Investigation of Value Relevance of Cash Flows, Current Accruals and Non-current Accruals relative to the Value Relevance of Earnings

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ABSTRACT: Useful information is the base of decisions by people who are participating in the capital market. Determiners of accounting standards try to provide financial reporting and information needs of the accounting systems of the capital markets. Therefore, evaluating the usefulness of accounting information in stock value or relevance of accounting information in company value, which has been paying much attention in recent researches, has been discussed as a role model in the research of financial accounting. In this study, the content of various classified information benefits, including a combination of operating cash flow measurements, current accruals, non-current accruals, is paid in four models to propose an optimization model for classifying the information content of accounting earnings components. To test research hypothesis, statistical method of data combination, with the use of financial data of 103 listed companies in Tehran Security Exchange during the years of 2005 to 2010, has been used. The findings of the research show that as the earnings is changed into smaller parts, the changes in market value will be further clarified, i.e. the market value of the prediction error is decreased. On the other hand, the results show that operating cash flow compared with the ratio of total accruals, current accruals contain more information and the current accruals of earnings have incremental value relevance to non-current accruals.

Keyword: Incremental Information Content, Operating Cash Flow, Current and Non-current Accruals

INTRODUCTION

The main objective of financial reporting is to help users, especially investors in economic decisions and assessing the value of the company which will be the main basis for economic decisions of investors. Thus, the evaluation of accounting information profiting in the evaluation of stock or accounting information relating to the company value that are of great interest in recent research which has been proposed as a major model in financial accounting researches. (Chen Charles J.P, Shimin Chen and Xijia Su, 1999)

Company's market value represents the wealth of shareholder, and in a Balanced Scorecard, the value of stock is as a measure of a firm's performance, so predicting for investors and managers is important (Beaver, W.H., et al, 2004).

Focusing on profits is due to the central role of it on the Financial Information System of companies, based on which the financial analysts use profit and different related issues with it to assess the performance, financial stability, inclusive scale and time series. Examining the relation of profits with the value of company contains integrity and is in accordance with criteria of efficiency and performance (Babaliyan, 2001).

The profits of accounting are measured and reported on an accrual basis. Hence, there will be difference between the profit of accounting and operating cash flow cash reported in cash flow statements, and accounting profit will be divided into two parts of cash and accrual.

As the profit split into two parts of cash and accrual will reduce the average prediction error, a division of accrual profits (to current and non-current accruals) will cause the average prediction error to decrease, and in the researches related to market value prediction, the reduction of forecasted error is very important.

Along with the importance of accruals in reducing the underlying problems of cash flows, this paper examines the information content of classifying the earnings, which include operating cash flow variables, the total
number of accruals, current accruals, non-current accruals, cash flow and benefit as variables independent and market value as dependent variables so that in between the four estimated models of company value (taken from Akbar and Stark model, 2003), a model that has greater explanatory power, and its error prediction is less will be determined.

**Literature Review**

Patricia Dechow (1994), in his research in American market concluded that the benefit is a superior criteria to measure the performance of companies. Also, he concluded that current accruals improves the relation between profits and efficiency.

Barth and et al (1999) tested the model of Olson in different industries and found that each component of residual income and book value have the ability to predict market value of companies, and also knowing the components of cash and accruals of benefits help to explain the market value of companies in addition to knowing book value of and remaining benefit.

Kurdistani and Rodneshin (2006), in a study about the relation between cash and accrual components of accounting earnings to the market value of the company, concluded that the cash component of earnings, book value of shareholders and return scale of common shareholders are considered relevant in determining the value of Information Company. Also, the cash component of the earnings has more information content than received account changes, inventory changes and payable account changes as three components of earning accrual. Results of this study also indicate that cash component of earning and three components of earning accruals under study cannot predict the unexpected earnings.

Mohsen Dastgir and Bahman Pairvand (2011) studied the role of the current and non-current accruals in improving the relationship between earnings and stock returns in the period 1 to 4 years among 75 sample companies and concluded that the interest in short-term has more information content than cash flow for stock returns, but in the long-term, the ability of earning and cash flow moves towards an integration. Also the findings suggest that current accruals do not play important role in improving the relation between earnings and stock returns (not in the short term, not in long term) but the non-current accruals play such a role in the short term.

**Research Hypotheses**

\[ H_1: \] Cash flows and total accruals have incremental value relevance to the earnings.

\[ H_2: \] Funds flow and non-current accruals have incremental value relevance to the earnings.

\[ H_3: \] Cash and non-cash components of earnings have incremental value relevance to the earnings.

**Statistical Population And Research Sample**

Statistical population of the present research entails all firms accepted in Tehran Stock Exchange. Regarding the research variables we can describe the following conditions to implement in our systematic deletion sampling.

- The companies should not be among investing companies, banks, insurance companies or financial intermediary ones.
- The end of fiscal year should be end of Esfand (21st. March).
- The company should be present in Stock Exchange during the years between 2006 and 2011.
- The company should not have changed its fiscal year during the study period.
- The trademark for the company should be active and its stocks should have been transacted at least once in a year.

