Sindhological Studies, ISSN: 1032-6759, 2017 (4): 225-236

The effect of market risk on the cost of equity based on Fama and French three-factor models

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Abstract: This study seeks to examine the impact of market risks on the cost of equity of companies listed on Tehran Stock Exchange. One of the most important things that can play an important role in shaping expectations of the company's competitive position. So that companies that have the higher the better competitive position, providers of risk tolerance lower due to lower yields would be expected that it can reduce its cost of capital and to increase the value of the company. Generally, the use of a sample of companies between the years of 1385 to 1393 indicates that the stock exchange has been concluded That with increasing competition in the market has seen a decrease in cost of equity and the cost of equity capital in companies with more intense competitive situation, have been significantly less. The results of further analysis on the situation of the cost of capital in companies with a competitive situation is different in commodity markets show that companies with fierce market competition produce the lowest cost of capital among the firms in the sample, that is, while the the cost of capital in companies with weak competitive position in the market was significantly higher than other groups. The results on the impact of other variables of the study on the cost of equity show that firm size is positive and meaningful impact on cost of equity capital and of property, plant and equipment to total assets and negative impact significant on The cost of capital is common stock.
Keywords: cost of equity, the product market competition.

INTRODUCTION

During the past two decades, dramatic changes the world through advances in technology, the globalization of markets and political economy can be seen visibility conditions. Today, companies must be of the species by reducing costs and offering products with reasonable price and Customers, increase competitiveness And profitability to enable (Shakeri method, 2008). The role of the principle of determining the success of the business to be competitive. Be competitive, to measure perception with the help of market competition and the Younger sales performance compared to other competitors. Each company must act in such a way as to reduce costs and offer products at reasonable prices, and quality to customers, increase their competitiveness and market pulse is in his hands. If the organization to help their competence, create sustainable competitive advantage and superior to competitors has in fact been able to prove its high competitiveness. Company resources include a variety of Assets and capabilities, organizational processes, Information, Knowledge and ... Is And to help these resources to develop competitive advantages. The main objective of the organization is to create competitive advantage by relying on the resources and capabilities that are at its disposal. The key to be competitive, sustainable competitive advantage based on understanding of customer needs and customer focus and improve processes from the perspective of the customer. Sustainable competitive advantage for customers is valuable, easily imitated and copied by competitors not to the good performance and competitiveness brought. In fact, one of the things that the industrial revolution and the formation of large companies has always been considered and tried numerous companies in this regard result, the state of competition in the market, the fluidity and variability in commodity markets in simple terms and conditions and the risks participate in the market is compared to competing companies. Many companies have tried to improve the quality of their products and services on the market, and competitive conditions maintain their own in terms of market risks and threats are in a good situation. Putting the company in a competitive and low risk in commodity markets, primarily involves identifying the strengths and weaknesses of the company and the products and gain a solid understanding of competitors and the products manufactured by them to the next step efforts on ending points weaknesses and strengths to be (plot , 2014).

On the other hand one of the most important cases dioxide that companies are always faced with the current situation and future companies will affect the funding needed to carry out the investment in addressing vulnerabilities and strengthen strengths and generally maintain and improve the current situation and capital

requirements are for working capital. Due to the various methods of financing such as financial markets, borrowing from the banking system, issuing bonds as well as equity, choose the appropriate method of financing will depend on many factors. But one of the important factors that are considered in all methods of financing, the cost is briefly called cost of capital. In other words, each company has its own risk and return. Each of the investment group, For example, holders of bonds, Preferred stock and common stock, the rate of return for the amount that is appropriate to the risks associated with it. Meanwhile, the cost of capital is the minimum rate of return of the acquired company must be provided to the returns to investors in the company. In this regard, the co-financing plays a major role in the cost of capital. In fact, one of the important factors that are considered in all methods of financing, the cost of them. The cost of each resource to the expected returns that it expects its suppliers depend on the position of the company is formed. In the meantime one of the most important things that can play an important role in shaping expectations of the company's competitive position. So that companies that have the higher the better competitive position, providers of risk tolerance lower due to lower yields would be expected that it can reduce its cost of capital and to increase the value of the company. Hemi The reason for conducting empirical studies that claim to prove necessary welcomes Therefore, this study examines the impact of the risks of market (competitive) the cost of equity of companies listed on the Stock Exchange of Tehran.

