



Application of Panel Data Approach to Comparing the Relevant and Incremental Information Content of Accounting Variables before and After Implementing the National Accounting Standards

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Abstract. The main purpose of financial reporting is representing useful information for users to help them make the conscious economic decisions and finally do the best resource allocation. This goal is achieved through representing relevant and reliable information. This information is realized by the observance of accounting standards requirements and regulations. In Iran this matter has begun by setting national accounting standards since 1999 and binding in 2001. The present study is comparing the relevant and incremental information content of accounting variables before and after implementing the national accounting standards in a period covering eight years (1997-2004) which includes four years before and four years after binding the standards). The research sample contains 123 firms and the dependent variable is the stock market value and the independent variables include net income, stock book value and operational cash flows (as a proxy of financial statements). The multivariate regression is used to analyze the data. Using panel data and measuring the changing effect of operational cash along with net income and stock book value and applying Z young test has made this study different with other domestic researches. The results show that after implementing the national accounting standards the relevant information content of accounting variables and the incremental information content of book value has been developed.

Keywords: National Accounting Standards, relevant information content, Incremental Information Content, Accounting Variables

1. INTRODUCTION

Transparent and comparable financial knowledge is the basic elements of accountability and informed economic decisions and the unique requirements of economic development and growth in the private sector and government. Undoubtedly, the economic decisions and the optimal allocation of resources are not possible without valid information. Since the financial statements, are the main means of transmission of financial information out of the units and the common factor in all the main business and financial reports is it expected that the financial information reflected in them provide the financial condition and results of operations in a way that meets information needs of a wide range of beneficiaries, rightful parties and interested parties that have limited access to the financial information businesses (Pourheidari and A'zami, 2010).

Undoubtedly raising the quality of information contained in the financial statements is achievable only in the light of requirements and accounting and auditing standards. Professional accounting and financial institutions with an emphasis on developing accounting standards that can provide related and useful information in the form of financial statements to investors and other user groups, have taken major steps towards achieving the desired goals accounting. It is expected that their efforts help to promote the quality of financial statements and enhance predicting accounting variables (Barth 1, 2002). It is nearly 10 years since the entry into force of accounting standards in Iran. But so far the question is unanswered that whether these standards have improved quality

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of accounting information? This study aims to find the answer for the question by comparing the relative content and a growing number of key variables accounting.

2. THEORETICAL FOUNDATIONS OF RESEARCH

Accounting Standards include criteria that economic entities should consider in the process of recognition, measurement and communication of financial information to users and therefore they are the criterion for assessing the quality of financial statements. When financial statements are prepared in accordance with accounting standards, we can say that the financial statements have been properly prepared (Bostanyan, 2006). Accounting standards encompasses in the work of accountants. The purpose of the accounting regulations is not to affect certain behavior, but the aim is to provide important ,relevant and reliable information, so based on them, with a rather reasonable confidence economic decisions be adopted and the quality of financial reporting be improved (Hendrickson, 1992).

In Iran in accordance with law, the task of formulating and applying the principles and standards of accounting and auditing is delegated to the audit. The organization facing the development and dissemination of guidelines for accounting, in 1999 prepared the first official set of accounting guidelines and implemented them for two years as a trial. With collecting and studying the comments and suggestions submitted to the published accounting guidelines and additional studies in 2000 in coordination with International Accounting Standards, 28 standards were developed and published, and entered into force from the beginning of 2001. And it was decided that in Auditing financial statements also it should be considered as the official rules and criteria of financial information. Since then, in 2005 (4 standard) and in 2007 (3 standards) were revised. 4 standards have been added to 28 standards recently.

2-1. Data quality evaluation

Related information, are information that have the ability to change the user decisions. If the information has predictive value or the value of verifiers, or both simultaneously, they have the capacity to make a difference in the decisions (Dianati Deylami and Malek Mohammadi, 2013). Related information is information that can be used in prediction models. The predictions are related to the variables of interest to investors and creditors such as cash receivables, future stock price and other variables (Saeedi Ghaderi, 2007). One of the companies' valuation models is Olson model (1995), in which market value of the company based on accounting variables (such as earnings and book value) and other information will be explained. Since book value is the final result of accounting system. If the accounting measurements are done in such a way that the book value is equal to the market value, financial analysts do not need accounting variables such as profit and cash flows. But in accounting measurement the book value and market value are not the same. For this reason, the price of shares is considered a suitable criterion to assess the benefit of accounting figures (Chen and Zhang. 2003.)

