

**THE EFFECT OF INFORMATION ASYMMETRY ON THE
RELATIONSHIP BETWEEN INFORMATION COMPLEXITY AND
AUDIT QUALITY**

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ABSTRACT

In general, the opportunistic behavior that is sometimes used to inform the favorable situation of companies in companies with complex transactions with related parties and more business diversity than other companies is one of the important tools to limit such behaviors. Can be considered audit quality. Accordingly, in this research, the impact of information asymmetry on the relationship between information complexity and audit quality has been investigated. In this research, the number of 118 companies admitted to the Tehran Stock Exchange in the period of 2017-2021 has been examined. In order to test the hypotheses, logistic regression models were used, the findings of the research show that the complexity of information (transactions with related parties and business diversity) has a positive and significant effect on expertise in the auditing industry. Information asymmetry has a negative and significant effect on the relationship between information complexity and expertise in the auditing industry.

KEYWORDS: *Related Party Transactions, Business Diversification, Audit Industry Expertise, and Information Asymmetry.*

1. INTRODUCTION

According to the research of Al-Amoudi and Kumar (2017), complexity theory provides a framework for thinking and considering the world. This theory does not predict an event, but it is able to help the organization to identify its capabilities and find their risks. The complexity of the system is not caused by complex rules, but it is caused by the complex behavior that arises from intra-organizational relations, mutual interactions and two-way communication of factors within and between the system and the environment. Complexity can be classified according to structural complexity and operational complexity. Structural complexity is related to the predictability of the cost of products, the cost of the production process, and the cost of raw materials and labor. Operational complexity is related to the unexpected cost of variety in products due to uncertainty in customer demand. Also, it may be caused by the loss of continuity of the organization's activity due to deficiencies and deficiencies (Salehi et al., 2016). On the other hand, the quality that determines audit performance depends on several factors such as the auditor's abilities (including knowledge, experience, adaptability, and technical efficiency) and professional performance (including independence, objectivity, professional care, conflicts of interest, and judgment). (Aghaei., 2002). In general, the purpose of auditors is to protect the interests of shareholders against material misstatements and errors in financial statements. Auditors seek to increase audit

quality in order to maintain the credibility of their profession, their professional reputation and avoid lawsuits against them. Meanwhile, managers' motivations to apply their personal interests in providing information prevent auditors from reaching their goals. On the other hand, auditors can discover the opportunistic behaviors of managers by increasing the audit quality and limit them in performing such behaviors (Namazi et al., 2011). Based on this, considering the role that information complexity has on audit quality, taking into account information asymmetry, in this research, in the following sections, theoretical foundations and study backgrounds, hypotheses, methodology, findings and results The results of the research are presented.

2- Theoretical framework and research background

Complexity is one of the most important issues of financial reporting, and financial instruments are the most complicated among them. The American Stock Exchange (2008) defines the complexity of financial reporting as follows: "The problem of users of financial statements in order to understand and analyze the details of the economic activities and performance of the company by filling in the disclosure of accounting information in the form ACIFR:2008"10 -K). Peterson (2012) also stated the complexity of accounting information as follows:"Complexity is caused by inherent problems in using the accepted principles of accounting and delineating the economic activities of a company to recognize and measure the elements of financial statements using accounting rules". He showed that the complexity of accounting information is related to the recognition of income and also the inability to complete the annual report submission form to the Securities Exchange Commission (10-K). He focuses on income recognition for three reasons. 1) Income recognition exists in all companies. 2) Mistakes in income reporting usually lead to re-submission of financial statements. 3) Anecdotal evidence shows that income recognition can be complicated.