An overview of theoretical literature of research

In order to properly understand each topic, it is necessary to first define its concept. Obviously, to the extent that the definition presented is more comprehensive and efficient, a better understanding of the subject is obtained. In this regard, some of the definitions offered by experts in relation to the competitive advantage provided as follows: "competitive advantage from the increasing attractiveness of the company compared to competitors in terms of customer proposals". A competitive advantage is the distinction between the characteristics or dimensions of any company that enables it to provide better services than its competitors (better value) to its customers. Company delivers competitive advantage to customers in a way that values are the values of higher customer costs (Porter, 1990). Given the above definitions and other definitions of competitive advantage, the direct relationship between the customer's desired values, the company's values and the values provided by competitors of the company determine the requirements and dimensions of competitive advantage. If from the customer's point of view the comparison of the company's values with the values supplied by competitors is more consistent with and more closely related to its values and disciplines, it can be said that the company has a competitive advantage in one or more of its competitors This advantage will make the company more competitive than its rivals in the vicinity of the customer and conquer the heart. Michael Porter (1973) in their study of risk factors that are known in the market in the form of five general factors identified by other factors as it can be What is Yzy That A Company You should Done Give until the Power Competitive Xu of the Take Keep up Facade of the and a tool that can help with the appeal in an industry that is analyzed.

The entry of new competitors

Important in this regard is that the entry of new companies into the industry and start a competition with rival companies is simple or difficult. In any case, entry of new competitors, policies need to be competitive. This may even reduce corporate profits.

Reducing the purchasing power of buyers

Position And power buyers in the order they are effective. The buyer will be higher, the bargaining power of more and as a result, the company reduced profit margins.

Weakness suppliers

Opportunity and potential power suppliers and power monopoly causes them to increase their prices, profitability of consumer products to greatly affect.

Competition between existing companies

Competitive players in the industry, play a decisive role in the need to invest in marketing or R & D or even deflation creates.

There are alternative products

Are products or services that can easily be replaced by products or services, can limit the pricing of products or services.

Total the power These Five The goal of the Competitive Hair d. Ability to Corporate A Industry To To Hand to bring The stigma of these Profit The result From Hgzar capital of Is. There are several reasons why the risks of product markets may affect stock returns. Companies adopt different operating decisions. For example, the marketing research Initial doing, the product of an attractive offer, on the production and sale decisions, to promote their products are financed, then began to produce and finally sell products to consumers. Risks in product markets will affect almost on corporate behavior in all stages. Company product market policies, profit, free cash flow and valuation investors will also affect the cash flows (Layndrz, 2011). The theory of industrial organization indicates that market risk based on the following hypothesis is indivisible:

A) Creative Innovation Hypothesis: This hypothesis is related to the risk of innovation. According to this hypothesis innovation in small companies stand Kvjvd industry finally happens and the small challenges the status quo and change to a new technology paradigm leads (Hou and Robinson , 2006). Hence, innovation is a kind of innovative risk that is more likely to occur in the competitive industries or industries.

B) Barriers to entry: This hypothesis is related to the risk of helplessness. According to this hypothesis, if the difference in the number of competitors in the same industry or in the process of pricing the risk characteristics of the Company to be changed, barriers to entry to the industry it affects the expected return. For example, barriers to entry may affect the company's response to aggregate demand shocks. Companies in the industry with strong barriers to entry may increase prices or increase production to positive demand shocks without fear for their entry respond. This increases the expected future profitability of financial Vose 'They are better (Ho & Robinson, 2006).

