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**Ferdowsi University of Mashhad**

# Iranian Journal of Accounting, Auditing & Finance
## (IJAAF)

# *Contents*

# Editorial Board

# *Articles Writing Guide*

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- Utmost 5 keywords in Times New Roman
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*Structure of second page until the end of manuscript is as follow:*

- *Introduction* Some paragraphs contain explaining the problem, literature review, object (purpose), importance and necessity of it.
- *Literature review* a review of the literature investigates only related researches chronologically and the results exploit at the end of the section theory matrix or conceptual model that document research variables and Formulate research hypotheses.
- *Methodology* including Methods, data collection tools, population, sample size and sampling methods, analysis and model testing hypothesis, definition of study variables and operational definition of them can be in presented the same section that model testing is represented and there is no need to repeat.

- *Results* including the findings compare it with the findings of previous and interpretation of compliance or inconsistency of findings with research findings and theories.
- *Conclusion* includes a summary of the problem, provide a summary of the results and overall conclusion and recommendations based on the results (policy recommendations is necessary only in applied research and, if necessary, recommendations for future research accordant with the research limitations or how development of current research;
- *References* are as Section 3-2 and
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- In order to reference within the text (APA) method should be used; so the author's last name with the year of publication it is presented in the text respectively. If there are two authors, last names' will be separated by "and" and if more than three people, "et al." will be used
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- Tables and images number from No. (1) To refer to the content of the images and diagrams in the text, use the number and appropriate referral.
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### *Editor's Note*

I am pleased to announce that the Ferdowsi University of Mashhad is publishing Iranian Journal of Accounting, Auditing & Finance (IJAAF). On behalf of the board of the IJAAF and my co-editors, I am glad to present the Volume 1, Issue 1 of the journal in December 2017; the journal will publish four issues in a year. The board includes experts in the fields of accounting, finance and auditing, all of whom have proven track records of achievement in their respective disciplines. Covering various fields of accounting, *IJAAF* publishes research papers, review papers and practitioner oriented articles that address significant issues as well as those that focus on Asia in particular. Coverage includes but is not limited to:

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- Taxation

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Perspectives or viewpoints arising from regional, national or international focus, a private or public sector information need, or a market-perspective are greatly welcomed. Manuscripts that present viewpoints should address issues of wide interest among accounting scholars internationally and those in Asia in particular.


Yours faithfully,
Mahdi Moradi
Editor in Chief

# Analysts' Forecasts and Stock Prices in Nigeria

**Onipe Adabenege Yahaya**

*Department of Accounting, Faculty of Management Sciences, Nigeria*

## Abstract

Analyst forecast information is available to the public in less developed countries at a little cost. The role of analysts in forecasting stock returns cannot be over-emphasized. Yet, little scholarly works have been done in Nigeria. The purpose of this paper is to interrogate analysts' forecasts' effect on share prices in Nigeria. The research approach is correlational. We collected and analyzed data for several years from the annual reports and accounts of 138 corporations over 10 years (2010-2019). The results indicate that experts 1, 3, and 4 have a significant and positive impact on stock return. The information from expert 2 had failed to show any signal of significance. Based on the majority of these results, the paper recommends that financial analysts consider the information when considering the price of stocks in Nigeria. The conclusion is that the study results have implications for stakeholders (management, public, employees, suppliers, investors, creditors, regulators, governments, customers, users, partners, charity organizations, special interest-holders; competitors, community groups, trade groups, and the media/press) and based on the findings, it is suggested among others that stakeholders who need the prices of stocks should depend on analyst forecast.

Corresponding author: Onipe Adabenege Yahaya
Email: yonipe@yahoo.com

## 1. Introduction

The association between analyst forecasts and stock prices has been well examined in developed capital markets worldwide. For example, In New Zealand, Ramnath, Rock and Shane (2006) reviewed research regarding the role of financial analysts in capital markets. They built on the perspectives provided by Schipper (1991) and Brown (1993) and categorized papers published mainly since 1992 and selectively discuss aspects of these papers that address or suggest key research topics of ongoing interest in seven broad areas: analysts' decision processes, the determinants of analyst expertise and distributions of individual analysts' forecasts, the informativeness of analysts' research outputs, analyst and market efficiency concerning information, effects of analysts' economic incentives on their research outputs, effects of the institutional and regulatory environment, and limitations of databases and various research paradigms.

In the USA, Lui, Markov and Tamayo (2010) examined the market reaction to changes in analysts' equity risk ratings and the type of information conveyed by such changes. They found that stock prices increase (decrease) when analysts changed their risk ratings toward lower (higher) risk controlling for changes in stock recommendations, price targets, earnings forecasts, and contemporaneous news about corporate events. In Italy, Sancetta, Renzi, and Orlando (2012) investigated the dispersion phenomena among financial analysts' judgments and how this influences stock prices. It used a regression model to test the research hypothesis and confirm the inverse relationship between stock prices and the dispersion in analysts' forecasts regarding expected earnings. The analysis was conducted on a sample of securities listed on the Eurostoxx 50®; the sample covered a period of 6 years (2002-2007). Results showed an inverse relationship between the price of the security and the dispersion among analysts' judgment. This paper examines the role of analyst forecasts in capital market activity area that is less developed. However, the paper was written as initially theoretically provided by Schipper (1991) and Brown (1993). Analyst forecast is predicated on information from corporations' performance, leverage, and growth. Some analysts based their expectations on the company's revenues and costs. Some include economic performance, growth rates, gross domestic product, and other macro-economic variables. This paper looked at analyst forecasts as influenced by stock returns. The total stock return answered what happened to the stock price and dividend paid as a quotient of the original price. The source of income from stock is the dividends and their increase in value. Therefore, the first proportion of the formula looks at the increase in its value over a while.

This paper is important to many people, such as managing the companies under study, the watchdogs (Securities and Exchange Commission and Financial Reporting Council of Nigeria), potential employees, suppliers, and creditors. It is divided into 5 sections: introduction, literature review, methodology, results and discussion, and conclusion and recommendations. The next section addresses the literature review.

## 2. 2. Literature Review and Hypotheses Development

The major items of this paper (analyst forecasts and stock prices are interrelated). The paper relied heavily on the Prospect Theory. The theory was first developed by Kahneman and Tversky (1979) and looked at how individuals assessed their losses and compensated with gains. Its theory, though was of psychology, can be applied in economics and finance. Grivoly and Lakonishok (1984) said there is a positive association between analysts' forecasts and stock prices. Bandyopadyyny, Brown, and Richardson (2021) discovered a low impact on the stock. Similarly, Gleason and Lee (2003) early two centuries ago concluded that financial forecast had an enormous influence on stock pricing. Ramnath, Rock, and Shane (2006) examined the role of financial forecast in the capital market and found it useful in stock pricing in the

United States. Park and Stice (2000) found a positive association between them. Bradshaw (2000) concluded that there is an association between them. Ang and Ciccone (2021) concluded that they are not connected at all. Brav and Lehavy (2003) used a large database of analysts' target prices issued from 1997-1999 to investigate short-term market reactions to target price revisions and long-term comovement of target and stock prices. They found a significant market reaction to the information contained in analysts' target prices, both unconditionally and conditional on contemporaneously issued stock recommendations and earnings forecast revisions.

Malmendier and Shanthikumar (2005) examined data from the United States of America and concluded that large traders react strongly to analyst earnings forecasts greater than small traders. Gleason, Johnson, and Li (2008) concluded that analyst forecast information underscores the importance of stock return in the United States. Ferrereira and Santa-Clara (2008) located substantial expectedness in equity earnings by information from financial analysts. In Brazil, Martinez (2010) investigated the effect of stock recommendations in returns for Brazilian public companies using data from the I/B/E/S system from January 1995 through 2003. The results showed that more than 50% of recommendations in the study period were bought. In terms of market-adjusted return, the individual recommendations of some analysts performed reasonably well in the 30 days after the recommendation date, but the consensus recommendation did not perform well. The sell recommendations and downgrades produced significant negative returns.

Groysberg et al. (2011) drew a sample from the USA, Europe, Asia, and Latin American and discovered that sell-side analysts have greater influence than buy-side analysts on stock return. Sancetta, Renzi, and Orlando (2012) in Italy concluded that there was an inverse relationship. Bradshaw, Huang, and Tan (2012) found that analysts' forecasts from individuals have a positive effect while institutions have a negative effect. Gabriel and Ugochukwu (2012) got mixed results in Nigeria. Adebiyi et al. (2012) used the hybridized approach and concluded that analyst forecast significantly affects stock returns in Nigeria. Crawford, Roulstone, and So (2012) observed the United States of America case and judged that financial analysts impact stock return. Bradshaw, Huang, and Tan (2012) used unique analyst-location data covering 11,408 analysts from 41 countries. They found that target price accuracy was negatively associated with the target price level but positively associated with target price revision. Marhfor et al. (2013) disclosed no association between the two. Mgbame and Ohoiorenuan (2013) stated that accounting information influences stock prices in Nigeria.

In Australia, Shan, Taylor, and Walter (2014) identified other information in analysts' forecasts as a legitimate proxy for future cash flows and examined its incremental role in explaining stock return volatility. They used standardized regressions and found volatility increases when current other information is more uncertain and increases more in response to unfavorable news compared to favorable news. Variance decomposition analysis showed that the variance contribution of other information dominated that of expected-return news. In China, Jiani and Liu (2014) focused on securities analyst pricing forecast, based on the IPOs' data, and estimated a simultaneous equations model with securities analysts' pricing forecast accuracy, dispersion of forecast, and IPO premium. Results showed that there was a significant negative correlation between securities analysts' pricing forecast accuracy and dispersion, and both of them are affected by analyst following; securities analysts' pricing forecast accuracy and dispersion have a significant impact on IPO premium, which proved the effectiveness of securities analysts pricing forecast behavior, and analysts can help investors better value IPOs.

Kim and Song (2015) concluded that the analyst forecast in-stock pricing is overrated in the USA. Cheong and Zurbruegg (2016) uncovered international evidence to conclude inverse bonds amid

analyst forecast and share return. Wang and Chou (2014) found a positive association in Taiwan Stock Exchange. Wu (2017) found a positive association between them in China. Ibrahim (2017) found vitality in prediction by analysts in Nigeria. Hollie, Shane, and Zhao (2017) found an inverse association between analyst forecasts and stock returns. Tiberius and Lisiecki (2019) found a poor impact of analyst forecasts on stock prices in Germany.

Mallikarjuna and Rao (2019) examined the predictive performance of linear and nonlinear models to forecast the stock returns of developed, emerging, and frontier markets. They considered the daily stock market returns of selected indices from developed, emerging, and frontier markets for 2000–2018. The results showed that no single model could be applied uniformly to all markets.

Tiberius and Lisiecki (2019) analyzed the forecast accuracy and profitability of buy recommendations published in 5 main German financial magazines for private households based on fundamental analysis. The results showed a high average forecast accuracy but with a very high standard deviation, which indicated poor forecast accuracy about individual stocks.

Ang and Ciccone (2021) determined the relation between stock returns and analyst forecast properties, specifically, the dispersion and error of annual earnings forecasts. The results indicated that firms with low dispersion or error outperform firms with high dispersion or error. Results showed that liquidity, momentum, industry, post-earnings announcement drift, or traditional risk measures are unimportant.

Bandyopadhyay, Brown, and Richardson (2021) examined the importance of analysts' earnings forecasts for their stock price through analysts' earnings forecasts. They showed that when the earnings forecast horizon is the next fiscal year, forecasted earnings explain only 30% of the variation in forecasted price; the importance of forecasted earnings for forecasted price rises as the earnings forecast horizon increases; and in the long run, forecasted earnings explain about 60% of the variation in forecasted price. Given the aforementioned, the following hypotheses are tested in the study:

**H$_1$:** Expert 1 does not have significant validity on stock prices
**H$_2$:** Expert 2 has no significant effect on share prices
**H$_3$:** Expert 3 does not have significant consequences on share returns
**H$_4$:** Expert 4 has no significant outcome on share returns

## 3. Research Methodology

The research design used was correlational, which means that it measures cause and effect relationships. The population of the paper was 184. The sample was 138 after removing 46 companies with problems of suspension due to technicalities such as; below regulatory standards (BRS), below listing standards (BLS), missed regulatory standards (MRS), missed regulatory filing (MRF), delisting Watch List (DWL), Delisting in progress (DIP) and restricting (RST). The model of the paper was:

$$ASHP_{i,t} = \beta_0 + \beta_1 EXP1_{i,t} + \beta_2 EXP2_{i,t} + \beta_3 EXP3_{i,t} + \beta_4 EXP4_{i,t} + \varepsilon_{i,t}$$

Given:

ASHP = Stock prices, measured by the average of share prices at the beginning and end (Bag, 2019; Nageri, 2019; Yahaya & Alkasim, 2020).

$i$ = Firm script ($i$ = 138 corporations)

$t$ = Year script ($t$ = 10 years)

$\beta_0$ = Constant

$\beta_{1-4}$ = Coefficients

EXP1 = Expert 1 is an expert view on institutional trading, and analysts forecasts impact on the stock market (Gabriel & Ugochukwu, 2012; Palley, Steffen and Zhang, 2019; Yahaya & Alkasim, 2020)

EXP2 = Expert 2 is an expert view on consumer spending and sock market (Groysberg et al., 2011; Tiberius & Lisiecki, 2019; Yahaya & Alkasim, 2020)

EXP3 = Expert 3 is the expert view of futures trading in commodity markets (Hollie, Shane, and Zhao, 2017; Yahaya & Alkasim, 2020)

EXP4 = Expert 4 is an expert view that specializes in analyst earnings forecasting and investing (Cheong & Zurbruegg, 2016; Yahaya & Alkasim, 2020)

ε = Error term

## 4. Results and Discussion

Before estimating the model, this paper tried to describe the statistics. The results were presented in Tables 1 – 7.

Table 1

**Table 1.** Tabular statistics

| Var. | Observ. | Aver Mean | Std Dev. | Mini | Maxi |
|------|---------|-----------|----------|------|------|
| ASHP | 1,380 | 5.08 | 8.89 | -17.6 | 26.4 |
| EXP1 | 1,380 | 48.73 | 45.77 | -21.7 | 244.4 |
| EXP2 | 1,380 | 16.70 | 26.59 | -50.5 | 136.9 |
| EXP3 | 1,380 | -2.904 | 21.618 | -68.9 | 58.5 |
| EXP4 | 1,380 | -24.525 | 24.440 | -96.9 | 44.3 |

Source: STATA 14 Outputs

The tabular statistics in Table 1 shows the number of observation which was 1,380 received as 138 corporations and 10 years. It contained arithmetic mean, standard deviation, mini mean, and maxi mean. The average mean for ASHP (average share price) was 5.08 with a standard deviation of 8.89, which was higher than the average mean. This was not surprising because of the volatility of share prices which was well known. The mini was -17.6, and the max mean was 26.4. The standard mean for EXP1 (Expert 1) was 48.73 with a standard deviation of 45.77, and mini was -21.7, and maxi mean 244.4. Similarly, the average mean for EXP2 (Expert 2) was 16.70 with a standard deviation of 26.59, and mini was -50.5, and the maximum mean was 136.9. Also, the average mean for EXP3 (Expert 3) was -2.904 with a standard deviation of 21.618, and the minimum was -68.9 and the maximum mean 58.5. Furthermore, the arithmetic mean for EXP4 (Expert 4) was -24.525 with a standard deviation of 24.440, and mini was -96.9, and the maximum mean was 44.3.

Table 2

**Table 2.** Chen-Shapiro QH* test for normal data

| Var. | Observ. | QH | QH* | Prob value |
|------|---------|------|-------|------------|
| ASHP | 1380 | 0.996 | 0.132 | < .000 |
| EXP1 | 1380 | 0.918 | 3.060 | < .000 |
| EXP2 | 1380 | 0.960 | 1.476 | < .000 |
| EXP3 | 1380 | 0.995 | 0.186 | < .000 |
| EXP4 | 1380 | 0.992 | 0.313 | < .000 |

Foundation: STATA 14 Outputs

From Table 2, the number of observations was 1,380. QH and QH* values were less than 1, which were expected given that the p-values are significant, meaning that the figures were not normally distributed (p-values < .05). Table 3 presents the association among the experimental variable to test for multicollinearity.

**Table 3.** Results for Multicollinearity

|       | EXP1             | EXP2             | EXP3             | EXP4  |
|-------|------------------|------------------|------------------|-------|
| EXP1  | 1.000            |                  |                  |       |
| EXP2  | 0.6550*<br>0.0000 | 1.000           |                  |       |
| EXP3  | 0.4327*<br>0.0000 | 0.7031*<br>0.0000 | 1.000          |       |
| EXP4  | 0.2290*<br>0.0000 | 0.4859*<br>0.0000 | 0.7368*<br>0.0000 | 1.000 |

The results in Table 3 can be used to test for multicollinearity. From the look of the table, the correlation matrix has no coefficient of 0.80, which was the benchmark of linearity and was confirmed by outcomes in Table 4 as follows.

**Table 4.** Variance Inflation Factor

| Variable | VIF  | 1/VIF |
|----------|------|-------|
| EXP3     | 3.33 | 0.301 |
| EXP2     | 2.82 | 0.354 |
| EXP4     | 2.24 | 0.447 |
| EXP1     | 1.79 | 0.559 |
| Mean VIF | 2.54 |       |

From Table 4, the variance inflation factor of EXP3 was 3.33, which was the minimum threshold for rejecting the hypothesis that there was the absence of multicollinearity in the data set. From a closer observation, the variance inflation factors for others were less than 3.33, suggesting no linearity.

**Table 5.** Cameron & Trivedi's breakdown of IM-experiment

| Types   | chi$^2$ | df | p     |
|---------|---------|----|-------|
| Hettest | 104.12  | 14 | 0.000 |
| Skew.   | 89.39   | 4  | 0.000 |
| Kurt.   | 38.32   | 1  | 0.000 |
| Sum     | 231.83  | 19 | 0.000 |

From the results in Table 5, the p-value for testing the presence of heteroskedasticity was significant (p-value = .000). Similarly, the p-values of Skewness and Kurtosis were significant, which confirmed that the data sets are not normally distributed. This and the presence of heteroskedasticity call for the treatment of regression by robust it.
    Table 6

**Table 6.** Breusch & Pagan Lagrangian multiplier check for REM effects

| Variable                    | Results |
|-----------------------------|---------|
| Chi bar square (01)         | 0.000   |
| Probability > chi bar square | 1.0000  |

From Table 6, the p-value was 1.000, meaning that it was not significant, implying no panel effect in the data set. Hence, the model was better fitted with ordinary least squares (OLS). The results are of the OLS are conveyed next.

**Table 7.** OLS Regression Outcomes

| ASHP | Coef. | Robust Std. Err. | t | P>t |
|------|-------|------------------|---|-----|
| EXP1 | .035 | .005 | 7.02 | 0.000 |
| EXP2 | .019 | .013 | 1.40 | 0.162 |
| EXP3 | .090 | .017 | 5.35 | 0.000 |
| EXP4 | .080 | .016 | 6.34 | 0.000 |
| _cons | 5.296 | .396 | 13.36 | 0.000 |

No. obs =   1,380
$F_{(4, 1375)}$ = 153.54
Probability > F     = .000
$R^2$    = .293

From the results in Table 7, every additional investment in the information provided by EXP1 produces .035 increments in average share price (ASHP). Similarly, this was significant (t-value = 7.02, p-value = 0.000). Furthermore, every additional investment in the information provided by EXP2 produces .019 increments in average share price (ASHP). However, this was found not to be significant (t-value = 1.40, p-value = 0.162). In addition, every additional investment in the information provided by EXP3 produces .090 increments in average share price (ASHP). Similarly, this was significant (t-value = 5.35, p-value = 0.000).

Also, every additional investment in the information provided by EXP4 produces .080 increments in average share price (ASHP). Similarly, this was significant (t = 6.34, p = .000). The number of observations was 1,380, which was a confirmation of what was said in section 3. Interestingly, the Prob > F was .000, which means that the model adopted in the paper was fit and appropriate. The $R^2$, which was the percentage of explanation by the independent variables of the variations in the dependent variable, was .293 (29.5 percent). This was considered to be high in effect given its size.

On average, these results are in agreement with the findings of Grivoly and Lakonishok (1984), Gleason and Lee (2003), Ramnath, Rock and Shane (2006), Park and Stice (2000), Bradshaw (2000; Brav and Lehavy (2003) and Malmendier and Shanthikumar (2005), Groysberg et al. (2011), Bradshaw, Huang and Tan (2012), Adebiyi et al. (2012), Crawford, Roulstone and So (2012), Mgbame and Ohoiorenuan (2013), Wang and Chou (2014), Wu (2017), Ibrahim (2017) and failed to confirm the findings of Ang and Ciccone (2001), Sancetta, Renzi and Orlando (2012), Cheong and Zurbruegg (2016) and Hollie, Shane and Zhao (2017). Given the results, hypothesis 1, which stated that Expert 1 has no significant effect on stock prices in Nigeria, is now rejected. However, hypothesis 2, which stated that Expert 2 has no significant effect on stock prices in Nigeria, is accepted because results showed it was true. However, hypothesis 3, which stated that Expert 3 has no significant effect on stock prices in Nigeria, is hereby rejected. Similarly, hypothesis 4, which stated that Expert 4 has no significant effect on stock prices in Nigeria, is hereby rejected.

## 5. Conclusion and Recommendations

The objective of the paper was to test the brunt of analyst forecasts on stock prices or stock returns in Nigeria, as shown by Table 7. The paper goes through the experimental literature in the juncture of analyst forecasts and stock prices. The paper used the Prospect theory and showed how analyst forecasts information plays a critical role in the formation of stock prices.

The paper contributed to the current discussion on the contributions of analyst forecasts on stock returns. Given the results in Table 7, companies are expected to take the maximum advantage of expert information because the p-value of analyst forecasts information was positive on average. The limitations of the paper are, for example, the paper was limited to listed companies in Nigeria. It does

not include other companies that are not quoted. The recommendations of the paper are limited to corporate Nigeria alone. Further investigations should include South Africa and Egypt, which are the largest countries following Nigeria in economic sizes.

The roles of this paper are many: First, the paper added by proposing, to the chief of the researcher's knowledge, a broad dialogue of the main essentials involved. Second, the study pointed to areas for future research. Third, the study deduced policy consequences of the studies under review. In sum, the paper showed that analyst forecasts have positive and significant effects on corporate stock returns.

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# The Impact of International Financial Reporting Standards on Financial Reporting Quality: Evidence from Iraq

**Ahmed Al-janabi**

*Faculty of Accounting, University of Kufa, Kufa, Iraq*

**Reza Hesarzadeh, Mohammad Ali Bagherpour Velashani**

*Faculty of Economics and Administrative Sciences, Ferdowsi University of Mashhad, Mashhad, Iran*

## Abstract

Prior studies provide mixed evidence on whether the transition to International Financial Reporting Standards (IFRS) deters or contributes to greater financial reporting quality. Thus, this research investigates how the transition affects financial reporting quality. This study measures financial reporting quality by earnings management and the value relevance of earnings. Using a sample of listed firms on the Iraq Stock Exchange during 2015–2019, the current study indicates no significant relationship between the transition to IFRS and earnings management. Further, the transition to IFRS positively affects the value relevance of earnings. Thus, collectively, the impact of the transition to IFRS is conditional to the proxies of financial reporting quality. This study contributes to the existing literature by providing empirical evidence regarding the impact of IFRS on financial reporting in an under-studied emerging market. This paper has important implications for regulators, standard setters, listed firms, and other stockholders. It shows that the transition to IFRS has positive effects even in firms from developing countries.

Corresponding author: Reza Hesarzadeh
Email: *Hesarzadeh@um.ac.ir*

# 1. Introduction

The decision for adopting International Financial Reporting Standards (IFRS) at the national level is predominantly an economic decision, with IFRS adoption leading to enhanced transparency, quality, and comparability – characteristics desirable to support international business and extend globalization. However, there is little empirical evidence to support this view, as extant research presents conflicting results (Chua & Talor, 2008; Judge, Li, & Pinsker, 2010). Exploration of IFRS adoption has, for the most part, lacked any theoretical foundation (e.g., Al-Akra, Jahangir and Marashdeh, 2009) and has most often been conducted at the corporate level, with little being carried out at the national level (Judge Li, & Pinsker, 2010). We address these limitations by analyzing the factors that have impacted, and continue to affect, the accounting system in Iraq from an institutional perspective. However,

The movement towards mandating the adoption of International Financial Reporting Standards (IFRS) is considered the most widespread global financial reform in accounting history (Daske et al., 2008). The premise of these standards is to improve the transparency and reliability of financial statements across the globe and facilitate cross-border investments. As a result of this global dimension, determining the accounting standards` economic consequences as part of financial regulatory reforms is both more challenging and important as more countries with diverse levels of development adopt IFRS (Zeff, 2012).

There is evidence that the accounting standards have a limited role in determining the quality of the reports monitored in Iraq and that the application of accounting standards involves a large judgment and use of private information. Therefore, international standards for the preparation of financial reports (such as any other set of accounting standards) provide managers with great information, the use of which depends on the company characteristics (reporting incentives and operating characteristics) (Burgstahler, Hail and Leuz, 2006) and national legal institutions (e.g., Ball, 2016).

