# Financial reporting quality, Debt maturity investment Efficiency

Case Study: Stock Market Listed Chemical and pharmaceutical industries

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**Abstract**

The aim of this study is to investigate the relationship between the financial reporting quality, debt maturity and efficiency of investment in stock companies (Case Study: Chemical and pharmaceutical industry). Research method of this study is correlational in nature and content. In this study, the financial data of 36 Tehran Stock Exchange listed companies in the chemical and pharmaceutical industry were chosen as sample and extraction method was used for systematic removal of data, during the period of fiscal years of 2005 to 2014. Combined data and multivariate regression was used to test research hypotheses. Experimental evidence obtained from testing the hypothesis shows that firms with higher financial reporting quality and greater use of shorter debt maturities, have a higher investment efficiency. In addition, these findings suggest that shorter debt maturities have significant effect on the relationship between financial reporting quality and efficiency of their investment. But this has no effect on investment in projects not having a negative net present value. In addition, these findings suggest that shorter debt maturities have no significant effects on the relationship between financial reporting quality and efficiency of their investment.

**Keywords**: Financial reporting quality, Debt maturities, Investment efficiency

**Introduction**

Accounting researches show that annual financial reports in firms are important sources of information used by shareholders and creditors, as the two main groups of investors. Shareholders seek the benefits of increased stock price or profit from company activities and creditors seek principal and interest on loans, as performance expectations, call for information and annual financial reports which are reliable. Biddle et al (2009) study showed a higher financial reporting quality, reduce information asymmetry and agency costs and hence increase the efficiency of investment thereof. In their analysis, the researchers also concluded that the debt ratio can be applied in new investment to improve the incentive to invest in companies with high risk and having asymmetric information. The results showed that in companies with debts of high-risk, investment opportunities when measured based on the ratio of debt, cannot have a profitable investment. On the other hand, they showed that the proportion of debt ratio can be the solution in case of risky debt and asymmetric information for low investment. Accordingly, this

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question is raised about what impact a company's debt can have on the relationship between financial reporting quality and investment efficiency? Although in other countries with developed markets this question has been partly answered, but due to the lack of such research in emerging market capital of Iran, this study attempts to examine this issue in the capital market of Iran.

## Theoretical foundations of research

Investment by companies in different fields, has been always, considered as one of the important ways to prevent the development of recession and backwardness. In the meantime, restrictions on resources has meant that in addition to the development of investment, increase in investment efficiency, is of great importance (SaghafiandMotamediFazel, 2012).

Conceptually, investment efficiency, identification, financing and implementation of projects with net present value is considered positive and inefficient investment and ignoring the investment opportunities with positive net present value (much less investment) or choose projects with a net present value have been described as negative (excessive investment) (Garcia Lara and Osma, 2010). In Inefficient markets Investment and financing decisions are not separate (Myers and Majluf, 1984).

In fact, capital market inefficiency caused by information asymmetry and agency costs, can reject projects with positive net present value and also investment in projects with present negative value. In determining the efficiency of investment, there are at least two theoretical criteria: The first criterion states that for the purpose of financing investment opportunities, there is a need to gather resources. In an efficient market, all projects with positive net present value, should be financed. Although a large number of financial research in the field has shown that financial constraints, enforce limitation on the ability of managers for financing (Hubbard, 1998). One of the things that can be inferred from this is the fact that the firms facing financing constraints, due to the high cost of finance, may accept and carry out projects with positive net present value, regardless that it would, leads to slow investment. The second measure also states that if the company had decided to finance, there is no guarantee that the investment is done correctly with it. For example, managers may choose appropriate projects for the benefit of himself or even exploits the resources available to invest in their inefficient. More Articles in this field predict that the selected weak projects will lead to over investment (Stein, 2003). In several studies, including Cutillas Gomariz and Sanchez Ballesta (2014) have discussed on the source of financing as a factor affecting the relationship between financial reporting quality and investment efficiency. Higher quality financial reporting can improve investment efficiency in two ways. First, by reducing the information asymmetry between firms and investors and thereby reduce financing costs, since the accounting information helps investors to recognize better good and bad quality investment projects. Second facilitating the supervision of shareholders on managers' performance. Higher quality financial reporting provide important source of company-specific information for investors and performance of managers and part of the problems arising from conflicts of representation will be improved.