An overview of the research background

Foreign research

Yan and Yang (2011) the effect of increasing the volume Disclosure On decrease cost Capital paid. The cost of capital is defined as the rate of return based on the price Current Equals With Value Current Currents Cash Be discounted. The results indicate that it is important that Afshayyat increased by increasing the accuracy of information leads To decrease Is the cost of capital. Lame Linsees And Moffett (2012) One From hypothesis Yourself To review effect Quality Auditing On Cash Illness take stock And Cost of capital take stock Normal they paid. From Opinion They Auditing Good That From The way the fame auditor Measured Is, Leads To Decrease the lack of Certainty Capital The owners And less Become Risk awareness They (2013) on risk takeover product on the market value of cash holdings in companies measured. Their results show that the final value stored cash for the company at risk of takeover Balatrbh significant amount increases and the impact of financial constraints and opportunities for companies with higher investment further. Barth et al (2013) The relationship between earnings transparency and studied the cost of capital. The results showed that greater transparency will lead to profit Kahshdm information asymmetry returns expected by investors and therefore the cost of capital. Lymvr (2014), the effect of the competitive structure of the market value of cash holdings by companies pay. His study shows that by increasing product market competition, stored value increased cash and investments worth substantial cash resources companies are increasing product market competition. Android et al (2014) investigate the impact of information transparency of law Sarbynz excel over the cost of corporate debt paid, the results of this study showed that the lack of transparency of the Company and the cost of its debt after implementation of the law is to significantly reduce the Found. Platt (2014) study to examine the effect of market risk on capital cost companies listed on the stock exchange's America. The results suggest that the risks of market or competitive products direct impact on the rate of financing by debt that it can have a major impact on the rate of cost of capital. The results of this study revealed that the problem is that companies with a different level of competition we are seeing different rates of capital cost.

Internal investigation

Ansari (2013) the effectiveness of the capital cost of operating leverage and financial leverage Effectiveness of the capital cost of operating leverage and financial leverage to pay. The results of this study showed that in Tehran Stock Exchange, the relationship between cost of capital with operational leverage and financial leverage varies from industry to industry. In other words, the relationship between the cost of capital and operating leverage and the financial leverage in the positive industrial sector are positive and significant in another industry, negative in the other industry, and in the other industry negative and significant, and the conclusion of the whole industry as a set, the correct results Does not give up. Also, the results of this research showed that the relationship between cost of capital and capital structure (debt and equity) is a negative linear relationship with the

(optimal point); in such a way that the cost of capital decreases with increasing debt, and After passing the optimal point (due to excessive use of debt and the probability of facing bankruptcy risk), the relationship between cost of capital and capital structure is a positive linear relationship. Of course, the degree of solidarity varies from company to company. Namazi and Gholami (2013) investigated the effect of product market competition on dividend policy. Their results showed that the index of product market competition and a significant inverse relationship with the Company's dividend policy. The results are consistent with the hypothesis of succession and contrasts with the outcome and hunting. Sajadi (2014) study the impact of financial distress on policy and market share of working capital in competitive markets. The results showed a significant influence on the policies of the financial distress of working capital, but the stock market is a significant negative relationship with working capital requirements. In other words, companies that have market share to aggressive policy of working capital in the fall. In addition, the results of the study indicate that the competitive environment in the product market has no effect on the relationship of financial distress and market share with the working capital policy. Soghrzadeh (2014) investigated the relationship between product market competition and corporate governance. The results show that the structure of corporate governance in competitive industries (industries with low market power) are weaker. Fakhari (2015) in a study to investigate the effect of product market competition on the market valuation of the Company's cash holdings. The results of the analysis of the data shows an increase in the intensity of competition in the product market have a positive impact on the capital market valuation of the Company's cash holdings. Also, the results of examining the impact of competition in the product market by industry on the value of cash holdings show that in five industries, the competitive nature of the product market influences on the added value generated by cash holdings. These findings indicate a moderating effect on the relationship between product market competition and the return of excess cash holdings of stocks. Yousefi (2015) evaluated the proposed financial reporting transparency model based on the cost of ordinary equity capital. The results show that the proposed financial reporting model of transparency compared with a score of disclosure of the Stock Exchange and the meaningful negative relationship with subsequent excess returns and the cost of capital is expected.

DATA COLLECTION

In this research, in order to formulate theoretical foundations, Library method used, and in order to collect financial data field method used and from various sources, including CDs of Tehran Stock Exchange, software management of ATMs, RAHAVARD new site notice The stock exchange and the stock exchange have been used. To categorize, summarize and create Excel and database software to test the hypotheses of software Spss Eviews version 19 and version 9 is used.