So if accounting information can enter prediction models related to the factors such as the market value of the companies as useful data, in this case, the hypothesis relevance of accounting information can be accepted.

Earnings and operating cash flow along with other factors (such as policies, financing companies) are among the affecting factors on the distribution of profits. Each investor for the amount that he invests expects returns according to the risk involved. The two variables of profit and operating cash flow can help investors predict future stock profit.

The results show that the market reaction to cash benefit changes is positive and statistically significant, and therefore, it provides profit and operating cash information about the company

(Etemadi and Chalaki, 2005, Modares and Dianati Deylami, 2003). With regard to the issues raised, this study sought to answer the question of how implementation of national accounting standards could improve the relative and increasing information content of accounting variables.

2-2. Research Background

Bartov et al (2005) in a study investigated the relevance of the book value and earnings. They investigated the relevance of data based on International Accounting Standards, German Standards and generally accepted accounting principles in the United States. The results of this study showed that the model based on efficiency, the generally accepted accounting principles in the US provide more relevant accounting data compared to German standards and international standards. While models based on market value, International Accounting Standards and standards in Germany, provide more relevant accounting data compared to accepted accounting principles in the US.

Overall, the findings suggest that the International Accounting Standards provide more relevant compared to German accounting standards and generally accepted accounting principles in the United States. Colebeck and Warfield (2008) studied the effect of accounting standards on the quality of accounting information. The variables that were examined to evaluate the quality of information included: Stability of profit, profit response rate, quality of benefit accruals and valuation models. Their research results indicate that preparation of standards has failed to establish a direct relationship between profitability and efficiency and the response rate of benefits after the implementation of accounting standards have decreased.

Barth et al. (2008) compared the quality of accounting information in countries that use International Accounting Standards with countries that follow their own internal standards, for a period of ten years between 2003-1994. To evaluate the quality of accounting information of the three variables of management of interest, faster recognition of losses and the relevance of accounting numbers are used. In general, the results showed the work of international accounting standards in comparison with the work of internal standards, causes decrease of earnings management, early diagnosis of losses and increasing relevance of accounting numbers and in fact, the improvement in the quality of accounting information.

Sabzalipour (2012) examined the standard combined effects of convergence in Iran with international standards on the usefulness of consolidated information. Due to a combination of revised standard in 2015, Patterns in the years before and after 2015 were separately fitted and the results were compared. The results of the test patterns suggest that combining standard convergence with international standards has an impact on the usefulness of the usefulness of the consolidated information.

Saghafi and Ebrahimi (2009) investigated the relationship between accounting standards with accounting information quality and stability of earnings, profit response rate, quality of accruals and the ability of explaining valuation methods are tested as accounting information qualitative variables before and after the implementation of accounting standards. The results demonstrated that the implementation of standards only in sustainability model was associated with improved stability relative excess. While in other models, standards have not been significantly effective.

2-3. Research Hypothesis

With regard to theoretical and studies, research hypotheses were developed and tested as follows:

1. The relative content of accounting variables in explaining the stock price after the development and implementation of national accounting standards has changed.

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2. Increasing content of accounting variables in explaining the stock price after the development and implementation of national accounting standards has changed.

3. RESEARCH METHODOLOGY

3-1. Kind of Method

Method of study is in the purpose of the application and the implementation is post event and about the relationship of the variables it is correlation. For data analysis univariate and multivariate linear regression were used and combined data method was used. Due to the combined form of the test data, first F (Chow test) is performed to select the method of estimation between two solutions: Pooling and the Panel. If the results of this test method lead to Panel method, subsequently Hausman test is used to select the test data between two fixed effects and random effects. The procedure is used to estimate the individual models. But for considerations of brevity, only the final results of the estimation models are presented. Then the amount of relative information content with adjusted coefficient of determination with Wong z test and increasing information content of accounting variables with size of the coefficient is measured in multivariate regression models (Aflatuni and Nikbakht, 2010).

