European Research Studies Journal
Volume XX, Issue 3A, 2017

pp. 209-230

Consequences of Going Concern Opinion for Firms and Capital Market with Accounting Firm Size as Moderation Variable

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Abstract:

This research aims to observe the consequences of going concern opinion (GCO) and examine the role of specialist accounting firms for the financial reports of business firms and capital markets. The research is based on an experimental study consisting of 107 undergraduate and graduate students who were asked to act as financial analysts.

The GCO consequence for the financial reports of business firms is that the stock price of the corresponding firms will decline, but the decline will be smaller if the financial reports are audited by specialist accounting firms. The GCO consequence for rival firms is that the stock prices of the rival firms will rise if other companies in the same industry receive GCO, but the increase will be smaller if the companies receiving GCO are audited by specialized accounting firms.

The GCO consequences of the capital markets is that the stock prices of all companies, the composite index and the market participants will increase, but the presence of a specialized accounting firm has not been proven to strengthen the market participants' willingness to participate further in the stock market.

Keywords*: Going concern opinion (GCO), financial reports, specialized industry auditor, stock price of firms, composite index, market participants.*

JEL Codes: *M41, M48*

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1. Introduction

Based on SA (Audit Standard) Section 570-Business Continuity (IAPI, 2013) in Indonesia, auditors are allowed to publish opinions that contain a description of the auditors' doubts on a company's ability to maintain its viability. This opinion is known as going concern opinion (GCO). The conditions and events that trigger the auditors to issue GCO are also stated in the SA 570.

Tuttle and Vandervelde (2009) stated that studies which investigate the possible of GCO roles in the stabilization of the stock price in a capital market or in the enhancement of the credibility of financial statements for other companies not receiving GCO are still rare. There has been no study that simultaneously examines the GCO consequences for announcing firms, rival firms, and the overall capital market using the same data source. Therefore, this study aims to simultaneously examine the consequences of GCO for announcing firms, rival firms and the capital market.

Researches on the consequences of GCO for announcing firms generally show that according to investors GCO is relevant to assess the company's stock. O'Reilly (2010), who examined the consequences of GCO for announcing firms, states that announcing firms experienced a significant decline in their stock prices. Stock-price estimation made by investors' experiences a greater reduction when a company receives GCO than when it receives an unqualified opinion. This indicates that GCO seems to be bad news for announcing firms.

GCO consequences for rival firms indicate one of two phenomena, namely either competitive effect or contagion effect. Competitive effect occurs when rival firms in the same industry receive the positive impact of a company's GCO (indicated by the increase of the rival firms' stock prices). The contagion effect occurs when rival firms in the same industry obtain the negative impact of a company's GCO (indicated by the decrease of their stock prices). The possibility as to whether the competitive effect can be turned into a contagion effect has been rarely investigated. This study used an experimental method to manipulate the number of GCOs that exist in every industry. Thus, this study should give light to whether when the number of GCOs in an industry increases the benefits obtained by rival firms decrease

Researches on the GCO consequences for the capital market as a whole have been rarely conducted due to the difficulty in obtaining the required data. Therefore, Tuttle and Vanderveldes (2009) used an experimental method to manipulate GCO by making two experimental markets (market with GCO and market without GCO). A market with GCO is a capital market in which GCO is observed and a market without GCO is a capital market in which no GCO is observed. In the market with GCO, only companies with GCO experience declining stock prices. . This shows that GCO can play an important role in the stabilization of stock prices. On the other hand, in the market without GCO, all of the companies' stock prices decline, with no regard to

whether these companies deserve the stock price decline or not. This happens because a market without GCO has a higher degree of uncertainty than a market with GCO.

Researches on GCO have rarely considered the consequences of auditor reputation, which might act as a moderating variable. Auditor reputation in this study is proxied by the size of the accounting firms. Based on the research conducted by Morris and Strawser (1999), banking companies receiving a modified opinion from the large-size accounting firms tend to continue their business (because bank regulators do not stop their operation) On the other hand, banking companies, which receive a modified opinion from a small-size accounting firm tend not to be able to continue their business (the bank regulator stops their operation). This suggests that large accounting firms have good reputation in the eyes of stakeholders. Good reputation can bring an economic value for the clients. The economic value in this case is that the regulator does not stop their operation, though they are experiencing financial distress.

Large accounting firms can be said to be superior to small accounting firms. It can be seen from their better resources, better technology audits, and better motivation to work with a high level of professionalism (Sawan and Alsaqqa, 2013). The research conducted by Sawan and Alsaqqa (2013) also shows that investors and creditors are more interested in cooperating with companies audited by large accounting firms. Based on the research conducted by Naslmosavi *et al.* (2013), the larger the size of a firm, the higher the quality of its human resources.

This research is expected to contribute to theoretical and methodological contributions. There are three expected theoretical contributions. First, this study simultaneously examines the consequences of GCO for announcing firms, rival firms and capital markets as a whole by using the same data source. Previous studies generally examined the consequences of GCO only for announcing firms and rival firms. Second, this study uses the size of the accounting firms as a moderating variable. Previous studies have not considered the size of the accounting firms as a moderating variable. Third, this study observes whether the competitive effect can be turned into a contagion effect. This study uses an experimental method to manipulate the number of GCO that exist in every industry.

Thus, it will be known whether at the time when the frequency of GCO increases in an industry the benefits obtained by rival firms will decrease. The methodological contribution of this research is that this present research examines the consequences of GCO with an experimental method with two experimental markets, namely the market with GCO and the market without GCO. The use of the experimental method expectedly can handle the difficulty in finding a market without GCO, which is hard to find in the real world setting.