Hooten et al. (2020) found that disclosure of more information in accounting increases the work of financial statement preparers and auditors. Chen and colleagues (2015) found that disclosure quality is related to higher forecast accuracy and less deviation. Hooten et al. (2020) found that more complexity (more disclosure) is associated with less forecast accuracy, more forecast dispersion, and less partial awareness of stock analysts' recommendations and less sensitivity to earnings announcements. Some past researches such as Fama and Jensen (1983) found that disclosing more details can reduce pricing errors and increase the reliability of financial reports because disclosing details reduces managers' ability to manage profits (Salehi and colleagues, 2016). Lee and Yan (2012) found that the complexity of accounting standards leads to an increase in restatement of financial statements. In another research, Bushman and colleagues (2004) showed that an index of organizational and operational complexity is related to corporate governance and timeliness of profit (same source). In general, in this research, according to Hong and Cheng (2022), the factors that lead to information complexity are related party transactions and business diversity. In general, these cases can bring the risk of acceptance of the work by the audit institution because these factors may increase the risks of the audit operation and lead to a decrease in the quality of the audit.

Existing works show that related party transactions increase the complexity of the company's information (Lakonishuk and Lee, 2001) and reduce the transparency of information and increase the investor's risk in trusting the company's information for investment. In addition, according to agency theory, managers easily make unconventional behavioral decisions that benefit them and harm the firm. In addition, many empirical studies support the theory that

the company can implement transactions with more related parties to increase its profits (Jian and Wang, 2010), but this can harm the company's performance in the long run. On the contrary, the efficiency-enhancing theory suggests that transactions with related parties can be used to reduce transaction costs between firms and outsiders and optimize the allocation of internal resources (Habib et al., 2015; Khanna and Palpo, 2000). Auditing Standard No. 18 requires auditors to consider any type of exclusion of transactions with related parties as a serious fraud risk (PCAOB, 2014). Auditors need to exert more effort to implement special audit procedures. Dealing with a related party causes risks such as wrong statement or fraud, which increases audit risk (Habib et al., 2015). As a result, this research states that corporate financial statements with complex related party transactions can cause unreliable information asymmetry between the company and the CPA and increase the probability of audit failure due to company fraud. Conversely, auditors are required to apply more audit effort when working on related party transactions (PCAOB, 2014). And receive a high audit fee (Habib et al., 2015). Based on this, the works related to the employer-auditor match show that when deciding on the audit design, the auditors assess the business risk of the employer (Cassel et al., 2012). Therefore, it is likely that the auditors at the high level of transactions with related parties are looking to increase the quality of their audit so that this does not lead to the failure of the auditor and eventually punish them. The works related to agency theory show that business diversification increases the operational uncertainty and complexity of the manager's job and increases the information asymmetry between shareholders and managers (Harris et al., 1982- Myerson, 1982) and at the cost of agency. Leads higher. Managers are likely to commit to diversified investment based on personal interest in maximizing firm value because the diversified firm faces a high level of information asymmetry (Dennis et al., 1997). Therefore, some audit studies showed that diverse business owners have a high demand for high quality auditors (Francis, 2009). In addition, the information asymmetry hypothesis suggests that business diversification can increase organizational complexity and information asymmetry between firm outsiders and insider management. Outsiders' expectations of a diversified business firm are high-level earnings management (Jirapuran et al., 2008). However; auditors have limited ability to limit the profit management of various owners in the business (Choi et al., 2012). Consequently, we argue that high diversity can make business operations and information more complex and increase audit risk. A company that uses complex diversification to cover authentic financial figures has a high probability of audit failure due to corporate fraud (Hong and Cheng, 2022).

Agency theory suggests a high demand for diversified companies to appoint high quality auditors to reduce information asymmetry. Works on auditor selection show that firms with high levels of information complexity can hire high-quality auditors to reduce the degree of earnings management (Francis, 2009), and benefit from firm value (Lee and Yan, 2012). Additionally, based on the reputational support hypothesis, high-quality auditors perform more audit procedures with professional care when accepting diverse business owners, all of which can lead to increased audit quality. In various researches, they have used different criteria (the size of the audit firm, the auditor's reputation, the auditor's tenure, the auditor's expertise in the industry, etc.). Considering the importance of information complexity and the role that this can have on the failure and success of audit operations, this research aims to investigate the effect of information asymmetry on the relationship between information complexity and audit quality. In this regard, research has been carried out as follows:

