



The Impact of Fairness-Based and Justice-Based Management Behavior on the Relationship Between Accounting Concepts and Financial Reporting Readability

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ABSTRACT

The present study aimed to investigate the effect of fairness-based management behavior and justice-based management behavior on the relationship between accounting concepts and financial reporting readability in firms listed on the Tehran Stock Exchange. In this study, corporate accounting concepts were operationalized using six indicators (financial reporting quality, social responsibility disclosure, corporate governance, audit quality, accounting conservatism, and earnings management). Twelve hypotheses were developed and tested in this study using the data from 140 firms listed on the Tehran Stock Exchange from 2007 to 2018. The research regression model was tested using a fixed-effects panel data approach. The results showed that justice-based management behavior affects the role of financial reporting quality, corporate governance, audit quality, and earnings management in financial reporting readability. However, it does not affect the role of corporate social responsibility (CSR) and accounting conservatism in financial reporting readability. Furthermore, it was shown that justice-based management behavior affects the role of financial reporting quality, CSR, corporate governance, audit quality, and earnings management in financial reporting readability, but it does not have any impact on the role of accounting conservatism in financial reporting readability. The results of this study confirmed that justice-based management behavior increases transparency and supervision. It also enhances transparency and the positive impact of accounting concepts on financial reporting readability and makes the reporting environment more transparent for users of accounting and financial information.

Keywords:

Management Behavior, Accounting Concepts, Financial Reporting Transparency, Effective Supervision.

1. Introduction

In implementing business plans, managers can choose different management strategies, each leading to the creation of different cash flows. Besides, management efficiency requires the selection of optimal strategies that created the highest expected value for the company. However, in practice, sometimes managers for various reasons (e.g. responding to short-term performance appraisal criteria) when choosing the company's value-creating strategies, turn to solutions that improve their short-term performance instead of focusing on long-term goals and creating the most expected value by choosing the best solution. This turns into a complex and problematic issue when such a choice by the managers decreases the company's expected value in the long run and adversely affects the company's future performance. In other words, managers pursuing short-term goals are expected to achieve fast and, at the same time, temporary results and returns in a short period, but in will not have a satisfactory performance in the long run, and thus they are involved in very unfair management or with a lower degree of fairness (Mizik, 2010). In addition, according to agency theory, managers act as representatives of shareholders (owners). Managers are required to try to maximize shareholders' expected values by making rational management decisions. Theoretically, top managers' attitudes influence the way they make decisions. Not all managers act in the same way, and like other people in society, they are characterized by their differences, aptitudes, motivations, ambitions, and moral tendencies, and have different attitudes, knowledge, and value systems. Although such differences appear to be insignificant, they turn into very large differences and produce completely different behavioral outcomes when they are exposed to cognitive mediating processes. Such differences are often developed as the result of differences in the attitudes of each individual (Naderian-Jahromi & Amirhosseini, 2008). One of the managers' characteristics is their justice-based and moral behaviors that can affect accounting concepts and the level of financial reporting readability, depending on the different views of managers.

Furthermore, the readability of financial statements has long been the subject of much debate among financial information providers, regulators, and users. Globalization, financial innovation, and an increase in the number of accounting rules and disclosure

standards have led to more complicated financial reporting procedures. New standards (e.g., the Sorbents-Axel Act of 2002) have made financial statements more transparent but also more complex. Thus, investors are unable to elicit relevant information. Accordingly, the present study seeks to investigate the rate of an unexpected increase in financial reporting readability under the influence of the interaction of managers' ethical characteristics and accounting concepts. Traditionally, the non-financial reporting readability has been considered a business friction that increases the time and effort of investors to understand the financial statements. This leads to problems in information processing. As such, several studies have shown that the complexity (non-financial reporting readability) reduces the speed of price adjustment (Hassan et al., 2019) which can be influenced by the accounting concepts and financial reporting as well as the level of transparency created by management (Ertugrul et al., 2017). Given that managerial behaviors and accounting concepts can significantly affect the transparency and decision-making environment of the company, this study investigates the impact of fairness-based management behavior and justice-based management behavior on the relationship between accounting concepts and financial reporting readability in firms listed on the Tehran Stock Exchange.

One of the most important components of any organization is its management, which coordinates works and arranges organizational affairs. To achieve an efficient organization, the manager is required to act in line with his/her professional duties and use facilities in a way that achieves the best and most effective outcomes. Besides, behavioral and psychological factors used to observe fairness and justice can affect the information transparency of businesses and cause significant changes in them (Duellman et al., 2015). Moreover, managers' overconfidence is one of the newest behavioral financial concepts that has gained a special place in both fields of finance and psychology. Overconfidence causes people to overestimate their abilities but underestimate risks, leading to the misconception that they can control issues and incidences, while this is not so in reality (Nofsinger, 2001). Managers' overconfidence can affect the way they present financial information to the capital market and the manager's level of fairness in estimates because

managers believe that by continuing investment projects, shareholders' value will be maximized in the long run, so they are not willing to disclose confidential information that has negative investment feedback. Thus, they may use positive accruals to transfer their optimistic beliefs (Scherand & Zechman, 2011) or they can even delay the identification of losses (Ahmed & Duellman, 2013), in turn affecting the relationship between accounting concepts and the readability of financial statements. Furthermore, managers' unfair and unethical behaviors managers may have desirable temporary results but their negative consequences appear in the long run because capital markets are not able to properly understand these consequences at the time of occurrence.

Moreover, drafters of standards are responsible for defining financial reporting standards that provide consistent and meaningful information to users of financial statements, while balancing these features with the cost of providing that information. Concerns about the complexity of current financial reporting systems around the world have become increasingly important for international developers of standards. If the market reacts incompletely to information that is more difficult than usual to extract from companies' annual reports, managers will be motivated to present their reports in a more complex way under unfavorable circumstances. According to the "obfuscation hypothesis" when managers have a positive outlook for the future of the company, they make better disclosures. Thus, the analysis of complex reports requires a lot of time to extract useful information that puts the cost of using the services of analysts on investors (Bagheri Azgandi et al., 2018). In addition, it is argued that accounting concepts such as financial reporting quality, social responsibility disclosure, corporate governance, audit quality, accounting conservatism, and earnings management can influence the readability of financial reports. Besides, creating a transparent environment and implementing these accounting concepts are effectively influenced by the behavioral characteristics of managers and their abilities. Thus, managers' moral and behavioral characteristics contribute significantly to creating transparency and reducing information asymmetry. Accordingly, it is argued that fairness-based management behavior and justice-based management behavior affect the relationships between accounting

concepts and financial reporting readability, given the impact they can have on transparency.

On the other hand, standard drafters are responsible for defining financial reporting standards that provide consistent and meaningful information to users of financial statements. They also need to balance these features with the cost of providing the information. There have been growing concerns among developers of international standards about the complexity of current financial reporting systems around the world. If the market reacts inefficiently to information that is more difficult to extract from companies' annual reports, managers will be motivated to present their reports in a more complex way in unfavorable circumstances. According to the "vague management hypothesis", when the company has a good outlook, managers make better disclosures. Hence, the analysis of complex reports requires a lot of time to extract useful information, and also the cost of using the services of analysts is imposed on investors (Bagheri et al., 2017). In addition, it is argued that accounting concepts such as financial reporting quality, social responsibility disclosure, corporate governance, audit quality, accounting conservatism, and earnings management can have an impact on the level of information and control environment of the company, and consequently affecting financial reporting readability. Besides, creating a transparent environment and implementing these accounting concepts are effectively influenced by the behavioral characteristics of managers and their abilities. Furthermore, the moral and behavioral characteristics of the manager play an important role in creating transparency and reducing information asymmetry. As a result, it is argued that management fairness and equity-based behaviors can affect the relationships between accounting concepts and financial reporting due to their impact on transparency.

