ANALYSIS OF COMPETITIVE STRUCTURE OF PRODUCT MARKET EFFECTS ON DIVIDEND PER SHARE (DPS) IN THE ACCEPTED COMPANIES IN TEHRAN STOCK EXCHANGE

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Abstract: The purpose of the present research is to investigate the relation between competitive structures of product market and dividend per share (DPS). So, the data for the accepted companies in Tehran stock exchange in years 2006-2012 are investigated and three indices Herfindahl-Hirschman (HH), Simple Tobin's Q Index, Lerner index and linear regression to measure the competition in market. To do so, first we investigated the hypotheses of classic model and the existence of correlation and similarity of variance and also stability of variables for the data. The findings show that the hypothesis on no effect of product market competition on DPS is voided and it is confirmed that competitions in product market competition has a significant effect on DPS in the accepted companies in Tehran's stock exchange. The hypothesis on no effect of product market competition on earnings per share (EPS) is voided, meaning the product market competition significantly affects EPS among the accepted companies in Tehran stock exchange.

Key words: dividend per share, product market competition structure, Lerner index, Herfindahl-Hirschman (HH) index, Simple Tobin's Q Index

1. INTRODUCTION

In competition market, companies are obliged to use production methods which have lowest costs and highest efficiency; so that they can help the consumer receive a higher quality, low cost product. In this case all economy sources have been used efficiently and it will make economy to benefit from the process (Namazi, 2012). It is worth mentioning that concepts such as competitive or exclusive markets have relative concepts. In fact if a variety of markets are categorized in terms of competition type, we can say that markets are a spectrum, competition being one end and exclusion in another end. In the emergent economies such as Iran's, markets and active industries in Tehran stock exchange are moving toward competition in such markets. So determining the relation between competition

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structures of the products and DPS is an important issue (Namazi, 2012). The present research seeks to find an answer to the question that: is there any relation between compatibility of companies and their DPS?

2. THEORETICAL FOUNDATIONS AND REVIEW OF THE LITERATURE

Competition in market: Every network, in which products and services are traded, is called a market. It's not necessary for markets to have physical realizations and specific space. Competitive market isa market in which a lot of informed vendors act in a way that no one can affect price levels (Namazi, 2012). Dividend per share (DPS): every year, companies save a part of net income according to a relative low and divide the remaining among the shareholders. DPS is the shared amount of benefits in cash. In other words, DPS is a part of income which is paid for each share after detracting tax (MirMoezzi, 2001). Expressing such material can lead into achieving the main goal by hypotheses below:

H1: product market competition significantly affects dividend per share DPS of the accepted companies in Tehran's stock exchange.

H2: product market competition significantly affects earning per share EPS of the accepted companies in Tehran's stock exchange.

Eshmit (1997) investigated the relation between managers' incentives and competitiveness of market. He found out that market competitiveness is effective on managers' incentive by two ways. First is that competitive market increases the risk of companies' bankruptcy which directly affects manager's efforts. On the other hand increasing competition decreases company's income which will decrease manager's incentive due to decrease in his rewards. So the conclusion was along with vagueness. Laporta *et al.* (2000) investigated the problems of agencies and dividing earning policies trough out the world. Their results showed that income dividing policies of companies comply with output model and companies pay higher cash earning in countries which pay more attention to minority shareholders' rights. Francois *et al.* (2003) investigated the relation between profit quality and net debt cost and net income cost of normal shareholders. The results showedthatcompanies having low profit quality have higher debt cost and normal share capital cost compared to companies with high quality profits. Gesh *et al.* (2004) investigated profit quality and profit reaction coefficient when static increase of profit and sale. The results of their study showed that companies having increasing profits in addition to sale growth, enjoy a higher earning quality and earning reaction coefficient compared to companies having earning growth along with decreasing costs. Geralon and misheli (2008) investigated the effects of competitive market on the policy of earning dividing. The evidence show that there is a negative relation among the exclusive level of companies and profit payment among companies having high free cash flow of agencies. Hey (2009) investigated the problems of agencies, competitive market and profit dividing

policies in Japanese companies. On the whole the findings show that competitiveness of company is an effective mechanism for decreasing agency's problems. Lee (2010) in his study analyzed the relation between product market competition and disclosure quality and quantity. In the present research we used Herfindahl-Hirschman (HH) index for operational competition and entrance impediment criteria for potential competition. His findings showed that existing potential rivals increases the quantity of disclosure while the competition resulted from operational rivals decreases the amount of disclosed information. He also showed that increasing the competition will significantly optimize the quality of companies' enclosure. Lontis *et al.* (2011) considering the accounting cost of companies as agency cost investigated the relation between competition in the market and agency's costs in Greece. They found out that hours of investigation and also accounting cost has an opposite and significant relation with competitiveness of product market. In other words, market competitiveness decreases accounting cost as a symbol of agency's costs.

