



# Investigating the impact of auditors' work stress on audit report quality in companies acquired in Tehran stock exchange

Vahid Ismail Zadegan  and Mohammad Ali Aqa'i

<sup>1</sup>Graduate in Accounting, Samangan Non-Profit Higher Education Institution of Amol, Iran

<sup>2</sup>Associate Professor of Accounting at Tarbiat Modares University, Iran

## ABSTRACT

Considering the model of job demand control, we empirically evaluated the impact of auditors' work stress on audit quality using the Tehran stock exchange specimen from 2011 to 2016. The study of the effect of job stress with regard to quality of audit is the most important dimension of job burnout on job performance of auditors. Organizations will have an effective function where employees will work beyond the formal and technical aspects of their job. Individual job performance is important because of the impact on auditing. The delay in submitting the audit report directly affects the performance and performance of the audit. Consequently, waiving or compromise with poor performance may reduce the quality of the audit and thus cause the audit firms to be subject to legal liability and credit loss. The results showed that: 1. In general, there is a sharp drop in the quality of auditing due to the stress of auditors who are under control, and as a result, auditor stress affects the quality of company audit work. 2. There is a significant relationship between work stress and the initial audit of new customers due to lack of conceptual understanding of the customer from industrial information. Nevertheless, with lessons learned, negative feedback is reduced. In general, the effect of auditor's stress on the quality of audit for new customers is greater than that of other clients.

## Original Article

PII: S232247701800010-8

Rec. 05 Aug. 2018

Acc. 15 Sep. 2018

Pub. 25 Sep. 2018

## Keywords

Auditor's Stress,  
Audit,  
Individual  
Characteristics,  
Audit Quality

## INTRODUCTION

Stress is derived from the Latin word straightener, which means hugging, squeezing and squeezing. Today's medical science has different equations and assumptions about it, the urgency and coercion of stimuli, the excitement about the psychological responses that are created, the urgency and coercion of the physiological changes caused by these perceptions. The increasing growth and complexity of the society justifies the need for relevant economic information, information systems and information-generation processes, and among other things, auditing is part of the reporting and reporting process.

The transfer of various sectors of the community from audit services will be maximized, with the full efforts of all financial sectors, the role of auditing in the community is clearly identified and the services provided to them are of prime importance. The importance of the issue is that organizations will have an effective function when employees are working beyond the technical and formal aspects of their jobs.

Individual job performance is very important because of the impact on the quality of the audit, and the delay in submitting the audit report directly affects the performance and performance of the audit. Consequently, waiving or compromise with poor performance may reduce the quality of the audit, and thus result in statutory auditing and losing credibility.

Doyle (2003) considered work stress in this knowledge-based economy as a job fever. Low can be considered the first person to describe stress and stress in 1956 as a new concept. He sees psychological pressure as an answer that the body shows against the demands it enters. This answer, in terms of some perspectives, is a non-specific answer. Whatever the stressors (external or internal), and the person who is exposed to psychological pressure is the one who is the human body that responds.

The National Institute for Occupational Safety and Health has created job stress as a result of many workplace problems, persistent out-of-control changes, ongoing displacement, overtime, and disordered working hours. Also describe occupational stress as a change in physical or mental

status, which may have a positive or negative effect on employees' job performance, in which stress was created due to stressful events in the workplace. The usual source of stress that employees in the workplace or organization faces are job stressors.

Our aim in this study is to examine, the level of stress and the quality of the audit, whether the existence and continuity of occupational stress among auditors may lead to burnout among them. In addition, if there is an increase in the stress among the members of the profession, does the auditor's job performance enter into a disadvantage? Finally, the issue is that job burnout as a mediating variable among stressors and job performance can be a factor.

### **Research hypotheses**

**First hypothesis:** An auditor's anxiety affects the quality of audit work.

**Second hypothesis:** The effect of the auditor's anxiety on the quality of audit for new customers is greater than that of other clients. Conceptual and operational definitions are conceptual definitions and types of auditing. The most important divisions of audit types are: Types of audit in terms of corporate citizenship

**Independent audit:** This type of audit is carried out by individuals who are independent of the company, whose employees are not subject to review and their selection is not the responsibility of the entity.

**Internal audit:** This type of audit is usually seen in large institutions. Internal auditors are at the heart of the audited institutions and are in the organizational chart of the institution where they have their own limits. The main purpose of the internal audit is to assess how the functions are delegated to the various units of the institution. Internal audit staffers are usually under the supervision of another CEO or senior official.

