

The relationship between accounting comparability, financial reporting quality and pricing of accruals

Masoumeh Shayesteh^a, Rahmatollah Mohammadipour^{b,*}, Hamidreza Kordlouie^c

^aDepartment of Accounting, Science and Research Branch, Islamic Azad University, Tehran, Iran

^bDepartment of Accounting, Islamic Azad University, Ilam Branch, Ilam, Iran

^cFinance Department, Islamic Azad University, Eslamshahr Branch, Tehran, Iran

(Communicated by Mohammad Bagher Ghaemi)

Abstract

The current paper investigates the relationship between comparability of accounting, quality of financial reporting and pricing of accruals. Thus, data for 107 companies listed on the Tehran Stock Exchange for a period of ten years (from March 2011 to March 2020) were extracted and then research variables were calculated and the necessary statistical tests were performed. This is a descriptive-corequational experiment using a post-event approach. The research hypotheses were tested through multiple linear regression based on composite data. Statistics and econometrics have examined and tested the hypotheses. Research findings showed a significant positive relationship between the comparability of accounting and the quality of financial reporting as well as a significant negative relationship between the comparability of accounting and pricing of accruals.

Keywords: Accounting comparability, Financial reporting quality, Accruals
2020 MSC: 91G15

1 Introduction

Users of financial statements should be able to compare the financial statements of an entity over time to identify trends in changes in the entity's financial position, tax performance, and financial flexibility. Comparability requires that the measurement and presentation of the effects of transaction finance and other similar events in each period of accounting be performed consistently from one period to the next, as well as the coordination of procedures by different business units. Although consistency of procedure is necessary to achieve comparability, it is not always sufficient on its own. Given that financial markets have attracted a lot of attention in recent years, the capital market has an important role to play in the optimal allocation of society's economic resources. High-quality financial reporting, on the other hand, facilitates more informed decision-making by investors and helps guide those investments to the process of optimal resource allocation. Therefore, the capital market should be provided with high quality financial information to be useful for economic decisions. Due to the comparability of financial statements, the quality of financial reporting is a criterion that distinguishes useful information from other information and increases the usefulness of information [3].

*Corresponding author

Email addresses: ma.shayesteh90@gmail.com (Masoumeh Shayesteh), rm.accounting2@yahoo.com (Rahmatollah Mohammadipour), hamidreza.kordlouie@gmail.com (Hamidreza Kordlouie)

The current paper aims at investigating the comparability of accounting, quality of financial reporting and pricing of accruals.

2 Theoretical Foundations

Applying different principles in measuring the value of accounting elements, identifying income in different ways, the presence of different principles for dealing with expenses with income and variety of accounting procedures, disclosure of accounting procedures and other explanations are necessary to complete the comparability of economic events and statement items. Specific events such as contingent liabilities, unconventional contracts, as well as the effects of major economic changes on the for-profit unit's activities, such as sharp price changes, legislation on the scope of economic activities, and the acquisition of a large portion of the unit's capital or shares by new investors include other cases that disclosure can affect the comparability of information and the decisions of users. Although adequate disclosure improves the quality and comprehensiveness of financial information, over-disclosure of information can confuse users and make it difficult to distinguish useful information from useless information. In the theoretical concepts of financial reporting, the purpose of preparing financial statements, as the core of financial reporting, is defined as follows: Provide users of financial statements with summarized and categorized information about the status, performance and financial flexibility of the business unit useful for economic decision making. On the other hand, the chapter "Qualitative Characteristics of Financial Information" states the theoretical concepts of financial reporting: "Users of financial statements should be able to compare financial statements (financial status and performance) over time as well as with the financial statements of different business units. Thus, it is necessary to follow consistent procedures in measurements and presenting the financial effects of transactions and other similar events within the business unit and over time for that business unit to coordinate the measurement and reporting procedures among different business units. The aforementioned concludes that "Financial information of business units can be useful when it can be compared with similar information in previous years of the same unit, or with similar information of other units in which the industry operates". However, restatement of published financial statements seems inevitable due to the continuous changes in economic and social conditions, changes in accounting principles and methods, and due to the complexity and high volume of business transactions, errors in financial reporting. A challenge that impairs the comparability and uniformity of financial statements is the restatement of financial statements resulting from changes in accounting and correction of past errors. In addition to comparability, this complication can also leave the reliability of financial statements in a state of ambiguity; in this case, even the primary purpose of the financial statements (providing useful information in making economic decisions) will not be met. Given that today, accounting information systems have important tasks in the economic environment of countries for a very important role they play in the workflow of organizations. Many economic decisions are made based on information obtained from these systems, and a major share of securities exchanges is allocated to the purchase and sale of corporate stocks, which in turn can be influenced by figures and accounting information. Knowing how the quality of financial reporting, the comparability of financial statements and accruals is related, helps to better understand how the comparability of financial statements is effective, because the motives of financial reporting are rooted in the information needs and demands of users outside the organization. Given that the main purpose of financial reporting is to express the economic effects of financial events and operations on the status and performance of the business unit to assist outsiders in making financial decisions in equation to the business unit, financial statements should be comparable in order to improve the quality of financial reporting and correct pricing of accruals [3]. These theoretical foundations pose the following questions:

- What is the relationship between comparability and quality of financial reporting?
- What is the relationship between comparability and pricing of accruals?

