Effect of the Quality of Accruals on the Investment Efficiency of the listed Companies in Tehran Stock Exchange

Arezoo Yazdani Chamzini[1] , Mojtaba Motalebian Chaleshtori [2]* , Mahmoud Bakhshinejad[3]

[1]*Graduate student of Islamic Azad University, Shahrekord Branch.*

[2]*Department of Accounting, Farsan Branch, Payame Noor University,Chaharmahal va Bakhtiari, Iran.*

[3]*Faculty member of Islamic Azad University, Shahrekord Branch*

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ABSTRACT

Objective: In general, in line with the strategic planning for their companies, managers should finance and run projects with positive net present value; however, information asymmetry along with market fluctuations due to the existence of confidential information between the owners and managers of the companies as well as the representation problems arising from the separation of ownership and management may cause the diversion of corporate investment to accept projects with positive net present value or reject projects with negative net present value. The problems are the result of managers' overinvestment or underinvestment because of personal gain. Therefore, accruals quality can be proposed to reduce the problems caused by information asymmetry and representation costs. **Methodology:** In this regard, in this study, multivariate regression analysis in the form of panel data was used to examine the effect of accruals quality on the investment efficiency of the listed companies in Tehran Stock Exchange during 2010-2014. **Results:** The results of the assumptions suggest that there is a significant inverse relationship between accruals quality and over/under-investment for the companies listed in Tehran Stock Exchange. **Conclusion:** Finally, The results of this study show that it is not only those companies with a higher level of accruals quality enjoying more efficient investments; however, higher quality of accruals also leads to more efficient investment.

1. Introduction

Given the changes having occurred in today's world, especially in developing countries which are faced with numerous threats, to solve their economic problems, these countries need appropriate mechanisms to have a better use of their resources and God-given wealth. In this regard, one of the most important strategies is expanding and developing investments. Investment in a variety of ways has always been regarded by companies as one of the important methods to develop companies and to avoid stagnation and backwardness. The limitation of resources has made increasing investment efficiency of great importance in addition to the development of investment.

Investment efficiency on the one hand requires that the consumption of resources for activities in which investment is more than desirable level is prevented (to prevent over-investment) and, on the other hand, resources shall be directed towards activities which require more investment (to prevent under investment) (Gomariz and Balleata, 2014).

Access to high quality financial reporting depends on the integrity of links in the financial reporting chain. In this regard, increasing the quality of earnings which is caused by increased accruals quality is of great importance. Increasing the quality of earnings and accruals to make more favorable economic decision and to attract greater international confidence after the recent crisis is of essence for the accounting profession and for investors. Increasing the quality of accruals that increases the quality of financial reporting and earnings can reduce investment risks and guide the investors towards the favorable allocation of resources and investment to optimal investments (Dastgir and Ghanizadeh, 2013). There are least two theoretical criteria for determining investment efficiency: a) companies need to collect resources to finance investment opportunities. In an efficient market, all projects with positive net

present value should be funded; however, fiscal constraints limit the potentials of managers to finance. As a result, the companies tackling with fiscal constraints may due to the high cost of financing, refuse to accept and carry out projects with positive net present value and this will lead to much lower investment returns. B) If the company had decided to finance, there is no guarantee that the right investment is made. For example, managers may choose inappropriate projects for the investment. As a result, poor project selection results in overinvestment (Biddle et al., 2009).

1.1 Theoretical foundation and background of the study

Accruals show the difference between accounting profit (profit that is calculated based on accrual accounting) and cash flow. Accruals were first examined by Ohlson (1996). Part of accruals are created in the normal course of business unit activity (non-optional accruals) and some of them (discretionary accruals) are created because of managers' conscious manipulation or applying personal views. Because these accruals are affected by estimates and manipulation, some users of the financial statements may regard the accruals are with suspicion (Dastgir and Rastegar, 2011). Observing the principles of fulfillment and compliance is one of the most important benefits of accruals which is created as a result of the application of the accrual accounting system and improves the company's performance. However, using accruals, cash flow resulted from a financial event is measured by an estimate. And if this estimate is wrong, accruals and income recognized should be modified in the future. For example, if the net result of a claim is less than the original estimate, next record will also show the cash collected and modify the estimation error. This estimation errors and subsequent modifications reduce the usefulness of accruals. Therefore, whatever the size of estimation errors is higher, the accruals quality decreases. In addition, the larger the size of accruals is, they indicate more estimates and the likelihood of more estimation errors and this reduces the estimating accruals quality (Dastgir and Rastegar, 2011).