Given the significance of concepts such as managerial behaviors and corporate accounting and their impact on transparency and decision-making processes, the present study aimed to explore the impact of fairness-based and justice-based management behavior on the relationship between accounting concepts and financial reporting readability in companies listed on the Tehran Stock Exchange. No study to date has addressed the impact of these variables in Iran. Thus, this study seeks to examine the effect of managerial behaviors on the relationship

between accounting concepts and information transparency indicators in the Iranian economic context. The next section presents a review of the literature. Then the research methodology is described. The results, conclusions, and suggestions for future research are presented in the subsequent sections.

Literature Review

In their study, Hassan et al. (2020) analyzed data from 126 firms listed on the Qatar Stock Exchange and concluded that firms with higher financial statement readability have higher profitability and lower agency costs. Bai and Hu (2018) explored the effect of financial statement readability on stock price synchronization, assuming that readable financial reports could lead to a decrease in firm-specific information processing expenses and, hence, reduce stock price synchronization. Thus, the advantage of combining firm-specific information provided through readable financial reports is consistent with stock price volatility. The results showed that analysts' coverage and type of ownership influence the relationship between the readability of financial statements and the concurrence of stock prices. Lim et al. (2018) examined the impact of business strategies on the readability of financial statements. This study presented useful implications for policymakers, as it suggested that attempts to enhance annual report readability can be restricted for some companies because business strategy is a contributing factor to readability, and reliable statements do not differ according to strategic tendencies.

Blanco and Dhole (2018) explored the effect of readability and comparability of corporate financial statements on the likelihood of fraudulent reporting. They analyzed a sample of 17,967 year-firm observations in the US capital market from 2006 to 2014. Their findings showed that companies with less readable and comparable financial statements often tend to publish fraudulent financial statements.

Beuselinck et al. (2018) assessed the impact of financial statement readability on tax aggressiveness through sensitivity analysis and multiple regression analysis of the data from Spanish stock exchange companies from 2001 to 2015. The results showed that inconsistency in the financial reporting of the FOG index as a simple function of sentence length (the number of words) and complex words (the number of words with three or more parts) significantly

contributes to tax aggressiveness measured as accounting profit minus taxable profit.

Lo et al. (2017) analyzed the impact of earnings management on annual report readability in 107 companies of the Malaysia Stock Exchange from 2010 to 2015. The results showed that earnings management is significantly correlated with the readability level of annual reports. Monzur (2017) examine the relationship between managerial skills, annual report readability, and disclosure tone in US companies and found that managerial skills can reduce the complexity of annual reports. It was also found that companies with more capable managers publish reports with a positive tone about the company.

Filzen and Schutte (2017) investigated whether financial reporting complexity affects stock comovement. They hypothesized that investors try to address complexity by collecting low-cost information. This type of information is usually informative and reveals some insights into not only the firm in question but also other firms with similar characteristics. Thus, such information produces additional comovement. It was also shown that an increase in 10-Q word counts, a measure of complexity, consistently leads to an increase in internet searches about the firm, its returns, and also its peers. Overall, complexity-induced comovement might reduce investors' ability to distinguish across stocks and recognize business innovators.

Kumar (2014) examined the effect of culture on the readability level of annual reports released by listed companies in the United States. The results indicated that the companies whose domestic culture was more confidential (e.g., the companies preferring confidentiality and restricting disclosure) published annual reports with less readability, while entities with a higher dispersion of ownership, provided more readable annual reports to reduce owners' conflicts of interest due to the dispersed ownership structure. Bashiri Manesh and Samimi (2021) examined the impact of financial statement text readability on auditors' strategies in the face of audit risk. Their sample included 832 (year-company) observations from 2011 to 2018. The findings showed that as the complexity and ambiguity increased in the text of financial statements, auditors spent more time performing audit processes, resulting in increased audit fees and delays in submitting audit reports. It was also shown that auditors used conditional comments in

the face of ambiguity in the text of financial statements to reduce the risk of litigation, but the client non-acceptance strategy was not observed due to the complexity of the financial statements. Sarvari et al. (2009) assessed the readability and comprehensibility of accounting standards from the perspective of accountants and auditors using Flash and Close indices. Content analysis using a readability assessment approach is one of the methods of evaluating the comprehensibility of text messages. In this study, Flash and Close methods were used to assess readability. The research population included all words and sentences in the text of accounting standards published by the Supreme Audit Court of Iran and the sample under analysis included three texts from the first, middle and last sections of each standard that were randomly selected. To implement the close method, it was necessary to measure the readability of learners and audiences. To this end, a researcher-made test was taken by accountants and auditors. The results showed that according to the Flash-Diani readability formula, most accounting standards were very complex in terms of readability. Besides, according to the Close method, the texts of the standards were incomprehensible for accountants and auditors and they could not understand and learn them, leading to the improper application of standards and thus reducing financial reporting quality.

Jabbarzadeh Kangarloo et al. (2017) examined the effect of profit management and financial constraints on financial reporting readability using 350 year-company from 2011 to 2015 and concluded that earnings management negatively affected financial reporting readability but financial constraints positively affected financial reporting readability. What's more, the control variables of corporate size and corporate age had a positive effect, and agency cost and firm growth negatively affected financial reporting readability. However, the financial leverage and book-to-market ratio did not affect financial reporting readability. Pourkarim et al. (2016) assessed the effect of earnings management on financial reporting tone in the Iranian accounting system with a sample of firms listed on the Tehran Stock Exchange from 2010 to 2016. The mixed data were analyzed using multivariate regression analysis. The results indicated that accrual earnings management measured via Kazenick and modified Jones model had a negative and significant effect on pessimistic tone. In other

words, with the reduction of accrued earnings management, the pessimistic tone in financial reporting increased.

Bagheri Azqandi and Abbaszadeh (2016) examined the readability rate of financial statements and investors' sensitivity to the use of accounting information. They used the FOG index to estimate readability and the profit response coefficient was employed to measure the investors' sensitivity to the use of accounting information. Overall, the experimental findings of the study indicated a significant and negative association between the readability of financial statements and the investors' sensitivity to the use of accounting data. Besides, more non-major and unprofessional investors were more sensitive to using such information.

Rezaei Pithenoui and Safarigraili (2015) assessed financial reporting readability and its impact on the possibility of fraudulent financial reporting. The FOG and flash indicators were used to measure financial reporting readability. Besides, Auditing Standard No. 240 was used to identify the signs indicating the possibility of fraudulent financial statements. The data were collected from 115 firms listed on the Tehran Stock Exchange from 2013 to 2017. The collected data were analyzed using a multivariate logistic regression model. The findings indicated that financial reporting readability reduces the likelihood of corporate accounting fraud. Besides, the results of the sensitivity analysis test showed that the use of an alternative criterion to assess financial reporting readability did not affect the main results and the research results were robust.

Safarigraili et al. (2017) examined profit management and financial reporting readability by an empirical test of the opportunistic approach and using the data from 93 firms listed on the Tehran Stock Exchange from 2011 to 2015 and demonstrated a negative significant link between earnings management and the readability of the firm's financial reporting, which confirmed the opportunistic earnings management approach.