### **Types of auditing in terms of the reason for referrals**

**Mandatory audit:** such as auditing public corporations in accordance with the regulations of the Tehran Stock Exchange.

**Optional audit:** In this case, the audit is an optional control and can not be requested by the shareholders.

### **Types of auditing in terms of type of proceedings**

**Audit of financial statements:** is a specialized opinion on the desirability of financial statements within the framework of accepted accounting principles. This type of audit is carried out by the audit firms. The review of financial statements includes balance sheets, profit and loss accounts, profit or loss, accumulated cash flows and accompanying notes.

**Compliance audit:** Compliance Audit is the collection and evaluation of evidence in order to obtain findings on compliance with the law and guidelines and report in this regard. It should be noted that the benchmark in auditing is preset. This criterion can be in the form of rules of law and so on. Hence, auditing does not have any role in determining reasonable recognition with the suitability of the benchmark.

**Special audit:** A specific type of audit that examines a specific and predetermined topic and may be made at the request of the equity holders of the audited entity or otherwise.

- Among the things that are done in this type of audit are: A) The discovery of fraud or abuse of employees or management in the company; B) Matching Financial Statements with Contracts.

**Operational auditing:** A systematic and systematic process that evaluates the efficiency, effectiveness, and cost-effectiveness of an organization, the framework for management controls, and reports on the evaluation results, along with the provision of recommendations and corrective recommendations to eligible individuals, and ultimately leads to Optimal use of enterprise resources and its productivity. Generally, auditors do not comment on all company operations in the operational audit, but they express their findings and conclusions about the functions, processes and internal control methods that can be made more effective.

**System-based auditing:** The main feature of this practice is to rely on the internal control system as the basis for ensuring the reliability of the information reflected in the accounts. In this way, internal controls, as a new source of audit evidence, will play a key role along with detailed testing. In this regard, if the internal controls of the client are evaluated, the auditor will be able to rely on the controls to obtain some assurance as to the accuracy of the accounting records.

**Risk-based auditing:** In this method, using the statistical methods, the amount of evidence required for the submission of comments is determined and, based on the level of assurance and the forecast of time and cost, a general audit strategy is established. The use of this method has the benefits of reducing the cost and time of audit operations.

**Operational definitions:**

**Anxiety of the auditor:** In Oxford, stress is referred to as stress. According to this definition, psychological stress is something that is imposed on the person from the outside and causes physical and psychological distress. When issues affect an organization beyond the power of coping and adaptation of the organism of its individuals, then the person will suffer from stress and tension. But what's important is that job stress is different from anxiety due to its organization (Ansari et al., 2010, Choo 1986; Huang and Bai, 2014; Khatouni et al., 2010).

**New audit client:** A company that is audited for the first time by the auditor.

**Job stress:** Occupational stress can be seen as the aggravation of stressors and occupational-related situations that most people agree on in their stress. In other words, job stress is a stroke that a certain person has undergone for a certain job.

**Audit quality:** The most common definitions of quality of audit are:

-The probability of major mistakes in the financial statements that the auditor can disclose and report.- The auditor may not issue contingency reports for financial statements for the purposes of the financial statements.

-A measure for the auditor's ability to reduce errors and bias distortions and improve the quality of accounting data.

-The accuracy of the information de available to them.

**Table 1.** Internal research (literature review)

Row	History	The name of the researcher	Summary of research
1	2004	Mojtahed Zadeh and Aghaei	Two researchers investigated the factors influencing the quality of independent auditing from the standpoint of independent auditors and users. The research community consisted of a group of users of audit services including managers, investment companies and managers of the Bank's Credit Division and an independent auditors group. The results showed that in most cases there is no significant difference between views.
2	2007	Zahedi	In his research, he investigated the relationship between the ability to rely on accruals and profit stability, and it has been concluded that the stability of the cash component of profit has a significant difference with the stability of the covenant element and its components, and when the stability of the profit is reduced, the accruals element of profit is Unusual large or small. The higher the profit element is, the more profitable it is.
3	2010	Makoyi and Khorshidi Far	The researchers studied the role of occupational stress on the relationship between the control center and the work outcomes of Iranian auditors. The results of the research indicate that the control center of most accountants is of an internal type and their job stress level is moderate and their level of performance and satisfaction is high. Also, role ambiguity and role play have a role on accountants' job performance of intermediate roles.
4	2013	Alavi Arjmand et al.	In an article entitled "Investigating the Effect of Stress Management on Job Stress and Job Conflict", the effect of stress management on work stress and work-life conflict between nurses in two groups of 64 nurses in Lavassani Hospital of Tehran has been investigated. Data collection tools, demographic information questionnaire, work life conflict and occupational stress were done by both groups, and conducted a stress management training course for one of the groups, and completed the questionnaire again in both groups. The results of this study indicate that intervention through stress management skills has reduced job stress and conflict of life among nurses.
5	2015	Marvian Hosseini and Lariye Dashte Bayaz	In a research entitled "The Study of the role of job burnout in the relationship between stress and job performance of auditors," the researchers concluded that there was a meaningful relationship between job stress, job burnout and job performance. In other words, the results indicate a positive and significant correlation between job stress and job burnout and confirm the negative and significant relation between job burnout and job performance of auditors. Also, the negative relationship between job stress and job performance was confirmed by the mediator of job burnout.

