



Product Market Competition and Audit Fees: Auditor Industry Specialization as A Moderating Variable

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ABSTRACT

This research aims to examine the influence of product market competition on audit fees and the role of auditor industry specialization as a moderating variable. Using probability sampling method, 1,018 non-financial companies listed on Indonesia Stock Exchange from 2014 to 2018 were selected as research samples. Multiple linear regression was used to analyzed the data. The results showed that product market competition has a negative significant effect on audit fees, while auditor industry specialization has a positive significance or weakens the relationship between product market competition and audit fees. In other words, auditor industry specialization stimulates the increase audit fees even in a competitive market.

Kompetisi Pasar Produk dan Biaya Audit: Spesialisasi Industri Auditor Sebagai Variabel Moderasi

ABSTRAK

Tujuan penelitian adalah menganalisis pengaruh antara kompetisi pasar produk terhadap biaya audit dengan spesialisasi industri auditor sebagai variabel moderator. Dengan menggunakan metode sampel probabilitas, penelitian ini mengumpulkan data dari 1.018 perusahaan non-keuangan yang terdaftar di Bursa Efek Indonesia periode 2014-2018. Penelitian ini menggunakan teknik analisis regresi linear berganda untuk menganalisis data. Hasil penelitian menunjukkan bahwa kompetisi pasar produk berpengaruh negatif signifikan terhadap biaya audit dan spesialisasi industri auditor berpengaruh positif signifikan atau memperlemah hubungan antara kompetisi pasar produk and biaya audit. Dengan kata lain spesialisasi industri auditor menyebabkan biaya audit semakin tinggi walaupun pada pasar yang kompetitif.

1. Introduction

Chen et al. (2019) and Leventis et al. (2011) found that high level of product market competition (PMC) has a positive significant effect on audit fee. This means that auditor will charge a lower audit fee because PMC acts as an external mechanism for corporate governance. Another study by Chou et al. (2011) showed that

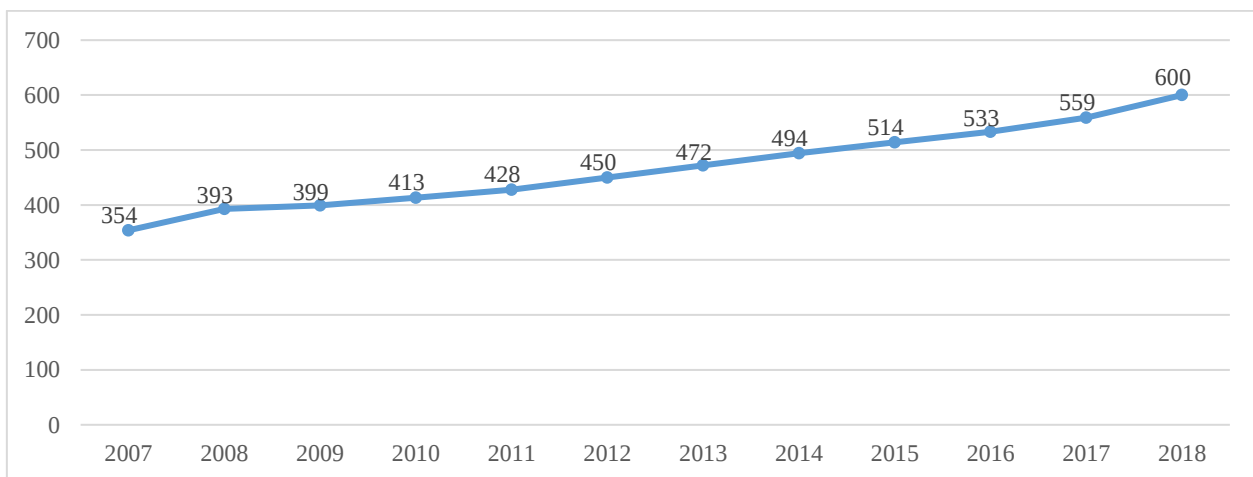
competition can reduce agency problems, so the audit fee charged will reduce. However, Wang & Chui (2015) showed a different result where PMC has a negative significance to audit fees as PMC will increase the business risk. This occurs because companies in the competitive industry will continue to innovate to create competitive advantages to maintain their presence in the

market. Meanwhile, Casterella et al. (2004) found that one form of competitive strategies is the use of auditor industry specialization in the audit process to provide higher audit quality. This result inconsistency indicates a gap literature. Thus, the purpose of this study is to examine the influence of PMC on audit fees between companies using auditor industry specialization and non-auditor industry specialization.