According to Thai (2004), accruals quality refers to the extent that accruals adjust or transfer the identification of the cash flows in order for the adjusted figures to better measure the performance of business units and predict future cash flow and profit. In his study, he introduced the accruals quality as one of the indicators of earnings quality. In Thai's words, the earnings quality is high until the time the accruals quality is high.

Increasing the quality of accruals that increase the quality of earnings and financial reporting can reduce investment risks and guide the investors towards the favorable allocation of resources and investment to optimal investments (Dastgir and Ghanizadeh, 2013). One of the most challenging issues of the present era is economic discussion and development so that its realization has become one of the main objectives of economic policy-making and decision-making (Azimi, 1996).

One of the factors affecting economic growth and sustainable development is effective investment. To this end, an economic unit for investment in various projects should consider investment based on the resources constraints (Modares and Hesarzadeh, 2008). It is achieved by using evaluation of plans, including the net present value. According to this method, the investment is carried out in one or more projects in which the net present value of the project is positive. Thus, the main subject of this research is that undertaking projects with negative net present value result in over-investment and ignoring the plans with positive net present value result in underinvestment efficiency and these will result in the lack of efficiency of investment, since managers need to efficiently invest in projects which make value for the company, i.e. accepted projects with positive net present value and rejected projects with negative net present value.

Conceptually, investment efficiency is achieved when the company only fund in all projects with positive net present value. Of course, this scenario will only work if the market is perfect and none of the imperfect market issues such as inappropriate selection and representation costs do exist (Biddle et al., 2009).

In addition, investment efficiency on the one hand requires that the consumption of resources for activities in which investment is more than desirable level is prevented and, on the other hand, resources shall be directed towards activities which require more investment (Modares and Hesarzadeh, 2008).

Studies in the field of investment include two sets of hypotheses which explain why some companies may be diverted from a good investment. One of these hypotheses is the lack of information asymmetry between managers and investors (Myers and Majluf, 1984).

Managers are aware of the favorable investment opportunities; however, the investors are not fully aware of these opportunities. Therefore, the companies may have underinvestment and do not finance the projects with positive net present value. Another hypothesis related to following personal interests which may lead to overinvestment.

Each of these hypotheses predicts that investment is a function of internal cash flows. Based on the information asymmetry theory, companies with favorable investment opportunities and with high cash flows funs the projects with no need to foreign capital markets. Based on the hypothesis of administrative privileges, managers prefer internal funds over external funds to finance projects of low yields.

There are at least two factors crucial to determining investment efficiency: First, a company to fund its investment opportunities needs to increase the capital. In a perfect market, all projects with a positive net present value should be financed. Although the investment literature suggests that the companies face financing constraints in which the managers' ability to finance potential projects is limited (Tobin, 1969).

As a result, the companies facing financing constraints, due to the high cost of raising capital, ignore the projects with positive net present value and this will lead to underinvestment. The second factor of investment efficiency suggests that, even if the company decided to increase its capital, there is no guarantee that the right investments is made. Most studies show that inappropriate selection of a project will lead the company towards underinvestment. Few studies also show that companies may have underinvestment.

Gomariz and Ballesta (2014) in a study entitled "the accruals quality, investment efficiency and debt maturity" examined the role of accruals quality and debt maturities in investment efficiency. The results showed that accruals quality shows the issues related to underinvestment and overinvestment and shorter-maturity debt improves the investment efficiency. They concluded that the quality of accruals and debt maturities as alternative mechanisms improve the investment efficiency so that the companies with less (more) use of short-term debt would have higher (lower) accruals quality and this affect the investment efficiency.

Munoz et al. (2013), in a study entitled "liquidity and company's investment" examined the relationship between the company's stock liquidity and investment. The results showed that there is a significant and positive relationship between the volume of transactions and investment.

Yang and Jiang (2012), in a study entitled "the impact of financial constraints and the representation cost on the investment efficiency" investigated the effect of financial constraints and representation cost on investment efficiency. The results showed that the companies with free cash flow above favorable level are more likely to overinvest because of the representation cost and those with free cash flow under favorable level tend to underinvest due to financial constraints.

