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Auditor Switching and Abnormal Returns

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Abstract

Every investor pays special attention to the main factor in their decisions: a return. What is essential for users of financial information is not the procedures and principles used in accounting, but the exit from the financial system, because it helps them achieve their goals. Many capital market concerns focus on accounting and auditing operations. Therefore, the auditor's independence is the basis of public trust in the audit process and the assurance of auditors` reports. For this purpose, this study investigates the effect of auditor switching on abnormal returns. Therefore, three hypotheses have been formulated, and a sample consisting of 365 companies listed on the Tehran Stock Exchange during the years 2010 to 2020 has been selected. The results indicate that auditor switching has no significant effect on abnormal returns. Also, between the CU switch and CD switch, the CD switch has a negative and significant effect on abnormal returns.

Keywords: Abnormal Return, Auditor Switching, Behavioral Finance, Six-factor Model Fama & French

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1. Introduction

The development of any country requires spending resources in the optimal form and guiding it in the right direction. Investors are looking for ways to increase their wealth, and to this end, they are looking for investment opportunities that will create maximum wealth for them (Ahmad Panah, 2016). Investors look for savings in the most return investments (Pourheydari and Shahbazi, 2009). The importance of predicting returns has led researchers to look for factors that are significantly related to or affect returns. Research results show the impact of financial and non-financial information on stock returns. Investors use stock return information to evaluate company performance, considering its content. In the event of a reduction in stock return information content, this is a wake-up call for the company and a sign of poor company performance (Derakhshanian, 2016).

The difference between the actual return and the expected return on a share is called an abnormal stock return. Access to accurate and reliable information is essential to create a healthy competitive environment for investors and all participants in the capital market. In the capital market, the information available to users must be transparent and reliable; otherwise, incomplete information will increase transaction costs and the inability to allocate resources optimally (Badghan, 2016). According to Agency Theory, one of the factors causing information asymmetry is the existence of a conflict of interest between the owner and the manager, which leads to abnormal returns. Shareholders can not follow the actions manager momentarily to make sure whether the manager's decisions are in the interests of shareholders or not; therefore, shareholders do not have the necessary information about the manager's operations (Hagi, 2015). They can achieve abnormal returns when information is available to certain people. As a result, it reflects the informational value of abnormal returns on capital markets (Vadiei and Hoseini, 2012).

Investors rely on auditors' opinions and reports to ensure that the financial statements provided by companies are fair. As a result, the presence of an auditor reduces information asymmetry and increases the quality and transparency of financial statements; if the quality of the audit increases, fluctuations in stock returns will be adjusted due to reduced access to private information because higher-quality auditors will be more able to detect errors in the financial statements and resist the manager's insistence on changing the audit opinion. By increasing the quality of information about future cash flows, the company's discount rate decreases, resulting in a reduction in abnormal stock returns in the future (Rashidi Baqhi, 2019). The findings of several studies also show a relationship between audit quality and capital market investors' decisions. To solve the problem of auditor independence and increase the quality of audit services, the solution for professional authorities and stock exchanges in most countries is to rotate auditor firms. The audit firm rotation process means the switching of auditors after performing several audits of a company (Alavi Tabari and Bashiri Manesh, 2013). As a result, this study investigates the impact of auditor switching on abnormal returns.

2. Literature Review and Hypotheses Development

It is stated that company executives with more company-related information tend to inform the potential users. The company may increase its values by signalling through its annual reports. Investors will positively respond when they receive a good signal mentioned in the annual financial report. In contrast, the investors will respond negatively when a bad signal is perceived. The response changes can be observed. The company may increase its values by signalling through its annual reports. Investors will positively respond when they receive a good signal mentioned in the annual financial report. In contrast, the investors will respond negatively when a bad signal is perceived. The