Difond et al. (2009) believe that companies that are audited by independent and larger auditors disclose more reliable and quality information, which reduces information asymmetry. They also state that the reduction of information asymmetry causes a reduction in

the level of risk in the company's information environment. Behn and Kang (2013) investigated the relationship between audit quality and profit forecast with the assumption that audit quality has a positive relationship with the reliability of financial statements. The result of the research showed that companies that are audited by higher quality auditors have more accurate profit forecasts, and companies that are audited by non-big 5 auditors have higher profit forecast deviations (Hong and Cheng, 2022).

Al-Motri et al. (2015) investigated the relationship between audit quality and information asymmetry with an emphasis on agency cost of companies, they found in their research that audit is a method to reduce information asymmetry and agency costs, high quality audit reduces error auditing and reducing information asymmetry. Their research shows that audit quality and expertise in the audit industry have a positive relationship (same source).

Schneider (2017) investigated the impact of changing auditors on investment and investment risk. In this research, they found that companies that change their auditors have a higher risk assessment and lower invested amounts. Are (same source).

Essur and Anis (2018) investigated the relationship between auditor expertise on the relationship between the quality of accounting information and investment efficiency. In this research, they found that the quality of accounting information and audit expertise are two mechanisms that are effective in increasing investment efficiency. The quality of accounting information has a positive effect on investment efficiency for companies whose auditor is an expert in the industry.

Badral Mettakin et al. (2019) investigated the relationship between affiliation to a business group, audit quality and profit management. In this research, they found that profit management in companies affiliated to business groups has more profit management than independent companies. Also, audit quality has a negative effect on the relationship between business group affiliation and profit management (Hoton et al., 2020).

Hooten and colleagues (2020) investigated the relationship between the complexity of accounting reporting and analyst behavior. In this research, they used XBRL as a criterion of accounting complexity and found that financial analysts cover the complexity of accounting reporting less.

In a research, Hong and Cheng (2022) investigated the effect of information complexity on audit failure caused by company frauds: analyzing the individual level of the auditor. Their research results support the hypothesis of information asymmetry, that is, the increase in the complexity of companies' information increases the transparency of information. reduces and thus increases information asymmetry between managers and auditors and increases audit risk. This research shows that auditors should pay attention to the provision of professional audit work when the company has transactions with related parties and product diversity.

O'Connell and Cramer (2022) investigated the relationship between ownership concentration, board characteristics and some internal organizational mechanisms on audit quality and real earnings management and company performance in Ireland, they concluded that the presence of non-executive directors Being responsible and independent on the board of directors of companies has a positive effect on performance and profit management, but the size of the board of directors does not have a significant effect on performance, audit quality and real profit management. Also, ownership concentration has a significant relationship with earnings management (Hong and Cheng, 2022).

3- Research Hypotheses

According to the theoretical foundations presented and to answer the research questions, the following hypotheses are proposed:

Hypothesis (1): The complexity of information has an effect on audit quality.

Hypothesis 1-1: The complexity of transactions with related parties has an effect on audit quality.

Hypothesis 1-2: Complexity caused by business diversity has an effect on audit quality.

Hypothesis (2): Information asymmetry has an effect on the relationship between information complexity and audit quality.

Hypothesis 2-1: Information asymmetry has an effect on the relationship between the complexity of transactions with related parties and audit quality.

Hypothesis 2-2: Information asymmetry has an effect on the relationship between complexity caused by business diversity and audit quality.

4- Research Method

In terms of its purpose, the present research is considered as applied research. The goal of applied research is to develop applied knowledge in a specific field. In other words, applied research is directed towards the practical application of knowledge. Also, in terms of data collection, this research is descriptive and correlational in terms of type. Because it examines the degree of dependence of the dependent variable and the independent variable on each other. The research method is inductive, in which the theoretical foundations and background of the research are collected through the library, articles and the Internet, and in order to reject or prove the research hypothesis by applying appropriate statistical methods, inductive reasoning is used to generalize the results. In this research, to test the hypothesis, the financial statements of the banks will be used every year. It should be noted that SPSS software (version 21) and Eviews (version 9) were used for statistical analysis.