Community sample

The population in this study includes companies listed in the Tehran Stock Exchange. Easy access to information, as well as standardization and homogeneity of the information they chose these companies as the study population. By indicating the following limitations adjusted for population and that, Sample Specified Is. Sample Selective This Research Includes companies Is that has Conditions Under And in fact the companies surveyed in this study were selected using systematic elimination:

1) All property of the Company for the period of the study, the years 2006 to 2014 are available.
2) the financial year which ended in March.
3) companies that are listed on the Stock Exchange up to date 01.01.2006 (ie before 2006 are listed on the stock exchange) and the name of the company in the period under review of the companies listed on the Stock Exchange Tehran has not been deleted.
4) did not change the course during the period under review.
5) the exclusion of financial institutions, banks, investment companies, etc. Due to the specific nature of their activities.
6) There are at least 10 active companies in the industry (in order to calculate the competition index in the product market).

After the restriction of 138 Company for the period 2006 to 2014 was the above conditions and according to the Amrnmvnh were not performed and all companies were selected for the study. It should be noted that according to the calculation variables such as risk (volatility) cash flows, which is used to calculate the data a few years ago is required at the time of sampling 1383 and 1384 as well as the investigation period were considered although the period from 2006 to 2014 is the ultimate research.

Research hypothesis

Considering the fundamentals and background of the proposed hypotheses expands as follows:

The first hypothesis

The risk that the market using product market competition level has been measured and no significant negative impact on the cost of equity is (increased levels of competition reduces the cost of equity).

The second hypothesis

The difference between the cost of equity capital in the industry with fierce competition in the market now with weak to moderate competition there.

Variables

Dependent variable.

In this study follows the Fama and French model used to estimate the cost of equity (Kordestani, 2010)

$$ECC_{i,t} = R_{f,t} + \beta_1\overline{(R_m - R_f)}_t + \beta_2\overline{SMB}_t + \beta_3\overline{HML}_t$$

where in:

$ECC_{i,t}$:The cost of equity capital Addy (expected return on shares) company i in year t

$R_{f,t}$: Risk-free rate of return that is equal to the rate of return on bonds Central Bank

$\overline{(R_m - R_f)}_t$: Market risk premium of t that the monthly average of this variable will be.

$\overline{SMB}_t$: Average monthly variable SMB how to calculate it are listed below.

$\overline{HML}_t$: Average monthly variable HML That is how to calculate it are listed below.

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_1(R_{m,t} - R_{f,t})_t + \beta_2 SMB_{it} + \beta_3 HML_{i,t} + \varepsilon_{i,t}$$

To calculate the cost of equity using the above model, we must first coefficients ( ) using the Fama and French model and is estimated as follows:

Fama and French model as described above in the end Any Year, all companies based on the size of the rank of the cause And The middle part to the division 's share of To Two categories Use It is the Group One Contains The share of those is that the market they are less From The middle Is And Group II , which Contains Shares of the market value of larger From The middle Is. To Following that, all companies that At In one From Two groups Top Put Has been every year On The basis of the book value To The market value out of the be And Then to Tuesday classes are . The split of 30% of the shares in baskets with a high proportion (High), 30% is Baskets with low (Low) book value to market value divided by the 40% median (Median) to a basket with a ratio of book value to the market value is determined to be. Allocates be. As a result of combining the two divided 6 Cart products obtained which are listed below:

- S / L, S / M, S / H : This basket includes shares that are small in size and the ratio of book value to market value of large, medium and small are.
- B / L, B / M, B / H : This basket includes shares that are large in size and the ratio of book value to market value of large, medium and small are.

Because the stock on the basis of size into two categories based on the ratio of market value to book value divided into three categories : Category I make is because research Fama and French showed that the ratio of book value to market value, has a strong role more justified Q returns Ham compared to the size of the share. The definition of each variable with respect to the above are as follows:

$R_{i,t} - R_{f,t}$ The difference between the monthly returns of the company i per month t And monthly risk-free rate of return

$R_{m,t} - R_{f,t}$ The difference between market returns and risk-free interest rate per month (of the market)

$SMB_{i,t}$: The difference between the return on a portfolio composed of stocks of companies large portfolio composed of stocks of companies of small (diameter).

$$SMB = \frac{(S/_L + S/_M + S/_H)}{3} - \frac{(B/_L + B/_M + B/_H)}{3}$$

That define each of them before more are listed.