3-2. The statistical population and sample

To conduct this research the companies listed in Tehran Stock Exchange were selected as the population and statistical sample have been extracted of companies that include the following requirements:

1. Not be a part of financial intermediaries industry companies
2. All the information needed to participate in the study be available.
3. Companies are listed on the exchange since 1996 until the end of 2004.
4. Investigated companies test period shall not have trading halt for more than 70 days.

According to the above 123 companies were selected from the population as a sample.

3-3. Models

In this study, to evaluate the relevance and usefulness of the information and accounting variables (book value, net profit and operating cash) the ability of prediction of these variables as representative of the accounting data and information exchange between the balance sheet, income statement and statement of cash flows related to the share price are investigated. The dependent variables are model, stock price, and the independent variables are earnings, book value equity and operating cash.

1. Book Value Model:

$$\varepsilon_{i,t} + BVPS_{i,t} \beta_0 + 1 = P_{i,t}$$

2. Net profit model:

$$\varepsilon_{i,t} + \beta_1 NIPSi,t \beta_0 + = P_{i,t}$$

3. The operating cash flow model:

$$\varepsilon_{i,t} + \beta_1 OCFPS_{i,t} \beta_0 + = p_{i,t}$$

4. The book value and profit model:

$$\varepsilon_{i,t} + \beta_2 NIPSi,t BVPS_{i,t} \beta_0 + \beta_1 = P_{i,t}$$

5. Profit and operating cash model:

$$\varepsilon_{i,t} + \beta_2 \text{OCFPS}_{i,t} + \beta_1 \text{NIPS}_{i,t} \beta_0 + = P_{i,t}$$

6. Model of book value and operating cash:

$$\varepsilon_{i,t} + \beta_1 \text{OCFPS}_{i,t} + \text{BVPS}_{i,t} \beta_0 + \beta_1 = P_{i,t}$$

7. Model of book value, earnings and operating cash:

$$\varepsilon_{i,t} + \beta_3 \text{OCFPS}_{i,t} + \beta_2 \text{NIPS}_{i,t} + \text{BVPS}_{i,t} \beta_0 + \beta_1 = P_{i,t}$$

Where: P is market value per share six months after the publication of the financial statements, BVPS is common book value per share at the end of the year, NIPS is net profit before taxes per share and OCFPS is operating cash flow per share.

3-4. Relative information content

Relative information content seeks to compare and rank the information content of accounting standards especially when the criteria in decision-making models are exclusive barrier. The content relative with coefficient of determination or adjusted coefficient of determination measured. If the coefficient of determination (or adjusted coefficient of determination) of models are not significantly statistically different, the relative information content of two variables in this study will be the same. In contrast, if there is a significant difference between the coefficients of determination (vs. adjusted coefficient of determination) in two models, relative information content of the two variables will be significantly different. In each model with greater coefficient of determination will be the preferred model and the independent variable of the model, will have more relative information content. To investigate significance of difference in coefficients of determination in the models (which has the same dependent variables and the independent variables are different) a test proposed by Wang (1989) is used. Therefore, to assess the relative content of accounting variables, Univariate models and Wong z test was used.

4. FINDINGS

Descriptive statistics of the dependent variable and the independent variables for the period before and after the development of standards for test assumptions are shown in Table 1. Independent variable is the value of the stock market and dependent variables are net profit, book value and operating cash flows (as a representative of the basic financial statements).

Table 1. Descriptive statistics.

Variable name	Pre-standard development 1997-2000				Period after of standard development 2001-2004			
	Average	Standard deviation	Minimum	Maximum	Average	Standard deviation	Minimum	Maximum
Stock market value	0.005	0.004	0.001	0.032	0.005	0.005	0.003	0.036
Book value	0.018	0.436	-9.606	0.01	0.007	0.85	-9.983	7.818
Net profit	0.093	0.836	-6.2	9.22	0.275	1.47	-7.983	9.882
Operating cash flows	0.177	1.573	-9.269	9.581	0.312	0.087	-9.27	9.98

The results of the univariate models for pre Standards Test is presented in table 2.

