

Studying the Impact of Firm Characteristics on the Relationship between Product Market Competition and the Cost of Capital (Case study: Companies Listed in Tehran Stock Exchange)

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Abstract

The main objective of this study was to investigate the characteristics of companies on the relationship between product market competition and capital costs of the companies listed in Tehran Stock Exchange. Therefore, the Herfindahl Hirschman index was used to measure competition in the product market. Furthermore, the characteristics of the companies were examined from three perspectives capital structure, disclosure quality and profitability. The population of this research was all companies listed in Tehran Stock Exchange and the sample consists of 81 companies listed in Tehran Stock Exchange which were studied from 2005 to 2012. Multivariate linear regression analysis within the framework of Baron and Kenny (1986) was used to test the hypothesis. The results indicated a significant and inverse relationship between the competition in the product market, capital structure and profitability of companies operating in the Tehran Stock Exchange and a significant and positive relationship between product market competition and quality of information disclosure. Moreover, the results showed a significant and negative correlation between the competition in the product market and the cost of equity. Also, the results showed that variable quality of information disclosure has minor role in mediating the relationship between product market competition and the cost of equity, but the company does not have a variable capital structure and profitability.

Keywords: competition in product markets, capital costs, profitability, capital structure, the Tehran Stock Exchange.

Introduction

Many researches are done on the role of appropriate policies which aim at minimizing the cost of capital and the best results of operations (Isly Maorin, 2001). The results indicated that if there is no change in risk and return on investment on capital costs to be increased, the wealth of shareholders will increase. On the other hand, companies try to survive in today's highly growing competitive environment and are forced to compete with national and international factors and expand their activities through new investments and financial resources. Competition in the product market is an external governance mechanism and a critical factor in decisions refers to the disclosure of information by companies. Competition in the product market is in a way that competitors in the same industry are forced to seek information and hide their information (Teng & li, 2011). Moreover, by disclosure of private information and improving the quality of disclosure companies can exchange information asymmetry and cost of securities and thereby can reduce the cost of capital (Espinosa & Trombetta, 2007). Also, company's director of finance should consider the relationship between capital market and product market when making decisions about the competition in the product market. In this regard, financial and industrial economists have increasingly realized the relationship between product market competition and corporate financial decisions (Guney et al., 2011). It can be said that financing decisions of firms are made with regard to the product market and the conditions. In particular, the effectiveness of market competitiveness

facilitates the establishment of effective governance. This can be done by increasing management efficiency, increase transparency in decision-making, enhancing the accountability of managers, reducing the risk of poor investment decisions and the actual price available on the market (Beiner et al., 2008). Competition in the market will lead to corporate performance improvement. On the other hand, companies with better performance have lower capital costs as well. Accordingly, this question is raised that can the specific characteristics of companies (Including capital structure, information disclosure quality and profitability) play a mediating role in the relationship between product market competition and the cost of capital?