$HML_{i,t}$: The difference between the return on a portfolio composed of shares of the company capital high investment and low (proportion of book value to market value). This variable is located in Nfavt average returns with high value and low ratio is calculated using the following equation is:

$$HML = \frac{(S/_H + B/_H)}{2} - \frac{(S/_L + B/_L)}{2}$$

Independent variable

The independent variable in the company's product market competition , for the size of the variable modified index (HHI) as the used to be (Platt, 2014)

$$HHI = -\sum_{i=1}^{N_i} (Sales_{i,j} / \sum_{i=1}^{N_j} Sales_{i,j)}^{2}$$

In this model:

: Represents the amount of sales of company i in industry j can be.

To obtain a good indicator of the company's product market competition, the industry must be at least 10 activities. The index (HHI) is greater, will be more competition in the industry.

METHODOLOGY

In this study, descriptive statistics variables investigated and will be analyzed by using the Pearson or Spearman (according to the test result is normal variable) relationship between product market competition and the cost of equity capital reviews will be. For a detailed review of hypotheses and test the effect of competition in the market the company's cost of equity capital model of multiple regression used to be (plot 16 , 2014).

$$ECC_{it} = \propto + \beta_1 HHI_{it-1} + \beta_2 Size_{it-1} + \beta_3 Leverage_{it-1} + \beta_4 MTB_{it-1} + \beta_5 Tang_{it-1} + \beta_6 Profit_{it-1} + \beta_7 Turnover_{it-1} + \beta_8 Z\_score_{it-1} + \varepsilon_{it}$$

In the model above:

HHI_{it} : The variable that represents the market risks can be measured using the index level of product market competition is, the larger value indicates a higher level of competition.

$Size_{it}$: Variable controls the size of company that uses the natural logarithm of total assets of the Company as of the lead.

$Leverage_{it}$: Debt ratio of short-term and long-term interest-bearing (loans and bonds issued) to total assets of

MTB_{it} : The ratio of market value (total debt plus market value of equity) to its carrying value

$Tang_{it}$: Proportion of property, plant and equipment to total assets of

$Profit_{it}$: Is the ratio of operating profit to total assets of

$Turnover_{it}$: This variable is the turnover ratio of the volume of shares traded shares of companies that use company shares issued in relation to the size of the lead.

Z_score_{it} : The variable that represents the company's bankruptcy risk by using the following equation as making it:

$$Z\_score_{it} = 1.2\left(\frac{current\ assets - current\ liability}{Assets}\right) + 1.4\left(\frac{Ret\ Earning}{Assets}\right) + 3.3\left(\frac{PreTAX\ Income}{Assets}\right) + 0.6\left(\frac{Market\ Capitalization}{Debts}\right) + 0.9\left(\frac{Sales}{Assets}\right)$$

According to the sign and significance level obtained for the variable HHI to support or refute the first hypothesis comment them. To test the second hypothesis thus act that a company in the sample based on market competitiveness of their products (HHI) based on percentiles them into three groups: companies with weak competition, companies have to compete average and present intense competition in the industry share of the take. Then, using analysis of variance is a way to check the status of cost of equity of each of these different'll pay to determine whether a significant difference between the cost of equity (in terms of product market competition).

RESULTS

Descriptive statistics

Descriptive statistics present study are as follows:

Table 1: Results of descriptive statistics of the research

Statistics

	N Valid	Mean	Median	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
ECC	1242	.2255	.2134	.07859	2.433	14.213	.01	1.00
HHI	1242	-.1564	-.1613	.08856	-.337	-.985	-.41	-.03
Size	1242	5.9115	5.8630	.62287	.678	1.253	4.27	8.26
Lev	1242	.2803	.2487	.21193	2.511	16.829	.00	2.38
MTB	1242	1.4460	1.2482	.66482	2.541	10.644	.49	6.53
TANG	1242	.2587	.2146	.18622	1.033	.700	.00	.89
Profit	1242	.1485	.1274	.12468	.752	1.573	-.32	.68
Turnover	1242	.2085	.0768	.34442	3.500	16.579	.00	3.28
Z_Score	1242	1.5428	1.4847	1.13071	-.122	6.942	-6.39	10.19

As can be seen from the above table, the average variable cost of equity (ECC), which represents the expected return on ordinary shareholders, is of 2255/0. This result suggests that the common shareholders for the resources invested in companies, for example, yields about 23% of demand have been indicating that a significant percentage. Coefficient of skewness (433/2) show that variables are likely to have a normal distribution. The average index variable product market competition (HHI), which represents the Company's market risk is equal to 1564 / -0 is due to the fact that the result is greater than the algebraic terms, represents the intense competition in the market is, we can say that the situation in the competitiveness of companies in the sample had a substantial and have significant competition. The average financial leverage variable (Lev), which represents the amount of interest-bearing liabilities in the financial structure of the company, equal to 2803/0. This result means that about 28 percent of sample firms by facilitating financing Short-term and long-term financing is financed.