Methodology

Following the theoretical framework of the study and previous studies in the literature, the research hypotheses were developed as follows:

- **Hypothesis 1:** Fairness-based management behavior can significantly impact the link

between financial reporting quality and financial reporting readability.

- **Hypothesis 2:** Fairness-based management behavior can significantly impact the link between CSR and financial reporting readability.
- **Hypothesis 3:** Fairness-based management behavior can significantly impact the link between corporate governance and financial reporting readability.
- **Hypothesis 4:** Fairness-based management behavior can significantly impact the link between audit quality and financial reporting readability.
- **Hypothesis 5:** Fairness-based management behavior can significantly impact the link between accounting conservatism and financial reporting readability.
- **Hypothesis 6:** Fairness-based management behavior can significantly impact the link between earnings management and financial reporting readability.
- **Hypothesis 7:** Justice-based management behavior can significantly impact the link between financial reporting quality and financial reporting readability.
- **Hypothesis 8:** Justice-based management behavior can significantly impact the link between CSR and financial reporting readability.
- **Hypothesis 9:** Justice-based management behavior can significantly impact the link between corporate governance and financial reporting readability.
- **Hypothesis 10:** Justice-based management behavior can significantly impact the link between audit quality and financial reporting readability.
- **Hypothesis 11:** Justice-based management behavior can significantly impact the link between accounting conservatism and financial reporting readability.
- **Hypothesis 12:** Justice-based management behavior can significantly impact the link between earnings management and financial reporting readability.

Since it was not possible to all relevant variables, this study could not use a purely experimental design, but it is a quasi-experimental study as was conducted on historical data. Besides, since the results obtained from this study can be used to solve a specific problem or issue, it is an applied study concerning its objectives and an analytical-correlational study that was conducted using a regression approach (Aflatoni, 2013).

Data analysis was performed using measures of central tendency and dispersion such as mean, median, and standard deviation. The research hypotheses were also tested using pooled data regression models. The F-Limer test was run to choose between pooled and panel regression models. This means that if the pooled data method is chosen in the F-Limer test, we do not need further analysis. In contrast, if the panel data method is selected, we need to perform the Hausman test as well. Hausman test is used to determine the use of the fixed-effects model versus the random-effects model (Aflatoni & Nikbakht, 2010).

Since the companies in the research sample were selected from different industries and as the pooled data model was used in this study, there was the possibility of the inequality of variance creeping into the data. To solve this problem, we used generalized least squares (GLS) regression analysis to estimate the fit indices of the model. In the case of autocorrelation or heterogeneity of variance, the generalized least squares (GLS) method can be used to estimate the coefficients. However, the use of this method requires establishing some assumptions about the variance-covariance matrix of error terms. This, the variance-covariance matrix of the estimated OLS model residues can be used a starting point followed by iterative methods. Moreover, after validating the fit of the model, Durbin-Watson statistic was used to check the absence of autocorrelation in the model residues. It should be noted that the panel data method was used to test the first, third, fourth, and sixth main hypotheses and the logistic regression method was used to examined the second and fifth main hypotheses. This method is used when the dependent variable is two-dimensional and we want to make predictions through a combination of predictor variables. Furthermore, to test the seventh to twelfth hypotheses, we compared the coefficients and models in this study (Aflatoni & Nikbakht, 2010).

The research population included all firms listed on the stock exchange over the period from 2007 to 2018. To select the firms in the research sample, all listed firms whose data were available since 2006 and met the following requirements were selected:

- 1) Firms must have been continuously active in the stock market during the period under review.
- 2) The research sample should not include investment companies, insurance companies, banks, leasing companies, and other financial companies.
- 3) The financial year of the firms should end on March 20.

A total of 140 companies that met the above-mentioned requirements during eleven years including 1680 years/companies were selected as the sample. Table 1 shows the procedure taken to select the companies:

Table 1: The sampling procedure

The total number of firms listed on the stock exchange	415
The number of active companies whose data were available	356
The number of active companies whose fiscal year ended on March 20	317
The number of investment companies, insurance companies, banks leasing companies, etc.	(82)
The number of companies with unavailable our outlier data	(95)
The number of companies left in the sample	140

The models detailed below were selected to test the research hypotheses:

$$\begin{aligned}
 FOG_{i,t} = & \beta_0 + \beta_1 FRQ_{i,t} + \beta_2 CSR_{i,t} + \beta_3 CG_{i,t} & (1) \\
 & + \beta_4 AQ_{i,t} \\
 & + \beta_5 Conservatism_{i,t} \\
 & + \beta_5 DA_{i,t} \\
 & + \beta_6 Fairness\ based_{i,t} \\
 & + \beta_7 (Fairness\ based \\
 & \times FRQ)_{i,t} \\
 & + \beta_8 (Fairness\ based \\
 & \times CSR)_{i,t} \\
 & + \beta_9 (Fairness\ based \\
 & \times CG)_{i,t} \\
 & + \beta_{10} (Fairness\ based \\
 & \times AQ)_{i,t} \\
 & + \beta_{11} (Fairness\ based \\
 & \times Conservatism)_{i,t} \\
 & + \beta_{12} (Fairness\ based \\
 & \times DA)_{i,t} + \beta_{13} size_{i,t} \\
 & + \beta_{14} Liquid_{i,t} + \beta_{15} Loss_{i,t} \\
 & + \beta_{16} Age_{i,t} + \beta_{17} MBV_{i,t} \\
 & + \beta_{18} CFO_{i,t} + \beta_{19} LEV_{i,t} + \epsilon_{i,t}
 \end{aligned}$$

$$\begin{aligned}
 FOG_{i,t} = & \beta_0 + \beta_1 FRQ_{i,t} + \beta_2 CSR_{i,t} + \beta_3 CG_{i,t} & (2) \\
 & + \beta_4 AQ_{i,t} \\
 & + \beta_5 Conservatism_{i,t} \\
 & + \beta_5 DA_{i,t} \\
 & + \beta_6 Justice\ based_{i,t} \\
 & + \beta_7 (Justice\ based \\
 & \times FRQ)_{i,t} \\
 & + \beta_8 (Justice\ based \\
 & \times CSR)_{i,t} \\
 & + \beta_9 (Justice\ based \times CG)_{i,t} \\
 & + \beta_{10} (Justice\ based \\
 & \times AQ)_{i,t} \\
 & + \beta_{11} (Justice\ based \\
 & \times Conservatism)_{i,t} \\
 & + \beta_{12} (Justice\ based \\
 & \times DA)_{i,t} + \beta_{13} size_{i,t} \\
 & + \beta_{14} Liquid_{i,t} + \beta_{15} Loss_{i,t} \\
 & + \beta_{16} Age_{i,t} + \beta_{17} MBV_{i,t} \\
 & + \beta_{18} CFO_{i,t} + \beta_{19} LEV_{i,t} + \epsilon_{i,t}
 \end{aligned}$$

The dependent variable

The Gunning Fog Index: The readability of financial statements was measured using the FOG index as a simple measure of sentence length (the number of words) and complex words (i.e., the number of words with three or more syllabuses) estimated as follows (Bai & Hu, 2018):

$$FOG = 0.4 \left(\frac{\text{The number of words per sentence}}{\text{The percentage of the complex words}} \right)$$

According to Sarhangi et al. (2014), complex words are words that have 3 or more syllables. The association between the FOG index and readability is detailed as follows:

- 18: The text is unreadable and very complex $\leq \text{Fog}$
- 14: The text is difficult to read $\leq \text{Fog} < 18$
- 12: The text is readable $\leq \text{Fog} < 14$
- 10: The readability of the text is acceptable $\leq \text{Fog} < 12$
- 8: The text is easy to read $\leq \text{Fog} < 10$

The independent variables

Financial reporting quality (FRQ): It refers to the ability of financial statements to convey information about a company's operations and, in particular, the cash flows expected by investors. According to this view, accruals improve the information value of earnings by reducing the effect of volatility in cash flows (Dechow & Dichev, 2002). In this study, the quality of accruals was used as a replacement for financial reporting quality (Francis et al., 2005).