In view of the importance of international financial reports, at the end of 2012, 106 countries adopted a compliance policy with these standards, where adoption was necessary and could not be ignored. At the international level, in 2002, the European Union passed legislation requiring companies registered in EU countries to prepare their financial statements on the basis of the IFRS as of January 1, 2005. In the United States of America, a proposal for a roadmap for the implementation of IFRS in 2014 also recommended that Securities Commissions of the International Organization apply the International Financial Reporting Standards for the possibility of trading cross-border securities for the public interest. Background, literature review, and hypothesis development

Barth et al. (2014) explain that international accounting standard setters aim to develop high-quality, principles-based standards (to replace rules-based standards) for financial reporting. This includes steps to remove allowable accounting alternatives and require accounting measurements that better reflect a firm's economic position and performance. Their hypothesis holds that limiting accounting alternatives could reduce opportunistic discretion for managers to determine accounting amounts. The result should be more reflective of a firm's actual underlying economic circumstances. Nonetheless, they acknowledge that the prediction may not be valid in cases where international standards are of lower quality than domestic standards and because the "inherent flexibility in principles-based standards could provide a great opportunity" for EM. For these reasons, they argue that IFRS`s effects on accounting quality depend on empirical evidence. They look at firms in 21 countries that adopted international accounting standards (mostly voluntarily) between 1994 and 2003 and compare them with a control group of firms using domestic standards. They conclude that firms in the test group generally show less EM and more timely loss recognition, consistent with

higher-quality accounting information. Subsequent single- and multiple-country studies have adopted their methodology with mixed results. Single-country studies are necessary to understand IFRS adoption in specific institutional settings (Hellman, 2011). A single-country study overcomes the possibility of spurious results if accounting changes can be attributed to factors that differ across countries. Single-country studies also frequently include more firms than do global databases, making the sample more representative of the country's particular population of firms. We discuss four single-country studies that employ the Barth et al. (2014) methodology, and one Canadian study that uses different measures. Key and Kim (2020) examine the effects of international accounting standards over time (their emphasis) on the accounting quality in Germany, where rules changes came in the era of IFRS adoption across the European Union. They hypothesize that IFRS standards will result in higher-quality accounting, specifically in terms of less EM and more timely loss recognition. They test their full sample for three periods: 2000–2002 (pre-IFRS), 2003–2004 (voluntary IFRS), and 2005–2006 (mandatory IFRS), and conclude that accounting quality in Germany worsened over time. However, when they examine a subsample of firms operating across all three periods (i.e., the voluntary adopters), their results are mixed, "neither providing evidence of an increase or decrease in accounting quality". Liu et al. (2011) examine accounting quality in China when new, substantially IFRS-convergent standards became mandatory for listed firms in 2007. They have only two years each of pre-and post-change data and see less evidence of EM in the latter period; however, only two of their six measures are statistically significant. Chua, Cheong, and Gould (2012) study Australia's mandatory IFRS adoption, effective in 2005 (there was no voluntary adoption period), and consistent with increased accounting quality, find less smoothing and timelier loss recognition after IFRS adoption. Jang et al. (2016) suggest that this result is somewhat surprising because Australia used principles-based accounting standards before switching to IFRS. Ahmed, Neel, and Wang (2013) analyzed the application of international financial reporting standards and their impact on the quality of information. As it was measured as being related to the value and estimated benefits, and the quality of analysts' forecast, their results also indicate: There is no relevant increase in the value of equity but a decrease in the appraised benefits, and an increase in value in the results when evaluated through pricing models.

Gu, Ng, and Tsang (2019) conducted a meta-analysis of studies on the impact of the application of IFRS satisfying management's expectations, where their results indicate that an increase in issuing management expectations after applying the international standards for preparing financial reports is smaller for companies from countries that impose an authorization in accordance with international standards for financial reporting with simultaneous enforcement adjustments compared to those countries where these changes do not exist—taken to a limit, earnings management or "opacity", as coined by Mongrut and Winkelried (2019) can misrepresent the firm's records to such an extent that its financial statements might no longer reflect the firm's real economic value or performance. Thus, a large amount of academic interest exists in exploring the covariates of opacity. At the macroeconomic level, Bhattacharya, Daouk, and Welker (2003) show that opacity is negatively correlated with economic growth and the stock market's wealth. The findings are confirmed by Riahi-Belkaoui (2005), although Filip and Raffournier (2014) conclude that they depend heavily on how opacity is measured.

Moura, Altuwaijri, and Gupta (2020) conducted a meta-analysis of studies on the impact of the application of mandatory (IFRS) standards on the cost of capital in Latin American countries, where their results indicate that the application of international standards for financial reporting is compulsory, resulting in a reduction in the cost of property rights after controlling incentives for preparing reports at the company level; the test results showed a significant decrease in the cost of

debt.

## 2. Literature Review and Hypotheses Development

### 2.1. Institutional setting

In recent years, great changes have occurred in Iraq's political, economic, and financial environment. It moved from a centrally planned economy to a free-market economy in 2003 and became, arguably, the most open economy in the region. The main reason for this change is to provide the Iraqi economy with the necessary financial resources to recover from the war and recessions, especially after the weak infrastructure of the oil industry in the period of the Baath regime (Jones, 2004). Two main factors have led to a growing focus on Iraq by companies and governments in the world. First: It is believed that Iraqi oil reserves come second after Saudi Arabia (Shubber, 2009). Thus, with the continued demand for oil and energy, the role of Iraq is important in the global economy, as it represents about 3% of global oil production, especially with the increasing demand for oil and energy and the need for alleviating energy shortages globally. Secondly, it appears investors are interested in Iraq, especially in the natural resource sector and the infrastructure supporting it. In 2004, legislation was amended to allow private and foreign ownership of natural resource companies for the first time, and investment in listed Iraqi companies was opened to foreign investors.

Accounting history in Iraq goes back to Mesopotamia (4500 BC) (Keister, 1963). Commercial and other related transactions dating back to the seventh and eighth centuries were influenced by Islamic laws (Robson, 2008). Due to Iraq's position as the capital of peace during the nineteenth century, the double-entry system was introduced as the main method of bookkeeping (Al-Akra, Jahangir and Marashdeh, 2009) and was preserved during British control at the end of World War I (Dawisha, 2005; Robson, 2008).

In the 1970s, the Iraqi government used the central planning system referred to previously for citizen management. In 2003, when the US-led coalition forces dominated through the CPA, Iraq's economy was poor, with physical and industrial infrastructure largely destroyed as a result of the war and a set of sanctions (Yousif, 2007). During control from 2003 to 2004, the Coalition Provisional Authority launched a program to liberalize prices and markets that included currency reforms, lower import tariffs, and tax reforms to encourage foreign investment (Yousif, 2007). Mono economics (Foote et al., 2004). During that period, the government formed the Accounting Standardization System Committee to create a unified government accounting system that uses government institutions (Kaddouri, 2011). In 1982, the Iraqi government implemented a new unified national accounting system applied to the industrial and commercial sectors. The new system, called the Unified Accounting System (UAS), was designed to collect taxes and facilitate government decision-making. By order of the President's office in 1988, the Iraqi Accounting and Auditing Standards Board (IBAAS) was established to advise the government on financial services and the development of National Accounting Standards (NASS) and auditing standards. This was the first semi-private accounting standards development body in Iraq. From its inception until 2003, IBAAS issued 14 accounting standards and four auditing standards. These standards were based on international accounting standards (IBAAS, 1997),

In November 2009, another change to this law allowed foreign investment in the oil sector. Now, most of the transfers to the institutions that have been wiped out from the banking sector and the Iraqi stock exchange are still small and underdeveloped. On April 1, 2004, the CPA and the Iraqi Governing Council issued an amended version of the Companies Law of 1997 to treat foreign investors like local investors to encourage Iraq to adopt a more open market economy. The legislation allows foreign investors to own 100% of the business in any industry, except for the natural resources sector (Foote et al., 2004). In April 2004, the US-led Coalition Provisional Authority passed the

Interim Act on the Stock Market (CPA, 2004). In recognition of the Iraqi Governing Council's desire to revive capital markets and bring about change in the economic system, the law requires, among other things (CPA, 2004): First: The establishment of the Iraq Stock Exchange as a self-regulatory institution owned by members, with the cessation of the operations of the former Baghdad Stock Exchange. Second: Preparing the financial statements of listed companies in accordance with the International Financial Reporting Standards for the year 2004. Third: The financial statements must be audited according to the standards of the international audit. Fourth: The establishment of the Temporary Securities Commission.

## 2.2. Economic consequences of IFRS

Van Tendeloo and Vanstraelen (2005) studied the application of IFRS for four advantages. First, IFRS will increase the ability of investors to make informed financial decisions and measure the financial situation and performance in different countries. The confusion that arises from the presence of different methods must be eliminated, which leads to reduced risks for investors and reduced cost of capital for companies. Second, it will reduce the costs of preparing financial information according to several sets of standards. Third, for international investment, it will also lead to greater incentives. Fourth, financial resources worldwide will be allowed to allocate more effectively.

In particular, when we compare it to the accounting systems affected by political and financial issues, such as those prevailing in continental Europe by 2005, the system based on international financial reporting standards will provide many characteristics according to (2016) Ball. A system based on international financial reporting standards reflects economic gains and losses in a timely or appropriate manner and reflects the economic essence of transactions more than its legal form. According to Ball (2016), a system makes the results more beneficial, allows better accounting information to be provided, and decreases discretionary power. The traditional accounting system in Europe allows administrators to manipulate judgments, create hidden reserves, and hide losses beautify results.

The adoption of IFRS in some countries is associated with a major paradigm shift. The application of some rules allows for the application of some principles aimed at providing helpful information for economic decision-making. The implementation of the International Financial Reporting Standards (IFRS) is linked to an increase in the complexity of the accounting system, as it requires a higher degree of evaluation and greater commitment from the part of managers within the company at all levels since it is characterized by a shift away from accounting towards taxes and significant growth in the amount of construction. However, the benefits resulting from the application of IFRS are expected to be higher than the costs associated with this move in the model.

The most important argument used to implement international financial reporting standards is that this set of standards helps obtain better information due to the use of measurement and recognition standards that reflect the economic reality of companies and provide a set of information in the notes. The application of international standards for financial reporting at the international level allows for greater comparability of financial statements.

It is expected that the quality of the data and its comparability and the consequent increase in the benefit of the information will positively impact forecasting the ability of analysts following companies in the credit and capital markets to have executive fees and economic decisions made by companies. Finally, applying these international financial reporting standards will improve the ability of investors to make sound financial decisions, improve financing conditions, and effectively allocate financial resources around the world. Other, less frequent arguments in favor of international financial reporting standards are access to accounting standardization efficiencies not present in the country,

increased mobility of accounting professionals in the labor market, and the sharing of accounting standard costs (Brown, 2013).

The impact of adopting this set of standards remains controversial, despite the benefits that are associated with the convergence of IFRS (Hail, Leuz, & Wysocki, 2010). One of the reasons for believing that the application of the international financial reporting standards, per se, does not guarantee an increase in the quality of information and its comparability and the resulting improvement in the allocation of financial resources around the world is that the use of the same rules is a necessary condition and establishing a common language for the disclosure of financial information is not enough (Jeanjean & Stolowy, 2008). Sometimes the incentives of managers and institutional factors play a major role in determining the characteristics of the financial statements.

There is now some compatibility in performance regarding the reporting incentives, and strict enforcement mechanisms are essential in realizing the benefits of implementing international financial reporting standards (e.g., Barth et al., 2014; Leuz, 2010; Ball, 2016). Brown (2011) emphasized another aspect that was less discussed.

In this paper, we posit that changes in IAS/IFRS standards (specifically, greater discretion and flexibility of the 2005 version of IFRS standards and lack of guidance in implementing those standards) can explain the conflicting findings between the Barth et al. (2014), Ahmed, Neel, and Wang (2013) and Christensen et al. (2015) studies. International Accounting Standards (IASs) were issued by the International Accounting Standards Committee (IASC) from 1973 to 2000. The International Accounting Standards Board (IASB) replaced the IASC in April 2001. Since then, the IASB has amended many IASs, replaced some others with International Financial Reporting Standards (IFRS), and adopted or proposed a number of new IFRS on topics not covered by earlier IAS standards. From this standard-setting activity of the IASC/IASB, it is possible to identify two distinct reporting regimes before and after 2005.

Major changes in the standards occurred in 2005. When it became clear that the EU would likely adopt IAS/IFRS, the IASB published a draft, ''Improvements to IFRS'', issued May 2002. Following this draft, after a period of comments (due process), 14 out of 34 IAS (in force as of 2002) were revised or improved in December 2003. In addition, IAS 32 and 39 were amended in 2004. All these changes became effective for the 2005 fiscal year. In addition, six new IFRS were issued between 2002 and 2005, of which five IFRS were in force as of the beginning of 2005.

Some of the resulting set of 2005 standards (labeled 'new IAS/IFRS' in this paper) contains fewer options than in the previous version (Vedran, Collins, and Jeanjean, 2016). The 'old IAS' standards (before 2005) usually indicated a 'benchmark treatment' and an 'allowed alternative'. Many of these options were removed in the new IAS/IFRS standards that took effect in 2005. However, the new IAS/IFRS leaves more room for covert options, subjective estimation, and interpretation than previous IAS standards. For instance, Nobes (2006) details 18 overt options and 21 covert options and numerous vague criteria. We maintain that the overt and covert options and vague criteria result in greater flexibility of accounting choices that allow greater earnings management (smoothing). Principles-based IFRS standards include many words like 'probable' and 'material', which can be interpreted differently by different firms facing similar economic circumstances. For instance, Doupnik and Richter (2003) suggest that German accountants interpret the word 'probable' more conservatively than UK accountants. In addition, the new standards rely on estimations: Nobes (2006) and Cole, Branson, and Breesch (2012) mention no less than 12 cases where estimates are relied on heavily in the revised standards. In Appendix A, we indicate each standard that changed significantly in 2005 if the revised standards use overt options, covert options, vague criteria, or estimates. Overall, this analysis suggests that new (2005) IAS/IFRS exhibit a high level of flexibility that can lead to

greater earnings management (smoothing).

New IAS/IFRS also introduced broader use of fair value measurements in selected accounts relative to the domestic GAAP of many countries (Schipper, 2005). For example, IAS 16 (Property, Plant and Equipment) and IAS 40 (Investment Property) allow firms to periodically revalue selected long-lived assets and property held for investment at fair value, with direct consequences for depreciation expenses and earnings. At the same time, IAS 39 (Financial Instruments) increases the use of fair value compared to local GAAP standards. Because market prices from active markets are not readily available for most fixed assets and many types of financial instruments (e.g., securitized loans or receivables), firms are allowed greater discretion through the use of mark-to-model measurements. Ball (2016) argues that managers exercise greater discretion over fair value measurements when capital markets are illiquid. When fair values are estimated using valuation models, managers can influence the estimations through their choices of models and parameters, thus opening the door to greater earnings management. This same concern carries over to IFRS asset impairment tests (IAS 36, Impairment of Assets) and goodwill impairment tests (IAS 38, Intangible Assets).

The inherent greater flexibility of new IFRS standards coupled with the lack of implementation guidance was a recurring source of concern leading to opposition to the adoption of some of these standards from within the IASB. Some of the IASB board members issued dissenting opinions when the new/revised standards were adopted10 of the revised and new IAS/IFRS standards enforced in 2004–2006; ten carry dissenting opinions. In eight cases, dissenting board members point to the lack of implementation guidance for the standard or inconsistencies with other standards, leading to greater managerial discretion and greater earnings management. For example, IAS 36, Impairment of Assets, was issued with a dissenting opinion pointing out the need to ''[to provide more guidance] to determine the recoverable amount of goodwill'' (DO4, IAS 36). Two board members warned that IFRS 3, Business Combinations, ''puts its faith in a potentially unreliable impairment test.'' Standards related to financial instruments (IAS 32 and IAS 39) were subject to a number of strong dissenting opinions. Some board members argued that IAS 39, as issued in 2005, provides ''an opportunity for entities to manage reported profit or loss'' by selecting unobservable inputs for fair value measurements (DO 13).

To summarize, most changes in 2005 introduced more covert and over options to IAS/IFRS, leading to greater flexibility of 2005 IAS/IFRS standards. But even those changes to IAS/IFRS that reduced the number of options available increased flexibility of 2005 IAS/IFRS standards. According to the dissenting opinions of IASB board members, those same changes reduced clarity, lead to higher reliance on estimates, and lacked implementation guidance. This de facto allowed greater flexibility in the application of the standards affected (also see Nobes, 2006). Consistent with this argument, Kim, Liu, and Zheng (2012) find an increase in audit fees following the 2005 IAS/IFRS adoption and attribute the increase in fees to the increased complexity of IAS/IFRS.

The above discussion leads us to predict that the inherent flexibility of 2005 IAS/IFRS standards coupled with the general lack of guidance on how to implement these new standards leads to greater earnings management (smoothing) following the 2005 adoption of IFRS across all three sub-samples of firms. Specifically, we expect Early Adopters' transition from the early version of IAS/IFRS to the new (2005) version of IAS/IFRS to be associated with increased earnings management (smoothing). Similarly, we expect Late Adopters' and Mandatory Adopters' transition from local GAAP to the new (2005) version of IFRS associated with increased earnings management (smoothing). For the two samples that had a choice of whether or not to adopt IAS/IFRS early, Early Adopters and Late Adopters, we do not expect to observe differences in earnings management (smoothing) metrics of

firms between these two groups in the post-2005 period. Findings consistent with these predictions would suggest that changes in IAS/IFRS standards that allow greater managerial discretion (flexibility) lead to greater earnings management (smoothing), and would also suggest this explanation dominates the self-selection (incentives) explanation for the conflicting findings in prior research. Based on the above argument, we propose the following hypotheses:

*H1*: There is a significant relationship between the application of IFRS and earnings management.

*H2*: There is a significant relationship between the application of IFRS and the value relevance of earnings.

# 3. Research methodology

This research's time and place domain are five years from 2015 to 2019 and the companies listed on the Iraq Stock Exchange.

## 3.1. Test models and variables definition

This research estimates the following model to test H1 (the relation between the application of IFRS and earnings management) and H2 (the relation between the application of IFRS and Value relevance of earnings).

Following the past studies, this research estimates the following model to test H1 (the relation between the application of IFRS and earnings management) and H2 (the relation between the application of IFRS and Value relevance of earnings).

Model (1):

$$EM_{it} = \beta_0 + \beta_1\, IFRS_{it} + \beta_2\, SIZE_{it} + \beta_3\, LEV_{it} + \beta_4\, Growth_{it} + \beta_5\, AQ_{it} + \beta_6\, ROE_{it} + \beta_7\, Ownership_{it} + \beta_8\, AuditTenure_{it} + \beta_9\, ROA_{it} + \beta_{10}\, AR_{it} + \beta_{12}\, CG_{it} + fixed\ effects + \varepsilon_{it}$$

In Model (1), $\beta_1$ shows the association of *IFRS* and *EM* (earnings management).

Model (2):

$$Ret_{it} = \beta_0 + \beta_1\, IFRS_{it} + \beta_2 EPS_i + \beta_3\, (EPS_{it} \times IFRS_{it}) + \beta_4\, SIZE_{it} + \beta_5\, LEV_{it} + \beta_6\, Growth_{it} + \beta_7\, AQ_{it} + \beta_8\, ROE_{it} + \beta_9\, Ownership_{it} + \beta_{10}\, AuditTenure_{it} + \beta_{11}\, ROA_{it} + \beta_{12}\, AR_{it} + \beta_{13}\, CG_{it} + fixed\ effects + \varepsilon_{it}$$

In Model (2), the association of *EPS* and *Ret* reflects the value relevance of earnings. Specifically, $\beta_3$ shows that how IFRS affects the value relevance of earnings.

Following past studies (Dechow et al. 1995; Healy & Wahlen, 1999; Young, 1999; McNichols, 2000), this research uses the Jones model (Jones, 1991) for estimating earnings management.

Other variables are defined as below:

*Ret* = Stock returns of firm i for fiscal year t.

Further, the independent variables are defined as below:

*IFRS* = Dummy variable that takes the value of 1 for a company that adopts IFRS and 0 otherwise.

*EPS* = Earnings per share.

*SIZE* = Logarithm of total assets of a firm i measured at the end of year t.

*LEV* = Total long-term debt / Total assets for firm i in period t.

*Growth* = Sales growth rate, defined as the sales in year t minus sales in year t-1 and scaled by sales in year t-1

*AQ* = If the audit firm is big, audit firms (firms with managers over the median) coded one, otherwise zero.

*ROE* = Net income divided by last year's total equity.

*Ownership* = The percentage of institutional ownership

*AuditTenure* = is calculated as the total length of the individual auditor and client relationship

*ROA* = It is measured by the ratio of operational profit to total assets of the company

*AR* = Total accounts receivable divided by the total assets of the company

$CG$ = As a symbol of the quality of the corporate governance system, it is obtained from the combination (sum) of the following variables. If the ratio of non-executive members of the board of directors is more than the median, coded one, and otherwise codes zero. If the CEO and the chairman of the board are not the same, code one and otherwise code zero.

Fixed effects = industry and year fixed effects

## 4. Finding
### 4.1. Descriptive statistics

Table 1 provides the Descriptive statistics for research variables. Based on the table, about 25 percent of observations also use international financial reporting standards. It can be seen that the average earnings management variable is 0.102. The average stock return variable is also slightly below zero, indicating that the sample companies generally do not have good returns. The highest return is about 320%, and the lowest is about 380% negative. The average earnings per share are 16 percent, and the ratio of long-term debt to total assets is approximately 33 percent. Sales grew by about 13 percent over the previous year, with the high auditor quality for 24 percent of the observations. The dividend to equity ratio is about 6%, and the average institutional ownership of the sample companies is about 20%.

**Table 1.** Descriptive statistics indicators of research model variables

| Operational definition | Symbol | Mean | Median | Standard deviation | Min | Max | Quartiles 25% | 75% |
|---|---|---|---|---|---|---|---|---|
| Earnings management | *EM* | 0.102 | 0.056 | 0.134 | 0.000 | 0.750 | 0.023 | 0.022 |
| Stock returns | *RET* | -0.004 | -0.061 | 1.338 | -3.896 | 3.119 | -0.313 | 0.171 |
| Transition to IFRS | *IFRS* | 0.255 | 0.000 | 0.436 | 0.000 | 1.000 | 0.000 | 1.000 |
| Earnings per share | *EPS* | 0.160 | 0.017 | 0.434 | -0.581 | 1.625 | -0.007 | 0.101 |
| Size of the company | *Size* | 8.977 | 9.027 | 1.042 | 5.233 | 10.970 | 8.187 | 9.811 |
| Financial Leverage | *LEV* | 0.337 | 0.300 | 0.248 | 0.010 | 0.970 | 0.120 | 0.500 |
| Sales growth | *Growth* | 0.127 | -0.010 | 0.946 | -0.920 | 5.600 | -0.320 | 0.180 |
| Audit quality | *AQ* | 0.240 | .240 | 0.426 | 0.000 | 1.000 | 0.000 | 0.740 |
| Returns on equity | *ROE* | 0.069 | 0.014 | 0.200 | -0.256 | 0.818 | -0.007 | 0.075 |
| Institutional ownership | *Ownership* | 0.199 | 0.000 | 0.300 | 0.000 | 0.910 | 0.000 | 0.324 |
| Audit Tenure | *AudTnr* | 4.210 | 4.000 | 2.629 | 0.000 | 9.000 | 2.000 | 6.000 |
| Returns on assets | *ROA* | 0.040 | 0.015 | 0.118 | -0.460 | 0.650 | -0.002 | 0.058 |
| Accounting receivable | *AR* | 0.220 | 0.080 | 0.234 | 0.010 | 0.900 | 0.040 | 0.420 |
| Corporate governance | *CG* | 2.250 | 2.000 | 0.436 | 2.000 | 3.000 | 2.000 | 3.000 |

Based on the results of Table 1, it can be seen that the average of the earnings management variable, which is derived from the absolute value of the error values of the Jones earnings management model, is 0.102, and the closer these values are to zero, the lower the earnings management. The average stock return variable is also slightly below zero, indicating that the sample companies generally do not have good returns. The highest return is about 320%, and the lowest is about 380% negative. About 25 percent of observations also use international financial reporting standards. The average earnings per share are 16 percent, and the ratio of long-term debt to total assets is approximately 33 percent. Sales grew by about 13 percent over the previous year, with the auditor accounting for 24 percent of the observations. The dividend to equity ratio is about 6%, and the average institutional ownership of the sample companies is about 20%.

