Studying the Relationship between Conservative Accounting and the Criterion of Corporate Performance Assessment

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Conservatism is the cautious response of accountants to the uncertain and unknown conditions, for timely and reliable information and also to respond to legal and environmental accountability. Conservative tries to minimize estimations risk in calculation of profit and it leads to increase the profit quality. The return on investment (ROI) ratio is one of the financial ratios that is used to measure the company’s performance and it is considered as a criterion for measuring the created value for shareholders. Accordingly, the degree of conservatism can have a significant impact on this ratio. This study tried to examine the relationship between conservatism and return on investments ratio. And Basu model (1997) is used for measuring the conservatism. It also examined the relationship between conservatism of accruals and conservatism of operational cash with return on investment ratio by using the correlations tests. The findings of this research indicated an inverse relation between conservatism of net income and accruals with return on the investment. Also, the relation between operational cash and changes in ROI is not statistically significant.

Keywords: Conservatism, Return on investment, accruals, operational cash, Stock Exchange

INTRODUCTION

The conservatism is a mechanism which if applied correctly, will lead to solving a lot of agency problems that all stemming from growing information gap between managers and suppliers in firms. (Watts, 2003)

For a relatively long period of time, conservatism was subject to a controversial debate among scholars of accounting. Some groups considered it as a custom, not as a standard or a principle. Despite the significant impact of this concept on accounting standards and practical approaches of accounting, there is not yet a consensus on the definition of conservatism among the scholars. This research aims to study the relationship between conservative accounting and return on investments as a measure of company's performance.

Statement of the Problem

Conservatism is the cautious response of Accountants to the uncertain and unknown conditions, for timely and reliable information and also to respond to legal and environmental accountability. The concept of conservatism has a long history and many researchers have been investigating in this field. As an example, Wings and Shyvakumar (2005) in their empirical research explore the impact of accounting conservatism on...
earnings quality with various approaches, but they didn’t investigate the impact of conservatism of net income and its components on financial ratios, and the interactive behavior of other financial indicators. One of such indicators is the Return on investment ratio. In this research, we aim to investigate the interactive behavior of conservatism of net income and its components with return on investments as an indicator of measuring the company’s performance. At last, by adopting the informational point of view, we investigate the role of conservatism accounting on financial reporting.

LITERATURE AND THEORETICAL FRAMEWORK

The study of economic consequence of information is related to the method of measurement of conservatism. The economic consequence of conservatism measurement causes to have two different dimension of conservatism which called conditional and unconditional. They present different information content for stakeholder about earning quality, expected rate of return stock, financial flexibility and etc. which affect on agency contract cost of company with shareholders.

Ex ante conservatism is accounting-based, balance sheet related, and unconditional or news independent. It reflects the understatement of book values of net assets (primarily due to unrecorded goodwill) and is unrelated to changes in future cash flows. Examples of ex ante conservatism include the immediate expensing of R&D and advertising costs, and the accelerated depreciation of long-lived tangible assets. The ex ante conservatism is related to revenues and expenses, is related to news so, it’s concept state that, the firms recognize bad news in earnings on a more timely basis than good news. (Chan et al, 2009)

The lower of cost or market value principle of the inventory, elimination of goodwill after performing the impairment of value test and asymmetric recognition of potential profits and losses are the examples of this type.

Ex post facto conservatism usually faces with more timely recognition of economic losses compared to economic benefit. In this kind of conservatism, the manager can determine the time and the amount of assets in according to his own decision. (Basu, 1997) One of the issues that impact on the reporting of net income is the demand for conservatism, because shareholders are optimistic about a return on their investment. Therefore, managers usually use conservative accounting methods in order to cover shareholder optimism. The amount of net profit that is reported in the financial statement is one of the most important indicators of evaluating the performance and the value of the economic entity that is used by variety groups of users. Since the net profit calculation is done by using the accrual basis, earnings manipulation would be possible by using different procedures, approaches, estimation and accounting assignment. The manipulation would be done to achieve various goals that are not only necessarily aligned with the goals of equity holders, but in most cases it is contrary to those objectives. The above texts undermined the informational value of the most important indicator of performance reporting and determinant of the value of company (Hassanzadehbaradaran’ et al, 1388). Therefore, it is believed that profit conservatism can increase the quality of earnings and it can be effective in analyzing financial information through the effect on calculating the financial ratios (i.e., ROI). This paper tried to investigate the using of conservatism and the relationship between conservatism and the classified levels of return on investment ratios. Therefore Basu (1997) model is used to measure the conditional conservatism of earnings variable and its components. Most of the previous researches related to this topic pointed to the existence of accounting conservatism, but usually they didn’t mentioned the interaction between conservatism and other ratios and financial variables. As a result, this paper would be beneficial and noteworthy.