6	2016	Khalifeh Soltani & Barani	In a study entitled "Investigating the causes and consequences of stress on the role of the auditor," the researchers examined the effect of supervisor support and peer support in the audit profession on the role controversy and the role ambiguity that plays a role in stress components, and subsequently the effect of the contradiction of the cluster and the ambiguity of the role Increased willingness to quit and reduced job satisfaction of auditors. Statistical analyzes showed that there are significant relationships between the model variables in the research with the exception of the relationship between the role conflict and the desire to quit the service.
7	Fletcher and Jones (1993); Khanifar (2008); Tabatabaei et al. (2014),		In these researches on occupational stress at work, they explains that one of the most common stressors in people's lives is the stress that comes from the workplace and the working conditions of a person that can cause illness Mental illness in the staff or speeding up the disease. While defining the concept of stress and explaining occupational stress, they explore stressors and further describes stress theory models and finally presents solutions to stress in the workplace.

**Table 2.** External research (literature review)

Row	Date	The name of the researcher	Summary of research
1	2016	Goodwin and Wu	In part of the research, the two researchers examined the impact of role conflict and ambiguity on the willingness to quit auditors. Based on the results, the contradiction has a positive effect on the willingness to leave the auditor's service, although the effect of the ambiguity of the role on the desire to leave their service is not meaningful.
2	2016	Yan and Xie	How does the researchers influence the audit of "audit stress"? By examining stock market companies in China, they concluded that auditor's stress had a negative impact on the quality of the audit report. According to them, the perception of the auditor's stress depends on the personality characteristics of the auditor. They emphasize the importance of audit firms to stress their auditors, suggesting that these institutions allocate more resources to counter stress and increase audit quality.
3	2015	Belias et al.	In his study, the relationship between role conflict, independence, and job satisfaction among bank employees has been investigated. Findings show that conflict has a negative role with job satisfaction, and in this respect, independence has a moderating role.
4	2010	Makoyi and Khorshidi Far	The researchers, in an article entitled Occupational Stress Assessment in the Workers' Society, collected data through stress questionnaires, set up by the researchers of the study. The purpose of this paper is to test the comparison of the structure of the mental risk factor through the analysis of the initial confirmatory factor using mixed data sets derived from the community of 2026 employees from the 15 Italian companies. The research method of this study was to test the demographic variables, occupational stress, labor dispute, mental health, and other constructs. The results of this study indicated a satisfactory reliability of the psychological risk scale and, in addition, accurately quantified the occupational stress from the point of view of the leader and subordinate.
5	2014	Zarei et al.	Does stress management workforce lead to productivity? This is the title of an article by Zarei et al. In 2014 to determine the relationship between stress management and the production of labor force in the Amol Science and Technology Park in Mazandaran province. In this research, researchers used Morgan population sampling method and used supplementary information questionnaires, stress management, and labor force generation among senior managers, middle managers and supervisors. The results of the research show that there is a direct and direct relationship between stress management and labor productivity, but there is no difference between male and female managers regarding the level of labor productivity and stress management in science and technology park.
6	2019	Apriyanto and Yuliana	The two studied the role of role conflict, role ambiguity, and role-playing role on the burnout of auditors. The findings showed that the role of role and role conflict is positively correlated with job burnout, but ambiguity plays no role in this relationship.

## METHODOLOGY

This research is based on the objectives of research in applied research and in terms of nature and method of correlation. The spatial domain of this research is all listed companies in Tehran Stock Exchange. The realm of this research is April 1, 2011 to March 29, 2016. The topic of research in its domain is to investigate the relationship between auditor's work stress and the quality of their audit reports. The research community of this research includes all selected companies listed in Tehran Stock Exchange which should contain the following conditions:

- Before the year 2010, have been admitted to the Tehran Stock Exchange (due to the territory of the time of the research)

- Be active on the Stock Exchange during the fiscal year 2011-2011. (Regarding the territory of the time of the investigation)

- Required financial information, especially financial statement notes, is available to extract the required data.