### 4.2. Inferential statistics

Consistent with our first hypothesis, there is a significant relationship between the use of IFRS and

earnings management. Table 5 reports the hypothesis test results. It can be seen that the significant value of the Fisher statistic is 0.000, which indicates a good fit of the model. On the other hand, the value of the adjusted R squared is 0.204. In other words, about 20% of the dependent variable is explained by independent variables. Also, Watson's Durbin statistic with a value of 2.044 is between 1.5 and 2.5, indicating a lack of significant autocorrelation. Regarding the main independent variable of the research, IFRS, the significance value is 0.660. Considering that this value is more than 5%, the first hypothesis has not been confirmed. Hence, there is no relationship between the transition to international standards and earnings management. Among the control variables, institutional ownership with a significance of 0.000 has a negative relationship with earnings management.

**Table 5.** Results of the first research hypothesis test

| Variable | | Coefficient | Standard error | t statistic | Sig |
|---|---|---|---|---|---|
| Constant | C | .036 | .224 | .160 | .873 |
| Transition to IFRS | *IFRS* | -.017 | .038 | -.441 | .660 |
| Size of the company | *Size* | -.001 | .015 | -.051 | .959 |
| Financial Leverage | *LEV* | .061 | .050 | 1.213 | .227 |
| Sales growth | *Growth* | -.004 | .009 | -.496 | .620 |
| Audit quality | *AQ* | -.049 | .065 | -.753 | .452 |
| Returns on equity | *ROE* | -.040 | .053 | -.758 | .449 |
| Institutional ownership | *Ownership* | -.163 | .042 | -3.874 | .000 |
| Audit Tenure | *AudTnr* | .006 | .007 | .862 | .390 |
| Returns on assets | *ROA* | -.136 | .091 | -1.484 | .139 |
| Accounting receivable | *AR* | -.025 | .068 | -.364 | .716 |
| Corporate governance | *CG* | .035 | .076 | .454 | .650 |
| Year fixed effect | | Was controlled | | | |
| Firm fixed effect | | Was controlled | | | |
| Fisher statistics | | 2.191 | | | |
| Significance of Fisher statistics | | 0.000 | | | |
| R squared | | 0.375 | | | |
| Adjusted R squared | | 0.204 | | | |
| Durbin Watson Statistics | | 2.044 | | | |

Based on the second hypothesis in this research, there is a significant relationship between the transition to IFRS and the value relevance of earnings. In Table 6, it can be seen that the significant value of the Fisher statistic is 0.000 indicating a good fit of the model. On the other hand, the value of the Adjusted R squared is 0.259; in other words, about 25% of the dependent variable is explained by independent variables. Also, the Durbin Watson statistic has a value of 2.407 and is between 1.5 and 2.5, suggesting a lack of autocorrelation. Regarding the main independent variable of the research, i.e., the interactive effect of the transition to IFRS and earnings per share that shows the association of IFRS and the value of earnings, the significant value is 0.007 and considering that this value is less than the error level of 5%, the second hypothesis is confirmed. Thus, there is a significant relationship between the transition to international standards and the value relevance of earnings.

The positive coefficient also indicates the existence of a positive relationship between these two variables, the increase in the use of international standards has increased the value of the company's earnings.

**Table 6.** Test results of the second research hypothesis

| Variable | | Coefficient | Standard error | t statistic | Sig |
|---|---|---|---|---|---|
| Constant | C | 1.353 | 2.142 | .632 | .528 |
| Transition to IFRS | *IFRS* | -.789 | .396 | -1.993 | .048 |
| Earnings per share | *EPS* | 1.638 | .302 | 5.425 | .000 |
| Interactive effect | *IFRS*EPS* | 5.700 | 2.096 | 2.719 | .007 |
| Size of the company | *Size* | .201 | .147 | 1.369 | .172 |
| Financial Leverage | *LEV* | .411 | .484 | .849 | .397 |
| Sales growth | *Growth* | -.017 | .084 | -.197 | .844 |
| Audit quality | *AQ* | .947 | .624 | 1.517 | .131 |
| Returns on equity | *ROE* | -.975 | .527 | -1.849 | .066 |
| Institutional ownership | *Ownership* | .816 | .517 | 1.577 | .116 |
| Audit Tenure | *AudTnr* | -.022 | .064 | -.339 | .735 |
| Returns on assets | *ROA* | -.943 | .908 | -1.039 | .300 |
| Accounting receivable | *AR* | -.696 | .670 | -1.038 | .300 |
| Corporate governance | *CG* | -1.204 | .734 | -1.641 | .102 |
| Year fixed effect | | Was controlled | | | |
| Firm fixed effect | | Was controlled | | | |
| Fisher statistics | | 2.569 | | | |
| Significance of Fisher statistics | | 0.000 | | | |
| R Squared | | 0.424 | | | |
| Adjusted R Squared | | 0.259 | | | |
| Durbin Watson Statistics | | 2.407 | | | |

## 5. Conclusion

The creation of IFRS is one of the most challenging changes to the accounting framework globally. The content of IFRS has been a matter of debate and controversy among scholars for decades, particularly with regard to historical cost accounting and fair value measurement. Whether Iraqi financial information had any effect on stock price variance has been a major regulatory and academic topic in Iraq. The application of IFRS has increased the need to verify whether the IFRS financial information has any impact on share price variance. This is a new aspect of accounting, especially in Iraq. So far, the importance of adopting IFRS on financial information in the context of Iraq has not been delved into. Research in Iraq is dominated by descriptive research, using biased primary sources and full of assumptions. This study is concerned with the empirical investigation of adopting international financial reporting standards and financial reporting quality in the Iraq Stock Exchange.

Based on empirical evidence, the first hypothesis has not been confirmed, and therefore, there is no relationship between the use of international standards and earnings management. Further, the interactive effect of using the standard and earnings per share that shows the second hypothesis is confirmed, indicating that there is a significant relationship between the transition to international standards and the value relevance of earnings.

In light of these results, the study concluded that the prior IFRS financial information is relevant to value and that the post-IFRS financial information is also relevant. The study further concludes that financial information after IFRSs is more relevant to value. Therefore, the accounting information has relevance to value, and the adoption of IFRSs has had a clear impact on the Iraqi companies' industry. Then the study concluded that preparing a cadre specialized in accounting science and well informed on the latest international developments and holding intensive training courses to develop technical and practical skills in dealing with IFRS. Further, it is concluded the necessity of activating standards and principles compatible with our Iraqi environment in order to adapt and create the general climate for adopting IFRS.

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# Evaluation of the Relationship between Audit Firm Choice and Cost of Equity

**Narges Azimi Ashtiani**

*Department of Accounting, Shahroud Branch, Islamic Azad University, Shahroud, Iran*

## Abstract

The cost of equity capital plays a key role in financing and investment decisions. The cost of equity capital is defined conceptually to expected returns. In other words, the  is the expected minimum rate of return. Suppose the expected return is less than the cost of equity capital. In that case, the entity's value will decrease, so management must try to maintain the entity's value to bring the expected return to at least the cost of equity capital; the key to success is to reduce the cost of equity capital. The present study aimed to determine the effect of audit firm choice on the variable cost of equity capital. Therefore, the paradigm or philosophical presupposition was positivist and meta-positivist. The statistical population included 99 companies listed on the Tehran Stock Exchange from 2009 to 2019. In addition, data analysis was performed using the R software package. According to the results, the auditor choice variable from the audit firm and the total debt to equity ratio significantly affected the cost of equity capital. Moreover, the variable of lack of auditor change had a significant impact on companies' cost of equity capital. Other variables of the two models were insignificant and did not affect the cost of equity capital.

Corresponding author: Narges Azimi Ashtiani
Email: nargesazimiashtiani1362@gmail.com

https://ijaaf.um.ac.ir

# 1. Introduction

Every organization around the world relies on two very important components of accounting and auditing. Accounting follows all company transactions and provides information through statements while the audit is carried out to show the accuracy of the path and ensure the credibility of information. Therefore, accountants play a key role in the audit profession (Kohzadi Tahne, 2020). The audit is a type of provision used in companies to reduce information asymmetry and control managers' freedom to operate in financial statements. The higher the company's quality and accuracy, the lower the risk of information and investment uncertainty. It is argued that high-quality auditing reduces corporate risk, which leads to a lower cost of equity (Hasas Yeganeh, Mohamadi., and Salemi, 2015). The cost of equity is the most important element of the cost of capital, which is a fundamental concept in the field of finance literature and plays a basic role in decisions related to financing and investment. For different reasons, corporate management must determine the financing and its impact on corporate risk and returns. In addition, the cost of equity plays a fundamental role in financing and investment decisions.

In general, the most important goal of auditors is to protect the right of shareholders against considerable deviations and errors in the financial statements. In fact, Auditors seek to increase the quality of audits in order to maintain the credibility of the profession and their own professional reputation and avoid litigation against themselves (Tevdello and Vanstralen, 2008). Therefore, Given the role and importance of choosing an audit institution in the cost of equity of corporations, the present research aimed to evaluate the effect of audit institution selection on the cost of equity capital variable in the form of two models using an R software package.

# 2. Literature Review and Hypothesis Development

The term "audit" often refers to the audit of financial statements. In general, a financial audit is an objective review and evaluation of an organization's financial statements to ensure that the financial statements are the fair and accurate display of claimed transactions (Tuovila, 2020). Generally speaking, the audit is defined as any type of investigation carried out to confirm or express opinions about the accuracy of any financial document by a person independent from the producer(s) of the mentioned document. In addition to analyzing the desired document and matching it with primary documents, such an investigation will include research on how transactions are made and yielded results. The process also takes any action that is necessary to achieve the above goal into consideration.

## 2.1. Audit Institution Size

The increase of competition has led to a higher need for providing quality services to the market by audit institutions. In this regard, audit institutions seek to diversify their services to increase their competitiveness. Large audit institutions will lose huge benefits if they are unable to discover and report important deviations in the financial statements of their employers. In addition, the personnel of large audit institutions is constantly trained, and their audit teams can be used in a specific industry professionally owing to the large number and diversity of their audit works. Moreover, Audit institutions are highly sensitive to maintaining their reputation and have high bargaining power, which can put pressure on employer management. Furthermore, they have high audit quality compared to small audit institutions.

The basic research theory should be applied based on the specific characteristics of the research environment. While large international audit institutions (four large audit institutions) are not active in Iran, Iranian researchers have used the audit firm size theory to study the difference in audit quality

between the auditing organization (as a large auditor) and the audit firms that are members of the auditing community (as a small auditor) (Derakhshan Mehr and Karami, 2019). In addition, Audit firm size is one of the audit quality dimensions. Therefore, the presence of large and high-quality audit institutions is expected to affect the relationship between interactions with dependent individuals and the ability to compare financial statements. In addition, In Iran, the auditing organization, which is the largest audit firm and has a government structure, may also adjust this relationship in a way that needs to be examined in terms of further emphasis on the legal aspects of transactions with related parties (Hajiha and Azadzadeh, 2018).

## 2.2. Internal and External Abilities of Audit Firms

Both qualitative and quantitative abilities of audit firms can reveal the obscure angles of companies' performance and help shareholders and investors, and even compilers of stock exchange regulations in their decision-making by providing better information. Therefore, the existence of the capabilities of audit firms as a decision-making and professional criterion for the economy of countries like ours is necessary. The abilities of audit firms can be defined in the form of an acquired and fixed pattern of collective activity, through which the institution can contribute to the increase of quality of corporations' financial statements.

## 2.3. Internal Capabilities of Audit Firms

These abilities have been defined to recognize the features and capabilities of firms. In addition, they are a basis to gain a competitive advantage over other audit firms operating in an industry or stock exchange. A public sector commission proposed the internal abilities in order to strengthen accountability and increase the capabilities of financial supervisors and auditors. Moreover, they were suggested as a solution and not a necessity for making audit firms more successful. These capabilities rely on an evolutionary route that increases responsiveness by recognizing capabilities and transforms from a typical level of internal auditing in a less developed firm to a mature institution capable of meeting needs and expectations. The internal audit capabilities' proposition is based on three pivotal and valuable elements: reassurance, insight, and neutrality (Safari Gerayli and Valiyan, 2018).

Reassurance: audit firms' capabilities in strategies, risk management, and control processes of companies that assist in achieving strategic objectives and envision a predictable future for companies. In other words, this capability helps companies better to understand social expectations and dimensions of social responsibilities and define their strategies based on them.

Insight: insight into audit firms' capabilities is considered a catalyst or action partner, analyst, and evaluative. Improving the effectiveness and efficiency of corporate policies and programs through proposals based on environmental data evaluation and analysis helps improve companies' business processes in a competitive environment.

Neutrality: this characteristic and capability of audit firms refer to their commitment, accuracy, and honesty in fair reviews of companies' financial performance, contributing to the company's greater transparency. This feature helps companies improve the level of transparency of their disclosed information as a reference (Safari Gerayli and Valiyan, 2018).

## 2.4. External Capabilities of Audit Firms

The external capability of audit firms refers to the invisible part of their activities, the part that seeks to increase quality, not just quantity. In other words, the external capabilities of audit firms can be defined as an acquired and consistent pattern of collective action through which firms systematically create and modify day-to-day operational activities to achieve greater effectiveness.

The most important advantage of this type of capability is to achieve success and pre-determined goals. In fact, these capabilities help the audit firms improve the audit firm's reputation, the reputation of the institutions, the number of owners, and the audit fee increase. In other words, these criteria in the field of auditing activities are the same criteria for success and gaining a competitive advantage for an auditing firm (Safari Gerayli and Valiyan, 2018).

## 2.5. Cost of Capital

The cost of capital is one of the uncertain economic consequences of management actions. This concept is important in two dimensions; the first dimension is that all securities valuation models rely on the cost of capital. The second dimension is that determining investment priorities, optimal capital structure, and evaluating the optimal performance of units will not be practical without knowing the cost of capital. The cost of capital affects a company's ability to achieve external assets. In addition, CEO talent and conflict of interest with the cost of capital can affect the company's ability to increase external investment. A high cost of capital, which is caused by poor decisions of managers, might force the company to overlook investment opportunities due to a lack of sufficient assets. This is more tangible for companies with fundamental investment opportunities without a sufficient internal source of capital (Akhgar and Zaheddoost, 2020). In addition, the cost of capital is one of the fundamental concepts in finance literature. The cost of capital plays an important role in financial decisions. To determine financial resources, company managers must determine the cost of financing and the factors affecting it. Cost of equity is the most important element among the components forming the cost of capital since companies supply a higher percentage of their resources from this place. Political relations of economic enterprises are one of the important factors affecting the cost of capital (Salimi, Gorjizadeh, and Safarpoor, 2020).

## 2.6. Cost of Equity

Cost of equity is one of the basic concepts in the finance literature, playing a fundamental role in financing and investment decisions. Corporate managers should take this issue into account to properly determine the financial resources. The cost of equity is important because it forms the basis for comparing investment opportunities since the cost of equity is based on the rate of return expected by investors and is related to the amount of risk accepted by them and also since a large part of the non-operating costs imposed on the company are financing costs. The conversion of operating profit into losses caused by the company's ongoing activities is due to the imposition of this type of cost. Therefore, a corporation needs to maintain its cost of equity at a rational level. The cost of equity is the percentage return demanded by a company's investors (Qana, 2017). In addition, the cost of equity is the minimum return that a company must attain to meet the return expected by shareholders. Therefore, the cost of equity is recognized as the return expected by shareholders during a financial period. Today, reduced cost of capital and increased corporate value have been identified as one of the most important goals of financial managers. Since a large part of the cost of capital of companies is formed based on the cost of equity, companies are required to identify and use strategies to reduce their cost of equity (Asadi Nahari et al., 2019).

Kohzadi Tahne (2020) evaluated audit materiality: the expectation gap between auditors and users of audit reports. According to the results, there was no significant difference between the two groups regarding the effect of modifications in financial statements on the significance, disclosure of materiality, and how pervasive the effects of sanctions are. In addition, both groups agreed on the importance of materiality in auditing reports and the review of the criteria and coefficients specified in the instructions of materiality. Mohammad Rezaei and Yaghoob Nezhad (2017) evaluated audit firm size and auditing quality: theoretical and methodological issues and suggestions. According to

their results, the Audit Organization of Iran does not possess most of the big audit firms' characteristics in light of the audit firm size view. Moreover, methodological criticism indicates that the issue of endogenous auditor choice has not been taken into account by Iranian researchers. In another study, Salehi et al. (2016) evaluated the factors affecting the cost of capital, emphasizing audit quality in companies listed on the Tehran Stock Exchange. According to the results, while the auditor's size and the auditor's expertise in the industry do not reduce the cost of capital, as the auditor's tenure increases, so does the cost of the company's capital.

Zhou (2019) evaluated the effect of key audit matters on firms' capital cost: evidence from the Chinese market. In the end, it was concluded that the introduction of key audits asymmetrically affects companies in different information environments. Saadatmand and Alavi (2019) evaluated audit committee characteristics and cost of equity capital, reporting a significant negative relationship between the audit committee size and the cost of equity capital. In other words, firms with more committee members have less cost of equity capital. In research entitled auditors' choice and financing decision of selected quoted firms in, Nigeria Okere et al. (2018) mentioned that companies with auditors from four big audit companies have more debt and special value in their capital structure and are less likely to issue debt. In another study, Coffie, Bedi, and Amidu (2018) assessed the effects of audit quality on the costs of capital of firms in Ghana. According to their results, there is evidence to suggest that the cost of debt and the overall cost of capital of firms in Ghana can be explained by the quality of the external auditors. Choi and Lee (2014) evaluated the association between Big 4 auditor choice and cost of equity capital for multiple-segment firms, reporting that the Big 4 play a significant role in reducing the cost of equity capital and more information asymmetry in these companies. Based on the above-mentioned discussions and studies, the research hypotheses are as follow:

**H1:** There is a significant relationship between the audit firm size and the cost of equity capital.
**H2:** There is a significant relationship between the audit firm choice and the cost of equity capital.

## 3. Research Methodology

The scientific research method is a systematic activity where the researcher uses a set of steps that ultimately solve the research problem (Clark, 2010). The researcher chose the positivist or meta-positivist philosophical paradigm or presupposition as a model for his research according to the research problem, which is objective, and the relationship between the researcher and reality, which has relative independence and forms the researcher's epistemological point of view. Then, the researcher must choose his method of reasoning based on Flick's theory. This was applied research, and its results could be beneficial for a wide range of corporate managers, shareholders, investors, creditors, researchers, and standard compilers. Data were collected by the library method, and data analysis was carried out using the R software package.

### 3.1. Research Variables
The research variables are as follows:

### 3.1.1. Dependent Variable
Coe: is the equity cost.

### 3.1.2. Independent Variable
Big: is an indicator variable for audit quality, which will be one when the company uses the auditor of the audit form; otherwise, it will be zero.

Choice: choosing an audit firm, which will be one when the same equity firm is selected in the current year; otherwise, it will be zero.

Discaq: estimates of the quality of accruals are optional.

Size: natural logarithms are total assets.

Mtb: is the ratio of book value to market value.

Db: Is the ratio of total debt to equity.

In this study, data analysis was carried out using Choi and Lee's (2014) regression model and panel data.

- first model of the research:

$$coe = \beta_0 + \beta_1 big + \beta_2 disaq + \beta_3 size + \beta_4 mtb + \beta_5 db + \varepsilon_0$$

- second model of the research

$$coe = \beta_0 + \beta_1 big + \beta_2 disaq + \beta_3 size + \beta_4 mtb + \beta_5 db + \beta_6 choise + \varepsilon_0$$

## 4. Findings

In this section, the reliability of variables and their tests in composite data are discussed. In this study, the Dickey-Fuller test was used to perform this test.

**Table 1.** Unit Root Test by Dickey-Fuller Test

| Variable | Measurement Error | Dickey-Fuller Test | Result |
|---|---|---|---|
| Big | 0.01 | -7.41 | At a Stable level |
| Choice | 0.01 | -10.56 | At a Stable level |
| Coe | 0.01 | -12.21 | At a Stable level |
| Db | 0.01 | -17.42 | At a Stable level |
| Discaq | 0.01 | -21.22 | At a Stable level |
| Mtb | 0.01 | -8.22 | At a Stable level |
| Size | 0.01 | -12.82 | At a Stable level |

The significance level of all tests was less than 0.05. Therefore, the assumption that a single root in the series was rejected and the variables were stable (without differentiation). Since the data used in the present research was a combination of cross-sectional data (99 companies) and a time series (2009-2019), the researcher determined the type of estimation of the two research models using Hausman and F-Limer tests so that it could be determined which fixed effects, random effects or money model tests are suitable for each equation. In this regard, the results are presented in Table 2.

**Table 2.** Determining the type of Estimation of the Integrated Data Model

| Model | F Test | Hausman Test | Model Selection Result |
|---|---|---|---|
| First Model | 0.00 | 0.0004 | Fixed Effects |
| Second Model | 0.0000 | 0.001 | Fixed Effects |

Since the measurement error for the two F-Limer and Hausman tests was below 0.05%, the use of the random effects estimator was rejected, and we used only the fixed effects estimator. The coefficient was estimated and analyzed by the researcher in R software after determining the type of estimator to calculate the coefficients of two research models, as shown in Table 3.

**Table 3.** Estimation of Coefficients of Research Models

|  | First Model | Second Model |
|---|---|---|
| Big | 0.002 (0.00)* | 0.002 (0.00)* |
| Db | -0.0003 (0.01)* | -0.0004 (0.004)* |
| Discaq | -0.0005 (0.85) | -0.0001 (0.71) |
| Mtb | -0.0004 (0.45) | -0.0003 (0.50) |
| Size | 0.001 (0.45) | 0.001 (0.40) |
| Choice | -- | -0.002 (0.00)* |
| Durbin-Watson Test | 1.7 | 1.85 |
| Coefficient of Determination | 0.73 | 0.79 |
| F Regression Measurement Error | 0.00 | 0.00 |

According to the results obtained from the model estimation table, there was no autocorrelation between the disorder statements in the models due to the closeness of the numbers obtained from the Watson-Durbin test to the number two. In addition, the measurement error rate of the F statistic was calculated at below 0.05 for both models, which showed the existence of a significant linear correlation between independent and dependent variables. The coefficient of determination represents the percentage of changes in the dependent variable, explained by the model's independent variables. In the first and second models, the coefficient of determination was estimated at 73% and 0.79%, respectively, meaning that the independent variables explained 73% and 0.79% of the dependent variable changes in the first model of the dependent variable changes (cost of equity capital) and the second model, respectively, which was a considerable and suitable value.

## 5. Conclusion

According to the present study results, the variable of auditor selection from the big audit firm was completely significant and had a positive effect on the variable of cost of equity capital. Therefore, the cost of equity capital of companies will increase with the continuation of the selection of the auditor from the audit organization. In addition, the db variable had a significant negative impact on coe, meaning that the higher the increase in db to equity ratio, the lower the coe of the company. Similarly, the variables of audit selection from the big auditor firm and variable of db had a significant effect on the variable of coe and were equal in terms of positivity and negativity. However, the variable had a significant negative effect on the cost of equity capital with the entrance of the variable of audit firm choice (lack of auditor change) in the second model. The other variables of both models were not significant and did not affect the variable of cost of equity capital.

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# Evaluation of the Increased Share of Tax Revenues from Government Revenues Using the Approach of Oil Dependency Reduction

**Seyedeh Zahra Mousavi**

*Department of Accounting, Islamshahr Branch, Islamic Azad University, Tehran, Iran*

## Abstract

This quantitative research was conducted with a positivist paradigm to evaluate the methods that could increase tax revenues from government revenues using oil dependency reduction. The researcher used the annual data of Iran during 1978-2019 to analyze the research model. In addition, a generalized torque technique was applied in the EViews software to estimate the model. According to the results, the variable of oil revenues had the most significant effect on the government revenues, followed by the revenue of sales and consumption tax and value-added tax (VAT), indicating that the government could easily reduce oil revenues by efficient policies and replace this source of income with the revenue from sales and consumption tax and VAT. On the other hand, the revenue from wealth tax had the least significant impact on the government revenues, which was possibly caused by the inefficiency of reception methods or the inability to be identified. Further assessment in this regard could help governments identify extremely more appropriate revenue resources to extract less oil and control social inequity. An important issue observed in this study was the reverse coefficient of the revenue from corporate tax. Most of these companies may be manufacturing and industrial units, and given the pressure of economic and political issues and inflation on the country, they have mostly reacted to enormous taxes, had tax evasion, or reduced their production level, which has, in turn, increased the rate of unemployment and decreased the national gross domestic product, thereby reducing the government revenues.

Corresponding author: Seyedeh Zahra Mousavi
Email: z.mousavi88@yahoo.com

# 1. Introduction

Given the growing need for the development of health, education, and related infrastructures in developing countries instead of developed countries, it seems essential to achieve higher levels of tax revenues in these areas. Value-added tax (VAT) could undoubtedly be turned into the main source of income for governments as it has fewer adverse economic consequences (i.e., price and distributive effects) compared to other indirect taxes and effects high income due to its wide base (Mohajeri, Taleblu, and Setarei, 2020). One of the main priorities of countries is to increase the satisfaction and welfare of the community members and create security for the society, which naturally relies on the government's revenue generation; tax revenues are the foremost example in this regard.