changes in the response can be observed through the changes in the stock price; in this particular case, the changes will be measured using the abnormal return. Therefore, abnormal returns are available as factors of market reaction to the available information. Financial and non-financial information published by companies leads to the reaction of investors. Also, the types of auditor switching, CU (Cross-Up) and CD (Cross-Down) auditor switching, can be seen from the auditor's report (Nawangsari and Iswajuni, 2019). In the present study, the auditor change has been investigated following the classification performed by Stunda (2012). These three categories are: The first category is the auditor switching, switch from an auditing firm to an entity of similar size; the second category is cross down auditor switching (CD) or auditor switching from a larger auditing firm to a smaller auditing firm and the third category, cross up audit (CU), in which case the auditor was switching from a smaller auditing firm to a larger auditing firm. DeAngelo (1981) show that larger auditing firms are less worried about losing customers because they have more customers; As a result, the quality of their services is higher than that of smaller auditing institutions. Ghosh, Gu and Jain (2005) also believe that the long tenure of the auditor and the client reduces the independence and quality of the audit. Chaney and Philipich (2002) found that shifting the auditor from a larger institution to a smaller institution caused a negative market reaction due to investors' expectation that the information content of reported earnings would decrease. This change in the reaction can be seen through lower stock prices. If the auditor switches after the publication of the auditor's opinion, it is considered to announce negative news about the company's performance; Because the manager may appoint a new auditor with lower quality to receive an acceptable opinion. Kornberger et al. (2010) state that a developing institution will receive a positive Reaction from investors by auditors switching to larger auditing firms.

Reducing information asymmetries leads to the development of corporate governance and adherence to corporate financial reporting guidelines, increasing the reliability of financial statements—audit quality signalling two essential tasks of the auditor: contracts oversight and the validity of financial information. When the company decides to auditor switching, this switching may be cross up auditor switching or cross down. Reducing information asymmetries leads to the development of corporate governance and adherence to corporate financial reporting guidelines, increasing the reliability of financial statements. Audit quality signals two essential tasks of the auditor: contracts oversight and the validity of financial information. When the company decides to auditor switching, this switching may be cross up auditor switching or cross down auditor switching. If the cross-up auditor switching, this type of auditor switching can indicate management's unwillingness to manipulate the figures of financial statements and the market reacts positively. The company's earnings response coefficient is also higher in this situation. Investors see this type of auditor switching as a sign of collusion between the manager and the auditor and react negatively when they cross down auditor is switching. The earnings response coefficient will also be lower in this situation (Alavi Tabari and Bashiri manesh, 2013). Tanani (2017) results indicate a positive and significant relationship between the expected abnormal return growth and earnings response coefficient. Alavi Tabari and Bashiri manesh's (2013) results show the positive effect of audit quality and auditor switching to a higher quality on the earnings response coefficient for companies with abnormal earnings. It also indicates the negative impact of the auditor switching to a lower quality on the earnings response coefficient for companies with abnormal earnings.

One of the reasons companies switch auditors from bottom to top (CU) is to receive a positive reaction from investors. When the information becomes available to investors after the auditor switching, they see this information as a positive sign from the company and as a measure of the

company's good performance. Also, this type of switch can negatively affect abnormal returns, especially if this switch aims to prevent interest conflicts between management and the auditor. This may hurt investors, especially when the constant auditor switches between audit firms (Nawangsari and Iswajuni, 2019). Auditor switching from top to bottom (CD) can also positively or negatively affect abnormal returns. Following institutions' passage and implementation of the Sarbanes-Oxley Act, many audit firms provided better services to their clients. However, some investors may take the information as a bad signal, indicating a practice of opinion shopping in which what is being reported is not similar to that of the actual situation. Opinion shopping is an effort a company takes to get a better audit opinion (Nawangsari and Iswajuni, 2019). Better quality audit firms do not worry about losing customers, so their opinions are more accurate and reliable. The number of rejected and qualified audit opinions hurts the company's stock price. In this situation, managers replace their auditors with a lower quality audit (Alavi Tabari and Bashiri manesh, 2013).

Close research has been done in Iran and other countries; this section will have a brief overview of this research.