2. Theory Overview and Hypothesis Development

2.1 Theory Overview

The essence of signaling theory is how accounting can be used to give signals about the condition of the company. Managers of companies that perform well will try to show a good signal to stakeholders. On the other hand, managers of less well-performing companies also have an incentive to show unfavorable signal to stakeholders to maintain the company's credibility in the capital markets (Godfrey *et al.,* 2010; Anikina *et al.,* 2016; Averina *et al.,* 2016; Kosinova *et al.,* 2016). Investors' response to the signal is reflected in the increase or decrease in the company's stock price.

In relation to the viability of the company, the auditor may issue GCO if the audited client experiences a condition and an event contained in the SA Section 570-Business Continuity. In these circumstances, GCO has the role as a signal containing information about the company's doubtful survival. According to O'Reilly (2010), GCO has the role as an informational signal if the auditor is in a position with a higher ability to assess the viability of the client company in comparison to other parties, and if the auditor will produce negative consequences if it does not publish GCO.

2.2 Hypothesis Development

2.2.1 GCO and Stock Price Announcing firms

In general, announcing firms obtain negative consequences when receiving GCO (Elliott *et al.,* 2006; Schaub, 2006; O'Reilly *et al.,* 2006; O'Reilly, 2010; Carson *et al.,* 2012; Coelho *et al.,* 2012; Amin *et al.,* 2014). O'Reilly *et al.* (2006) and O'Reilly (2010) showed that GCO negatively affect the stock-price estimation. Based on these studies, the stock price estimation of announcing firms made by financial analysts is lower when the auditor issues GCO than when the auditor issues an unqualified opinion. Based on the above explanation, a hypothesis is formulated as follows:

H_{1a}: *Stock price estimation of announcing firms made by the financial analysts is lower when the auditor issues GCO than when the auditor issues an unqualified opinion*

2.2.2 GCO, Stock Price of Announcing firms and Auditor Reputation

The moderating variable used in this study is the auditor reputation, which is proxied by the size of the accounting firm. Large accounting firms (big four accounting firms) can be said to be superior to small-sized accounting firms (non-big four accounting firms). This can be seen from their better resources, better technology audits, and better motivation to work with a high level of professionalism (Sawan and Alsaqqa, 2013).

Based on research conducted by Naslmosavi *et al.* (2013), the larger the size of the firm, the higher the quality of their human resources. Thus, the size of the firm is expected to provide economic value for announcing firms as the companies which are experiencing financial distress. The economic value in this case has the potential to minimize the negative consequences to be received by announcing firm. Based on the above explanation, a hypothesis is formulated as follows:

H_{1b}: *The accounting firm's size can weaken the negative effect of GCO on stock prices of an announcing firm*

2.2.3 GCO and Stock Price of Rival Firms

Elliott *et al.* (2006) and Coelho *et al.* (2012) showed that at the moment when some companies receive GCO in an industry, investor will move their business and their holdings to rival firms. The rival firms, then experience increased stock prices. Thus, Elliott *et al.* (2006) showed more support to the competitive effect than the contagion effect. This indicates that GCO is good news for rival firms. Based on the above explanation, a hypothesis is formulated as follows:

H_{2a}: *The stock prices of some companies that do not receive GCO (rival firms) increase if other companies in the same industry receive GCO*

2.2.4 GCO, Stock Price of Rival Firms and Auditor Reputation

Accordingly, the size of the accounting firm is expected to provide economic value for the announcing firm in that it can potentially reduce the competitive effect. In other words, the positive consequences to be received by a rival firm will be reduced. Based on the above explanation, a hypothesis is formulated as follows:

H_{2b}: *An accounting firm's size can potentially weaken the positive effect of GCO on rival firms' stock prices*

2.2.5 GCO and Stock Price of All Companies on a Capital Market

Research on the consequences of GCO for the capital market as a whole is still rarely conducted. This is due to the difficulty in obtaining the required data. Therefore, Tuttle and Vanderveldes (2009) used an experimental method to manipulate GCO by making two experimental markets (market with GCO and market without GCO). A market with GCO is a capital market in which GCO is issued and market without GCO is a capital market in which no GCO is issued. In the market with GCO, only companies which receive GCO experience the fall of their stock prices. On the other hand, in the market without GCO, all of the companies' stock prices decline, regardless of whether the companies deserve the stock price decline or not.

According to Blay *et al.* (2001), GCO becomes a tool for communicating the risk in a company with financial distress. If in a capital market with no GCO, the risk in the companies with financial distress is less adequately communicated. Investors who are

in the high uncertainty in the capital market have the potential to decrease the stock price to protect themselves from unexpected events, particularly company bankruptcy. Based on the above explanation, a hypothesis is formulated as follows:

H_{3a}: *The stock price of a company in a market with GCO is higher than the stock price of a company in a market without GCO*

2.2.6 GCO, Stock Price of All Companies on a Capital Market and Auditor Reputation

In a market with GCO, only companies receiving GCO experience stock price fall. On the other hand, in a market without GCO, all companies' stock prices decline, regardless of whether the companies deserve the stock price fall or not (Tuttle and Vandervelde, 2009).