4-1- Hypothesis Testing Model

Considering that this research examines the impact of information complexity on audit quality with an emphasis on information asymmetry, therefore, the method of measuring variables (independent, dependent, controlling and moderating) and the Agemon model of assumptions based on the research of O'Connell and Kramer (2022) and Hong and Cheng (2022) considered as follows.

Hypothesis test model 1-1:

$$AUDSPEC_{it} = \beta_0 + \beta_1 RPT_{it} + \beta_2 SIZE + \beta_3 LEV + \beta_4 LIQ + \beta_5 LOSS + \beta_6 Sub + \beta_7 AGE + \beta_8 Conown + \beta_9 NStOwn + e_{it}$$

Hypothesis test model 1-2:

$$AUDSPEC_{it} = \beta_0 + \beta_1 Diversification_{it} + \beta_2 SIZE + \beta_3 LEV + \beta_4 LIQ + \beta_5 LOSS + \beta_6 Sub + \beta_7 AGE + \beta_8 Conown + \beta_9 NStOwn + e_{it}$$

Hypothesis test model 2-1:

$$AUDSPEC_{it} = \beta_0 + \beta_1 RPT_{it} + \beta_2 ASU_{it} + \beta_3 RPT * ASU_{it} + \beta_4 SIZE + \beta_5 LEV + \beta_6 LIQ + \beta_7 LOSS + \beta_8 Sub + \beta_9 AGE + \beta_{10} Conown + \beta_{11} NStOwn + e_{it}$$

Hypothesis test model 2-2:

$$AUDSPEC_{it} = \beta_0 + \beta_1 Diversification_{it} + \beta_2 ASU_{it} + \beta_3 Diversification * ASU_{it} + \beta_4 SIZE + \beta_5 LEV + \beta_6 LIQ + \beta_7 LOSS + \beta_8 Sub + \beta_9 AGE + \beta_{10} Conown + \beta_{11} NStOwn + e_{it}$$

AUDSPEC: Expertise in the audit industry, the audit quality index of i company in Salt

RPT: complexity index caused by transactions with related parties of company i in year t

Diversification: the complexity index caused by the business diversification of company i in year t

ASU: Information asymmetry index of company i in the year

SIZE: The size index of company i in year t: which is calculated through the natural logarithm of total assets at the end of the financial period.

LEV: financial leverage of company i in year t: which is calculated through the ratio of total liabilities to total assets at the end of the period.

LIQ: Ratio of current assets to total assets of company i in year t

LOSS: loss of company i in year t: if the company is loss, the virtual variable is 1 (1), otherwise, the virtual variable is considered 0 (zero).

Sub: companies affiliated with the business group to company i in year 1: if the company belongs to the business group, the virtual variable 1 (one) is used, and otherwise, the virtual variable 0 (zero) is used.

AGE: the logarithm of the life of the company i in t years: the life of the company is calculated through the natural logarithm of the number of years passed from the date of establishment of the company to the year in question.

Conown: The largest percentage of shares owned by the largest shareholder of i company in the year

NStOwn: private shareholder of company i in year t: if the company has more than 50% of private shares, virtual variable 1 (one) is used, otherwise virtual variable 0 (zero) is used.

e: the error value of company i's model in salt

4-1-1- Dependent Variable

The dependent variable in this research is audit quality, which is measured by the expertise index in the audit industry. "Market share" has been used to calculate this variable, because many of the criteria used to measure expertise in the auditor industry are collected through tools such as questionnaires or interviews, which itself affects the validity of the research results.

Expertise in the auditor industry is calculated using two approaches: market share and audit firm's portfolio share, and the market share approach is used in this research. Because this approach has been emphasized in the research of Etemadi et al. (2008), also collecting the information needed to calculate the expertise in the auditor industry using the portfolio share approach of the auditing firm in Iran is facing many problems.

