.05, so the hypothesis 0 is rejected at the significance level of 95 percent. This means that at 95% significant level the model is meaningful. The coefficient of determination is 0.71, about 71% of the variability is explained by the independent variables. The Durbin-Watson statistic is equal to 2.25. Values close to 2 indicate lack of autocorrelation of regression residuals assumption (so there is no autocorrelation between residuals). PROFIT t statistic value is equal to 5.9 (positive and significant), RE / TA is 3.4 (positive and significant), the AGR is 15.21 (positive) and for CFROA it is equal to 7.49 (positive) and the M / B is equal to 6.77 (positive and significant), the SIZE is -0.47 (not significant) and ROA is 3.42 (positive and significant) and the HHI is equal to 6.05 (significant and positive). The t-statistic to intercept is equal to 0.440 at 95% of the hypothesis 0 so the amount is not significant.

7. Summary of hypothesis tests and research model

The first hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between profitability and dividend payments. Thus the first hypothesis, which expresses the relationship between profitability and dividend payment is confirmed.

The second hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between accumulated profits to total assets and dividends payments of companies listed on Tehran Stock Exchange

The third hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between the growth rates of assets and dividends paid by companies listed on the Tehran Stock Exchange. It should be noted that the size of the company, has a significant effect on the dividend, which indicates the size has no effect on dividend payments. And

The fourth hypothesis that expresses the relationship between firm size and dividend payments is not confirmed.

Consequently, the fifth hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between the market value to book value and dividends paid by companies listed on the Tehran Stock Exchange.

It should be noted that variable rate of return on assets, has a significant effect on dividend payment that demonstrate the effectiveness rate of return on assets and dividend payment. Therefore, the sixth hypothesis that indicates the relationship between the rate of return on assets and dividend payments, is also confirmed.

The seventh hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between the rate of return on assets, cash flow and dividends paid by companies listed on the Tehran Stock Exchange.

The eighth hypothesis test results, using fixed effects model and estimated generalized least squares method (EGLS) is provided. The results show a direct relationship exists between dividend

payout and the Herfindahl index of companies listed on Tehran Stock Exchange. This can be emphasized that if the degree of concentration in the industrial markets of Iran is increased, the profitability of firms active in these markets will increase. In other words, the profitability of monopoly industries is higher than the profitability of competitive industries in Iran.

8. Suggestions arising from the research findings

1. It is recommended that shareholders and investors who want to develop or purchase new shares pay attention to this issue. Because in inflationary conditions, there is a period in which data is used. Companies that can benefit from its assets which maintain the shareholder values in inflationary conditions. Not only it does not hurt, but the minimum value of the money they keep in such conditions is mentioned.
2. The results showed that there is a relationship between cash flow and dividend indirectly, which indicates two things. Companies convert their cash flow and asset to maintain value of money in inflationary conditions or pay debt maturities as an important principle when cash flows is economical. Cash flows of interest does not exceed the cost of maintaining it, therefore it is recommended to shareholders as indirect warning sign and not sign of crisis. So they better have reviews to buy or sell their shares.
3. The high market value of equity shows shares to be very valuable. Shareholders and investors are recommended to pay much attention to these case.
4. Based on this result, it is recommended to shareholders and investors that they consider various stages of the corporate life cycle financially. It means that the financial characteristics of an enterprise is affected by the stage of the life cycle in which the firm is located.
5. Usually companies that have high sales of assets, can take advantage of the return on assets or by selling unnecessary assets they increased corporate income at a time. That is to have positive effects. Shareholders are better to consider these issues when buying.

References

1. Denis, D.J., Denis, D.K., Sarin, A.: *The Information Content of Dividend Changes: Cash Flow, Signaling, Overinvestment, Dividend Clientele?*. Journal of Financial and Quantitative Analysis, 1994, 29, 567-587.
2. Denis, D.J. & Osobov, I.: *Why Do Firms Pay Dividends? International Evidence on the Determinants of Dividend Policy*. Journal of Financial Economics, 2008, 89, 62-82.
3. Easterbrook, F." *Two Agency-Cost Explanations of Dividends?*. American Economic Review, v. 74, 650-659.
4. Grullon, G., Michaely, R., Swaminathan, B." *Are Dividend Changes A Sign of Firm Maturity?*. Journal of Business, 2002, 75, 387-424,
5. Howe, K.M., He, J., & Kao, G.W.: *One-time Cash Flow Announcements and Free Cash Flow. Theory: Share Repurchases and Special Dividends*. Journal of Finance, 1992, 47, 1963-1974.

Primary Paper Section: A

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