

Investigating the relationship between product market competition and value of the listed companies in Tehran stock exchange

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ABSTRACT

The purpose of the investigation is to examine the relationship between product market competition and value of the listed companies in Tehran stock exchange. The statistical population of the study includes all listed companies in Tehran stock exchange during 2009 to 2012. The systematic method is used and selected 352 firms between 416 listed companies which 79 firms were selected as final sample. In this research, to measure product market competition variable and to examine firm value, Herfindahl-Hirschman Index (HHI) and Tobin's Q are used. The results suggested that there is a significant relation between product market competition and value of the listed companies in Tehran stock exchange.

KEYWORDS: Product market competition; Cash holdings; Firm value

1- INTRODUCTION

The main purpose of establishing a firm is to gaining profit or maximizing owners' (shareholders) wealth in that company which is achieved by the firms' managers. As it was stated before, firm's price fluctuations are used as one of the measurement index of management performance (Andreh et al, 2012). Transparent financial information improves the quality of shareholders' decisions. Firms' stock price reflecting market estimation about expected earnings during a special period, risk level of the earnings and many other factors. In shareholders' perspective, high stock price suggests that the manager has had better performance. Therefore, stock market price is the index by which management is measured (Hasani & Hosseini, 2010).

On the other hand, competition between sellers is obtained in economics for achieving some goals like market share, increasing returns and sale volume through changing marketing composition factors: price, product, distribution and advertisement (Karon, 2007). In "The Wealth of Nations", Adam Smith defines competition as "allocation of productive resources to their most valuable applications" (Nayama, 2013). Competitiveness is one of the important and key concepts that has been considered by many management, economy and international business researchers and investigators in two recent decades and various definitions have been provided based on varied perspectives (Hey, 2011). Taison (1993) considers competitiveness in ability to producing products and competitive services in international markets, as simultaneously creates permanent and growing life standards for their citizens, while Krogman (1994) defines it as productivity (Ghaffarlo, 2011).

Market structure reflecting organizational characteristics of markets is a spectrum includes total competition to total monopoly. Competitive product market means different companies have a competitive edge in production and sale of goods and their goods are not superior to others (Boss & Zovo, 2012). In other words, competitiveness means that a company couldn't create a productive policy to produce high quality products or offer them with lower prices than competitors, consequently to monopolize sale market (Ebrahimi, 2011). In this research, we examine the relation between product market competition and value of the listed companies in Tehran stock exchange.

2- Research background

Aman et al, (2013) examined the relation between product market competition, corporate governance and firm value. Regarding the conducted analyses, the results suggested that corporate governance importantly and significantly increase firm value just in non-competitive industries.

Choy et al, (2014) investigated the relation between diversification, product strategy and value of the listed companies in Korea stock exchange. The findings indicated that product strategy has an important role in relation between diversification and firm value. The findings demonstrated that there is a significant correlation among product strategy and firm value, regarding product strategy.

Alimo et al, (2014) dealt with the relationship between product market competition and firm value. Their results showed that freedom of transactions leads to importantly and significantly increased firm value which has

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experienced larger shocks in competitive environments. The influence of freedom of transactions is more intensive among the firms with larger risks of losing investment opportunities.

Jia & Shey (2014) examined social preference, product market competition and firm value the results suggested that social preference is positively related with firm value in competitive industries, but not in non-competitive industries.

Bostamant & Donanjelo (2014) investigated the relation between product market competition and industry returns. Their findings showed that the first one is superior to the latter. Hence, firms existing in more competitive industries have less ROA.

3- RESEARCH METHODOLOGY

3-1: The research's hypothesis

- There is a significant relation between product market competition and firm value of the listed companies in Tehran stock exchange

3-2: Research population and statistical sample

3-2- Research population and statistical sample

All listed companies in Tehran stock exchange were selected based on systematic omission method during 2008 to 2012. The firms should have the following conditions:

- 1- They should have not been a part of banks and financial institutions (investment companies, intermediary companies, holding companies, banks and leasing), because their financial disclosure and strategic basics structure are different.
- 2- Their financial year ends in 19/3/; that's because salaries, energy and other costs are increased at the beginning of each year, the index will help conditions to be identical for all companies
- 3- Their stock should be traded in stock exchange; if stocks are not traded, accurate estimations of the variables will be impossible, therefore those firms will deleted from that list.
4. They should not have been changed their activities or fiscal year during the studied years.
5. Their information should be available.