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Table 2. The results of regression models for pre Standards.

Standards before the estimated period 1997-2000								
Model of book value			Profit model			Model of operating cash		
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
Period fixed (dummy variables)			Period fixed (dummy variables)			Period fixed (dummy variables)		
The coefficient of determination	0.72		The coefficient of determination	0.81		The coefficient of determination	0.74	
The adjusted coefficient of determination	0.66		The adjusted coefficient of determination	0.76		The adjusted coefficient of determination	0.67	
F statistics	8.29		F statistics	12.93		F statistics	8.52	
Watson statistic camera	1.96		Watson statistic camera	2.31		Watson statistic camera	2.1	
Significant (Prob)	0		Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coef ficient	Poss ibility	Explanatory variable	Coef ficient	Poss ibility	Explanatory variable	Coeffi cient	Poss ibilit y
Intercept	0	0	Intercept	0	0	Intercept	0	0
Book value per share (BVPS)	1.18	0	Earnings per share (EPS)	1.5	0	Operating cash per share (OCFPS)	0.72	0

The coefficient of determination reflects the variability in the dependent variable that can be explained by the regression. Considering the F-statistics and its probability that is less than 01/0, then the linearity assumption about the dependent variables and be independently is confirmed. So we can conclude that the 99% confidence level the overall regression model was significant. Results on Watson statistic camera (lack of self-correlation error terms) for the model indicate the relative independence of the data. The coefficient of determination reflects the variability in the dependent variable that can be explained by the regression.

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The adjusted coefficient of determination for models of book value, earnings and operating cash, are respectively, 72, 81 and 74 percent. This means that the variables of profit, operating cash and the book value have the highest correlation with stock prices. But for the significant difference between the adjusted coefficients of determination of models Wang z test is used. Wong z test results for the period before the development of standards is presented in table 3.

Table 3. Results of Wang Z-test pre Standards.

Estimated time	Model	The coefficient of determination	Z statistic Wang	The probability (Prob)
Before Standards 1997-2000	Model of book value	72%	10.44	0
	Profit model	81%		
	Model, operating cash	74%	8.86	0
	Profit model	81%		
	Model of book value	72%	-0.339	0.367
	Model, operating cash	74%		

According to the statistical significance level of z Wong for the period of compiling standards the difference between of book value and profit model, model of operating cash and the interest rate and according to the possibility of z statistic that is less than 5% is significant at 99% confidence level. But the difference between book value and operating cash model is not significant according to the possibility of z statistic. This means that during this period, profit has the highest power to explain stock prices, while operating cash and book value have the same power. Results of univariate test models for the next period of the Standards is presented in Table 4.

Table 4. Results of regression models for pre Standards.

Standards before the estimated period 1997-2000								
Model of book value			Model of book value			Model of book value		
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
The coefficient of determination	0.9		The coefficient of determination	0.93		The coefficient of determination	0.91	
The adjusted coefficient of determination	0.87		The adjusted coefficient of determination	0.91		The adjusted coefficient of determination	0.88	
F statistics	26.2		F statistics	36.82		F statistics	27.77	
Watson statistic camera	2.06		Watson statistic camera	2.21		Watson statistic camera	2.13	
Significant (Prob)	0		Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coef ficie nt	Poss ibilit y	v	Coef ficie nt	Poss ibilit y	v	Coef ficie nt	Poss ibilit y
Intercept	0	0	Intercept	0	0	Intercept	0	0
Book value per share (BVPS)	1	0	Earnings per share (EPS)	1.18	0	Operating cash per share (OCFPS)	0.79	0

The adjusted coefficient of determination for models of book value, earnings and operating cash, are respectively, 90, 93 and 91 percent. This means that the variables of profit, operating cash and the book value have the highest correlation with stock prices. But for the significant difference between the adjusted coefficients of determination of models Wang z test is used. Wong z test results for the period before the development of standards is presented in table 5.