Ball and Brown's (1968) showed that an increase in earnings increases abnormal returns and vice versa. Kauffman, Spaulding and Wood (2009) studied liquidity and abnormal returns in weak performing markets. The results showed a weak relationship between liquidity and market efficiency and a positive relationship between market efficiency and abnormal returns. Muradoğlu and Sivaprasad (2012) show that the average increase in risk reduces the abnormal return on company change. Malhotra, Thenmozhi and Gopalaswamy (2013) show that market conditions and the type of industry significantly affect abnormal returns, and the reward ratio does not significantly affect abnormal returns. For payroll, company size and market conditions significantly affect returns. Company size, financial leverage, debt-to-equity ratio, and fluctuations in stock returns are other factors related to the company that significantly impact stock returns. But in the case of salaries, only the firm's size is an essential factor in the company, which positively affects returns. Hatem (2015) shows that the market reacts negatively due to increased profitability, firm size, and managerial ownership. In contrast, financial leverage has a positive effect on abnormal returns. Angulo-Ruiz et al. (2018) examined the relationship between corporate marketing and abnormal stock returns. The results show a direct and significant relationship between corporate marketing and abnormal stock returns. Lindros (2020) indicates a statistically significant relationship between unexpected profit and abnormal cumulative returns. Suryani and Pertiwi (2021) show that the announcement of the earthquake significantly affects the abnormal returns of insurance companies. These findings show that the market reacts to persistent bad news, and this news as negative information reduces stock prices. The results also show that investors may buy stocks at a lower price after the announcement of bad news or keep stocks to avoid losses. Herwany et al. (2021) examined the effect of announcing the COVID 19 epidemic on various sectors' stock and abnormal returns. The results show that abnormal returns decreased 30 days before and 30 days after the announcement in the real estate and construction sectors and increased in the facilities and transportation sectors. Also, the financial, trade, services, and investment sectors have been affected to a greater extent.

Sinaei and Mahmoudi (2005) showed that abnormal returns occur on the meeting date. Rezaei and Heidarzadeh (2014) examined the effect of board credit on the relationship between agency problems and abnormal returns accumulated in more or less investing companies. They showed that agency problems have a negative and significant effect on the accumulated abnormal return. The credibility of the board of directors has a positive and significant effect on this relationship. Darabi (2016) examined the method of financing (capital structure) and abnormal returns. The results show the inverse and significant effect of book leverage on the accumulated abnormal return of companies.

Sadeghi, Dastgir and Amiri (2015) investigated the relationship between conditional and unconditional stability of earning components and abnormal returns and accruals anomaly. Findings showed a significant difference between conditional and unconditional stability of abnormal earning on abnormal returns. Weiss Rezaei, Veisi Hesar and Ghandchi (2020) examined the relationship between audit fees, growth opportunities, and abnormal returns of companies. The results showed that audit fees and abnormal returns were not significantly related. Emsakpur et al. (2021) investigated the role of quarterly earnings announcements on the relationship between traders' trading speed and cumulative abnormal returns. The results show that the high trading speed of stocks in all four time periods of earning announcement affects cumulative abnormal return and leads to information asymmetry.

According to research in the field of abnormal returns are observe, In Iran, no similar research has been conducted on auditor switching and its effect on abnormal returns. The issue of auditor switching is also very limited. In comparison, the news of the auditor switching and the reasons for this switch can play a significant role in investment decisions and the capital market. Therefore, the present study results can provide useful information to the capital market and users of corporate financial statements.

According to the theoretical foundations, the research hypotheses are:

H1: The auditor switching affects abnormal returns.

H2: The Cross Up auditor switching affects abnormal returns.

H3: Cross Down auditor switching affects abnormal returns.

3. Research Methodology

Selected companies in the research include Tehran Stock Exchange and OTC companies from 2010 to 2020. In the present study, the screening method (systematic) has been used to select the sample. The limitations imposed on the statistical population of the research are:

1) The information they need is available, 2) The end of the financial year of the company under review is March 20, 3) Companies that are not part of financial institutions, investments, and banks, 4) Have not stopped trading for more than 4 consecutive months. Due to the mentioned limitations, the available research population reached 365 companies (2422 years - companies) according to Table (1) and was examined as a sample.