3 Importance and necessity of research

Significant approach in the financial reporting quality measurement is based on all accrual changes measurements. Given that a part of accruals cannot be manipulated and relatively fixed over time, the changes in accruals and financial reporting shows the amount of management manipulations and is also a sign of low quality financial reporting. According to Accounting Standards Board, "Financial reporting includes not only financial statements but also information or reporting methods, which are provided directly or indirectly to those who are directly or indirectly informed by these accounts." That is, information about the company's resources, assets, liabilities, profits, etc. This information should be such that investors, lenders and other user groups can identify potential strengths and weaknesses.

Based on this, it evaluated the performance information of the for-profit unit over a financial period. In addition to which the information in question could potentially affect the cash flow of some of the resources as well as the cash needed to defer the use of the utility. In order to improve the information content of financial reports during the last decade, it is observed that the restatement of financial statements due to non-compliance with accounting rules in previous periods has led to widespread complications and grown significantly. Comparability of financial statements is their quality characteristic. To achieve this characteristic, consistency of practice in accounting practices during each financial period, as well as from one financial period to the next financial period, is essential. Given the need to provide comparative figures and to maintain consistency from period to period, it is always expected that the figure presented for each of the financial items in the current period's financial statements will be equal to the revised figure presented for the same item in next year's financial statements, but in some cases, this criterion is not met. The discrepancy between the initial presentation of items in the financial statements and the restated figures is often due to one or more factors: changes in accounting practice, errors, revisions in management estimates, and changes in the classification of items. Among the four factors mentioned, only the first two factors; namely, changes in accounting practices and corrections of errors are classified as annual adjustments and their effect is retrospective. In fact, the number of submissions in this study means changes that have occurred as a result of one of the two factors and the changes made due to changes in classification and changes in estimates are not included in the count of the number of submissions occurred. Given the limited resources, in addition to the issue of investment development, increasing the efficiency of investment and the quality of financial reporting are among the most important issues. The efficiency of investment requires, on the one hand, to prevent the use of resources in activities in which investment is more than desirable, and on the other hand, to direct resources to activities that require more investment. The quality of financial reporting can be related to investment decisions in at least two ways. First, it has often been argued that financial reporting reduces the costs of maladaptive selection by reducing information asymmetry between the firm and the investor. For example, Lambert Verchia (2007) found that a commitment to greater disclosure reduces such information asymmetries and thus increases corporate liquidity. On the other hand, the lack of information asymmetry between the company and investors can cause the company to raise capital, reduce stock prices and increase the cost of financing the company, because investors infer that the company being financed is behaving inappropriately. Therefore, if the quality of financial reporting reduces inconsistent selection costs, it can improve investment decisions by reducing financing costs. Second, the accounting literature suggests that financial reporting and the comparability of financial statements play a vital role in reducing accruals. For example, accounting information directly affects managers' compensation contracts and is a major source of stakeholder oversight. In addition, financial accounting information, as an important source of company-specific information, is essential for performing the stock market oversight function. Therefore, if financial reporting reduces agency issues, it can help improve investment decisions by increasing the ability of shareholders to oversee managers, because increasing the ability of shareholders to oversee management improves project selection and reduces financing costs. Given that accruals improve the information value of earnings by reducing the effects of volatile fluctuations in cash flows, the quality of accrued working capital items is considered as a substitute for the quality of financial reporting [3]. Thus, investigating the relationship between comparability, quality of financial reporting and pricing of accruals seems necessary.

4 Research background

Table 1 presents a summary of the research background.

Table 1: Summary of research background

Researcher (year)	Research title	Research findings
Akbari Faiz-abadi [1]	Investigate the effect of comparability of financial statements on specific fluctuations in stock returns taking into account the moderating role of earnings forecast errors, profit forecast dispersion and quality of financial reporting	The results of the study show that the comparability of financial statements has an inverse effect on specific fluctuations in stock returns. The results also show that earnings forecast errors, profit forecast dispersion and financial reporting quality, the inverse effect of comparability of financial statements on specific fluctuations in stock returns is adjusted.
Soleimani Asl [11]	Investigate the Impact of Comparing Financial Statements on Cash Holding: Testing the Mediating Role of Financial Constraints and the Quality of Financial Reporting	The results of this study showed that the comparability of financial statements has a significant negative impact on cash retention. Also, the comparability of financial statements indirectly, ie through the quality of financial reporting, affects cash retention.