Chen et al (2011), in a study entitled "accruals quality and investment efficiency of private companies in emerging markets" investigated the effect of accruals quality on two levels underinvestment and overinvestment for private companies in emerging markets. The results showed that higher accruals quality fixes the under investment problems and is conducive to investment by companies. On the other hand, the companies with overinvestment had lower investment level.

Li et al. (2010), in a study entitled "accruals quality and investment efficiency" examined the relationship between accruals quality and investment efficiency in China. Using synthetic benchmarks for the quality of accruals, the results showed that there is a negative relationship between accruals quality and over/underinvestment and the effect of the accruals quality and earnings smoothing on over/underinvestment is important.

Karami et al. (2015), in a study entitled "financial reporting quality, debt maturity and investment efficiency: Evidence from Tehran Stock Exchange" studied the relationship between accruals quality, debt maturity, and investment efficiency. They also examined the interplay between these two variables on investment efficiency. The results showed that companies with higher accruals quality have higher investment efficiency. Moreover, investigating the interplay between accruals quality and debt maturity on investment efficiency showed the relationship between accrual quality and investment efficiency for companies that use short-term debts are stronger. Hassan Zadeh et al. (2014), in a study entitled "the impact of financial constraints and representation costs on investment efficiency" examined the relationship between financial constraints and representation cost on the investment efficiency. Research findings showed that financial constraints has a positive and significant effect on investment efficiency and representation costs also have a significant negative impact on it.

Fakhari and Rasouli (2013), in a study entitled "effect of conservatism and accrual quality on investment efficiency" examined the effect of conservatism and accruals quality of on investment efficiency and concluded that conservatism increases investment efficiency. No significant relationship was observed between accruals quality and investment efficiency.

Soleimani Amiri and Farshi (2013), in a study entitled "the effect on tax objective of the companies on the relationship between financial reporting quality and investment efficiency for the companies listed in Tehran Stock Exchange" studied the effect of tax objectives on the relationship between accruals quality and investment efficiency. The results indicated that there is a positive relationship between accruals quality and investment efficiency. Moreover, the accruals quality of the companies that have strong incentives to manage earnings for tax purposes has a negative relationship with the investment efficiency.

2. Materials and methods

2.1 Hypotheses

H1: There is a negative relationship between accruals quality and overinvestment efficiency.
H2: There is a negative relationship between accruals quality and underinvestment efficiency.

2.2 Methods

Regarding the purpose, this research is applied- experimental because the results can directly be used by different persons. In terms of nature, it is descriptive. On the one hand, it checks the status quo and on the other hand it explores the correlation between variables using regression analysis in the form of panel data. With regard to its logic, the study is inductive and in terms of time, it is an ex post facto study because the data are obtained from past events without the direct involvement of the researcher.

2.3 Defining and measuring variables

In this study, the investment efficiency was considered as the dependent variable and the accruals quality was regarded as an independent variable.

2.3.1 Dependent variable:

The dependent variable in this study is the investment efficiency which also includes overinvestment and underinvestment. To estimate the investment efficiency, model (1) which is derived from Richardson (2006), Biddle et al. (2009), and Chen et al. (2011), is used:
Model (1)

$$\text{Growth}_{i,t\text{-}} + \alpha_2 \text{Leverage}_{i,t\text{-}1} + \alpha_3 \text{Cash}_{i,t\text{-}1} + \alpha \text{Size}_{i,t\text{-}1} \tag{1}$$

$$\text{Investment}_{i,t} = \alpha + _o \alpha_{11} \tag{2}$$

$$+ \alpha_5 \text{Return}_{i,t\text{-}1} + \alpha_6 \text{Age}_{i,t\text{-}1} + \alpha_7 \text{Investment}_{i,t\text{-}1} + \varepsilon_{i,t\text{-}1} \tag{3}$$

$\text{Investment}_{I,t}$: Paid cash flow for acquisition of fixed assets, intangible assets and other long-term assets divided by total assets of the first period for the company i at the end of the year t.

$\text{Growth}_{t\text{-}t,i}$: Investment opportunities, equal to the book value of assets of the end period minus book value of the assets of the first period divided by the book value of the assets for the company i during year t-1.

$\text{Leverage}_{t\text{-}t,i}$: Leverage is the company's total liabilities divided by total assets for the company i at the end of year t-1.

$\text{Cash}_{t\text{-}t,i}$: Held cash, which is the ratio of total cash and short-term investments to total assets at the end of the year i t-t.

Size $_{1\text{-}t,i}$: logarithm of total assets at the end of ı-t for the company i.