3. METHODOLOGY

The present research is a functional research. Also in terms of method and nature is a correlation research. The population of the study includes all the accepted companies in Tehran stock exchange. To do so, the data of member companies from 2006 to 2012 was collected. We used systematic omission for sampling in a way that industry stages have more than 5 companies, the end of companies' fiscal year should be the end of winter, companies should not change their fiscal year during the given period and should not have halts in work, financial bill s and notes of companies during the investigation period should be available in Tehran stock exchange's website, the official value of shareholders shouldn't be negative in the investigation period and the selected companies should not be among the investing companies, banks and insurance organizations. In the present research, we used library source in order to collect data on theoretical foundations and literature of the topic. Also in order to collect the information for the analysis, we used online databases of stock exchange organization. We sued excel spread sheet software to calculate the variables and IVIEWS 7.1 to extract the research findings.

4. RESEARCH FINDINGS

H1 examination

F Limer and Hussman test

According to the fact that the used information in the present research are compound (year/company) and the data are tableau and integrated, so in order to choose between the two approaches in estimating the model we used F Limer test. In order to investigate the results of F Limer test in which the F value might be

higher than 0.05, we should use integrated data approach. Nevertheless the tableau approach will be used.

A summary of the results of F Limer test is presented in table 1. As we can see the amount of P value is equal to 0 which is lower than 0.05. So the tableau approach will be accepted. In case of accepting the tableau data analysis method, we should use Hussman test in order to choose between random or constant effects. In Hussman test, if the possibility of Chi square item is more than 0.05, we should use random effects approach and otherwise we use constant approach. According to the amount of P value in the Hussman test presented in table 1 being equal to 0, which is lower than 0.05, constant effects are accepted.

Table 1
F Limer and Hussman test

Hussman test			F Limer test		
Chi square	*Possibility*	*result*	*F Limer item*	*possibility*	*result*
3.4	0.00	Constant effect	3.0	0.00	tableau

Non-self-correlation test of the remaining

In the present research we use Durbin-Watson test to identify the existence or non-existence of self-correlation. If the value is about 2, there is no self-correlation. According to the Durbin-Watson item which is equal to 1.67, it was resulted that the model has no self-correlation.

Table 2
Durbin-Watson item

Limits of self-correlation	*Durbin-Watson item*
1.5<DW<2.5	1.67

Non heterogeneity of remaining variance test

In order to investigate this hypothesis in the present research we use White Test. The H0 in the present research is the similar remaining' variance in which if the P value is higher than 0.05 the H0 is confirmed.

According to the table below and the calculated P-value for White test which is equal to 0.21, and higher than significance value of 0.05 (P e"0.05), the H0 is confirmed, illustrating that there is no heterogeneity in remaining variance.

Table 3
Analysis of similarity of variance model

Item value	*P value*
F-statistic 0.99	0.21

Variables' Stability test

In the present research we used Fisher ADF test to investigate the stability of variables for combined data. H0 in this test is existing a unit root or in other words instability of the variables. If the P-value is lower than 0.05, H0 will be voided and variables are concluded to be stable. According to table 4 the P-value of the Fisher ADF for all the variables is lower than 0.05 and H0 is voided. Consequently the variables are stable.

Table 4
The results of model's variable stability test

variable Item value	EPS	DPR	HHI	Q	L	INDC
ADF - Fisher Chi-square	271.7	267.6	334	831.8	584.6	138.1
p-value	0.00	0.00	0.00	0.00	0.00	0.00

The results of data analysis of the model according to three indices of Herfindahl-Hirschman (HH), Simple Tobin's Q Index, lerner index are presented in tables 5, 6 and 7.

Table 5
The results of data analysis for testing H1 with Herfindahl index variable

variable	coefficient	Standard deviation	T value	P value
C	4.33	1.11	3.90	0.00
HHI	0.06	0.02	2.72	0.01
INDC	-3.27E-07	7.16E-08	-4.57	0.00
Determinant coefficient	0.85	F value	35.3
The adjusted coefficient	0.83	Prob (F-statistic)	0.00

Table 6
The results of H1 analysis with variable Tobin's Q Index

variable	coefficient	Standard deviation	T value	P value
C	-2.59	1.64	-1.58	0.11
Q	5.29	1.25	4.22	0.00
INDC	1.30E-08	1.01E-07	0.13	0.90
Determinant coefficient	0.81	F value	24.9
The adjusted coefficient	0.78	Prob (F-statistic)	0.00

Table 7
The results of H1 analysis with variable Lerner Index

variable	coefficient	Standard deviation	T value	P value
C	4.35	0.01	338.45	0.00
L	-0.33	0.08	-4.10	0.00
INDC	-3.36E-07	8.10E-08	-4.14	0.00
Determinant coefficient	0.85	F value	34.4
The adjusted coefficient	0.83	Prob (F-statistic)	0.00

According to the P value obtained for P value which is equal to 0 (pd" 0.05) H0 is voided illustrating that all the regression coefficients are not simultaneously zero. So at the same time there is a significant relation between dependent and independent variables.

