



## Investors' organizational trust and firm's combined performance: investigating of reciprocal relationship

**Nader Panahi Milani**

PhD Student, Department of Accounting, Faculty of Management and Accounting, Qazvin Branch, Islamic Azad University, Qazvin, Iran  
Panahi\_n63@yahoo.com

**Hossein Kazemi**

Assistant Professor, Department of Accounting, Qazvin Branch, Islamic Azad University, Qazvin, Iran  
(Correspondence Author)  
kazemiho@yahoo.com

**Gholamreza Kordestani**

Professor, Department of Accounting, Imam Khomeini International University, Qazvin, Iran  
kordestani@soc.ikiu.ac.ir

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### ABSTRACT

Investors' organizational trust improves the company's financial performance, on the other hand, the company's performance also affects the investors' organizational trust. Therefore, it is assumed that there is a reciprocal relationship between investors' organizational trust and company performance, The purpose of this research is to investigate this reciprocal relationship. To achieve the research's purpose, the data of 970 observations in the ten year period from 2010 to 2019 has been analyzed based on multivariate regression models and combined data. The findings show that the company's performance is affected by investors' organizational trust, and conversely, investors' organizational trust affects the company's performance. One innovation of this research is the investigating the reciprocal relationship between investors' organizational trust and the company's performance. Another innovation is the creation of a composite index from a total of 9 known indicators for measuring the company's financial performance. These indicators include Tobin's Q, EVA, ROA, ROE, ROS, P/E, IR, IGR, and SGR, using the principal component analysis method.

### Keywords:

Investors' organizational trust, reciprocal relationship, firm's combined performance, principal component analysis.

## 1. Introduction

Organizational trust can be defined as: the willingness of one party to be vulnerable to the actions of the other party based on the expectation that the other party will perform a certain action or activity. Henning et al (2019). Feng and Kulin (2018) also believe that organizational trust is not only an important factor in successful relationships but also a resource to create competitive advantages for firms (Meng and Berger, 2018). Goli (2016) believes that organizational trust is an important issue in each organization leading to extensive cooperation between the staff and management (Abbasi, 2020). On the other hand, firm performance is the achievement of organizational and social goals and the fulfillment of responsibilities undertaken by individuals (Blanchard and Powell, 2014). There is much evidence that organizational trust helps to achieve better performance by reducing transaction costs. This negative relationship between trust and transaction costs is supported by Maitland and Bryson (1985). Belk (2014) believes that, besides reducing agency costs and transaction costs, trust encourages the two parties to move toward further investments and, consequently, further activities. Investors' organizational trust means investors' willingness to invest in firms while expecting that activities of the other party be profitable in order to face the lowest investment risk. According to various researchers' views on the economic role of organizational trust, this kind of investors' trust is also highly important for firms from an economic point of view. Therefore, firms should try to attract investors' trust through management, price stabilization, etc. in order to achieve maximum productivity (Mohammadi, 2016).

The economic role of trust in firms has received great attention from academic research. Trust is an integral part of firms linked with corporate relations, particularly with the beneficiary groups such as staff, suppliers, customers, consumers, investors, and society (Xu, 2019). A large number of studies have been conducted on trust, organizational trust, and performance, but the interactions between trust and performance, especially investors' organizational trust, have not been studied. On the other hand, organizational trust decreases transaction costs and agency costs and improves firm performance, and an improvement in firm performance enhances organizational trust. Therefore, investigating

organizational trust from an investor viewpoint may be economically vital for firms. Accordingly, we intend to create a mutual link between investors' organizational trust and firm performance.

Various studies have been conducted on trust, organizational trust, and performance. For example, preserving organizational trust to prevent a disruption in the organization (Gustafsson et al., 2020), the impact of trust on performance, based on the count of words in 10-K filings<sup>1</sup> (Xu, 2019), and the impact of trust on performance, which was assessed at working teams level (Costa, 2003; Jong and Elfring, 2010). Also, the impact of trust on brand performance (Rojooei, 2020), the impact of trust on the activities and dynamics of a team or group, and how can trust help and affect a team or group (Costa, 2003; Dirks, 2006; Tzafrir, 2005; Ugboro, 2003) were studied. Furthermore, Beugelsdijk et al. (2005) investigated the effect of investors' organizational trust on the economic growth of firms.

The main question to be answered is how investors' organizational trust affects firm performance and vice versa?

The answer to this question has been given based on the data analysis of 970 observations of companies admitted to the Tehran Stock Exchange, in the period of 2010 to 2019, based on the estimation of regression models and combined data.