Return $_{i,\,t\text{-}1}$: Return on equity, which is equal to the difference between the price per share at the beginning and end of the financial period in addition to adjustments to income arising from stock, divided by the price per share at the beginning of the financial period for the company i at the end of ı-t.

Age $_{i,\,t\text{-}1}$: Company life which is the difference between the acceptances of the company's participation in the Tehran Stock Exchange until the year ı-t.

Investment $_{i,\,t\text{-}1}$: Flow Cash paid for the acquisition of fixed assets, intangible assets and other long-term assets divided by total assets at the first period t-1. By substituting the above equations calculated for the total investment, the residual of the equation is calculated. Positive residual (positive deviation from the expected investment) represents the net negative value projects or the overinvestment efficiency and negative residual (negative deviation from the expected investment) represents the transition from investment opportunities with positive net present value or the underinvestment efficiency (Richardson, 2006; Biddle et al., 2009; Chen et al., 2011).

To sum, the regression is estimated in the model 1 and the amount of residuals is estimated so that negative residuals show underinvestment efficiency. To identify underinvestment efficiency, the absolute of negative value is used. Furthermore, the positive amounts of residuals are used as overinvestment.

2.3.2 Independent variables:

The independent variable in this study is the accruals quality (ACQ). The model (2) taken from Francis et al. (2005) and McNichols and Stubben (2002) is used to measure it:

Model (2)

$$_{i,t\text{-}1} + \beta_2\,CFO_{i,t} + \beta_3\,CFO_{i,t+1} + \beta_4\,REV_{i,t} + \beta_5\,PPE_{i,t} + \varepsilon_{i,t} \tag{4}$$

$$TCA_{i,t} = \beta_o + \beta_1\,CFO \tag{5}$$

$TCA_{t,\,i}$: total current accruals equal to operational income and loss plus the depreciation cost and cash flow for the company i at the end of the year t.

$CFO_{i,\,t\text{-}1}$: Operating cash flow for the company i at the end of the year t-1.

$CFO_{i,\,t}$: the operating cash flow for the company i at the end of the year t.

$CFO_{i,\,t+1}$: operating cash flow for the company i at the end of the year t + 1.

$REV_{i,\,t}$: income obtained from the sales for the company i at the end of the year t.

$PPE_{i,\,t}$: Gross value (cost) of property, machinery and equipment for the company i at the end of the year t.

Based on the model (2), if the accruals quality is high, the accruals would reflect the major changes in current, past and future cash flows. As a result, certain residual of the company (ε_i, t) in the model (1) forms the quality of earnings used in this research. Specifically, earnings quality index is defined as a deviation from the residual of the company i. The higher residual deviation represents weaker accruals and lower earnings quality.

2.3.3 Control variables

Size $_{1\text{-}t,i}$: logarithm of the total assets for the company i in year t-1.

Growth $_{1\text{-}t,i}$: Investment opportunities, equal to the book value of assets at the end of the period minus the book value of first assets divided by the book value of assets at the first period for the company i in year t-1.

Leverage $_{1\text{-}t,i}$: the ratio of debt to assets period for the company i in year t-1.

Pay $_{1\text{-}t,i}$: Bonus of the board of directors in the company i in year t-1, which is equal to the amount of the bonus approved by the annual General Assembly and is obtained from the profit and loss accounts of companies listed in Tehran Stock Exchange.

Mfo $_{1\text{-}t,i}$: the ratio of administrative costs to total assets for the company i in year t-1.

Vfo $_{1\text{-}t,i}$: cash flow from operations to total assets ratio for the company i in year t-1.

2.4 Models and statistical methods to test the hypotheses

In this study, descriptive and inferential methods were used to analyze the data. At the descriptive level, using statistical indices such as frequency, mean, standard deviation and maximum and minimum, the general characteristics of the community were described. At inferential level to analyze the data and test hypotheses, multivariate regression model derived from Gomariz and Balleata's (2014) model was used.