Based on the above discussions, the main research questions can be explained as follows:

- ✓ What is the relationship between financial reporting quality and investment efficiency?
- ✓ What is the effect of debt maturity (short-term liabilities) on the relationship between financial reporting quality and investment efficiency?

**Background research**

*Studies abroad*

Chen et al (2011), the investigation concluded that the financial reporting quality is lower in private companies, in an other words, companies with smaller no of investors or investment is just more private, have a lower financial reporting quality. Ibrahim Baba (2012), shows a strong positive relationship between ownership structure and financial reporting exists. Monem et al. (2013) stated, the probability of conservatism in companies with exploration strategy is more than the companies with resisting strategy. The probability of earnings management in companies with resistance strategy is more than companies with exploration strategy. And macro-economic conditions effect on the relationship between corporate strategy and the financial reporting quality. Cutillas Gomariz and Sanchez Ballesta (2014) in a study using a sample of Spanish listed companies during the period from 1998 to 2008 conducted to evaluate the efficacy investors have provided the relation between quality financial reporting and the maturity of debt.

 The results showed that the financial reporting quality modify the extreme over investment problems. In this connection, subsequently found that the financial reporting quality and debt maturities could be considered as an alternative mechanism to improve investment efficiency: Companies with less (more) use of short-term debt represents the financial reporting quality more (less) on the performance of their investment.

*Research carried out within the country*

Hashemi et al. (2010), in a research found that firms with large positive discretionary accruals, investment in capital assets is more sensitive to internal cash flows. Discretionary accruals as well as market pricing is not affected by the amount of external financing. Saghafi and Arab Mazaryazdy (2010), they examined the relationship between investment efficiency and financial reporting quality treaty. The results showed there is not a significant correlation between Tehran stock exchange, independent variables. Hajiha & Akhlaghi (2011), examined the impact of specific factors on the maturity structure of their debt. The obtained results indicate a positive relationship between dividend policy and profitability with the debt maturity structure. Fakhari and Rasuli (2013) showed, conservatism, increased efficiency investment, no correlation exists between accruals quality and efficiency of investment. Badavr Nahandi and Taghizadeh Khaneghah (2014), found a significant positive relationship between corporate governance mechanisms and investment performance during the cycle of growth, decline and reached maturity.

**Research Hypotheses**
According to the topics presented, hypotheses can be formulated as follows:
The first hypothesis of the study: companies with higher financial reporting quality, have higher efficiency of investment.
Hypothesis (1-1): companies with higher financial reporting quality, reduce difficulties of investment in projects with negative net present value.
Hypothesis (1-2): companies with higher financial reporting quality,reduce difficultiesof investment in projects with positive net present value.
The second main hypothesis of the study: companies with greater use of debt maturities less, show higher investment efficiency.
Hypothesis (2-1): Firms with a greater use of debt maturities less, reduce difficulties of investment in projects with negative net present value.
Hypothesis (2-2): Firms with a greater use of debt maturities less, reduce difficulties of investment in projects with positive net present value.
Hypothesis (2-3): The relationship between financial reporting quality and efficiency of investment for those companies that have a shorter maturity debt is stronger.

**Research methodology**

This study is post-event research, because it is based on the observed data analysis. In addition, this research has descriptive purpose, it aims to describe the relationship between two or more variables and more exactly, causal-comparative, because it is sought to determine the factors influencing a phenomenon.

This study examines the issue in the chemical industry and pharmaceutical companies in Tehran Stock Exchangein a 9-year period (2005-2014) respectively. The statistical sample of important loss of companies which meet all the following conditions:

1.The company should be accepted prior to 2005 and active until the end of 2014, in the stock exchange.
2. Due to the specific nature of their activity holding companies and significant differences with manufacturing companies and trading companies have no choice to be holding.
3. The financial year ending on 19 March and the fiscal year does not change during the period studied.
4. The financial information must be available.
After considering all the above criteria as a community of 36 companies remained screened. All of which were selected as samples of research. Thus, according to the 9-year study period (2005-2014) our observations leads to the 324-year-company (9years × 36 companies). Data needed to carry out the research were collected from data banks, such as Rahavard novin software and Codal site of Tehran Securities and Exchange Organization.