Generally, the study of new topics expands knowledge in different fields and examines the reciprocal relationship between investors' organizational trust and companies' performance, as well as creating a composite index from a total of 9 known indicators for measuring the company's financial performance, Tobin's Q, EVA, ROA, ROE, ROS, P/E, IR, IGR, SGR using principal component analysis method can be one of these.

This research is organized into six sections. Section 2 presents theoretical foundations and research background. Section 3 poses research hypotheses. Section 4 discusses the methodology. Section 5 represents research findings. Finally, Section 6 presents discussions and a conclusion.

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<sup>1</sup> This form is related to annual reports. Publishers should submit their annual information in this form to the Securities and Exchange Commission (SEC).

## **2. Literature Review and research background**

Trust theories, originating from the social exchange theory (Whitener et al., 1998), indicate that the exchange of benefits between parties leads to trust, and enhanced performance and profitability enable the firm to invest in the education and development of employees, leading to increased income in future (Tzafirir, 2005).

According to McAllister (2013), trust is divided into two categories, namely, cognition-based trust and affect-based trust. Cognition-based trust is achieved based on knowledge and perceptions of others, while affect-based trust emphasizes the presence of feelings and emotions between individuals (Bakiev, 2013).

According to Ellonen et al. (2008), organizational trust is divided into two types, namely interpersonal and impersonal trust. Interpersonal trust can be categorized into two types, namely lateral trust, which is related to trust among employees, and vertical trust, which is related to trust between employees and managers. Also, institutional trust is the impersonal kind of trust, which refers to the trust of an organization's members in its strategy, vision, etc.

Covey and Conant (2016) believe that trust does not mean something that is good to be, but it should be, and without it, any part of the organization may crash. In this regard, Gustafsson et al. (2020) believe that a disruption in technical, economic, political, and social principles can lead to a challenge for modern organizations, increase employees' and investors' mistrust, and affect organizations' performance. According to Sako (1998), trust decreases costs and creates a motivational force improving firms' efficiency and performance.

Shnai et al. (2016) and Elsad et al. (2017) believe that individuals preferably communicate through trust-affected relationships (Henning et al., 2019).

Cabanillas (2017) believes that, by changing their performance, firms can attract investors' organizational trust and change their behavior regarding technology acceptance, leading to economic advantage for firms (Singh and Sinha, 2020).

Dietrich et al. (2001) assessed the relationship between investor risk and investors' organizational trust. They believe that if investors trust the manager's truthfulness and full and clear information disclosure, they invest without an analysis. Therefore, investors'

organizational trust increases their investment risk. Various studies have been carried out on trust, organizational trust, and firm performance, among with a few are mentioned here.

In research entitled "Preserving organizational trust during disruption," Gustafsson et al. (2020) investigated the trust theory in three ways by conducting a multi-case study of four organizations that experienced major disruptions due to the global financial crisis in 2009. First, they focused on trust-building by developing a conceptual perception of trust preservation as a distinct phenomenon. Second, they developed a theoretical model to explain how organizational actors achieve the preservation of their employees' trust in their organization. Third, they referred to trust preservation as a presentation and extension of trust.

The impact of trust on performance was analyzed based on the count of trust words in 10-K filings, and the authors found that trust affected future firm performance. Also, Shad et al. (2019) studied the integration of sustainability reporting into organizational risk management and its relationship with business performance. The results indicated that appropriate use of organizational risk management significantly affected firm performance (Xu et al., 2019; Ghaderi et al., 2020).

Glaser et al. (2019) investigated the impact of investors' organizational trust on trade volume using online questionnaires. They concluded that increased organizational trust of investors led to an increase in trade volume.

A part of research on organizational trust and performance shows that organizational trust based on knowledge and recognition is positively associated with corporate governance, while organizational trust based on rationality has a negative relationship with corporate governance. Also, corporate governance is found to be positively correlated with brand performance. Furthermore, the performance of Iranian investment firms was assessed, and it was found that stock exchange investments and project investments had the most impact on firm performance (Jojoei, 2020; Nasiri and Soleimani, 2020).

Some case studies on the impact of applicants' loyalty on financial performance with the mediating role of organizational trust show that organizational trust plays a fully mediating role in the impact of applicants' loyalty on financial performance but a

partial mediating role in the impact of applicants' loyalty dimensions on financial performance (Babajani et al., 2019).

As discussed, the existing studies have investigated trust and performance from various aspects, but domestic studies, such as those mentioned above, have only dealt with trust and performance in small samples and special cases. So far, no study concerning the reciprocal relationship between investors' organizational trust and firm performance has assessed the economic role of trust and performance at a firm level and particularly in a quantitative method. This reveals the innovative aspect of the present research.