The market share of auditors is also calculated as follows:

$$\left(\frac{1}{(IF)}\right) * \left(\frac{1}{2}\right) < \left(\frac{EA}{(EAT)}\right)$$

In relation number two, the set of assets of all the owners of a specific auditing firm in a

specific industry (EA) is divided by the total assets of all the owners in this industry (EAT). Following Palm Rose (1986), institutions in this research are considered as industry experts whose market share (i.e. the term on the right side of the equation) is greater than the term of one multiplied by the number of firms in an industry (IF). be one divided by two (that is, the expression on the left side of the equation).

4-1-2- Independent Variables

The independent variables in this research are the complexity of the information, which is measured by the complexity indices resulting from transactions with related parties and business diversity.

Complexity caused by transactions with related parties: to measure this variable, the sum of the value of transactions with related parties divided by the market value of the company at the end of the year is used (IsmailzadehMoghri et al., 2016).

Complexity caused by business diversity: competition in the product market is measured based on the Herfindahl-Hirschman index, which is used in the research of Giroud and Muller (2008), Dita et al. (2012). It should be mentioned that the mentioned index calculates the level of competitiveness in different industries and is defined as the following relationship:

$$herfindahl - HirschhmanIndx(HHI) = \sum_{i=1}^n \left(\frac{S_i}{S}\right)^2$$

si: sales revenue of company i

S: sales revenue of existing companies in the industry in which company i operates.

n: number of companies in the industry

Herfindahl-Hirschman index measures the level of industry concentration. The larger this index is (in this research, more than the average in that industry), the concentration is higher and there is less competition in the industry, and vice versa (Dita et al., 2012). Accordingly, the higher the degree of concentration, the greater the complexity caused by business diversity (from virtual variable 1) and otherwise, the complexity caused by business diversity is less (from virtual variable 0).

4-1-3- Modifier Variable

In this research, to measure the information asymmetry between investors, we use the model designed by Venkatash and Chiang (1986) to determine the range of the proposed price of buying and selling stocks. This model has been used in many researches. In Iran, Ghaemi and Watanparast (2004) used this model to measure information asymmetry. The mentioned model is as follows:

$$ASYMMETRY_{it} = \frac{(AP - BP) \times 100}{(AP + BP) \div 2}$$

SPREAD_{it}= Offer to buy and sell stocks in the period of price difference range

AP_{it} = the average price offer for the sale of shares of company i in period t

BP_{it} = the average price of the offer to buy shares of company i in period t

It should be mentioned that in this model, the higher the number obtained indicates high

information asymmetry and the lower it is, it indicates low information asymmetry, and the zero of the above relationship indicates information asymmetry in the investigated company (Salehi et al., 2016).

5- Society and Statistical Sample

The statistical population of this research includes the companies accepted in the Tehran Stock Exchange, and these companies are tested in the period of 2017 to 2021. has been:

1. To comply with their comparability, the financial year of the companies should end at the end of March every year.
2. During the time period of the research, they have not stopped their activities and have not changed their financial period.
3. All the information needed by companies for research should be available.
4. Do not belong to banks and financial institutions (investment companies, financial intermediation, holding and leasing companies).

6- Research Findings

6-1- Descriptive Statistics of Research Variables

The results of the descriptive analysis of research variables are presented in Table (1).