Literature review

Competitive market economy is one of the most central and most important concepts. The economic theory of structure and the competitive market are mentioned specifically. Thus, in a competitive market, companies need to employ methods of production that have the lowest cost and highest efficiency to assist in the education of the consumer of goods with better quality but lower price (Ghafari, 2012). Accordingly, it can be stated that this type of product market competition as a mechanism of external sovereignty is considered an important factor in decisions making by companies to disclose information (Ghorbani et al., 2013). Pandey (2004) defined competition in the product market as the market for corporate controlling over the price or the product. Thus, competition in the product market is excellent mechanism for allocating resources and has a disciplinary effect on the behavior of managers and their incompetence (Markarian & Santaló, 2010). A number of studies (Fama, 1980; Haushalter et al., 2006; Grullon & Michaely, 2007) consider the product market as a key factor that influences the proposed investment activity, financing (cost capital), the distribution of cash and corporate governance. Smith also argues that greater competition increases the risk of dissolution of the company which in turn leads to an increase in capital and debt on its managers. In total, such a trend toward short-sightedness of the company due to competitive pressures causes managers to manipulate earnings to influence the market perception through short-term performance of their financial resources to survive the company (Khajoo et al., 2013). According to some scholars, cost of equity is from 20 (Exclusive), agency costs and political costs is from 22 to 21, for the factors on the complementary relationship between product market competition and the quality of accounting information; This means that companies with less competition in the industry have greater landlord's costs, fees and expenses. These factors alone or jointly with others in management provide strong incentives to expose the poor quality of accounting information (Cheng et al., 2013). Thus, competition in the product market is one of the factors which influences the quality of information disclosure. As a result, with increasing competition in the product market, the quality of disclosure also increases and this leads to a reduction in information asymmetry. Finally, reducing information asymmetry will lead to a reduction in the cost of capital. Therefore, it can be stated that the variable of information disclosure quality can have a mediating role in the relationship between product market competition and the cost of capital. The relationship between product market competition and capital structure is examined from two perspectives. In view of the limited liability model, it can be argued that when debt is a limited liability, company with the highest market capitalization and variable products try to increase its market share by increasing debt and gaining a strategic advantage. The second approach is hunt model. According to this model without liability companies tend to aggressive behavior (increase or decrease in the price (Setayesh & Kargarfard Jahromi, 2011). On the other hand, managers should consider the choice of capital structure strategies in which lower cost of equity companies need to gain better returns. In other words, the optimal capital structure occurs when the capital costs is reached to minimum. From the perspective of the company, the cost of debt

is lower because it involves debt interest payments to creditors which are accepted by applying the tax rules. However, skyrocketing debt default risk increases and decreases the value of shares of the corporation. Thus, it appears that the capital structure of the company affects the product market competition and the cost of capital. As a result, capital structures can have a role in mediating the relationship between products market competition and the cost of capital companies. Today, the company's product in the market as an important external mechanism to the enterprise management system affects the company's performance. Competition in the product market resulted in a strong incentive for managers to work diligently. In fact, competition in the product market is considered as a powerful force to overcome the conflict between shareholders and managers, and ultimately resolves the dispute. The formation of corporations and an increasing number of homeowners lead to the separation of ownership from management companies and the introduction of a conflict of interest between the company and managers. In such a situation, competition will force managers to improve enterprise performance and make decisions about the future (Teymuri Jami al., 2014). Moreover, the profitability of companies is one of the factors associated with the cost of capital. More specifically, profitability will be reduced in the companies that increase the cost of capital. As a result, it is expected that companies with higher profits confront to lower capital costs. Therefore, the structure of product market competition could affect the company's performance (profitability) as well as the cost of capital.

Research hypotheses

In this section, based on the achievement of the research objectives and theoretical background, research hypotheses are developed as follows:

The main hypothesis: The specific characteristics of companies can play a mediating role in the relationship between product market competition and the cost of capital.

Sub-hypotheses:

- The capital structure of company plays an intermediary role in the relationship between product market competition and the cost of capital.
- The quality of disclosure plays an intermediary role in the relationship between product market competition and the cost of capital.
- Profitability of companies plays an intermediary role in the relationship between product market competition and the cost of capital.

Test period and Sample

A six-year period from 2005 to 2012 was considered for study based on fiscal years. The study sample was the companies listed in Tehran Stock Exchange. In this study, statistical sampling is not used, but the sample was selected based on the following criteria:

- a. The company's fiscal year should be ended in March each year.
- b. The financial year of company should not be changed from 2005 to 2012.
- c. The available information is needed in order to extract the required data.
- d. Companies should be accepted in Tehran Stock Exchange by the end of fiscal year 2004.
- e. There should be at least four companies in the case of industry.
- f. Banks and financial institutions (investment companies, financial intermediation, holding companies and leasing-in) were excluded because their financial disclosure and corporate governance structures are different.

According to the study, 81 companies listed in Tehran Stock Exchange were eligible and examined in the period from 2005 and 2012.