Conservatism and Return on Investment

Performance Assessment is one of the managerial tasks (RahnamayeRoodposhti, 1385). Performance evaluation is the formal process of providing
information about the results. It identifies the strengths of the organization and exaggerates it to create more value and better performance. It looks forward by analyzing the past performance to increasing the value (Samadi Largani, 1387). One of the evaluation criteria of performance assessment is based on investment and it includes all elements of profitability (revenues, expenses and investment). Return on investment (ROI) shows that it would be able to achieve defined profit by reducing the amount of investment in fixed and current assets (T. Azzizzadeh, 1388).

ROI = (Operating Profit) / (average investment)

Owners and other shareholders of the company are always seeking to find out the created value by the managers for them. Therefore, they measure the performance of the company. Company’s performance shows that how much was the company able to create value for shareholders and also, it can be used to show the growth of the company. Performance assessment criteria are different, for example some ratios such as the ratio of market value to book value of shares, return on assets (ROA), economic value added (EVA), and the return on investment (ROI) might be used as criteria for performance assessment.

Studying the relationship of conservatism and criteria of performance assessment can help the corporate managers and financial decision makers to make good decisions. In this paper, we analyze the effect of net income conservatism, accruals, and operational cash on a variable called return on investment ratio.

PREVIEW RESEARCH

1-Fereshteh Darashand et al. The Evaluation of the Relationship between Conservatism Earning and Price to Book Ratio In accepted firms in Tehran stock exchange (1391). They examined the relationship between conservative accruals and conservative cash flow operating with ratio of P/B by test correlation and regression. They find that earnings conservatism, the tendency of firms to recognize bad news in earnings on a more timely basis than good news, is substantially greater in portfolios of firms with lower price-to-book ratios than in portfolios of firms with higher price-to-book ratios; and the negative association between conservatism accruals and the price-to-book ratio, not the earnings conservatism and cash flow operating conservatism.

2-Tariq H. Ismail, Rasha M. Elbolok. Do Conditional and Unconditional Conservatism Impact Earnings Quality and Stock Prices in Egypt? (2011)

The results suggest that (i) conditional conservatism negatively affects both earnings quality and stock prices of Egyptian firms, and (ii) unconditional conservatism does not affect earnings quality but has a negative association with stock prices of Egyptian firms. The findings of this study would help Egyptian accounting standards setters to recommend accounting choices and policies that lead to high quality of earnings and provide financial reports that rationalize investors’ decision.


Accounting information plays its role on stock pricing through the reform of split-stock reform in the China securities market, evident in the significantly positive relation between the proxies of accounting conservatism and cumulative abnormal returns for one day, three days, ten days and 30 days around re-open day after the reform. Also, the profitability of listed firms in the past will further improve the positive relation between conservatism and market reaction.


The results are consistent with the measure, C_Score, capturing variation in conservatism and also predicting asymmetric earnings timeliness at horizons of up to 3 years ahead. Cross-sectional hypothesis tests suggest firms with longer investment cycles, higher idiosyncratic uncertainty and higher information asymmetry have higher accounting conservatism. Event studies suggest increased conservatism is a
response to increases in information asymmetry and idiosyncratic uncertainty.

**RESEARCH QUESTIONS**

In this paper, we investigate compliance or non-compliance of conservatism in calculating the net income. Also, we are following to find the interaction of variables that are expected to be influenced by conservatism. So, the main question of this paper is: what is the relationship between conservatism and the return on investment ratio (as criteria for measuring the corporate performance)? Secondary research questions are as follows:

- Do the listed companies in Tehran stock exchange follow the conservatism in calculating the net income?
- Is there any significant relationship between profit conservatism, accruals, and operational cash with return on investment ratio?