Table 1. How to screen the research community

Number of companies	Limitations
637	Total number of listed and OTC companies on March 20, the year 2020
(18)	Number of companies belonging to the banking industry
(25)	Number of companies belonging to the pension industry
(32)	Number of companies belonging to the investment industry
(24)	Number of financial and monetary intermediation companies
(193)	Number of companies whose information was not fully available during the research period
(21)	Companies that have stopped trading for more than 4 months
324	Number of samples selected

The document mining method has been used to collect research data. Also, the required data have been used from financial statements, databases of the Tehran Stock Exchange and to obtain information related to the ranking of auditing firms from the website of the Society of Certified Public Accountants. Also, in this study, STAT 14 and EViews 10 software were used to analyze the data.

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4. Rsearch Models

Data were analyzed using econometric software using multiple linear regression. The regression model can be seen in the following equation:

$$AR_{it} = \alpha + \beta_1 Lateral_{it} + \beta_2 CU_{it} + \beta_3 CD_{it} + \beta_4 ROE_{it} + \beta_5 NWC_{it} + \beta_6 BV_{it} + \beta_7 STA_{it} + \beta_8 CAICL_{it} + \beta_9 ROA_{it} + \beta_{10} CM_{it} + \beta_j IndustryDum + \beta_k YearDum + \varepsilon_{it} \quad (1)$$

AR_{it}, abnormal return. α, Width of origin. Lateral_{it}, auditor switching. CU_{it}, cross up auditor switching. CD_{it}, cross down auditor switching. ROE_{it}, return on equity. NWC_{it}, networking capital. BV_{it}, leverage. STA_{it}, total asset turnover. $CAICL_{it}$, Quick Ratio. ROA_{it}, return on assets. CM_{it}, financial flexibility.

If the model test result shows a significant effect of each of the independent variables of the research on the abnormal return, the research hypotheses are confirmed.

4.1. Dependent variable: Abnormal Return

In this study, abnormal return is considered a dependent variable of the research. Abnormal return is the difference between the realized and the expected return (Jogiyanto, 2012).

4.1.1. Calculating realized return

$$R_{it} = \frac{P_{it}(1+\alpha+\beta)+D_{it}-P_{it-1}-C\alpha}{P_{it-1}+C\alpha} \quad (2)$$

R_{it}, return. P, stock prices. D_{it}, dividend cash payment. α, β , C, raising Equity Capital from Stockholders' Receivables and cash brought by shareholders, Percentage of capital increase from the place saved and the nominal amount paid by the investor for the capital increase from the place brought in cash.

4.1.2. Calculating the expected return

In this research, following the Fama and French model (2018), the Six-Factor Fama and French model have been used to calculate the expected return per share.

$$R_{it} - R_{ft} = \alpha_0 + \beta_i(R_{mt} - R_{ft}) + s_i(SMB)_{it} + h_i(HML)_{it} + r_i(RMW)_{it} + c_i(CMA)_{it} + m_i(WML)_{it} + \varepsilon_{it} \quad (3)$$

In this equation R_{it} is the month t return on asset i, R_{ft}, Risk-free rate of return per month t, $(SMB)_{it}$, (small minus big) and $(HML)_{it}$, (high minus low book- to-market equity) is the size and value factors of the FF (1993) three-factor model, $(RMW)_{it}$, (robust minus weak) is a profitability factor, $(CMA)_{it}$, (conservative minus aggressive) is an investment factor, and $(WML)_{it}$, (up to minus down) is a momentum factor.

The dependent variable of Model (3) is the monthly stock return surplus equal to the difference between the monthly return and the risk-free monthly rate of return. In this study, the interest rate on one-year deposits has been used as a risk-free rate of return. To calculate the factors of the Fama and French model, first, the necessary variables are calculated according to the following Table (2) (Hadian, Hashemi and Samadi, 2017):

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Then the size factor is divided into two groups: small (S) and big (B) and other factors according to 30% of high values, 40% of medium values , and 30% of low values, respectively into three categories: high-value factor (H), medium value (N) and low-value companies (L), high profitability (R), medium profitability (N) and low profitability (W), bold investment (A), balanced (N) and conservative (C) and based on the momentum factor of companies to The three groups of winning portfolio (w), medium portfolio (N) and losing portfolio (L) are classified (Pour Zamani and Bashiri, 2013).