In the present research, the year 2006 was considered as the base and after implementing the conditions and observing them in systematic deletion sampling, 103 companies were chosen from among the statistical society in order to carry out the hypotheses' tests.

**Research variable**

**Dependent variables of the research**

MV: This variable has been calculated based on the number of shares and a stock price in the end of financial period.

**Independent variables of the research**

Independent variables in this study include: Net earning E, operating cash flow CFO, The current accruals CAcc (are items influenced by the capital account and reflect the changes in the properties and current debts), the non-current accruals NCAcc (which is the subtract of earning and the sum of cash flow and current accruals); Total accruals TACC (achieved by the difference between operating earnings and operating cash
flows), Funds flow FF (the sum of Cash Flow and Accruals), which we examine their impact, on the various
categories, on dependent variable.

Control variables of the research
BV: The book value of the rights of shareholders
CC: Nominal Cost of ordinary shares
D: Dividend (Declared dividends (payments) in earnings and loss)

Estimating The Model Using Panel Data
Before testing the research hypothesis, estimating the models are mentioned. In order to estimate
the research models, integrated data techniques are used. Estimating the equations by the use of accumulated
data, and for all companies, are done during the years 2005 to 2010. Then, based on the obtained estimates, and
with the help of statistical t-tests, the calculated probability (p-value) and the mean absolute percentage error, each
of the research hypotheses is judged and evaluated.

To choose between panel data and integrated data methods, Limer F test (Chow) was used.

Hausman Test is done to determine the use of the fixed-effect model versus the random effect
model. Hausman Test is based on the presence or absence of a relationship between the independent variables of
the former model and the estimated regression error.

\[ H_0: \text{Random Effect} \]
\[ H_1: \text{Fixed Effect} \]

Summary of Results of Limer F Test and Hausman Test
First, Limer F Test is done on the models to determine the type of panel data or integrated data, as a
result in Models 1, 2, 3, the H0 hypotheses (Intercept points are equal) was rejected the result of the test shows
panel data model, but in the model (4), the H0 hypothesis was confirmed, so the data model is integrated.
Then, the models 1, 2 and 3 were entered into Hausman test, as a result the H0 hypotheses in the models
1 and 2 (Correlation between variables) were rejected, that the test result shows the use of a fixed effect, and in the
model 3, H0 was confirmed and the model has random effect.

HYPOTHESES TEST METHOD

The model used in this paper is a model that has already been used in Akbar and Stark (2003) and
Olsen (1989) model. In this study, to test the hypothesis, 4 models are used. Analysis of the testing hypothesis is
done by Eview 6 software Software.
In order to test the hypotheses and get to the objectives of the research, which is investigation of value
relevance of cash flows, current accruals and non-current accruals to the value relevance of earnings, some
models have been compiled and presented as follows:

The test method of first hypothesis
1) \( M_{it} = \alpha_0 + \alpha_1 BV + \alpha_2 E + \alpha_3 CC_{it} + \alpha_4 D_{it} + \epsilon_{it} \)
2) \( M_{it} = \alpha_0 + \alpha_1 BV + \alpha_2 CFO + \alpha_3 TACC + \alpha_4 CC_{it} + \alpha_5 D_{it} + \epsilon_{it} \)
Total accruals = current accruals + non-current accruals
Earnings= Operating cash flow + total accruals

The test method of second hypothesis
3) \( M_{it} = \alpha_0 + \alpha_1 BV + \alpha_2 FF + \alpha_3 NCACC + \alpha_4 CC_{it} + \alpha_5 D_{it} + \epsilon_{it} \)
Funds flow = Operating Cash Flow + current accruals
Earnings = Funds flow + non-current accruals

The test method of third hypothesis
4) \( M_{it} = \alpha_0 + \alpha_1 BV + \alpha_2 CFO + \alpha_3 CACC + \alpha_4 NCACC + \alpha_5 CC_{it} + \alpha_6 D_{it} + \epsilon_{it} \)
Earnings = Operating cash flow + current accruals+ non-current accruals
RESULTS OF TESTING THE HYPOTHESIS

Table 1. Results of statistical analysis for regression patterns of testing hypothesis