The research conducted by Tuttle and Vandervelde (2009) has not considered a potentially moderating variable that can strengthen the ability of GCO in stabilizing stock prices. The moderating variable used in this study is auditor reputation that will be proxied with the size of an accounting firm. Big four accounting firms can be said to be superior to non-big four accounting firms. It can be seen from their better resources, better technology audits, and better motivation to work with a high level of professionalism (Sawan and Alsaqqa, 2013). Based on the above explanation, a hypothesis is formulated as follows:

H_{3b}: *Accounting firm size can potentially strengthen the positive effect of GCO on stock prices at a capital market*

2.2.7 GCO and the Composite Index

The composite index covers overall price movements of common stocks and preferred stock prices (Susanto and Sabardi, 2010). In a capital market with lower uncertainty, the stock prices in the market with GCO will be higher than the stock prices in the market without GCO. This is consistent with the results of Akerlof's research (1970) which stated that a market participant in a high uncertainty condition tends not to be willing to buy products at high prices. It can be said that the movement of the stock prices in a market with GCO will be more positive than the stock price movement in a market without GCO. In other words, a market with GCO has a higher composite index than the market without GCO. Based on the above explanation, a hypothesis is formulated as follows:

H_{3c}: *The composite index in the market with GCO is higher compared with the composite index in the market without GCO*

2.2.8 GCO, Composite Index, and the Auditor Reputation

Based on the research conducted by Tuttle and Vandervelde (2009), in a market with GCO only companies with GCO experience stock price fall. The research conducted by Tuttle and Vandervelde (2009) has not considered a potential moderating variable

which can strengthen the ability of GCO in stabilizing stock prices. A moderating variable used in this study is auditor reputation that is proxied with the accounting firm size. Big four accounting firms can be said to be superior to non-big four accounting firms. Thus, the size of an accounting firm is expected to provide economic value for a capital market. The economic value potentially produces a higher composite index in a market with GCO. Based on the above explanation, a hypothesis is formulated as follows:

H_{3d}: Accounting firm size can strengthen the positive effect of GCO on the composite index

2.2.9 GCO and Market Participant

According to Blay *et al.* (2001), GCO functions a tool for communicating the risk of a company which is experiencing financial distress. If in a capital market without GCO, the risk owned by the companies experiencing financial distress is less adequately communicated. Investors have different risk preference, so their willingness to participate in an uncertain capital market also varies (Vovchenko *et al.*, 2016; 2017). Based on the research conducted by Tuttle and Vandervelde (2009), the number of market participants can decrease if the uncertainty is higher. Based on the above explanation, a hypothesis is formulated as follows:

H_{3e}: Market participant's willingness to participate again in a market with GCO is higher than their willingness to participate again a market without GCO

2.2.10 GCO, Market Participants, and Auditor Reputation

Based on the research conducted by Tuttle and Vandervelde (2009), the uncertainty in a market without GCO is higher than that in a market with GCO. The research conducted by Tuttle and Vandervelde (2009) has not considered a potential moderating variable that can strengthen the ability of GCO in stabilizing stock prices. A moderating variable used in this study is auditor reputation that is proxied with the accounting firm size. Big four accounting firms can be said to be superior to non-big four accounting firms. It can be seen from their better resources, better technology audits, and better motivation to work with a high level of professionalism (Sawan and Alsaqqa, 2013). Thus, the size of the accounting firm is expected to provide economic value for a capital market by increasing market participant's willingness to participate again in the market with GCO. Based on the above explanation, a hypothesis is formulated as follows:

H_{3f}: Accounting firm size can strengthen the positive effect of GCO on the market participants

3. Research Methodology

3.1 Experiment

This research is a type of laboratory experiment because undergraduate and graduate students who were subjected to the experiment were required to act as financial analysts. Each experiment subject was asked to fill one of the four cases presented randomly (random assignment). The experiment was carried out using a 2 x 2 factorial design between subjects, which allows testing the main effects and interaction effects (Zikmund, 2003). The design of the experiment is presented in Table 1. This study modifies the experimental instrument developed by O'Reilly *et al.* (2006), Tuttle and Vandervelde (2009), and O'Reilly (2010). The experimental subjects were asked to estimate the stock price of 40 fictional companies that were grouped into four industries (Industry 1, 2, 3, and 4). The subjects were asked to estimate the stock price at Time 1 (after being given information about the type of audit opinion and the accounting firms that audited the fictional company) on a scale of 10 points. After reading the experimental instruments, the experimental subjects were asked to answer questions of manipulation check to determine the experimental subjects' understanding of the cases presented to them. There were two manipulation checks, namely the question of the level of uncertainty in the capital markets and the question of the level of the accounting firm's reputation.

Table 1. *2 x 2 Between-Subject Factorial Designs*

Treatments		**GCO**	
		No	**Yes**
Accounting Firm Size	Non-big four	Case 1	Case 2
	Big four	Case 3	Case 4

3.2 Research Model, Operational Definition and Measurement of Variables

Figure 1 shows the research model used to test the consequences of GCO for announcing firms.

Figure 1. *Research Model to Test GCO Consequences for Announcing Firms*

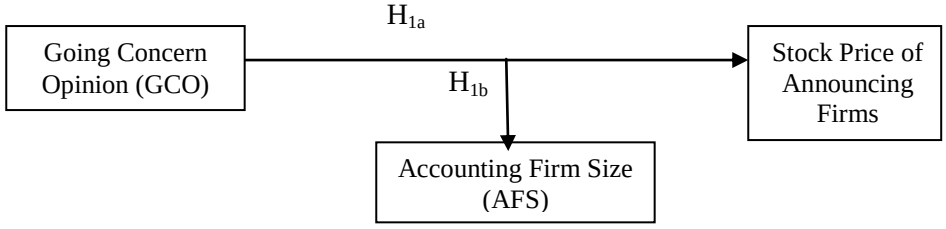

Table 2 shows the variables, operational definitions of variables and variables measurement to test the consequences of GCO for announcing firms.