### 2.1. hypothesis

There is ample evidence that trust helps to achieve better performance by reducing transaction costs, agency costs, etc. Trust leads to cooperation that reduces opportunism and transaction costs (Maitland and Bryson, 1985; Bromiley and Cummings, 1995).

The negative relationship between trust and transaction costs was proven by Belk (2014). In prior research, trust and performance have been assessed in small samples and separately, and the interactions between these variables and their economic dimensions have not been assessed at a firm level. Thus, the first hypothesis is proposed as follows.

**Hypothesis 1:** Investors' organizational trust improves firm performance.

Trust and performance can affect each other, while Hypothesis 1 shows that trust enhances firm performance. Strong arguments prove that better performance can reinforce trust. Improved performance of a team or group motivates management to determine further responsibilities for members, which indeed reflects the increased trust of management in the team or group (Xu et al., 2019). In addition, according to Dirks (2000), the trust of a team

in its manager affects the team's performance and mediates the relationship between teams' past performance and future performance. By combining the above arguments, we can suggest the following hypothesis.

**Hypothesis 2:** Firm performance fosters investors' organizational trust.

The distinction of this research is that, firstly, it examines the relationship between investors' organizational trust on company performance and company performance on investors' organizational trust in a reciprocal relationship, and secondly, it is based on 9 well-known financial performance indicators, including Tobin's Q, EVA, ROA, ROE, ROS, P/E, IR, IGR, SGR is a composite index calculated using principal component analysis.

### 3. methods

Data of 97 firms listed on the Tehran Stock Exchange from 2010 to 2019 are analyzed to investigate the interaction between investors' organizational trust and firm performance. The sample consists of manufacturing companies whose fiscal year ended on the last day of the Persian year, while their stocks were traded actively, and their fiscal year did not change during the studied period. In this research, pooled data are analyzed using multivariate regression models, and the Kolmogorov-Smirnov test was used to check the normality of the data distribution. The significance level of the tests for variables is less than 5%, indicating that data follow a nonnormal distribution. However, since the number of data is more than 30 (970 cases), it is not necessary to normalize data (Azar et al., 2009). Also, to examine the correlation between the variables, we use Spearman's test due to the nonnormality of data distribution. The results indicate that there is no strong correlation between variables, and thus there is no collinearity. Table 1 represents the sample selection process.

**Table 1. Sample screening**

All firms accepted in the stock exchange during the present period.	۳۳۷
Firms have been accepted in the stock exchange after during the present period.	(30)
Firms which have been suspended during the research period or have left the stock exchange.	(۴۶)
All firms have changed their financial year.	(59)
Financial intermediary firms (investing, holding, leasing, and banks).	(۳۹)
The stock of those firms has not been actively dealt in the market, during the present period.	(51)
The year 2019 financial statements of those firms have not yet been presented during the period of completing the research.	(۷)

The rights of the stock owners of the firms not to be negative.	(8)
All testable statistical specimen through considering defaults.	<u>AV</u>

**3.1. models and variables**

Since investors’ organizational trust is measured by both models of Choi (2010) and Saghafi (2010), two models are used to test each hypothesis. The reason for the use of two methods to measure organizational trust is to compare the models and know which model gives a solution. Therefore, we used models (1) and (2) to test Hypothesis 1 and models (3) and (4) to test Hypothesis 2, as follows.

Model(1):

$$combined\ performance_{i,t} = \beta_0 + \beta_1 investortrust1_{i,t} + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} + \beta_5 FirmAge_{i,t} + \beta_6 Auditreport_{i,t} + \epsilon_{i,t}$$

Model(2):

$$combined\ performance_{i,t} = \beta_0 + \beta_1 investortrust2_{i,t} + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} + \beta_5 FirmAge_{i,t} + \beta_6 Auditreport_{i,t} + \epsilon_{i,t}$$

Model(3):

$$investortrust1_{i,t} = \beta_0 + \beta_1 combined\ performance_{i,t} + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} + \beta_5 FirmAge_{i,t} + \beta_6 Auditreport_{i,t} + \epsilon_{i,t}$$

Model(4):

$$investortrust2_{i,t} = \beta_0 + \beta_1 combined\ performance_{i,t} + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} + \beta_5 FirmAge_{i,t} + \beta_6 Auditreport_{i,t} + \epsilon_{i,t}$$

After estimating Model (4), if the coefficient of the combined performance indicator is positive and significant at a 5% error level, the second hypothesis is confirmed.