Model (3)

$$\text{Over I}_{i,t} \text{ or } \text{Under I}_{i,t} = \gamma_o + \gamma_2\,ACQ_{st\text{-}1} + \gamma_3\,Size_{i,t\text{-}1} + \gamma_4\,Growth_{i,t\text{-}1} + \gamma_5\,Lev_{i,t\text{-}1} + \gamma_6\,Pay_{i,t\text{-}1} + \gamma_7\,Mfe_{i,t\text{-}1} + \gamma_8\,Vfo_{i,t\text{-}1} + \varepsilon_{i,t} \tag{6}$$

Measurements of the variables in the model were described in the previous section. F Limer test (Chow) was used for the composite data to choose between panel and pooling (consolidated). In the case of selecting the panel data, Hausman test is used to choose between using random-effects and fixed-effects. In addition, prior to deciding on the results of testing, regression assumptions and other assumptions about the data should be met so that, in order to study the serial correlation of the errors, *Wooldridge test* was used and to study the error variance heterogeneity, adjusted Wald test was used in the software STATA. Finally, to test the first and second hypotheses, models were estimated in both overinvestment and underinvestment conditions. The significance of the coefficient $\gamma 2$ was evaluated by t test. In order to evaluate the total validity of the model, F-test significant level and adjusted coefficient of determination (Adj R^2) were also examined.

2.5 Study population and sample selection

The population of this research consisted of the companies listed in the Tehran Stock Exchange. Systematic removal procedure was taken for sampling. To this end, the companies meeting the following conditions were included in the study and those not meeting the inclusion criteria were excluded. The inclusion criteria are as follows:

- To compare the data, the fiscal year for the companies ended March.
- During the period studied, their shares are traded at least every three months.
- They shall not be included in investment, financial intermediaries and leasing companies.
- During the period under review, fiscal year shall not be changed.
- All research variables are accessible.

Due to the above conditions and limitations, out of the companies listed in the Tehran Stock Exchange, a total of 109 companies were selected. The time span of the study was 2010-2014. The library method was used to collect the theoretical background. The bibliography information and literature were collected by library research using books and articles available at universities' libraries. In order to collect the information needed to calculate variables, document mining method was used. In this regard to collect data, financial statements of the companies listed in the Tehran Stock Exchange were used. The instruments used in this study include information published by the Tehran Stock Exchange (KODAL website), notifications of new software and other Internet resources related outcomes.

3. Discussion and results

3.1 Results

To provide an overview of the important features of the calculated variables, some of the concepts of descriptive statistics for these variables, including mean, median, maximum, minimum, and standard deviation are shown in Table 1.

Table 1. Descriptive statistics of research variables

variable	number of observations	mean	standard deviation	Min.	Max.
under	545	0.011	0.026	0	0.0242
over	545	0.011	0.019	0	0.157
ACQ	545	0.048	0.046	0.000	0.393
SIZE it-1	545	13.748	1.581	10.094	18.817
Growth it-1	545	0.187	0.232	-0.441	0.976
Leverage it-1	545	0.583	0.169	0.145	0960
Pay it-1	545	1.925	1.542	0	8.924
Mfe it-1	545	0.068	0.046	0.004	0.290
Vfo	545	0.0149	0.146	-0.291	0.692

As Table 1 shows, the number of observations during the years 2010 to 2014 for each variable is equal to 545 which contain the data on 109 companies during 5 years. The main central index is mean which represents the average balance and center of gravity for the distribution and is a good indicator for the data centrality. For example, the mean value of financial leverage is equal to .583. That shows most data have been centralized in this point. In other words, the amount of debt for the companies surveyed relative to their assets is an average of 58 percent. In general, distribution parameters are a criterion for determining the amount of their distribution from each other or from the mean. The most important distribution parameter is standard deviation. The value of this parameter for the variable (over) is equal to (0.019) and it is equal to (1.581) for the variable (SIZE it-1). These show that these two variables have the maximum and minimum distribution.

The results of F-Limer (Chow) test and Hausman test for the hypothesis are provided in the tables (2) and (3):

Table 2. F-Limer (Chow Test) Test results

Model	F		
	value	df	Sig.
Over Model	2.313	(108.429)	0.000
Under Model	1.408	(108.429)	0.009

According to Table (2) the significance level (p-value) of the F-Limer test for both models is less than 5% and it shows the confirmation of the panel data.

Table 3. Hausman Test

Model	F		
	value	df	Sig.

Over Model	6.771	7	0.453
Under Model	3.324	7	0.853

Furthermore, the significance level of Hausman test for models is above 5% that represent the random intercept effect. Adjusted Wald test results indicate that the significant level of research models is less than 5%, indicating a variance inconsistency for the residuals. It should be noted that the problem was resolved in the final estimation of models. The Wooldridge test results also showed that the meaningfulness possibility for this test is more than 5%; therefore, there is no serial correlation in the model error sentences.