Finally, the formation of factors following Fama and French (2018) is presented in the form of a table (3).

Table 2. The names of the variables and how to calculate them

Calculation method	Variable
The natural logarithm of the total market value of the company at the fiscal year ending	Size
The book equity on the market for the fiscal year ending in the previous calendar year	Book Equity to Market Cap
Operating profit less financial costs divided by the book value of equity for the fiscal year ending in the previous calendar year	Profitability
Changes in total assets for the year ending in t-1 are divided by total assets at the end of year t-1	Investment
The geometric average rate of return (GAAR) twelve months ago except one last month	Momentum

Table 3. Structure of factors

Relationship of factors		factors
$SMB_{B/M} = (SH + SN + SL)/3 - (BH + BN + BL)/3$	$SMB_{B/M}$	$(\mathbf{SMB})_{\mathbf{it}}$
$SMB_{OP} = (SR + SN + SW)/3 - (BR + BN + BW)/3$	SMB_{OP}	
$SMB_{Inv} = (SC + SN + SA)/3 - (BC + BN + BA)/3$	SMB_{Inv}	
$SMB = SMB_{B/M} + SMB_{OP} + SMB_{Inv}$		
$HML = (SH + BH)/2 - (SL + BL)/2$		$(\mathbf{HML})_{\mathbf{it}}$
$RMW = (SR + BR)/2 - (SW + BW)/2$		$(\mathbf{RMW})_{\mathbf{it}}$
$CMA = (SC + BC)/2 - (SA + BA)/2$		$(\mathbf{CMA})_{\mathbf{it}}$
$WML = (SW + BW)/2 - (SL + BL)/2$		$(\mathbf{WML})_{\mathbf{it}}$

4.2. Independent Variables

The independent variables of this research are the three types of auditor switching as follows:

auditor switching: switch from an auditing firm to another auditing firm of similar size: a score of 1 is given for a switch of an auditing firm to an auditing firm of similar size, and a score of 0 is given for switching other than this.

Cross up auditor switching (CU): Score 1 to switch from small auditing firm to large auditing firm and otherwise zero.

Cross down auditor switching (CD): Score 1 to switch from large auditing firm to small auditing firm and otherwise zero.

4.3. Control Variables

Return on equity ($\mathbf{ROE_{it}}$)**:** ratio of net earnings to total equity (Gibson, 2009).

Net working capital ($\mathbf{NWC_{it}}$)**:** Payable accounts minus total inventory and accounts receivable (Daneshi, 2016).

Leverage($\mathbf{BV_{it}}$) **:** Debts on equity (Darabi, 2016).

Total assets turnover($\mathbf{STA_{it}}$): Sales on assets (Esmaeil zadeh and Beheshti, 2016).

Quick Ratio($\mathbf{CAICL_{it}}$) **:** Total current assets minus inventory to current liabilities (Esmaeil zadeh and Beheshti, 2016).

Return on assets ($\mathbf{ROA_{it}}$) **:** Net profit divided by the company's total assets at the end of the fiscal year (Sadati, 2017).

Financial flexibility ($\mathbf{CM_{it}}$) **:** Changes in Cash Holding on Equity Market Value at the End of Fiscal Year t-1 (Alian Nejadi, 2013).

