Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

Product Market Competition Dalam Menilai Corporate Risk Taking Dan Efisiensi Investasi

Yuni Maryana[1], Andi Irfan[2]*, Tasriani[3]
[123]*Fakultas Ekonomi dan Ilmu Sosial UIN Sultan Syarif Kasim Riau*
Yuni@gmail.com[1], andi.irfan@uin-suska.ac.id[2],tasriani@gmail.com[3],

Abstract
Corporate decisions are the parent of a company's survival. Corporate decisions are divided into two, namely corporate risk taking and efficiency investment. This study aims to analyze the effect of product market competition on corporate decisions, especially on corporate risk taking and investment efficiency. The main measure of product market competition is based on the level of the Herfindahl Hirschman Index (HHI). In this study the authors used MANOVA analysis to examine the relationship between product market competition (as an independent variable) on corporate risk taking and overinvestment (as the dependent variable) in multivariate and univariate ways. By using observations of manufacturing companies listed on the IDX in 2015-2020, a sample of 71 companies was obtained using a purposive sampling method. Based on the results of the multivariate test analysis that has been carried out in this study, it was found that product market competition has a significant effect on corporate risk taking and overinvestment, while based on the univariate significant test (test of between subjects-effect) product market competition has a significant effect on corporate risk taking while product market competition on overinvestment does not show a significant effect. So it can be concluded that competition acts as a mechanism for disciplining corporate decisions.

Keywords: Product market competition, Corporate risk taking, overinvestment, Herfindahl Hirschman Index, MANOVA.

INTRODUCTION

The manufacturing industry in Indonesia does not always run smoothly, there is often instability in the manufacturing industry which causes the growth of the industrial sector and the economy in Indonesia to decline. This is because the manufacturing industry in Indonesia plays an important role and contributes greatly to the growth of the national industry so that the various obstacles faced in the industry must be controlled optimally so that industrial development continues to grow. Obstacles that are a challenge for companies in Indonesia include weaknesses in the quality of human resources and the results of the manufacturing industry, industrial competition in international markets and the lack of investment and capital. The magnitude of the influence of the manufacturing industry on the national economy does not prevent the manufacturing industry from management problems.

The world economy was also rocked by events when several multinational companies went bankrupt, such as Lehman Brothers and Enron. The CEO of Lehman Brothers, Richard Fuld, carried out risky activities that resulted in bankruptcy for Lehman Brothers.

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

Laksmana and Yang (2015), divided company decisions into two categories, namely corporate risk taking and investment efficiency. If managers act in their own interests in order to get the maximum benefit in the form of money or non-money (power) without regard to the interests of shareholders, then competition sometimes becomes a driving factor for management to make decisions that have a negative impact on the company. Such as investing in a risky project with a negative NPV or may tend to waste company resources and make suboptimal investment decisions.

Competition is a form of corporate governance that is needed as a company monitoring and control mechanism to reduce agency conflicts between managers and shareholders. Better investor protection minimizes taking managers and positive NPV, when investor protection is weak, managers have more opportunities to divert company resources for personal gain and are more likely to be risk averse because investing in risky projects can reduce personal benefits. Consistent with the view (Hart et al; 2007) that product market competition is a market force that alleviates agency problems. Competition also limits management opportunism in reporting operating performance (Balakrishnan and Cohen; 2011).

Bargeron et al (2010), also researched and found that corporate risk taking significantly decreased for US companies after the Sarbanes-Oxley Act of 2002 (SOX). The impact of the case that occurred at the Enron company, SOX established a policy and prohibited companies from carrying out corporate risk taking. When investing in high-risk investments, high-return projects, they can blame bad results more easily than in highly competitive industries, so that product market competition and corporate risk taking are negatively related (Feriozzi; 2011).