Tax payment and transferring part of the purchasing power and savings of the community and income owners to the government are extremely important for activities in the domains of health, education, security, and other public services. However, taxes play the role of financial policies since appropriate tax policies direct many of society's economic and financial activities and lay the necessary foundation for sustainable development. Taxes are a pivotal economic approach in every country. Reflecting on the management techniques of advanced countries, numerous economic experts believe that we cannot constantly rely on oil revenues, and multiple public services must be funded by those using these services. As one of the main priorities of community planners and authorities, the evaluation and identification of the issues in the tax system based on the current status are essential to expedite matters in this regard. As a result, changes could be made in the country's tax system through timely reviews and effective methodologies.

With this background, the present study aimed to determine the increased share of tax revenues from the government revenue using oil dependency reduction in the Iranian economy.

# 2. Literature Review and Hypotheses Development
## 2.1. Taxes

Despite the recent efforts to develop the tax system in Iran, this system still faces several challenges and has not fulfilled its role optimally in financing the government budget due to high oil revenues. Studies have shown that oil and tax revenues constituted 55% and 31% of the overall government revenues during 1973-2016. In addition, the tax share of public budget resources is identified as an indicator of the role of taxation in financing the government budget in Iran, and studies show that despite the extensive efforts to empower the tax system during 2011-2018, the tax share increased from approximately 31% in 2011 to 42% in 2018. These rates demonstrate that the structure of the Iranian economy and the composition of government budget resources largely depend on non-tax revenues. A considerable part of government budget resources is supplied from oil sales. Meanwhile, some selected countries' tax-to-gross domestic product (GDP) ratio was more than 64% in different years.

Not only do the high share of oil sale revenues and low share of tax revenues have adverse effects (e.g., the dependence of the national income on the export of goods), but they also deprive the country's economy of using fiscal policy tools (Totonchi Maleki, Musavi Jahromi and Mehrara, 2020). Taxes could be received directly or indirectly; direct taxes are received from people or companies based on the related laws and are distinct from the taxes levied on indirect goods and services. Direct taxes include the taxes on the income of natural persons, income taxes, and wealth taxes. On the other hand, indirect taxes refer to the import duty and goods/services tax. Direct taxpayers cannot transfer their taxes to others; in other words, natural or legal persons must pay their taxes, if imposed, based on their income or wealth, which reduces social class gaps. Indirect taxes do not significantly affect income distribution since they are considered a heavier burden on low-income

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social classes.

Taxes are a vital part of government policies regarding income distribution improvement. In other words, all taxes have an income effect and influence income distribution. However, each tax has a different effect on income distribution depending on the tax type, tax bases, and tax rates. Regressive, proportional, and progressive taxes have an improper impact, no impact, and favorable effects on income distribution. The comparison of direct and indirect taxes shows that the former (especially wealth taxes), a sub-indicator of direct taxes, positively influences the reduction of inequality through progressive payment systems. On the other hand, indirect taxes are mostly regressive and impose a greater burden on low-income social classes (Ghaffari Fard, Heidari and Human, 2020).

Government and taxes are the inherent elements of every economic and social system. Taxes have been one of the pillars of government formation since the establishment of social frameworks and governments. If the existence of governments and social systems are considered necessary, multiple costs are involved in performing the related tasks, which should be supplied by establishing appropriate methods. In this respect, taxes are regarded as the optimal approach to the provision of government expenditure in normal economic conditions. In addition, taxes are the best tool for governments to meet three funding goals, the optimal allocation of economic resources and the redistribution of income and wealth.

While oil sales revenues have accounted for a large portion of government revenues over the past few decades, taxes also cover part of government expenditure. The amount of this contribution is debatable as an important economic issue. The inadequate composition of government expenditure refers to the strong dependence of the economy and government revenues on crude oil exports and the country's lack of a comprehensive and efficient tax system. Therefore, proper steps must be taken toward increasing tax revenues by recognizing the causes of low tax incomes and identifying the influential factors in this regard (Rostamzadeh and Goudarzi Farahani, 2017).

## 2.2. Oil Revenues Replacing Tax Revenues

Today, oil and petroleum products are among the most important products in the global economy and are used as fuel in most industries across the world. Transportation in its current form would not be possible without oil. Oil and its products are the basic indicators and foundations of today's world. Natural resources (especially oil) and their revenues substantially affect the society and the economic system of every country through various mechanisms. In addition, the impact of the revenues of natural resources on the community and economy of every country determines the positive and negative effects of these resources in general. In other words, these resources may accelerate or decelerate the development process (Bagheri Bonjar and Zarei, 2018). Less than two decades after the rise in oil prices, all the developing oil-exporting countries (except Indonesia) and small Arab countries with a small population have experienced severe disruption in the state administrative system and unrest in their political regime and social system.

The oil industry is one of the most effective and largest industries in the world (especially in Iran), which has made a major contribution to social welfare and development as the most important source of government funding. The oil industry's role could be assessed from the positive and developmental role perspectives and the negative role. According to the resource curse theory, oil revenues weaken industries and production and strengthen non-productive sectors by creating the Dutch disease. Given the paramount importance of natural resources (especially oil) in the development of the economy and welfare of people, the improper use of resources leads to their destruction and environmental pollution and the deprivation of future generations of these God-given blessings (Sheikhzadeh, 2019).

Increased oil revenues result in higher current costs. On the other hand, the government cannot

immediately reduce its running costs to reduce oil revenues. Initially, the government could partially offset the effects of declining oil revenues by reducing construction costs. However, a budget deficit occurs in medium-term prospects, thereby leading to borrowing from the banking system, which has multiple negative consequences, such as liquidity growth and inflation. Oil revenues have wide-ranging effects, especially on the economies of the countries that rely on such revenues. These revenues provide most of the country's foreign exchange resources and constitute a significant portion of government revenues. Given the dominant role of the government in the economy of these countries, such revenues affect macroeconomic variables such as economic growth, consumption, national savings, investment, exchange rate, and inflation (Asgharpoor and Baradaran, 2019).

One of the issues emphasized in the text of Iran Vision 2025 is the discontinuation of the reliance of the current government spending on oil and providing the required expenditure from the tax revenues and allocating revenues from oil exports to the expansion of investment for economic development based on efficiency and return. Therefore, the statute of the National Development Fund was approved by the Islamic Consultative Assembly in the first year of the fifth plan, and it was decided to deposit 20% of the resources from the export of oil and gas and oil products in the government fund annually (Izadkhasti, 2018).

Oil revenues and the reliance of oil-rich societies on these revenues, along with the sharp fluctuation of oil prices, have numerous detrimental economic effects, including single-product economy, inattention to other revenue sources (e.g., agriculture and industry), inflation, a higher general level of prices and incomes, reduced currency value, and expansion of the public sector and destruction of the private sectors. On the other hand, the influence of other governments' political decisions on oil prices and its impact on the domestic economy of exporting countries have also persuaded oil-rich countries to seek alternative revenue sources and use oil incomes for infrastructure affairs, the strengthening of industrial and production affairs, and the benefit of future generations from the proceeds of appropriate investments rather than consumption expenses. In Iran, this measure is expected to reduce the depreciation trend of the Rial against the USD.

Since a large portion of Iran's expenditure is supplied from the conversion of oil revenues to the local currency, unplanned supply and sharp USD depreciation against the domestic currency will lead to a budget deficit. In case of an increase in oil prices, parallel budgets are formed due to the consumption nature of the economy and lack of transparency in the management of oil dollars, which further increases the budget deficit. Another reason is the effect of unstable oil prices on the financial expenses of the government, which leads to the deviation of financial and budgetary performance and causes a budget deficit. About the long-term effects of oil on-budget deficit, the most efficient solution would be to increase tax revenues. On the other hand, increased government spending intensifies budget deficits, and the ratio of government spending to the budget deficit would become positive. The increased price index of the previous period will lead to inflation expectations, thereby increasing the budget deficit. This is mainly because government revenues are based on approved rates and change hardly or delayed; therefore, government revenues do not change noticeably. However, government spending increases due to inflation expectations, increasing budget deficit (Ranjbar, Sameti, and Malian, 2016). The next section of the paper evaluates the studies performed in Iran and other countries in this regard.

Keshavarz Hadad, Abounoori, and Jahani (2020) evaluated oil revenue uncertainty, sanctions, and the volatility of macroeconomic variables, reporting that a shock in oil revenues or the sanction index affects the activities of the three sectors of production, foreign exchange market, and the stock market. In addition, Alizadeh and Fathollahi (2018) assessed the correlation between tax revenues and government expenditure in Iran using the new approach of bound testing and the Toda-Yamamoto causality test, and the obtained results showed the presence of a unilateral causal

correlation between the total government expenditure and tax revenues.

In another study, Rostamzadeh and Goudarzi Farahani (2017) evaluated the issue of tax substitution for oil revenues by designing a dynamic stochastic general equilibrium (DSGE). According to the obtained results, a short-term tax shock could adversely affect macroeconomic variables such as economic growth and consumption. Furthermore, Ranjbar, Sameti, and Malian (2016) assessed the possibility of replacing oil revenues with tax revenues in a case study of Iran, reporting that the effects of the initial instability affected by such a shock were eliminated model, taking over 8-10 periods. Therefore, it is possible to replace oil revenues with tax revenues without unfavorable effects on the long-term condition of the studied variables. On the other hand, Abbasian and Fashi (2015) evaluated fiscal capacity as an alternative to the oil revenues of Iran, and the results of a short-term model estimate demonstrated that the optimal financial capacity based on the financial ratios of the country was higher than the current amount. The aforementioned studies infer that given such a vast source of income, oil revenues should not be the only source of revenues in a country.

Maganya (2020) evaluated tax revenues and economic growth in a developing country, reporting a positive correlation between taxes on goods and services and GDP growth (1% significance). Moreover, Gurdal, Aydin, and Inal (2020) assessed the correlations between tax revenues, government expenditure, and economic growth in G7 countries. Evidence suggested a short-term and long-term bilateral causality between economic growth and tax revenues, as well as a long-term causality between economic growth and government spending. McNabb (2018) also investigated tax structures and economic growth based on the new evidence obtained from the government revenue dataset, observing that an overall increase in income tax revenues was accompanied by long-term GDP growth. In another study, Spios (2016) evaluated optimal taxation practically and theoretically in OECD countries. According to the obtained results, using new tax policies could enhance economic growth by 43%. A fluctuation-free tax system has also been reported to increase the rate of economic growth in countries. In a study in this regard, Hamdi and Sbia (2013) assessed the dynamic correlations between oil revenues, government spending, and economic growth in an oil-dependent economy. According to the obtained results, oil revenues were the main source of growth and government expenditure in the studied country. Considering the above-mentioned issues, the research hypotheses are presented as follow:

**H1:** Wealth tax has the least impact on government revenues to reduce dependence on oil revenues.

**H2:** The share of taxes in government revenues is increasing with reducing dependence on oil revenues.

## 3. Research Methodology

The researchers defined the methodology of the present study to show a path through which they could formulate the problem, objective, and current data obtained in the research (Jilcha Sileyew, 2019). Our study had a quantitative approach and a positivist and transcendental paradigm, and the objective was to assess a previously discovered and discussed issue. We aimed to evaluate the increased tax revenue share of government revenues using oil dependency reduction. The research model was analyzed using the annual data of 1978-2019, and the regression variables were extracted from the recent studies listed on a theoretical basis. In addition, the model was estimated using the generalized torque method in the EViews software.

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$$\ln pre_t = \alpha_0 + \alpha_1 \ln tco_t + \alpha_2 \ln tre_t + \alpha_3 \ln ts_t + \alpha_4 \ln tm_t$$

$$+ \alpha_5 \ln tc_t + \alpha_6 \ln roil_t + \varepsilon_t$$

The symbols used in the regression included Ln at the outset of each variable to show the logarithmization of the variable. The process was also carried out to describe the coefficient of each variable in the tension form, with the variables including t (time), pre (government revenues), tco (revenue from corporate taxes), tre (revenue from income taxes), ts (revenue from wealth taxes), tm (revenue from import taxes), tc (revenue from sales and consumption taxes and VAT), and roil (government revenues from oil sales).

## 4. Findings

In the present study, the researcher initially illustrated the descriptive statistics table of the research data (Table 1).

**Table 1.** Descriptive Statistics of Variables

| Variable | LNPRE | LNROIL | LNTC | LNTCO | LNTM | LNTRE | LNTS |
|---|---|---|---|---|---|---|---|
| Mean | 11.008 | 10.296 | 9.316 | 9.944 | 8.538 | 8.081 | 6.744 |
| Median | 11.237 | 10.623 | 9.762 | 10.315 | 8.552 | 8.430 | 6.901 |
| Max. | 14.896 | 13.916 | 13.652 | 14.050 | 12.331 | 12.152 | 10.540 |
| Min. | 7.190 | 6.075 | 4.563 | 5.830 | 4.614 | 4.067 | 2.398 |
| Standard Deviation | 2.658 | 2.557 | 2.872 | 2.755 | 2.602 | 2.704 | 2.622 |
| Skewness | -0.079 | -0.185 | 0.002 | -0.012 | -0.045 | -0.064 | -0.129 |
| Kurtosis | 1.525 | 1.557 | 1.577 | 1.540 | 1.473 | 1.582 | 1.641 |
| Jarque-Bera | 0.146 | 0.144 | 0.170 | 0.155 | 0.129 | 0.170 | 0.187 |

All the observations are shown in Table 1 in the logarithmic form. An important issue in this regard was the skewness value of the research variables, which was close to zero, and the kurtosis value of the variables, which was less than three. Therefore, the normal research variables and Jarque-Bera measurement error (>0.05) confirmed the research variables' normality. The unit root test was also carried out to determine the reliability of the research variables, and the results are presented in Table 2.

Not all variables of the present study were at a stable level, and the researcher differentiated all the variables once. At this point, the measurement error of the Dickey-Fuller statistic was estimated at 0.05 with one differentiation. Therefore, the hypothesis of the presence of a single root in the series was not rejected, and all the variables were considered stable with one differentiation. In other words, the researcher had to enter all the variables with one differentiation into the model to calculate the model and estimate the mentioned regression, as shown in Table 3.

**Table 2.** Unit Root Test by Dickey-Fuller Test

| Variable | Measurement Error | Dickey-Fuller Statistic | Result |
|---|---|---|---|
| pre | 0.001 | -5.07 | Stable with one differencing |
| roil | 0.00 | -6.29 | Stable with one differencing |
| tc | 0.00 | -6.84 | Stable with one differencing |
| tco | 0.001 | -4.94 | Stable with one differencing |
| tm | 0.019 | -3.94 | Stable with one differencing |
| tre | 0.016 | -4.01 | Stable with one differencing |
| ts | 0.00 | -7.32 | Stable with one differencing |

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**Table 3.** Estimation of Research Model by Generalized Torque Method

| Variables | Coefficients | Standard Deviation | T Statistic | Measurement Error |
|---|---|---|---|---|
| C | 0.018 | 0.003 | 5.798 | 0.000 |
| D(LNPRE(-1)) | -0.066 | 0.010 | -6.695 | 0.000 |
| D(LNROIL) | 0.490 | 0.005 | 98.942 | 0.000 |
| D(LNTC) | 0.469 | 0.044 | 10.678 | 0.000 |
| D(LNTCO) | -0.305 | 0.074 | -4.100 | 0.000 |
| D(LNTM) | 0.147 | 0.015 | 9.847 | 0.000 |
| D(LNTRE) | 0.230 | 0.013 | 17.404 | 0.000 |
| D(LNTS) | 0.096 | 0.011 | 8.953 | 0.000 |
| Coefficient of Determination | 0.896 | Sargan Statistic | | 8.995 |
| Durbin-Watson | 1.918 | Sargan Statistic Measurement Error | | 0.989 |

Since the findings indicated that the value obtained by the Durbin-Watson method was close to two (=1.9), no autocorrelation was observed between the model disruption sentences. In addition, the measurement error of the Sargan statistic of the model was above 0.05, which demonstrated the correct selection of the instrumental variables for the estimation of the generalized torque model. The coefficient of determination also indicated a percentage of change in the dependent variable, which was explained by the model's independent variables. In this regard, the coefficient of determination was estimated at 89%, showing that the model's independent variables could explain 89% of the changes in the dependent variable (i.e., government revenues), which was appropriate and considerable.

## 5. Conclusion

According to the results, the variable of government revenues from oil sales (lnroil) was completely significant. Its measurement error and coefficient were estimated at <0.05 and 0.49, respectively, which showed that the overall government revenue (lnpre) would increase by 0.49% in case of a 1% increase in the revenues from oil sales. In addition, the variable of revenues from sales and consumption taxes, and VAT (lntc) was completely significant, and its measurement error and coefficient were <0.05 and 0.46, respectively. Therefore, it could be concluded that the overall government revenues (lnpre) would increase by 0.46% in case of a 1% increase in the revenues from sales and consumption taxes and VAT. Moreover, the variable of corporate tax revenue (lntco) was completely significant, and its measurement error and coefficient were <0.05 and -0.30, respectively, demonstrating that the overall government revenues (lnpre) would increase by 0.30% in case of a 1% increase in corporate taxes. The variable of revenues from import taxes (lntm) was also completely significant, and its measurement error and coefficient were estimated at <0.05 and 0.14, respectively, showing that the overall government revenues (lnpre) would increase by 0.14% in case of a 1% increase in the revenues from import taxes.

Our findings indicated that the variable of revenues from income taxes (lntre) was completely significant, and its measurement error and coefficient were <0.05 and 0.23, respectively, demonstrating that the overall government revenues (lnpre) would increase by 0.23% in case of a 1% increase in the revenues from income taxes. Ultimately, the variable of revenue from wealth tax (lnts) was completely significant, and its measurement error and coefficient were determined to be 0.05 and 0.09, respectively, indicating that the overall government revenues (lnpre) would increase by 0.09% in case of a 1% increase in the revenues from wealth taxes.

According to the obtained results, the oil revenue variable had the most significant impact on the

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government revenues, followed by the revenues from sales and consumption taxes and VAT. Therefore, it was inferred that the government could easily reduce oil revenues by adopting efficient policies and replacing this source of income with the revenues from sales and consumption taxes and VAT. On the other hand, the revenues from wealth taxes had the least significant impact on the government revenues, mainly caused by the inefficiency of reception methods or the inability to be identified. Undoubtedly, the further assessment of this issue could result in the identification of a highly appropriate source of income so that less oil would be extracted and social inequity would be controlled. However, an important finding of this study was the reverse coefficient of the revenues from corporate taxes. It is possible that most of these companies were manufacturing and industrial units, and given the pressure of economic and political issues and inflation on the country, they have mostly reacted to enormous taxes, had tax evasion, or reduced their production level, which has, in turn, increased the rate of unemployment and decreased the national GDP, thereby reducing the government revenues.

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# The Relationship between Corporate Reputation, CEO Narcissism, and Financial Statement Comparability

**Morteza Zakerean**

*Economics and Administrative Sciences, Birjand Branch, Islamic Azad University, Birjand, Iran*

## Abstract

The present study assesses the relationship between corporate reputation, CEO narcissism, and financial statement comparability of listed firms on the Tehran Stock Exchange. For this study, multivariate and logistic regression is used for hypothesis testing. The study's statistical population includes all listed firms on the Tehran Stock Exchange during 2012-2017, and the sample comprises 740 year-company. The exploratory factor analysis of 34 variables is used for calculating corporate reputation. The study results show a positive and significant relationship between corporate reputation, CEO narcissism, and financial statement comparability. This means that by increasing corporate reputation, the comparability of financial statements and CEO narcissism will go up. This paper can contribute to the development of knowledge in this field, and this is the first study to compute corporate reputation using the exploratory factor analysis of 34 variables.

Corresponding author: Morteza Zakerean
Email: *Morteza.Zakerean@gmail.com*

# 1. Introduction

The reputation of firms is a conceptual evaluation from the business firm by the stakeholders. The significance of corporate reputation has faced increasing growth over the past few decades, and numerous studies are carried out on the advantages of a reputation for a business firm. Still, no specific definition, however, is present for that yet. The conducted studies have been mostly concentrated on its measurement via initial resources that include the opinion made by the stakeholders, which may be driven from firm credit, the opinion of the analysts about the business unit, CEO, or the governing bodies (Kaur and Singh, 2018). For example, Diamond (1991) defines firm age as a factor for corporate reputation. She believes that firms initially regulate private relations to receive financial aids and modify their connections with the stakeholders only when they become well-known in the market. In other words, the more the firm gets aged, it creates an image in the minds of public people that providing credit through different areas can be potentially useful. Hence, we can conclude that firms sit tight to get aged and obtain credit. So, the more time is provided for a firm in the business world, the luckier it would be in creating a positive understanding of reputation. Datta, Iskandar-Datta and Patel, (1999) confirmed these results who declare that firm age is a good factor for corporate reputation. Several factors are used in this paper that can contribute to corporate reputation, including firm age, to calculate this factor more accurately. These variables are converted to a single variable, named corporate reputation, using the exploratory factor analysis. Corporate reputation can bring about beneficial results for business firms. Reputation is the primary qualitative source useful in the success of firms. The primary function of this variable is creating a sense of loyalty in stakeholders; especially when there is uncertainty, corporate reputation can deal with the doubt of stakeholders and cause them to trust the firm (Ewing, Windisch, and Newton, 2010). The value of benefiting from a good reputation can be observed in creating the outcome. When the firm is well thought of with a well-known brand, the products are better sold. However, it is noteworthy that reputation can be tenuous, which means it can be ruined easily. When the reputation is damaged, serious attempts should be made to reestablish that, and it is seven to ten times harder than building that a new reputation (Hodović, Mehić, and Arslanagić, 2011).

Hence, firms with reputations have higher stock value than their peers, and the managers of this type of firm are more narcissistic than others because reputation and narcissism are interrelated. So, the managers of such firms are more confident and narcissistic than that of the other firms. Since reputation originates from different areas, the financial statements of such firms enjoy a higher quality than that of the other firms, and we expect the comparability of them to be higher than that of the other firms. Since the Iranian market is not fully-fledged and such markets deal with high inflation and the purchasing power of ordinary people is extremely low, most of the manufacturing units cut down the prime cost of their products to supply their goods at a lower price. But this would lead to the decline of product quality and has a negative consequence automatically on corporate reputation.

Accordingly, this paper attempts to figure out what actions taken by highly-reputed firms in the economic market of Iran to preserve the comparability of financial statements and whether or not the reputation of Iranian firms can enhance their financial statement comparability. On the other hand, and according to the topical literature, we know that reputation is one of the criteria of narcissism, and the managers of such firms are also narcissistic people because narcissism has always been defined by the sense of superiority over others, being seen, admired, and encouraged (Chen, 2010). So, we expect business units with a high reputation to benefit from more narcissistic managers. Since narcissism can both have negative and positive sides, this paper has considered the two, which means narcissism can both enhance and debilitate the performance of business firms because such managers can obtain the results from unexpected solutions and methods and perform high-risk measures to be

admired, which can be both to the benefit or detriment of the firm (Wallace and Baumeister, 2002). Hence, this paper attempts to discover that "whether a corporate reputation can increase the narcissism and financial statement comparability or not". Since the present study is the first paper that is concerned about the relationship between corporate reputation and CEO narcissism and financial statement comparability in the emergent markets, like Iran, with extremely competitive markets and has used 34 indices for the first time for measuring reputation and then converted these 34 indices to a single variable, named reputation, so it is the first study on this topic. In the following, we discuss the theoretical principles and literature, then the methodology, data analysis, and conclusion will be explained.

## 2. Theoretical Issues, Literature Review and Hypothesis Development

One of the challenging and exciting topics in the business world of today is corporate reputation. Reputation is based on the understanding of an organization, so it is a cognitive factor. Roberts (2009) defines reputation as a set of experiences of significant shareholders with the business firm, and Fombrun (1998) describes the corporate reputation as a distance between previous experiences of an organization and what is supposed to happen in the future. The conducted studies (Fombrun, 1998) classified reputation into two groups. First, reputation is considered a corporate image that reflects the entire organization; second, reputation is defined as a set of interconnected but separated structures of firms. According to these views, reputation expresses an image the society has about the business firm and does not necessarily indicate reality. This means that even if the firm has an adverse credit but benefits from a high reputation in creating attractive job conditions, the potential staff still support them. Recently, an increase in the significance and value of getting access and holding a good reputation for a firm among managers has led to firms' attempts to create a reputation system (Van Riel Stroeker and Maathuis, 1998). Although building a favourable reputation is not an easy task for the firm, ruining that seems effortless, and the rise and fall of the Enron Company is an excellent example of a corporate reputation and destructing that. According to the resource-based theory of firms, firm credit can be an appropriate strategic factor for establishing competitive advantage (Dierickx and Cool, 1989; Capozzi, 2005). Managers have an inevitable role in enhancing the quality of financial reporting because the managers of well-known firms, by performing their managerial processes, try to present the best performance and personal characteristics of managers have caused them to select those strategies in line with the objectives of the organization that enhance the performance. But when they involve their personal feelings and moral norms in business decisions, their rationality will be questioned. Measuring financial performance, referred to as the reflection of managerial choices, is a mechanism for being admired. This can individually be one of the factors of narcissism among managers to realize the magnitude and dignity of managers (Amernic and Craig, 2010). Hence, the personal characteristics of managers can contribute to financial performance (Dikolli, Mayew, and Steffen, 2012). Interpretive prejudices and positive illusions of narcissistic managers can influence the supply of financial information for the Stock Exchange. Since narcissistic managers are likely to ignore negative confidential feedback, they naturally take no notice of information when connecting with shareholders about firm performance.