**3.2. Measuring investors’ organizational trust**

**3.2.1. Measuring investors’ organizational trust (investortrust1) using the Choi (2010) model:**

$$AR_{it} = \beta_0 + \beta_1 SURP * GOOD * HIGH + \beta_2 SURP * GOOD * LOW + \beta_3 SURP * BAD * HIGH + \beta_4 SURP * BAD * LOW + \beta_5 SIZE + \beta_6 MTB + \epsilon$$

*AR*: *AR* is the abnormal return obtained by the difference between a firm’s annual return and the annual market return (Bidel et al., 2009).

*SURP*: This variable is the unexpected return per share obtained by the difference between actual and expected profit per share (Choi, 2010).

*GOOD*: This is a binary variable whose value is set to 1 if the news related to unexpected profit is positive and zero otherwise. In this research, the news means reports provided by firms annually on predicted profit and actual profit. If the difference between actual profit and predicted profit of the same year in 2010-2019 is positive, it is considered good news.

*BAD*: If the news related to unexpected profit is negative, the value of *BAD* is set to 1, and otherwise, its value is set to zero. If the difference between actual profit and predicted profit in the same year from 2010 to 2019 is negative, it is considered bad news.

*Market uncertainty*: This variable is uncertainty in the whole of the stock market measured by the standard deviation of total stock market returns over a fiscal period, whose information is published by the Stock Exchange Organization. A larger standard deviation of returns characterizes higher uncertainty in the market (Kim et al., 2010).

$$Market\ uncertainty_t = \delta (RM_t)$$

The values obtained by the above equation are divided into two groups, high uncertainty (*HIGH*) and low uncertainty (*LOW*). The criterion to differentiate the values is the median of uncertainty values for all periods.

*High*: If the market uncertainty in a period is larger than the median of this variable for all studied years, the value of this variable is set to 1 and set to zero otherwise.

*LOW*: If the market uncertainty in a period is less than the median of this variable for all studied years, the value of this variable is set to 1. Otherwise, it is set to zero.

$\epsilon$ : The value of model estimation error shows investors’ organizational trust. An increase in error value reflects a decrease in investors’ organizational trust and vice versa because the independent variables of the above model affect abnormal return, and a

change in abnormal return can affect investors' organizational trust.

**3.2.2. Measuring investors' organizational trust (investortrust2) based on the Saghafi (2010) model**

$$ROA_{t+1} = P_0 + P_1ROA_t + P_2\Delta WC_t + P_3\Delta NCO_t + P_4\Delta FIN_t + \epsilon$$

$ROA_{t+1}$ : Return on assets of the next year, which is obtained by dividing operating profit by the average of total assets

$ROA_t$ : Return on assets of the current year, which is obtained by dividing operating profit by the average of total assets

$\Delta WC_t$ : Change in the net non-cash working capitals, which is equal to change in operating assets subtracted by change in current operating debts

$\Delta NCO$ : Change in the net non-current working assets, which is equal to change in non-current assets subtracted by changes in non-current debts

$\Delta FIN_t$ : Change in net financial assets, which is equal to changes in short-term and long-term investments subtracted by change in short-term and long-term facilities

$\epsilon$ : The estimation error of the model shows investors' organizational trust. An increase in error value indicates a decrease in investors' organizational trust and vice versa because the independent variables of the above model affect return on assets, and a change in the return on assets can affect investors' organizational trust.

**3.3. Measuring the company's financial performance based on a composite index:**

Financial performance is measured based on 9 well-known indicators including Tobin's Q, economic value-added, rate of return on assets, return on equity, return on sale, price to profit per share, stock return, internal growth rate, and sustainable growth rate, in order to Avoiding the estimation of different models, based on the principal component analysis method, a combined performance index has been created. In this method, a set of measured variables are converted into a set of orthogonal linear combination with the maximum value of the variance, Table 2 describes how performance variables and control variables are measured.