**HYPOTHESES**

Our hypotheses are as follows:

**H1:** Earnings are conservative for all portfolios in firms.

**H2:** There is a significance relationship between earning conservatism and P/B ratio.

**H3:** There is a significance relationship between accruals conservatism and P/B ratio.

**H4:** There is not a significance relationship between cash flow conservatism and P/B ratio.

**METHODOLOGY**

**Research type**

This research is descriptive and practical. Since this paper examines the current status of variables by using the past data, it’s an ex post facto and descriptive study.

**Research domain**

Research domain is divided into three sections: time, geographic, and subject domain.

**Time domain**

Time domain of this paper is the period between 1385 to 1390 (a six year period)

**Geographical domain**

The geographical domain of this paper includes the listed companies in Tehran stock exchange. Since the financial information of listed companies in Tehran stock exchange is checked and monitored, it seems that the financial information reported by these companies has higher qualities.

**Subject domain**

This study investigates the relationship between conservatism accounting and return on investment ratio by using financial information of listed companies in Tehran stock exchange.

**Statistical sample and population**

The population in this study is all of the companies that are accepted in Tehran stock exchange since 1385. And elimination method is used as a sampling technique. The data of 87 listed companies in Tehran stock exchange during the period of 1385 to 1390 is used for testing the hypothesis of statistical sample. Other companies were excluded from the sample for not having the following conditions:

- Financial statement of the companies must include balance sheet, income statement, and statement of cash flows
- The last date of financial statement should be at the end of Esfand (March) of each year.
- Have the needed information to calculate the variables
- Since the companies which their main goals are financing services don’t have any accruals, they should be omitted.

**DATA COLLECTION TOOLS**

We use the library and field research methods from professional journals, books, theses, and Persian and English articles for providing the theoretical basis and background of this study. Also, we use the RahavardeNovin and TadbirPardazsoftwares and information in financial statements of listed companies in Tehran stock exchange and a website (www.rdis.com) in order to providing the required data for testing the hypothesis. We use the information of
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financial statements like balance sheet, income statement, statement of cash flows, and notes to the financial statements which ends to 29 Esfand (March) of each year. We also excel and SPSS softwares for preparing and analyzing the data.

MODEL AND VARIABLES OF RESEARCH

The Basu model (1997) is used in this research for assessing the conservatism. This paper considered stock returns as an independent variable and net income, accruals and cash items as dependent variables. Basu general model is as follows:

\[ X_it = \beta_0 + \beta_1 R_it + \varepsilon_it \]

(1)

\( X_it \): According to the research hypotheses, \( X_it \) is equivalent to net income for the first and second hypotheses, accruals and operating cash for the third hypothesis, and operational cash flow for the fourth hypothesis.

\( R_it \): stock return of the company \( i \) = stock price at the end of the period – stock price at the first of the period / stock price at the first of the period

Conservatism is measured by the following equation:

\[ C_t \cdot p = \beta_{BN}(p) - \beta_{GN}(p) \]

(2)

\( C_t \cdot p \): it’s the symbol of conservatism that if \( C_t \cdot p > 0 \), then it indicates that the company’s performance is conservative.

\( \beta_{BN}(p) \): indicates the detection rate of bad news.

\( \beta_{GN}(p) \): indicates the detection rate of good news

Model for HYPOTHESIS 1&2:

\[ E_it = \beta_0 + \beta_1 R_it + \varepsilon_it \]

\( E \): earnings (bottom line net income) deflated by beginning-of-fiscal-year market value of equity.

\( R \): returns for the 12 months ending 3 months after the fiscal year-end.

Statistice assumption for first hypothesis:

\[ H_0: C_p > 0 \]

\[ H_1: C_p \leq 0 \]

Model for hypothesis3:

\[ Acc \cdot it = \beta_0 + \beta_1 R_it + \varepsilon_it \]

\( ACC \): accruals measured by the change in working capital (excluding cash) plus depreciation deflated by beginning-of-fiscal-year market value of equity.