Further, narcissistic managers, similar to over-confident managers, may wisely distort the information sent for convincing investors who have promising projects in progress. In most cases, narcissistic managers attempt to achieve considerable outcomes in the firm. They move through aggressively operational strategic measures and risky businesses, to the point that such decisions would lead to profit or loss at the end of the fiscal year (Olsen and Stekelberg, 2015). Hence, such managers are more likely to perform fraudulent activities in search of achieving the best performance

because financial performance measurement, which is known as the reflection of managerial decisions, is a mechanism for being seen and admired, and this can be one of the factors for the outbreak of narcissism among managers (Rijsenbilt and Commandeur, 2013). Broadly, narcissistic people like to be always at the center of attention and left no stone unturned for success (Ryckman, Thornton and Butler, 1994; Luchner et al., 2011). Such people are incredibly cautious, no competitive, and firmly on their stance in negotiations and meetings (Ma and Jaeger, 2005; Hüffmeier et al., 2014). In other words, narcissism is associated with arrogance, over-confidence, and self-superiority that can cause an individual to ignore the realities due to excessive price and make a mistake in forming judgments (Carroll, 1987). Moreover, Kong (2015) expresses that narcissistic individuals in their negotiations are less willing to agree and try to persist on their stance.

Al-Shammari, Rasheed, and Al-Shammari (2019) show a significant relationship between CEO narcissism and social responsibility, such that the narcissistic CEO is associated positively and significantly with external responsibility. Still, internal social responsibility has no significant relationship. Hence, we can expect from the managers who work in highly-reputed firms to try to show off themselves, so the first hypothesis of the study is as follows:

**H1:** There is a significant relationship between corporate reputation and CEO narcissism.

In today's world, having a good reputation is considered an intangible asset for the firm's competitive advantage, which is vital in attracting customers and stakeholders. The value of corporate reputation can be understood in facilitating marketing transactions or low interactive costs with all institutional stakeholders. A good reputation is like an intangible asset that entrusted a legacy for current managers of the business firm. In contrast, an unfavorable reputation has devastating effects on the performance of all sections of a firm, especially profitability. On the other hand, comparability is one of the qualitative characteristics of financial information that enables the users to assess the similarities and differences between financial statements (Financial Accounting Standards Board, 2010). Comparability more causes the adjustments in information to be lower when comparing and analyzing financial information and the users outside the organization to achieve a higher amount of information quickly with a lower cost (De Franco, Kothari, and Verdi, 2011). The significance of comparability of financial statements is that according to the Conceptual Declaration No. 8 of the Financial-Accounting Standards Board, it is regarded as one of the primary reasons for the demand for financial reporting standards and growth of reported financial reports information comparability.

Moreover, it is also mentioned in the theoretical concepts of financial reporting of Iran (2011) that in case information is related and reliable but not comparable and understandable, its usefulness would be limited. Hence, comparability is a feature that helps the users realize and understand the similarities and differences, lower the information processing, and uplift the general quality of existing information in firms (De Franco, Kothari, and Verdi, 2011). Besides, comparability is one of the features of financial reporting that elevate the quantity and quality of available information for investors and allows them to predict future performance with higher accuracy by investigating the firm's previous performance. Financial reporting quality is also one of the effective items that incorporate reputation. An increase in financial reporting quality would lead to a rise in corporate reputation, so we expect that the increase in corporate reputation shows the growth of financial statement comparability. The conducted studies in this field are as follows:

Chen et al. (2018) indicate that when firms' financial statements are more comparable, the buyers obtain a higher stock return and show a higher operational enhancement after their purchase.

Choi et al. (2014) argue that financial statement comparability accelerates the reflection of individual information of a firm and information related to future special profits of the firm in the

current price of the stock. To present plenty of evidence about comparability in increasing the awareness of stock price, they assess the relationship between comparability and stock price simultaneity via comparability on the relative value of financial information related to industry/market special information firms. They observe that comparability is associated negatively with simultaneity, which means comparability increases the relative value of special information of a firm that is reflected in the stock price. Such a result expresses that comparability accelerates the reflection of information related to the special profits of the firm in the current stock price. Ross, Shi, and Xhi (2016) and Zhang (2018) perceive a positive and significant relationship between firm size and accounting comparability. Sohn (2016) discovers a negative and significant relationship between financial statement comparability and earnings management.

Moreover, Hoitash, Markelevich, and Barragato (2007) declare that different factors contribute to the quality of financial reporting (and consequently financial statement comparability), and accounting standards are only one of such elements. The impact of accounting standards is actually in determining the output of the financial reporting process is lower than some variables, like audit quality, managers' motivation, management structure, and other organizational features. Francis, Pinnuck, and Watanabe (2014) figure out that an auditor's style significantly affects financial statement comparability. Kawada (2014) shows that the higher the comparability of firms, the lower the earnings quality would be. Hence, given the facts mentioned earlier, the second hypothesis of the study is as follows:

**H2:** There is a positive and significant relationship between corporate reputation and financial statement comparability.

## 3. Research Methodology

This paper is causal-correlational, and in terms of methodology, it is quasi-experimental, and retrospective in the realm of positive accounting studies carried out with real information. This paper is practical in terms of nature and objectives. Practical studies aim to develop knowledge within a particular field. In terms of data collection and analysis, however, this paper is causal-correlational.

### 3.1. Population understudy

The statistical population of this paper includes all listed firms on the Tehran Stock Exchange during 2013-2017.

### 3.2. Sampling method

The systematic elimination method is used for sampling, and the statistical sample is selected after applying the following conditions:
1- Firms should be listed on the Tehran Stock Exchange until the end of 2012;
2- Firms should be active during the period of the study, and their shares should be transacted (no more than six months of transaction halt);
3- Firms should fully present the required information for this study; and,
4- Firms should not be affiliated with investment firms, banks, insurance, and financial intermediaries.

**Table 1.** The number of firms in the statistical population

| Description | Eliminated firms in total periods | Total No. of firms |
|---|---|---|
| Total listed firms on Tehran Stock Exchange | | 445 |
| Eliminating financial intermediaries, financial supply, insurance, and investment firms | 88 | |
| Firms with more than 6 months of transaction halt | 112 | |
| Eliminating firms entered the Stock Exchange during the study period | 8 | |
| Eliminating due to lack of access to information | 113 | |
| Statistical population | | 175 |

Hence, the period of this paper is six consecutive years from 2012-2017 for the listed firm on the Tehran Stock Exchange.

Given the limitations, a total number of 128 firms are selected for testing the hypotheses.

### 3.3. Data collection and method

The required data of the study are collected based on their types from different resources. The information related to the literature of the study and theoretical facts were gathered from library resources, including Persian and Latin books and journals, and Internet websites. The information related to firms (balance sheets and profit and loss statements) is used as the research tool.

The primary and raw information and data for hypothesis testing were collected using the information bank of Tehran Stock Exchange, including Tadbir Pardaz and Rah Avard-e Novin and also the published reports of Tehran Stock Exchange via direct access (by analyzing the released reports in Codal Website and manually collected data) to CDs and also by referring to rdis.ir website and other necessary resources.

### 3.4. Data analysis method

The data analysis method is cross-sectional and year-by-year (panel data). In this paper, the multivariate linear regression model is used for hypothesis testing. Descriptive and inferential statistical methods are used for analyzing the obtained data. Hence, the frequency distribution table is used for describing data. At the inferential level, the F-Limer, Hausman test, test of normality, and multivariate linear regression model are used for hypothesis testing.

### 3.5. Research model

The following models are used for testing the hypotheses:

Model (1) is used for testing the first hypothesis

Model (1)

$$ACOMP_{it} = a_0 + a_1 CR_{it} + a_2 size_{it} + a_3 LEV_{it} + a_4 Current_{it} + a_5 Age_{it} + a_6 Q - tobin_{it} + a_7 ROA_{it} + a_8 DA_{it} + a_9 MTB_{it} + a_{10} Ret_{it} + a_{11} Industry_{it} + a_{12} year_{it} + \varepsilon_{it}$$

Model (2) is used for testing the first hypothesis

Model (2)

$$CEO - NAR_{it} = a_0 + a_1 CR_{it} + a_2 size_{it} + a_3 LEV_{it} + a_4 Current_{it} + a_5 Age_{it} + a_6 Q - tobin_{it} + a_7 ROA_{it} + a_8 DA_{it} + a_9 MTB_{it} + a_{10} Ret_{it} + a_{11} Industry_{it} + a_{12} year_{it} + \varepsilon_{it}$$

Where

Independent variable: corporate reputation is the independent variable of the study, which is calculated as follows:

Corporate reputation (CR): The present study attempts to present a model for evaluating corporate reputation and its effect on managerial entrenchment.

The model considered by the present study for corporate reputation is conceptual, comprised of 24 variables that converted to a single variable, named corporate reputation, using the exploratory factor analysis. In other words, the factor analysis of the following 24 variables is corporate reputation:

1. Firm age (Age): time passed from the date of establishment to the year under study;
2. Export (Forging): if the business firm has an export in the year under study 1, otherwise, 0;
3. Marginal unit (SEG): if the firm has a marginal unit 1, otherwise, 0;
4. Type of ownership (INVE): the percentage of share available to institutional owners (percentage of shares available to investors, insurance, financial and credit institutions, state-owned and public institutions);
5. Firm size (SIZE): natural logarithm of total firm assets;
6. Number of marginal units (NUM_SEG): is equal to the number of marginal units of the firm in the year under study;
7. Cost of research, development, and advertisement (R&D): is equal to total costs for research and development in the year under study divided by total assets of the firm;
8. Social responsibility (PHA): if the firm has gained humanitarian aids in the year under study 1, otherwise, 0;
9. Number of personnel (employ): natural logarithm of the number of staffs of the business firm in the year under study;
10. Board degree (Degry): if the educational degree of the board members is bachelor's or master's or higher 1, otherwise, 0;
11. Sales price (Sales): sales price of the firm divided by total assets of the firm in the year under study;
12. Board financial expertise (BFI): if one of the board members has accounting, finance, and economics degree or one of the financial principles 1, otherwise, 0;
13. International certificate (SIN): if the firm has gained an international certificate in the year under study 1, otherwise, 0;
14. Profitability (PROF): if the firm is profitable in the year under study 1, otherwise, 0;
15. Return on assets (ROA): equal to net profit ratio divided by the book value of equity in the year under study;
16. Financial leverage (LEV): equal to total liabilities to total assets of a firm in the year under study;
17. Inverse return on sales (SBR): inverse return on sales price from firm sales in the year under study;
18. Operational costs growth (EX): is equal to operational costs of the current year minus that the of the previous year divided by the operational costs of the previous year;
19. Intangible assets (INT): total intangible assets of the firm divided by total assets of the firm;
20. Industry share of the firm (FCON): Herfindal-Hirschman index which is equal to the following:

$$HHI_{it} = \sum_{i=1}^{k} \left(\frac{Sales_{it}}{Sales_{jt}}\right)^2$$

Sales$_{it}$: firm sales in the year understudy
Sales$_{jt}$: industry sales in the year understudy
K: number of firms per industry

21. Firm risk (RISK): standard deviation of profit or loss of the current year with that of the three years ago;

22. The amount of IT usage (IT): if the firms utilized IT in the year under study 1, otherwise, 0;
Internet sales of the firm (ISALES): if the firm has had internet sales on the year under study 1, otherwise, 0;

Firm brand value (BV)

Dependent variable: CEO narcissism which is calculated as follows:

There are three criteria for measuring managerial narcissism:

**Testosterone Hormone Index**: CEO face width divided by his face height measured as the distance between two temples divided by the distance between the eyebrow and the upper lip. This width to height measurement is referred to as WHR. The previous studies show that WHR is a significant reason for behaviours related to testosterone in females (Wong, Ormitson and Haselhuhn, 2011; Lewis, Lefevre and Bates,2012; Jia, van Lent and Zeng, 2014). According to Stirrat and Perrett (2010), measuring face width to length is among sexual alienation features, and testosterone hormones can be a factor for examining the orientation of people toward aggressive behaviour in females.

**Cash compensation index**: narcissistic managers in organizations usually ask for higher cash compensations and stabilize their positions in organizations in this way (O'Reilly et al., 2014). The cash compensation of managers is calculated by dividing the approved cash compensation in general assembly meetings into the total payments of the fiscal year.

**CEO signature**: apparently, those firms managed by large-signature CEOs (that is psychologically a factor for their narcissism) are less efficient than those with small signatures. Recently, a study on the magnitude of the signature size of leaders has tried to assess the effects of a narcissistic leader on his organization. Nik Sirat et al. measure CEO 605 signatures with 10 years of work experience from 400 firms (members of 500 prime stocks in the New York Market). All signatures were located at the bottom of annual financial reports of firms showing that larger signatures that are indicative of personal attributes of narcissism, dominance on others, and self-confidence are associated positively with CEO prodigality, and lower return on assets and such managers are contradictorily more likely to increase the payment than other active members in that industry.

\* It is worth mentioning that two variables of cash compensation and signature have been used for measuring narcissism because the first index cannot be used since firms did not provide us with the photograph of their managers.

**Accounting comparability**

Presently, the conventional method for measuring the concept is to apply the model of De Franco, Kothari, and Verdi (2011) based on the relationship between stock earnings and return. In this approach, where the stock return is an index for reflecting economic realities and accounting earnings is an index for showing the output of the accounting system.

In this paper, the model of De Franco, Kothari, and Verdi (2011) is used for measuring financial statement comparability, based on which the accounting system of a firm is considered as a function that converts the economic events to financial reports and the more the similarities of the accounting function of a firm, the more the financial statement comparability would be.

**Financial statement comparability model**

$$E(NI)_{iit} = \alpha_i + \beta_1 RET_{it} + \varepsilon$$
$$E(NI)_{ijt} = \beta_{ij} + \beta_j RET_{it} + \varepsilon$$
$$ACOMP_{ijt} = -\frac{1}{4}\sum \left| E(NI)_{iit} - E(NI)_{ijt} \right|$$

The Relationship between Corporate Reputation, CEO Narcissism, and Financial Statement Comparability

ACOMPijt: financial statement comparability of ith and jth firms
E(NI)iit: expected firm earnings
E(NI)ijt: expected industry earnings
RET: stock return
MTB: market value to book value of equity
ROE: return on equity which is equal to net profit ratio divided by the book value of equity
Current: current ratio is equal to current assets divided by current liabilities
Q-Tobin: is equal to the total market value of stocks plus book value of liabilities divided by book value of assets

$$Q - TOBIN_{it} = \frac{SMV + DBV}{ABV}$$

SMV: the market value of the share
DBV: book value of liabilities
ABV: book value of assets
DA: discretionary accruals, which are computed using the following equation

$$\frac{TA_{i,t}}{Asset_{i,t-1}} = \beta_1 \times \frac{1}{Asset_{i,t-1}} + \beta_2 \times \left( \frac{\Delta Rev_{i,t} + \Delta AR_{i,t}}{Asset_{i,t-1}} \right) + \beta_3 \times \frac{PPE_{i,t}}{Asset_{i,t-1}} + \varepsilon_{i,t}$$

Where
TA: total accruals which are equal to operational earnings minus operational cash flow
Asset$_{i,t-1}$: total assets of the previous year
$\Delta$Rev: changes in sales of the business firm
$\Delta$AR: changes in accounts receivable of the business firm
PPE: properties, machinery, and instruments
ε: model residuals absolute value of residuals is equal to abnormal accruals (NDA)

$$DA = TA - NDA$$

RET: return on the stock
SIZE: natural logarithm of total firm assets;
LEV: financial leverage equal to total liabilities to total assets;
Age: firm age equal to the duration of time passed from the date of establishment to the year under study;
Industry: dummy variable of industry
Year: dummy variable of the year;

## 4. Data analysis
### 4.1. Descriptive statistics
   In this paper, three models are used for assessing the relationship between corporate reputation and management entrenchment. Besides, the present study has inserted the panel data model of 129 Iranian firms during 2012-2017 in its data-based. The variables of corporate reputation, management entrenchment, and other control variables are used for model estimation.

**Table 2.** Descriptive statistics of the variables

| Variable | obs | mean | Std.dev. | Min | Max |
|---|---|---|---|---|---|
| CEONAR | 738 | 0.154 | 0.105 | 0.000 | 0.261 |
| CR | 738 | 9.758 | 6.504 | 1.587 | 56.895 |
| Size | 737 | 14.242 | 1.534 | 10.533 | 19.374 |
| LEV | 738 | 0.593 | 0.219 | 0.090 | 2.315 |
| Age | 738 | 38.011 | 12.897 | 10.000 | 66.000 |
| DA | 737 | 0.149 | 0.309 | 0.0004 | 3.624 |
| Current | 728 | 1.392 | 0.712 | 0.153 | 5.374 |
| MTB | 734 | 3.425 | 3.772 | -25.577 | 41.068 |
| ROA | 737 | 0.124 | 0.247 | -2.898 | 2.618 |
| Ret | 733 | 0.467 | 1.012 | -0.663 | 6.089 |
| Q-Tobin | 735 | 1.937 | 0.888 | 0.801 | 6.938 |

### 4.1.1. Linearity test

**Table 3.** The results of the linearity test

| Variable | VIF | 1/VIF |
|---|---|---|
| ROA | 1.34 | 0.745 |
| CR | 1.28 | 0.779 |
| LEV | 1.20 | 0.835 |
| Size | 1.17 | 0.854 |
| Age | 1.11 | 0.899 |
| MTB | 1.11 | 0.903 |
| CEONAR | 1.10 | 0.912 |
| Growthsales | 1.05 | 0.948 |
| OVERCON | 1.02 | 0.983 |
| Mean VIF | 1.15 | |

### 4.1.2. Inferential test
Model (1)

$$CEO - NAR_{it} = a_0 + a_1 CR_{it} + a_2 size_{it} + a_3 LEV_{it} + a_4 Current_{it} + a_5 Age_{it} + a_6 Q - tobin_{it} + a_7 ROA_{it} + a_8 DA_{it} + a_9 MTB_{it} + a_{10} Ret_{it} + a_{11} Industry_{it} + a_{12} year_{it} + \varepsilon_{it}$$

**Table 4.** The results of model (1) estimation

| Ceonar | Coefficient | Std/ Error | t-Statistic | Prob/ |
|---|---|---|---|---|
| CR | 0.004 | 0.001 | 6.86 | 0.000*** |
| Size | -0.015 | 0.005 | -2.76 | 0.007*** |
| LEV | 0.119 | 0.046 | 2.55 | 0.012*\* |
| current | 0.031 | 0.013 | 2.35 | 0.020** |
| Age | -0.007 | 0.003 | -2.93 | 0.004*** |
| Qtobin | -0.031 | 0.013 | -2.34 | 0.21** |
| ROA | 0.111 | 0.049 | 2.26 | 0.026** |
| DA | -0.017 | 0.010 | -1.67 | 0.095 |
| MTB | -0.002 | 0.001 | -1.90 | 0.057* |
| RET | -0.009 | 0.005 | -1.77 | 0.076* |
| C | 0.185 | 0.072 | 2.57 | 0.010** |
| **Weighted Statistics** | | | | |
| Adjusted R-squared | 0.0805 | | | |
| F(9, 594) | 108.28 | | | |
| Prob(F-statistic) | 0.000*** | | | |
| F-Limer | F(125, 578)=1.93 0.000*** | | | |
| Hausman | Chi2 (10)= 14.33 0.1584 | | | |

First, we should determine whether the data are pooled or panel by the F test to estimate the models.

The null hypothesis in this test is that the data are pooled, and hypothesis 1 claims that data are panel. If H0 is rejected after performing the F test, the question here is that based on which models of fixed effects or random effects, the model is analyzable, determined by the Hausman test. Regarding the results of the pooled test reported in the following Table, the null hypothesis concerning the pooled data is ejected for the research model at the 99% confidence level. Hence, the model with panel data should be used for estimating the coefficients of the models. Moreover, the results of this test are reported in Table 4, where the Hausman test statistic based on the estimation for the research model is 14.33 smaller than $\chi^2$ in the Table, so the null hypothesis is not rejected. Given that model with random effects will be selected for the pattern. According to Table 4, the results of hypothesis testing show a positive and significant relationship between corporate reputation and CEO narcissism because its p-value is 0.000 lower than the significance level of 0.05 with a positive coefficient (0.004) that indicates a positive and significant relationship between these two variables.

**Table 5.** The results of model (2) estimation

| Acomp | Coefficient | Std/ Error | t-Statistic | Prob/ |
|---|---|---|---|---|
| **CR** | 0.0001 | 0.00004 | 3.51 | 0.000*** |
| **Size** | -0.0034 | 0.0127 | -1.92 | 0.054* |
| **LEV** | -0.0049 | 0.0024 | -2.05 | 0.041** |
| **Current** | -0.0011 | 0.0005 | -2.25 | 0.025** |
| **Age** | -0.0098 | 0.0049 | 2.02 | 0.045** |
| **Qtobin** | -0.0043 | 0.0026 | -1.66 | 0.099* |
| **ROA** | -0.0020 | 0.0009 | -2.10 | 0.036** |
| **DA** | -0.0012 | 0.0006 | -1.91 | 0.057* |
| **MTB** | -0.0004 | 0.0002 | -1.75 | 0.083* |
| **RET** | -0.0042 | 0.0014 | -2.94 | 0.003*** |
| **C** | -0.0017 | 0.0045 | -0.39 | 0.698 |
| **Weighted Statistics** | | | | |
| **Obs** | 714 | | | |
| **R-squared** | 0.035 | | | |
| **Adjusted R-squared** | 0.005 | | | |
| **Wald Chi2(10)** | 31.02 | | | |
| **Prob>chi2** | 0.000*** | | | |
| **F-Limer** | F(125,578)=1.98 0.000*** | | | |
| **Hausman** | Wald Chi2(10)=6.96 0.7289 | | | |

According to Table 5, the results of the F-Limer test show that research data are panel because the p-value is 0.000 lower than the significance level of 0.05, suggesting that the null hypothesis of the F-Limer test concerning the presence of pooled data is rejected. The hypothesis of the study, which insists on the panel data, is accepted. Moreover, according to this Table, the results of the Hausman test reveal that the appropriate option for model (2) is a random-effects model because its p-value is 0.7289 higher than the significance level of 5%, which shows there is no reason for rejecting the null hypothesis and the opposite hypothesis, namely fixed effects model, is rejected.

According to Table 5, the results of hypothesis testing show a positive and significant relationship between corporate reputation and financial statement comparability because its p-value is 0.000 lower than the significance level of 0.05 with a positive coefficient (0.0001) that indicates a positive and significant relationship between these two variables.

As can be seen in Tables (4) and (5), the results of both models are robust because the p-value of both models is 0.000 lower than the significance level of 0.05, showing that the two models are highly

significant. Four classic econometric assumptions are evaluated in these panel data models, and reliable reports will be reported. These four assumptions include linearity among variables, exogeneity of descriptive variables, homogeneity variance, and lack of serial autocorrelation among disruptive components. Given the applied regression, the intercept of the model (1) is significant for firms because its p-value is 0.000 lower than the significance level of 0.05, but the intercept of the model (2) is not significant because its p-value is 0.698 higher than the significance level of 0.05.

## 5. Discussion and Conclusion

The present study is concerned about the relationship between corporate reputation and CEO narcissism and the financial statement comparability of listed firms on the Tehran Stock Exchange. The results of hypothesis testing show that corporate reputation would lead to an increase in narcissism and financial statement comparability of business firms which are in line with that of Rijsenbilt and Commandeur (2013), Dierickx and Cool (1989), and Xhi (2016), Zhang (2018), and Ewing, Windisch and Newton (2010) who show that corporate reputation can enhance the comparability and increase managers' narcissism because corporate reputation is, in fact, indicative of the ability of an organization in supplying the needs of stakeholders and is one of the requirements for presenting information with high comparability. The stakeholders and users of business firms require information to think about their investments and, by comparing the business firms with the past and their peers in the industry, to make decisions holding or selling investments. Moreover, according to Morgan et al. (1981), corporate reputation causes the creation of potential power in leaders of highly-reputed business firms that contributes directly to their narcissism and self-confidence. People and society also have a strong positive feeling about reputed business firms (Mehtap and Kokalan, 2012), so corporate reputation is a motivational factor for firms that can not only increase the operational power and commercial growth of firms by increasing the comparability of financial statements but cause the formation of a type of favourable social position in society.

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# The Impact of Intangible Assets on Firm Performance: Evidence from an Emerging Economy

**Arash Arianpoor**

*Assistant Professor of Accounting Department, Attar Institute of Higher Education, Mashhad, Iran*

## Abstract

This research investigates intangible assets' role in firm performance in the Tehran Stock Exchange's firm performance. Multiple Linear Regression is conducted to examine a large pool of data for 1350 company-year over ten years from 2008 to 2018. Four measures are used for performance: return on assets, return on equity, net profit, and profit margin. The findings show that unrecorded and recorded intangible assets positively impact firm performance (return on assets, return on equity, net profit, and profit margin). The authors also find that last year's recorded intangible assets and performance (return on assets, return on equity, net profit, and profit margin) are related positively. This paper magnifies the significant role of intangible assets on firm performance. The current study outcomes may give managers insight to provide serious attention to intangible assets in developing nations to improve performance.