Laksmana and Yang (2012), proved that competition encourages managers to invest in risky investments for the company's long-term survival. Although competition shows a high degree of risk taking, firms in highly competitive industries are more likely to avoid suboptimal investment decisions such as overinvestment. Richardson (2006), found that companies with positive free cash flow tend to overinvestment and certain government structures can reduce overinvestment. From the background of the problems above, the main issues in this study are: [1] How does product market competition affect corporate risk taking and overinvestment? [2] How does product market competition affect corporate risk-taking in manufacturing companies listed on the IDX for the 2015 – 2020 period? [3] How does product market competition affect overinvestment in manufacturing companies listed on the IDX for the 2015 - 2020 period.

METHOD

Type of Research, population and sample.

This research is a quantitative type where data collection is in the form of numbers and the research results are analyzed using statistical calculations. The data

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

source used is in the form of secondary data, namely data obtained indirectly but through intermediary media in the form of financial reports of manufacturing companies listed on the Indonesia Stock Exchange for the 2015-2020 period. The data source used is the company's external data source obtained through the following data sources: [1] Company data listed on the Indonesia Stock Exchange obtained fromIndonesia Capital Market Directory, [2] Annual reports and financial reports of sample companies published in www.idx.co.id. The population used in this study were all manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2010-2015. The following is the number of populations observed in this study:

No.	Criteria	Amount	Accumulation
1	Companies listed on the Indonesia Stock Exchange	-	536
2	Raw material management industrial sector	(63)	473
3	Service industry sector	(325)	148
Total population during the study period			**148**

Source: Processed data

Determination of the sample in this study using*purposive sampling* with the criteria for selecting companies that will be sampled in this study, namely: [1] Manufacturing companies that are consistently listed on the Indonesia Stock Exchange and their financial reports have been published on the Indonesia Stock Exchange with the Rupiah exchange rate during the 2010-2015 period. [2] Manufacturing companies that provide complete data according to the needs of the research. Based on the above criteria, the samples in this study were:

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

No.	Criteria	Accumulation
1	Total Population	148
2	Companies that are inconsistently listed on the IDX and whose financial statements are not published on the IDX by not using the Rupiah exchange rate for the 2010-2015 period	(68)
3	Companies that do not provide complete data required by researchers or stated data*outliner*	(9)
The number of samples during the study period		**71**

The following is a list of selected samples:

List of Research Sample Companies

No.	**Code**	**COMPANY NAME**	**No.**	**Code**	**COMPANY NAME**
1	INTP	Indocement Tunggal Perkasa Tbk	37	INDS	Indospring Tbk
2	SMCB	Holcim Indonesia Tbk	38	LPIN	Multi Prima Sejahtera Tbk
3	SMGR	Cement Indonesia Tbk	39	NIPS	Nippres Tbk

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

4	ARNA	Arwana Citra Mulia Tbk	40	PRAS	Prima alloy steel Universal Tbk
5	MLIA	Mulia Industrindo Tbk	41	SMSM	Happy Perfect Tbk
6	THIS	Surya Toto Indonesia Tbk	42	HDTX	Panasia Indo Resources Tbk
7	ALKA	Alaska Industrindo Tbk	43	SSTM	Sunson Textile Manufacturer Tbk
8	ALMI	Alumindo Light Metal Industry Tbk	44	JECC	Jembo Cable Company Tbk
9	CONCRETE	Beton Jaya Manunggal Tbk	45	KBLI	KMI Wire and Cable Tbk
10	GDST	Gunawan Dianjaya Steel Tbk	46	KBLM	Kabelindo Murni Tbk
11	Henna	Indal Aluminium Industry Tbk	47	SCCO	Supreme Cable Manufacturing Tbk
12	JPRS	Jaya Pari Steel Tbk	48	WAX	Voksel Electric Tbk