Statistice assumption for third hypothesis:

\[ H_0: C_1 \leq C_3 \]

\[ H_1: C_1 > C_3 \]

Model for hypothesis 4:

\[ OCF \cdot it = \beta_0 + \beta_1 R_it + \varepsilon_it \]

\( OCF \): cash flow from operation measured by earnings minus ACC. If cash flow statements are available, \( OCF \) is obtained from cash flow statements and accruals are calculated as earnings minus \( OCF \). \( OCF \) is deflated by beginning-of-fiscal-year market value of equity.

Statistice assumption for fourth hypothesis:

\[ H_0: C_1 = C_3 \]

\[ H_1: C_1 \neq C_3 \]

DESCRIPTIVE STATISTICE

As can be seen, the maximum and minimum return on investment equals 1367.77 and -2112.10. Also, the maximum (minimum) earn equals 4832017 (-564468), return equals 452.07 (-63.29),
accruals equals 4505217 (7998960) and cash flow equals 87434.38 (-251902).

HYPOTHESES TESTING

First hypothesis testing
The first hypothesis is defined as follows:
Net profits are measured conservatively.
To test the hypothesis, we use the following model:

\[ E_{it} = \beta_0 + \beta_1 R_{it} + \epsilon_{it} \] (3)

\( E_{it} \) is the net profit of firm \( i \) in year \( t \) that is showed by \( E \):

**TABLE 2 HERE**

Table 2 shows the regression results of net profit on the stock returns during the period of 85 to 90 years for the companies which have the negative and positive stock returns separately. At the 5% significance level, the average statistic of T-Value for \( \beta ^ {BN} \) and \( \beta ^ {GN} \) are (0.757) and (1.63-) respectively. The average difference between good and bad news is (0.183). Results indicates that recognition of the good news (\( \beta ^ {GN} \)) occurs earlier than the recognition of bad news (\( \beta ^ {BN} \)) \([\beta ^ {BN} > \beta ^ {GN}]\), because the amount of conservatism was positive in all years that were included in the test and it means that the hypothesis will be accepted. So, the first hypothesis (which indicates the net profits are measured conservatively) is confirmed.

The second hypothesis test

There is a significant relationship between net profit conservatism and return on investment (ROI) ratio.

To test the second hypothesis, we divide the companies into 3 portfolios by ROI ratio and the following multi variables regression model is used:

\[ E_{it} = \beta_0 + \beta_1 R_{it} + \epsilon_{it} \] (3)

Panel A: Net income as a dependent variable

According to Table 4, the calculated amount of conservatism at the 5% significance level were (0.075, 0.342 0.827) respectively for first, second, and third portfolios. The average difference between the coefficients of good and bad news is (0.414). Based on the test results, as we go through the companies which have the greater ROI to those which have less ROI, we see that the amount of conservatism in these classes shows an increasing trend. In other words, there is a significant inverse relationship between profit conservatism and ROI ratios. Thus, the second hypothesis is confirmed.

The third hypothesis test

There is a significant relationship between conservatism of accruals and ROI ratios.

\( \text{Acc}_{it} \): It is accrual for company \( i \) in year \( t \) that is showed by \( \text{Acc} \).

Panel B: Accruals as a dependent variable

According to Table 6, the calculated amount of conservatism for accruals at the 5% significance level were (0.441 0.162 0.044) respectively for first, second, and third portfolios. The average difference between the coefficients of good and bad news is (0.215). Based on the test results, as we go up through the companies which have the greater ROI to those which have less ROI, we see that the amount of conservatism in these classes shows an increasing trend. So, as we go up through the companies which have the greater ROI to those which have less ROI, the amount of accruals conservatism will increase. Thus, there is a significant inverse relationship between accruals conservatism and ROI ratios. Thus, the third hypothesis is confirmed.

The fourth hypothesis testing

There is not a significance relationship between cash flow conservatism and P/B ratio.

\( \text{CFO}_{it} = \beta_0 + \beta_1 R_{it} + \epsilon_{it} \)

Cash Flow Operating:

\( \frac{\text{operating cash flow of firm } i \text{ in year } t}{\text{total assets of year } t-1} \)
Cash flow as dependent variable

**TABLES 7 & 8 HERE**

According to Table 8, the calculated amount of conservatism for cash items at the 5% significance level were \(0.007, 0.341, 0.027\) respectively for first, second, and third portfolios. The average difference between the coefficients of good and bad news is \(0.125\). Based on the test results, as we go up through the companies which have the greater ROI to those which have less ROI, we see that the amount of conservatism in these classes doesn’t show a distinct trend and it doesn’t have any specific increase or decrease trend. Thus, the third hypothesis is confirmed and there isn’t any significant relationship between cash items conservatism and ROI ratios.