Table 2. *Variables, Operational Definition and Measurement*

Variable	**Operational Definition**	**Measurement**
GCO	An opinion that is issued when the auditor doubts the	Code 1 if the company receives GCO and code 0 if the company receives an unqualified opinion

	viability of the entity	
AFS	Accounting firm which has better resources, better technology audits, and better motivation	Code 1 if there is a big-four accounting firm and code 0 if there is no big-four accounting firm.
SPA	The stock price of the company which receives GCO (announcing firm)	Scales of 1 to 10. Scales of 1 to 5 show decline in stock prices, while the scales of 6 to 10 show the increase in stock prices

Figure 2 shows the research model used to test the consequences of GCO for rival firms.

Figure 2. *Research Model to Test GCO Consequences for Rival Firms*

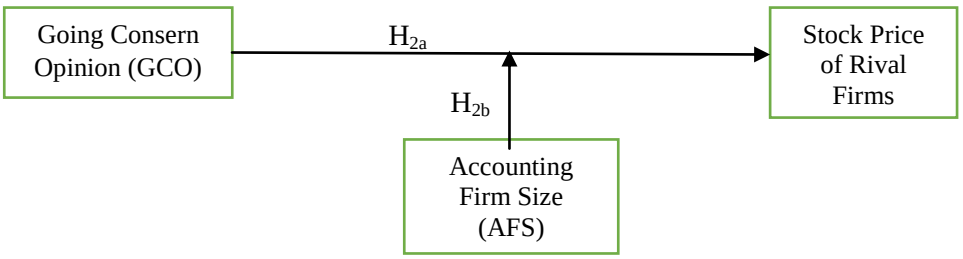

Table 3 shows the variables, operational definitions of variables and variables measurement to test the consequences of GCO for rival firms.

Table 3. *Variables, Operational Definition and Measurement*

Variables	Operational Definition	Measurement
GCO	An opinion that is issued when the auditor doubts the viability of the entity	Codes 1, 2, 3, and 4 if in the industry, there are 2, 4, 6, and 8 GCOs
AFS	Accounting firm which has better resources, better technology audits, and better motivation	Code 1 if there is a big-four accounting firm and code 0 if there is no big-four accounting firm.
SPR	The stock price of the companies which do not receive GCO (rival firms)	Scales of 1 to 10. Scales of 1 to 5 shows the decline in stock prices, while the scales of 6 to 10 shows the increase in stock prices

Figure 3 shows the research model used to test the consequences of GCO for the capital market.

Figure 3. *Research Model to Test GCO Consequences for Capital Market*

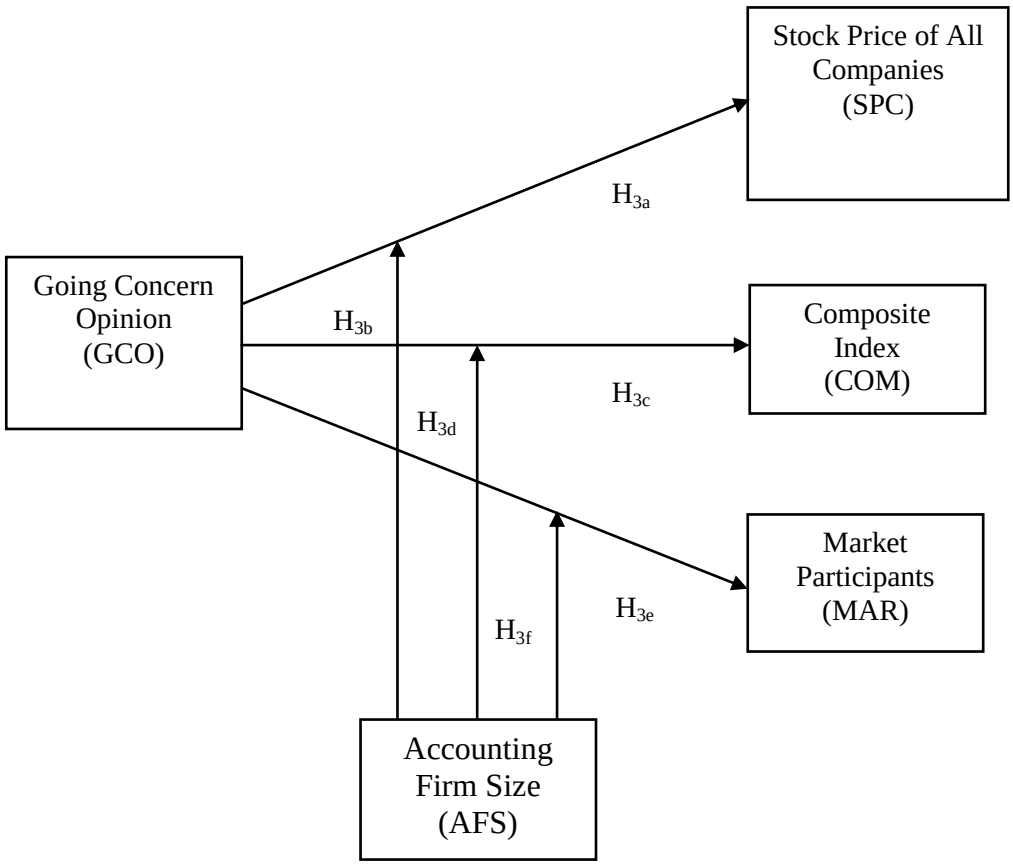

Table 4 shows the variables, operational definitions of variables and variables measurement to test the GCO consequences for capital markets.