Hashemzadeh Asl [7]	Investigate the effect of comparability of financial statements on the level of cash retention with emphasis on financing constraints, financial reporting quality and corporate governance	The results show that the comparability of financial statements has a significant negative impact on the level of cash retention. Also, the interaction of variable constraints on financing and the comparability of financial statements have a significant positive effect on the level of cash retention and also, the interaction of the two variables the quality of financial reporting and corporate governance with the comparability of financial statements have a significant negative effect on the level of cash retention.
Rezazadeh [10]	Investigate the effect of comparability of financial statements on cash retention taking into account the adjusting role of financial constraints, financial reporting quality and governance system	Findings show that there is a significant negative relationship between the comparability of financial statements and cash retention. Also, there is no significant positive relationship between financial constraints and comparability of financial statements and cash retention. There is no significant positive relationship between the corporate governance system and the comparability of financial statements and cash retention. In addition, it was concluded from the research findings that the variable of financial reporting quality has a moderating effect on the relationship between financial statements comparability and cash retention, and this relationship is positive and significant.
Haghayeghi [6]	Investigating the effect of comparability of financial statements on cash retention taking into account the quality of financial reporting and ownership structure	The results show that the comparability of financial statements reduces cash retention. Also, the quality of financial reporting has strengthened this relationship, but the ownership structure has not affected it.
Karim Aghaei [8]	Investigate the mediating effect of financial reporting quality on the relationship between comparability of financial statements and cash retention in companies listed on the Tehran Stock Exchange	He realized that one of the basic duties of corporate financial managers is to manage cash flow. Companies base their cash management strategies on two goals: to provide cash for the company's payments and to minimize the funds that remain stagnant in the company. The second goal is to reflect the mindset that if items of assets are not used properly, there will be no return on the company. Unfortunately, these two goals may contradict each other. One theory about the management of a company's cash assets is the hierarchical theory, which, unlike the equilibrium theory, deals with the fact that the main concern of managers is not to determine the optimal level of cash; rather, they focus more on how to finance investment projects and use the company's cash and accumulated profits, debt, and equity to invest, respectively.
Dadkhah Joybari [4]	Examine the impact of financial reporting quality on investors' decisions	He found that financial reporting is one of the products of the accounting system that provides the information needed for users' economic decisions. This means that any user can use these reports and have a high volume of investment to ensure the possibility of evaluating past performance in order to predict future profitability. The quality of financial reporting is the accuracy of financial reports in expressing information about the company's operations, especially expected cash flows, in order to inform investors. According to the conceptual statement of a Financial Accounting Standards Board, financial reporting should "provide useful information to assist actual and potential investors in making sound decisions."
Chen & Gong [3]	Investigate the relationship between comparability, quality of financial reporting and pricing of accruals	They found that applying different principles in measuring the value of accounting elements, identifying income in different ways, having different principles for dealing with expenses with income and diversity of accounting procedures, disclosing accounting procedures and other explanations that describe economic events are necessary, make the items of the financial statements complete and transparent, thus increasing the comparability of information. Specific events such as contingent liabilities, unconventional contracts, as well as the effects of major economic changes on the unit's activities, such as sharp price changes, legislation on the scope of economic activities, and the acquisition of a large portion of the unit's capital or shares by new investors. Among other things, its disclosure can affect the comparability of information and the decisions of users. The findings also indicated a significant positive relationship between comparability and quality of financial reporting and a significant negative relationship between comparability and pricing of accruals.

Kohlbeck & Jin (2019)	Investigate the relationship between corporate debt, accruals and the quality of financial reporting	In general, the results of the research hypotheses test indicate a significant positive effect of financial constraints and board independence on the relationship between comparability of financial statements and cash retention, while the quality of corporate financial reporting, board size and duality of CEO duties does not have a significant effect on the relationship between comparability of financial statements and cash retention. Finally, the comparability of financial statements does not have a significant effect on companies' cash retention.
Ujkan & Simon [12]	Investigate the relationship between financial reporting quality and the ability to compare financial statements and audit quality to compare financial statements and audit quality	The results of testing the hypotheses show that there is a significant negative relationship between the comparability of financial statements and cash retention by companies. The results also show that financing constraints and institutional investors have a significant positive effect on the relationship between comparability of financial statements and cash retention, but the quality of financial reporting has no significant effect on this relationship. The results of testing the hypotheses show that there is a significant negative relationship between the comparability of financial statements and cash retention by companies. The results also show that financing constraints and institutional investors have a significant positive effect on the relationship between comparability of financial statements and cash retention, but the quality of financial reporting has no significant effect on this relationship.
Asma [2]	Investigate the effect of financial reporting quality on investment efficiency and audit quality	He realized that the growth and development of any economic unit requires financial resources. Thus, the decision of how to attract financial resources that in addition to meeting the financial needs to impose lower costs on the company, has always been the concern of financial managers. The success or failure of entities in attracting low-cost financial resources depends on the financial statements submitted by managers. The level of quality of financial statements affects the reliability and validity of financial statements. The reliability of financial statements is created following a quality audit. In other words, achieving optimal financing is possible through the transparency of information resulting from quality audit services. Therefore, managers should always account for the quality of auditing and the quality of financial reporting as two factors affecting the amount and rate of borrowing. Accordingly, this paper investigates the effect of audit quality on the impact of financial reporting quality on borrowing rates.