**SUMMARY AND CONCLUSIONS**

Using the estimation in financial statements will affect the profit and it may leads to be different from actual result of corporate performance. So, the reported profit will differ from the actual profit; as a result, it won’t have enough objectivity. Conservatism tries to minimize estimation risks in the calculation of profit. Determination of the relationship between conservatism and criteria that are based corporate performance measurement may help the corporate managers and financial decision makers in making their decisions. ROI is one of the financial ratios and it is used for assessing the corporate performance and also, it is a criterion for assessing the created value for shareholders. Results show that the first hypothesis is confirmed and conservatism is done in calculating the amount of profit. According to second hypothesis test, there is a significant adverse relationship between changes in ROI ratios and profit conservatism in the sample firms and the profit conservatism is less in the companies that their ROI ratios is higher. Therefore, the second hypothesis is confirmed. The third hypothesis result shows that there is a significant adverse relationship between these two variables and therefore this hypothesis is confirmed. Based on the results of forth hypothesis, there is not any significant relationship between operational cash flows conservatism and changes in ROI ratios and therefore, this hypothesis is also confirmed. The result of this study is consistent with the result of Jinhan (2010) study. Finally, conservatism may lead to modify the decisions of financial statements users regarding to assessing the corporate performance. Also, the result of this study may reflect the impact of conservatism on internal decisions of managers and it can represent the unforgettable role of conservatism on processing and presenting the accounting information.

**LIMITATION OF THE STUDY**

The limitation of this study includes the special characteristic of quasi-experimental studies based on some uncontrolled factors affecting the result of research such as economic factors, political conditions, global economy conditions and etc, which are outside the reach of the researcher and it may affect the research result. Also, due to limited population of the listed companies in Tehran stock exchange that their fiscal year is at the end of march (esfand), extending the result to other companies should be done with caution.

**PRACTICAL RECOMMENDATIONS**

Since the conservatism is recommended as a qualitative feature of financial statements, and its implementation can affect the decision making of financial statements users, we propose to audit organization to consider this qualitative feature in standard setting process and choosing accounting approaches.

**RECOMMENDATIONS FOR FUTURE RESEARCHES**

We recommend the future researchers to:
- Investigate the relationship between conservatism of other performance criteria with other models of conservatism assessment
- Study this research in different industries and compare them with each other.

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# APPENDIX

## Table (1)

<table>
<thead>
<tr>
<th>Std</th>
<th>Max</th>
<th>Min</th>
<th>Median</th>
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<td>1.368</td>
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<td>47.5283</td>
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<td>15.39572</td>
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<td>1747.25</td>
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<td>-7998960</td>
<td>-8177</td>
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## Table (2)

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<th>Year</th>
<th>β₀</th>
<th>β₁</th>
<th>Adjusted R²</th>
<th>β₀</th>
<th>β₁</th>
<th>Adjusted R²</th>
<th>β⁽ᴺ⁾⁽ᵖ⁾ - β⁽ᴳ⁽ⁿ⁾⁽ᵖ⁾</th>
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<tr>
<td>85</td>
<td>0.144</td>
<td>0.255</td>
<td>0.01</td>
<td>-0.047</td>
<td>0.193</td>
<td>0.113</td>
<td>0.062</td>
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<tr>
<td>86</td>
<td>0.352</td>
<td>0.292</td>
<td>0.104</td>
<td>0.268</td>
<td>0.187</td>
<td>0.099</td>
<td>0.105</td>
</tr>
<tr>
<td>87</td>
<td>0.201</td>
<td>0.367</td>
<td>0.055</td>
<td>0.334</td>
<td>-0.114</td>
<td>0.192</td>
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<td>88</td>
<td>0.178</td>
<td>0.287</td>
<td>0.147</td>
<td>0.176</td>
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<td>0.101</td>
<td>0.135</td>
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<tr>
<td>89</td>
<td>-0.012</td>
<td>-0.412</td>
<td>0.174</td>
<td>0.541</td>
<td>-0.556</td>
<td>0.064</td>
<td>0.144</td>
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<tr>
<td>90</td>
<td>0.451</td>
<td>0.517</td>
<td>0.988</td>
<td>0.321</td>
<td>0.341</td>
<td>0.850</td>
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<tr>
<td>Mean</td>
<td>0.219</td>
<td>0.217</td>
<td>0.265</td>
<td>0.338</td>
<td>0.338</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>(t-value)</td>
<td>3.65</td>
<td>0.757</td>
<td>4.548</td>
<td>-1.63</td>
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### Table (3)