Variables of the study

Independent variable: The product market competition is considered as independent variable in this study. Hirschman Herfindahl index is used to measure competition in the product market. This index is the sum of the squares of the market shares of all companies in any industry which measures the degree of concentration in the industry. Herfindahl Hirschman Index is calculated from the sum of the squared market shares of all firms in the industry (Chen et al., 2012):

$$1) \text{HHI} = \sum_{i=1}^k S_i^2$$

In which k is the number of firms in the market, i is the market share of firm and S_i is obtained from the following equation:

$$2) S_i = X_j / \sum_{l=1}^n X_l$$

In which X_j denotes the j -th and l represents the industry's sales. Herfindahl Hirschman Index is a measure of industry concentration. It should be noted that this indicator is used in a research by Chen and colleagues (2012), Cheng et al. (2013) and prayer and Abraham (2012).

Dependent variable: The cost of equity of companies is the dependent variable. The minimum rate of return that shareholders gain to maintain the company's cost is called equity. According to Gordon model (1962), the stock price can be achieved by using the following method:

$$\text{Model (1)} \quad K_s = (D_1 / P_0) + g$$

In which

K_s : Rate the existing ordinary shares of the costs D_1 : Interest paid at the end of the first year P_0 : value of common stock (beginning of period) g : Rate of growth (in the model, it is assumed to be constant over time).

The cost of new ordinary shares of common stock is available. It will be subject to charges related to the sale and distribution of new shares. If f represents the cost of publication and as a percentage of the sales price of the stock, the formula for calculating the cost of new common stock (K_e) will be as follows (Weston & Brigham, 1975)

$$\text{Model (2)} \quad K_e = [D_1 / P_0 (1-f)] + g$$

Intermediary variables: In this study, the characteristics of the companies were considered as an intermediary variable. It should be noted that the characteristics examined in this study include the capital structure, the quality of information disclosure and corporate profitability. Operational definition of each of these variables is as follows:

Capital structure: The criteria used to measure the capital structure of the company's financial leverage. Financial leverage is measured by dividing the total debts to the company's total assets.

Quality of disclosure: Quality indicators disclosed in the present study refer to the scores assigned to each company by the Securities and Exchange Tehran and publish the statement "ranking companies in terms of quality of disclosure and notification of appropriate". This variable is used in research Noroosh and Hosseini (2009), Setayesh and colleagues (2011) and Yaghoob Nejad and Zabihi (2011). "Points of information publisher is calculated based on the information provided to forecast earnings per share, not audited financial statements of the periods of 3, 6 and 9 months, the auditor's opinion with respect to the prediction of earnings per share and 6 month, the auditor's opinion on the financial statements of the period of 6 months, not audited year-end financial statements and the difference between the pre-projected and actual performance audited. Also, in case of failure to provide timely audited year-end financial statements, schedule of payment of dividend shareholders is considered as negative points for each day of delay "(Securities and Exchange Organization, 2007). Quality Score of corporate information disclosure is up to 100. However, the quality of the disclosure may be a negative number, as in the case of failure to provide

timely audited year-end financial statements, schedule of payment of dividend shareholders is considered negative points for each day of delay.

Profitability: Corporate profitability is used to measure the efficiency of the variable total assets (net income to total assets).

Control variable: With the increase in size of the company, the company reduces risk and capital cost. According to Butusan (1997) company is one of the factors affecting the company's capital cost. Also, larger companies disclose more information and this will reduce the information asymmetry between investors (Atiase & Bamber, 1994; Cairney, 2003; Kim & Verchiya, 1991; Utama & Cready, 1997). Therefore, in this study, the company is considered as a control variable and is calculated by the natural logarithm of annual sales.