3.2 The results of the research hypotheses

Results of the first hypothesis are shown in Table (4):

Table 4. Final estimates of (over) model

58%	coefficient of determination		**545**	**Number of observations**
56%	adjusted coefficient of determination		109	intervals
.000	(F)meaningfulness of the overall model		5	Number of periods
Sig.	**t**	**Standard error**	**coefficients**	**variables**
0.013	-2.487	0.006	-0.016	ACQ
0.168	1.379	0.000	0.000	SIZE it-1
0.827	-0.217	0.002	-0.000	Growth it-1
0.068	1.828	0.003	0.005	Leverage it-1
0.412	0.820	0.000	0.000	Pay it-1
0.464	-0.732	0.010	-0.007	Mfe it-1
0.426	0.796	0.004	0.003	Vfo
0.991	-0.010	0.004	-4.86	Cons(intercept)
2.06				Durbin Watson

As in the final estimates of the first model can be observed, accruals quality has a negative coefficient -.016 and its significance level equals .013. This represents the significant adverse impact of accruals quality on the investment efficiency. Thus the first hypothesis is accepted.

All control variables (at the level of 5%) have a significance level greater than 5%; therefore, they do not have a significant effect on the dependent variable. In the final estimation (after the elimination of unequal variants and controlling outlier observations), coefficient of determination increased to 56 percent and the Durbin-Watson value was modified compared to the initial estimate and decreased to 2.06. F-statistic had a significant level .000 in the final estimate, which indicates the significance of the model in general.

The results of the second research hypothesis are presented in Table 5:

Table 5. Final estimates of (under) model

63%	coefficient of determination		**545**	**Number of observations**
62%	adjusted coefficient of determination		109	intervals
.000	(F) meaningfulness of the overall model		5	Number of periods
Sig.	**t**	**Standard error**	**coefficients**	**variables**
0.029	-2.188	0.011	-0.025	ACQ
0.073	1.795	0.000	0.000	SIZE it-1
0.803	-0.249	0.003	-0.000	Growth it-1
0.265	1.115	0.004	0.005	Leverage it-1
0.121	-1.550	0.000	-0.000	Pay it-1
0.404	0.823	0.010	0.009	Mfe it-1
0.232	1.195	0.005	0.006	Vfo
0.718	0.360	0.004	0.001	Cons(intercept)
2.03				Durbin Watson

After removing the heterogeneity of variance and controlling the outlier observations by dummy variables, coefficient of determination and adjusted coefficient of determination were 63 and 62 percent, respectively. Durbin-Watson Coefficient was equal to 2.03. The closer this value is to 2, the better it is. The significance of the model was equal to .000, which indicates a better fit of the final estimate compared to the original estimate.

According to the results of the second model, the coefficient of the variable accruals quality was -.025 and significance level of this coefficient is equal to .029. Therefore, it can be claimed that a significant inverse relationship exists between AQ and underinvestment. Hence, the second hypothesis is also

accepted. Out of the control variables, only the variable company size has a positive and significant effect (at 90 percent) on the dependent variable. Other control variables had a significance level greater than 5% and their effect cannot be mentioned since the corresponding coefficients are not significant.

4. Conclusion

4.1 Conclusions and recommendations

The results showed that there is a significant inverse relationship between accruals quality and over- and under-investment in the companies listed in Tehran Stock Exchange. These results are consistent with the findings of Bushman and Smith (2001) and Healy and Palepu (2001). The study conducted by Saghafi and Arab Maziar Yazdi (2010) does not match with the study theoretical foundations. The results obtained by Saghafi and Arab Maziar Yazdi indicated that there is practically no significant correlation between the variables. The results of this study show that it is not only those companies with a higher level of accruals quality enjoying more efficient investments; however, higher quality of accruals also leads to more efficient investment. In other words, accruals quality enhances investment efficiency through reducing the low level of investment. Therefore, this study is another evidence of the usefulness of accounting information provided in the investment field. These findings could encourage providers of accounting information to present better quality information in order to properly meet the needs of their societies on the one hand and to encourage the users of accounting information to reconsider the role of accounting information on the other hand. To sum, the data used in this study were unadjusted for inflation rate and this may affect the information contained in financial reports and the results. It is suggested that the relationship between ownership structure and capital structure and investment adequacy are evaluated in future studies.

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