<table>
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<th>Potfolios</th>
<th>Good News</th>
<th>Bad News</th>
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<tbody>
<tr>
<td></td>
<td>$\hat{\beta}_0$</td>
<td>$\hat{\beta}_1$</td>
</tr>
<tr>
<td>1(high ROI)</td>
<td>0.144 (4.01)</td>
<td>0.214 (2.014)</td>
</tr>
<tr>
<td>2</td>
<td>0.425 (3.92)</td>
<td>-0.127 (1.95)</td>
</tr>
<tr>
<td>3(low ROI)</td>
<td>0.179 (3.47)</td>
<td>0.153 (2.47)</td>
</tr>
<tr>
<td>$\hat{\beta}_1^{ROI(3)} - \hat{\beta}_1^{ROI(1)}$</td>
<td>0.341</td>
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### Table (4)

<table>
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<th>2</th>
<th>3(low ROI)</th>
<th>Mean</th>
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<tbody>
<tr>
<td>$C_t^P = \hat{\beta}_1^{GNN(p)} - \hat{\beta}_1^{GNN(p)}$</td>
<td>0.075</td>
<td>0.342</td>
<td>0.827</td>
<td>0.414</td>
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### Table (5)

<table>
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<th>Potfolios</th>
<th>Good News</th>
<th>Bad News</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\hat{\beta}_0$</td>
<td>$\hat{\beta}_1$</td>
</tr>
<tr>
<td>1(high ROI)</td>
<td>0.445 (-2.46)</td>
<td>-0.201 (-3.50)</td>
</tr>
<tr>
<td>2</td>
<td>1.257 (4.25)</td>
<td>0.205 (2.03)</td>
</tr>
<tr>
<td>3(low ROI)</td>
<td>0.74 (3.25)</td>
<td>-0.117 (2.84)</td>
</tr>
<tr>
<td>$\hat{\beta}_1^{ROI(3)} - \hat{\beta}_1^{ROI(1)}$</td>
<td>0.084</td>
<td>0.481</td>
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Table (6)

<table>
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<th>1(high ROI)</th>
<th>2</th>
<th>3(low ROI)</th>
<th>Mean</th>
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<tr>
<td>( C_t^P = \beta_{BN(p)} - \beta_{GN(p)} )</td>
<td>0.044</td>
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Table (7)

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<td>Potfolios</td>
<td>( \beta_0 )</td>
<td>( \beta_1 )</td>
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<tr>
<td>1(high ROI)</td>
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<td></td>
<td>(4.14)</td>
<td>(-1.99)</td>
</tr>
<tr>
<td>2</td>
<td>3.58</td>
<td>-0.225</td>
<td>0.037</td>
</tr>
<tr>
<td></td>
<td>(3.57)</td>
<td>(-2.24)</td>
<td></td>
</tr>
<tr>
<td>3(low ROI)</td>
<td>1.251</td>
<td>0.394</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>(2.57)</td>
<td>(3.07)</td>
<td></td>
</tr>
<tr>
<td>( \beta_1^{ROI(3)} - \beta_1^{ROI(1)} )</td>
<td></td>
<td>0.148</td>
<td></td>
</tr>
</tbody>
</table>

Table (8)

<table>
<thead>
<tr>
<th>Potfolios</th>
<th>1(high ROI)</th>
<th>2</th>
<th>3(low ROI)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_t^P = \beta_{BN(p)} - \beta_{GN(p)} )</td>
<td>0.027</td>
<td>0.341</td>
<td>0.007</td>
<td>0.125</td>
</tr>
</tbody>
</table>