According to tables 5, 6, 7 T and P value, item t for the variable competition of market in three tables which is lower than error level of 0.05 (p value d"0.05), H0 (assumption on no effect of competition of market on DPS) is voided and we can conclude that competition of market has a significant effect on DPS among the accepted companies in Tehran stock exchange. We can conclude that H1 is accepted. Also according to the coefficient of variable market competition which is positive in every three model, we come to the result that competition of market positively affects DPS.

H2 examination

F Limer and Hussman test

The summery of the test is presented in table 8. As we can see, the p value is equal to 0.19 and higher than 0.05. So the integrated approach will be accepted. According to the fact that the integration approaches are accepted, the Hussman test will not be implemented.

Table 8
F Limer test

F limer item	possibility	result
1.1	0.19	integrated

Non-self-correlation test of the remaining

According to the Durbin Watson item equal to 2.0, it was determined that the model has no self correlation.

Table 9
Durbin-Watson item

Limits of self-correlation	Durbin-Watson item
1.5<DW<2.5	2.0

Non heterogeneity of remaining variance test

According to the table below and the calculated P-value for White test which is equal to 0.55, and higher than significance value of 0.05 ($P \geq 0.05$), the H0 is confirmed, illustrating that there is no heterogeneity in remaining variance.

Table 10
Analysis of similarity of variance model

Item value	P value
F-statistic 0.85	0.55

The results of the analysis is reflected in tables 11, 12 and 13

Table 11
The results of data analysis for testing H2 with Herfindahl index variable

variable	coefficient	Standard deviation	T value	P value
C	8.64	0.07	117.35	0.00
HHI	0.98	0.37	2.70	0.03
INDC	-1.59E-06	5.10E-07	-3.12	0.00
Determinant coefficient	0.75		F value	17.4
The adjusted coefficient	0.70		Prob (F-statistic)	0.00

Table 12
The results of H2 analysis with variable Tobin's Q Index

variable	coefficient	Standard deviation	T value	P value
C	9.63	0.41	23.51	0.00
Q	0.78	0.26	3.03	0.00
INDC	-1.57E-06	5.22E-07	-3.00	0.00
Determinant coefficient	0.80		F value	14.5
The adjusted coefficient	0.79		Prob (F-statistic)	0.00

Table 13
The results of H2 analysis with variable Lerner Index

variable	coefficient	Standard deviation	T value	P value
C	8.88	21.88	40.59	0.00
L	18.38	8.38	2.19	0.03
INDC	-1.72E-06	5.37E-07	-3.20	0.00
Determinant coefficient	0.79		F value	5.5
The adjusted coefficient	0.75		Prob (F-statistic)	0.00

According to the P value obtained for P value which is equal to 0 ($p \leq 0.05$) H0 is voided illustrating that all the regression coefficients are not simultaneously zero. So at the same time there is a significant relation between dependent and independent variables.

According to tables 11, 12, 13 and P value, item t for the variable competition of market COM in three tables which is lower than error level of 0.05 (p value ≤ 0.05), H0 (assumption on no effect of competition of market on EPS) is voided

and we can conclude that competition of market has a significant effect on EPS among the accepted companies in Tehran stock exchange. We can conclude that H1 is accepted. Also according to the coefficient of variable market competition which is positive in every three model, we come to the result that competition of market positively affects EPS.

RESULTS AND DISCUSSION

In the present research, the first hypothesis on the effects of competition of market on DPS was examined. According to the tables and the tests, the P value of item t for the competition of market variable in every three tables which is lower than error level of 0.05, (P value ≤ 0.05), the H0 (no effect of COM on DPS) is voided and we conclude that competition of market significantly affect DPS among the accepted companies in Tehran stock exchange. So the first hypothesis of the research is confirmed. Also according to the coefficient of variable competition of market which is positive in every three models, it is concluded that competition of market positively affect the DPS. Also the second hypothesis on the effects of competition of market on EPS is tested. According to the tables and tests, the p value of item t for COM in every three models is lower than error level of 0.05 (p value ≤ 0.05), and H0 (no effects of competition of market on the EPS) is voided. So the competition of market has a significant effect on EPS of the accepted companies in Tehran's stock exchange. So the H2 is confirmed. According to the coefficient of competition of market which is positive in every three models we can conclude that competition of market has a positive effect of EPS.

SUGGESTIONS

It is suggested that according to the fact that competition of market is a judgment criterion in the payment ability of companies share return, the opportunities and potentials should be investigated before the payment. This will enable managers to make accurate and correct decisions about paying share return. Also the standard maker bases, determining special standards for each industry should consider the fact that one of the factors creating changes in payable share interest, is competition.

If the objectives of policy making bases is efforts in presenting fair information, they should make policies in a way that it is observable in distributing cash interest. Also the results of the present study can be considered by financial managers in reportage approaches. According to the findings, the managers better to follow an approach to present financial reports in competitive situation to make the effects of competition on dividend share interest as one of the affecting parameters on DPS.

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