5 Research Hypotheses

Hypothesis 1: There is a significant relationship between comparability and quality of financial reporting.

Hypothesis 2: There is a significant relationship between comparability and pricing of accruals.

6 Research model

Given the Chen & Gong [3], the following regression models are used to test the hypotheses. Regression model of the first hypothesis

$$FRQ = \beta_0 + \beta_1 ACC + \beta_2 INSTIT + \beta_3 BIG + \beta_4 SIZE + \beta_5 MTB + \beta_6 ROA + \beta_7 LEW + \beta_8 REV + \beta_9 SALEVOL + \varepsilon$$

Regression model of the second hypothesis

$$DA = \beta_0 + \beta_1 ACC + \beta_2 INSTIT + \beta_3 BIG + \beta_4 SIZE + \beta_5 MTB + \beta_6 RPA + \beta_7 LEV + \beta_8 REV + \beta_9 SALEVOL + \varepsilon$$

The variables used in the regression models are explained and defined operationally as follows.

The dependent variables

Financial Reporting Quality (FRQ)

The following equation is used to measure the quality of financial reporting.

$$ACC_{it} = \beta_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it+1} + \beta_4 \Delta REV_{it} + \beta_5 PPE_{it} + \varepsilon_{it}$$

In the above equation:

ACC: Accruals

OCF_t: Current year Operating Cash Flows,

$$OCF_t = \frac{\text{Current year operating cash inflows or outflows}}{\text{Total assets}}$$

$$OCF_{t+1} = \frac{\text{Operating cash flows for the following year}}{\text{Total assets}}$$

OCF_{t-1}: Operating cash flows of the previous year,

$$OCF_{t-1} = \frac{\text{Previous year operating cash inflows or outflows}}{\text{Total assets}}$$

ΔREV: Changes in sales revenue

$$\Delta REV = \frac{\text{Current year sales revenue} - \text{previous year sales revenue}}{\text{Sales revenue of the previous year}}$$

PPE: Property, plant and equipment

$$PPE = \frac{\text{Property, plant and equipment}}{\text{Total assets}}$$

ε: Residue (residual) is the model and basis for measuring the quality of financial reporting [3].

Accruals (DA)

The indirect method; that is, the balance sheet method is used to determine the accrual component of earning or operating accruals (ACCT). Under the indirect method, the accrued component of earning equals changes in working capital accounts excluding deferred financial expenses and taxes and dividends payable (as these items are non-operating) minus the cost of depreciating tangible and intangible assets and retaining end-of-service benefits, therefore, the accrual component of earning, according to the following equation, is:

$$ACC_t = GrWC_t - DEPAM_t - \Delta PBR_t.$$

Also according to the following equation, changes in working capital account balances (GrWC_t) are equal to:

$$GrWC_t = (\Delta AR_t + \Delta INV_t + \Delta CAO_t) - (\Delta AP_t + \Delta CLO_t).$$

In the above equation:

DEPAM_t: Amortization cost of tangible and intangible assets in period *t*,

ΔPBR_t: Net increase in end-of-service benefits in period *t*,

ΔAR_t: Changes in accounts and receivables in period *t*,

ΔINV_t: Changes in inventories in period *t*,

ΔCAO_t: Current assets other changes excluding cash and bank balances in period *t*

ΔAP_t: Changes in accounts and business payables in period *t*

ΔCLO_t: Changes in other current liabilities excluding deferred financial expenses, taxes and dividends payable in period *t*.