Methodology

The regression model of combined data in the framework of Baron and Kenny (1986) which is a modified version of the Judd and Kenny (1981) is used to test the research hypotheses. In the context of Judd and Kenny (1981), in order to investigate the mediating role of variable of companies' specific features (including the capital structure, the quality of information disclosure and profitability) in the relationship between product market competition and capital costs, it is necessary to implement the three phases. Firstly, we expect the mediator variable (attribute-specific companies) on the independent variable (product market competition). Secondly, we expect the dependent variable (cost of equity) on the independent variables. In the third phase, we expect the dependent variable and the independent variables simultaneously on a mediator. It should be noted that in the context of Baron and Kenny (1986), while the third stage of the variable coefficient is significant competition in the product market, in the case of variable particular feature, companies play a minor mediation role in the relationship between product market competition and the cost of equity.

First-stage regression model

$$3) \quad FSC_{it} = \alpha_0 + \alpha_1(PMC_{it-1}) + \alpha_2(Size_{it-1}) + \epsilon_{it}$$

Second-stage regression model

$$4) \quad CC_{it} = \alpha_0 + \alpha_1(PMC_{it-1}) + \alpha_2(Size_{it-1}) + \epsilon_{it}$$

Third stage regression model

$$5) \quad CC_{it} = \alpha_0 + \alpha_1(PMC_{it-1}) + \alpha_2(FSC_{it}) + \alpha_3(Size_{it-1}) + \epsilon_{it}$$

The above regression models, FSC_{it} reflects certain characteristics of companies in this year (once the capital structure, CS; once the quality of information disclosure, DQ; and once profitability ROA), PMC_{it-1} represents the company's product market competition in this year, CC_{it} represents the cost of equity in this year and $Size_{it-1}$ represents the company in the previous year. It should be noted that in this study, the data analysis was done by using Excel-2007 software variables from the raw data set and then the final analysis was performed by using spss version of the software EViews 7 and 19.

Results

Descriptive Statistics

Table 1 shows the calculated descriptive statistics including mean, standard deviation, maximum and minimum competition in the product market variables (Herfindahl Hirschman Index), cost of equity, capital structure, disclosure quality, profitability and size of the companies.

Table 1 shows the variable quality of the information disclosed to the highest and lowest levels of profitability variables which are scattered among the variables.

Table 1. Descriptive statistics of variables

Variable name	Standard deviation	Mean	Maximum	Minimum
Competition in the product market	0.2401	0.1219	1	0
Cost of equity	0.3447	0.3827	3.9788	0.00009
Capital Structure	0.2255	0.6359	1.8488	0.0155
Quality of Disclosure	23.0397	46.2558	99	6
Profitability	0.2080	0.1398	0.8445	-0.3294
Size	1.2955	25.7448	25.0571	21.9709

Statistics relating to capital structure variable indicates that it provides more than half of the company's assets in Tehran Stock Exchange. Additionally, the disclosure shows the mean variable of quality companies has not been able to get more than half of the ratings of disclosure quality. The statistics show that the profit variable earned 13% mean of their total income assets.

Static reliability variables

In order to ensure that the model is raised from non-stationary variables, the reliability results of the parameters of this test are presented in Table 2. According to this table, if the independent and dependent variables which were tested by tests of Levin, Lin and Chu, boys and Shane, Dickey-Fuller and Phillips Perron adjusted to be smaller than 0.05 are reliable.

Table 2. Results of testing the reliability of variables

	Levin, Lin and Chu Test	EEM, Boys and Shane Test	Adjusted Dickey Fuller Test	
Variables	Statistic Test (Significance level)	Statistic Test (Significance level)	Statistic Test (Significance level)	Statistic Test (Significance level)
Competition in the product market	-77.9084 (0.00005)	-21.6028 (0.00005)	1097.64 (0.00005)	1442.52 (0.00005)
Cost of equity	-22.9963 (0.00005)	-19.2787 (0.00005)	1000.33 (0.00005)	1231.57 (0.00005)
Capital Structure	-15.6742 (0.00005)	-11.8964 (0.00005)	639.015 (0.00005)	780.931 (0.00005)
Quality of Disclosure	-53.3717 (0.00005)	-24.9378 (0.00005)	928.267 (0.00005)	1116.20 (0.00005)
Profitability	-24.9297 (0.00005)	-20.1457 (0.00005)	1038.53 (0.00005)	1272.38 (0.00005)
Size	-23.0545 (0.00005)	-23.6213 (0.00005)	1006.32 (0.00005)	1130.40 (0.00005)