Corresponding author: Arash Arianpoor
Email: *arash.arianpoor@attar.ac.ir*

# 1. Introduction

Accounting researchers and practitioners have long discussed the ability, or indeed inability, of standard financial reports to reflect the actual value (Lev, 2008; Skinner, 2008; Penman, 2009). In particular, intangibles' accounting treatment is one of the most debated, repeated, and unresolved issues in accounting, both in academic research and standard-setting (Skinner, 2008; Wrigley, 2008; Penman, 2009; Lev, Radhakrishnan and Zhang, 2009). The widening gap between the market value of companies and reported book values are cited as an indication of the significance of intangibles in the modern economy, with the difference between market and book values, in some cases, reaching as high as 80 percent (Penman, 2009; Lev, Radhakrishnan and Zhang., 2009). In the past two decades, merging, companies' interactions, and combined information technology have contributed to magnify the role of intangible assets as the dominant reason for the increase in firm value (Rezaei & Poor Ghayoumi, 2019). Intangible assets are believed to be the most significant assets in a company; however, accounting researchers struggle to measure them effectively in financial statements (Namazi & Mousavi Nejad, 2017). Apple's financial records show that its book value is substantially lower than its ballooning market value. The hidden, or unaccounted, value between Apple's market and book values, and many other companies, such as Microsoft and Dell, are categorically attributed to intangible (intellectual) assets (Penman, 2009; Lev, Radhakrishnan and Zhang, 2009; Edvinsson, 2013).

Despite the significance of intangible assets in the modern economy, accounting researchers are challenged by identifying, measuring, and systematically disclosing intangible assets. Accounting practitioners believe that the excess of the market value over the book value in a firm shows unrecorded intangible assets (Lev, 2008; Lev, Radhakrishnan and Zhang, 2009; Wrigley, 2008). Intangible assets play a significant role in how a business creates value (Chen, Cheng, and Hwang, 2005; Lev, Radhakrishnan and Zhang, 2009; Stam, 2009; De Santis & Giuliani, 2013). On the other hand, if the book value surpluses the market value, there are unrecorded intangible liabilities (Harvey & Lusch, 1999; De Santis & Giuliani, 2013; Haji & Mohd Ghazali, 2018).

In Agency relations, maximizing the assets is the owners' goal; therefore, they monitor the managers' performance. Performance evaluation, which compares the actual results with the budget, is essential in terms of accountability. To compare, financial statements prepared by management accountants are used (Stam, 2009). Performance evaluation, which collects data, identifies and exaggerates a firm's strengths to perform more favorably. Because of this fact, analyzing the company's background maximizes positive performance (Marzo, 2014).

Although prior studies showed the positive relationship between intangible assets and performance (Chen, Cheng, and Hwang, 2005; Lev, Radhakrishnan, and Zhang, 2009), the link between the recorded and unrecorded intangible assets and last year's intangible assets and performance is still a matter of debate between accounting practitioners.

Considering the resource-based theory, resources play a significant role in performance (Long Kweh, ChuannC Han, and Wei Kiong Ting, 2013). Resources are defined at all in-control assets, capabilities, organizational processes, firm characteristics, information, knowledge, etc., facilitating the implementation of the strategies leading to improved efficiency and productivity. Considering Intangible assets as a type of asset, they can improve efficiency and productivity (Haji & Mohd Ghazali, 2018).

This paper mainly discusses how intangible assets affect performance. Hence, this research investigates the role of intangible assets (recorded, unrecorded, and last years) in firm performance on the Tehran Security market. This study contributes to the financial literature for three main reasons. First, there are not enough studies on intangible assets (recorded and unrecorded). Second, this paper has a broader look at the recorded and unrecorded intangible assets and their impact on performance,

while prior studies have significantly focused on the word "intangible assets." Third, standard makers, researchers, and practitioners are silent on recorded and unrecorded intangibles. Generally, this study can provide brighter empirical shreds of evidence about the relationship between recorded and unrecorded intangible assets and performance in listed companies on the Tehran Stock Exchange. I believe that this research can significantly contribute to future studies.

The next section reviews intangible assets literature, followed by the third section in which theories and hypotheses are introduced. Research methods are expanded in the fourth section, including the research scope and statistic society. In the fifth section, the algorithm and variables are shown. Data and findings, analysis are explained in section six. And finally, the findings are discussed and concluded in the seventh section.

## 2. Literature Review and hypothesis development

Leading researchers and practitioners view intangibles as a productive organizational resource that can help firms achieve sustained competitive advantage (Edvinsson & Malone, 1997; Hall, 2001; Brennan, 2001; Lev, 2001; Edvinsson, 2013). According to the International Accounting Standard (No. 38), intangible assets are non-monetary, identically, and non-physical assets used in production and demand, rent, or other administrative utilization.

According to the Accounting Standard, intangible assets, performance, and cash-flow are related. Recent studies show the correlation between intangible assets and performance (Corona & Carlos, 2006). Therefore, identifying and reporting intangible assets help the decision-making process. Furthermore, the management is responsible for all resources and liabilities in hand, including intangible assets (Namazi & Mousavi Nejad, 2017). Many intangible assets cannot be reported to follow the historical cost of goods since they cannot be approved and measured (Rowbottom & Nicholas, 1988). Intangible assets are conceptualized as the firm's market value and book value (Hall, 2001; Lev, 2008; Wrigely, 2008). Hence, the excess of market value to book value is named unrecorded intangible assets (Wrigely, 2008; Lev, 2008). The pieces of evidence show that the market value is significantly higher (lower in a few cases) than the book value (Lev, 2001; Penman, 2009; Lev, Radhakrishnan and Zhang, 2009; Ahmed Haji, 2016). Penman (2009), for instance, demonstrates that Microsoft and Dell, two well-known American companies, had significant hidden amounts of intangibles of 84.14 (market to book value of 6.3) and 90.93 (market to book value of 11), in 2008, respectively.

On the other hand, Volkswagen's market value, for instance, significantly decreased by 70% due to its financial crisis. Several possible approaches account for intangible assets among accounting researchers (Walker, 2009; Dumay, 2012). One view negotiates that hidden values or the gap between market and book value is due to the unrecorded intangible assets (Lev, 2008). They believe that intangibles have grown both in value and importance, and now they are the key driver to a firm's performance (Bloom, 2009; Lev, Radhakrishnan and Zhang, 2009; Penman, 2009; Edvinsson, 2013). Moreover, they argue that the decision-making process can be misleading for investors and other users because there is hidden information in the balance sheet (Lev, 2008; Wrigley, 2008). Evidence proves that information users value non-financial related to intangible assets tremendously (Merkley, 2014). This study provides an empirical account of the role of intangible assets in the firm's performance. In particular, the impact of recorded and unrecorded intangible assets on performance will be magnified.

Besides, the effect of the last year's intangible assets is discussed. The definition of performance is agreed to be looked at as efficiency and effectiveness, in which efficiency means performing correctly. Effectiveness means the extent to which the actual results have been achieved to fulfill the

desired income or do accurate things. Hence, both internal reasons (efficiency) and external reasons (effectiveness) are included. To better understand the firm's performance, it is suggested to use leading indicators rather than lagging indicators. Lagging indicators focus on past-based events; however, leading indicators emphasize future-based events (Azeez et al., 2015). Economic theories indicate that intangible assets are indeed capable of influencing firm performance. Considering the interest theory's point of view, firms in the same business line have different performance results; therefore, performance is much dependent on the assets (Galbraeth, 2005). Lev, Radhakrishnan, and Zhang (2009) claim that companies that significantly invest in their intangible assets such as high-tech systems, employee development programs, or efficient reward systems lead to better performance.

There are several approaches to measure performance. Return on Assets is a traditional way of measurement, which was suggested in 1980 by DuPont System. Return on assets is calculated by dividing net profit by the book value of assets. ROA plays an alert role in monitoring assets more carefully since it signals expenses, net profit, and sale amount. ROA is used to track management performance over time. Return on equity is counted as another way of performance evaluation. ROE is estimated by dividing net income by shareholders' equity, where net income is computed using the book value of shareholders' equity (Chen, Cheng, and Hwang, 2005).

Net income is another way of judging performance, which is a significant interest of investors and decision-makers. Net profit represents the final figure for profit and loss remaining after expenses. The fourth factor in evaluating performance is profit margin, profitability, and net profit as a percentage of revenue. There are several kinds of profit margin; gross profit margin, net profit margin, and profit margin before tax; however, the profit margin usually represents a net profit margin (Haji & Mohd Ghazali, 2018). Although several studies were conducted on performance, a few research pieces were done on the effects of intangible assets and liabilities on performance. Therefore, the relationship between intangible assets and liabilities is debated in the following.

Gogan et al. (2016) declared that intellectual properties affect ROA positively. The findings show that Human resources and performance are positively related. However, it is concluded that there is no relation between structural capital and return.

Andonova and Ruíz-Pava (2016) understood that intangible assets affect performance positively.

Ozkan, Cakan, and Kayacan (2017) found a positive correlation between intellectual properties and performance. Liu (2017) acknowledged that intangible assets and performance are related positively. Dai, Parwada, and Zhang (2017) declared a positive relationship between company investment and performance. Haji & Mohd Ghazali (2018) concluded that last year's intangible assets positively affect the current year's performance, and last year's intangible liabilities had a negative impact on the current year's performance. Labidi and Gajewski (2019) showed that the increase in intangible assets disclosure results in a distinctive rise in cash flow. Mitra (2019) found that identifying intangible assets is the reason for fluctuation in total salary expense.

In Iran, Rahmani & Esmaieli (2013) examined the relationship between intangible assets on profit value. The findings show that intangible assets affect profit value. They play an essential role in assessing the firm's market value. Arefmanesh et al. (2016) found a positive relationship between intangible assets and the firm's market value. Identifying intangible assets in companies in line with medium or high-tech activities can be a proper anticipation index for profitability and cash flow. Therefore, intangible assets provide useful information for decision-makers. Namazi & Mousavi Nejad (2017) investigated the positive relationship between intangible assets and the firm's financial performance. Rezaei & Poor Ghayoumi (2019) showed that intangible assets and financial structure are negatively correlated.

There is a positive relationship between intangible assets and management ownership, and the

board of directors' independence. However, no relation was found between intangible assets and dividends variables. Generally, this study focused on the impact of intangible assets on governance systems. Taleb Nia & Bodaghi (2019) acknowledged a positive relationship between intangible assets and firm performance. Nik Kar, Hematfar, and Asami (2019) declared that intangible assets are significant in recording superior value. In other words, intangible assets are a vital means of improvement and growth in most economic sectors. It is also concluded that intangible assets can influence the relation between firm financial health (firm performance variable) and agency costs (dividend system). Moreover, they can have an impact on the relation between solvency and liability ratio. Based on the mentioned literature, the research hypotheses are presented as follow:

Considering the above, the following hypotheses are therefore proposed:

$H_1$: There is a positive relationship between recorded intangible assets and return on assets (ROA).

$H_2$: There is a positive relationship between recorded intangible assets and return on equity (ROE).

$H_3$: There is a positive relationship between recorded intangible assets and net profit.

$H_4$: There is a positive relationship between recorded intangible assets and profit margin.

$H_5$: There is a positive relationship between unrecorded intangible assets and return on assets (ROA).

$H_6$: There is a positive relationship between unrecorded intangible assets and return on equity (ROE).

$H_7$: There is a positive relationship between unrecorded intangible assets and net profit.

$H_8$: There is a positive relationship between unrecorded intangible assets and profit margin.

$H_9$: A positive relationship exists between the prior year's intangible assets and returns on assets (ROA).

$H_{10}$: There is a positive relationship between the prior year's intangible assets and return on equity (ROE).

$H_{11}$: There is a positive relationship between the prior year's intangible assets and net profit.

$H_{12}$: There is a positive relationship between the prior year's intangible assets and profit margin.

# 3. Research Methodology

Our empirical study is included as inductive and leading accounting researches. I employed multiple linear regression using combined data. Audited financial information is collected by the Rahavard Novin software and the Codal website. Excel is utilized to categorize data, and Eviews 9 is applied to analyze data.

This study's sample is drawn from 135 listed companies on the Tehran Stock exchange over ten years from 2008 to 2018.

Three main criteria grounded our sampling approach.

1. The selected companies must have been on the Tehran Stock Exchange from 2008 to 2018.
2. The selected companies must have recorded share transactions and must not have stopped their activities for more than three months.
3. Their fiscal year must end in March.
4. The selected companies must not be banks, investment companies, investment funding companies, or leasing firms.

### 3.2. Research Models

To test the hypotheses, different regression models are utilized (Haji & Mohd Ghazali, 2018):

Model 1: Testing the first to the fourth hypotheses

$$ROA_{it}/ROE_{it}/NIncome_{it}/PMargin_{it}/$$
$$= \gamma_0 + \gamma_1 IntangAssets_{it} + \gamma_2 GROWTH_{it} + \gamma_3 AGE_{it} + \gamma_4 LEV_{it} + \gamma_5 SIZE_{it}$$
$$+ \gamma_6 CFO_{it} + \gamma_7 LOSS_{it} + \gamma_8 PPE_{it} + \gamma_9 INVENT_{it} + \gamma_{10} REC_{it}$$
$$+ \gamma_{11} CurrentRatio_{it} + \gamma_{12} Industry_{it} + \gamma_{13} Year_{it} + \varepsilon_{it}$$

Model 2: Testing the fifth to the eighth hypotheses

$$ROA_{it}/ROE_{it}/NIncome_{it}/PMargin_{it}/$$
$$= \gamma_0 + \gamma_1 IntangAssetsUnrecord_{it} + \gamma_2 GROWTH_{it} + \gamma_3 AGE_{it} + \gamma_4 LEV_{it}$$
$$+ \gamma_5 SIZE_{it} + \gamma_6 CFO_{it} + \gamma_7 LOSS_{it} + \gamma_8 PPE_{it} + \gamma_9 INVENT_{it} + \gamma_{10} REC_{it}$$
$$+ \gamma_{11} CurrentRatio_{it} + \gamma_{12} Industry_{it} + \gamma_{13} Year_{it} + \varepsilon_{it}$$

Model 3: Testing the ninth to the twelfth hypotheses

$$ROA_{it}/ROE_{it}/NIncome_{it}/PMargin_{it}/$$
$$= \gamma_0 + \gamma_1 IntangAssets_{it-1} + \gamma_2 GROWTH_{it-1} + \gamma_3 AGE_{it-1} + \gamma_4 LEV_{it-1}$$
$$+ \gamma_5 SIZE_{it-1} + \gamma_6 CFO_{it-1} + \gamma_7 LOSS_{it-1} + \gamma_8 PPE_{it-1} + \gamma_9 INVENT_{it-1}$$
$$+ \gamma_{10} REC_{it-1} + \gamma_{11} CurrentRatio_{it-1} + \gamma_{12} Industry_{it-1} + \gamma_{13} Year_{it-1} + \varepsilon_{it}$$

### 3.3. Research variables:
### 3.3.1. Dependent variables
I used four firm performance measures (ROA, ROE, net income, and profit margin) to ascertain that the correlation between financial performance and intangible assets is reliable enough.
1- Return on assets ($ROA_{it}$): net profit after tax divided by the asset's book value of the company I in the year.
2- Return on equity ($ROE_{it}$): net profit after tax divided by shareholders' equity book value of the company i in the year t.
3- Net profit ($NIncome_{it}$): net profit after tax divided by assets' market value of the company i in the year t.
4- Profit Margin ($PMargin_{it}$): net profit after tax divided by net sales of the company i on the year t.

### 3.3.2. Independent variables
Recorded intangible assets ($IntangAssets_{it}$): patents, trademarks, copyrights, goodwill, brand recognition, franchise, computer software, formulas, models, and forming intangible assets. The detailed information of intangible assets is extracted from the notes to financial statements. It is calculated by dividing the recorded intangible assets by assets' book value.

Unrecorded intangible assets ($IntangAssetsUnrecord_{it}$): the excess amount of equity's market value and book value in the company i in the year t.

Unrecorded intangible assets are calculated as follow:
$$IntangAssetsUnrecord_{it} = [MV_{it} - (BV_{it} + TD_{it})]/Assets_{it}$$
$IntangibleAssetsUnrecord_{it}$: unrecorded intangible assets in the company i in the year t.

$MV_{it}$: equity's market value (number of shares multiplied by the market value of per share) in the company i in the year t.

$BV_{it}$: equity's book value in the company i in the year t.

$TD_{it}$: liability's book value in the company i in the year t.

$Assets_{it}$: assets' book value in the company i in the year t.

Studies show that intangible liabilities also exist, which identified if a firm's book value is greater than the market value (Harvey & Lusch, 1999; De Santis & Giuliani, 2013; Haji & Mohd Ghazali, 2018). In this paper, I consider both recorded and unrecorded intangible assets; therefore, if the firm's market value is less than the book value, I consider the unrecorded intangible assets zero (Harvey &

Lusch, 1999; De Santis & Giuliani, 2013; Haji & Mohd Ghazali, 2018).

Prior year intangible assets (IntangAssets$_{it-1}$): prior year unrecorded intangible assets divided by assets' book value of the company i in the year t-1

### 3.3.3. Control variables

Net Sale Growth (GROWTH$_{it}$): net sale growth of the company i in the year t-1. It is computed as the net sale in the year t minus net sale in the year t-1 divided by net sale in the year t-1. Net sale growth indicates current and future superior performance (Haji & Mohd Ghazali, 2019).

Firm age (AGE$_{it}$): natural logarithm of firm age beginning from establishing the company i in the year t or t-1 (Demerjian, Lev, and McVay, 2012). Companies face sale fluctuations during their age due to the economic, political, industrial, etc., status, impacting their performance (Chang, Deng, and Wang, 2018).

Leverage (LEV$_{it}$): firm's liability is divided by the company's firm assets of the company i in the year t or t-1. Companies with higher leverage ratios face more difficulties attracting investors, such as lower sales and unsatisfying performance (Lev, 2001).

Firm Size (SIZE$_{it}$): natural logarithm of assets' book value of the company i in the year t or t-1.

The bigger a company is, the more sales they make and the less fluctuated performance.

Operational cash flow (CFO$_{it}$): net operational cash flow divided by assets' book value of the company i in the year t or t-1. Since operational cash flows are related to a company's main business activities, it leads to a more desired performance (Labidi and Gajewski, 2019).

The company's loss virtual variable (LOSS$_{it}$): this dummy variable calculates the company's loss. If the company is on loss in the year t or t-1, it is one, otherwise zero. Loss shows poor performance (Marzo, 2014).

Plants & machinery (fixed tangible assets) (PPE$_{it}$): plants & machinery divided by assets' book value of the company i in the year t or t-1. Fixed tangible assets, as well as materials and labors, are the main parts of production. Therefore, larger amounts of fixed tangible assets show superior performance (Ozkan, Cakan, and Kayacan, 2017).

Inventory (INVENT$_{it}$): firm's inventory divided by the asset's book value of the company i in the year t or t-1. In the current competitive market, a lack of inventory flexibility can result in loss; therefore, inventory increase or decrease can drive performance (Ahmad Haji, 2016).

Receivables (REC$_{it}$): receivables divided by the asset's book value of the company i in the year t or t-1. Sales can be in cash or credit; therefore, performance can be driven by receivables (Taleb Nia & Bodaghi, 2018).

Current ratio (CurrentRatio$_{it}$): current assets divided by current liabilities of the company i in the year t or t-1. A higher current ratio indicates a more desired performance (Gogan et al., 2016).

Random effects in terms of industry (Industry$_{it}$): including four groups: first, vehicles, machinery, and metals; second, chemistry and medicine; third, minerals; fourth, other industries. A dummy variable is considered to apply random effects in the industry (Namazi & Mousavi Nejad, 2016).

Random effects in terms of the year (Year$_{it}$): considering the study's period, ten virtual variables are selected from 2008 to 2018. A dummy variable is considered to apply random effects in terms of the year (Haji & Mohd Ghazali, 2018).

## 4. Research Findings

### 4.1. Descriptive results

The descriptive results are shown in Tables 1 and 2, explaining descriptive parameters separately; the parameters include information on central indexes such as minimum, maximum, average, median,

and dispersion indexes such as standard deviation. The most significant central index is the average, which shows the balance point and center of gravity.

In Table 1, the average return on assets is 0.081, the median of 0.073, standard aviation of 0.132, minimum and maximum of -0.337, and 0.441, and the firm's profitability to assets' book value of 8.1 are presented.

The average return on equity is 0.240, the median is 0.239, the standard deviation is 0.267, the minimum and maximum are -0.388 and 0.702, and the firm's profitability to equity's book value is 0.24.

The net profile to assets' market value ratio is 0.051, the median is 0.052, the standard deviation is 0.082, minimum and maximum are -0.501 and 0.722, and the firm's net profit to assets' market value is 5.1.

The average of 0.105, the median of 0.091, the standard deviation of 0.208, minimum and maximum of -0.493 and 0.691, and the net profit of the net sale of 10.5 are calculated.

In Table 1, the average of intangible assets to current assets is approximately 0.005, and the average of intangible assets to prior year assets is 0.005, which shows no significant change in two years. Furthermore, the average of unrecorded assets to assets is computed as 0.145, which shows a significant part of the intangible assets is not recorded.

In Table 2, the cumulative relative frequency of loss is estimated at 17 percent, which means 17 percent (225 year-firm) of considered year-firm are in loss. However, the cumulative relative frequency for the prior year's loss is estimated at 15 percent, which means 15 percent (201 year-firm) of the considered year-firm are in loss.

## 4.2. Data analysis

I employ panel data regression analyses to determine the role of intangible assets and firm performance. First, the synchronicity between the independent variables of the study was assessed through variance analysis. If the variance is bigger than 5, there might be a probable error. However, if it is greater than 10, a serious error occurs. Our analysis shows that the variance is not a big figure. Therefore, independent variables are not synchronized. Durbin-Watson test was employed to check the independent variable's autocorrelation. The Durbin-Watson statistic will always have a value between 0 and 4. A value of 2.0 means that there is no autocorrelation detected in the sample. Values from 0 to less than 2 indicate positive autocorrelation, and values from 2 to 4 indicate negative autocorrelation. Data can be time, sectional, or combined series.

The data used in this study are combined; Chaw Model is utilized to test whether the coefficients in two linear regressions on different data sets are equal. I conducted the Hausman specification test to identify the appropriate method between the fixed-effects model" and the "random-effects model." The Hausman specification test suggests that if the test's probability value (p-value) is greater than 0.05, the random-effects model should be used and vice-versa. The findings are illustrated in table 3, table 4, and table 5. According to the findings, the fixed-effects model is the appropriate model to test models 1 to 3 in all four proxies of assessing firm performance.

The first hypothesis stated that "recorded intangible assets affect the return on assets positively." As shown in Table 3, the coefficient of recorded intangible assets (IntangAssets$_{it}$) is 1.003, and the T statistic is 5.804. The first hypothesis is accepted at the 95% significance level. Therefore, recorded intangible assets can positively cause an increase in return on assets (firm performance).