TABLE (1) DESCRIPTIVE STATISTICS RESULTS OF RESEARCH VARIABLES

Variable	Mean	Median	Max.	Min.	STD	Skewness	Kurtosis
Complexity due to Related Party Transactions (RPT)	0.655	0.537	1.836	0.001	0.612	0.988	3.853
Information Asymmetry (ASU)	0.030	0.032	0.052	0.000	0.010	-0.662	2.956
Company size (SIZE)	14.255	14.103	19.249	10.532	1.400	0.691	2.379
financial leverage (LEV)	0.624	0.604	4.002	0.090	0.295	3.660	35.416
Ratio of current assets to total assets (LIQ)	0.683	0.718	0.972	0.140	0.183	-0.649	2.590
companyLifeloga rithm (AGE)	3.659	3.737	4.189	2.484	0.345	-0.737	2.909
Percentage of shares owned by the largest shareholder (CONOWN)	0.500	0.510	0.959	0.056	0.203	0.001	2.622
Expertise in Auditing Industry (AUDSPEC)	Year of companies with expertise in auditing industry: 309 Year of companies without expertise in audit industry: 281						
Complexity	Year of companies with complexity due to business						

caused by business diversity (Diversification)	diversity: 385 The year of companies without complexity due to business diversity: 205
The loss of the company (LOSS)	Year of unprofitable companies: 95 Year of unprofitable companies: 495
Private shareholder (NSTOWN)	Year of companies with private shareholders: 347 Year of companies without private shareholders: 243
Affiliation to business group (SUB)	Year of companies affiliated to the business group: 363 Year of companies not affiliated to the business group: 227

According to table (1), the number of company-year observations based on balanced composite data, 590 observations were equal to 118 companies in 5 years. According to the descriptive statistics, the above indices can be divided into central indices, dispersion and other indices, where the central indices are mean and median indices, dispersion indices are standard deviation indices and other indices are The index is maximum, minimum, skewness and elongation. In short, the variable of financial leverage shows that the average of the sample is 62.4%, so it can be said that the companies of the statistical society use more debt to secure their capital structure, so they are in a good position in terms of securing credit. Also, expertise in the audit industry shows that the year of companies with expertise in the audit industry: 309 observations and the year of companies without expertise in the audit industry: 281 observations. Regarding the negative skewness coefficient of some variables, it can be said that this indicates the existence of skewness to the right and the tendency of these variables to have smaller values. Also, the positiveness of the coefficients of elongation indicates that it is higher than the normal distribution and the data are around the mean is centered.

6-2- Normality test of the Dependent Variable of the Research

The normality of the dependent variable is one of the basic assumptions in hypothesis testing, but considering that the dependent variable is a qualitative research and is variable with virtual variables (0 and 1), it is obvious that the virtual variable does not have a normal distribution. The basis for hypothesis testing is non-linear regressions such as logistic regression. It should be noted that the dependent variable in this is audit quality, whose indicator is expertise in the audit industry.

6-3- Unit root test (Manai) of Research Variables

In this research, the generalized Dickey-Fuller (ADF) test was used for the Manney test. The results of this test are presented in table (2).

TABLE (2) RESULTS OF THE UNIT ROOT TEST

Variable	Interrupt count	t statistic	Sig
RPT	0	-12.215	0.000
ASU	0	-13.544	0.000
SIZE	0	-7.982	0.000
LEV	0	-11.851	0.000
LIQ	0	-7.172	0.000
AGE	0	-6.135	0.000
CONOWN	0	-7.022	0.000

According to the results presented in the table above, all research variables have a confidence level of 95%.

6-4- The Results of the Research Hypothesis Test

The results of the default test and the regression test are as follows.

6-4-1- The Results of the Sub-Hypothesis Test 1-1

Hypothesis 1-1: The complexity of transactions with related parties has an effect on audit quality.

TABLE (3) MODEL ESTIMATION RESULTS FOR SUB-HYPOTHESIS 1-1

Variable	Coefficient	Z Statistic	Prob.	VIF Statistic
RPT	0.098	2.455	0.010	1.055
SIZE	0.627	6.990	0.000	1.265
LEV	-0.320	-0.807	0.419	1.430
LIQ	-0.198	-0.354	0.722	1.177
LOSS	-0.353	-1.147	0.251	1.372
SUB	0.763	3.311	0.000	1.483
AGE	0.044	0.160	0.872	1.043
CONOWN	-0.458	-0.851	0.394	1.457
NSTOWN	-0.659	-3.217	0.001	1.249
C	-8.493	-5.228	0.000	-
LR Test Prob.			127.993 0.000)	
HL Prob.			10.343 (0.241)	
Andrews Statistic Prob.			14.211 (0.147)	
Mcfadden R-SQ			0.156	