**Table 2. Measurement of performance variables and control variables**

Variable	Type	Definition and formula
Q	Performance indicator	Tobin's Q was used to measure growth opportunities and obtained by the following formula (Xu et al., 2019). $Q = \frac{\text{Assets book value} + \text{Equity market vale} + \text{Equity book value}}{\text{Assets book value}}$
EVA	Performance indicator	Stewart (1991) economic value-added, which is one of the new performance indicators obtained by the following formula (Kardan, 2016) $EVA = NOPAT - (WACC * IC)$ NOPAT= net operating profit after tax WACC= weighted average of capital cost IC= In use capital (In use capital means all financial resources of the firm. These resources include interest-bearing debts, total common stocks, and equity.) $WACC = (1 - t)rd \left( \frac{D}{D + E} \right) + re \left( \frac{E}{E + D} \right)$ t= tax on income rate (22.5% for all firms) rd= cost rate of interest-bearing debts, obtained by the ratio of financing cost in the studied period to interest-bearing debts re= cost rate of equity, obtained using the capital assets pricing model (CAPM) The contribution (weight) of each component is obtained by the coefficients of book values (Moghaddam, 2011). D= total book value of interest-bearing debts E= total book value of equity
ROA	Performance indicator	return on assets, obtained by the ratio of net profit to total assets (Ajinkya et al., 2005)
ROE	Performance indicator	equity ratio, obtained by the following formula (Azerbaijani et al., 2011) $ROE = NI/Sale * Sale/Asset * Asset/Equity$ NI= net interest Sale= sale

Variable	Type	Definition and formula
		Asset= assets book value Equity= equity book value
ROS	Performance indicator	return on sales, obtained by the ratio of operating profit to sale revenue (Kardan, 2016)
P/E	Performance indicator	price to earnings per share, which is a performance indicator in the capital market and shows the price to which each share has sold relative to earnings (Kardan, 2016)
IR	Performance indicator	<p>Stock return</p> <p>Annual stock return is calculated by the following formula (Bidel et al., 2009):</p> $R_{it} = \frac{(P_{it} - P_{it-1}) + DPS + (P_{it} - 1000)A + P_{it}B}{P_{it-1}} * 100$ <p>Pit= price at the end of the current period Pit-1= price at the end of the previous period DPS= dividend per share based on the number of shares at the beginning of the period A= capital increase percentage from cash contribution B= capital increase percentage from the accumulated profit</p>
IGR	Performance indicator	<p>Internal growth rate</p> <p>When the firm does not use external financial resources, it means that the firm's limited sales growth is due to internal financial resources, called internal growth rate, and obtained by the following formula (Ross et al., 2011).</p> $or \ g = \frac{PSR}{A-PSR} = \frac{ROA * R}{1-ROA * R}$ <p>P= marginal profit (obtained by the ratio of net profit to sales) S= sales of the previous year R= profit carrying rate (obtained by dividing the increase in accumulated profit by net profit) A= total assets ROA= return on assets</p>
SGR	Performance indicator	<p>sustainable growth rate, maximum growth rate achieved without selling a new share and by fixing debt to equity ratio, as obtained by the following formula (Ross et al., 2011)</p> $or \ g = \frac{ROE * R}{1-ROE * R} = \frac{P \left( \frac{S}{A} \right) \left( 1 + \frac{D}{E} \right) R}{A - P \left( \frac{S}{A} \right) \left( 1 + \frac{D}{E} \right) R}$ <p>P= marginal profit (net profit to sales) S= sales of the previous year R= profit carrying rate (obtained by dividing the increase in accumulated profit by net profit) A= total assets ROE= return on equity D= total debts E= total equity</p>
Lev	Control variable	<p>Higher leverage ratios indicate increasing debts. The leverage ratio is obtained by the following formula (Chaplinasky et al., 2006).</p> $Lev_{i,t} = \frac{total \ debts \ book \ value}{total \ assets \ book \ value}$
Age	Control variable	measured by the logarithm of the fiscal year from the firm foundation date (Xu, 2019)
Audit	Control variable	Auditors' report If auditors' reports on the firm's financial statements are accepted, this variable takes the value of 1, and otherwise, it is set to zero.
SIZE	Control variable	firm size, obtained by the natural logarithm of firm assets (Bidel et al., 2009)
MTB	Control variable	This ratio is obtained by the market value of stocks over the book value of stocks (Xu, 2019).

#### 4. Research findings

##### Descriptive statistics:

A summary of descriptive statistics of the model variables is presented in Table 3.

Table 3 includes descriptive statistics of 97 firms over ten years (2010-2019). Thus, the number of observations used to calculate variables is 970. According to the above table, the means of independent and dependent variables, i.e., investors'

organizational trust (1, 2) and the combined performance indicator are 0.0, 0.0, and 0.272, respectively, with minimum values of -3.12, -0.49, and -13.95, respectively, maximum values of 6.12, 0.49, and 15.23, respectively, and standard deviation of 1.0075, 0.1025, and 3.2529, respectively. Considering the skewness of 2.394, -0.241, and 0.675, respectively, and kurtosis of 10.81, 3.754, and 4.811, respectively, we imply that the variables have asymmetric

distributions. Return on assets indicates that, on average, the net profit contributes to 15% of total assets in the first and second periods. Also, the ratio of market value to book value, which is 3, indicates that, on average, the market value of the stock is more than three times the book value. Return on equity also

shows that, on average, the net profit contributes to 54% of total equity. Furthermore, price to earnings per share shows that, on average, the share price is seven times the earnings per share. Finally, leverage indicates that, on average, there are 0.7 units of debt for each 1 unit of assets.