Inferential statistics

In this section, we presented the results of regression models used in the analysis of the research hypotheses. Table 3 shows the results of the regression model used to test the sub-hypotheses of the study. According to this table, the coefficient of determination adjusted (R^2_{adj}) in the first three models explains respectively, 8.98, 2.71, and 6.2% of the variance in the dependent variable (in the first stage variable capital structure and in the second and third stage variable cost of equity). Moreover, the Durbin Watson statistics presented in Table 3 for the first and third model which is respectively 1.7372, 1.8639 and 1.8622. It does not show the existence of serial correlation in the components disturbing regression. Due to the Chow test statistics significant in all three models is listed in Table 3 by using the panel data model (Pool data) for the first sub-hypothesis testing.

Table 3. Summary of the results of the first sub-hypothesis testing

First Model	$CSit = \alpha_0 + \alpha_1(PMCit-1) + \alpha_2(Sizeit-1) + \epsilon_{it}$			
Constant	Significance Level	T-statistics	Standard error	Coefficients
Competition in the product market	0.00005	9.8197	0.1686	1.6558
Size	0.00005	4.6386	0.0351	0.1630
R2 and R2adj	0.00005	-6.1794	0.0065	-0.0403
F-statistics and significance levels	0.0898		0.0926	
Durbin Watson statistic	0.00005		32.8424	
Chow test and a significance level	1.7372			
Second Model	0.2017		1.4016	
Constant	$CCit = \alpha_0 + \alpha_1(PMCit-1) + \alpha_2(Sizeit-1) + \epsilon_{it}$			
Competition in the product market	0.00005	4.6044	0.2682	1.2352
Size	0.0063	2.7390	0.0559	0.1531
R2 and R2adj	0.0012	-3.2621	0.0103	-0.0338
F-statistics and significance levels	0.0271		0.0301	
Durbin Watson statistic	0.00005		10.0023	
Chow test and a significance level	1.8639			
Third Model	0.2951		1.2095	
Constant	$CCit = \alpha_0 + \alpha_1(PMCit-1) + \alpha_2(CSit) + \alpha_3(Sizeit-1) + \epsilon_{it}$			
Competition in the product market	0.00005	4.4864	0.2878	1.2913
Capital Structure	0.0054	2.7900	0.0568	0.1586
Size	0.5892	-0.5409	0.0627	-0.0339
R2 and R2adj	0.0010	-3.2955	0.0106	-0.0352
F-statistics and significance levels	0.0260		0.0306	
Durbin Watson statistic	0.0001		6.7582	
Chow test and a significance level	1.8622			

According to Table 3, the level of competition in the product market showed that this variable has a positive and significant relationship with the cost of equity capital structure variables. Moreover, the variable product market competition rate in the first and third stage is significant as well, and is not a significant factor in changing the capital structure of the third stage, so changing the capital structure does not play a mediating role in the relationship between product market competition and the cost of equity. The results related to control variables of firm size shows that there is a significant and negative relationship between firm size and the cost of equity capital structure. According to Table 4 the coefficient of determination adjusted (R2adj) in the first and third models respectively explains 4.65% and 9.66% of the variance in the dependent variable. Moreover, the statistics presented by Durbin Watson in Table 4, the first and third model which is equal to the 1.9481 and 1.8486 do not show the existence of serial correlation in the disturbance component regression. Also, according to the Chow test statistic is significant in both models listed in Table 4 for the first stage of the test panel data model (panel data) and panel data model (Pool data) is used to test the third stage. Also, according to the Hausman test statistic is significant in the first stage and the fixed effects model is used to test it.

According to Table 4, the level of competition in the product market indicated that this variable has a significant and negative correlation with the variable quality of information disclosure.