**Variables and how to calculate them**

Dependent variable investment efficiency (InvEff$_{it}$)

This was calculated by using the model provided by Cutillas Gomariz and Sanchez Ballesta (2014):

$$Investment_{i,t} = \beta_0 + \beta_1 SalesGrowth_{i,t-1} + \varepsilon_{i,t}$$

$Investment_{it}$: Total investment firm i in year t; $SalesGrowth_{it}$: sales growth

$\varepsilon it$: remaining regression model (if it is positive, indicating projects with negative net present value and if it is negative, indicating projects with positive net present value)

**Independent variables**
1-FRQ: financial reporting quality
To evaluate the financial reporting quality and Dychi&Dycha model (2002) is used

$$WCA_{it} = \varphi_0 + \varphi_1 CFO_{it-1} + \varphi_1 CFO_{it} + \varphi_1 CFO_{it+1} + v_{it}$$

WCA: total current liabilities of the company. And is equal to the change in current assets minus current liabilities minus change in cash flows plus the change in debt the company.
CFO: Cash flow from operations and total assets at the beginning of the period is homogeneous.
CFO: Cash flow from operations by total assets equal in the first period.

2-$DumSTDebt_{it}$: dummy variable rate short-term debt.
In case of short-term debt to total debt is now higher than the industry average (1) and otherwise (0).
Control variables
1)$CFO_{it}$: SD Net operating cash flow
2)$CFO-ATA_{it}$: net operating cash flow to total assets ratio

3)$Tang_{it}$: company tangible assets log

4)$Z_{it}$: risk of bankruptcy

$$Z= 0/717x_1 +0/874x_2 +3/107x_3+0/420x4+0/998x_5$$

$X_1$: ratio of working capital to total assets; $X_{2:}$ ratio of retained earnings to total assets; $X_3$: earnings before interest and taxes to total assets ratio; $X_4$: the ratio of book value to book value of total debt; $X_5$: the ratio of sales to total assets

| Bankruptcy probability according to Zemiski's model | Limits |
|---|---|
| Bankrupt | $Z \leq 1.23$ |
| Critical region | $1.23 < Z < 2.9$ |
| Non-bankrupt | $2.9 \leq Z$ |

5)Tobins $Q_{it}$: the natural logarithm of Tobin's Q ratio

Tobins Q = (debt book value +the stock market value) / (total assets)

6)Ln $sales_{it}$: the natural logarithm of income Sales

7)Ln age$_{it}$: natural logarithm years of activity of the company (company age)

8)STDebt$_{it}$: ratio of short-term standard deviation of the debt to total debt
9)Loss$_{it}$: a two cases variable the company has loss in that year will have the value of(1) and otherwise (0).

**The          results          of          the          test          research          hypotheses**
Test of the research dependent variable normal distribution

In this study in order to estimate the parameters of the model ordinary least squares method is used. Ordinary least squares method based on the assumption that the dependent variable (investment efficiency) is normally distributed is used. In this research the study of the subjectwill be discussed through Jarque - Bera statistics.

| **Table 1:** The results of the normal distribution check of the dependent variable | | |
|---|---|---|
| Variable | Jarque - Bera- Statistics | Level of significance |
| Investment efficiency(*InvEff*) | 4.272 | 0.118 |

According to the statistical significance level Jarque - Bera is for more than 0.05 (0.118) so dependent variable has normal distribution.
**The results of the first and second main research hypotheses**
To test the hypothesis of the first and second research model (1) is used as follows:
$InvEff\ it= \beta_0 + \beta_1 FRQ_{it} + \beta2\ STDebt_{it} + \beta_3\ Ln\ sales_{it} + \beta_4\ LnAge_{it} + \beta_5 Tang_{it} + \beta_6\ StdCFO_{it} + \beta_7\ StdSales_{it} + \beta_8\ QTobin_{it} + \beta_9 Z_{it} + \beta_{10} Loss_{it} + \beta_{11} CFO\text{-}ATA_{it} + \varepsilon it$

To be able to determine whether using panel data estimation model will be efficient or not F Limer test was used and to determine which method (fixed effects or random effects) is more appropriate to estimate, the Husman method is used.