Table 4. *Variables, Operational Definition and Measurement*

Variable	Operational Definition	Measurement
GCO	An opinion that is issued when the auditor doubts the viability of the entity	Code 1 if there is a GCO in the capital markets and the code of 0 if there is no GCO in the capital markets
AFS	Accounting firm which has better resources, better technology audits, and better motivation	Code 1 if there is a big-four accounting firm and code 0 if there is no big-four accounting firm.
SPC	Stock prices across the companies in both experimental markets	The natural logarithm of the average stock price Time 1 each subject experiment
COM	The movement of all stock prices	$LN\{CSPI_t = \frac{\text{Market Value}_t}{\text{Base Value}} \times 100\%\}$
MAR	The parties participating in a	Scales of 1 to 10. Scales of 1 to 5 shows

	capital market	unwillingness to participate, while the scales of 6 to 10 show willingness to participate in the capital markets.

CSPI= Composite Stock Price Index

3.3 Data Analysis Methods

The methods of analysis used in this research are a descriptive statistical analysis, ANOVA with Two-Way Interaction, and MANOVA with Interaction. ANOVA is used to test H_{1a}, H_{1b}, H_{2a} and H_{2b}. MANOVA is used to test H_{3a} up to H_{3f}.

4. Data Analysis and Discussion

4.1 Pilot Test Results

The pilot test in this study involved three undergraduate students and nine graduate students of STIE YKPN Yogyakarta (YKPN Business School). After the subjects finished working on the case, the subjects were asked to rate the level of clarity of the presentation of the case (scale 1 to 10). Measuring the level of clarity of the presentation of an experimental case like this was also conducted by Qimyatussa'adah *et al.* (2013). On average, the subjects of the pilot test gave a value of 8, meaning that the presentation of the case of the experiment was quite clear.

4.2 Demographic Characteristics of the Experiment Subjects

There were 41 YKPN Business School students (19 males and 22 females) who participated in this experiment: The average age of the subjects was 22.6 years. Overall, cases 1, 2, 3, and 4, which were filled up by the subjects of the experiment, had comparable amounts.

4.3 Results of Manipulation Check

There were 41 experimental subjects who answered manipulation check correctly and only 3 subjects did not answer the manipulation check correctly. The experimental subjects who did not correctly answer manipulation check were excluded from further testing.

4.4 Descriptive Statistical Analysis

Based on the results of the descriptive analysis, the average stock price of announcing firms was lower if the announcing firms were audited by big-four accounting firms. The rival firms' stock prices were higher if the companies receiving GCO were audited by big-four accounting firms. In addition, the average stock price of all companies, the average composite index, and the average market

participant in the market with GCO were better than those in the market without GCO. The descriptive statistics are presented in Table 5.

Table 5. *Descriptive Statistics*

Variable		Experimental Market					
		Market With GCO			Market Without GCO		
		Min	Max	Mean	Min	Max	Mean
HSA (Rp)	All Accounting Firms	40	13600	2434	-	-	-
	Big four	40	13600	2544	-	-	-
	Non-big four	40	12000	2324	-	-	-
HSA (%)	All Accounting Firms	-28	36	-2,4	-	-	-
	Big four	-28	36	-0,4	-	-	-
	Non-big four	-20	20	-4	-	-	-
HSR (Rp)	All Accounting Firms	130	13600	3931	-	-	-
	Big four	130	13600	3931	-	-	-
	Non-big four	144	12000	3837	-	-	-
HSR (%)	All Accounting Firms	-28	36	11	-	-	-
	Big four	-28	36	19	-	-	-
	Non-big four	-20	20	3	-	-	-
HSS (Rp)	All Accounting Firms	1966	2794	2432	1430	2165	1862
	Big four	2336	2794	2550	1902	2165	2035
	Non-big four	1966	2564	2315	1430	1931	1688
COM	All Accounting Firms	76	141	114	76	101	87
	Big four	114	135	127	89	101	95
	Non-big four	76	141	101	76	93	80
MAR	All Accounting Firms	5	10	8	2	6	4
	Big four	5	10	7	3	6	4
	Non-big four	6	9	8	2	6	4

Source: *The data processing*

4.5 Assumptions Testing of Two-Way ANOVA with Interaction and MANOVA with Interaction

The results of testing the assumption of variance homogeneity using Levene's Test showed that the variance was not homogeneous (Gastwirth *et al.,* 2009). According to Frutos (2009), Gastwirth *et al.* (2009), and Ghozali (2011), although it did not meet the assumption of variance homogeneity, the ANOVA analysis was still possible to run because ANOVA is robust for the irregularity assumption of homogeneity from small to moderate levels. The test results of the covariance matrix using Box'M Test showed that the covariance matrix was homogeneous. The results of variance error homogeneity testing using Levene's test indicate that the variance error of all groups was homogeneous. The results of the data normality test using the

Shapiro-Wilk indicate that the data are not normally distributed. According to Ghozali (2011), although it did not meet the assumptions of data normality, the ANOVA and MANOVA analyses were still possible to run because the ANOVA and MANOVA tests are robust for the deviations of normality assumption from small to moderate levels.

4.6 Testing Hypotheses and Discussion

4.6.1 GCO Consequences for Announcing firms

Hypothesis 1a that states the stock-price estimation of announcing firms made by the financial analysts is lower when the auditor issues GCO than when the auditor issues an unqualified opinion is accepted as the significance of the F value at the GCO is 0.000 (less than 5%). This suggests that announcing firms obtain the negative consequences of the GCO it receives. This result is consistent with the results of the research conducted by Elliott *et al.* (2006); Schaub (2006); O'Reilly *et al.* (2006); O'Reilly (2010); Carson *et al.* (2012); Coelho *et al.* (2012) and Amin *et al.* (2014).