- Not included in banks and financial institutions (investment companies, financial intermediation, holding companies, banks, and leasing companies).

- Finally, the final sample size according to the screening method and according to the above criteria, 173 companies according to Table 3.

The research in the field of classification is based on the purpose of applied research. Since the research includes a set of methods aimed at describing the conditions or phenomena under investigation, the present study is descriptive in terms of classification as a method of research. Data collection has been carried out using both library and field methods, the first part of which consists of subject literature and defining and identifying the concept of independent and dependent variables, and discussing and investigating how they interact with them using the theory of financial scientists. The second part of the field is the information field, which is based on Tehran Stock Exchange data, specialized books and magazines, and Iran's Center for Statistics, as well as central bank data.

In this study, Eviews 10, Excel, SPSS21, STATA 12 were used to analyze the data and extract the results of the research. Also, the confidence level

used for hypothesis tests and the classical regression hypothesis is 95%. In addition, the hybrid data method has been used to test the hypotheses. In the combined data, f Limmer test was used to select panel data and integrated data. In order to estimate the parameters of the regression models, the test of classical hypotheses is very important.

One of the most important of these hypotheses is the hypothesis about the normalization of the model's remnants, lack of self-correlation, non-alignment, and heterogeneity of variance among the model's remnants. To investigate the normality of residues, the Jarck test has been used.

**Table 3.** Research variables and how they measure

Kind of	Variable	Symbol	Definition
The dependent variable	Audit quality	DA	Absolute Value of Optional Capital
independent variable	Stress work	Ws	--
Mediator Interface	New customer	Fst	The first audit is equal to 1. Other than that, it is 0
Company features	financial situation	debt	Rate of credit capital
	Size	Size	The natural logarithm of the total capital
	Cash flow	cf	Cash flow of the executive network per share
	Pure behavior	st	Equal to 1, other than that 0
	Legal risks	risk	Equal to 1, other than a0
	Income	the castle	The negative profit equals 1, other than that 0
	Acceptable accounts	rec	Acceptable / Acceptable Accounts
	company value	tq	Market value / replacement value
	Age of the company	Age	Age of the company
Audit company features	The size of the audit firm	Big	For large companies 1. Small companies 0
Audit company features	Tenure	Ften	Congestive Audit Years of the Company

### Research model

Followed by Yan and Xie (2016), the following model will be used to test the first to test the effect of auditors' stress on the quality of the audit, we use the following model.

$$DA = \alpha_0 + \beta_1 WS + \beta_2 debt + \beta_3 Size + \beta_4 risk + \beta_5 Cf + \beta_6 loss + \beta_7 rec + \beta_8 tq + \beta_9 age + \beta_{10} big + \beta_{11} ften + \beta_{12} chg + \beta_{13} trs + \beta_{14} gen + \beta_{15} deg + \beta_{16} epr + year, ind + \epsilon$$

**Model 2.** For the second hypothesis, we used the test of the effect of auditors' stress on the quality of audit with a different business license. The following model has been developed for the relationship between auditor's anxiety and audit quality in relation to the periods of business.

$$DA = \alpha_0 + \beta_1 WS + \beta_2 FST + \beta_3 SWS * FST + \beta_4 debt + \beta_5 Size + \beta_6 risk + \beta_7 Cf + \beta_8 loss + \beta_9 rec + \beta_{10} tq + \beta_{11} age + \beta_{12} big + \beta_{13} ften + \beta_{14} chg + \beta_{15} trs + \beta_{16} gen + \beta_{17} deg + \beta_{18} epr + year, ind + \epsilon$$

In the following model, ws \* fs refers to the effect of the auditor's anxiety and the company's first audit, which is expected to be positive.

### Descriptive Statistics

The statistical indicators are of two types: A) Dispersion indicators; B) Central indicators.

Dispersion indicators include the range of variations, standard deviation, variance, skewness and elongation, and the central indexes are the mean, median, and fashion. In the table below, the mean and median including central indices and variance, and skewness and stretch are calculated as general scattering indices. The mean and median value for 173 companies is presented in descriptive statistics table.