The need for auditors is increasing along with the increasing number of companies listing on stock exchange, including in Indonesia. Figure 1 shows a significant increase of Indonesian public company number. It raised by 69 percent from 354

companies in 2007 to 600 companies in 2018. It shows an increasing level of competition in the product market.

Audit fees reflect the amount of effort made by auditor to ensure that the client's financial statements are free from material misstatement and error (Wang & Chui, 2015). Arens et al. (2017), show that the amount of audit fees paid by the company to auditors is influenced by several things such as the level of risk, the level of expertise that required, the complexity of the audit work, the size of the auditee, and the operational business of the auditee.



Source: IDX Factbook (2007-2018)

Figure 1. Development of Companies Registered on the IDX 2007-2018

Widmann et al. (2020) stated that the determinants of audit fees in several countries consist of three main factors. The first factor is client specific determinants, for instance liquidity ratio, profitability, size, leverage, debt, governance, net assets, company, and regulation. The second factor is related to auditor specifics, for instance big four audit firm. The third factor is engagement specifics such as audit tenure, audit opinion, and non-audit services. The Sarbanes-Oxley Act tighten the need to disclose audit fees for the last few years. In Indonesia, the disclosure of audit fees has been regulated in a regulation issued by the Indonesian Financial Services

Authority through Circular Letter No. 30 (2016) concerning the provisions for disclosing audit fees in the company's annual report. Indonesian Institute of Certified Public Accountants also issued regulations related to the determinant of audit fees through Management Regulation No. 2 (2016) that stated that the amount of audit fees is based on the client's agreement with the public accounting firm which is carried out at the beginning of the cooperation agreement with some requirement. The level of audit fee negotiation is adjusted to the minimum hourly charge-out rates as described in Table 1 with some requirement like qualification and expertise respectively.

Table 1 Minimum hourly auditor rates (in Indonesian rupiah)

Zone	Junior auditor	Senior auditor	Supervisor	Manager	Partner
Greater Jakarta*	100,000	150,000	300,000	700,000	1,500,000
Outside Greater Jakarta*	70,000	125,000	200,000	500,000	1,200,000

*Greater Jakarta (Jakarta, Bogor, Depok, Tangerang, and Bekasi)

Source: IAPI (2016)

Product market competition is the competition between other companies to produce products that can compete in a market (Orbaningsih et al., 2018). Chou et al. (2011) explained that competition acts as a substitute for corporate governance mechanisms. At a high level of competition, the role of governance is not crucial because competition has a disciplinary effect on management. Sheikh (2018) believed that PMC acts as a disciplinary tool for management, where management will try to satisfy investors by increasing the value-added of the company and preventing managerial slack.

Based on agency theory, the conflict arises because the agent does not follow the principal's interests, and thus it will create a conflict of interest. When the company is at a high level of market competition, management cannot move freely because the market indirectly became a company monitoring tool to control management activities. These results decrease agency costs, so opportunistic activity such as manipulation of financial statements that are often carried out by management can be mitigated (Leventis et al., 2011).

Management will strive to improve the effectiveness and efficiency of the company and increase the reliability of financial reports (Chen et al., 2019). For auditors, the existence of a high competition level can be a signal that the client's business risk is low and reduced agency problems. Thus, auditors will likely to perform less extensive audit procedures. As a result, auditors will shorten audit hours and audit effort and charge the client less audit fees (Leventis et al., 2011). Auditors industry specialization are auditors who have a

high level of knowledge of the industry, training experience, high working hours, and a better understanding of technology, so auditors will be more dominant and fully understand the characteristics of the industry (De Fuentes & Sierra, 2015).

Wang, Sewon, & Iqbal (2009) and Balsam et al. (2003) showed that auditors specialists have a good understanding of an industry, so they can detect error level and material misstatement properly and assure to guarantee a higher audit quality. Based on audit pricing theory proposed by Simunic (1980) the determination of audit fee is adjusted to the output given. The higher the audit fee, the higher the level the auditor guarantees to the company. Similarly, in risky business company, auditors need extra work for the audit process and require specific expertise to audit. It can be concluded that the level of risk is linearly related to the value of the audit fee.