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Table 5. Wang Z-test results after the Standards.

Estimated time	Model	The coefficient of determination	Z statistic Wang	The probability (Prob)
After Standards 1997-2000	Model of book value	90.00%	1.48	0.068
	Profit model	93.10%		
	Model, operating cash	91%	1.568	0.058
	Profit model	93.10%		
	Model of book value	90%	-0.35	0.363
	Model, operating cash	91.00%		

According to the significant level of Wong z statistics for the period after compiling standards the difference between all models is more than 5% so confidence level of 95% is not significant in the model. This means that during this period all accounting variables have the same power in explaining stock price.

Thus the first hypothesis test results presented in this study suggests in the period after compiling standards in line with the standards tendency to focus on balance sheet of relative information content of book value in explaining stock price has increased.

4-1. Increasing information content

In research that investigate increased information content of accounting numbers the main objective is to answer to the question that one or more criteria of accounting add to it more than other variables or not. Among these issues we can mention the increasing content of Cash compared to profit or increasing content of information of the disclosure of supplements the basic financial statements (mashayekhi, 2004). In this section to investigate the accounting variables in explaining the stock price are fitted in bivariate models and multivariate models and considering coefficient of mixed models the increasing content of information of accounting variables are compared.

Table 6. Results of multivariate regression models of relevance.

Period after of standard development 2001-2004			Standards before the estimated period 1997-2000		
Model of book value and profit					
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
			Period fixed (dummy variables)		
The coefficient of determination	0.91		The coefficient of determination	0.8	
The adjusted coefficient of determination	0.88		The adjusted coefficient of determination	0.75	
F statistics	29.6		F statistics	12.31	
Watson statistic camera	2.06		Watson statistic camera	2.25	
Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coefficient	Possibility	Explanatory variable	Coefficient	Possibility
Intercept	0	0	Intercept	0	0
Book value per share (BVPS)	0.72	0	Book value per share (BVPS)	0.34	0.031
Earnings per share (EPS)	0.68	0.016	Earnings per share (EPS)	1.44	0
Profit and operating cash model					
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
			Period fixed (dummy variables)		

The coefficient of determination	0.93		The coefficient of determination	0.8	
The adjusted coefficient of determination	0.9		The adjusted coefficient of determination	0.76	
F statistics	34.02		F statistics	12.57	
Watson statistic camera	2.3		Watson statistic camera	2.21	
Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coefficient	Possibility	Explanatory variable	Coefficient	Possibility
Intercept	0	0	Intercept	0	0
Earnings per share (EPS)	1	0	Earnings per share (EPS)	1.4	0
Operating cash per share (OCFPS)	0.62	0	Operating cash per share (OCFPS)	0.28	0.002
Model of book value and operating cash					
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
			Period fixed (dummy variables)		
The coefficient of determination	0.91		The coefficient of determination	0.74	
The adjusted coefficient of determination	0.88		The adjusted coefficient of determination	0.69	
F statistics	29.62		F statistics	9.13	
Watson statistic camera	2.19		Watson statistic camera	3.12	
Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coefficient	Possibility	Explanatory variable	Coefficient	Possibility
Intercept	0	0	Intercept	0	0
Book value per share (BVPS)	0.71	0	Book value per share (BVPS)	0.75	0
Operating cash per share (OCFPS)	0.58	0.001	Operating cash per share (OCFPS)	0.55	0

Table 7. Results of regression of combined multivariate model.

Period after of standard development 2001-2004			Standards before the estimated period 1997-2000		
Model of book value and operating cash benefit					
Cross-section fixed (dummy variables)			Cross-section fixed (dummy variables)		
			Period fixed (dummy variables)		
The coefficient of determination	0.92		The coefficient of determination	0.81	
The adjusted coefficient of determination	0.89		The adjusted coefficient of determination	0.76	
F statistics	30.1		F statistics	12.64	
Watson statistic camera	2.25		Watson statistic camera	2.29	
Significant (Prob)	0		Significant (Prob)	0	
Explanatory variable	Coefficient	Possibility	Explanatory variable	Coefficient	Possibility
Intercept	0	0	Intercept	0	0
Book value per share (BVPS)	0.62	0.003	Book value per share (BVPS)	0.11	0.458
Earnings per share (EPS)	0.54	0.001	Earnings per share (EPS)	1.37	0
Operating cash per share (OCFPS)	0.49	0	Operating cash per share (OCFPS)	0.26	0.005