Table 6. *Average Stock Price Change and Average Stock Price Time 1*

Audit Opinion	Accounting Firms	Average Stock Price Change (%)	Average Stock Price Time 1 (Rp)
Unqualified Opinion	All Accounting Firms	11	4.112
	Big four	19	4.387
	Non-big four	3	3.837
GCO	All Accounting Firms	-16	756
	Big four	-20	701
	Non-big four	-12	812

The comparison of the stock price change average and the stock price average of Time 1 is presented in Table 6. Based on this table, the companies which receive GCO experienced a 16% decrease in the stock price average. On the other hand, companies that receive an unqualified opinion experienced a 11% increase in their stock price average. Based on the table, the average stock-price estimation of Time 1 (Rp4.112) made by the experimental subjects is higher when the companies received an unqualified opinion than that when the companies received GCO (Rp756).

Hypothesis 1b which states that the size of the accounting firm can weaken the negative effect of GCO on the stock prices of the announcing firm cannot be accepted.. Although the significance value of F at the GCO*AFS was 0.000 (less than 5%), but the percentage decline of the stock price of announcing firms audited by big-four accounting firms was higher than the percentage decline of the stock price of announcing firms audited by non-big four accounting firms. This suggests that the presence of big-four accounting firms does not weaken the negative consequences of GCO to announcing firms' stock prices. In other words, the

hypothesis testing results proved that the existence of big four accounting firms amplifies the negative consequences of GCO to announcing firms' stock prices.

Based on Table 6, the announcing firms audited by the big-four accounting firms experienced greater stock price declines than the announcing firms audited by the non-big four accounting firms. The average decline of stock prices of announcing firms audited by big- four accounting firms was 20%, while the average decline of stock prices of announcing firms audited by non-big four accounting firms amounted only to 12%. In addition, the average stock price of the Time 1 of the announcing firms audited by big-four accounting firms was lower than the average stock price of the Time 1 of the announcing firms audited by non-big four accounting firms. The average stock price of the Time 1of the announcing firms audited by big-four accounting firms amounted to Rp701, while the average stock price of the Time 1 of the announcing firms audited by non-big four accounting firms amounted to Rp812.

The table also indicates that the presence of big-four accounting firm can amplify the negative consequences of GCO to announcing firms' stock price. This can be so because the GCO is issued by the well-reputed accounting firms are considered to have a higher accuracy rate than the GCO issued by the accounting firms whose reputation is lower (DeAngelo, 1981; Geiger and Rama, 2006; Hapsoro and Aghasta, 2013; Myers *et al.,* 2014; Theriou *et al.,* 2014; Theriou and Aggelidis, 2014). Big-four accounting firms can be said to be superior to non-big four accounting firms. It can be seen from their better resources, better technology audits, and better motivation to work with a high level of professionalism (Sawan and Alsaqqa, 2013). GCO that has a high degree of accuracy can be an early warning for company bankruptcy. It is then reacted negatively by the decline of the stock prices.

The testing results of hypothesis 1 (GCO consequences for announcing firms) are shown in Table 8.

Table 8. *Results of Hypothesis Testing 1 (GCO Consequences for Announcing Firms)*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	33,672[a]	3	11,224	380,222	,000
Intercept	,659	1	,659	22,336	,000
GCO_1	28,983	1	28,983	981,800	,000
SPE_1	,192	1	,192	6,513	,011
GCO_1 * SPE_1	2,891	1	2,891	97,938	,000
Error	61,283	2076	,030		
Total	95,565	2080			
Corrected Total	94,955	2079			

Dependent Variable: SPA

4.6.2 GCO Consequences for Rival firms

Hypothesis 2a which states that the stock prices of companies not receiving GCO (rival firms) increases if other companies in the same industry receive GCO is accepted because the significance of the F value of the GCO is 0.000 (less than 5%). The result is consistent with the results of the researches conducted by Elliot *et al.* (2006) and Coelho *et al.* (2012). The experimental market in this study consisted of four industries (Industry 1, Industry 2, Industry 3, and Industry 4). Every industry consisted of 10 fictional companies. The numbers of announcing firms in each industry are respectively two, four, six, and eight, while the numbers of the rival firms in each industry are respectively eight, six, four and two. The comparison of the averages of stock price changes and the average stock prices of Time 1 is presented in Table 7.

Table 7. *Average Stock Price Change and Average Stock Price Time 1*

Industry	The Number of GCO	Accounting Firms	Average Stock Price Change (%)	Average of Stock Price Time 1 (Rp)
1	2 GCO	All Accounting Firms	26	6.906
		Big four	36	7.395
		Non-big four	16	6.416
2	4 GCO	All Accounting Firms	18	2.532
		Big four	28	2.714
		Non-big four	8	2.351
3	6 GCO	All Accounting Firms	-11	2.610
		Big four	-4	2.754
		Non-big four	-18	2.466
4	8 GCO	All Accounting Firms	-24	680
		Big four	-28	644
		Non-big four	-20	766

Based on Table 7, Industry 1 (with 2 GCOs) experienced a stock price increase of 26%, while Industry 2 (with 4 GCOs) experienced a stock price increase of 18%. It can be said that in Industry 1 and Industry 2 the competitive effect took place because the rival firms' stock price rose. Industry 3 (with 6 GCOs) experienced a stock price decline of 11%, while Industry 4 (with 8 GCOs) experienced a stock price decline of 24%. It can be said that in Industry 3 and Industry 4 the contagion effect took place because the rival firms experienced a decline in stock prices. These results prove that the competitive effect can be turned into a contagion effect if the number of the announcing firms is higher than the number of the rival firms.

Hypothesis 2b which states that the size of an accounting firm can weaken the GCO positive effect on the stock prices of the rival firms cannot be accepted. Although the obtained value of F at the GCO*AFS is 0.000 (less than 5%), but the increase percentage in the stock prices of the rival firms are higher when the announcing firms are audited by big-four accounting firms than when the announcing firms are audited

by non-big four accounting firms. This suggests that the presence of big four accounting firm does not weaken the positive consequences of GCO to announcing firms' stock prices. In other words, the test results of the hypothesis prove that the presence of big-four accounting firms has the role in strengthening the positive consequences of GCO to the rival firms' stock prices.