The quality of accruals reflects the extent to which the accruals from working capital deviate from operating cash flows because the smaller the deviation, the higher would be the quality of the accruals. In this study, a model introduced by Francis et al. (2005) was used to evaluate financial reporting quality (quality of accruals) as follows:

$$TCA_{j,t} = a_0 + a_1CFO_{j,t-1} + a_2CFO_{j,t} + a_3CFO_{j,t+1} + a_4\Delta REV_{j,t} + a_5PPE_{j,t} + \varepsilon_{j,t}$$

Where TCA_{ij} is the total accruals of firm j in year t , CFO_{ij} is the operating cash flows of firm j in year t , ΔREV is the changes in sales revenue of firm j in years t and $t-1$, PPE is the net tangible fixed assets owned by firm j in year t , and $\varepsilon_{j,t}$ indicates an error in estimating accruals relative to cash flows. Therefore, the smaller the error values $|\varepsilon_{j,t}|$ in this model, the higher the quality of accruals and consequently financial reporting quality. Since error values can be used as a measure of the poor financial reporting quality, by multiplying the positive values of errors by a negative

one ($-\varepsilon_{j,t}$) it can be used as an indicator to calculate financial reporting quality.

The Dechow and Dichev (2002) models are used to measure all accruals as follows:

$$E_{j,t} = CFO_{j,t} + TCA_{j,t}$$

Where E_{ij} is defined as the operating profit of firm j in year t and CFO_{ij} is the operating cash flow of firm j in year t .

In both financial reporting quality models, all variables are standardized in terms of total company assets during year t to eliminate the corporate size effect.

Corporate social responsibility (CSR): There is still no consensus between researchers and organizations on how to measure CSR and identify its dimensions and indicators. Thus, to develop a CSR disclosure checklist, a large number of studies in the literature, standards, and related international CSR criteria were reviewed. Given a plethora of dimensions and components employed in the literature, the final CSR checklist was developed by merging international standards and guidelines and taking into account the environmental conditions of Iran, as displayed in Table 2.

To measure the CSR rank, the content analysis was run using the index approach as shown in Eq. (1):

$$CSR = \frac{\text{The number of disclosed accruals}}{\text{Total number of accruals that can be disclosed}}$$

Content analysis under the index approach infers results based on the presence/absence of the features defined in the message. In this approach, if one item of CSR items is performed, it is set 1, otherwise 0. In the present study, if any of the indicators mentioned in the table above have been disclosed in the operation reports of the board of directors, it will be set as 1 and if it has not been disclosed, it will be set as 0. Then, for each company, the number of disclosed items (indicators) to the total number of items (indicators) that can be disclosed shows the CSR rate (Vourvachis, 2007).

Table 2: Measuring the research variables

Components	Indicators
Environmental	Air pollution, waste recycling or prevention, conservation of natural resources, winning an award in the field of environment, observance of environmental laws and regulations, other cases
Products and services	Product quality, product development/market share, safety, and health, after-sales services, production stoppage, other cases
Human resources	General information about the workforce (e.g. employees' age, gender, and education), employee training and development programs, compensations, benefits, and bonuses, sports facilities and welfare, staff morale and communication, staff environment (health and safety), retirement and service termination benefits, other cases
Customers	Meeting customer needs, complaints/satisfaction, customer health, and other cases
Social	Compliance with social laws and regulations, social capital (health, hygiene, etc.), gifts and charitable services (civic institutions), sponsors for social activities (sports, etc.), and other cases
Cultural-ideological	Cultural/ideological investment (training, etc.), financing cultural-religious activities, corruption, bribery, money laundering, and other cases
Energy	Energy conservation and saving, development, and exploration of new resources, use of new resources, and other cases

Corporate governance (CG): The following criteria were used to measure corporate governance (Armstrong et al., 2014).

- **Institutional ownership:** If the percentage of ownership of institutional investors in the company is higher than the median, it is set 1, otherwise 0.
- **Ownership concentration:** If the percentage of ownership of the shares owned by the five major shareholders of the company is higher than the median, it is set 1, otherwise 0.
- **Free float percentage:** It is equal to the percentage of the free float of the company that is being traded in the market, so that if it is higher than the median, it is set 1, otherwise 0.
- **Board independence:** It refers to the ratio of non-executive board members to all board members so that if it is higher than the median, it is set 1, otherwise 0.

Finally, after determining the number for each year-company, corporate governance was estimated as follows:

$$CG = \frac{\text{The items set as 1}}{\text{Total number of items set as 0 and 1}}$$

Audit quality (AQ): To measure this index, the following four criteria were used:

- **Auditor selection continuity:** According to Myers et al. (2003), auditor selection continuity is the number of consecutive years that an auditor assumes responsibility for auditing a company. Audit reports of

companies will be used to collect information on auditor selection continuity (Mirs et al., 2003). So if the obtained value is higher than the median, it is set 1, otherwise 0.

- **Auditor industry expertise:** The market share approach was employed to assess the auditor industry expertise. The higher the market share, the higher the auditor's industry expertise and experience compared to other competitors. In this study, the auditor market share was measured based on the auditor's expertise in the auditing firm which was defined as the sum of the assets owned by all clients of a particular auditing firm operating in a particular industry divided by the total assets owned by the clients in the same industry. If the auditor is an expert, he/she was graded 1, otherwise 0 (Etemadi et al., 2009). Besides, auditing firms were considered industry experts if their market share is higher than $[1.2 \times (\text{firms in an industry}/1)]$:

$$MS_{i,k} = \frac{\sum_{j=1}^{j,i,k} TA_{i,j,k}}{\sum_{i=1}^{i,K} \sum_{j=1}^{j,i,k} TA_{i,j,k}}$$

Where MS is the market share of firm i in industry k , TA is the total assets owned by clients, i is the symbol of the auditing firm, j is the symbol of the employing firm, k is the symbol of the industry in question, and NK is the number of clients of the auditing firm i operating in industry k . Auditing firms are industry

experts that meet the conditions in the following equation:

$$MS_{i,k} > \frac{1}{N_k} * 1.2$$

- **Auditor change:** In this study, auditor change refers to any kind of auditor change, including change of auditing organizations to auditing firms, members of the Iranian Society of Certified Public Accountants, replacing a large auditing firm with a small auditing firm, and vice versa. Following a similar study (Etemadi et al., 2009), auditing firms in this study are divided into large and small firms depending on their income. So that if it changes, it is set 1, otherwise 0.
- **Auditor reputation:** Watts and Zimmerman (1986) argue that reputation is the motivation for auditors to remain independent. In this study, auditor reputation was measured as the total assets owned by all the employers of a particular auditing firm listed on the stock exchange by the total assets held by the firms listed on the stock exchange. This variable was used only to measure the reputation of the auditor in question in the audit of all listed companies and is independent of the size of the audited company. So that if it is higher than the median, it is set 1, otherwise 0. Finally, after determining the company/year, the audit quality was calculated as follows:

$$AQ = \frac{\text{The items set as 1}}{\text{Total number of items set as 0 and 1}}$$

- **Accounting conservatism:** The model proposed by Givoly and Hayn (2000) model was used to assess conservatism through the following equation:

$$A = \left[\left(\frac{\text{Operating accruals}}{\text{Total assets at the beginning of the period}} \right) \times (-1) \right]$$

Operating accruals are estimated as the difference between the net profit and operating cash flow plus the depreciation cost.