According to F-statistics and the probability of which is less than 0/05, the assumption of a linear relationship between the dependent and independent variables is approved. So we can conclude

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that the overall regression Model of was significant in the 99% confidence level. Results on Watson statistic camera (lack of self-correlation error terms) for models show the relative independence of the data. After reviewing the overall significance of the regression model to confirm or reject the hypothesis, partial regression coefficients should be examined.

4-2. The Information Content of increasing accounting variables in combined models of relevance

Model of book value and profit for the period prior to the Standards $\varepsilon_{i,t} + 1.44 \text{ NIPSi}_{i,t} + \text{BVPSi}_{i,t} 0.34 + 0.00206 \text{ Pi}_{i,t} =$
Model of book value and profit for the period before the Standards $\varepsilon_{i,t} +$ $\text{NIPSi}_{i,t} 0.68 + \text{BVPSi}_{i,t} 0.71 + \text{Pi}_{i,t} = 0.0029$

According to the coefficients of independent variables in the combined model, book value and earnings for pre Standards the variable of earning per share has more effect on the stock price. However, in the course of after the preparation of standards, book value per share is the most effective variable.

Profit and operating cash model for pre standards $1-1 \quad \varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.27 + \text{NIPSi}_{i,t} 1.4 + 0.0025 \text{ Pi}_{i,t} =$
Profit and operating cash model after standards $\varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.62 + \text{NIPSi}_{i,t} 1.0049 + 0.0034 \text{ Pi}_{i,t} =$

According to the coefficients of independent variables in the combined model, Profit and operating for pre and after Standards, the variable of earning per share has more effect on the stock price.

$1-2 \quad$ Model of book value and cash for the period prior to the Standards $\varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.55 + \text{BVPSi}_{i,t} 0.74 + \text{Pi}_{i,t} = 0.0029$
$1-3 \quad$ Model of book value and cash for the period after the Standards $\varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.57 + \text{BVPSi}_{i,t} 0.71 + \text{Pi}_{i,t} = 0.0030$

According to the coefficients of independent variables in the combined model, book value and operating cash for pre and after Standards, the variable of earning per share has more effect on the stock price.

$1-4 \quad$ Model of book value and operating cash benefit for pre Standards $\varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.26 + \text{NIPSi}_{i,t} 1.36 + \text{BVPFSi}_{i,t} 0.106 + 0.0023 \text{ Pi}_{i,t} =$
$1-5 \quad$ Model of book value and operating cash benefit for after Standards $\varepsilon_{i,t} + \text{OCFSi}_{i,t} 0.49 + \text{NIPFSi}_{i,t} 0.54 + \text{BVPSi}_{i,t} 0.62 + \text{Pi}_{i,t} = 0.0028$

For the combined model, book value and earnings and operating cash in the period before the Standards the significance level of variable is greater than 0.05 so this is not a significant variable in the model. However, for the period after Standards all three accounting variables are significant at 0.01 error level.

According to all the combined models for pre Standards period the increasing power of accounting variables in relevance of price of shares are as follows: earnings per share, book value,

operating cash but for after the Standards they are book value, earnings per share and operating cash.

Therefore, second hypothesis test results suggest that increased information content of book value on stock price in the period after Standards has increased along with the standards' tendency to focus on the balance sheets.

CONCLUSION

The present study was started by conducting a hypothesis based on comparison of the relative and increasing content of accounting variables explaining the stock price before and after formulation implementation of National Accounting Standards, and mentioned hypothesis were tested by measuring relationship between the variables representing a fundamental financial statements, including profit, operating cash flow and book value per share and market value of the share in the period before and after the implementation of the standards. The results related to the relative content, suggest that for the period after the Standards the difference between fundamental accounting variables in explaining the stock price is not significant. However, in the period before the development of standards, earnings per share are the most powerful explanation for stock price. And for increasing content of variables of accounting, the results indicate that earnings per share in the period before the development of standards has the most impact on stock price, while in the period after the standards book value has greatest impact on the stock price. That this increase of information content of book value on stock price in the period after standards is because of standards' tendency to focus on the balance sheet.