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of observations (618)</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model(1)</td>
<td>Model(2)</td>
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<tr>
<td>Constant</td>
<td>-1345</td>
<td>-21211</td>
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<tr>
<td>p-value</td>
<td>0.31</td>
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<td>t-statistics</td>
<td>1.62</td>
<td>0.79</td>
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<tr>
<td>E</td>
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<tr>
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<td>t-statistics</td>
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<tr>
<td>BV</td>
<td>12.4</td>
<td>14.7</td>
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<td>p-value</td>
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<td>0.000</td>
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<tr>
<td>t-statistics</td>
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<td>3.4</td>
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<td>CFO</td>
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<td>p-value</td>
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<td>3.07</td>
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<td>t-statistics</td>
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<tr>
<td>TACC</td>
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<td>0.000</td>
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<td>p-value</td>
<td></td>
<td></td>
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<tr>
<td>t-statistics</td>
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<td></td>
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<tr>
<td>FF</td>
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<td>p-value</td>
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<td>NCACC</td>
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<td>0.000</td>
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<td>7.1</td>
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<td>CACC</td>
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<td>p-value</td>
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<td>0.000</td>
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<td>t-statistics</td>
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<td>CC</td>
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<td>p-value</td>
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<td>t-statistics</td>
<td>13.75</td>
<td>19</td>
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<tr>
<td>D</td>
<td>2.12</td>
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<td>p-value</td>
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<td>0.000</td>
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<tr>
<td>t-statistics</td>
<td>9.8</td>
<td>9.68</td>
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<tr>
<td>Adjusted R'</td>
<td>0.64</td>
<td>0.66</td>
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<td>DW</td>
<td>1.99</td>
<td>1.74</td>
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<tr>
<td>F-statistic</td>
<td>125</td>
<td>121</td>
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<tr>
<td>Significant –F</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

RESULTS OF TESTING THE FIRST HYPOTHESIS

First Hypothesis: Cash flows and total accruals have incremental value relevance to the earnings.
The statistical assumptions of this hypothesis are as follows:

H₀: Cash flows and total accruals are not incremental value relevance to the earnings.
H₁: Cash flows and total accruals are incremental value relevance to the earnings.

The adjusted determination coefficient of the model expresses the relevance of independent variables with
dependant variables (market value). As shown in Table 1 is determined, adjusted coefficient of determination in the
first model (the value relevance of earnings) is 0.64 while in the second model is 0.66 which shows the cash flows
and total accruals have incremental value relevance relative to earnings variable.

RESULTS OF TESTING THE SECOND HYPOTHESIS

Second hypothesis: Funds flow and non-current accruals have incremental value relevance to the
earnings.
The statistical assumptions of this hypothesis are as follows:

H₀: Funds flow and non-current accruals are not incremental value relevance to the earnings.
H₁: Funds flow and non-current accruals are incremental value relevance to the earnings.
As shown in Table(1) is determined, adjusted coefficient of determination in the first model (the value relevance of earnings) is 0.64 while in the third model is 0.67 which shows that funds flow and non-current accruals have incremental value relevance relative to earnings variable.

RESULTS OF TESTING THE THIRD HYPOTHESIS

Third hypothesis: Cash and non-cash components of earnings have incremental value relevance to the earnings.

The statistical assumptions of this hypothesis are as follows:

\( H_0 \): Cash and non-cash components of earnings are not incremental value relevance to the earnings.

\( H_1 \): Cash and non-cash components of earnings are incremental value relevance to the earnings.

As shown in Table(1) is determined, adjusted coefficient of determination in the first model (the value relevance of earnings) is 0.64 while in the fourth model is 0.77 which shows that the cash and non-cash components of earnings have incremental value relevance relative to earnings variable. In fact, whatever that the earnings would be divided into smaller parts, value relevance of earnings components would further.

In all of the models, according to the \( t \) probability of (F), the significance of the model is less than 5 percent, so it can be concluded that the regression equation is significant in the confidence level of 99 percent.

In all of the models, considering the \( t \) amount of Dourbin-Watson, it is confirmed that there is no autocorrelation between model components because these amounts are between 1/5 to 2/5.

CONCLUSION

In this study, the value content, or in other words, information value of different categories of profit in the companies listed in Tehran Security Exchange were studied. This study is important because it seems that this information is the official source of the decisions of investors and analysts.

According to the hypotheses test, the research hypotheses and the information content of all the independent variables were approved. And as the adjusted determination coefficient for the models 1 to 4 is (0.64, 0.66, 0.67, 0.77) respectively increase, it is concluded that the fourth model in which the earning is divided into three components of classification (operating cash flow, current and non-current accruals) and the best model for classifying content information is components of accounting earnings and explanation of value variations of a company, in other words, it has high explanatory power. It is concluded that if the investors pay more attention to the earning components for choosing their company’s shares, it will be more appropriate. Considering the variable coefficients, it also became clear that operating cash flow has more information content than total accruals, and also earning flow of current accruals has incremental information content than non-current accruals.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Description of hypothesis</th>
<th>( \text{Adjusted } R^2 )</th>
<th>hypotheses test</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H_1 )</td>
<td>Cash flows and total accruals have incremental value relevance relative to the earnings.</td>
<td>0.64&lt;0.66</td>
<td>✓</td>
</tr>
<tr>
<td>( H_2 )</td>
<td>Funds flow and non-current accruals have incremental value relevance relative to the earnings.</td>
<td>0.64&lt;0.67</td>
<td>✓</td>
</tr>
<tr>
<td>( H_3 )</td>
<td>Cash and non-cash components of earnings have incremental value relevance relative to the earnings.</td>
<td>0.64&lt;0.77</td>
<td>✓</td>
</tr>
</tbody>
</table>

REFERENCES