## RESULTS AND DISCUSSION

In the descriptive statistics section, data analysis was performed using central indicators such as mean, median, and standard deviation indexes 4, skewness 5 and stretch 6. The average value represents the average of the data. The deviation shows the dispersion and eventually the skewness is the index of data symmetry. The calculation of these indicators is shown in the following tables. The average value represents the average of the data. The median indicates that 50% of the data is less than the middle number of the set and 50% of the data is greater than the middle number of the set. The proximity of the mean and median value shows the symmetry of the data. In fact, skidding is a criterion

for the existence or asymmetry of the distribution function. For a completely symmetric distribution, zero skidding and for an asymmetric distribution with stretching toward higher values of positive skewing are negative for asymmetric distribution with stretching toward smaller values.

### Stretching or cortices represents the peak of a distribution.

Estimates of stroke with a fourth normal torque. In other words, the elongation is a criterion of curvature sharpness at the maximum point and the elongation for a normal distribution is equal to 3. Positive elongation ie the peak of the desired distribution of higher normal distribution and negative elongation is a sign of lower peak than normal distribution. In general, usually, as in the normal range (2.2), the data are not far from the normal distribution, and they must be corrected before any tests that they are required to perform for the normalization of the data.

### Instructive statistics

Inferential statistics include the methods by which we generalize the information contained in the sample to the entire community. The most important goal of statistics is to make inferences about the characteristics of the community, according to the information in the sample. A few statistical issues end in the descriptive statistics stage. Most of the issues, however, include an inference about the characteristics of a community using available information in a sample.

### Correlation test of research data

Using Pearson correlation coefficient, the existence or non-coherence among independent variables of each research model has been studied. According to the following table numbers, it can be concluded that coherence can not be considered a serious problem. Table 6 shows the correlation between the variables used in this research as well as their significance level.

**Table 4.** Descriptive statistics descriptive statistics for dependent and independent variables during 2011-2012.

Variables	Average	Middle	Standard deviation	Skew coefficient	Slenderness ratio	Jarbra
Audit quality	0.051	0.032	0.068	94.3598	1.9654	4.5982
Stress work	58.731	49.198	32.61	11.2695	6.8963	12.259
New customer	0.178	0.000	0.428	354.346	10.668	159.017
Financial situation	0.588	0.601	0.289	0.015	1.322	2.23
Size	98.435	45.739	0.594	5.391	-22.450	505.998
Cash flow	0.4922	0.208	0.155	0.012	1.278	2.243
Pure behavior	0.174	0.153	0.174	6.429	0.785-	6.878
Legal risks	0.054	0.45	0.184	1.9654	20.508	422.057
Acceptable accounts	0.1846	1	94.3598	1.9654	4.5982	0.41
Company value	0.5678	29.3621	11.2695	6.8963	12.2594	0.0369
Age of the company	8.5146	9	3.346	10.668	159.017	0.0219
The size of the audit firm	17.9788	19th	0.015	1.322	2.23	0.0159
The right to audit	0.4955	0.0001	5.391	22,450-	505.998	0.0269
Changes in the audit company	0.0765	0.0001	0.0004	3.654	1.574	0.0169
Transfer of Audit Company	0.6157	0.0846	0.007	.0.785-	6.878	0.0297
Sex	0.8416	1	0.4999	2.6566	0.0001	0.0448
Experience	0.4614	0.0001	0.4987	1.6062	0.0001	0.017
Eligibility	0.5144	1	0.5781	2.8062	0.0001	0.482

**Table 5.** Minimum and Maximum for dependent and independent variables over the years 1390-95.

Variables	Central	
	Minimum	Maximum
Audit quality	0.02	0.82
Stress work	15.653	213.876
New customer	0.0001	1
Financial situation	0.012	1.987
Size	21.345	89.341
Cash flow	1.034	5.872
Pure behavior	0.0001	1
Legal risks	0.0001	1
Acceptable accounts	0.0001	8.357
Company value	2.675	97.751
Age of the company	5	33
The size of the audit firm	0.0001	1
The right to audit	0	1
Changes in the audit company	0.0001	1
Transfer of Audit Company	0.0001	1
Sex	0.0001	1
Experience	0.0001	1
Eligibility	0.0001	1

**Table 6.** Correlation between variables used

Variables		DA	Ws	Fst	WS * FST	SIZE	CF	AGE
DA	Pearson	1	.183	0.066-	.219	0.013	0.182	.235
	Approximation		0	0.172	0	0.765	0	0
Ws	Pearson		1	0.120	0.309	.112	236	0.135
	Approximation			0.013	0	0.021	0	0
Fst	Pearson			1	0.03	0.028-	0.022-	0.031-
	Approximation				0.533	0.568	.653	0.421
WS * FST	Pearson				1	0.077	0.917	0.845
	Approximation					0.082	0	0
SIZE	Pearson					1	0.085	0.074
	Approximation						0.053	0.012
CF	Pearson						1	0
	Approximation							0.038
AGE	Pearson							1
	Approximation							
The correlation level is 0.01								
The correlation level varies from 0.05								