It should be noted that cash flows or the cash component of income (CFO_t), according to the following equation is equal to operating income minus the accrued component of income. In other words:

$$CFO_t = \text{Operation Income} - \text{Acct}$$

Independent variable

Accounting financial statements compatibility (ACCOMPT)

The current paper has used one of the empirical criteria presented by De Franco et al. [5] to measure the comparability of financial statements per a year-company observation.

$$\text{Financial Statements}_i = f_i(\text{Economic Events}_i) \quad (\text{Equation1})$$

In this Equation, $f_i()$ represents the company i system. Two companies have comparable accounting systems if they have similar economic events. In this model, the two companies i and j are first estimated per company-year. The following regression model is estimated using time series data for the five-year period ending year t .

$$\text{Earning}_{i,k} = \alpha_{i,t} + \beta_{i,t}\text{Return}_{i,k} + \varepsilon_{ik} \quad (\text{Equation2})$$

In this Equation, Earnings I, K is the net profit of Company i in the six months K divided by the market value of the company at the beginning of the six months and Return i, k is the stock return of Company i in the six months K .

The coefficients estimated from Equation 2 per company-year are a measure of that company's accounting operations. That is, alpha and beta represent the accounting operations of company i , and alpha and beta represent the accounting operations of company j . The degree of comparability between two companies is shown by the similarity of the accounting operations of the two companies and it is used to estimate the difference between the accounting performance of companies i and j according to the concept of comparability. Therefore, in each year through equations 3 and 4, the earning of company i is predicted separately once with the coefficients of company i and once with the coefficients of company j but with the return of company i (similar event) for the same period.

$$E(\text{Earning})_{ii,k} = \alpha_i + \beta_i\text{Return}_{i,k} \quad (\text{Equation 3})$$

$$E(\text{Earning})_{ij,k} = \alpha_j + \beta_j\text{Return}_{i,k} \quad (\text{Equation 4})$$

In addition, the comparability is comparable from the following equation.

$$\text{ComAcc}_{ij,t} = \frac{1}{6} \sum_{K=5}^K |E(\text{Earning}_{ii,k}) - E(\text{Earning})_{ii,k}|$$

- Control variable

Institutional shareholders (INSTITUTE)

Total shares owned by shareholders above 5% [3].

- Audit Quality (BIG)

This variable is defined as a two-dimensional variable. Thus, if the company has been audited by a large institution (such as an auditing organization or a useful leading institution), a score of one and otherwise a score of zero will be the basis of calculations [3].

- Company size (SIZE)

The size of the company can be calculated by calculating the natural logarithm of the company's assets at the end of the year [3].

- Revenue Changes (REV)

Changes in company revenue can be calculated from the following relationship [3].

$$REV = \frac{\text{Current year sales revenue} - \text{previous year sales revenue}}{\text{Previous year sales revenue}}$$

- Financial Leverage (LEV)

Financial leverage can be calculated from the following equation [3].

$$LEV = \frac{\text{Total debt}}{\text{Total asset}}$$

- Sales ratio (SALEVOL)

The sales ratio of the company can be calculated from the following equation [3].

$$SALEVOL = \frac{\text{Previous sales revenue}}{\text{Total asset}}$$

- Return on Assets (ROA)

Return on assets can be calculated from the following equation [3].

$$ROA = \frac{\text{Net profit (loss)}}{\text{Total asset}}$$

- Profitability (MTB)

Profitability can be calculated from the following relationship [3].

$$MTB = \frac{\text{Market value of equity}}{\text{Book value of equity}}$$

7 Methodology

This is an applied quantitative correlational - analytical post-event research. First, the required literature for writing theoretical foundations and research background was collected by referring to databases such as dissertations, articles and similar researches. In the following, the information of the surveyed companies selected as a statistical sample, whose information was available in the form of databases on CDs under the supervision and review of the responsible institutions audited and presented by financial statements and Rahaward Novin Software. Data was collected using library method by studying the financial statements of companies in the statistical community and extracted from the financial statements in the databases and the website of the Tehran Stock Exchange. Data was analyzed using SPSS software version 22 and EViews version 8.

7.1 Statistical population, sampling method and sample size

The statistical population of the current paper includes all companies listed on the Tehran Stock Exchange for a period of ten years (from March, 2010 to March 2020). The sampling method is systematic elimination and due to the large statistical volume of the population and the presence of some inconsistencies among them, the following exclusion criteria were set for the selection of statistical samples:

All companies listed on the Tehran Stock Exchange for a period of ten years (from March, 2011 to March 2020)	433
Companies whose fiscal year does not end on March 20.	(81)
Companies that have not maintained their ten-year membership in the stock exchange during the period under review.	(55)
Companies whose data were not sufficient to conduct this research.	(66)
Companies that have changed their fiscal year in the period under review.	(71)
Companies that have been part of banks and credit institutions, intermediation, insurance and holding.	(53)
All surveyed companies, after sampling by systematic removal method:	107

8 Research Findings

A descriptive statistics of research variables

Descriptive statistics of research variables are shown in Table 2.