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

13	LION	Lion Metal Works Tbk	49	ICE	Tiga Pilar Sejahtera Food Tbk
14	LMSH	Lionmesh Prima Tbk	50	I mentioned	Cahaya Kalbar Tbk
15	PICO	Pelangi Indah Canindo Tbk	51	DLTA	Delta Djakarta Tbk
16	BUDI	Budi Starch and Sweetener Tbk	52	INC	Indofood Sukses Makmur Tbk
17	DPNS	Ambassador of the Archipelago	53	BREAD	Nippon Indosari Corporindo Tbk
18	EKAD	Ekadharma Internasional Tbk	54	SKLT	Sekar Laut Tbk
19	PEARL	Intan Wijaya International Tbk	55	STTP	Siantar Top Tbk
20	SRSN	Indo Acitama Tbk	56	ULTJ	Ultrajaya Milk Industry and Trading Tbk
21	CIRCLE	Asiaplast Industries Tbk	57	GGRM	Gudang Garam Tbk
22	BRNA	Berlina Tbk	58	HMSP	Hanjaya Mandala Sampoerna Tbk

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

23	IGAR	Champion Pacific Indonesia Tbk	59	RMBA	Bentoel International Investama Tbk
24	READY	Sekawan Intipratama Tbk	60	DVLA	Darya Varia Laboratoria Tbk
25	YPAS	Yana Prima Hasta Persada Tbk	61	KAEF	Kimia Farma Tbk
26	CPIN	Charoen Pokphand Indonesia Tbk	62	KLBF	Kalbe Farma Tbk
27	JPFA	Japfa Comfeed Indonesia Tbk	63	BRAND	Merck Tbk
28	MAIN	Malindo Feedmill Tbk	64	PYFA	Pyridam Farma Tbk
29	SIPD	Siearad Produce Tbk	65	SCPI	Schering Plow Indonesia Tbk
30	FASW	Fajar Surya Wisesa Tbk	66	TSPC	Tempo Scan Pacific Tbk
31	GRAVE	Paper Basuki Rachmat Indonesia Tbk	67	MRAT	Mustika Ratu Tbk

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

32	SPMA	Suparma Tbk	68	TCID	Mandom Indonesia Tbk
33	Asia	Astra International Tbk	69	UNVR	Unilever Indonesia Tbk
34	AUTO	Astra Auto Part Tbk	70	WAKE UP	Kedaung Indah Can Tbk
35	GJTL	Gajah Tunggal Tbk	71	LMPI	Langgeng Makmur Industry Tbk
36	I have	Indomobil Sukses International Tbk			

Source: Processed Data

a. Variable

Product Market Competition

Measurement proxies for the independent variables (product market competition) in this study refers to the research of Laksanama and Yang (2015), namely by using the Herfindahl Hirschman Index (HHI) proxy. The Herfindhal index is defined as the square of the market share of all companies in the same industry and is formulated:

H = P1^2 + P2^2 + P3^2 + ... +PN^2

Chen et al (2012), HHI is an index that reflects the distribution of market share where the higher the HHI value, the more competitive the industry. If H is greater than 0.18 then it is formulated as one minus the sum of the squared percentage of the company's sales of all sales in the same industry, as follows:

$$HHI = 1 - \sum_{i=1}^{n} si^2$$

Si : The percentage of total sales in an industry or the percentage of market share at the end of a given ranking of sales figures

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

N: The number of companies observed

Corprate Risk Taking

Soedarmono et al; (2013) measure company risk usingstandart deviation based on ROA (SDROA) andstandart deviation based on ROE (SDROE). [1] LONG (Return on Asset) ROA = Net Profit/Total Assets ROE = Net Profit/Equity

ROA = Laba Bersih/Total Aset

Return On Asset is the ratio that shows the results of returns on the total assets used in the company. ROE(Return On Equity)