Table 4. Summary of the results of the second sub-hypothesis testing

First Model	CSit = $\alpha_0 + \alpha_1(\text{PMCit-1}) + \alpha_2(\text{Sizeit-1}) + \epsilon_{it}$			
Constant	Significance Level	T-statistics	Standard error	Coefficients
Competition in the product market	6.5995	17.7109	0.3726	0.7095
Size	1.5974	0.6851	2.3314	0.0200
R2 and R2adj	0.0598		0.0465	
F-statistics and significance levels	4.5017		0.00005	
Durbin Watson statistic	1.9481			
Chow test and significance level	3.4813		0.0011	
Hausman test and significance level	2.3692		0.3059	
Third Model	CCit = $\alpha_0 + \alpha_1(\text{PMCit-1}) + \alpha_2(\text{DQit}) + \alpha_3(\text{Sizeit-1}) + \epsilon_{it}$			
Constant	1.1934	0.2585	4.6156	0.00005
Size	0.2006	0.0542	3.6966	0.0002
R2 and R2adj	-0.0397	0.0100	-3.9603	-0.0001
F-statistics and significance levels	24.0075		0.00005	
Durbin Watson statistic	1.8486			
Chow test and a significance level	0.7268		0.6493	

Also, the variable quality of information disclosure has a significant and positive correlation with the cost of equity. The coefficient of variable of competition in the product market is significant in the first to third stage and also, coefficient of information disclosure quality variable is also significant in the third stage, the variable quality of disclosure does not play a full mediating role in the relationship between product market competition and the cost of equity. However, in accordance with the Baron and Kenny (1986) variable quality of information disclosure plays a minor mediation role in the relationship between product market competition and the cost of equity. Results related to the control variable of size indicated a significant and positive relationship between firm size and quality of information disclosure.

Table 5. Summary of results of the third sub-hypothesis

First Model	ROAit = $\alpha_0 + \alpha_1(\text{PMCit-1}) + \alpha_2(\text{Sizeit-1}) + \epsilon_{it}$			
Constant	Significance Level	T-statistics	Standard error	Coefficients
Competition in the product market	0.0121	-2.5165	0.1612	0.4056-
Size	0.1359	0.0335	4.0468	0.0001
R2 and R2adj	0.0373		0.0343	
F-statistics and significance levels	12.4661		0.00005	
Durbin Watson statistic	1.8156			
Chow test and a significance level	1.3974		0.2035	
Hausman test and significance level	2.3692		0.3059	
Third Model	CCit = $\alpha_0 + \alpha_1(\text{PMCit-1}) + \alpha_2(\text{ROAit}) + \alpha_3(\text{Sizeit-1}) + \epsilon_{it}$			
Constant	1.2089	0.2695	0.4843	0.00005
Size	0.1619	0.0566	2.8602	0.0044
R2 and R2adj	-0.0647	0.0656	-0.9864	0.3243
F-statistics and significance levels	6.9923		0.0001	
Durbin Watson statistic	1.8707			
Chow test and a significance level	1.1776		0.3133	

However, there is a significant and negative correlation between the size and cost of equity.

Table 5 demonstrates the results of the regression model used to test the research third sub-hypothesis. According to this table, the coefficient of determination adjusted (R^2_{adj}) in the first and third model respectively explains 3.43% and 2.71% of the variance in the dependent variable (variable profitability in the first stage and variable cost of equity in the third stage). Moreover, the Durbin Watson statistics presented in Table 5 for the first and third model which is equal to the 1.8156 and 1.8707, does not show the existence of serial correlation in the disturbance component regression. Due to the Chow test statistics significance level is given for both models in Table 5. Data Integration Model (Pool data) is used to test the hypothesized model of the first and third stage. According to Table 5, a significant level of competition in the product market variable indicates a positive relationship between this variable and profitability variable. Also, profitability variable has a significant and negative correlation with the cost of equity. Due to the variable of competition in the product market coefficient is significant in the first to the third stage. Also, coefficient of profitability variable is significant in the third stage. The profitability variable does not play a mediating role in the relationship between product market competition and the cost of equity. The results related to the control variable indicate a significant and positive relationship between the firm size and profitability of the company as well as a significant and negative correlation between size and cost.