The normality test of error statements of the research hypotheses model

Assuming that the statistical tests explain the correct results, it is necessary to ensure the normality of the statistical distribution of the error statements of the research hypotheses model. Hence, the Jarque - Bera test was used in the EViews software environment. The test results are presented in Table 3. Given that the probability value of Jarque - Bera statistic for the error statements of the model of research hypotheses is more than 5% error level, it can be concluded that their statistical distribution is normal.

Table 2: Descriptive statistics of research variables

Variable	Mean	Median	Max	Min	SD	Observation
Financial reporting quality	0.233	0.342	0.413	0.098	5.412	1070
Accruals	0.286	0.333	0.364	0.066	0.705	
Comparability of accounting	0.685	0.586	0.626	0.260	4.938	
Institutional shareholders	0.336	0.335	0.424	0.110	3.159	
Audit quality	0.361	1.000	1.000	0.000	2.159	
Size of the company	15.765	15.699	24.846	11.816	0.847	
Profitability	2.255	2.753	4.113	1.550	0.066	
Return on assets	0.602	0.624	1.954	-0.301	0.131	
Financial Leverage	0.662	0.705	0.928	0.225	0.225	
Income changes	0.199	0.201	0.347	-0.058	0.254	
Sales ratio	0.233	0.222	0.463	0.075	0.200	

Table 3: Test results of normality of error statements of research hypotheses model

Variavle	Sign	Jarque-Bera statistics	Jarque-Bera statistics probability
Error statements of the first hypothesis model	Resid1	102.765	0.099
Error statements of the second hypothesis model	Resid2	112.486	0.098

Examine the colinearity between independent and control variables

The results of the study of the colinearity between variables are shown in Table 4. Hence, tolerance and Variance Inflation Factor (VIF) criteria were used, and if the tolerance is less than 0.2 or the amount of variance inflation factor is not in the range of one to five, then it can be concluded that colinearity is possible. Given that the value of tolerance in all variables is more than 0.2 and the value of variance inflation factor is less than five, it can be concluded that there is no colinearity between the research variables.

Heterogeneity variance test

In the current paper, the White test was used to detect the variance of heterogeneity and the results are presented in Table 5. The results indicate that the probability value of the test is higher than the error level of 5%, so it indicates the variance homogeneity and it was observed that there is no problem of variance heterogeneity.

The F-Limer and Hausman tests

Before testing the research hypotheses, the appropriate regression model has been selected. In the first step, using the F Limer test, the pattern of panel data against the integrated data is selected, the result of which is shown in Table 6. Given that the probability of F-Limer test statistic is less than 5% error level, the use of panel data is confirmed. Given the choice of panel data model against integrated data, Hausman test was used to select the pattern of fixed effects against the pattern of random effects in regression analysis. The test result is shown in Table 7.

Accordingly, the probability value of the Hausman test statistic is less than the 5% error level. Therefore, the use of a fixed pattern versus a random effects pattern in the above hypotheses is confirmed.

Test the first research hypothesis

The regression model of the fixed effects of the hypothesis is shown in Table 8. The results of the above table indicate that there is a significant positive relationship between comparability and quality of financial reporting. Because, firstly, the sign of its regression coefficient (5.605) is positive and secondly, the probability value of its t-statistic (0.0000) is less than the 5% error level. Therefore, the first hypothesis of the research is confirmed at 95% confidence level. Based on the adjusted coefficient of determination of the model, about 89% of the changes of the

Table 4: Results of the study of colinearity between research variables

Independent and control variables		Collinearity statistic	
Variable name	Sign	Tolerance	VIF
Financial reporting quality	FRQ	0.490	2.518
Accruals	DA	0.432	0.409
Comparability of accounting	ACC	0.428	2.244
Institutional shareholders	INSTIT	0.418	2.483
Audit quality	BIG	0.420	2.409
Size of the company	SIZE	0.439	2.504
Profitability	MTB	0.408	2.441
Return on assets	ROA	0.402	2.430
Financial Leverage	LEV	0.484	2.309
Income changes	REV	0.450	2.174
Sales ratio	SALEVOL	0.449	2.204

Table 5: Results of variance heterogeneity study of research variables

Test	Hypothesis	Statistic	Degree of freedom	Statistic probability
White	First	4.182	(3,157)	0.0777
	Second	5.111	(4,452)	0.0740

dependent variable, considering the effect of the control variables, are explained by the changes of the independent variables. To evaluate the significance of the model, the F test was used, which the results of the test indicate the significant fitted regression model, for the probability of the relevant test statistic (0.0000) is less than the 5% error level. Finally, the Durbin-Watson test was used to examine the autocorrelation between the research variables, which is equal to 1.947 and because it is in the range of zero and its difference is 4, the hypothesis of autocorrelation between the variables is rejected.