This study used 1,018 samples of non-financial companies listed on the Indonesia Stock Exchange for the period 2014-2018 based on the Jakarta stock exchange industrial classification. This study uses multiple and moderated linear regression analysis techniques. This study contributes to the need of an enhanced management motivation to focus more on company productivity by increasing the effectiveness and efficiency of the company.

The aims it to reduce agency problems between agents and principals, whether in competitive market conditions or not. Also, this research provides empirical evidence on the importance of business competition in the Indonesian product market. This research also

suggests auditors to increase their investment in developing an auditor specialist.

The paper structures are as follows: Section 2 describes the theoretical basis and hypothesis development research. Section 3 describes the research approach, data sources, sample selection, variables, and technical analysis used. Section 4 contains the results of the analysis and discussion of research results, and in. Section 5 contains the contents of the research, limitations, and suggestions for further research.

2. Theoretical framework

Agency theory

Agency theory assumes the presence of different interests between the owner of the capital as principal and management as the agent. The difference interest that arises is called a conflict of interest that occurs because agents are more concerned with their own decisions to maximize their utility, and do not consider to the opinions of the company's shareholders or the principal (Jensen & Meckling, 1976).

Auditor acts as an intermediary between the agent and the principal to solve agency problems and resolve differences of interest so there isn't any disinformation that will harm both parties. According to this research, in competitive product market conditions, agents are indirectly monitored by the market. An agent will find it difficult to take opportunistic things so they can't cause a conflict of interest, and it will cause agency risk to decrease and the audit fee charged will be low (Chen et al., 2019; Leventis et al., 2011).

Audit pricing theory

Simunic (1980) shows that the audit fee is adjusted based on the quantity in the form of working hours and the price level in the form of billing for working hours. The higher audit fee

must provide higher benefits output because the fee reflects the quality of the audit. Audit fees charged by auditor specialist tend to be higher because they will develop different higher audit procedures, and produce higher working hours as a result, the value of the audit fee increases along with the high audit effort and audit hours (Audousset-Coulier et al., 2016; Bae et al., 2019).

Results of previous studies

Leventis et al., (2011) initiated research related to product market competition (PMC) and audit fees at a public accounting firm in Greece. The results showed that PMC has a significantly negative effect on audit fees. In a competitive product market competition, clients can rely on the market to monitor agency costs. Thus, there is no gap for management to take any opportunistic thing. This result is supported by Chen et al., (2019) who examined the effect of Product market competition (PMC) on audit fees in China on 6,709 companies for the period 2007-2011. The results showed that there was a significantly negative effect on audit fees. The higher level of PMC owned by the clients causes the operational risk to decrease so that the audit fee charged will be below. This relationship is also influenced by institutional characteristics. The existence of a strong government will influence the company management to maximize firm value, which causes agency costs to decrease.

However, different results are shown in research by Wang & Chui (2015), the results showed a significantly positive effect on audit fees with sample research of American manufacturing companies in the 2000-2009 period. In a competitive industry, companies tend to have higher business risk so the audit fees charged will be higher too.

Table 2 Previous studies on determinants of audit fees

Author	Year	Independent variable	Results (direction)
Chen et al.	2019	Product market competition	Negative
Wang & Chui et al.	2015	Product market competition	Positive
Leventis et al.	2011	Product market competition	Negative
Gunn et al.	2019	BIG 4 Audit market concentration, large client size, international operations, adoption of IFRS	Positive
Casterella et al.	2004	Client bargaining power, firm size	Positive
		Client bargaining power	Negative
Huang et al.	2007	Auditor share dan differentiated (Market share public accounting firm in an industry)	Positive
Mayhew et al.	2003	Public accounting firm BIG 4, public Accounting firm	Positive
Wang et al.	2009	second-tier, auditor industry specialization	

Gunn, Kawada, & Michas (2019) examined the market structure of BIG 4 public accounting firms in 28 countries. The results show that BIG4 will increase audit fees in a concentrated market that has high barriers to entry into the market. This indicates that the presence of BIG 4 in the market affects the competition to become weak and causes audit fees to become as long as the higher quality of audits.

Casterella et al. (2004) examined 3,047 companies, the results showed the audit fee tends to increase when the size of the client is small and has a low level of bargaining power, vice versa. This research was continued by Huang et al. (2007) who examined 4,619 firms for the period 2000-2004 from the analytics audit database. The results are consistent that there is a negative effect between client bargaining power and audit fees in both small and large companies because the BIG4 public accounting firm is reluctant to audit small-sized clients. In both studies, client bargaining power uses the same measurement to measure product market competition.