Based on Table 7, in Industry 1 and Industry 2, the increase of the rival firms' stock prices is higher when the announcing firms are audited by big-four accounting firms than when the announcing firms are audited by non-big four accounting firms. The increases of rival firms' stock prices in Industry 1 and Industry 2 audited by big-four accounting firms were respectively 36% and 28%, while the increases of the rival firms' stock prices of Industry 1 and Industry 2 audited by non-big four accounting firms were respectively 16% and 8%. On the other hand, the decline in rival firms' stock prices in Industry 3 and Industry 4 audited by big-four accounting firms were respectively at 4% and 28%, while the decline in the rival firms' stock prices in Industry 3 and Industry 4 audited by non-big four accounting firms were respectively 18% and 20%.

The table indicates that the presence of big four accounting firms can strengthen the positive consequences of GCO to the rival firms' stock prices. This is because the GCO issued by well-reputed accounting firms have a higher accuracy rate than the GCO issued by firms of lower reputation (DeAngelo, 1981; Geiger and Rama, 2006; Hapsoro and Aghasta, 2013; Myers *et al.*, 2014). GCO that has a high degree of accuracy can be an early warning of company bankruptcy. Then, the stakeholders of the companies that could potentially go bankrupt (announcing firms) will be more motivated to move the focus of their business to other companies which are in the same industry (rival firms). The testing results for hypothesis 2 (GCO consequences for rival firms) are shown in Table 9.

Table 9. *Results of Hypothesis Testing 2 (GCO Consequences for Rival Firms)*

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	25,827[a]	7	3,690	271,031	,000
Intercept	,616	1	,616	45,262	,000
GCO_2	21,309	3	7,103	521,790	,000
SPE_2	,580	1	,580	42,595	,000
GCO_2 * SPE_2	1,381	3	,460	33,814	,000
Error	14,049	1032	,014		
Total	51,008	1040			
Corrected Total	39,876	1039			

Dependent Variable: SPR

4.6.3 GCO Consequences for Capital Market

Hypothesis 3a which states that the stock prices of companies in a market with GCO is higher than the stock prices of companies in a market without GCO is accepted

because the significance of the F value at GCO of dependent variable SPC is 0.000 (less than 5%). The comparison of the average stock prices of all companies in both experimental markets is presented in Table 5. Based on this table, the average stock price of all companies in the market with GCO is higher than the average stock price of all companies in the market without GCO. The average stock price of all companies in the market with GCO is Rp2.432, while the average stock price of all companies in the market without GCO is Rp1.862. This suggests that the presence of GCO in a capital market can raise the stock price of all companies. The existence of GCO can minimize the uncertain condition in a capital market.

Hypothesis 3b which states that the size of an accounting firm can strengthen the positive effect of GCO to the stock price in a capital market is accepted as the significance of the F value at the GCO*AFS for the dependent variable SPC (the average stock price of all companies) is 0.000 (less than 5%). These results indicate that the stock prices of companies in the market with GCO are higher than the stock prices of companies in the market without GCO. Thus, the presence of big four accounting firms can strengthen the positive effect of GCO on the stock prices in a capital market.

Table 5 illustrates the role of the big-four accounting firms in a capital market. The average stock price of all companies will be higher in the capital market with big four accounting firms than the average stock price of all companies in the capital market with no big-four accounting firms. The average stock price of all companies in the market with GCO issued by big-four accounting firms is Rp2.550, while the average stock price of all companies in the market with GCO issued by non-big four accounting firms are only Rp2.315. The average stock price of all companies in the market without GCO issued by big four accounting firms is by Rp2.035, while the average price of all companies in the capital market without GCO issued by non-big four accounting firms are only Rp1.688. It can be said that the big-four accounting firms can strengthen the positive consequences of GCO in a capital market.

Hypothesis 3c which states that the composite index is higher in the market with GCO than the composite index in the market without GCO is accepted as the significance of the F value at the GCO for the dependent variable COM (composite index) is 0.000 (less than 5%). The comparison of the average composite index in both experimental markets is presented in Table 5. Based on this table, the average composite index in a market with GCO is higher than the average composite index in a market without GCO. The average composite index in a market with GCO is 114, while the average composite index on the market without GCO is only 87. This shows that the presence of GCO in a capital market may lead to higher composite index.

Hypothesis 3d which states that the size of an accounting firm can strengthen the positive effect of GCO on the composite index is accepted because the significance

of the F value at the GCO*AFS for the dependent variable of COM (composite index) is 0.095 (less than 10%). This result indicates that the composite index in a market with GCO is higher than the composite index in a market without GCO. Thus, the presence of big-four accounting firms can strengthen positive effect of GCO on the composite index in a capital market.

Table 5 illustrates the role of the big four accounting firms in a capital markets. The average composite index will be higher in the capital market with big-four accounting firms than the average composite index in the capital market without big-four accounting firms. The average composite index in a market with GCO issued by big-four accounting firms is 127, while the average composite index in a market with GCO issued by non-big four accounting firms are only 101. On the other hand, the average composite index in a market without GCO issued by big-four accounting firms is 95, while the average composite index in a market without GCO issued by non-big four accounting firms are only 80. It can be said that big-four accounting firms can strengthen the positive consequences of GCO on a capital market.