Analysis of research models

To test the hypothesis, first regression model to investigate the effect of product market competition on cost of equity has been paid and for further investigation on the situation of the cost of equity capital in companies with the competition, weak, moderate and severe test. one-way analysis of variance was used. the results are as the following:

The results of the research model (first hypothesis)

In this study we investigate the first hypothesis we are investigating. Preliminary studies carried out on the model shows, that due to the higher than normal amount of Watson camera statistic, assuming no correlation remains as one of the basic assumptions of the model has not been confirmed. To correct for this action to interrupt In the research model and using the software Eviews And applying the approach we have panel data (due to the fact that autocorrelation software fixes are significantly higher than other computer software). In this section we have tried to approach using data panel to review the relationship and the effect of product market competition on cost of equity capital is valuable considerations paid in the sample. To test the effect of independent variables on the cost of equity capital using a regression model based on combined data, First of all the tests. F (Chow) and Hausman test was conducted to determine the appropriate model for model, the results of this test are as follows tables.

Table 2: F and Hausman test results

Redundant Fixed Effects Tests

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.678779	(137,957)	0.0000
Cross-section Chi-square	566.020957	137	0.0000

Correlated Random Effects - Hausman Test
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	74.101198	8	0.0000

Table 3: results of the first model, coefficients researchers,

Dependent Variable: ECC
Method: Panel Least Squares
Sample (adjusted): 1386 1393
Periods included: 8
Cross-sections included: 138
Total panel (balanced) observations: 1104
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.	VIF
C	-0.472597	0.048453	-9.753725	0.0000	-
HHI	-0.285811	0.062293	-4.588175	0.0000	1.259368
LEV	0.030742	0.018723	1.641988	0.1009	2.496176
MTB	0.017600	0.011268	1.561913	0.1186	1.719645
PROFIT	-0.032166	0.031934	-1.007248	0.3141	2.590965
SIZE	0.107046	0.008017	13.35269	0.0000	1.107904
TANG	-0.045154	0.016449	-2.745110	0.0062	1.089177
TURNOVER	0.029799	0.005692	5.235591	0.0000	1.044200
Z_SCORE	0.008187	0.003935	2.080677	0.0377	3.350440
AR(1)	-0.506081	0.035547	-14.23692	0.0000	-

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.439878	Mean dependent var	0.227233
Adjusted R-squared	0.354425	S.D. dependent var	0.079959
S.E. of regression	0.064245	Akaike info criterion	-2.528802
Sum squared resid	3.949987	Schwarz criterion	-1.862149
Log likelihood	1542.898	Hannan-Quinn criter.	-2.276647
F-statistic	5.147640	Durbin-Watson stat	2.108981
Prob(F-statistic)	0.000000		

Inverted AR Roots -.51

The test results F (Chow test) in the above table shows that the value of the test statistic and its significance level equal to 6787/4 000/0, and this means that the pattern model with fixed effects. This result, in addition to determining the model shows that the type of company (as a point) the cost of equity capital (as

dependent variable) is effective. The results in the table above Hausman test as conducted to evaluate the randomness of the fixed effects shows that the Chi-square test (Chi-Sq) Of 1011/74 and its significance level 0/000, and given that this amount is less than 5%, so a random and fixed effect model was rejected and fixed effects models, random and fixed effect non-random It will be accepted as a preferred model. So the research model using fixed effects model was non-randomized analysis of the results is as follows:

The results of the above table shows that:

An amount equal to the 1476/5 model F statistic and its significance level of 0.000. This result represents a significant model, and this shows that there is a significant relationship between the variables and the model is significant . According to the results of the above table model coefficient of determination equal to 4398/0, and this means that about 44% of the variability is explained by the independent variables. The Durbin-Watson statistic of 1089/2. This amount represents their lack of correlation is outstanding and thus one of the assumptions is confirmed regression. As can be seen by imposing a one-year hiatus in research variables (AR (1)) the absence of residual autocorrelation was in normal condition (values between 5/1 to 5/2, indicating his lack of solidarity).