4.4. Endogenous Auditor Switching

Owners decide to auditor switching for various reasons, so self-selection orientations are likely. The ordinary least squares method causes contradictory results in situations where there is a problem of indigenousness of the main independent variable. Research shows that companies do not switch auditors for no apparent reason; rather, they seek to switch and select an auditor voluntarily based on their goals and interests. This leads to a violation of the principle of a random selection of the research sample. A comprehensive method has been used to estimate the "Propensity score" to solve this case. In this method, the company that tries to change its auditing firm with other auditing firms of different or similar sizes (without replacement and repetition) is matched based on the "Nearest neighbour matching" process (Dolatzarei, 2019). Finally, the research model is estimated using robust residual regression to ensure the estimates and endogenous control of the auditor switch.

$$Switch_{i.t} = \alpha_0 + \beta_1 Stown_{i.t-1} + \beta_2 AutTop_{i.t-1} + \beta_3 Size_{i.t-1} + \beta_4 ROA_{i.t-1} + \beta_5 Liq_{i.t-1} + \beta_6 Subs_{i.t-1} + \beta_7 Issue_{i.t-1} + \beta_8 \Delta Management_{i.t-1} + \beta_j IndustryDum + \beta_k YearDum + \varepsilon_{it} \quad (4)$$

Table (4) shows how to calculate endogenous model variables (Dolatzarei, 2019):

Table 4. How to calculate the variables of the endogenous model of auditor switch

variable	Calculation method
Auditor Switching (Switch)	If the auditor has switched, 1, is otherwise 0
Government ownership (Stown)	If the government or quasi-government companies own more than 50% of the company's shares, 1; otherwise, 0
Audit top (AutTop)	Trusted auditing firms rank first, 1 and otherwise 0
Owner size (Size)	The natural logarithm of assets
Return on assets (ROA)	Profit before interest and taxes on total assets
Liquidity (Liq)	Total current assets divided by total current liabilities
Subsidiary companies (Subs)	A company has one company or several subsidiaries, 1 otherwise 0
Increase the company's capital (Issue)	If the company has increased its capital is equal to 1 and otherwise 0
Change in management (ΔManagement)	In case of change of management, 1 otherwise 0

5. Research Results

5.1. Descriptive Statistics

Descriptive statistics of variables for 2422 observations are presented in Tables (5) and (6).

The results of Table (6) show that the auditor switching (from previous audit firm to audit firm of similar size) in 460 cases, Cross up auditor switching (from small audit firm to large audit firm) is

110 cases, Cross down auditor switching (from a large audit firm to a small audit firm) is 78 cases. These results indicate that companies that switch their auditors are less likely to switch from a large audit firm to a small audit firm.

5.2. Variance Inflation Factor

According to Table (7), the variance inflation factor of the explanatory variables of the research is less than 10, indicating the absence of alignment.

Table 5. Descriptive statistics of research variables

variable	symbol	average	Standard deviation	Minimum	Maximum	Skewness	Kurtosis
Abnormal returns	AR	-0.081	0.215	-0.978	0.988	-0.206	6.202
Return on equity	ROE	0.272	0.469	-3.884	4.319	-0.343	24.196
Net working capital	NWC	0.236	0.325	-0.786	1.493	0.483	3.506
Leverage	BV	1.694	7.697	-84.330	77.827	-0.990	71.514
Turnover of total assets	STA	0.912	0.795	0.000	10.385	3.846	29.884
Quick Ratio	CAICL	1.085	1.202	0.007	14.611	4.989	36.646
Return on assets	ROA	0.113	0.162	-0.789	0.837	-0.115	6.225
Financial flexibility	CM	0.010	0.092	-0.783	0.705	1.035	24.343
Owner size	Size	14.399	1.664	9.632	9.183	0.555	3.418
Liquidity	Liq	1.724	2.752	0.005	46.951	10.177	133.395

Table 6. Descriptive statistics of research variables

variable	symbol	Frequency		Abundance	
		1	0	1	0
Auditor switching	Lateral	18.992	81.007	460	1962
Cross up auditor switching	CU	4.541	95.458	110	2312
Cross down auditor switching	CD	3.220	96.779	78	2344
Auditor Switching	Switch	26.754	73.245	648	1774
Government ownership	Stown	28.654	71.345	694	1728
Audit top	AutTop	84.929	15.070	2057	365
Subsidiary companies	Subs	16.928	83.071	410	2012
Increase the company's capital	Issue	23.451	76.548	568	1854
Change in management	ΔManagement	67.175	32.824	1627	795