Hypothesis 3e, which states that the number of market participants in a market with GCO is higher than the number of market participants in a market without GCO is accepted because the significance of the F value at the GCO for the dependent variable MAR (market participant) is 0.000 (less than 5%). The level of uncertainty in the market without GCO is higher than the level of uncertainty in the market with GCO. If in a capital market, there are no companies that receive GCO, then the investor is difficult to identify companies whose survival are in doubt. Based on these results, the market participants are willing to participate in the capital market with GCO because the uncertainty is lower.

The comparison of the average market participation in both experimental markets is presented in Table 5. Market participation is measured using a scale of 10 points. The lowest figure 1 shows that after observing the condition of the capital markets, a market participant is not willing to participate in the capital markets. The highest figure 10 shows that after observing the condition of the capital markets, a market participant is willing to participate in capital markets. Based on the table, the average level of willingness to participate in the market without GCO is equal to 4 and the average level of willingness to participate in the market with GCO is equal to 7. This suggests that the presence of GCO in a capital market can increase the willingness to participate in the capital markets. The existence of GCO can minimize uncertainty in the capital markets so that the willingness to participate in a market with GCO is higher than the willingness to participate in a market without GCO.

Hypothesis 3f which states that the size of an accounting firm can strengthen the GCO positive effect on the market participants in a capital market is acceptable because the significance of the F value at the GCO*AFS for the dependent variable MAR (market participant) is 0.662 (higher than 5%). Based on this result, the market participant is willing to participate in a capital market with GCO because uncertainty

is lower. However, the presence of big-four accounting firms has not been proven to significantly strengthen the positive effect of GCO on the market participants in a capital market.

Table 5 illustrates the role of the big-four accounting firms in a capital market. The average level of willingness to participate in a capital market with big-four accounting firms higher than that in a capital market without big-four accounting firms. The average level of willingness to participate in a market with GCO issued by big-four accounting firms is 7, while the average level of willingness to participate in a market with GCO issued by non-big four accounting firms is 8. On the other hand, the level of willingness to participate in a market without GCO issued by big-four accounting firms is 4, while the average level of willingness to participate in a market without GCO issued by non-big four accounting firms is also 4. It can be said that the presence of big-four accounting firms is not proven to strengthen the positive consequences of GCO of a capital market. The testing results of hypothesis3 (GCO consequences for capital markets) are shown in Table 10.

Accounting firm size is only one dimension of auditor reputation. There are other dimensions of the auditor's reputation, for example, the auditor industry specialization. An accounting firm focusing on a particular industry has a deeper understanding than that does not focus on specific industries. Specialized-industry accounting firms are not always big- four accounting firms; second-tier and third-tier accounting firm are also capable of being specialists. This could explain why the dichotomy of big-four accounting firms and non-big four accounting firms do not lead to the increase of the willingness of market participants to participate again in a capital market.

Table 10. *Results of Hypothesis Testing 3 (GCO Consequences for Capital Markets)*

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	SPC_LN	2,683[a]	3	,894	408,734	,000
	COM_LN	3,568[b]	3	1,189	417,550	,000
	MAR	462,323[c]	3	154,108	93,425	,000
Intercept	SPC_LN	6236,245	1	6236,245	2850040,144	,000
	COM_LN	2263,841	1	2263,841	794873,811	,000
	MAR	3140,823	1	3140,823	1904,073	,000
GCO_3	SPC_LN	2,103	1	2,103	961,194	,000
	COM_LN	3,031	1	3,031	1064,079	,000
	MAR	340,907	1	340,907	206,669	,000
SPE_3	SPC_LN	,534	1	,534	243,826	,000
	COM_LN	,597	1	,597	209,444	,000
	MAR	3,995	1	3,995	2,422	,123
GCO_3 * SPE_3	SPC_LN	,098	1	,098	44,984	,000
	COM_LN	,031	1	,031	10,890	,001
	MAR	102,766	1	102,766	62,300	,000

	SPC_LN	,225	103	,002		
Error	COM_LN	,293	103	,003		
	MAR	169,901	103	1,650		
	SPC_LN	6256,790	107			
Total	COM_LN	2270,837	107			
	MAR	3787,000	107			
	SPC_LN	2,908	106			
Corrected Total	COM_LN	3,861	106			
	MAR	632,224	106			

5. Closing

5.1 Conclusion

GCO consequences for announcing firms is that the stock prices of announcing firms will decline. The decline will be greater if the announcing firms are audited by big-four accounting firms. The GCO consequence for rival firms is that the stock prices of rival firms will increase if some companies in the same industry receive GCO. The increase of the stock prices will be greater if the companies with GCO are audited by big-four accounting firms. The GCO consequence of the capital market is that the stock prices of all companies and the composite index will be higher. However, the existence of big four accounting firm has not been proven to increase the willingness of market participant to participate again in the capital market.

5.2 Limitations and Suggestions

This study has at least four limitations. First, the subjects of this experiment were not financial analysts, but students were asked to act as financial analysts. Future studies are expected to use real financial analysts as subjects of experiments so that the results of the estimation of stock-prices can be more accounted for. Second, the preparation of experimental instrument was quite difficult because there had been no previous studies that simultaneously observed the consequences of GCO for announcing firms, rival firms, and capital markets. Future studies are expected to conduct more consultation with the parties who are experts in the preparation of the experimental instruments. Third, there is only one auditor reputation proxy used in this study, namely the size of an accounting firm. Future studies are expected to add other proxies for auditor reputation, such as the industry specialization of an accounting firm and the tested experience of an accounting firm as shown by its establishment year.

5.3 Implications

Unlike an unqualified opinion that is expected by of all parties, GCO is an unpopular opinion because it reflects considerable doubt upon an entity's ability to maintain its viability. However, if there is no GCO in a capital market, companies' stock prices,

the composite index, and the market participants in the capital markets will tend to be low. This shows that GCO is good news for a capital market.

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