The results of the factor variables shows that:

He t-statistic and significance level (Prob) variable rate product market competition (HHI) as a measure of market risk, respectively 5881/4 and 0000/0, and this means that the null hypothesis above (based on the variable rate equal to zero) at 95% rejected and effectiveness of product market competition as the dependent variable (cost of equity capital), the mass is significant. T statistic value of this variable is negative and significant level, to denote a negative impact And meaningful It is the dependent variable. The result shows that by increasing the independent variable, which represents an increase in product market competition, the cost of equity capital is reduced and this reduction was statistically significant. This result shows that:

The first hypothesis of research that, the risk of commodity markets (the benchmark level of product market competition) negative and significant effects on the cost of equity capital is (increasing risks in the market to reduce the cost of equity capital is), at 95 % are approved.

Results of the second hypothesis

As the second hypothesis that the difference between the cost of equity capital companies in the industry with fierce competition in the market compared with companies with weak and moderate competition there. To test the second hypothesis, which seeks to evaluate the cost of equity in the industry, the competitive situation is different, the one-way analysis of variance was used. For this purpose, sample firms each year, based on indicators of competition in the market of their products (HHI) based on percentiles 33 and 66 into three groups: companies with fierce competition (Group 1), the company with a competitive average (group 2) and enterprises in industries with weak competition (group 3) and divide that results from the division of the three groups mentioned companies as follows:

Table 4: frequency of sample firms in terms of product market competition in different groups

HHI_Group

		Frequency	Percent	Cumulative Percent
Valid	1	414	33.3	33.3
	2	414	33.3	66.7
	3	414	33.3	100.0
	Total	1242	100.0	

Descriptive statistics of variables in the following table are listed in various categories:

Table 5: Descriptive statistics of product market competition in different groups

ANOVA

ECC

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.106	2	.053	8.711	.000
Within Groups	7.559	1239	.006		
Total	7.665	1241			

In the above table, the average cost of equity (ECC) in three groups (from lowest to highest value product market competition) provides that the average cost of equity in companies in the industry with fierce competition (group 1) equal to 2141/0, the industry average competition (group 2) of 2256/0 and the average cost of equity capital in industries with weak competition (group 3) is equal to 2368/0. As you can see the cost of equity capital in companies with weak competitiveness were highest, and about 24 per cent, while the amount equal to 21% are companies with fierce competition. The result shows that with increasing competition in the market has seen a decrease in cost of equity. To determine the significance of differences in cost of equity between different groups in terms of product market competition, analysis of variance was used to test the results of which are as follows:
Table 6: The results of analysis of variance

The analysis of variance as the table above, if the significance level (Sig) between groups (in the last column) is less than 5% (assuming the same average between the groups has been rejected, which represents the difference between average cost equity in at least two groups are). F-statistic values obtained from tests of 711/8 and its significance level of 0.000, and considering that the significance level (Sig) analysis of variance of the variable cost of equity among various groups smaller of 5%, assuming H_0 above (equality Posts groups) have been rejected and that means significant difference between the average cost of equity in different groups (in terms of the level of product market competition) at 95% There is. The result suggests that the difference in the cost of equity capital raised in the previous section, is significant at 95% confidence level and there have been significant differences in this regard. Then we tried to further analysis to compare the average cost of equity for the group to which the results are as follows:

Table 7: The comparison between the two groups in the average cost of equity

Multiple Comparisons

Dependent Variable:ECC

	(I) HHI	(J) HHI	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	1	2	-.01145	.00543	.088	-.0242	.0013
		3	-.02266*	.00543	.000	-.0354	-.0099
	2	1	.01145	.00543	.088	-.0013	.0242
		3	-.01121	.00543	.098	-.0239	.0015
	3	1	.02266*	.00543	.000	.0099	.0354
		2	.01121	.00543	.098	-.0015	.0239
LSD	1	2	-.01145*	.00543	.035	-.0221	-.0008
		3	-.02266*	.00543	.000	-.0333	-.0120
	2	1	.01145*	.00543	.035	.0008	.0221
		3	-.01121*	.00543	.039	-.0219	-.0006
	3	1	.02266*	.00543	.000	.0120	.0333
		2	.01121*	.00543	.039	.0006	.0219