5.3. Hypothesis Test Results

To ensure the research results and for the endogenous control of the auditor switch, the findings of the research model have been estimated using robust residual regression, the results of which are described in Table (8). According to the results of Table (8), it can be seen that the probability of the F statistic is equal to 0.000, so the model is significant. The Adjusted R-squared is 0.26. This indicates the degree of explanation of the dependent variable changes by the model's explanatory variables. Also, the results reflected in Table (8) about testing the model hypotheses show that the coefficient of the auditor switching variable is -0.004 and the Prob of variable is 0.62. So the first hypothesis of the research is not confirmed; Regarding the Cross up auditor switching, the coefficient of this variable is -0.014, and the Prob of the variable is 0.335, so the second hypothesis of the research is not confirmed. Regarding the cross down auditor switching, the coefficient of this variable is -0.037,

and the Prob is 0.045. As a result, the third hypothesis of the model is confirmed. Based on this result, at the 90% confidence level, the auditor switching from top to bottom has a negative and significant effect on abnormal returns.

Table 7. Variance inflation factor

variable	symbol	VIF
Auditor switching	Lateral	1.08
Cross up auditor switching	CU	1.04
Cross down auditor switching	CD	1.03
Return on equity	ROE	1.39
Net working capital	NWC	1.50
Leverage	BV	1.23
Turnover of total assets	STA	1.32
Quick Ratio	CAICL	1.35
Return on assets	ROA	1.71
Financial flexibility	CM	1.03

Table 8. Results of estimating the research model with endogenous control (PSM approach)

variable	coefficient	Std. Error	t-Statistic	Prob
Lateral	-0.004	0.008	-0.50	0.620
CU	-0.014	0.015	-0.97	0.335
CD	-0.037	0.018	-2.01	0.045
ROE	0.013	0.008	1.61	0.108
NWC	0.024	0.014	1.71	0.089
BV	0.000	0.000	1.00	0.318
STA	-0.003	0.006	-0.48	0.630
CAICL	-0.008	0.003	-2.32	0.021
ROA	0.081	0.033	2.41	0.017
CM	-0.039	0.047	-0.83	0.409
Year - industry		Was controlled		
Adjusted R-squared: 0.259		F: 18.50		F-Statistic: 0.000

Among the control variables of the model, the variable of Quick Ratio with a Prob of 0.021 has a negative and significant effect on abnormal returns, and the variable of return on assets with a Prob of 0.017 has a positive and significant effect on abnormal returns. Also, networking capital with a coefficient of 0.024 and probe 0.089 has a positive and significant effect on abnormal returns.

5.4. Additional Test

The First difference regression model performed additional tests to ensure the results. The use of these types of regressions is useful when the independent variable of the research is the switch (Dolatzarei, 2019). For example, in this study, the independent variable is auditor switching. According to Ghosh and Lustgarten (2006), measuring the temporary changes of a directly dependent variable is one of the advantages of using the First difference regression model. Model (5) has been used for an additional test of the research model.

$$\Delta AR_{it} = \alpha + \beta_1 Lateral_{it} + \beta_2 CU_{it} + \beta_3 CD_{it} + \beta_4 \Delta ROE_{it} + \beta_5 \Delta NWC_{it} + \beta_6 \Delta BV_{it} + \beta_7 \Delta STA_{it} + \beta_8 \Delta CAICL_{it} + \beta_9 \Delta ROA_{it} + \beta_{10} \Delta CM_{it} + \beta_j IndustryDum + \beta_k YearDum + \varepsilon_{it} \quad (5)$$

ΔAR_{it}, abnormal return changes. α, Width of origin. Lateral_{it}, auditor switching. CU_{it}, cross up auditor switching. CD_{it}, cross down auditor switching. ΔROE_{it}, return on equity changes. ΔNWC_{it},

networking capital changes. ΔBV_{it}, Leverage changes. ΔSTA_{it}, total asset turnover changes.$\Delta CAICL_{it}$, Quick Ratio changes. ΔROA_{it}, return on assets changes. ΔCM_{it}, financial flexibility changes.