Moreover, Mayhew & Wilkins (2003) examined 2,294 companies in the United States for the period 1991-1997. Similarly, public accounting firms compete to win market share. Auditors use an auditor industry specialization as one of the differentiation strategies between other public accounting firms. The result shows that auditor industry specialization will receive a fee premium as a form of bargaining power with clients and indicate that a public accounting firm

can offer higher quality services than a non-specialist public accounting firm.

Wang et al., (2009) examining 213 public companies in China for the period 2005 and 2006 with databases from Shanghai and Shenzhen. This study argues that the premium on BIG 4 public accounting firm is a form of branding and compensation for industry specialization. The results showed that public accounting firm BIG 4 received a premium fee 39 percent higher than the normal audit fees obtained for non-specialist auditors. Unlike the second-tier public accounting firm they don't get a premium fee, this means that they are expanding their market share by offering lower audit fees to get more clients.

Hypotheses development

Product market competition to audit fee

In a competitive market, the level of information is well distributed so there is not any disinformation between the agent and the principal (Chen et al., 2019). This occurs because competition can monitor the agency costs and will reduce the managerial slack and prevent the opportunistic thing. According Jensen & Meckling (1976) the agency problem will reduce because the market also became a substitute role for the governance corporate mechanism, so the agent will reduce any opportunistic thing and it will reduce the agency cost hence the audit fee (Leventis et al., 2011; Srinivasan & Jagannathan, 1999).

Chen et al. (2019) explain that auditors not only consider the intensity of competition while determining audit fees, but they also consider the level of bargaining power. Higher product market competition can be defined as client bargaining power. When a client has a high product market power, the company can negotiate the audit fee to decrease (Huang et al., 2007; Wang & Chui, 2015). This is reinforced by the regulation from Indonesian Institute of Certified Public Accountants Number 2 of 2016 which explains that the determination of the audit fee is based on negotiations between the company and the public accounting firm. From the above explanation, it can be concluded that the proposed hypothesis is as follows:

H₁: Product market competition has a negative effect on audit fee

Auditor industry specialization as a moderating variable between product market competition to audit fee

In a competitive market, there are differences between competitive and non-competitive industries. A competitive market does not always represent good conditions for the company. Generally, companies in a competitive industry tend to have a higher business risk because they will innovate to create a competitive advantage to maintain their existence in the industry so as not to lose competitiveness (Wang & Chui, 2015). One of them is by implementing a differentiation

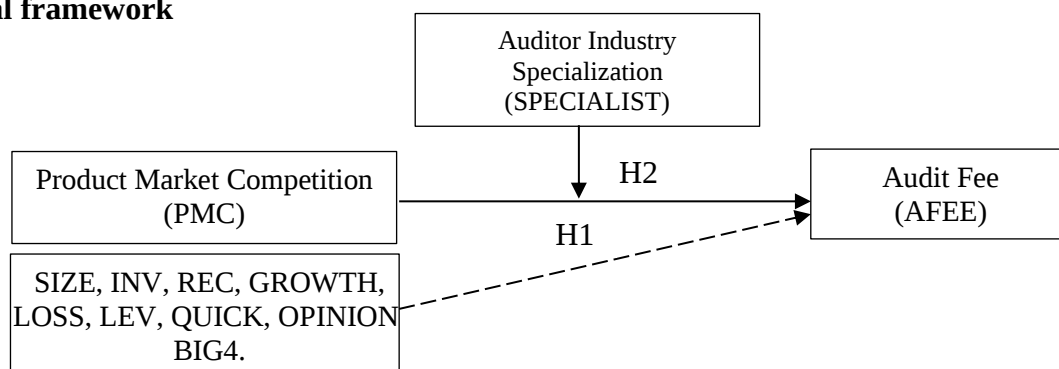
strategy such as using an auditors industry specialization (Casterella et al., 2004). In this strategy, the company will strive by providing a higher quality audit provided by auditor industry specialization with industry-specific capabilities and ensuring a high level of assurance (Balsam, Krishnan, & Yang, 2003; Wang et al., 2009).

Cahan et al. (2008) explained that auditor industry specialization is one of the factors that cause higher audit fees. The fee paid is compensation for the investment generated in the form of extensive audit experience, specialized staff training, expensive investment in information technology, and maximum control with better service guarantees with a high level of assurance (DeBoskey & Jiang, 2012; Gul, 2004; Owhoso, et al., 2002). As a result, specialist auditors can detect any misstatements or risks, especially in companies that are in competitive industries (Wang & Chui, 2015).