**Table 1.** Descriptive statistic of the variables

| Variables | Sign | Ave | Med | ST Dev | Min | Max |
|---|---|---|---|---|---|---|
| Return on Assets | $ROA_{it}$ | 0.081 | 0.073 | 0.132 | -0.337 | 0.441 |
| Return on Equity | $ROE_{it}$ | 0.240 | 0.239 | 0.267 | -0.388 | 0.702 |
| Net Profit to Assets' Market Value | $NIncome_{it}$ | 0.051 | 0.052 | 0.082 | -0.501 | 0.722 |
| Profit Margin | $PMargin_{it}$ | 0.105 | 0.091 | 0.208 | -0.493 | 0.691 |
| Recorded Intangible Assets to Assets' Book Value | $IntangAssets_{it}$ | 0.005 | 0.002 | 0.009 | 0 | 0.096 |
| Recorded Intangible Assets in Prior Year to Assets' Book Value in Prior Year | $IntangAssets_{it-1}$ | 0.005 | 0.001 | 0.009 | 0 | 0.096 |
| Unrecorded Intangible Assets to Assets' Book Value | $IntangAssetsUnrecord_{it}$ | 0.145 | 0 | 0.237 | 0 | 0.615 |
| Net Sale Growth | $GROWTH_{it}$ | 0.184 | 0.138 | 0.341 | -0.577 | 1.025 |
| Sale Growth in Prior Year | $GROWTH_{it-1}$ | 0.201 | 0.151 | 0.340 | -0.320 | 1.070 |
| Firm Age | $AGE_{it}$ | 3.618 | 3.737 | 0.367 | 2.484 | 4.219 |
| Firm Age in Prior Year | $AGE_{it-1}$ | 3.591 | 3.713 | 0.378 | 2.397 | 4.204 |
| Leverage | $LEV_{it}$ | 0.642 | 0.652 | 0.183 | 0.196 | 0.919 |
| Leverage in Prior Year | $LEV_{it-1}$ | 0.637 | 0.649 | 0.176 | 0.203 | 0.901 |
| Firm Size | $SIZE_{it}$ | 14.027 | 13.861 | 1.365 | 10.504 | 19.374 |
| Firm Size in Prior Year | $SIZE_{it-1}$ | 13.908 | 13.744 | 1.357 | 10.504 | 19.149 |
| Operational Cash Flow to Assets | $CFO_{it}$ | 0.112 | 0.098 | 0.122 | -0.189 | 0.511 |
| Operational Cash Flow in Prior Year to Assets in Prior Year | $CFO_{it-1}$ | 0.116 | 0.102 | 0.125 | -0.186 | 0.519 |
| Plants and Machinery (fixed assets) to Assets | $PPE_{it}$ | 0.258 | 0.214 | 0.177 | 0.019 | 0.808 |
| Plants and Machinery in Prior Year (fixed assets) to Assets in Prior Year | $PPE_{it-1}$ | 0.259 | 0.217 | 0.177 | 0.020 | 0.814 |
| Inventory to Assets | $INVENT_{it}$ | 0.240 | 0.226 | 0.120 | 0.044 | 0.586 |
| Inventory to Assets in Prior Year | $INVENT_{it-1}$ | 0.241 | 0.228 | 0.118 | 0.0045 | 0.586 |
| Receivable to Assets | $REC_{it}$ | 0.252 | 0.227 | 0.172 | 0.003 | 0.728 |
| Receivables in Prior Year to Assets in Prior Year | $REC_{it-1}$ | 0.289 | 0.272 | 0.169 | 0.021 | 0.731 |
| Current Ratio | $CurrentRatio_{it}$ | 1.281 | 1.184 | 0.743 | 0.083 | 9.956 |
| Current Ratio in Prior Year | $CurrentRatio_{it-1}$ | 1.273 | 1.183 | 0.707 | 0.083 | 9.956 |

**Table 2.** Descriptive statistic of dummy variables

| Variable | Sign | Condition | Absolute Frequency | Frequency Percent |
|---|---|---|---|---|
| Firm Net Loss | $LOSS_{it}$ | Yes= 1 | 225 | 17% |
|  |  | No= 0 | 1125 | 83% |
|  |  | Total | 1350 | 100% |
| Firm Net Loss in Prior Year | $LOSS_{it-1}$ | Yes= 1 | 201 | 15% |
|  |  | No= 0 | 1149 | 85% |
|  |  | Total | 1350 | 100% |

**Table 3.** The results of the first to the fourth hypotheses

| Performance Evaluation | ROA$_{it}$ | | | ROE$_{it}$ | | | NIncome$_{it}$ | | | PMargin$_{it}$ | | | VIF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variables | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant Level | |
| Fixed Part | 0.155 | 25.078 | 0.003 | -0.120 | -1.831 | 0.067 | 0.085 | 4.878 | 0.000 | -0.091 | -2.199 | 0.028 | |
| IntangAssets$_{it}$ | 1.003 | 5.804 | 0.000 | 1.305 | 2.874 | 0.004 | 0.445 | 4.329 | 0.000 | 1.573 | 6.821 | 0.000 | 1.206 |
| GROWTH$_{it}$ | 0.040 | 9.374 | 0.000 | 0.115 | 9.524 | 0.000 | 0.011 | 4.574 | 0.000 | 0.030 | 4.715 | 0.000 | 1.153 |
| AGE$_{it}$ | 0.007 | 2.100 | 0.035 | -0.008 | -0.892 | 0.372 | -0.004 | -1.945 | 0.051 | 0.021 | 4.623 | 0.000 | 1.151 |
| LEV$_{it}$ | -0.292 | -21.957 | 0.000 | -0.081 | -2.499 | 0.012 | -0.191 | -23.210 | 0.000 | -0.433 | -20.893 | 0.000 | 2.584 |
| SIZE$_{it}$ | 0.012 | 11.447 | 0.000 | 0.024 | 8.168 | 0.000 | 0.008 | 10.693 | 0.000 | 0.028 | 15.381 | 0.000 | 1.532 |
| CFO$_{it}$ | 0.175 | 13.717 | 0.000 | 0.434 | 13.204 | 0.000 | 0.045 | 5.909 | 0.000 | 0.126 | 7.398 | 0.000 | 1.208 |
| LOSS$_{it}$ | -0.102 | -22.561 | 0.000 | -0.246 | -16.029 | 0.000 | -0.082 | -27.853 | 0.000 | -0.199 | -23.912 | 0.000 | 1.453 |
| PPE$_{it}$ | -0.053 | -5.442 | 0.000 | -0.192 | -8.493 | 0.000 | -0.044 | -7.033 | 0.000 | -0.090 | -5.184 | 0.000 | 1.752 |
| INVENT$_{it}$ | 0.085 | 5.725 | 0.000 | 0.154 | 4.206 | 0.000 | 0.031 | 3.336 | 0.000 | -0.030 | -1.544 | 0.122 | 1.722 |
| REC$_{it}$ | 0.044 | 4.009 | 0.000 | 0.043 | 1.522 | 0.128 | 0.020 | 2.992 | 0.002 | 0.033 | 2.137 | 0.032 | 2.014 |
| CurrentRatio$_{it}$ | 0.018 | 3.963 | 0.000 | 0.014 | 1.564 | 0.118 | -0.001 | -0.720 | 0.471 | 0.014 | 2.181 | 0.029 | 2.263 |
| Industry$_{it}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year$_{it}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted Coefficient | 0.770 | | | 0.581 | | | 0.744 | | | 0.756 | | | |
| Durbin-Watson Statistic | 1.095 | | | 1.809 | | | 1.840 | | | 1.953 | | | |
| F Statistic | 197.397 | | | 82.386 | | | 172.345 | | | 183.596 | | | |
| Fisher Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| F Limer statistic | 6.836 | | | 8.319 | | | 2.826 | | | 7.839 | | | |
| Chaw Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| Hausman Statistic | 90.101 | | | 67.902 | | | 139.319 | | | 133.632 | | | |
| Hausman Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |

The second hypothesis stated that" recorded intangible assets positively impact the return on equity." As shown in Table 3, the coefficient of recorded intangible assets (IntangAssets$_{it}$) is 1.305, and the T statistic is 2.874, which is meaningful in error level of 0.004 and a significant level of 95%. Therefore, recorded intangible assets affect the return on equity (firm performance) positively.

The third hypothesis stated that" recorded intangible assets have a positive impact on net profit." As shown in table 3, the coefficient of recorded intangible assets (IntangAssets$_{it}$) is 0.445, and the T statistic is 4.329, with an error level of 0.000. Therefore, recorded intangible assets affect the net profit (firm performance) positively.

The fourth hypothesis stated that" recorded intangible assets have a positive impact on net profit margin." As shown in Table 3, the coefficient of recorded intangible assets (IntangAssets$_{it}$) is 1.573, and the T statistic is 6.821, with an error level of 0.000. Therefore, recorded intangible assets have a positive impact on profit margin (firm performance).

The fifth hypothesis explained that unrecorded intangible assets and return on assets are positively correlated. As shown in Table 4, the coefficient of unrecorded intangible assets (IntangAssetsUnrecord$_{it}$) is 0.093, and the T statistic is 31.231, with an error level of 0.000. Therefore, the

The fifth hypothesis is accepted at 95% of a significant level, and unrecorded intangible assets positively impact return on assets (firm performance).

The sixth hypothesis stated that unrecorded intangible assets and returns on equity are positively related. As shown in Table 4, the coefficient of unrecorded intangible assets (IntangAssetsUnrecord$_{it}$) is 0.205, and the T statistic is 11.780, with an error level of 0.000. Therefore, the sixth hypothesis is accepted at 95% of a significant level, and unrecorded intangible assets positively impact return on equity (firm performance).

The seventh hypothesis explained that unrecorded intangible assets and net profit are positively related. As shown in Table 4, the coefficient of unrecorded intangible assets (IntangAssetsUnrecord$_{it}$) is 0.032, and the T statistic is 7.661, with an error level of 0.000. Therefore, the

The seventh hypothesis is accepted at 95% of a significant level, and unrecorded intangible assets positively impact net profit (firm performance).

The eighth hypothesis stated that unrecorded intangible assets and profit margin are positively correlated. As shown in Table 4, the coefficient of unrecorded intangible assets (IntangAssetsUnrecord$_{it}$) is 0.076, and the T statistic is 7.740, with an error level of 0.000. Therefore, the

The fifth hypothesis is accepted at 95% of a significant level, and unrecorded intangible assets positively impact profit margin (firm performance).

It was claimed that the prior year's intangible assets have a positive impact on return on assets in the ninth hypothesis. As shown in Table 5, the coefficient of intangible assets for the previous year (IntangAssets$_{it-1}$) is equal to 1.063 and T statistic 5.204, in error level 0.000. Therefore, the Ninth hypothesis is accepted at 95% of significant level and recorded intangible assets in the prior year increase return on assets (firm performance).

It was claimed that the prior year's intangible assets positively impacted the return on equity in the tenth hypothesis. As shown in Table 5, the coefficient of intangible assets for the previous year (IntangAssets$_{it-1}$) is equal to 1.911 and T statistic 3.711, an error level of 0.000. Therefore, the Ninth hypothesis is accepted at 95% of significant level and recorded intangible assets in the prior year increase return on equity (firm performance).

**Table 4.** The results of the fifth to the eighth hypotheses

| Performance Evaluation | $ROA_{it}$ | | | $ROE_{it}$ | | | $NIncome_{it}$ | | | $PMargin_{it}$ | | | VIF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variables | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant Level | |
| Fixed Part | 0.109 | 18.113 | 0.000 | -0.180 | -2.809 | 0.005 | 0.112 | 6.701 | 0.000 | -0.094 | -2.349 | 0.019 | - |
| $IntangAssetsUnrecord_{it}$ | 0.093 | 13.231 | 0.000 | 0.205 | 11.780 | 0.000 | 0.032 | 7.661 | 0.000 | 0.076 | 7.740 | 0.000 | 1.457 |
| $GROWTH_{it}$ | 0.029 | 7.145 | 0.000 | 0.098 | 8.234 | 0.000 | 0.015 | 5.984 | 0.000 | 0.023 | 3.645 | 0.000 | 1.187 |
| $AGE_{it}$ | 0.002 | 0.749 | 0.453 | -0.013 | -1.448 | 0.147 | -0.005 | -2.314 | 0.021 | 0.015 | 3.593 | 0.000 | 1.122 |
| $LEV_{it}$ | -0.254 | -19.533 | 0.000 | 0.004 | 0.143 | 0.885 | -0.204 | -24.534 | 0.000 | -0.393 | -18.654 | 0.000 | 2.062 |
| $SIZE_{it}$ | 0.014 | 12.534 | 0.000 | 0.027 | 9.473 | 0.000 | 0.007 | 9.862 | 0.000 | 0.029 | 15.700 | 0.000 | 1.546 |
| $CFO_{it}$ | 0.159 | 12.973 | 0.000 | 0.377 | 11.732 | 0.000 | 0.061 | 8.041 | 0.000 | 0.118 | 6.877 | 0.000 | 1.240 |
| $LOSS_{it}$ | -0.104 | -23.439 | 0.000 | -0.262 | -17.214 | 0.000 | -0.081 | -27.653 | 0.000 | -0.204 | -24.259 | 0.000 | 1.449 |
| $PPE_{it}$ | -0.037 | -4.006 | 0.000 | -0.182 | -7.923 | 0.000 | -0.049 | -7.927 | 0.000 | -0.077 | -4.376 | 0.000 | 1.746 |
| $INVENT_{it}$ | 0.068 | 4.749 | 0.000 | 0.100 | 2.818 | 0.004 | 0.026 | 2.881 | 0.004 | -0.059 | -2.913 | 0.003 | 1.687 |
| $REC_{it}$ | 0.046 | 4.500 | 0.000 | 0.056 | 2.033 | 0.042 | 0.016 | 2.528 | 0.011 | 0.025 | 1.638 | 0.101 | 1.967 |
| $CurrentRatio_{it}$ | 0.015 | 3.633 | 0.000 | 0.002 | 0.250 | 0.802 | -0.001 | -0.645 | 0.518 | 0.012 | 1.795 | 0.072 | 2.280 |
| $Industry_{it}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| $Year_{it}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted Coefficient | 0.790 | | | 0.627 | | | 0.751 | | | 0.751 | | | |
| Durbin-Watson Statistic | 1.909 | | | 1.892 | | | 1.709 | | | 1.975 | | | |
| F Statistic | 222.563 | | | 99.694 | | | 177.605 | | | 178.845 | | | |
| Fisher Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| F Limer statistic | 6.133 | | | 3.862 | | | 3.136 | | | 7.651 | | | |
| Chaw Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| Hausman Statistic | 221.547 | | | 120.318 | | | 145.205 | | | 162.884 | | | |
| Hausman Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |

**Table 5.** The results of the ninth to the twelfth hypothesis

| Performance Evaluation | ROA$_{it}$ | | | ROE$_{it}$ | | | NIncome$_{it}$ | | | PMargin$_{it}$ | | | VIF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variables | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant level | coefficient | T statistic | Significant Level | |
| Fixed amount | 0.052 | 1.646 | 0.099 | -0.248 | -3.237 | 0.001 | 0.096 | 4.554 | 0.000 | 0.013 | 0.302 | 0.762 | - |
| IntangAssets$_{it-1}$ | 1.063 | 5.204 | 0.000 | 1.911 | 3.711 | 0.000 | 0.460 | 3.697 | 0.000 | 1.344 | 4.860 | 0.000 | 1.221 |
| GROWTH$_{it-1}$ | 0.040 | 7.459 | 0.000 | 0.083 | 6.148 | 0.000 | 0.020 | 5.847 | 0.000 | 0.022 | 3.026 | 0.002 | 1.158 |
| AGE$_{it-1}$ | 0.002 | 0.066 | 0.946 | -0.001 | -0.176 | 0.859 | -0.005 | -2.141 | 0.032 | 0.017 | 3.397 | 0.000 | 1.146 |
| LEV$_{it-1}$ | -0.258 | -14.994 | 0.000 | 0.010 | 0.275 | 0.782 | -0.179 | -16.637 | 0.000 | -0.395 | -15.614 | 0.000 | 2.655 |
| SIZE$_{it-1}$ | 0.009 | 6.315 | 0.000 | 0.024 | 7.124 | 0.000 | 0.007 | 6.980 | 0.000 | 0.021 | 9.747 | 0.000 | 1.520 |
| CFO$_{it-1}$ | 0.234 | 15.255 | 0.000 | 0.506 | 14.217 | 0.000 | 0.098 | 10.376 | 0.000 | 0.198 | 10.204 | 0.000 | 1.254 |
| LOSS$_{it-1}$ | -0.055 | -8.551 | 0.000 | -0.100 | -4.937 | 0.000 | -0.048 | -11.237 | 0.000 | -0.091 | -8.887 | 0.000 | 1.374 |
| PPE$_{it-1}$ | -0.059 | -5.206 | 0.000 | -0.125 | -4.245 | 0.000 | -0.053 | -6.330 | 0.000 | -0.109 | -4.931 | 0.000 | 1.906 |
| INVENT$_{it-1}$ | 0.075 | 3.989 | 0.000 | 0.141 | 3.192 | 0.001 | 0.022 | 1.794 | 0.072 | -0.063 | -2.393 | 0.016 | 1.769 |
| REC$_{it-1}$ | -0.012 | -0.827 | 0.408 | 0.024 | 0.660 | 0.509 | -0.005 | -0.006 | 0.995 | -0.065 | -3.146 | 0.001 | 2.401 |
| CurrentRatio$_{it-1}$ | 0.008 | 1.499 | 0.134 | 0.021 | 2.189 | 0.028 | -0.007 | -2.294 | 0.021 | 0.008 | 10.83 | 0.279 | 2.245 |
| Industry$_{it-1}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year$_{it-1}$ | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted Coefficient | 0.594 | | | 0.455 | | | 0.576 | | | 0.623 | | | |
| Durbin-Watson Statistic | 1.987 | | | 1.840 | | | 1.614 | | | 1.947 | | | |
| F Statistic | 87.127 | | | 50.068 | | | 80.749 | | | 98.145 | | | |
| Fisher Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| F Limer statistic | 4.707 | | | 4.441 | | | 2.310 | | | 5.982 | | | |
| Chaw Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |
| Hausman Statistic | 206.520 | | | 127.566 | | | 140.033 | | | 157.199 | | | |
| Hausman Significant Level | 0.000 | | | 0.000 | | | 0.000 | | | 0.000 | | | |

The eleventh hypothesis states that the prior year's intangible assets have a positive impact on net profit. As shown in Table 5, the coefficient of intangible assets in the prior year. (IntangAssets$_{it-1}$) is equal to 0.460 and T statistic 3.697, an error level of 0.000. Therefore, the Eleventh hypothesis is accepted at 95% of the significance level and recorded intangible assets in the prior year increase net profit (firm performance).

The twelfth hypothesis claims that the prior year's intangible assets positively impact profit margin. As shown in Table 5, the coefficient of intangible assets in the prior year (IntangAssets$_{it-1}$) is equal to 1.344 and T statistic 4.860, an error level of 0.000. Therefore, the Twelfth hypothesis is accepted by 95% of the significant level and recorded intangible assets in the prior year increase profit margin (firm performance).

## 5. Discussion and Conclusion

According to the interest theory, companies in the same business line perform differently due to their resources. It is argued that greater investments in intangible assets such as high-tech systems, employees' improvement, and modern reward systems lead to more favorable performance results (Lev, Radhakrishnan, and Zhang, 2009).

The first and fourth hypotheses show a positive relationship between recorded intangible assets and performance (Return on Assets, Return on Equity, Net Profit, and Profit Margin). In other words, if the recorded intangible assets increase, four proxies of performance, which are Return on Assets, Return on Equity, Net Profit, and Profit Margin, rise. Since the central conflict among companies is intangible assets, it can be claimed that identifying and recording the results in more stable performance. The findings for the first, second, third, and fourth hypotheses are following Haji & Mohd Ghazali's (2018).

The research findings from the fifth, sixth, seventh, and eighth hypotheses address that unrecorded intangible assets and performance (Return on Assets, Return on Equity, Net Profit, and Profit Margin) are positively correlated. When unrecorded intangible assets are identified, return on assets, return on equity, net profit, and profit margin increase. Ignoring unrecorded intangible assets can underestimate total assets, which leads to the waste of company resources and poor performance. Therefore, according to this paper, the identification of unrecorded intangible assets causes a more desirable performance. These findings are following Haji & Mohd Ghazali (2018). The ninth to twelfth hypotheses findings show that the prior year's recorded intangible assets are positively correlated with performance (Return on Assets, Return on Equity, Net Profit, and Profit Margin). In other words, when the last year's recorded intangible assets increase, all four indicators of performance, including return on assets, return on equity, net profit, and profit margin improvement. Owing to this fact, identifying and recording intangible assets largely depended on their last year's value. The ninth, tenth, eleventh, and twelfth hypotheses follow Haji & Mohd Ghazali's (2018) study.

According to the findings, it is suggested to managers and board of directors to take intangible assets impact (recorded, unrecorded, and prior intangible assets) into great consideration. More precisely, they identify the intangible properties (in particular, unrecorded intangible assets), the most superior performance they have. I suggest that standard setters (in Iran) become alert to edit standard number 17th regarding identifying intangible assets. I recommend that listed companies on the Tehran Stock Exchange utilize the same approach to identify and disclose intangible assets to help investors and other users compare same line companies. Moreover, standard setters should have applied methods to monitor companies using the same approach.

I advise that researchers examine the impact of unrecorded, recorded, and prior intangible assets on the Profit & Loss Statement for future studies. Another aspect of intangible assets, such as human resources, communication resources, and organizational resources, is recommended to be

investigated. I will suggest assessing performance by other proxies such as economic added value or cash flow ratio in the future.

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RESEARCH ARTICLE

# The Relationship between Management Entrenchment and Audit Opinion Shopping

**Afsaneh Lotfi**

*Economics and Administrative Sciences, Gaenat Branch, Islamic Azad University, Gaenat, Iran*

## Abstract

The present study aims to assess the relationship between management entrenchment and audit opinion shopping in listed firms on the Tehran Stock Exchange. In other words, this paper attempts to figure out whether management entrenchment can contribute to audit opinion shopping or not. For this study, research hypotheses were tested using a sample of 768 observations on the Tehran Stock Exchange during 2012-2017 and by employing the Logistic Regression Pattern. The results show a significant relationship between management entrenchment and opinion shopping, which means entrenchment leads to increased opinion shopping. Management entrenchment is among managers' factors to increase authority, job security, interests, and corporate governance, contributing to the decline of management entrenchment. One of the mechanisms of corporate governance is the auditor's opinion. There are few studies on the quality of corporate governance components in Iran, and this study can pave the way for further studies on the relationship of management entrenchment with other factors.

# 1. Introduction

According to the Agency Theory (Jensen and Mackling), financial reporting's main objective is to supervise the managers. However, by using information disclosure and presentation, managers may attempt to convince the shareholders of an organization that the performed measures are appropriate. The presence of independent auditors in the firm is also one of the shareholders' policies to supervise the management.

Audit opinion shopping is a phenomenon that has gained increasing interest in recent years (Chen, 2020). According to the agency theory, the audit profession has come into existence to protect shareholders' interests against managers (Jensen). The auditor's primary duty is to assess the management's reliability of financial statements prepared and presented. And shareholders and users make their decisions based on the reliability presented by the auditor. Audit creates added value in financial reports by playing accreditation and declining incorrect information risk (Wallace, 1984). Hence, users expect from audited financial statements by the audit team and the auditors' published reports to deal completely with their information needs and be a confident and absolute resource.

On the other hand, auditors should also perform their professional duties based on prefabricated rules and regulations. In contrast, some independent auditors consider auditing only making opinions about the quality and favorability of financial statements with no error and mistake (Bame-Aldred et al., 2013). According to Olagunju and Leyira's (2012) studies, one of the auditors' primary objectives is to present their audit reports based on facts and realities with no bias toward users. Every person who uses such opinions can have access to critical information about the content. Presently, auditors have some duties beyond such limits and should assess managers' policies financially and non-financially. Making decisions proportional to financial information is reliable. Fair and auditing is a part of financial information reporting. The evaluation can give credit to the reports and satisfy users' needs for the reliability and fairness of information to facilitate decision-making.

On the other hand, the audit fees contribute to the planning for sound and high-quality financial audit implementation. Low audit quality can lower the trust of financial statement users. This leads to failure in audit objectives but lowers the audit process's credit at large scales, hinders the optimum allocation of capital in the Securities and Stock Market, and increases the capital cost and financial supply.

On the other hand, since employers are informed about audit market conditions, that is competitive, by using the bargaining system attempt to affect the auditor's opinion to be higher or lower depending on the size, complication, non/physical properties, and activity location of the employer (Chen et al., 2016; Smith, 1986). Audit opinion shopping is when the employer attempts to collect trimmed audit reports by changing the auditors to perform better. When firms look for easy-going auditors, they try to change the audit firm (Osma et al., 2017). According to Security and Exchange Commission (SEC), opinion shopping is an action through which the auditor helps the firm achieve its reporting objectives, even if it interrupts reports' reliability (Chen, 2020; Archambeault and Dezoort, 2001).

Management entrenchment is a survival instinct among managers. It seems that there are some methods for managers who are willing to increase their authority, job security, and payment. Few studies were carried out on the quality of Iran's corporate governance components (Baratiyan and Salehi, 2013).

According to agency theory, information utilization functions (group management) and information users (investors, creditors) are different. The result of such a difference will appear in the form of agency costs. At the center of such conflict of interests, the manager attempts to lower

the agency costs but, due to management authorities and supervising the manager's performance, needs independent auditors' expert judgment. Auditors can affect the selection of accounting methods by the management. Hence, final financial statements are under their influence, and they cause the reliability of inserted items in financial statements to go up. According to Mayangsari (2007), audit quality is high when auditors have limited the unwise selection of management via accounting methods and hinder the firm's false presentation of the firm's financial status. When audit quality is low, auditors have no limitations for the manager. Still, they may consult with the manager about existing loopholes in accounting principles and give him a false financial status presentation. Thus, we can claim that audit quality can affect agency costs. The lack of ownership concentration can lead to the shareholder's inability to consider the manager's measures and operations.

Therefore, the present study aims to assess the relationship between entrenchment and opinion shopping in listed firms on the Tehran Stock Exchange regarding the facts above. In other words, this paper attempts to figure out whether management entrenchment can contribute to auditor's opinion shopping or not. The related topical literature also shows no study on the relationship between management entrenchment and opinion shopping. And the previous studies (including Zhuang, 2018; Salehi, Mahmoudabady, and Adibian, 2018) focused mostly on the relationship between management entrenchment and performance, innovation, earnings payment policies, and organizations' capital structure. Therefore, this paper attempts to fill the existing literature gap and contribute to the development of science and knowledge in this field. In the upcoming sections, first, the theoretical principles will be expressed, then the conducted studies in each area will be explained, then the methodology and data analysis will be discussed. In the final section, we have the discussion and conclusion about the research findings.