416 companies were selected among 352 cases based on omissive method and finally 79 firms were selected through Demorgan table as statistical samples.

3-3: The research regression model

$$QTobins_{it} = \delta_0 + \delta_1 \text{Product market competition}_{it} + \delta_2 \text{Size}_{it} + \delta_3 \text{Lev}_{it} + \delta_4 \text{Age}_{it} + \epsilon_{it}$$

QTobins_{it}: This ratio is defined as total market value of earning per equity (MVE) and book value of debts (BVD) on book value of total assets (BVA) (Kordestani et al, 2013).

Product market competition_{it}: Herfindahl-Hirschman Index (HHI) is used to measure this variable. The index is obtained from sum of squared market share of all active institutions in industries.

Size_{it}: Natural logarithm of book value of assets (Yeganeh et al, 2008).

Lev_{it}: Total debt to total assets ratio.

Age_{it}: The number of accepted years in Tehran stock exchange.

3-4: Data analysis method

In this research, panel data are used to test the hypotheses. F-Limer test is applied for selecting between common effects and fixed effects methods. If fixed effects model is selected, Hausman test would be used to select among fixed effects or random effects models. Also, model's error term autocorrelation, heteroskedasticity and data normality would have been examined. To illustrate the description power of descriptive variables, to examine the significance of variables and to investigate the adequacy of whole model, adjusted coefficient of determination, T-statistics and F-Fisher test are used, respectively. As well, statistical analyses are done through EVIEWS 7 and EXCEL software.

4- RESULTS

4-1: Examination of heteroskedasticity

To examine heteroskedasticity, Arch error terms test (LM) is performed. The obtained results are as follow:

Table 1-1: The results of Arch error term test (LM)

Description	Statistics amount	Probability
F-statistic	0.748541	0.1050
Obs*R-squared	1.026598	0.1050

* 5% error level

Regarding table 1-1, due to the level of f-statistics is not significant in 5% error level, homogeneity of variance is confirmed and heteroskedasticity of error terms are rejected.

4-2- Significance test of fixed effects method

4-2-1: F-statistics test

Table 1-2: The results of F-statistics test

Description	Statistics amount	Freedom degree	Probability
Cross-section F	1.814115	78	*0.000
Cross-section Chi-square	136.246518	78	*0.005

* 5% error level

4-2-2. Hausman test

Table 1-3: The results of Hausman test

Description	Statistics amount	Freedom degree	probability
Cross-section F	6.003254	14	*0.013

* 5% error level

Due to the results of both tests (F & Hausman), the obtained probability is less than 5%, fixed effects method should be used in related regression model.

4-3: The first hypothesis test

Table 1-4: The first hypothesis regression test

Variable	Estimated coefficient	Deviation of estimation coefficients	t-statistics	Significance level
Fixed	0.364	0.085	4.282	*0.021
Product market competition	1.162	0.308	3.772	*0.032
Firm size	3.725	0.662	5.626	*0.004
Financial leverage	-0.581	0.134	-4.335	*0.017
Firm age	0.629	0.207	3.308	*0.043
Adjusted coefficient of determination	Durbin-Watson	f-statistics	Significance level	
0.795	1.602	103.257	**0.000	

* 5% error level and ** 1% error level

According to the table 1-4, estimated coefficient of product market competition on value of firms is 1.162, it is concluded that there is a positive and direct relation between product market competition and firm value, i.e. higher activity in a competitive product market leads to increased firm value. Durbin-Watson statistic test value is 1.602 and placed within 1.5 to 2.5, so lack of correlation between errors is not rejected and regression can be used. Regarding adjusted coefficient of determination, it can be said that the independent and dependent variables of the research can predict 79.5% of changes, and it is suitable due to closeness to 1. Significance level of f-statistics shows whether the research regression model is statistically significant. Since the level of f-statistics is significant in 5% error level, the research regression model is significant with 95% confidence level. To confirm/reject the research's hypotheses, significance level of t-statistics should be analyzed. Due to the level of product market competition of t-statistics is significant in 5% error level, H_0 is rejected and H_1 is confirmed with 95% confidence level. It can be said that, therefore, there is a significant relation between product market competition and firm value of the listed companies in Tehran stock exchange. The empirical regression model is:

$$QTobins_{it} = 0.364 + 1.162 \text{Product market competition}_{it} + 3.725 \text{Size}_{it} - 0.581 \text{Lev}_{it} + 0.629 \text{Age}_{it} + \epsilon_{it}$$