This is following audit pricing theory by Simunic (1980) that audit fee is determined by the amount of quantity in the form of working hours and reflects high output. This output reflects high audit quality. Thus, it can be concluded that the presence of specialist auditors can indicate a high company risk even in a competitive market. From the explanation above, it can be concluded that the proposed hypothesis is as follows:

H₂: Auditor industry specialization weaken the negative relationship between product market competition on audit fee

Conceptual framework



Picture 2 Conceptual Framework

3. Research method

This research is a quantitative research with data from all non-financial companies listed on the Indonesia Stock Exchange (IDX) for the 2014-2018 periods. The companies were classified based on the IDX - Industrial Classification in the IDX database. Financial firms are excluded from the sample of companies because they have different financial reporting criteria and standards so they cannot be compared. The samples were

selected using purposive sampling method and collected manually from financial reports publishes in IDX website.

This study used an unbalanced panel data approach with a total final sample of 1,018 samples described in table 3 below. This study excludes financial sector companies, companies that do not disclose the value of the audit fee in the annual report, and companies that do not disclose the required data completely.

Table 3 Sample criteria

Notes	2018	2017	2016	2015	2014	Total
Number of companies listed on IDX	600	559	533	514	494	2,700
Less:						
Companies in financial industry	(91)	(90)	(89)	(87)	(81)	(438)
Companies do not disclose audit fees	(260)	(256)	(229)	(249)	(250)	(1,244)
Final samples	249	213	215	178	163	1,018

Research Model

In this study, two research regression models were used using multiple linear regression analysis

in model 1 and moderated multiple linear regression analysis for model 2. A regression model was developed as follows:

$$AFEE = \beta_0 + \beta_1 HHI + \beta_2 SIZE + \beta_3 INV + \beta_4 REC + \beta_5 GROWTH + \beta_6 LOSS + \beta_7 LEV + \beta_8 QUICK + \beta_9 OPINION + \beta_{10} BIG4 + \varepsilon \quad (\text{Model 1})$$

$$AFEE = \beta_0 + \beta_1 HHI + \beta_2 SPECIALIST + \beta_3 HHI * SPECIALIST + \beta_4 SIZE + \beta_5 INV + \beta_6 REC + \beta_7 GROWTH + \beta_8 LOSS + \beta_9 LEV + \beta_{10} QUICK + \beta_{11} OPINION + \beta_{12} BIG4 + \varepsilon \quad (\text{Model 2})$$

Operational definition and measurement

In this study, the operational definition and the measurement of the variables are described in

Table 4, with details of the dependent variable, independent variable, moderating variable, and control variable.

Table 4 Operational definition and measurement

Variable	Prediction	Variable Measurement
Dependent Variable		
Audit Fee	AFEE	Logarithms natural of audit fee
Independent Variable		
Herfindahl-Hirschman Index	HHI	-
Moderating Variable		
Auditor Industry Specialization	SPECIALIST	+
Control Variable		
Firm Size	SIZE	+
Business Complexity	INV	+
	REC	+
Firm Growth	GROWTH	+
Loss	LOSS	+
Financial Risk	LEV	+
	QUICK	+

Audit Opinion	OPINION	+	1 if the company did not receive an unqualified opinion; 0 for the company that receives an unqualified opinion.
Size of public accounting firm	BIG4	+	1 if company is a client audit of Big 4 public accounting firm, 0 vice versa

Data analysis technique

Data was analyzed using multiple and moderated regression method. A classic assumption test, namely normality test and heteroscedasticity test were also performed to ensure the research model produced is a representative model.

4. Results and discussion

This research was conducted to determine the effect of product market competition on audit fees with auditor industry auditors as a moderating variable.

Descriptive Statistic

Table 5 presents the results of the descriptive statistic analysis used in this study, by providing data from the average value (mean), standard deviation, maximum value, minimum value to show the results of the analysis of the data collected.

The audit fees (AFEE) have a minimum value of IDR 16,994,000 and a maximum value IDR 24,620,000. The average value is IDR 20,404,000 and standard deviation IDR 1,162,000.