## 2. Theoretical Principles and Hypothesis Development
### 2.1. Audit opinion shopping

The auditor can play different roles, in his opinion. He can be a supervisor, an information source, and/or an insurer for the firm. The empirical and archival studies show that an auditor's opinion provides some related information about decision-making, affects the actual behavior of financial markets, and the market reacts to the type of auditor's opinion. A favorable auditor's opinion is good news in the market. Auditor's opinion shopping occurs when the firm substitutes or keeps its auditor's avoidable opinions (adjusted or qualified) (Lennox, 2000). One of the significant incentives that encourage the auditors is considering the interests of audit firms they pay for. The other reason is competition in the audit market. One of the other reasons for encouraging auditors to shop is to lower the risk of a lawsuit against auditors. Empirical studies (Haskins and Williams, 1990; Schwartz and Menon, 1985; Chen, 2020) on audit opinion shopping show that opinion shopping occurs in each period (before and after auditor change). Smith (1986) believes that one of the concerns about opinion shopping is that the alternative auditor's opinion is different from that of the previous auditor. Moreover, Chow and Rich (1982) argue a significant relationship between auditor change and opinion shopping. A change in auditor's opinion can occur year by year due to a change in the employers' financial status and a change in auditor's judgment, especially when an auditor change occurs.

Opinion purchase by SEC is defined as an operation through which the management is searching for an auditor willing to advocate the suggested accounting method to reach the management objectives (Alfasa, 2013; Chen, 2020). The manager has different goals for performing such an action to jeopardize firm operation (Praptitorini and Januarti, 2011).

Firms are likely to change the opinions of audit firm partners due to different reasons:

Due to investors' limited support and not regulating the rules appropriately (Allen, Qian, and Qian, 2005; Chen et al., 2016a), firms are unwilling to recruit high-quality auditors (DeFond, Wong, and Li, 1999; Wang, Wong and Xia, 2008). The audit market's scatteredness has caused fierce competition, so firms search for those auditors that are more willing to perform their duties (Yang, 2013; Wang, Wong, and Xia, 2008).

The abovesaid reasons have increased employers' bargaining power against auditors that lead to keeping customers for auditors. Hence, it is not unexpected that audit firms direct the opinions toward the employer's needs; in time, the conflict exists between them and the employer to keep the customer. Hence, audit opinion shopping may exist despite different costs because managers are willing to align auditors' opinions with theirs (Deborah and DeZoort, 2001).

Yaghoobnezhadet, Royaee, and Gerayli (2014) reveal a negative relationship between audit firm size and auditor industry specialization and information asymmetry but find no relationship between auditor rotation and information asymmetry. In general, audit quality contributes significantly to the decline of information asymmetry in the capital market. Tsui and Gul (1998) and Tsui, Jaggi, and Gul (2001) evaluate Jensen's assumption in the auditing framework and assess whether the agency problem as a consequence of free cash flows can cause a change in the level of audit risk and the range of auditors' attempt which is reflected in the audit fee. They argue that managers should invest in firms with high free cash flow and low growth opportunities with no positive value. They attempt to conceal their non-optimal behavior by presenting incorrect financial statements. Auditors should also consider such managerial behavior through their audit risk evaluation and ask for more time and attempt for auditing, increasing the audit fees. By examining firms with high free cash flows and low growth opportunities, the scholars discover a significant positive association between the agency problem derived from cash flows and audit fees.

## 2.2. Management entrenchment

The process of separation of ownership from control expresses that stock ownership dispersion occurs as the firm gets larger, resulting in the decline of shareholders' power and the incremental growth of managers' authorities. Moreover, the next problem is the manager's responsibility as the agent of owners that has caused the shareholders not to influence the firm's managerial side, which has led to the creation of the Agency Theory (Salehi, Mahmoudabadi and Abedian, 2018).

According to the definition of Jensen and Meckling (1976), an agency relationship is a contract, based on which the employer or owner assigns the agent on his side and delegates to him the authority for deciding the current affairs. It is assumed that each party is trying to maximize his/her interests. According to this theory, separating the role of ownership from management leads to a demand for an agent because it is believed that managers pursue their interests even if they are to the detriment of the agents (Mustapha and Che Ahmad, 2011).

## 2.3. The relationship between management entrenchment and audit opinion shopping

According to the theory of managerial entrenchment, it is expected that entrenchment increase to debilitate the external control regulation effects and lead to lower investment, so an increase in managerial entrenchment contributes inversely to the value of shareholders (Chakraborty, Rzakhanov and Sheikh, 2014). The manager is willing to show the financial statements positively and send the good news to the assemblies. The question posed here is that despite agency problems, including information asymmetry and moral risk, how shareholders and law-maker authorities can be assured of presented financial statements by managers and generally of financial reporting quality?

On the other hand, whenever the auditor is on the verge of losing the employer, he/she will issue the report to the clients' benefit (Blay, 2005). The topic of competition in the audit profession has always been interesting for scholars. The previous studies show a direct relationship between audit fees and the type of audit opinion.

Within the conducted studies in Malaysia, it is discovered that the chance of auditor change for receiving a more favorable audit report than the previous year is higher in firms with inappropriate profitability and performance.

In Australia, the conducted studies have indicated that audit firms' income is lower after issuing an unacceptable report, after the clients' bankruptcy, and/or changing the clients' auditor. However, those audit firms that do not issue such reports for employers with inappropriate financial status will no change and experience no decline in their income (Carey Tanewski and Simnett, 2009).

The impact of audit partners' characteristics on judgment and audit opinion has also been studied. The results reveal that the auditor's work experience and his/her acquaintance with the related industry contribute to the decline of errors in the auditor's opinion. For example, some characteristics like auditor independence, work experience, tenure, and familiarity with the industry can affect his/her opinion.

By assessing the relationship between auditor change and type of auditor's opinion in a sample of 800 productive firms, we observe that those firms that received an unqualified report and then changed their auditors in the next period, compared with firms that did not change their auditors, are less likely to receive an unqualified report. To decide whether the auditor change may lead to opinion shopping or not is a significant problem relative to most of the conducted studies on opinion shopping, which should be considered an implicit assumption (Newton et al., 2016). By shopping the auditor's opinion and forcing him/her to assess the risk of excessively low control, the risk of failure in exploring a significant distortion will increase (Fitzgerald, Omer, and Thompson, 2018).

Two approaches are proposed by Banko et al. (2013) regarding the effective manner of managerial entrenchment on earnings management. The first approach shows that entrenched managers are less willing to earnings management. Zhao and Chen (2008) show that firms with entrenched managers (board dispersion is a criterion for measuring entrenchment) are less likely to manage the earnings. Stein (1998) argues that threats related to taking possession are a strong incentive for shortsighted managers. Since the entrenched managers are forced to reduce threats associated with taking possession, they are more concentrated on long-term strategic policies than short-term ones, like earnings management. In line with such a view, Pugh, Page, and Jahera (1992) figure out that managers have adapted long-term approaches in dealing with anti-acquisition reforms, like research and development costs. The second approach shows that entrenched managers are more willing to manage their earnings. The empirical results illustrate that managers with weak performance are entrenched (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen, and Ferrell, 2009).

Moreover, topical literature shows that there are individual financial motives for earning more income among managers. For example, Healy (1985) and Holthausen, Larcker, and Sloan (1995) perceive that managers manipulate earnings with compensation plans. Bergstresser and Philippon (2006) show a linear relationship between CEO motivations and accrual manipulation. These studies show that personal motives for all CEOs and lack of sufficient supervision enable the entrenched managers to manage the earnings more freely and pursue their benefits (Banko et al., 2013). Dechow, Hutton, and Sloan (1996) figure out that systematic earnings manipulation is related to weakness in control and internal and external supervisions and firms with earnings

management are more likely to have managers who dominate the board, the COE has a dual role or the CEO is the founder of the firm.

By evaluating the effect of innovative CEOs' characteristics on real earnings management, Kouaiba and Jarboui (2016) observe that such firms are associated positively with the chance of committing real earnings management.

Ali and Zhang (2015) show that incremental earnings management is higher within the first years of tenure than in upcoming years because new managers attempt to indicate favorable results and influence the market's understanding of their abilities within the first year's tenure. In contrast, Dechow and Sloan (1991) perceive that research and development costs will be cut off to increase the short-term earnings within the last years of CEO tenure.

Krishnan and Wong (2015) express an inverse and significant relationship between management ability and audit fee and conditional opinion due to ambiguity in firm activity continuity.

Simamora and Hendarjatno (2019) notice that opinion shopping and leverage variables positively affect auditor opinion on firm continuity. The variables of auditor tenure, audit report delay, and liquidity ratio have had no impact on auditor opinion on firm continuity.

Given the facts mentioned above on the relationship between management entrenchment and opinion shopping, the first hypothesis is as follows:

H1: There is a significant relationship between management entrenchment and audit opinion shopping.

# 3. Research Methodology

This paper is causal-correlational and quasi-experimental and retrospective, in terms of methodology in the realm of positive accounting studies that are carried out based on real information. This paper is practical in terms of nature and objectives. Practical studies aim to develop practical knowledge within a particular field. In terms of data collection and analysis, this paper is causal-correlational.

### 3.1. Statistical population

The statistical population of the study is limited to the firms:

Their financial information is available;

Are not affiliated with financial firms (like banks, financial institutions) and investment and financial intermediaries; and,

Are active during the period of the study.

Hence, the study period includes 6 consecutive years from 2012-2017 for listed firms on the Tehran Stock Exchange.

Given the limitations, a total number of 128 firms are selected for testing the hypotheses.

**Table 1.** Number of firms in the statistical population by imposing the condition

| Description | Eliminated firms in total periods | Total number of firms |
|---|---|---|
| Total listed firms on the Tehran Stock Exchange | | 445 |
| Eliminating financial intermediaries, financial supply, insurance, and investment firms | 88 | |
| Firms with more than 6 months of transaction halt | 112 | |
| Eliminating firms that entered the Stock Exchange during the study period | 4 | |
| Eliminating due to lack of access to information | 113 | |
| Statistical population | | 128 |

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## 3.2. Data collection and method

The required data of the study are collected based on their types from different resources. The information related to the study's literature and theoretical facts were gathered from library resources, including Persian and Latin books and journals, and Internet websites. The information related to firms (balance sheets and profit and loss statements) is used as the research instrument.

The primary information and data for hypothesis testing were collected using the information bank of Tehran Stock Exchange, including TadbirPardaz and Rah Avard-e Novin and also the published reports of Tehran Stock Exchange via direct access (by analyzing the released reports in Codal Website and manually collected data) to CDs and also by referring to rdis.ir website and other necessary resources.

## 3.3. Data analysis method

The data analysis method is cross-sectional and year-by-year (panel data). In this paper, the multivariate linear regression model is used for hypothesis testing. Descriptive and inferential statistical methods are used for analyzing the obtained data. Hence, the frequency distribution table is used for describing data. The F-Limer, Hausman test, normality test, and a multivariate linear regression model are used for hypothesis testing at the inferential level.

## 3.4. Research model

The following logistic regression model is used for testing the research hypothesis:

$$Shop_{it} = a_0 + a_1 ME_{it} + a_2 Tenure_{it} + a_3 change_{it} + a_4 BIG1_{it} + a_5 Lnfee_{it} + a_6 M\ change$$
$$+ a_7 FSM + a_7 ISM + a_9 size_{it} + a_{10} ROA_{it} + a_{11} LEV_{it} + a_{12} MB_{it} + \varepsilon_{it}$$

Where

**Shop (Auditor's opinion shopping):** if the has a restatement in the upcoming year and the employer changes his auditor to a low-quality one or does not change his auditor but presents a lower fee, compared to the previous year, 1, otherwise, 0;

**ME (Management Entrenchment):** is obtained from exploratory factor analysis, which is explained in the following;

**Tenure (Auditor Tenure): the** period the auditor has been consistently responsible for the firm audit;

**Change (Auditor Change):** if the auditor has changed in the year under study 1, otherwise, 0.

**LnAfee:** natural logarithm of audit fees;

**M change (CEO change):** if the CEO has changed in the year understudy 1, otherwise, 0.

**Fsm (CEO financial expertise):** if the CEO has an educational certificate related to one of the financial majors, including accounting, financial management, and economics 1; otherwise, 0.

**Ism (CEO industry expertise):** if the CEO has an educational certificate related to industry 1, otherwise, 0.

**BIG1 (audit firm largeness):** if the audit unit of the employer is the audit organization or any other audit firm that mandatory rotation is not considered for the 1; otherwise, 0;

**SIZE (firm size):** natural logarithm of total firm assets;

**ROA (return on equity):** net profit divided by book value of equity in the year under study; and

**LEV (financial leverage):** total liabilities to total assets of the firm under study.

**Independent variables:**

In the present study, the models of Lin et al. (2015), and Salehi, Mahmoudabady, and Adibian (2018) are used for measuring entrenchment.

According to available information on Iran's capital market, we have mingled corporate

governance characteristics that are probably associated with management's motivation and ability to affect shareholders' interests and evaluate them in the form of a management entrenchment index.

CEO ownership: the number of shares available to the CEO divided by total published shares;

CEO tenure: the number of years the CEO has been consistently at the CEO position of the firm under study (the base year for this variable is 2001, namely the year the Stock Exchange has been established);

CEO change: if the CEO has changed in the year under study 1, otherwise, 0;

CEO duality: if the CEO is the director or vice-chair 1, otherwise, 0;

Board independence: the number of unbound board members divided by total board members;

CEO financial expertise: if the CEO has a certificate related to financial majors 1, otherwise, 0;

CEO industry expertise: if the CEO has a certificate related to industry 1, otherwise, 0;

In this paper, the exploratory factor analysis (using the principal component analysis) is used for calculating the variable of management entrenchment. Factor analysis is a multivariate statistical method for classifying and recognizing the present structures among research data. Such a statistical method is mainly used for two reasons. Firstly, the exploratory factor analysis method enables us to combine an extensive set of corporate governance variables to proxy for management entrenchment. This occurs while in the previous studies, either a limited set of corporate governance factors were considered as management entrenchment or the linearity problem that may derive from the presence of several corporate governance variables is ignored that can emerge in the form of control and independent variables in experimental models. On the other hand, controlling mutually potential relations of variables is not an easy task. Secondly, one of the exploratory factor analysis features is assigning a weight to every included variable in management entrenchment based on the output of the correlation matrix, which contrasts with the previous studies that consider the effect of each variable of corporate governance as equal.

As for the calculation of the variable of management entrenchment, the information related to the 7 factors of corporate governance with an influence on motivation and management capability is collected for each year-company. Then the linear correlation coefficient matrix of the above 7 variables is extracted for each year. Finally, the exploratory factor analysis is carried out. The weight of 7-fold variables is computed. The variable of management entrenchment is achieved from the total weight multiplication of the factor in a numerical value of the related factor.

## 4. Data Analysis
### 4.1. Descriptive statistics

In this paper, model 1 is used to assess the relationship between intellectual capital and opinion shopping with the medium role of financial statement comparability and analyze the sensitivity. This paper has also inserted the panel data method, including 128 Iranian firms from 2012 to 2017, into its database. The variables of intellectual capital, opinion shopping, and financial statement comparability are used for estimating the models.

**Table 2.** Descriptive statistics of research variables

| Variable | obs | Mean | Std.dev | Min | Max |
|---|---|---|---|---|---|
| Shop | 768.000 | 0.645 | 0.478 | 0.000 | 1.000 |
| Me | 768.000 | 1.195 | 0.628 | 0.298 | 9.259 |
| Tenure | 768.000 | 3.762 | 3.981 | 1.000 | 16.000 |
| Changea | 768.000 | 0.346 | 0.476 | 0.000 | 0.000 |
| Lnfee | 706.000 | 7.604 | 1.862 | 3.245 | 14.390 |
| Big1 | 768.000 | 0.298 | 0.457 | 0.000 | 1.000 |
| Size | 768.000 | 14.247 | 1.526 | 10.533 | 19.374 |

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| | | | | | |
|---|---|---|---|---|---|
| ROA | 767.000 | 0.226 | 0.8683 | -16.845 | 6.888 |
| LEV | 768.000 | 0.611 | 0.263 | 0.090 | 4.002 |
| M change | 768.000 | 0.268 | 0.443 | 0.000 | 1.000 |
| Fsm | 757.000 | 0.231 | 0.422 | 0.000 | 1.000 |
| Ism | 760.000 | 0.373 | 0.484 | 0.000 | 1.000 |
| Mb | 747.000 | 3.347 | 2.347 | -4.773 | 13.986 |

Given the Table of descriptive statistics, the maximum value for return on assets is 6.888. The minimum value is -16.845, so the firm loss this year for the business unit is 16 times more than the book value of equity. Financial leverage also has the maximum value (4.002), which shows that the business firm has been present in our selected sample, and the liability has been 4 times more than its asset.

**Results of the linearity test**

By assessing the unit root of data, we have found that all variables are at no unit root level (stationary). The obtained LM statistic for each variable is reported in Table 3. All variables of the study are stationary and have no unit root.

**Table 3.** Results of the linearity test

| Variable | VIF | 1/VIF |
|---|---|---|
| TENURE | 2.01 | 0.496 |
| SIZE | 1.73 | 0.576 |
| BIG1 | 1.68 | 0.594 |
| Lnfee | 1.58 | 0.632 |
| ChangeA | 1.34 | 0.740 |
| ROA | 1.28 | 0.815 |
| Lev | 1.23 | 0.824 |
| Ism | 1.21 | 0.863 |
| Fsm | 1.16 | 0.905 |
| Mtb | 1.10 | 0.976 |
| Change | 1.02 | 0.980 |
| Me | 1.02 | |
| Mean VIF | 1.36 | |

**Correlation test**

**Table 4.** The results of the sensitivity analysis

| | shop | Me | Tenure | changea | big | Ln fee | Mchange | fsm | ism | Size | roa | Lev | Mtb |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shop | 1.000 | | | | | | | | | | | | |
| Me | 0.0343 | 1.000 | | | | | | | | | | | |
| Tenure | 0.1124 | 0.0468 | 1.000 | | | | | | | | | | |
| Changea | -0.4070 | 0.0213 | -0.4859 | 1.000 | | | | | | | | | |
| Big | -0.0215 | 0.0109 | 0.5980 | -0.2255 | 1.000 | | | | | | | | |
| Ln fee | 0.0349 | 0.0020 | 0.1913 | -0.0415 | 0.2432 | 1.000 | | | | | | | |
| mchange | 0.0025 | 0.0574 | -0.0127 | 0.0096 | 0.0316 | -0.0021 | 1.000 | | | | | | |
| Fsm | 0.0362 | -0.0316 | -0.0699 | 0.0444 | -0.0348 | 0.0141 | 0.0393 | 1.000 | | | | | |
| Ism | -0.0456 | 0.0367 | 0.0413 | -0.0098 | 0.1059 | 0.0136 | 0.0044 | -0.3465 | 1.000 | | | | |
| Size | 0.0771 | 0.0636 | 0.2077 | -0.594 | 0.3113 | 0.5870 | -0.0226 | -0.0858 | 0.1983 | 1.000 | | | |
| Roa | 0.0467 | -0.0126 | 0.0098 | -0.0719 | 0.0368 | 0.0130 | 0.0010 | -0.0953 | 0.0710 | 0.0875 | 1.000 | | |
| Lev | 0.2249 | -0.0203 | 0.1474 | -0.0075 | 0.1156 | 0.0580 | 0.0989 | -0.0530 | 0.1170 | 0.0717 | -0.3453 | 1.000 | |
| Mtb | 0.0176 | 0.0318 | -0.0018 | -0.0311 | -0.0127 | -0.0127 | 0.0689 | 0.0134 | 0.0115 | -0.0916 | 0.2502 | -0.0087 | 1.000 |

This test also referred to as sensitivity analysis, examines the relationship between the model's variables two-by-two, the above matrix's output. Since it assesses the correlation between itself and the variable, the matrix's diameter is always 1, namely total correlation. The closer these numbers to

1, the more the correlation, and the closer to zero, the less is the correlation. The correlation interval is between -1 and +1, with the negative figures indicate inverse correlation and positive figures indicative of the direct correlation.

### 4.2. Inferential test

The following model is used for testing the hypotheses

Model (1)

$$Shop_{it} = a_0 + a_1 ME_{it} + a_2 Tenure_{it} + a_3 change_{it} + a_4 BIG1_{it} + a_5 Lnfee_{it} + a_6 M\ change + a_7 FSM + a_7 ISM + a_9 size_{it} + a_{10} ROA_{it} + a_{11} LEV_{it} + a_{12} MB_{it} + \varepsilon_{it}$$

**Table 5.** The results of the hypotheses testing

| Shop | Coef | Std.Err | z | p-value |
|------|------|---------|------|---------|
| Me | 0.001 | 0.002 | 6.00 | 0.000 |
| Tenure | 0.086- | 0.026 | -2.35 | 0.019 |
| Changea | -0.471 | 0.048 | -9.80 | 0.000 |
| Big1 | -0.206 | 0.082 | -2.52 | 0.013 |
| Lnfee | -0.033 | 0.010 | -3.03 | 0.002 |
| M change | 0.009 | 0.034 | 2.86 | 0.004 |
| Fsm | 0.041 | 0.017 | 2.74 | 0.006 |
| Ism | 0.058- | 0.015 | 2.80- | 0.005 |
| Size | 0.037 | 0.020 | 1.76 | 0.079 |
| ROA | 0.057 | 0.026 | 2.20 | 0.028 |
| LEV | 0.038 | 0.018 | 2.09 | 0.036 |
| MTB | 0.002 | 0.001 | 1.90 | 0.057 |
| -CON | 0.365 | 0.242 | 1.51 | 0.132 |
| F-lmer | F(126,550) | 2.10 | | |
|  | p-value | 0.000 | | |
| Hasman | Chi2(12) | 13.30 | | |
|  | p-value | 0.3473 | | |
| Number of obs | 768 | | | |
| R-sq | 0.2663 | | | |
| P-value | 0.000 | | | |

To estimate the models, we should first determine whether the data are pooled or panel by the F test. This test's null hypothesis is that the data are pooled, and hypothesis 1 claims that data are panel. If H0 is rejected after performing the F test, the question here is that based on which models of fixed effects or random effects, the model is analyzable, determined by the Hausman test. Regarding the pooled test results reported in the following Table, the null hypothesis concerning the pooled data is ejected for the research model at a 99% confidence level. Hence, the model with panel data should be used for estimating the coefficients of the models. Moreover, these test results are reported in Table 4. The Hausman teststatistic based on the estimation for the research model is

13.30 with a probability level of 0.3473 larger than $\chi^2$ in the Table, so the null hypothesis is not rejected. Given that model with random effects will be selected for the model.

According to Table 4, the results of hypothesis testing show a positive and significant relationship between entrenchment and opinion shopping, which means the higher the intellectual capital, the lower is the opinion shopping because its p-value is 0.000 lower than the significance level of 0.05 that indicates a direct relationship between these two variables.

As can be seen in Tables (4), the results of the model estimation are robust. In the panel data's research model, four classic econometric assumptions are evaluated, and reliable reports will be reported. These four assumptions include linearity among variables, exogeneity of descriptive

variables, homogeneity variance, and lack of serial autocorrelation among disruptive components. Given the applied regression, the intercept of the model is not significant for firms. The intercept of the model is 0.365, with a p-value of 0.132, which is significant at the 99% level. So, we can generally say that the model has the required priority because the $R^2$ of the model is 0.2663, and the p-value of the model is 0.000, which shows the model is significant.

## 5. Conclusion and discussion

The present study is concerned about the relationship between management entrenchment and opinion shopping. The results show a positive and significant relationship between management entrenchment and opinion shopping. This finding is in line with that of Salehi Mahmoudabady and Adibian (2018), who express that there is a significant relationship between management entrenchment and firm performance, and Salehi, Mahmoudabady, and Adibian (2018), who discover a positive relationship between management entrenchment and earnings management because the higher the management entrenchment, the lower is the firm performance and the higher is the earnings management and the lower the entrenchment and agency costs, the more the managers will be in search of high-quality audit firms. Audit firms attempt to higher their audit quality, and high audit quality would lead to the decline of opinion shopping (Chow and Rich, 1982). In this regard, Nasl Mousavi and Jahanzab (2016) also indicate that higher intellectual capital would lower the audit opinion shopping. This shows that higher intellectual capital can be an effective strategy for lowering opinion shopping's inappropriate audit phenomenon.

Moreover, the study results are in line with that of Simamora and Hendarjatno (2019). They declare that opinion shopping and financial leverage can contribute to the auditor's opinion about firm continuity because firms embark on opinion shopping when their condition is inappropriate.

Audit opinion shopping is an inappropriate phenomenon that seriously hurts the audit profession's future and creates a sense of distrust. So, preventing such a phenomenon is of utmost importance to guarantee the profession's future. This study shows that the phenomenon can be reduced by lowering the management entrenchment.

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