5- The research's result showed that there is a significant relation between product market competition and firm value of the listed companies in Tehran stock exchange. In this regard, Jia & Shey (2014) examined social preference is positively related with firm value in competitive industries, but not in non-competitive industries. Alimo et al, (2014) showed that freedom of transactions leads to importantly and significantly increased firm value which has experienced larger shocks in competitive environments. Fasto (2013) proved that product market competition increases the impact of performance on financial leverage. The findings of Rezaei & Bagheri (2013) showed that product competition significantly and positively impact on ROA and ROE. On the contrary, Bostamant & Donanjelo (2014) showed that firms existing in more competitive industries have less ROA. It is recommended to firms' managers to actively participate in product market competition to enhance firm value and show themselves more motivated through applying product diversification strategy for recognizing customers' tastes and producing high-demand products in order to customers themselves be responsible to the needs of firms, consequently the value of firms are increased along with increased sale.

6- REFERENCES

- Alimov, A. (2014). Product market competition and the value of corporate cash: evidence from trade liberalization. *Journal of corporate finance*. vol 25, pp 122-139
- Ammann, M, Oesch ,D, & Schmid, M.(2013). Product market competition, corporate governance and firm value: evidence from the EU Area. *European financial management*, vol 19,pp 452-469
- Bernard, A, Redding, S & Schott, P. (2011). Multi-product firms and trade liberalization. *Journal of economics*, vol 126, pp 1271-1318
- Brown, D& Earle,J. (2000). Market competition and firm performance in Russia. *Russian economic trends*, vol 9, pp 13-18
- Bustamante, M& Donangelo,A.(2014). Product market competition and industry returns.
- Chaudhry, S.(2012). Competition and corporate governance. National law school of India university. available at www.ssrn.com
- Choi,D.(2014). International diversification, product strategy and firm value: evidence from Korea. *International business and economics research journal*. Vol 13
- Chou, J,NG,L, Sibilkov, V& Wang, Q. (2011). Product market competition and corporate governance. *Review of development finance*, vol 1. No 2,pp 114-130
- Dittmar, A, & Maht-Smith. (2007). Corporate governance and the value of cash holdings. *Journal of financial economics*, vol 83, pp 599-634
- Fresard, L. (2010). Financial strength and product market behaviors: the real effects of corporate cash holdings. *Journal of financial economics*, vol 64, pp 1097-1122
- Frezard, L & Valta, P. (2012). Competitive pressure and corporate policies. Working paper
- Fosu,S. (2013). Capital structure, product market competition and firm performance: evidence from South Africa. University of Leicester, UK.
- Gasper, J & Massa, M. (2006). Idiosyncratic volatility and product market competition. *Journal of business*, vol 79, pp 3125-3152
- Giroud, X, & Mueller, H. (2011). Corporate governance, product market competition and equity prices. *Journal of finance*, vol 66, pp 563-600
- Guadalupe, M & Wulf, J. (2010). The flattening firm and product market competition: the effect of trade liberalization on corporate hierarchies. *Journal of economics*, vol 2, pp 105-1274
- Harford, J, Masnsi, S & Maxwell, W. (2008). Corporate governance and firm cash holdings. *Journal of financial economics*, vol 87, pp 535-555

- Haushalter, D, Klasa, S & Maxwell, W. (2007). The influence of product market dynamics on a firm's cash holding and hedging behavior. *Journal of financial economics*, vol 84, pp 797-825
- Hoberg, G, Phillips, G, & Prabhala, N. (2014). Product market threats, payouts and financial flexibility. *Journal of finance*, vol 69, pp 293-324
- Hou, K, & Robinson, D. (2006). Industry concentration and average stock returns. *Journal of finance*, vol 61, pp 1927-1956
- Irvine, P & Pontiff, J. (2009). Idiosyncratic return volatility, cash flows and product market competition. *Review of financial studies*, pp 1149-1177
- Jiao, Y & Shi, G. (2014). Social preference, product market competition and firm value. Available at www.ssrn.com
- MacKay, P & Phillips, G. (2005). How does industry affect firm financial structure? *Review of financial studies*, vol 18, pp 1433-1466