Table 5 Descriptive statistic

	N	Minimum	Maximum	Mean	Std. Deviation
AFEE	1018	16.994	24.620	20.404	1.162
HHI	1018	0.862	1.000	0.998	0.008
SPECIALIST	1018	0	1		0.444
SIZE	1018	24.166	32.973	28.885	1.537
INV	1018	0	0.716	0.127	0.135
REC	1018	0	0.737	0.114	0.109
GROWTH	1018	-22.516	14.231	0.131	1.105
LOSS	1018	0	1		0.411
LEV	1018	0.003	22.611	0.541	0.989
QUICK	1018	0.001	47.587	1.622	2.512
OPINION	1018	0	1		0.426
BIG4	1018	0	1		0.491
Valid N	1018				

Product market competition proxied by Herfindahl-Hirschman Index (HHI) with average value 0.998, a standard deviation of 0.008 with highest value 1 and lowest value 0.862. This indicates high product market competition in Indonesia. Auditor industry specialization, proxied by market share of total assets, has a standard deviation of 0.444 measured using a dummy variable where the value is 1 if the company uses specialist auditors and 0 vice versa. Meanwhile, the control variable such as firm size (SIZE) has a standard deviation value (average) of 1.541

(28.885). Inventory ratio (INV) 0.135 (0.127). Accounts receivable ratio (REC) shows a value of 0.109 (0.114). Company growth (GROWTH) shows a value of 3.218 (0.351). Business risk, which is measured using leverage ratio (LEV) and QUICK ratio, shows a value of 0.989 (0.541) and 2.511 (1.622). The loss variable has a standard deviation of 0.411, measured using a dummy variable with a value of 1 if the company incurs a loss and a value of 0 if not. The standard deviation of audit opinion (OPIN) is 0.426 measured using a dummy variable with a value of 1 if the company

receives an unqualified opinion and is 0 if gets a qualified opinion, adverse, and a disclaimer. Public accounting firm size is proxied by BIG 4 with a standard deviation of 0.491 with a value of 1 if the company is audited by PWC, Deloitte, EY, and KPMG and 0 if the company is not audited by non-BIG 4.

Pearson correlation test

The Pearson correlation test is an analytical technique to determine the direction and strength of the linear relationship between two variables. Through table 6, it can be seen that audit fees have a significant negative effect on HHI. This indicates that the companies operate in a highly

competitive environment, the auditor will charge a lower audit fee. Meanwhile, the moderating variable shows a significantly positive effect with audit fees with a significance level of 5 percent. This shows that when a company is audited by auditor industry specialization, the audit fees charged will increase.

Meanwhile, control variables such as SIZE and BIG4 show a significant positive effect of 5 percent on audit fees, and for the INV, REC, LOSS, QUICK variables show a significant negative effect of 5 percent on audit fees. And the other control variable such as GROWTH, LEV, and OPINION did not show any relationship to the audit fee.

Table 6 Pearson correlation test

	AFEE	HHI	SPECIALIST	SIZE	INV	REC	GROWTH	LOSS	LEV	QUICK	OPINION	BIG4
AFEE	1.000											
HHI	-0.252**	1.000										
SPECIALIST	0.417**	-0.189**	1.000									
SIZE	0.712**	-0.323**	0.371**	1.000								
INV	-0.115**	0.040	-0.011	-0.178**	1.000							
REC	-0.142**	0.040	0.001	-0.230**	0.240**	1.000						
GROWTH	0.001	-0.006	-0.026	-0.029	0.011	-0.010	1.000					
LOSS	-0.085**	0.063*	-0.133**	-0.111**	-0.118**	-0.098**	-0.052	1.000				
LEV	0.006	-0.007	-0.027	-0.010	-0.061	0.032	0.010	0.143**	1.000			
QUICK	-0.120**	0.042	-0.039	-0.154**	-0.027	0.062*	-0.214**	-0.070*	0.131**	1.000		
OPINION	-0.050	0.018	-0.161**	-0.015	-0.112**	-0.098**	0.008	0.291**	0.152**	-0.093*	1.000	
BIG4	0.524**	-0.069*	0.586**	0.351**	0.001	0.012	-0.029	-0.082**	-0.057	-0.022	-0.175**	1.000

Note: Significance level *10%, **5%, using two-tailed test

Classical assumption test

The classical assumption test is required for a regression model to be a good empirical model (Ghozali, 2018). In this study, two types of classical assumption tests were used, which are the normality test and heteroscedasticity test. The normality test aims to see whether the data distribution is normally distributed or not. Meanwhile, the heteroscedasticity test, is used to see whether there is a relationship between confounding variables and independent variables in a regression model.