The results of this test are shown in Table 2 below.

| **Table 2**: The results of the research to estimate model no. 1 | | | | | |
|---|---|---|---|---|---|
| Test type | statistic | test value | Degree of freedom | P-Value | Result |
| F Limer | F | 11.414 | (35.234) | 0.0008 | Panel method |
| Husman | $X^2$ | 20.009 | 11 | 0.0452 | Fixed effects |

In Table 3 results of the research model is presented.

| Table 3: Result of prototype selection to estimate model 1 | | | | |
|---|---|---|---|---|
| Dependent variable: investment efficiency observed: 281 year - company | | | | |
| Variable | Coefficient | t-statistic | P-Value | VIF |
| Constant coefficient | 7.516 | 3.286 | 0.0012 | - |
| Financial reporting quality | 0.165 | 2.574 | 0.0106 | 1.12 |
| Fluctuations in short-term debt ratio | 4.4107 | 3.066 | 0.0024 | 1.349 |
| Company size | 0.3164 | 1.56 | 0.1201 | 3.61 |
| Company age | -1.2661 | -1.461 | 0.1453 | 1.042 |
| Tangible assets | -1.2606 | -4.322 | 0.0000 | 3.864 |
| Fluctuations in operating cash flow | -0.5993 | -0.766 | 0.4439 | 1.063 |
| Sales fluctuations | -0.3287 | -0.898 | 0.37 | 1.369 |
| Tobin's Q ratio | -0.5298 | -3.551 | 0.0005 | 1.719 |
| Bankruptcy risk | 0.2919 | 2.314 | 0.0215 | 2.349 |
| Unprofitable state enterprises | 0.1863 | 1.074 | 0.2836 | 1.121 |
| Cash flows to assets ratio | -3.364 | -9.959 | 0.0000 | 1.901 |
| Model coefficient 0.3432 | | | | |
| F-statistic model | 2.658 | Jarque-Bera | 2.232 | |
| (P-Value) | 0.0000 | (P-Value) | -0.3275 | |
| Breusch-Pagan statistics | 0.883 | Durbin Watson | 2.265 | |
| (P-Value) | -0.5568 | | | |

In examining the overall significance of the model, due to the fact that the probability (P-VALUE) of F-statistic is from a smaller 0.05 (0.0000) with 95% overall significance of the model is approved. Determining model coefficient suggests that 34.32percent of the company's investment performance is explained by the variables in the model.

It also reviews the assumptions of the classical regression test results which indicate that residue from the model Jarque - Bera for 95% of the normal distribution are such that the probability (P-VALUE) of this test is larger than 0.05 ( 0.3275). As for the consistency of the residual variance due to the fact that the probability (P-VALUE) related to test Breusch- Pagan is more than 0.05 (0.5568) homology of model residual variance is approved. Moreover, since the number is between 1.5 and 2.5 the Durbin Watson (2.265), thus remaining independent model is accepted.

Finally, with regard to the results presented in Table 3, the probability of t-statistic for variable " financial reporting quality " was smaller than 0.05 (0.0106) and its coefficient is positive (0.1650), therefore there is a significant and direct relationship between investment performance and the financial reporting quality. It is also shown that the t-statistic "short-term fluctuations in

the debt ratio" was smaller than 0.05 (0.0024) and its coefficient is positive (4.4107). In conclusion, there is statistically significant positive relationship between the use of debt maturities for shorter company`s investment performance. The main hypothesis of the first and second study confirmed the 95% confidence level. The results of the test two hypotheses are consistent with theory and research ofCutillas Gomariz andSanchez Ballesta (2014).