Table 3. Descriptive statistics of the model variables

Variable	Average	Standard deviation	Min	Max
Economical added value	0.1223	0.1279	-0.33	0.72
Tobin's Q	2.1220	1.8387	0.71	9.86
Return on assets for the present year	0.1597	0.1582	-0.38	0.77
Return for rights of stock owners	0.0566	2.7787	-8.97	23.17
Return on sales	0.3933	0.7676	-1.09	1.20
Price to earnings per stock ratio	7.8740	7.7818	-7.93	37.84
Stock return	0.4921	0.9122	-0.92	0.936
Internal growth rate	0.0094	0.2096	-0.93	1.18
Sustainable growth rate	0.1381	0.0944	-1.01	1.99
combined performance indicator	0.2720	3.2029	-13.90	10.23
Abnormal return	0.3900	1.1909	-0.93	7.91
Unexpected earnings per stock	-0.370	1.8606	-8.30	8.26
Bad news for unexpected profits, high uncertainty	-0.300	1.0929	-8.30	0.00
Bad news for unexpected profits, low uncertainty	-0.302	1.1053	-7.33	0.00
Good news for unexpected profits, high uncertainty	0.094	0.4893	0.00	7.81
Good news for unexpected profits, low uncertainty	0.1820	0.7670	0.00	8.26
Change in capital during circulation	-0.023	1.0414	-6.97	70.17
Change in non-current operating assets	-0.002	1.7911	-10.47	14.02
Change in net financial assets	0.7490	13.707	-7.80	77.77
Return on assets for the next year	0.1498	0.1481	-0.38	0.77
Firm size	12.998	2.8110	4.79	18.31
Financial Leverage	0.7031	0.3244	0.06	1.06
Market value ratio to the book value	3.6313	2.0373	0.06	9.93
Firm age	3.0020	0.4106	2.04	4.22
Auditor's report	0.4830	0.4999	0.00	1.00
Investors organizational trust (1)	0.000	1.0070	-2.12	7.12
Investors organizational trust (2)	0.000	0.1020	-0.49	0.49

### 4.1. Hypotheses testing

In this research, a regression method with pooled data is used. The research hypotheses are tested using multivariate regression. Also, the confidence level for hypotheses testing in the classic regression assumptions is 95%. To examine whether the use of pooled data is efficient, we use the Limer test. Also, to assess whether the fixed-effects model or random-effect model is appropriate, we use the Hausman test. Table 4 presents the results of the above tests.

Results of estimating the first hypothesis, claiming that investors' organizational trust improves firm performance, based on Model (1) and using pooled data with random effects are presented in Table 5.

$$\begin{aligned}
 \text{combined performance}_{i,t} = & \beta_0 + \\
 & \beta_1 \text{investorstrut}_{1,i,t} + \beta_2 \text{size}_{i,t} + \beta_3 \text{lev}_{i,t} + \\
 & \beta_4 \text{mtb}_{i,t} + \beta_5 \text{FirmAge}_{i,t} + \beta_6 \text{Auditreport}_{i,t} + \varepsilon_{i,t}
 \end{aligned}$$



**Table 4. Results of the Chu and Hausman test**

Model	Statistic	Sig.	Result
Model (1)	Limer 9.531 Hausman 0.000	Chu 0.000 Hausman 0.941	Pooled data Fixed-effects model
Model (2)	Limer 9.582 Hausman 0.000	Chu 0.000 Hausman 0.812	Pooled data Fixed-effects model
Model (3)	Limer 0.110 Hausman -----	Chu 0.991 Hausman -----	Constrained effects model No need to perform the Hausman test
Model (4)	Limer 0.1313 Hausman -----	Chu 0.954 Hausman -----	Constrained effects model No need to perform the Hausman test

**Table 5. Assessing the impact of investors’ organizational trust on firm performance based on Model (1)**

Dependent variable: Firm performance observations of 97 firms - 10 years				
Variable	Coefficient	t statistic	Prob	sign
Fixed component ( C )	-1.074764	-0.3704	0.0000	Negative
Investors organizational trust <sup>1</sup>	0.30773	4.87969	0.0000	Positive
Firm size	0.141803	1.900892	0.0008	Positive
Financial Leverage	0.084787	2.278492	0.0230	Positive
Market value ratio to the book value	0.097672	2.970099	0.0031	Positive
Firm age	2.033103	4.173413	0.0000	Positive
Auditor’s report	-1.21940	-0.49412	0.0000	Negative
Adjusted R-squared	0.49201	R-squared	0.0382	
p-value	0.0000	F statistic	0/90833	
Durbin - Watson	2/1598			