- **Discretionary accruals (DA):** The modified Jones model (Dechow et al., 1995) was used to

measure the discretionary accruals. To this end, the total accruals were first calculated as follows:

$$TA_{i,t} = NI_{i,t} - CFO_{i,t}$$

Where $NI_{i,t}$ is the total accruals of firm i , $TA_{i,t}$ is the net profit before discretionary accruals, and $CFO_{i,t}$ is the operating cash flows. Besides, non-operating discretionary accruals are measured as follows:

$$NDA_{i,t} = \beta_1 \left(\frac{1}{T.AST_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta R.A_{i,t}}{T.AST_{i,t-1}} \right) + \beta_3 \left(\frac{\Delta F.A_{i,t}}{T.AST_{i,t-1}} \right)$$

Where $NDA_{i,t}$ shows the non-discretionary accruals of the company, $\Delta VREV_{i,t}$ indicates the changes in company revenue, $\Delta RA_{i,t}$ shows the changes in accounts and notes receivable, $T.AST_{i,t-1}$ denote the company's total assets in the previous year, and $\Delta FA_{i,t}$ indicates the changes in the company's fixed assets. In this study, the coefficients β_1 , β_2 , and β_3 are estimated via the modified Jones model as follows:

$$TA_{i,t} = \beta_1 \left(\frac{1}{T.AST_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta R.A_{i,t}}{T.AST_{i,t-1}} \right) + \beta_3 \left(\frac{\Delta F.A_{i,t}}{T.AST_{i,t-1}} \right) + \varepsilon_{i,t}$$

Using the values obtained for the total accruals and non-discretionary accruals, the discretionary accruals are measured as follows:

$$DA_{i,t} = TA_{i,t} - NDA_{i,t}$$

Intervening variables

Fairness-based management behavior: To measure this variable, management optimism was used. Management fairness was assessed based on management measurements and estimates. Therefore, it is expected that managers with higher optimism in estimates will have a lower level of fairness. The following four variables were used to measure management optimism:

- **The difference between sales and forecast sales:** The actual sales that are less than the forecast sales in a given year are set 1, otherwise 0 (Salehi et al., 2017).

- **The difference between earnings per share (EPS) and projected EPS:** The EPS values less than the projected EPS in a given year are set 1, otherwise 0 (Lin et al. 2005).
- **The difference between dividends per share (DPS) and projected DPS:** The DPSs that are less than the projected DPS in a given year are set 1, otherwise 0 (Li & Tong 2012).
- **Capital expenditures:** This variable is calculated as the difference between the net operating assets (NOA) acquired in year t and the NOA obtained in the previous year plus the depreciation in year t . Since management's overconfidence depends on managers' investment decisions, in companies with overconfident managers, capital expenditures are higher, so if it is higher than the median, it is set 1, otherwise 0 (Tinga et al. 2016). Finally, after determining the company/year values, management optimism is calculated as follows:

Management optimism

$$= \frac{\text{The items set as 1}}{\text{Total number of items set as 0 and 1}}$$

Justice-based management behavior (Justice based_{i,t}): This variable is measured using tax avoidance. It is assumed that paying the right taxes contributes to the fair distribution of wealth in society and promotes welfare and social justice. As a result, managers who often tend to engage in tax avoidance behaviors are less likely to seek justice-seeking behavior. The following two variables were used to measure the corporate tax avoidance level:

- **The difference between accounting profit (profit before taxes) and taxable profit (BTB):** The difference between accounting profit and taxable profit (measured as the tax cost divided by the legal tax rate) of company i in year t that is divided by the book value of assets to normalize it (Kubick et al., 2015), so that if it is higher than the median, it is set 1, otherwise 0.

Accounting Profit vs. Taxable Profit

$$= \left[\text{Accounting profit} - \left(\frac{\text{Tax cost}}{0.25} \right) \right]$$

- **Tax cost to profit before tax (ETR):** It is measured as the tax cost of company i levied in

year t divided by the profit before tax of company i in year t (Kubick et al., 2015), so that if it is higher than the median, it is set 1, otherwise 0. Finally, after determining the company/year values, tax avoidance is calculated as follows:

Management optimism

$$= \frac{\text{The items set as 1}}{\text{Total number of items set as 0 and 1}}$$

Control variables

- **Corporate size (SIZE):** It is estimated as the natural logarithm of the total assets owned by the company (Andrew et al., 2018).
- **Liquidity:** It is measured as the ratio of cash flows to the company's total assets (Andrew et al., 2018).
- **Loss:** It is considered a dummy variable that is set 1 if the company has incurred losses in the current year, otherwise 0 (Andrew et al., 2018).
- **Age:** It is calculated as the natural logarithm of the company's age since its establishment date (Andrew et al., 2018).
- **Market to book value ratio (MBV):** It is defined as the ratio of the market value of equity to the book value of the company's equity (Andrew et al., 2018).
- **Operating cash flow (CFO):** It is estimated as the company's operating cash flow and is adjusted for the company's total assets (Andrew et al., 2018).
- **Leverage (LEV):** It is measured as the ratio of the company's total liabilities divided by the total assets (Fosu, 2013).

Results

Descriptive statistics

Table 3 displays the descriptive statistics for the research variables.

As shown in the table 3, the mean and median values for most of the variables are close to each other, indicating that all the variables have a normal distribution. In addition, standard deviation, kurtosis, and skewness are used to examine the normality of data distribution (Keller & Warrack, 2003). An assessment of these criteria shows that the data related

to independent and dependent variables follow a normal distribution because the variables have the minimum deviance from the kurtosis values. In addition, the capital structure has an average of approximately 60%, indicating the high share of debt financing in the capital structure of Iranian companies. Moreover, the corporate liquidity is on average about 5%, showing the low liquidity due to debt financing in Iranian companies. Furthermore, financial statement readability is on average equal to 17, showing the low corporate reporting readability that can be due to economic sanctions. On the other hand, the mean value of CSR is approximately 15%, which indicates the low CSR disclosure in Iranian companies.

As stated earlier, twelve hypotheses were developed and tested in this study. For this purpose, the first six hypotheses were tested using Model 1.

Before assessing the fit indices of the model, the Chow test was run to compare the efficiency of the mixed data method against the multiple data method for the sample in question (Aflatoni, 2013). The results of the Chow test are shown in Table 4.

The data presented in the table above show that the null hypothesis (H0) is rejected so the panel data model is confirmed. As a result, the panel data fixed-effects model is preferred. The Hausman test was run to choose between the panel data fixed-effects model and the panel data random-effects model as shown in Table 5.