To ensure the research results, the research model is estimated using the First difference regression model, and the results of the model test (5) are presented in Table (9). According to the results of Table (9), it can be seen that the probability of the F statistic is equal to 0.000, so the model is significant. The Adjusted R-squared is 0.12; this indicates the degree of explanation of the dependent variable changes by the model's explanatory variables. Also, at the level of 90% confidence, due to the Prob of auditor switching and cross up auditor switching, the first and second hypotheses of the research are not confirmed. Given the Prob of the Cross down auditor switching variable, this variable has a negative and significant effect on abnormal returns; As a result, the third hypothesis of the research is confirmed.

Table 9. An additional test of research model with endogenous control (PSM approach)

variable	coefficient	Std. Error	t-Statistic	Prob
Lateral	-0.003	0.016	-0.19	0.851
CU	-0.042	0.029	-1.46	0.144
CD	-0.055	0.032	-1.71	0.088
ΔROE	0.005	0.008	0.67	0.503
ΔNWC	-0.035	0.018	-1.89	0.060
ΔBV	-0.000	0.000	1.24	0.215
ΔSTA	0.015	0.011	1.35	0.177
ΔCAICL	0.002	0.003	0.69	0.493
ΔROA	-0.006	0.071	-0.08	0.933
ΔCM	0.000	0.038	0.02	0.981
Year - industry		Was controlled		
Adjusted R-squared: 0.122		F: 5.46		F-Statistic: 0.000

6. Conclusion

This study aims to investigate the effect of auditor switching on abnormal returns. Multivariate regression has been used to test the research hypotheses of 365 companies during the 10 years from 2010 to 2020 and to test the data. Testing the first hypothesis of the research indicates that auditor switching has no significant effect on abnormal returns. This result shows that the auditor switching has no effect on investors' behaviour and consequently stock returns and lacks information content. Also, the result of testing the second hypothesis of the research indicates that the cross up auditor switching has no significant effect on abnormal returns. This result is contrary to Badavar Nehbandi and Taghizadeh Khanghah (2013) and Kornberger et al (2010). Their research shows a positive and significant effect of auditor quality and switches to higher-quality auditors on the growth of abnormal returns. Also, the results of Badavar Nehbandi and Taghizadeh Khanghah (2013) research show that the switch to a higher quality auditing firm, despite some bad news in profits, leads to an increase in stock prices. The results of research by researchers who examined the reaction of market investors to the type of auditing firms showed that larger auditing firms have a higher level of motivation to maintain auditor independence; Therefore, in their decisions, investors consider the size of the audit firm as one of the factors of the quality of audit services and react to it in the market. Testing the third hypothesis of the research indicates that the cross down auditor switching has a negative and significant effect on abnormal returns. This means that by shifting from a larger audit firm to a smaller or lower quality firm, abnormal returns will decrease and reflect investors' negative reaction to the announcement; the effect of this reaction on stock prices is visible and reduces stock prices. This result is in line with the research of Alavi Tabari and Bashiri Manesh (2013) and Chaney and Philipich

(2002), that when the switch of auditors from large auditing firms to other auditing firms is announced to the market, the market shows a decrease in stock prices and market returns. Gives, conforms. Some investors may consider this change as a bad omen if the switch from auditor to the auditor with lower quality is made with the intent of not receiving a conditional comment and And to consider this action as an act of Opinion Shopping, which indicates that the report does not correspond to the real situation. Opinion Shopping is an action a company takes to get a better audit opinion (Nawangsari and Iswajuni, 2019).

At the end of the study and according to the results, it is recommended that investors consider the reasons and motivation of the management of the switch before making any financial decision in the years of auditor switch. Also, due to the lack of information of most investors about the ranking of auditing firms, it is recommended to refer to the website of the Society of Certified Public Accountants to obtain information about the rating of auditing firms.

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