ROE = Laba Bersih/Ekuitas

[2] Return On Equity namely the ratio between profit after tax to own capital. This ratio uses the relationship between profit after tax and the company's own capital. Next to calculate the Standard Deviation, Agoraki et al. (2009), SDROA and SDROE at time t were calculated based on observations of ROA and ROE, from time t to t - 2 respectively (over a three-year period). The ROA and ROE standard deviation formulas are:

$$S = \sqrt{\frac{\sum y2 - \frac{(\sum y)^2}{n}}{n-1}}$$

y = LENGTH/ROE

n = year period

Investment Efficiency

The company's investment efficiency is measured by the investment model (Richardson; 2006) where Investmant = Growth of current assets period t+1 andSalees Growth = Sales growth period t. The resulting residual will be a proxy for determining the efficiency of a company's investment, the lower the residual value, the more efficient the company's investment. Here are those models.

$$\textbf{Investments}_{t+1} = \beta 0 + \beta 1 \textbf{Sales Growthit} + \varepsilon_{it}+1 \ldots\ldots\ldots \textbf{(1)}$$

Information:

Investmenti,$_{t+1}$ = Growth of current assets period $_{t+1}$.

Sales Growth t= percentage change in sales from last year to this year.

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

Sales Growth reflects past investment success and can be used as a prediction of future growth. Van-Home and Machowicz (2005) put forward the theory that the level of sales growth is the result of a comparison between the difference between the current year's sales and sales in the previous year with sales in the previous year. The sales growth rate is calculated by the following formula:

$$\text{Growth Sales} = \frac{\textit{Total Current Sales} - \textit{Total Sales For Last Period}}{\textit{Total Sales For Last Period}} \text{ x100\%}$$

By using the calculation of the investment model (1) above, a value will be obtainedresidual of the model, which will be used asproxy of the company's investment efficiency. Then rateresidual will be divided into several quartiles, where the lowest quartile is a company that belongs to that categoryunderinvestment. Companies in the top quartile will be categorized as companiesoverinvestment. Meanwhile, the middle quartile will be used as a reference for determining categoriesoverinvestmentorunderinvestment.

b. Hypothesis test

The data analysis technique used isMultivariate Analysis of Variance (MANOVA). MANOVA is a data analysis technique that aims to examine the relationship between two variables, namely the independent variable and the dependent variable where the data analysis technique in MANOVA requires more than one dependent variable, namely (Risk-Taking andOverinvestment) were analyzed together. With the following research model:

$$\textbf{\textit{Risk-Taking, Overinvest}}_i = \alpha 0 + \beta_1 HHI_{it} + \varepsilon_{it} \ldots\ldots\ldots \quad (2)$$

Before doing the MANOVA test, first do the Box's test in the Levene test. The Box's Lest test is used to determine whether the dependent variable used in the study has a variance/covariance matrix and the dependent variable in the groups is the same or different. If the results of the Box's test show that the variance/covariance matrix and the dependent variable in the groups are different. While the Levene test is used to determine whether the dependent variable in the groups is the same and different.

RESULTS AND DISCUSSION

After the multivariate test shown in the table below:

Multivariate Tests

Effect	Value	F	Sig.

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

X	Pillai's Trace	.494	1.522	.021
	Wilks' Lambda	.566	1.514	.023
	Hotteling;s Trace	.660	1.505	.024
	Roy's Largest Root	.384	1.781	.022

Source: Processed Data

From the table above it can be seen that the results of multivariate analysis with statistical testsPillai's Trace, Wilks' Lambda, Hottelling's Trace and Roy's Largest Root shows that the F value has a significance less than 0.05, namely a significance of 0.021, 0.023, 0.024 and 0.022. This means that the value of F forPillai's Trace, Wilks' Lambda, Hottelling's Trace and Roy's Largest Root all significant. This shows that there are differences in the relationship between the independent variables and the two dependent variables as a whole. Furthermore, the univariate significant test was used to find out which variable caused the difference in the average of the two groups through the univariate F test. This univariate F test was calculated for each dependent variable separately after the other independent variables were considered fixed. The results of this test can be seen in the following table:

Test of Between Subjects-Effect

Independen Variable	Dependent Variable	Type III Sum of Squares	df	F	Sig.
X	Risk-Taking	5.959	25	1.680	.035
	Overinvest	6.581	25	1.328	.159