Discussion and Conclusion

Administrative and financial cost of equity is considered as an important factor influencing the decision and accordingly this criterion is of particular importance. On the other hand, due to the contrast agents and the information asymmetry between managers and investors in terms of the demand difference between the reporting (investors) the information disclosure is affected by the economic and political and institutional factors. In this context and based on the competitive structure of the market in determining the characteristics of companies and their cost of equity, the present research focuses on the empirical study of the characteristics of companies on the relationship between product market competition and the cost of common stock of companies listed in Tehran Stock Exchange. The results of the statistical data analysis of 81 companies listed in Tehran Stock Exchange in the period from 2005 to 2012 indicated a significant and positive relationship between capital structure and profitability of companies with their product market competition and a negative and significant relationship between the quality of information disclosure and competition in the product market. Also, the results showed that there is a significant and positive relationship between product market competition and the cost of equity. It means that with increase of competition in the product market companies reduce their cost of equity. Finally, the hypothesis testing results showed that the capital structure and profitability variables do not play a mediating role in the relationship between product market competition and the cost of equity. However, the hypothesis testing results showed that the variable quality of disclosure does not play a full mediating role in the relationship between product market competition and the cost of equity, but this variable plays a minor mediating role in the relationship between product market competition and the cost of equity. This means that variable product market competition can be normal despite a direct impact on the cost of capital, through influencing variables can affect the quality of information disclosure on the cost of equity. Therefore, the variable quality of information disclosure has a mediating role in the relationship between product market competition and the cost of equity suggests a more accurate and stringent rules on disclosure of information to the companies. The increasing effectiveness of competition in the product market leads companies to reduce their cost of equity and thereby they provide the economic growth. Also, based on the study of Shin

(2013) the capacity and price competition have different effects from two perspectives. It is suggested that the role of firm characteristics on the relationship between product market competition and the cost of equity to be investigated in future researches.

References

- Atiase, R.K. & L.S. Bamber (1994). Trading volume reactions to annual accounting earnings announcements: The incremental role of pre-disclosure information asymmetry, *Journal of Accounting and Economics*, 17, 3, 309–329.
- Baron, R.M. & D.A. Kenny (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations, *Journal of personality and social psychology*, 51, 1173-1182.
- Beiner, S., Schmid, M., & G. Wanzenried (2008). Product Market Competition, Managerial Incentives, and Firm Valuation, working paper, Lucerne University of Applied Sciences.
- Botosan, C.A. (1997). Disclosure level and the cost of equity capital, *The Accounting Review*, 72, 3, 323-349.
- Cairney, T.D. (2003). Institutional investors and trading volume reactions to management forecasts of annual earnings. *Review of Accounting & Finance*, 2, 3, 91-112.
- Chen, S., Wang, K., & X. Li (2012). Product market competition, ultimate controlling structure and related party transactions, *China Journal of Accounting Research*, 5, 293-306.
- Cheng, P., Man, P., & C.H. Yi (2013). The impact of product market competition on earnings quality, *Accounting and Finance*, 53, 137–162.
- Espinosa, M., & M. Trombetta (2007). Disclosure interactions and the cost of equity capital: Evidence from the Spanish continuous market, *Journal of Business Finance & Accounting*, 34, 10, 1992-2013.
- Fama, E.F. (1980). Agency Problems and the Theory of the Firm, *Journal of Political Economy*, 88, 288-307.
- Fieldman, D. C. (2004). The devil is in the details: converting good research in to publishable articles, *Journal of Management*, 30, 1-6.
- Ghorbani, S., Movahed, M., Monfared Maharloei, M., & Monfared Maharloei, M. (2013). Competition in the product market, the Board and the quality of disclosure: Evidence from Tehran Stock Exchange, *Journal of Accounting and Auditing*, 19, 1-23.
- Ghsffarlou, A. (2012). The relationship between structures and financing structures with competitive products and conditional conservatism in financial reporting, Master's thesis, Matyr Bahonar University of Kerman.
- Gordon, M. (1962). The investment, financing, and valuation of the corporation, *The Journal of Business*, 35, 4, 436-438.
- Grullon, G. & Michaely, R. (2007). Corporate payout policy and product market competition." Available at SSRN: <http://ssrn.com/abstract=972221>, Available Online at March 20, 2006.
- Guney, Y., Li, L. & Fairchild, R. (2011). The Relationship between Product Market Competition and Capital Structure in Chinese Listed Firms, *International Review of Financial Analysis*, 20, 41-51.
- Haushalter, D., Klasa, S. & Maxwell, W.F. (2006). The Influence of Product Market Dynamics on a Firm's Cash Holdings and Hedging Behavior, *Journal of Financial Economics*, 84, 797-825.
- Judd, C.M., & Kenny, D.A. (1981). Process analysis: Estimating mediation in treatment evaluations, *Evaluation Review*, 5, 602–619.