The results of the normality test show that the data in the two regression models are normally distributed by looking at the probability plot (p-plot) graph that spreads around the

diagonal line. Meanwhile, for the heteroscedasticity test, there was no relationship between confounding and independent variables by looking at the scatterplot diagram that had spread and did not form a distinctive pattern, so it can be concluded that the regression model was a good model and free from heteroscedasticity.

Regression result

Table 7 shows the result using multiple linear regression models and moderated multiple linear regression. The results showed that hypothesis 1 and hypothesis 2 are statistically supported with a significance level below 10 percent, so the hypothesis is statistically supported.

Variables	Audit Fee (Y)	
	Model 1	Model 2
INTERCEPT	13.613*** (4.485)	13.246*** (4.359)
HHI	-5.614** (-1.972)	-5.098* (-1.783)
SPECIALIST		0.113* (1.777)
SPECIALIST*HHI		0.113* (1.774)
SIZE	0.418*** (24.215)	0.412*** (23.542)
INV	-0.076 (-0.443)	-0.079 (-0.462)
REC	-0.028 (-0.134)	0.039 (-0.183)
GROWTH	-0.010 (-0.494)	-0.009 (-0.435)
LOSS	0.008 (0.146)	0.015 (0.262)
LEV	0.026 (1.167)	0.025 (1.129)
QUICK	-0.010 (-1.107)	-0.010 (-1.069)
OPINION	0.055 (0.993)	0.061 (1.117)
BIG4	0.751*** (15.361)	0.699*** (12.246)
Adj R square	0.597	0.598
F – test result	151.644***	128.438***
Observation (n)	1,018	1,018

Significant level *10%, **5%, ***1%

Product market competition has a negative impact on audit fees

Based on the results using multiple linear regression analysis, product market competition proxied by the Herfindahl-Hirschman Index (HHI) has a significantly negative effect on audit fees with a significance level of 5 percent. This shows that the higher level of product market competition, the lower the audit fee will be charged. The results of the study are following with the proposed hypothesis, product market competition has a negative effect on audit fees so hypothesis 1 is statistically supported.

The results of this study are in line with research by Chen et al., (2019) because the market acts as a disciplined management tool. Management is indirectly being watched by the market and it causes them to reduce opportunistic activity such as earning management practices and income smoothing. The results of this study

supported by research by Leventis et al., (2011) and Chou et al., (2011) that explain competition is a substitute role for the governance corporate mechanism.

At a high level of competition, the role of governance is not very important. The market will monitor the agency costs, so the managerial slack that occurs is reduced, as a result, the audit procedures performed are not too extensive and the audit fee charged will be low. The results are supported by agency theory by Jensen & Meckling (1976), indicate that competition results in low agency problems, auditors see this condition as a signal that the client's business risk is low as a result of low audit fees charged by auditors. Higher client product market competition can be defined as a client bargaining power (Huang et al., 2007; Wang & Chui, 2015).

When a client has a high product market power, the company can negotiate and cause the

audit fee] tend to decrease. This is reinforced by the regulations from Indonesian Institute of Certified Public Accountants Number 2 of 2016 which explain that the determination of audit fee based on negotiations between the company and public accounting firm and adjusted to the level of bargaining power.

The results show that some of the control variables significantly positive effect on audit fees, including company size (SIZE) and public accounting firm size (BIG4), indicate that when large companies show more complex operations, the audit fee charged will be even higher. Likewise, when a company is audited by public accounting firm BIG4, the audit fee charged will be even higher (Bae et al., 2019; Casterella et al., 2004).

In model research 1, showed that an adjusted R^2 value of 59.7 percent. This shows that the independent variables and control variables can explain the audit fee by 59.7 percent, while the other 40.3 percent are not explained in this research model. Meanwhile, the F test shows the F value of 151.644 with a significance level of <0.05 . So, it can be concluded that product market competition and auditor industry specialization have a simultaneous effect on audit fees.

Auditor industry specialization weakens the relation between product market competition and audit fees

Based on the results using the moderated multiple linear regression in model 2, showed that auditor industry specialization had a significantly positive effect on audit fees with a significance level below 10 percent, as well as the interaction between product market competition and audit fees which showed significantly positive effect with significance level below 10 percent. This illustrated that auditor industry specialization weakens the effect of product market competition on audit fees or in other words when a company is in a competitive

industry and uses a specialist auditor the audit fee will charge higher, so hypothesis 2 is statistically supported.