**1-1 and 1-2 sub-test research hypotheses**

To test the hypothesis of 1-1 and 1-2 sub-study of the model number (1) only at the level of companies which have investment problem iand in projects that negative net present value (InvEff> 0) have been used:

InvEff it = $\beta 0 + \beta 1$FRQit + $\beta 2$ STDebt it + $\beta 3$ Ln sales it + $\beta 4$ LnAgeit + $\beta 5$Tangit + $\beta 6$ StdCFOit + $\beta 7$ StdSalesit + $\beta 8$ QTobinit + $\beta 9$Zit + $\beta 11$CFO-ATA it + $\epsilon$it

Table 4) Choose a template to model results (1) class research projects with negative net present value

| **Table 4**: Result of  prototype selection to estimate model(1) class research projects with negative net present value | | | | | |
|---|---|---|---|---|---|
| test type | statistic | statistic value | degree of freedom | P-Value | Result |
| Limer F test | s | 0.901 | -35.78 | 0.6252 | Data Integration |


In Table 5 the results of 1-1 and 1-2 models sub-hypotheses have been proposed.

| **Table 5**: The results of research mode(1) in  projects with negative net present value | | | | |
|---|---|---|---|---|
| Dependent variable investment projects with negative net present value (InvEff> 0) Views: 124 Year - Company | | | | |
| Variable | Coefficient | t-statistics | P-Value | VIF |
| Constant coefficient | 1.1367 | 2.464 | 0.0152 | - |
| Financial reporting quality | 0.0031 | 0.098 | 0.9215 | 1.12 |
| Fluctuations in short-term debt ratio | 1.24 | 0.999 | 0.3197 | 1.349 |
| company size | 0.1023 | 1.452 | 0.1492 | 3.61 |
| Company age | -0.0931 | -2.014 | 0.0464 | 1.042 |
| Tangible assets | -0.2999 | -3.652 | 0.0004 | 3.864 |
| Fluctuations in operating cash flow | -0.056 | -0.136 | 0.8915 | 1.063 |
| Sales fluctuations | 0.1474 | 0.308 | 0.7582 | 1.369 |
| Tobin's Q ratio | 0.1243 | 1.691 | 0.0934 | 1.719 |
| Bankruptcy risk | -0.0645 | -1.528 | 0.1291 | 1.349 |
| The ratio of cash flow to assets | 0.5605 | 1.684 | 0.0949 | 1.901 |
| Determining model coefficient | | 0.1511 | | |
| F-statistic model | 2.012 | Jarque-Bera | 3.737 | |
| (P-Value) | 0.0000 | (P-Value) | -0.1543 | |

| Breusch-Pagan statistics | 1.022 | Durbin Watson statistics | 2.094 |
|---|---|---|---|
| (P-Value) | -0.3372 | | |

According to the results presented in Table 5 t statistics probability for the variable financial reporting quality is larger than 0.05 (0.9215) Thus it can be said that for companies having problem in investing in projects with negative net present value, there is not a significant relationship between financial reporting quality and investment performance. Also the probability of t-statistic for the variable of fluctuations in short-term debt at the level of companies having investment problem in projects with negative net present value is larger than 0.05 (.3197), it can be said that there is not significant relationship between the use of shorter debt maturity and investment efficiency.

Therefore sub –research hypotheses 1-2and 1-1 at 95 percent levelwill be rejected.

The findings of the research hypotheses 1-2and 1-1 are inconsistent with the theoretical foundations and research results Cutillas Gomariz and Sanchez Ballesta (2014). The results Cutillas Gomariz and Sanchez Ballesta (2014) showed that with higher quality financial reporting, the problem reduces to invest in projects with negative net present value. The companies which uses shorter debt maturities more, will reduce difficult investment problems in projects with negative net present value and show higher investment efficiency.

Sub-research hypotheses 2-1 and 2-2

To test the hypothesis of 2-1 and 2-2 sub-study of the model number (1) only at the companies level which have investing problem in projects with positive net present value (InvEff <0) have been used:

$InvEff\ it = \beta_0 + \beta_1 FRQ_{it} + \beta_2\ STDebt_{it} + \beta_3\ Ln\ sales_{it} + \beta_4\ LnAge_{it} + \beta_5 Tang_{it} + \beta_6\ StdCFO_{it} + \beta_7\ StdSales_{it} + \beta_8\ QTobin_{it} + \beta_9 Z_{it} + \beta_{11} CFO\text{-}ATA_{it} + \varepsilon it$

| Table6: Result of prototype selection to estimate model (1)research on projects with positive net present value | | | | | |
|---|---|---|---|---|---|
| test type | statistic | statistic value | degree of freedom | P-Value | Result |
| Limer F test | F | 0.713 | -35.111 | 0.873 | Data Integration |