- Khajavi, Sh., Mohseni Fard, Gh. A., Rezaei, Gh.R., & Hosseini Rad, S.D. (2013). The effects of product market competition on earnings management companies listed in Tehran Stock Exchange, *Asset Management and Financing*, 1(3), 117-132.
- Kim, O. & Verrecchia, R.E. (1991). Trading volume and price reactions to public announcements, *Journal of Accounting Research*, 29, 302–321.
- Markarian, G., & Santaló, J. (2010). Product Market Competition, Information and Earnings Management, 1-50.
- Namazi, M., & Ebrahimi, Sh. (2012). The relationship between product market competition structure and stock returns, *Journal of Empirical Research in Financial Accounting*, 2, 1, 9-27.
- Noraveh, I., & Hosseini, S.A. (2009). The relationship between disclosure quality (reliability and timeliness) and earnings management, *Survey of Accounting*, 16, 55, 117-134.
- Pandey, I.M. (2004). Capital Structure, Profitability and Market Structure: Evidence from Malaysia, *Asia Pacific Journal of Economics and Business*, 78-91.
- Securities and Exchange Organization (2007). Information disclosure and good quality, Tehran Stock Exchange website.
- Setayesh, M. H., & Kargarfard Jahromi, M. (2011). The effect of product market competition on the capital structure, *Journal of Empirical Research-financial con*, 1, 9-31.
- Setayesh, M.H., Kazemnejad, M. & Zolfaghari, M. (2011). The effect of disclosure on liquidity and capital cost companies listed in Tehran Stock Exchange, *Financial Accounting Research Journal*, 3, 55-74.
- Shin, Y. (2013). Voluntary Disclosure and the Type of Product Market Competition: Capacity vs. Price, *Journal of Modern Accounting and Auditing*, 9, 4, 505-526.
- Teng, M., & Li, C. (2011). Product market competition, board structure and disclosure quality, *Frontiers of Business Research in China*, 5, 2, 291-316.
- Teymuri Jami, Y., Shahchera, M., & Hassanzadeh, A. (2014). The effect of company performance on the relationship between product market competition and corporate governance rating system, *Journal of Economic Development*, 13, 25-48.
- Utama, S., & Cready, W.M. (1997). Institutional ownership, differential pre-disclosure precision and trading volume at announcement dates, *Journal of Accounting and Economics*, 24, 2, 129–150.
- Weston, J., & Brigham, F. (1975). *Managerial Finance*, Fifth Edition London: The Dryden Press Publisher.
- Yaghoub Nejad, A., & Zabihi, A. (2011). The relationship between disclosure quality and liquidity of the shares of companies listed in Tehran Stock Exchange, *Knowledge of financial analysis, securities*, 10, 217-235.