**Table 7.** Unit root test on research variables

Variables	The statistics	Possibility
Audit quality	58.052-	0.0001
Stress work	3.304-	0.0001
New customer	36.391-	0.0001
Financial situation	11.659-	0.0001
Size	28.856-	0.0001
Cash flow	7.129-	0.0001
Pure behavior	6.623-	0.0001
Legal risks	3.101-	0.0001
Acceptable accounts	8.215-	0.0001
Company value	758.052-	0.0001
Age of the company	3.304-	0.0005
The size of the audit firm	36.391-	0.0001
The right to audit	11.659-	0.0001
Changes in the audit company	28.856-	0.0001
Transfer of Audit Company	2.129-	0.0166
Sex	758.052-	0.00001

**Unit root test**

In the first step, to prevent false regression and static test of variables, the root and unit panel test is performed on the variables of the model. The zero hypothesis of the test indicates the non-nominal variables. Finally, by examining the values of the calculated statistics and their probability of

acceptance, we will show that the zero hypothesis based on the non-variables of the variables is rejected or confirmed at 99% confidence level, which, if verified, is verified by variance, we will try to reset the variables. Then we use special estimates to avoid the problems of estimation, especially the co-linear 7 and the heterogeneity of 8 which is due to different

characteristics of the companies. When there are variances in the unit units, but its variance varies across units, we will have anomalous group 9 variance. We use the modified parent-10 statistics to examine the heterogeneity of group variance among the rest of the regression model of the stability effects. Results ( $P < 0.05$ ) indicate that we must reject the zero hypothesis of variance equivalence. Due to serial linearity in the linear model of the panel data, standard errors are deviating and result in lower efficiency. We need to identify the serial linearity in the panel data, which was developed by Weldier 11. Because it has a lot of efficiency, it requires a few hypotheses and is easy to implement. The Volleridge method uses first-order differential regression residues, which rejects the results of ( $P < 0.5$ ) the first-order serial conjugate hypothesis in the model. Different tests show that we do not have linear and heterogeneous variance in selected companies.

Testing the first hypothesis

$$DA = \alpha_0 + \beta_1 WS + \beta_2 debt + \beta_3 Size + \beta_4 risk + \beta_5 Cf + \beta_6 loss + \beta_7 rec + \beta_8 tq + \beta_9 age + \beta_{10} blg + \beta_{11} ften + \beta_{12} chg + \beta_{13} trs + \beta_{14} gen + \beta_{15} deg + \beta_{16} epr + year, lnd + \epsilon$$

To examine the above model, first, the meaningfulness of the model and then the severity

and type of relationship will be investigated. The meaning of the model is formulated as the hypothesis of zero and the following opposite assumption.

H0: There is no meaningful model.

H1: There is a meaningful model.

According to the results of table 8, most of the processed models with a confidence level of 99% were significant.

Testing the second hypothesis:

$$DA = \alpha_0 + \beta_1 WS + \beta_2 FST + \beta_3 WS * FST + \beta_4 debt + \beta_5 Size + \beta_6 risk + \beta_7 Cf + \beta_8 loss + \beta_9 rec + \beta_{10} tq + \beta_{11} age + \beta_{12} blg + \beta_{13} ften + \beta_{14} chg + \beta_{15} trs + \beta_{16} gen + \beta_{17} deg + \beta_{18} epr + year, lnd + \epsilon$$

The above model has been designed for the relationship between auditor stress on audit quality with respect to the periods of business. In the model below,  $WS * FST$  refers to the effect between auditor's anxiety and the company's first audit, which is expected to be positive. The results of model estimation related to the first sub-hypothesis at the whole sample level (cumulative) are shown in the first row of the high-level (Table 9). As can be seen, the probability value ( $P$  value) of the coefficient of the variable of auditor's stress and the first audit is significant, and the F-model model expresses that this model is significant in the whole and the hypothesis is confirmed.