The results of this study supported by Cahan et al., (2008) and Wang et al., (2009) industry specialization is one of the factors that cause audit fees higher. This is because the fees paid are for the compensation of their investment in knowledge, training, experience, sophisticated information technology, high working hours, and the level of efficiency of audit procedures to ensure audit quality and a high level of assurance (Bae et al., 2019; De Fuentes & Sierra, 2015; DeBoskey & Jiang, 2012). Higher audit fees also reflect the higher risk experienced by companies in competitive industries.

Supported by the research of Wang & Chui (2015) higher risk comes from companies efforts to maintain their existence in the market by carrying out various kinds of innovations. One of these innovations is the use of auditor industry specialization (Casterella et al., 2004). These results are supported by the audit pricing theory by Simunic (1980) higher audit fee value reflects a higher level of audit quality. Research by Audoussert-Coulier et al., (2016) showed that the fee premium is a reflection of auditor industry specialization that represents high audit quality.

Meanwhile, the control variables in the form of company size (SIZE), financial risk (LEV), company growth (GROWTH), and public accounting firm size (BIG4) show a significantly positive effect on audit fees. The results are following the audit pricing theory by Simunic (1980) where the audit fee is determined by the number of hours by the auditor. The larger the size of the company, the higher the level of the company's leverage, and the higher the company's growth ratio, indicating that the company's operations are more complex and the level of financial and litigation risk is increased. So auditors need more extensive audit procedures, and the audit fees will be charged higher along with the higher audit effort and audit

hours (Bryan & Mason, 2016; Cenciarelli, Greco, & Allegrini, 2018; Chen et al., 2019). Model 2, showed an adjusted R^2 value of 59.8 percent. This shows that the independent variable and control variable can explain the audit fee by 59.8 percent.

Meanwhile, the F test shows the F value of 128.438 with a significance level of <0.05 . So, it can be concluded that product market competition and industry specialization auditors have a simultaneous effect on audit fees. This research is expected to be an input for the Public Accounting Firm to focus on certain industry segments by investing time and resources and increasing industry-specific expertise. As for regulators, this research is expected to be an insight to encourage companies to immediately conduct an IPO to increase the product market in Indonesia to a make more intense and competitive market. For the government, this research can support the issuance of regulations related to the use of auditor industry specialization in the audit process to help companies improve their audit quality and attract more local and foreign investors.

5. Conclusions

This study aims to examine the effect of product market competition on audit fees with auditor industry specialization as a moderating variable. The results showed when company is at a high level of market competition, management has no opportunity to any opportunistic activity. Thus, the agency problem is low followed by the amount of audit fee will be low. However, if the company uses auditor industry specialization, the audit fee charge will be higher, because auditor industry specialization reflects the risk faced by auditors at a high level of competition.

The implication of this research is expected to increase management motivation towards firm productivity, increase the effectiveness and efficiency of the company, thereby reducing agency problems between agents and principals,

whether in competitive market conditions or not. This research is expected to be taken into consideration by regulators to increase business competition in the Indonesian product market.

This research is also expected to support previous research related to product market competition, auditor industry specialization, and audit fees. The limitation of this study is that the researcher only uses a sample for public companies only, although in the same industry there are non-public companies whose data cannot be accessed. So those observations are only limited to public companies listed on the Indonesia Stock Exchange

The researcher suggests to use the entire sample of companies both public and private companies. This research is also limited because the researcher only uses one measurement to measure auditor industry specialization. Researcher suggest using another measure in measuring market shares such as total client sales and the total number of clients being audited.

The inconsistency of the results provides a literature gap regarding variables that can bridge differences in the results of the study, according to research by Wang & Chui (2015) which indicates that PMC can cause business risk to increase. So, researchers suggest for further research can examine variables related to client characteristics such as client innovation, client complexity, and client business risk.

Also, the research can conduct a cross-industry analysis, because the competitors of each industry are different so the impact of competition on the overall audit fee is less accurate. For example, in Indonesia, the number of competitors in the manufacturing industry is higher than in other industries, so future research can focus only on companies in the manufacturing industry sector. This research is also possible to be tested on cross-country analysis because the institutional setting and regulations related to the disclosure of audit fees and regulations related to product market competition are different for each country.

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