As displayed in Table 5, the null hypothesis (H0) is not confirmed and thus the fixed-effects model is preferred. Therefore, the first model was estimated to test the hypotheses about the moderating effect of fairness-based management as shown in Table 6.

Table 3. The descriptive statistics for the research variables

Variable	Mean	Median	SD	Max	Min
Financial statement readability	16.742	16.455	13.181	28.992	8.648
Financial reporting quality	-0.880	-0.550	0.115	-0.001	-0.822
CSR	0.147	0.133	0.056	0.566	0.033
Corporate governance	0.505	0.500	0.220	1	0
Accounting quality	0.400	0.500	0.219	1	0
Management conservatism	0.021	0.019	0.123	0.482	-0.407
Earnings management	0.077	0.061	0.064	0.357	0.001
Fairness-based management	0.420	0.500	0.302	1	0
Justice-based management	0.496	0.500	0.188	1	0
Size	13.844	13.698	1.596	19.374	9.821
Liquidity	0.058	0.036	0.069	0.434	0.001
Age	3.398	3.583	0.589	4.204	0.693
Market to book ratio	2.870	2.140	3.039	22.074	-3.490
Operating cash flow/total assets	0.126	0.111	0.132	0.532	-0.339
Leverage	0.603	0.614	0.197	1.342	0.108
The descriptive statistics for categorical variables					
Loss	0.099	0	0.299	1	0

Table 4: The results of the F-Limer test

The estimated models	Statistic	Sig.	Confirmed model
Model 1	0.894	0.000	Mixed-data method
Model 2	7.968	0.000	Multiple-data method

Table 5: The results of the Hausman test

The estimated model	Statistic	Sig.	Confirmed model
Model 1	37.013	0.011	Fixed-effects model
Model 2	42.494	0.002	Fixed-effects model

Table 6: The results of estimating the first model

Variable	Coefficient	SD	t	Sig.
Intercept	19.666	1.168	16.835	0.000
Financial reporting quality	-1.521	0.676	-2.248	0.024
CSR	-1.058	1.428	-0.740	0.458
CSR	-0.689	0.336	-2.049	0.040
Accounting quality	-1.386	0.349	-3.968	0.000
Conservatism	0.139	0.577	0.241	0.809
Earnings management	2.302	1.086	2.119	0.034
Fairness-based management	-1.213	0.546	-2.220	0.026
Fairness-based management role in financial reporting quality	<u>-1.356</u>	0.349	-3.881	0.000
Fairness-based management role in CSR	<u>-1.021</u>	1.417	-0.720	0.471
Fairness-based management role in corporate governance	<u>-0.543</u>	0.136	-3.981	0.000
Fairness-based management role in audit quality	<u>-0.962</u>	0.220	-4.355	0.000
Fairness-based management role in conservatism	<u>0.168</u>	1.190	0.141	0.887
Fairness-based management role in earnings management	<u>4.562</u>	2.043	2.232	0.025
Size	-0.267	0.106	-2.514	0.012
Liquidity	-0.401	0.808	-0.496	0.619
Loss	0.084	0.167	0.505	0.613
Age	-1.037	0.286	-3.619	0.000
Market to book value ratio	-0.005	0.015	-0.377	0.706
The operating-cash-flow-to-total-assets ratio	0.691	0.402	1.718	0.085
Leverage	-0.878	0.380	-2.308	0.021
R ²	0.640			
Adjusted R ²	0.599			
Durbin-Watson value	1.778			
F	15.952			
F	0.000			

Given the F-value (15.952) and the significance level (0.000) in the table above, it can be claimed the research model is significant at the 99% confidence level. Furthermore, the adjusted coefficient of determination obtained for the model (59%) suggests that the control and independent variables can explain more than 59% of the variations in the dependent variable. In addition, the Durbin-Watson statistic is equal to 1.778, rejecting any first-order autocorrelation among the model residuals. An assessment of the control variables showed that only corporate size, corporate age, and financial leverage significantly affected the readability of financial statements.

Testing the first hypothesis

The first hypothesis addressed the effect of fairness-based management behavior on the correlation between financial reporting quality and financial reporting readability. The results of model estimation in Table 6 show that the value for financial reporting

quality is -1.521 ($p = 0.024$). Thus, given the negative value of this variable and its significance level, it can be suggested that financial reporting quality can significantly negatively affect the FOG index ($p < 0.05$). Thus, as the FOG index is considered a financial reporting readability index, it can be argued that financial reporting quality has a significant positive effect on financial reporting readability. Furthermore, the value for fairness-based management is -1.356 ($p = 0.000$). Thus, given the negative value of this variable (compared to the value of financial reporting quality) and its significance level, it can be claimed that the interaction between fairness-based management and financial reporting quality has a significant and negative influence on the FOG index ($p < 0.05$) because fairness-based management depends on managers' optimism and thus it is a measure of fairness-based management that reduces the positive effects of financial reporting quality on financial reporting readability. As a result, managers' optimistic

behavior (as an indicator of managerial unfair behavior) is expected to reduce the positive effect of financial reporting quality on financial reporting readability. Therefore, the first hypothesis is confirmed ($p < 0.05$).

Testing the second hypothesis

The second hypothesis examined the effect of fairness-based management behavior on the link between CSR and financial reporting readability. The results of model estimation (Table 6) indicate that the value for CSR is -1.058 ($p = 0.458$). Thus, given the negative value of this variable and its significance level, this is to argue that CSR has a negative but insignificant impact on the FOG index ($p < 0.05$). Besides, taking the FOG index as an index of financial reporting readability, it can be argued that CSR has an insignificant and positive effect on financial reporting readability. Furthermore, the value for fairness-based management is -1.021 ($p = 0.471$). Thus, given the negative value of this variable and its significance level, it can be claimed that the interaction between fairness-based management and CSR has no significant negative influence on the FOG index ($p < 0.05$). As a result, managers' optimistic behavior (as an indicator of managerial unfair behavior) has no significant impact on the relationship between CSR and financial reporting readability. Therefore, the second hypothesis is confirmed ($p < 0.05$).

Testing the third hypothesis

The third hypothesis addressed the effect of fairness-based management behavior on the association between corporate governance and financial reporting readability. The results of model estimation (Table 6) indicate that the value for corporate governance is -0.689 ($p = 0.040$). Thus, given the negative value of this variable and its significance level, this is to argue that corporate governance negatively and significantly affects the FOG index ($p < 0.05$). Besides, taking the FOG index as an indicator of financial reporting readability, it can be suggested that corporate governance has an insignificant and positive effect on financial reporting readability. Furthermore, the value for fairness-based management is -0.543 ($p = 0.000$). Thus, given the negative value of this variable (compared to corporate governance) and its significance level, it can be claimed that the interaction

between fairness-based management and corporate governance less negatively affects the FOG index ($p < 0.05$) because fairness-based management depends on managers' optimism and thus it is a measure of fairness-based management that reduces the positive impact of corporate governance on financial reporting readability. As a result, managers' optimistic behavior (as an indicator of managerial unfair behavior) is expected to reduce the positive effect of corporate governance on financial reporting readability. Therefore, the third hypothesis is confirmed ($p < 0.05$).