Source: Processed Data

Based on the univariate test table above, it can be seen in row X so that the F value of each variable is known. For variablesRisk-Taking F value = 1.680 with a significance of 0.035, and for variablesoverinvestment F value = 1.328 with a significance of 0.159. If it is set at a significant level of 0.05 then the variablecorporate risk taking as measured by SDROA and SDROE are significant because the significance is below 0.05 while for variablesoverinvestmentnot significant because the significance is above 0.05 (0.159>0.05). Based on the elaboration of the hypotheses that have been made for the research above, according to the results of the analysis of the research hypotheses can be seen in the following summary table:

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

Ikhtisar Hasil Uji Penelitian

Hipotesis :	Pengujian Hipotesis	Hasil	Keterangan
1. *Product market competition* berpengaruh signifikan positif terhadap *corporate risk taking* dan *overinvestmen*	*Multivariate*	Signifikan	Terima H_a
2. *Product market competition* berpengaruh signifikan positif terhadap *corporate risk taking*	*Univariate*	Signifikan	Terima H_{b1}
3. *Product market competition* berpengaruh signifikan negatif terhadap *overinvestmen*	*Univariate*	Tidak Signifikan	Tolak H_{b2}

Source: Processed Data

Based on the results of research that has been done, for the influence hypothesisproduct market competition tocorporate decisions which was tested by multivariate statistically failed to reject the hypothesis which stated that there was a significant positive effect oncorporate risk-taking andoverinvestment.Univariately it was found that a significant effect occurred only inproduct market competition withcorporate risk taking while onproduct market competition withoverinvestmentstatistical results show that there is no significant relationship so that this deviates from initial expectations which state that there is a significant negative effect betweenproduct market competition withoverinvestment.High competition can help align the interests between managers and shareholders. Chhaochharia et all (2012) companies with highly competitive industry levels are less associated with financial fraud than those in less competitive industries.

That means the higher the levelHHI the higher the level of corporate actionrisk taking, otherwise the lower the levelHHI the lower the possibility of the company in taking actionrisk taking. In line with agency theory which states thatagency conflict can be minimized withmarket focus, agency cost as well as a good corporate structure (corporate governance) (Gitman;2009). Chhaochharia et al (2012) said thatproduct market competition is a substitute mechanism for good corporate governance to align management interests.Product market competition helps ensure management does not waste company resources. Companies with a high level of competitiveness in both internal and global competition are required to have good corporate governance so that it helps a manager limit the flexibility in making economic decisions.

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

Competition disciplines managers from actionmanagerial slack or prioritizing personal interests with the assumption that the manager only cares about the profit targets that have been set while for the level of risk, competition and quality that is lacking, the manager will not work hard. In competitive competition, managers are required to think hard so that this does not happenmanagerial slack and obtain predetermined profit targets. So the results of this study provide evidence that competition disciplines management investment decisions. The first result shows that competition encourages managers to invest in risky investments because competition reduces opportunities for diverting company resources for personal gain so that managers in highly competitive industries tend to take risky actions to increase high levels of project returns, incentives and high levels of quality. The results of this study are in accordance with the research conducted by Laksamana and Yang (2015).

Vice versaproduct market competition (HHI) does not have a significant effect onoverinvestment.The results of this study contradict the results of research by Laksamana and Yang (2015) this is possibly due to differences in the financial environment between developing countries (Indonesia) and developed countries (the United States). In developed countries the level of financial development is higher than in developing countries so that competition plays a more effective role as a monitor for companies in countries with high levels of financial development compared to those with low levels of financial development. Apart from that, the fact that technological development is also the main driver that determines the condition of the country. In Indonesia, producers tend not to invest in developing technology so that dependence on external technology is getting higher. As a result, although consumption products can be met from within the country, capital goods must still be imported from abroad so that competition has a different impact on investment efficiency in the manufacturing industry in Indonesia and the manufacturing industry in the United States.