The p-value of the F statistic is less than 5% (0.000). Thus, the significance of the overall model is confirmed at a 95% confidence level. The adjusted coefficient of determination shows that independent and control variables explain 49% of the change in the dependent variable. Also, considering the Durbin-Watson statistic of 2.15, we can claim that there is no autocorrelation between model residues. The p-value of the t statistic for the coefficient of investors’ organizational trust is less than 5%. Thus, the presence of a significant relationship between investors’ organizational trust and firm performance is confirmed at a 95% significance level. The positive coefficient of investors’ organizational trust (1) implies a direct relationship between investors’ organizational trust and firm performance. Therefore, the first hypothesis is confirmed based on Model (1).

Table 6 presents the results of testing the first hypothesis based on Model (2), posing that investors’ organizational trust affects firm performance.

$$combined\ performance_{i,t} = \beta_0 + \beta_1 investor\ trust_{i,t} + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} + \beta_5 Firm\ Age_{i,t} + \beta_6 Audit\ report_{i,t} + \epsilon_{i,t}$$

The p-value for the F statistic is less than 5% (0.000). Thus, the significance of the overall model is confirmed with a 95% confidence. The adjusted coefficient of determination shows that independent and control variables explain 50% of the change in the dependent variable. Also, according to the Durbin-Watson statistic value of 1.95, we can claim that there is no autocorrelation among the model residues. The p-value of the t statistic for the coefficient of investors’ organizational trust is less than 5% (0.0000). Therefore, the presence of a significant relationship between investors’ organizational trust and firm performance is confirmed at a 95% confidence level. The positive coefficient of investors’ organizational trust (2) indicates a direct relationship between investors’ organizational trust and firm performance. Thus, the first hypothesis is confirmed based on Model (2).

**Table 6. Assessing the effect of investors' organizational trust on firm performance based on model (2).**

Dependent variable: Firm performance observations of 97 firms - 10 years				
Variable	Coefficient	t statistic	Prob	sign
Fixed component ( C )	-1.07246	-2.99373	0.0000	Negative
Investors organizational trust <sup>Y</sup>	3.248100	2.771120	0.0000	Positive
Firm size	0.108300	2.190387	0.0288	Positive
Financial Leverage	0.009206	2.174406	0.0299	Positive
Market value ratio to the book value	0.111904	3.212628	0.0007	Positive
Firm age	2.230499	2.044420	0.0401	Positive
Auditor's report	-1.23100	-0.67106	0.0000	Negative
Adjusted R-squared	0/50519	R-squared	0/5411	
p-value	0/0000	F statistic	10/0226	
Durbin - Watson	1/95441			

Table 7 presents the results of testing the second hypothesis based on Model (3), claiming that firm performance affects investors' organizational trust.

$$\begin{aligned}
 investortrust1_{i,t} = & \beta_0 \\
 & + \beta_1 combined\ performance_{i,t} \\
 & + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} \\
 & + \beta_5 FirmAge_{i,t} \\
 & + \beta_6 Auditreport_{i,t} + \varepsilon_{i,t}
 \end{aligned}$$

The p-value for the F statistic is smaller than 5% (0.026867). Thus, the significance of the overall model is confirmed at a 95% confidence level. The adjusted coefficient of determination indicates that dependent and control variables explain 18% of the change in the dependent variable. Also, regarding the Durbin-Watson statistic value of 1.95, we can claim that there is no autocorrelation among the model residues. The p-value of the t statistic for the coefficient of firm

performance is less than 5% (0.0023), implying a significant relationship between firm performance and investors' organizational trust at a 95% confidence level. The positive coefficient of firm performance reflects the presence of a direct relationship between firm performance and investors' organizational performance. Therefore, the second hypothesis is confirmed based on Model (3).