Test of the second research hypothesis

The regression model of the fixed effects of the hypothesis is shown in Table 9. The results of the above table indicate that there is a significant negative relationship between comparability and accruals. Because, firstly, the sign of its regression coefficient (-0.291) is negative and secondly, the probability value of its t-statistic (0.0000) is less than the 5% error level. Therefore, the first hypothesis of the research is confirmed at 95% confidence level. According to the adjusted coefficient of determination of the model, about 84% of the changes of the dependent variable, considering the effect of the control variables, are explained by the changes of the independent variables. The F test was used to evaluate the significance of the model, which the results of the test indicate that the significant fitted regression model, for the probability of the relevant test statistic (0.0000) is less than the 5% error level. Finally, the Durbin-Watson test was used to examine the autocorrelation between the research variables, which is equal to 1.947 and because it is in the range of zero and its difference is 4, the hypothesis of autocorrelation between the variables is rejected.

9 The first hypothesis discussion and conclusion

The current paper first hypothesis aimed at answering the question of whether the relationship between comparability and quality of financial reporting is significant in companies listed on the Tehran Stock Exchange? A fixed effects regression model was used to test this hypothesis, according to the results of F-Limer and Hausmann tests with the results of which briefly explained as follows: The results of testing the first hypothesis of the research showed that there is a significant positive relationship between comparability and quality of financial reporting. This relationship is relatively strong with respect to the adjusted coefficient of determination (0.88), and is significant with respect to the probability of t (0.0000). Given the significance of this relationship; the first hypothesis of the study was confirmed. The current paper findings are consistent with that of Hashemzadeh Asl [7], Rezazadeh [10], Karim Aghaei [8], Cheng and Gong [3], and Ujkan & Simon [12].

Table 6: Selection of panel data model versus integrated data in research hypotheses

Test	Hypothesis	Statistic value	Degree of freedom	Statistic probability
F-Limer	First	10.140	(77,695)	0.0000
	Second	12.181	(77,695)	0.0000

Table 7: Selection of fixed effects pattern versus random effects in research hypotheses

Test	Hypothesis	Statistic value	Degree of freedom	Statistic probability
Hausman	First	41.097	6	0.0021
	Second	50.111	6	0.0004

10 The second hypothesis discussion and conclusion

The current paper second hypothesis aimed at answering the question of whether the relationship between comparability and accruals is significant in companies listed on the Tehran Stock Exchange? A fixed effects regression model was used to test this hypothesis, according to the results of F-Limer and Hausmann tests with the results of which briefly explained as follows:

The results of testing the second hypothesis of the research showed that there is a significant negative relationship between comparability and accruals. This relationship is relatively strong with respect to the adjusted coefficient of determination (0.84), and is significant with respect to the probability of t (0.0000). Given the significance of this relationship; the second hypothesis of the study was confirmed. The current paper findings are consistent with that of Hashemzadeh Asl [7], Rezazadeh [10], Karim Aghaei [8], Cheng and Gong [3], and Ujkan & Simon [12].

11 Suggestions

Suggestions based on the first hypothesis findings:

- Business unit managers suggested to that if they are looking for factors affecting the quality of financial reporting, they should seriously strengthen the fields of improving the comparability of financial statements; because it improves the quality of financial reporting.
- Investors and stock market participants are advised to rank their investment companies based on the degree of comparability of accounting and to invest in units that are at a high level in terms of the mentioned factor; because consequently, in such units; the quality of financial reporting is at a good level and this can facilitate successful investment activities.
- Standardization authorities are recommended to develop specific, codified and binding standards to properly assess the quality of financial reporting.

Suggestions based on the second hypothesis findings

- Business unit managers suggested to that if they are looking for factors affecting the reduction of accruals, they should seriously strengthen the factors for improving the comparability of financial statements; because it improves the quality of financial reporting and reduces accruals.
- Investors and stock market participants are advised to rank their investment companies based on the degree of comparability of accounting and to invest in units that are at a high level in terms of the mentioned factor; because consequently, in such units; accruals are at a low level and this can facilitate successful investing activities.
- Standardization authorities are recommended to develop specific, codified and binding standards to properly assess the quality of accruals.