**Table 8.** Test results of the first hypothesis

Dependent variable: Audit quality
Estimated method : Ordinary least squares
Sample: 2011-2016
Time period: 6 years

Variables	Coefficient	Standard deviation	the amount of t	Probability value
Stress work	0.125	0.791	0.158	0.0001
New customer	0.621	0.141	4.404	0.0001
Financial situation	0.485	0.821	0.590	0.0001
Size	0.218-	0.306	0.712	0.018
Cash flow	0.694-	0.199	3.48	0.001
Pure behavior	0.792	0.901	0.879.	0.0001
Legal risks	0.367	0.098	3.74	0.0001
Acceptable accounts	0.489	0.607	0.805	0.0001
Company value	0.632-	0.119	5.31	0.0001
Age of the company	0.128	0.107	1.19	0.0001
The size of the audit firm	0.741-	0.169	4.38	0.0001
The right to audit	0.258-	0.601	0.429	0.0001
Changes in the audit company	0.985	0.302	3.26	0.0001
Transfer of Audit Company	0.763	0.251	3.03	0.0001
Sex	0.569-	0.507	1.12	0.0001
R2	0.89	Possibility F		0.0001
R2 justified	0.88	Watson Camera Test		1.5
The amount of F	6.101			

**Table 9.** General outcomes for regression analysis

Dependent variable: Audit quality
Estimated method: Ordinary least squares
Sample: 2011-2016
Time period: 6 years

Variables	Coefficient	Standard deviation	The amount of t	Probability value
Stress work	0.517	0.891	0.580	0.0000
Anxiety Auditor and First Audit	0.315	0.621	0.507	0.0000
New customer	0.711	0.144	4.93	0.001
Financial situation	1.301	0.201	6.47	0.0000
Size	0.521	0.111	5.31	0.000 0
Cash flow	0.658	0.254	1.19	0.000 0
Pure behavior	0.745	0.470	4.38	0.002
Legal risks	0.523	0.607	4.29	0.0000
Acceptable accounts	0.861-	0.345	3.26	0.001
Company value	0.462	0.754	3.03	0.0000
Age of the company	0.367-	0.699	1.12	0.0003
The size of the audit firm	0.785	0.469	0.84	0.0000
The right to audit	0.902-	0.258	4.38	0.0000
Changes in the audit company	0.413	0.489	0.429	0.0001
Transfer of Audit Company	0.456	0.440	3.26	0.0000
Sex	0.711	0.144-4.93		0.001
R2	0.89	Possibility F		1.5
R2 justified	0.88	Watson Camera Test		
The amount of F	6.101			

## CONCLUSION

By referring to our job control model, we examined the effect of individual auditor's stress on their audit quality using companies listed in the stock market of their stock exchanges and their auditors from 2011 to 2016.

### Our findings include

1. In general, there is a significant drop in the quality of the audit due to the work stress of the auditors who are under control, and as a result, the auditor's stress affects the quality of the firm's audit work.

2. There is a significant relationship between the work stress and the initial audit of new customers due to the lack of conceptual understanding of the customer from industrial information.

Nevertheless, by learning and acquiring the experience, the negative response also decreases. In general, the effect of the auditor's anxiety on the quality of auditing for new customers is more than other customers.

### Suggestions based on research results

With regard to the first hypothesis, it is suggested that for new customers, experienced auditors should be assigned to ensure the quality of the service, as the negative response to stress in the initial audit is very obvious.

It is also suggested that we support the exchange of internal experience between the audit firms and the continuous collection of industry and customer information.

Also, considering the sensitivity of the accounting profession and taking into account the known effects of stress on the general health of individuals and the importance of physical and mental health of employees, it is suggested that audit partners consider this issue with auditors and further research with the aim Determine the level of job stress of accountants and the factors affecting it.

According to the results of the second hypothesis, it is suggested that the number of customers in the overcrowding period should be determined by the ceiling audit work. Given the multidimensional factors including the characteristics of the audit firm and the individual

capabilities of the auditors, these actions should help to eliminate the effects of stress on the quality of the audit.

### Suggestions for future research

1. Investigate the relationship between the size of audit firms and auditor's anxiety.
2. Auditor's stress on quality of audit based on Fatekic Industries.
3. Investigating auditor's stress on audit quality in strategic and non-strategic companies.
4. Investigating the auditor's stress on the quality of the audit. In private companies, it is governed by article 44.

## DECLARATIONS

### Authors' Contributions

All authors contributed equally to this work.

### Competing interests

The authors declare that they have no competing interests.