Testing the fourth hypothesis

This hypothesis aimed to examine the effect of fairness-based management behavior on the association of audit quality with financial reporting readability. The results of model estimation (Table 6) indicate that the value for audit quality is -1.386 ($p = 0.000$). Thus, given the negative value of this variable and its significance level, this is to argue that audit quality can negatively and significantly affect the FOG index. Besides, assuming the FOG index as an indicator of financial reporting readability, it can be argued that audit quality has significant positive impacts on financial reporting readability. Conversely, the value of fairness-based management for audit quality is -0.962 ($p = 0.000$). Thus, given the negative value of this variable (compared to audit quality) and its significance level, it can be suggested that the interaction between fairness-based management and audit quality has a slightly negative impact on the FOG index ($p < 0.05$) because fairness-based management depends on managers' optimism as a measure of fairness-based management that reduces the positive impact of audit quality on financial reporting readability. As a result, managers' optimistic behavior (as an indicator of managerial unfair behavior) is expected to reduce the positive impacts of audit quality on financial reporting readability. Therefore, the fourth hypothesis is confirmed ($p < 0.05$).

Testing the fifth hypothesis

This hypothesis examined the effect of fairness-based management behavior on the correlation between accounting conservatism and financial reporting readability. The results of model estimation (Table 6) indicate that the value for accounting conservatism is

0.139 (p = 0.809). Thus, given the positive value of this variable and its significance level, it can be argued that accounting conservatism does not significantly affect the FOG index. Besides, assuming the FOG index to be an indicator of financial reporting readability, it can be suggested that accounting conservatism has an insignificant and positive effect on financial reporting readability. Furthermore, the value of fairness-based management for accounting conservatism is -0.186 (p = 0.887). Thus, given the negative value of this variable and its significance level, it can be suggested that the interaction between fairness-based management and accounting conservatism does not significantly affect the FOG index (p < 0.05) As a result, managers' optimistic behavior (as an indicator of managerial unfair behavior) does not significantly affect the relationship between accounting conservatism and financial reporting readability. Therefore, the fifth hypothesis is rejected (p < 0.05).

Testing the sixth hypothesis

The sixth hypothesis addressed the effect of fairness-based management behavior on the link between earnings management and financial reporting readability. The results of model estimation in Table 6 show that the value for earnings management is 2.302 (p = 0.034). Thus, given the positive value of this variable, it can be suggested that earnings management has a significant positive effect on the FOG index (p < 0.05). Thus, assuming the FOG index to be an indicator of financial reporting readability, it can be argued that earnings management has a significant and negative effect on financial reporting readability.

Furthermore, the value for fairness-based management for earnings management is 4.562 (p = 0.025). Thus, given the higher positive value of this variable (compared to the value of earnings management) and its significance level, it can be claimed that the interaction between fairness-based management and earnings management has a significant positive impact on the FOG index (p < 0.05) because fairness-based management depends on managers' optimism and thus it is a measure of fairness-based management that reinforces the positive effects of financial reporting quality on financial reporting readability. As a result, managers' optimistic behavior (as an indicator of managerial unfair behavior) is expected to enhance the negative effect of earnings management on financial reporting readability. Therefore, the sixth hypothesis is confirmed (p < 0.05). To examine the moderating impact of justice-based management behavior, the second model was estimated as shown in Table 7.

As shown in the table above, the F-value (15.125) and the significance level (0.000) in the table above indicate that the research model is significant at a confidence level of 99%. Furthermore, the adjusted coefficient of determination obtained for the model (R² = 58%) shows that the independent and control variables can explain over 58% of the variations in the dependent variable. In addition, the Durbin-Watson statistic is equal to 1.757, rejecting any first-order autocorrelation between the model residuals. An assessment of the control variables showed that only corporate size, corporate age, and financial leverage had a significant effect on the readability of financial statements.

Table 7: Estimating the second model

Variable	Coefficient	SD	t	Sig.
Intercept	18.201	1.215	14.969	0.000
Financial reporting quality	-1.532	0.574	-2.667	0.007
CSR	-7.286	2.380	-3.060	0.002
Corporate governance	-1.754	0.522	-3.359	0.000
Audit quality	-1.301	0.542	-2.396	0.016
Conservatism	1.064	0.855	1.243	0.213
Earnings management	3.577	1.780	2.009	0.044
Justice-based management	2.493	0.863	2.886	0.004
Justice-based management role in financial reporting quality	-1.405	0.523	-2.682	0.007
Justice-based management role in CSR	-6.930	2.391	-2.897	0.003
Justice-based management role in corporate governance	-1.680	0.448	-3.744	0.000
Justice-based management role in audit quality	-1.266	0.550	-2.300	0.021

Variable	Coefficient	SD	t	Sig.
Justice-based management role in conservatism	1.152	1.430	0.805	0.420
Justice-based management role in earnings management	6.251	2.247	2.782	0.005
Size	-0.439	0.106	-4.123	0.000
Liquidity	-0.313	0.811	-0.386	0.699
Loss	0.111	0.167	0.662	0.507
Age	-0.904	0.284	-3.176	0.001
Market to book value ratio	-0.007	-0.015	-0.479	0.631
Operating cash flow to total assets	0.695	0.404	1.719	0.085
Leverage	-0.716	0.283	-2.531	0.011
R2	0.632			
Adjusted R2	0.589			
Durbin-Watson statistic	1.757			
F	15.125			
F	0.000			

Testing the seventh hypothesis

The seventh hypothesis examined the effect of justice-based management behavior on the association between financial reporting quality and financial reporting readability. The results of model estimation displayed in Table 7 indicate that the value for financial reporting quality is -1.532 ($p = 0.007$). Thus, given the negative value of this variable and its significance level, it can be suggested that financial reporting quality has a significant negative effect on the FOG index ($p < 0.05$). Thus, assuming the FOG index to be an indicator of financial reporting readability, it can be argued that financial reporting quality has a significant positive effect on financial reporting readability. Moreover, the value for justice-based management is -1.405 ($p = 0.007$). Thus, given the smaller negative value of this variable (compared to the value of financial reporting quality) and its significance level, it can be claimed that the interaction between justice-based management and financial reporting quality has a slightly negative impact on the FOG index ($p < 0.05$) because justice-based management depends on tax avoidance and thus it is a measure of justice-based management that reduces the positive effects of financial reporting quality on financial reporting readability. As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) is expected to reduce the positive effect of financial reporting quality on financial reporting readability. Therefore, the seventh hypothesis is confirmed ($p < 0.05$).

Testing the eighth hypothesis

The eighth hypothesis examined the effect of justice-based management behavior on the relationship between CSR and financial reporting readability. The results of model estimation (Table 7) indicate that the value for CSR is -7.286 ($p = 0.002$). Thus, given the negative value of this variable and its significance level, this is to argue that CSR has a significant negative impact on the FOG index ($p < 0.05$). Besides, assuming the FOG index to be an indicator of financial reporting readability, it can be argued that CSR has significant positive impacts on financial reporting readability. Furthermore, the value for the role of justice-based management in CSR is -6.930 ($p = 0.003$). Thus, given the negative value of this variable and its significance level, it can be claimed that the interaction between justice-based management and CSR has a significant and negative effect on the FOG index ($p < 0.05$). because justice-based management depends on tax avoidance and thus it is a measure of justice-based management that reduces the positive impact of CSR on financial reporting readability. As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) reduces the impact of CSR on financial reporting readability. Therefore, the eighth hypothesis is confirmed ($p < 0.05$).