According to the results of the hypothesis test, the significance level of the LR statistic (0.000) is lower than the accepted error level (5%) and the whole regression model is significant. The results of the goodness of fit test (HL and Andrews tests) also show that the mentioned regression model has a good fit. Also, due to the low probability level (Prob.) of the Z statistic from the accepted error level, for the coefficient of β_1 (independent variable), the test results show that the complexity index caused by transactions with related parties (information complexity index) on expertise It has a significant positive impact in the auditing industry. Among the control variables, company size and affiliation to a business group have a significant positive effect on expertise in the auditing industry, and private shareholders have a significant negative impact on expertise in the auditing industry. McFadden's coefficient of determination also shows that the variables included in the regression were able to explain 15.6% of the changes in the expertise variable in the auditing industry. Finally, with the collinearity test between research variables, the value of VIF (Variance Inflation Factor) for all variables is smaller than 5, indicating that there is no strong collinearity problem between research variables.

6-4-2- The Results of the Sub-Hypothesis Test 1-2

Hypothesis 1-2: Complexity caused by business diversity has an effect on audit quality.

TABLE (4) MODEL ESTIMATION RESULTS FOR SUB-HYPOTHESIS 1-2

Variable	Coefficient	Z Statistic	Prob.	VIF Statistic
Diversification	1.212	5.465	0.000	1.116
SIZE	0.707	7.699	0.000	1.293
LEV	-0.452	-1.145	0.251	1.432
LIQ	0.060	0.104	0.916	1.161
LOSS	-0.096	-0.304	0.760	1.402
SUB	0.860	3.667	0.000	1.455
AGE	0.044	0.154	0.877	1.043
CONOWN	-0.755	-1.364	0.172	1.466
NSTOWN	-0.893	-4.084	0.000	1.285
C	-10.283	-5.970	0.000	-
LR Test Prob.			160.089 0.000)(
HL Prob.			13.779 0.173)(
Andrews Statistic Prob.			17.856 0.112)(
McFadden R-SQ			0.196	

Due to the low probability level (Prob.) of the Z statistic from the accepted error level, for the coefficient of β_1 (independent variable), the test results show that the complexity index due to business diversity (an index of information complexity) has a greater influence on expertise in The audit industry has a significant positive impact. McFadden's coefficient of determination also shows that the variables included in the regression were able to explain 19.6% of the changes in the expertise variable in the auditing industry.

6-4-3- Results of Sub-Hypothesis Test 2-1

Hypothesis 2-1: Information asymmetry has an effect on the relationship between the complexity of transactions with related parties and audit quality.

TABLE (5) MODEL ESTIMATION RESULTS FOR SUB-HYPOTHESIS 2-1

Variable	Coefficient	Z Statistic	Prob.	VIF Statistic
RPT	0.536	2.349	0.011	1.236
ASU	-0.142	-0.472	0.636	1.862
RPT*ASU	-0.790	-2.097	0.036	2.527
SIZE	0.615	6.852	0.000	1.281
LEV	-0.291	-0.739	0.459	1.447
LIQ	-0.300	-0.535	0.592	1.181
LOSS	-0.336	-1.092	0.274	1.378

SUB	0.852	3.615	0.000	1.524
AGE	0.073	0.260	0.794	1.050
CONOWN	-0.668	-1.198	0.230	1.546
NSTOWN	-0.725	-3.485	0.000	1.256
C	-8.369	-5.073	0.000	-
LR Test Prob.			136.174 0.000)(
HL Prob.			8.212 0.339)(
Andrews Statistic Prob.			13.743 0.159)(
McFadden R-SQ			0.166	

Considering the low probability level (Prob.) of the Z statistic from the accepted error level, for the coefficient of β_3 (independent variable), the test results show that the complexity caused by transactions with related parties and the asymmetry of information on expertise in the audit industry. It has a significant negative. McFadden's coefficient of determination also shows that the variables included in the regression were able to explain 16.6% of the changes in the expertise variable in the auditing industry.