## REFERENCES

- Aghaei, MA, Nazemi Ardakani, M (2012). Auditor's Expertise in the Industry and Management of Accountable Accountability, *Audit Knowledge*, 12(46): 4- 17. [Google Scholar](#)
- Alavi Arjmand, N., Kashaninia, Z., Hosseini, M. A., & Rezasoltani, P. (2013). Effect of stress management on job stress and work-family conflict among nurses. *Journal of hayat*, 18(4), 81-91. [Google Scholar](#)
- Ansari, ME, Mir Ahmadi, SMR; Zabiholzadeh, K (2010), The Relationship between Job Stress, Job Satisfaction, Organizational Commitment and Organizational Citizenship Behavior, *Management Research and Human Resources in Oil Industry*, 13: 153-166. [Google Scholar](#)
- Apriyanto, F., & Yuliana, R. (2019). The Effect of Role Conflict and Role Ambiguity on Auditor Independence with Spiritual Intelligence as A Moderation Variable. In 2018 International Conference on Islamic Economics and Business (ICONIES 2018). Atlantis Press. <https://doi.org/10.2991/iconies-18.2019.69> ; [Google Scholar](#)
- Belias, D., Koustelios, A., Sdrolas, L., & Aspridis, G. (2015). Job satisfaction, role conflict and autonomy of employees in the Greek banking organization. *Procedia-Social and Behavioral Sciences*, 175, 324-333. [Google Scholar](#) ; <https://doi.org/10.1016/j.sbspro.2015.01.1207>
- Choo F, (1986). Job stress, job performance, and auditor personality characteristics. *Auditing: J. Practice Theory*, 5 (2): 17-34. [Google Scholar](#)
- Doyle, E. (2003). *Christines. Work and Organizational Psychology An Introduction With Attituds.* Psychology Press, Taylor & Francis Group, p106-111. [Google Scholar](#)
- Fletcher, B., & Jones, F. (1993). A refutation of Karasek's demand–discretion model of occupational stress with a range of dependent measures. *Journal of organizational behavior*, 14(4), 319-330. [Google Scholar](#) ; <https://doi.org/10.1002/job.4030140404>
- Goodwin J, Wu D. (2016). What is the relationship between audit partner busyness and audit quality? *Contemp. Account. Res.* 33 (1): 341–377. [Google Scholar](#); <https://doi.org/10.1111/1911-3846.12129>
- Huang H, Bai, P, (2014). CPA's job stress, perceived organizational support and job performance. *Auditing Res.* 2, 89–94 (in Chinese). [Google Scholar](#)
- Khalifeh Soltani, S.A., & Barani, S. (2016). Investigating the Causes and Consequences of Stress, The role of the auditor. *Journal of Financial Accounting*, seventh year. (28), 32-55. [Google Scholar](#)
- Khatouni M, Molasen M, Khoinizi S (2010). The Study of Job Stress and its Related Factors in Accountants at Qazvin University of Medical Sciences, 8(2), 2-17. [Google Scholar](#)
- Khonifar, H. (2008). Job stress and professional environments: (factors, theories, effects). *Strategy*, 2, 1-38. [Google Scholar](#)
- Makoyi, A; Khorshidi Far, M (2010). Investigating the Mediating Role of Job-Related Factors on the Relationship between Control Center and Occupational Outcomes of Accountants, *Accountant*, 224: 72-79.
- Marvian Hosseini, Z., & Lariye Dashte Bayaz, M. (2015). Investigating the Role of Occupational Burnout on the Relationship between Stress and Job Performance of Auditors. *Journal of Health Accounting*, 4(1), 57-80. [Google Scholar](#); <https://dx.doi.org/10.30476/jha.2015.17011>
- Mojtahed Zadeh Mand Aghaei MA (2004). The factors influencing the quality of independent auditing from the standpoint of independent auditors and users.
- Tabatabaei J, Delaware Z, Bardjali A (2014), Meta-analysis of the relationship between personality variables and occupational stress, *Quarterly Journal of Counseling and Psychotherapy*, 5(19): 28-43. [Google Scholar](#)
- Yan H, Xie Sh, (2016), How does auditors' work stress affect audit quality? Empirical evidence from the Chinese stock market, *China Journal of Accounting Research*,
- Yan, H., & Xie, S. (2016). How does auditors' work stress affect audit quality? Empirical evidence from the Chinese stock market. *China Journal of Accounting Research*, 9(4), 305-319. [Google Scholar](#); <http://dx.doi.org/10.1016/j.cjar.2016.09.001>
- Zahedi, S. A., & Avazzadeh, F. (2007). The Relationship between the Quality of Reporting, Financing and

Investment: Evidence of Changes in Financing Capacity (Case Study Firms Listed In the Teh-ran Stock Exchange). [Google Scholar](#)

Zarei, M. H., Razavi, H. R., & Emamgholizadeh, S. (2014). Is stress management related to workforce productivity? *Iranian Journal of Management Studies*, 7(1); 1-19.  
<https://www.sid.ir/en/Journal/ViewPaper.aspx?ID=354824>; [Google Scholar](#)