Testing the ninth hypothesis

The ninth hypothesis addressed the effect of justice-based management behavior on the link between corporate governance and financial reporting readability. The results of model estimation (Table 7)

indicate that the value for corporate governance is -1.754 ($p = 0.000$). Thus, given the negative value of this variable and its significance level, this is to argue that corporate governance has a significant negative impact on the FOG index ($p < 0.05$). Besides, assuming the FOG index to be an indicator of financial reporting readability, it can be suggested that corporate governance has significant positive impacts on financial reporting readability. Furthermore, the value for the impact of justice-based management on corporate governance is -1.680 ($p = 0.000$). Thus, given the negative value of this variable (compared to corporate governance) and its significance level, it can be claimed that the interaction between justice-based management and corporate governance has a slightly negative impact on the FOG index ($p < 0.05$) because justice-based management depends on tax avoidance and thus it is a measure of justice-based management that reduces the positive impact of corporate governance on financial reporting readability. As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) is expected to reduce the positive effect of corporate governance on financial reporting readability. Therefore, the ninth hypothesis is confirmed ($p < 0.05$).

Testing the tenth hypothesis

The tenth hypothesis aimed to examine the effect of justice-based management behavior on the correlation between audit quality and financial reporting readability. The results of model estimation (Table 7) indicate that the value for audit quality is -1.301 ($p = 0.016$). Thus, given the negative value of this variable and its significance level, this is to argue that audit quality has a significant negative impact on the FOG index. Besides, assuming the FOG index to be an indicator of financial reporting readability, it can be suggested that audit quality has a significant positive impact on financial reporting readability. What's more, the value for the effect of justice-based management on audit quality is -1.266 ($p = 0.021$). Thus, given the smaller negative value of this variable (compared to audit quality) and its significance level, it can be suggested that the interaction between justice-based management and audit quality has a slightly negative impact on the FOG index ($p < 0.05$) because justice-based management depends on tax avoidance as a measure of justice-based management that reduces the positive impacts of audit quality on financial reporting

readability. As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) is expected to reduce the positive effect of audit quality on financial reporting readability. Therefore, the tenth hypothesis is confirmed ($p < 0.05$).

Testing the eleventh hypothesis

The eleventh hypothesis examined the effect of justice-based management behavior on the association between accounting conservatism and financial reporting readability. The results of model estimation (Table 7) indicate that the value for accounting conservatism is 1.064 ($p = 0.213$). Thus, given the positive value of this variable and its significance level, this is to argue that accounting conservatism has a slightly positive impact on the FOG index. Besides, assuming the FOG index to be an indicator of financial reporting readability, it can be suggested that accounting conservatism has an insignificant and negative effect on financial reporting readability. In contrast, the value of the effect of justice-based management on accounting conservatism is 1.152 ($p = 0.420$). Thus, it can be suggested that the interaction between justice-based management and accounting conservatism does not significantly affect the FOG index ($p < 0.05$). As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) does not significantly affect the relationship between accounting conservatism and financial reporting readability. Therefore, the eleventh hypothesis is rejected ($p < 0.05$).

Testing the twelfth hypothesis

The twelfth hypothesis addressed the effect of justice-based management behavior on the link between earnings management and financial reporting readability. The results of model estimation in Table 7 show that the value for earnings management is 3.577 ($p = 0.044$). Thus, given the positive value of this variable and its significance level, it can be suggested that earnings management has a significant positive effect on the FOG index ($p < 0.05$). Thus, assuming the FOG index to be an indicator of financial reporting readability, it can be argued that earnings management has a significant and negative effect on financial reporting readability. Furthermore, the value for the impact of justice-based management on earnings management is 6.251 ($p = 0.005$). Thus, given the

higher positive value of this variable (compared to the value of earnings management) and its significance level, it can be claimed that the interaction between justice-based management and earnings management has a higher positive effect on the FOG index ($p < 0.05$) because justice-based management depends on tax avoidance and thus it is a measure of justice-based management that reinforces the negative impact of financial reporting quality on financial reporting readability. As a result, managers' tax avoidance (as an indicator of managerial unjust behavior) is expected to enhance the negative effect of earnings management on financial reporting readability. Therefore, the twelfth hypothesis is confirmed ($p < 0.05$).

Discussion and Conclusions

This study examined the effect of fairness-based management behavior and justice-based management behavior on the associations between accounting concepts and financial reporting readability in firms listed on the Tehran Stock Exchange. For this purpose, several hypotheses were developed and tested using the available data. Following the theoretical framework of the study, it is expected that fair and just management behaviors can affect the relationship between accounting concepts and improve or decrease financial reporting readability because it is claimed that managers and their behaviors in the company's reporting environment have a significant impact on creating transparency and promoting it. In line with these arguments, the results of the present study demonstrated that the fair behavior of managers affects the role of financial reporting quality, corporate governance, audit quality, and earnings management in financial reporting readability. Hassan et al. (2019) examined the readability, governance, and performance of 126 firms operating on the Qatar Stock Exchange, and concluded that firms with higher financial statement readability had higher profitability and lower agency costs. However, CSR and accounting conservatism did not affect financial reporting readability. Conversely, the results indicated that managers' fair behavior affected the role of financial reporting quality, CSR, corporate governance, audit quality, and earnings management in financial reporting readability but they have no effect on the role of accounting conservatism in financial reporting readability. Accordingly, it can be argued that managers' fair and just behaviors increase

transparency and more responsible supervision, thus enhancing the positive impact of accounting concepts on financial reporting readability and leading to a more transparent reporting environment for users of accounting and financial information.

This study examined the effect of fairness-based management behavior and justice-based management behavior on the relationship between accounting concepts and financial reporting readability in firms listed on the Tehran Stock Exchange. Data analysis revealed that justice-based management affects the role of financial reporting quality, corporate governance, audit quality, and earnings management in financial reporting readability. However, it does not affect the role of CSR and accounting conservatism in financial reporting readability. Furthermore, it was shown that justice-based management behavior affects the role of financial reporting quality, CSR, corporate governance, audit quality, and earnings management in financial reporting readability, but it does not have any impact on the role of accounting conservatism in financial reporting readability. It was also shown that justice-based management behavior increases transparency and more responsible supervision, enhances transparency and the positive impact of accounting concepts on financial reporting readability, and makes the reporting environment more transparent for users of accounting and financial information. In line with the results of this study, the following suggestions are offered:

- managers of companies can identify and control the effects of their behaviors. In addition, managers are advised to take into account factors such as factors such as accounting concepts and their management behaviors when analyzing financial reporting readability and incorporate them in their analysis and evaluations. Furthermore, managers are advised to take a valuable step toward creating transparency and improving efficiency in the market by engaging in ethical, fair, and just behaviors to create more transparency because transparency help managers promote their personal development and enhance the company's growth in the future.
- In addition, investors are advised to pay attention to the negative consequences of managers' behavior on creating transparency

and to choose managers who adhere to the minimum ethical and behavioral standards and are committed to creating transparency because of the lack of transparency, in the long run, violates all stakeholders' interests and can have irreparable negative effects on the future of the company.

- Finally, financial legislators and policymakers are advised to support financial markets as well as the capital market to prevent their disruption and instability and to enact laws to apply exemptions for businesses companies that take into account ethical and behavioral issues and thus motivate them to take long-term decisions and adopt effective strategies. Moreover, supervisors are recommended to pay more attention to ethical and behavioral characteristics of managers and focus on increasing market transparency to reduce the extreme tendencies of investors, as these factors are signals of market failure in the future.

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