In the table 7 the results of the model test research hypotheses have been proposed substation 2-1 and 2-2.

| **Table7**: Result of prototype selection to estimate model (1)research on projects with positive net present value | | | | |
|---|---|---|---|---|
| Dependent variable investment projects with negative net present value (InvEff< 0) Views: 157 Year -company | | | | |
| Variable | Coefficient | t-statistic | P-Value | VIF |
| Constant coefficient | 0.7539 | -1.809 | 0.0725 | - |
| Financial reporting quality | 0.0592 | 1.998 | 0.0475 | 1.162 |
| Fluctuations in short-term debt ratio | 2.2246 | 4.221 | 0.000 | 1.39 |
| Company size | 0.075 | 1.572 | 0.1181 | 3.576 |
| Company age | 0.1156 | 1.332 | 0.1748 | 1.027 |
| Tangible assets | -0.2049 | -3.27 | 0.0013 | 3.565 |
| Fluctuations in operating cash flow | -0.5129 | -1.057 | 0.2922 | 1.04 |
| Sales fluctuations | 0.2608 | 1.802 | 0.0736 | 1.39 |
| Tobin's Q ratio | -0.1375 | -3.234 | 0.0015 | 1.812 |
| Bankruptcy risk | -0.0405 | -1.023 | 0.3077 | 2.532 |
| Cash flows to assets ratio | -0.123 | -0.516 | 0.6066 | 1.807 |
| Determining model coefficient | 0.2917 | | | |
| F-statistic model | 6.013 | Jarque-Bera | | 5.569(.0617) |
| (P-Value) | 0.0000 | (P-Value) | | |
| Breusch-Pagan statistics | 1.030 | Durbin Watson statistics | | 2.112 |
| (P-Value) | | | | |

According to the results presented in the table (7), the probability of t-statistic for the variable financial reporting quality at the level of companies having difficult projects with positive net present value is smaller than 0.05 (0.047) and its coefficient is positive (0.059), it can be said that those which have difficulty with investing in projects with positive net present value there is significant relationship between the use of shorter debt maturity and investment efficiency.

Also it can be said that the probability of t-statistic for the variable of fluctuations in short-term debt at the level of companies having investment problem in projects with positive net present

value is smaller than 0.05 (0.000) and its coefficient is positive (2.224), resulting that there is significant relationship between the use of shorter debt maturity and investment efficiency.

So the research hypotheses 2-2 and 2-1 and at the 95 percent are approved. The results of these test two hypothesis above are in favor of theoretical basis and research results ofCutillas Gomariz and Sanchez Ballesta (2014).

2-3 hypothesis testing research
To test the third research hypothesis, the model number (2) was used as follows:

$InvEff_{it} = \beta_0 + \beta_1 FRQ_{it} + \beta_2 STDebt_{it} + \beta_3 FRQ_{it} * DumSTDebt_{it} + \beta_4 Ln\ sales_{it} + \beta_5 LnAge_{it} + \beta_6 Tang_{it} + \beta_7 StdCFO_{it} + \beta_8 Std\ Revenues_{it} + \beta_9 QTobin_{it} + \beta_{10} Z_{it} + \beta_{11} Loss_{it} + \beta_{12} CFO\text{-}ATA_{it} + \varepsilon it$

**Table 8**: Result of  prototype selection to estimate model (2)

| Test type | Statistic | Statistic value | Degree of freedom | P-Value | Results |
|---|---|---|---|---|---|
| Limer F test | | 1.419 | -35.233 | 0.0686 | Data Integration |