Table 8: Please write your table caption here

Statistic Variable	Sign	Regression coefficient	t-statistic	t-statistic probability
Constant	C	-0.009	-1.200	0.2303
Comparability of accounting	ACC	5.605	6.189	0.0000
Institutional shareholders	INSTIT	0.351	3.586	0.0004
Audit quality	BIG	-0.0008	-0.358	0.7198
Size of the company	SIZE	0.292	5.195	0.0000
Profitability	MTB	0.005	0.280	0.7788
Return on assets	ROA	-10.001	-2.592	0.0062
Financial Leverage	LEV	-0.0001	-0.039	0.9688
Income changes	REV	0.351	3.586	0.0000
Sales ratio	SALEVOL	-0.0007	-0.321	0.7482
Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson	f-statistic	f-statistic probability
0.894	0.888	1.947	71.789	0.0000

Table 9: Regression model of fixed effects of the second research hypothesis

Statistic Variable	Sign	Regression coefficient	t-statistic	t-statistic probability
Constant	C	-0.009	-1.200	0.2302
Comparability of accounting	ACC	-0.291	-5.171	0.0000
Institutional shareholders	INSTIT	0.0008	0.358	0.7200
Audit quality	BIG	-0.005	-0.281	0.7787
Size of the company	SIZE	0.350	3.574	0.0004
Profitability	MTB	0.291	5.171	0.0000
Return on assets	ROA	0.003	0.033	0.9736
Financial Leverage	LEV	-0.0001	-0.038	0.9692
Income changes	REV	-0.0008	-0.358	0.7210
Sales ratio	SALEVOL	0.292	5.195	0.0000
Coefficient of determination	Adjusted coefficient of determination	Durbin-Watson	f-statistic	f-statistic probability
0.847	0.838	1.957	5.479	0.0000

Suggestions for future research

- Investigate the role of information disclosure in adjusting the relationship between accounting comparability, financial reporting quality and pricing of accruals.
- Investigate the role of industry characteristics in adjusting the relationship between comparability of accounting, quality of financial reporting and pricing of accruals.
- Investigate the role of financial performance in adjusting the relationship between accounting comparability, financial reporting quality and pricing of accruals.
- Investigate the role of communication in adjusting the relationship between comparability of accounting, quality of financial reporting and pricing of accruals.

References

- [1] M. Akbari Faizabadi, *The Effect of Comparability of Financial Statements on Specific Fluctuations in Stock Returns Taking into Account the Moderating Role of Earnings Forecast Errors, Profit Forecast Dispersion and Quality of Financial Reporting*, Parsai in the country M.Sc., Allameh Naeni Institute of Higher Education, Department of Accounting, 2019.
- [2] H. Asma, *The effect of financial reporting quality on corporate investment efficiency: Evidence from the Tunisian Stock Market*, Res. Int. Bus. Finance **42** (2017), 321–337.

- [3] A. Chen and J.J. Gong, *Accounting comparability, financial reporting quality, and the pricing of accruals*, *Adv. Account.* **45** (2019), 100415.
- [4] A. Dadkhah Joybari, *Investigate the Effect of Financial Reporting Quality on Investors' Decisions*, Master Thesis in Accounting, Kharazmi University, Faculty of Financial Sciences, 2017.
- [5] G. De Franco, S.P. Kothari and R.S. Verdi, *The benefits of financial statement comparability*, *J. Account. Res.* **49** (2011), no. 4, 895–931.
- [6] S.R. Haghayeghi, *Investigate the Effect of Comparability of Financial Statements on Cash Retention taking into account the Quality of Financial Reporting and Ownership Structure*, Master Thesis in Accounting, Parandak Institute of Higher Education, 2018.
- [7] M. Hashemzadeh Asl, *Investigate the Effect of Comparability of Financial Statements on the Level of Cash Retention with Emphasis on Financing Constraints, Financial Reporting Quality and Corporate Governance*, Master Thesis in Accounting, Shams Institute of Higher Education, Science and Technology, 2018.
- [8] R. Karim Aghaei, *Investigate the Mediating Effect of Financial Reporting Quality on the Relationship between Comparability of Financial Statements and Cash Retention in Companies Listed on the Tehran Stock Exchange*, Master Thesis in Accounting, Yazd University of Science and Art, Faculty of Humanities, 2017.
- [9] M. Kohlbeck and X. Luo, *Are CFO debt-like compensation incentives associated with financial reporting quality?*, *Adv. Account.* **45** (2019), Article 100413.
- [10] P. Rezazadeh, *The eEffect of Comparability of Financial Statements on Cash Retention Taking into Account the Moderating Role of Financial Constraints, Financial Reporting Quality and Governance System*. Master Thesis in Accounting, Shahid Ashrafi University of Isfahan, 2018.
- [11] I. Soleimani Asl, *Investigate the Effect of Comparability of Financial Statements on Cash Retention: Testing the Mediating Role of Financial Constraints and the Quality of Financial Reporting*, Master Thesis in Accounting, Hakim Jorjani Institute of Higher Education, 2018.
- [12] B. Ujkan, and C. Simon, *Audit committees and financial reporting quality: The 8th EU company law directive perspective*, *Econ. Syst.* **42** (2018), no. 1, 151–163.