Table 8 shows the results of testing the second hypothesis based on Model (3), claiming that firm performance raises investors' organizational trust.

$$\begin{aligned}
 investortrust2_{i,t} = & \beta_0 \\
 & + \beta_1 combined\ performance_{i,t} \\
 & + \beta_2 size_{i,t} + \beta_3 lev_{i,t} + \beta_4 mtb_{i,t} \\
 & + \beta_5 FirmAge_{i,t} \\
 & + \beta_6 Auditreport_{i,t} + \varepsilon_{i,t}
 \end{aligned}$$

**Table 7. Testing the relationship between firm performance and investors' organizational trust based on model (3)**

Dependent variable: Investors organizational trust1 observations of 97 firms - 10 years				
Variable	Coefficient	t statistic	Prob	sign
Fixed component ( C )	-0.16837	-0.04746	0.0842	Meaningless
Firm performance	0.31899	3.02816	0.0023	Positive
Firm size	0.01084	0.92819	0.3521	Meaningless
Financial Leverage	0.003072	0.024929	0.0998	Meaningless
Market value ratio to the book value	0.18870	1.26102	0.2032	Positive
Firm age	0.10664	1.99071	0.0419	Meaningless
Auditor's report	-0.3102	-0.8021	0.4227	Meaningless
Adjusted R-squared	0/182231	R-squared	0/21441	
p-value	0/026867	F statistic	3/3212	
Durbin - Watson	1/99247			

**Table 8. Examining the relationship between firm performance and investors' organizational trust based on Model (4)**

Dependent variable: Investors organizational trust2 observations of 97 firms - 10 years				
Variable	Coefficient	t statistic	Prob	sign
Fixed component ( C )	-0.00949	-0.30367	0.7614	Meaningless
Firm performance	0.33762	3.007683	0.004	Positive
Firm size	-0.00007	-0.48330	0.6290	Meaningless
Financial Leverage	0.11829	1.100790	0.2601	Meaningless
Market value ratio to the book value	0.21906	1.472906	0.1487	Positive
Firm age	0.04180	0.233702	0.8106	Meaningless
Auditor's report	-0.00008	-0.08783	0.9300	Meaningless
Adjusted R-squared	0.21892	R-squared	0.25421	
p-value	0.11291	F statistic	2.30684	
Durbin - Watson	2/34798			

The P-value of the F statistic is less than 5% (0.011291). Therefore, the significance of the overall model is confirmed at a 95% confidence level. Also, the adjusted coefficient of determination implies that the independent and control variables explain 21% of the change in the dependent variable. In addition, according to the value of 2.34 for the Durbin-Watson statistic, we can claim that there is no autocorrelation among the model residues. The p-value of the t statistic for the coefficient of firm performance is less than 5% (0.0004). Therefore, the presence of a significant relationship between firm performance and investors' organizational trust is confirmed at a 95% confidence level. The positive coefficient of firm performance supports a direct relationship between firm performance and investors' organizational trust. Therefore, the second hypothesis is accepted based on Model (4).

## 5. Discussions and conclusion

In this research, first descriptive statistics of research variables, then inferential statistics and finally estimation of research models in the form of inferential statistics of hypotheses were presented. This research focused on testing two hypotheses. First, the impact of investors' organizational trust on firm performance was examined. The result of testing this hypothesis showed that there is a significant and direct relationship between the organizational trust of investors and the performance of companies. The result of the first hypothesis of the research is consistent with the results of many previous studies, such as Xu et al. (2019), Audi et al. (2016), Chami and Fullenkamp (2002), Dietz and Gillespie (1998), Okothangore

(2011), and Hu (2011). In the second hypothesis, the effect of firm performance on investors' organizational trust was considered. The testing of this hypothesis indicated a direct and significant relationship between firm performance and investors' organizational trust. This result is supported by some previous findings, such as Cheng (2014), Delavari (2015), Piriaei et al. (2013), Asadi and Kiani (2014), and Radziah and Kamil (2009).

In this research, investors' organizational trust was measured by two methods (Choi (2010) and Saghafi (2010)). According to the results, investors' organizational trust and firm performance are mutually correlated, i.e., an increase in investors' organizational trust improves firm performance, and enhanced firm performance increases investors' organizational trust. It is found that investors' organizational trust plays an economic role for firms, meaning that investors invest in firms relying on their trust, and this reduces transaction costs and firm profitability. On the other hand, firms try to attract investors' trust by improving their performance, for example, by increasing their profit or publishing their financial information truly and on time. These paths link up to each other to create a chain, which is the main goal of the present research.

Some practical suggestions are provided as follows.

The use of other control variables in assessing the reciprocal relationship between investors' organizational trust and firm performance

Conducting research on the reciprocal relationship between investors' organizational trust and firm performance for financial intermediaries such as banks, which were removed from the sample

In this research, the hypotheses were tested using a quantitative (regression) method. The use of other instruments, such as questionnaires and interviews, is suggested in future studies.

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