CONCLUSION

This study aims to determine the effectProduct Market Competition toCorporate Risk Taking andInvestment Efficiency.Performed on manufacturing companies listed on the Indonesia Stock Exchange for the 2010-2015 period, both government-owned and

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

foreign companies. The sample used in testing the hypothesis in this study totaled 71 samples with 142 observations. Furthermore, the data was tested using the Manova analysis method. Based on the results obtained from this research, it can be seen that competition is a monitoring mechanism in making management investment decisions. Competition disciplines managers from actionmanagerial slack or prioritizing personal interests with the assumption that the manager only cares about the profit targets that have been set while for the level of risk, competition and quality that is lacking, the manager will not work hard. In competitive competition, managers are required to think hard so that this does not happenmanagerial slack and obtain predetermined profit targets. So the results of this study provide evidence that competition disciplines management investment decisions. The first result shows that competition encourages managers to invest in risky investments because competition reduces opportunities for diverting company resources for personal gain so that managers in highly competitive industries tend to take risky actions to increase high levels of project returns, incentives and high levels of quality. Meanwhile at the leveloverinvestmentcompetition does not affect companies in making action decisions that tend to waste company resources. These results are contrary to the results of previous studies. This could be because the competitive climate in the manufacturing industry in Indonesia is different from the manufacturing industry in the United States.

REFERENCE

Agoraki, M. E. K., Delis, M. D., & Pasiouras, F. (2011). Regulations, competition and bank risk-taking in transition countries. Journal of Financial Stability, 7(1), 38-48.

Ammann, Manuel.,Oesch, David., &M.Schmid, Markus. (2011). Product market competition, corporate governance, and firm value: Evidence from the EU-Area.

Balakrishnan, K. and Cohen, D. (2011), “Product market competition and financial accounting misreporting”, Working paper, University of Pennsylvania and University of Texas, Dallas, TX.

Bargeron, L., Lehn, K. and Zutter, C. (2010), “Sarbanes-Oxley and corporate risk-

Volume 5 Nomor 1 2023 : page 70-84
p-ISSN: 2686-262X e-ISSN : 2685-9300
DOI : 10.24256

taking", Journal of Accounting & Economics. Vol. 49 Nos ½, pp. 34-52

Chen, Shenglan., Wang, Kun., Li, Xiaoxue. (2012). Product market competition, ultimate controlling structure and related party transactions. China journal of accounting research

Chhaochharia, V., Grullon, G., Gristein (2012), "Product marke competition and agency conflicts, Working paper.

Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. Journal of corporate finance, 39, 193-209.

Farooq, S., Ahmed, S., & Saleem, K. (2015). Overinvestment, growth opportunities and firm performance: Evidence from Singapore stock market. Corporate Ownership and Control, 12(3), 454-467.

Feriozzi, F. (2011), "Paying for observablr luck", RAND Journalmof Economics, Vol. 42 No. 2, pp. 387-415.

Gitman, Lawrence. (2009). Principles of Manajerial Finance. United States : Pearson Addison Wesley

Hart, O. (2007), "The market mechanism as an incentive scheme", Bell Journal of Economics, Vol. 14 No.2, pp. 366-382

Laksmana, I. and Yang, Y.W. (2012), "Product market competition and corporate investment decisions", Review of Accounting and Financial, Vol. 14 Iss 2 pp. 128-148

Li, K., Griffin, D., Yue, H., & Zhao, L. (2013). How does culture influence corporate risk-taking?. Journal of corporate finance, 23, 1-22.

Richardson, S, (2006), "Over-investment of free cash flow",Riview of Accounting Studies, Vol. 11 No 23/3, pp. 147-155

Soedarmono et al, (2012). Bank Competition, Crisis and Risk-Taking: Evidence from Emerging Markets in Asia.

Van Horne, J. C., & Wachowicz Jr, J. M. (2005). Fundamentals of. Financial Management.

.