6-4-4- The Results of the Sub-Hypothesis Test 2-2

Hypothesis 2-2: Information asymmetry has an effect on the relationship between complexity caused by business diversity and audit quality.

TABLE (6) MODEL ESTIMATION RESULTS FOR SUB-HYPOTHESIS 2-2

Variable	Coefficient	Z Statistic	Prob.	VIF Statistic
Diversification	0.825	2.032	0.042	3.139
ASU	-1.191	-2.282	0.027	2.667
Diversification * ASU	-0.732	-2.004	0.046	3.120
SIZE	0.733	7.842	0.000	1.302
LEV	-0.523	-1.317	0.187	1.439
LIQ	0.113	0.196	0.844	1.168
LOSS	-0.036	-0.113	0.909	1.415
SUB	0.892	3.713	0.000	1.515
AGE	0.139	0.482	0.629	1.065
CONOWN	-0.710	-1.247	0.212	1.515
NSTOWN	-0.957	-4.300	0.000	1.288
C	-9.417	-5.420	0.000	-
LR Test Prob.			169.131 0.000)(
HL Prob.			12.172 0.144)(
Andrews Statistic Prob.			19.516 0.104)(
McFadden R-SQ			0.207	

Considering the low probability level (Prob.) of the Z statistic from the accepted error level, for the coefficient of β_3 (independent variable), the test results show that the complexity caused by business diversity and information asymmetry has an effect on expertise in the

auditing industry. It is negative and significant. McFadden's coefficient of determination also shows that the variables included in the regression were able to explain 20.7% of the changes in the expertise variable in the auditing industry.

7- CONCLUSIONS

In general, the opportunistic behavior that is sometimes used to inform the favorable situation of companies in companies with complex transactions with related parties and more business diversity than other companies is one of the important tools to limit such behaviors. Can be considered audit quality. Accordingly, in this research, the impact of information asymmetry on the relationship between information complexity and audit quality in Tehran Stock Exchange companies has been investigated. The results indicate that information complexity (transactions with related parties and business diversity) has a positive and significant effect on expertise in the auditing industry. Information asymmetry has a negative and significant effect on the relationship between information complexity and expertise in the auditing industry. In general, regarding the analysis of the results, it can be said that the ruling and powerful shareholders of business groups with complex business diversity use internal information to increase the share of profitable companies and transfer profits between group members by conducting intra-group transactions. They do. Accordingly, the profit of these business groups is often of lower quality than other companies, and profit management is more visible in these companies. Therefore, in these companies, auditors often seek to increase audit quality (by increasing expertise in the industry) in order to avoid legal claims against them. Also, regarding the inverse effect of information asymmetry on the relationship between information complexity (transactions with related parties and business diversity) and expertise in the audit industry, it can be said that probably due to the existence of information asymmetry in companies that have complex transactions with related parties and The diversity of business is that quality institutions have refused to accept audit work because these institutions are always seeking to increase the credibility of their professional actions due to the good reputation of professional care they have.

According to the results, users of financial statements should always pay attention to variables such as the complexity of transactions with related parties and the diversity of business when analyzing for the purchase of company shares, because these variables often lead to an increase in the quality of the audit of institutions. Also, considering that the goal of the managers is to provide the trust of the owners of the company, and then they should consider this point to always seek to use quality auditors. It is suggested to the stock exchange organization to determine the real value of the companies, to clarify their information and to better understand their performance, to adopt rules and regulations that, as much as possible, the companies admitted to the stock exchange over many years have quality auditors to audit the financial statements. To use the results of this research also contain useful information for economic managers, financial analysts, researchers and students; because the effect of information asymmetry on the relationship between information complexity and audit quality is very important.

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