**Table 9**: Result of  prototype selection to estimate model (2)

| Dependent variable :investment efficiency   No of observations: 281 Year -company | | | | |
|---|---|---|---|---|
| Variable | coefficient | t-statistic | P-Value | VIF |
| Constant coefficient | -0.4416 | -0.327 | 0.7434 | - |
| Financial reporting quality | 0.1744 | 2.744 | 0.0065 | 3.769 |
| Fluctuations in short-term debt ratio | 2.319 | 1.779 | 0.0763 | 1.354 |
| Fluctuations in short-term debt ratio *Financial reporting quality | 0.013 | 0.331 | 0.7409 | 3.523 |
| Company size | 0.022 | 0.142 | 0.8869 | 3.61 |
| Company age | 0.1673 | 1.056 | 0.2915 | 1.048 |
| Tangible assets | -0.1264 | -0.514 | 0.6075 | 3.872 |
| Fluctuations in operating cash flow | 1.4213 | 1.593 | 0.1121 | 1.063 |
| Sales fluctuations | 0.341 | 0.713 | 0.4759 | 1.369 |
| Tobin's Q ratio | 0.3124 | 2.23 | 0.0266 | 1.723 |
| Bankruptcy risk | -0.4148 | -5.21 | 0.0000 | 2.4 |
| Unprofitable state enterprises | -0.3816 | -2.377 | 0.0181 | 1.124 |
| Cash flows to assets ratio | 2.3818 | 5.098 | 0.0000 | 1.908 |
| Determining model coefficient | 0.2018 | | | |
| F-statistic model | 5.648 | Jarque-Bera | 2.684 | |
| (P-Value) | 0.0000 | (P-Value) | -0.2612 | |
| Breusch-Pagan statistics | 0.823 | Durbin Watson statistics | 2.067 | |
| (P-Value) | -0.6256 | | | |

According to the results presented in the table (9), significant level of t-statistic for the variable financial reporting quality was smaller than 0.05 (0.0065) and its coefficient is positive (0.1744) Therefore, by increasing quality financial reports on the performance of the company's investment performance will be added. This is so while the dummy variable debt maturities with shorter than0.05 t-statistic significant level will increases (0.7409). So we can say shorter debt maturities have notsignificant effect on the relationship between financial reporting quality and efficiency of their investment. The third research hypothesis is rejected by 95 percent. The results of the test the third hypothesis is inconsistent with the theory and results of Cutillas Gomarizand Sanchez Ballesta (2014).

**General                                                                        Conclusion**
Investment efficiency, identification, financing and implementation of projects with positive net present value is considered inefficient investment and ignoring the investment opportunities with positive net present value (much less investment) or choose projects with negative net present value (investment more than the limit) is defined. In this study the relationship between the financial reporting quality, debt maturity and investment efficiency (Case study: chemical and pharmaceutical industries) were studied.

The period of the years 2005 to 2014, and based on the 9-year period research and according to the conditions imposed on the statistical population to systematic sampling only 36 companies were eligible.

Experimental evidence obtained from testing the hypothesis stating that firms with higher financial reporting quality and greater use of shorter debt maturities,will have a higher investment efficiency. In addition, these findings suggest that shorter debt maturities have not significant effect on the relationship between financial reporting quality and efficiency of their investment.

The theoretical foundations of research, higher quality financial reporting can improve investment efficiency in two ways. First, by reducing the information asymmetry between firms and investors and thereby reduce financing costs, because the accounting information helps investors better. Good and bad quality investment projects recognize them. Second facilitating the supervision of shareholders on the performance of managers (Biddle et al., 2009).

Therefore, this study provides evidence for the usefulness of accounting information in the investment area. These findings could encourage producers to provide information with better quality of accounting information in order to properly meet the needs of their societies on the one hand and encourage the use of accounting information to rethink the role of accounting information from the other hand.

**Practical recommendations resulting from the study**

1. Considering the results of the original test the first hypothesis, it is suggested the company's financial managers to consider the issue of increasing the financial reporting quality and pay more attention to cash flows which will have focused on profit. This reduction in financial costs and consequently reduce the cost of the project could not be found.

2. Considering the results of the original test the second hypothesis, the chemical industry and pharmaceutical companies proposed in their financing strategies to add more value to their short-term financing and investment projects if possible less use of long-term debt. This reduction in financial costs and consequently reduce the cost of the project could not be found.

3. Considering the results of the sub-hypotheses (2-1) and (2-2) subsidiary, the companies in the chemical industry and pharmaceutical industry, it is suggested to cover the problem of projects with positive net present value of these instruments and performance improve their investment.

4. The results of the sub-hypotheses (1-1) and (1-1) subsidiary, is director of the company in other ways difficult to invest in projects with negative net present value to monitor and prevent the waste of financial resources in are investment projects with low efficiency. In this regard, according to the internal rate of return investment projects as well as incoming and outgoing cash flow budgeting, projects can be fruitful.

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