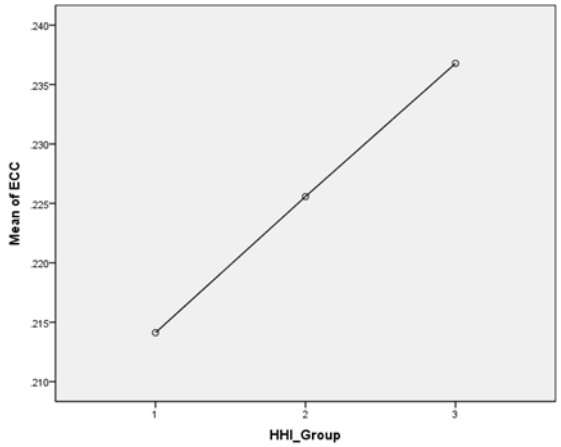
*. The mean difference is significant at the 0.05 level.

The results of the second part of the table shows that the difference between the cost of equity capital in companies with fierce competition (group 1) and companies with average competition (Group 2) at 0114 / -0 and its significance level equal to 035 / 0. this result means that the cost of equity capital in companies with less intense competition from companies with moderate competition and this difference was statistically significant. The difference in cost of equity in companies with strong competition (group 1) and companies with weak competition (Group 3) of 0226 / -0 and its significance level of 0.000, which also shows the amount of the cost of equity capital about 2% less than normal in companies with weak competition from companies with weak competition, and this difference was statistically significant. The results show that the difference in the cost of equity capital in companies with average competition (Group 2) and companies with weak competition (Group 3) of 0112 / -0 and its

significance level that reflects the differences 039/0 between cost of equity of the group at 95 percent. The results in this section show the lowest total cost of equity by companies in the fierce competition, companies compete with companies with medium and weak competition existed. The result shows that the difference in the level of product market competition influence on the cost of equity capital has been exemplary. The result shows that:

The second hypothesis that the difference between the cost of equity capital companies in the industry with fierce competition in the market compared with companies with weak competition and the medium, at a confidence level of 95% is confirmed.

The results from the difference between cost of equity among various groups can be clearly seen in the following graph:



In the above chart we can see that the lowest cost of equity (ECC) in Group A (companies with strong competition) is seen, after the first group of companies in the group two (companies with a competitive average) ranked lowest the cost of equity and the companies with weak competition (group 3) have the highest cost of capital. In total, according to the above graph we can see that by reducing the level of product market competition, on the cost of equity has been added.

CONCLUSION

In this Research tried to assess the impact of market risks, in the form of competitive products, the cost of equity of companies listed on Tehran Stock Exchange To be paid. The results obtained from the use of statistical methods show That the industrial product market competition in which the company operates, and a significant negative impact on the cost of equity companies have been investigated. The results indicate that with increasing competition in the market has seen a decrease in cost of equity and the cost of equity capital in companies with more intense competitive situation, have been significantly less. In sum, the results indicate an increase Level Hazards Market, cause Decrease cost Capital take stock Normal Is. The results of further analysis on the situation of the cost of capital in companies with a competitive situation is different in commodity markets show that companies with fierce market competition produce the lowest cost of capital among the firms in the sample, that is, while the the cost of capital in companies with weak competitive position in the market was significantly higher than other groups. Overall, the results indicate that a significant difference between the cost of equity capital companies in the industry with fierce competition in the market compared with companies with weak and moderate competition existed. The results on the impact of other variables on the cost of equity research suggests that, as a significant and positive impact on the company's cost of equity capital and in larger companies is significantly higher. The results indicate the proportion of property, plant and equipment to total assets was a negative impact and importance of the cost of equity and this means that the cost of equity in the companies that the ratio of tangible fixed assets are higher, Has been significantly less observed. This research is intrinsically related to Plot Research (2014). In this study, researchers examined the impact of market risks, the cost of equity. The results of the model series in the period 2002 to 2007, companies listed on the Stock Exchange America has shown that companies in industries as competition became the de Drmqa the three companies in the industry the prompt as competition and greater average cost of equity. Researcher reason it argues that companies in industries with highly competitive

due to the increased level of business risk investors to invest in such companies for expected rate of return higher that it has a direct impact on The cost of capital is the company.

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