The results of research are consistent with results of Cole Beck and Warfield (2008) which examined the effect of accounting standards on power of explaining the model of book value and profits with stock price. And they considered the reason for the decline in power of profit model after the implementation of international standards, as the focus of FASB on the balance sheet approach in explaining standards. The results of this study are consistent with results of Barth et al (2008), but they are opposite to results of Christine and Vimayr (1999) about the relationship between the values of profits after Standards development of America.

It seems that with the development and the entry into force of accounting standards, the information content of balance sheet figures have also increased and has caused investors to consider balance sheet values in addition to the income statement in economic decisions.

The main limitation of the study was that some companies in 1999 and 2000 voluntarily used guidelines issued by the National Audit Office (these guidelines became standard in 2001). However, the separation of these companies from other companies was a difficult work.

According to results of this research based on improving the information content of accounting variables and increasing information content of book value after the implementation of the national accounting standards, it is recommended to Corporate Audit Accounting Standards Committee to accelerate the process of Accounting Standards. Also considering the positive impact of the quality of accounting Standards on accounting information it is recommended to academics and practitioners of accountancy profession to participate public opinion polls in draft of accounting standards enhanced the quality of accounting information. It is recommended to the users and decision makers of capital market that with regard to the role of accounting information in determining the price of shares that can be seen in the models presented in this study pay special attention to the information given in financial statements in their decisions.

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REFERENCES

- [1] Aflatuni, Abbas and Nikbakht, Leily (2010) application of econometric research, accounting, financial management and economic sciences.
- [2] Barth, M.E.(2002). Constraints on Accrual Components of Earnings in Valuation, available at <http://ssrn.com>
- [3] Barth, Mary, Wayne Landsman, Lang, Mark. (2008). International Accounting standards and Accounting Quality. *Journal of Accounting Research*, Vol. 46, No. 3, pp.120-137.
- [4] Bartov , E ; Goldberg, S. R ; and Myungsun, K. (2005). Comparative Value Relevance Among German, U.S.A and International Accounting Standards: A German Stock Market Perspective , *Journal of Accounting, Auditing , and Finance* Vol. 20, pp. 95-119.
- [5] Bostanyan, J. (2006). No more strain on accounting standards. *Address auditor*, eighth year, No. 33, p. 67-62.
- [6] Chen, P. and Zhang, G.(2003). Profitability, Earnings and Book Value in Equity Valuation: A Geometric View and empirical Evidence, working paper, available at www.ssrn.com
- [7] DianatiDailami, Zahra. Malek Mohammadi, H. (2013). The effect on the quality of financial characteristics of Corporate Governance of Listed Companies in Tehran Stock Exchange, *accounting student, senior*, No. 13, S.170-151.
- [8] Etemadi Hoein and Chalaki (2005). The relationship between performance and cash dividends of companies listed in Tehran Stock Exchange during the years 1998-2002, *studies in accounting and auditing*, in the twelfth, No. 39, p. 47-31.
- [9] Hanrickson, Eldon S and Vanborda, Micheal F. (2013). *Accounting theory*. Translated by Ali Parsayyan, cashmere Press, Second Edition, Volume One.
- [10] Kohlbeck, Mark, Warfield, Terry.(2008). The Effects of Accounting standard Setting on Accounting Quality.working paper, Florida Atlantic University.
- [11] Kristen, Ely, Waymire,Gregory (1999). Accounting Standard-Setting Organizations and Earnings Relevance: Longitudinal Evidence from NYSE Common Stocks, *Journal of Accounting Research*, Vol.37, pp. 293-317.
- [12] Mahdavi, GH and Rafi Karju, Nariman (2005). The effect of accounting standards on the quality of the independent auditors' opinion, *Shiraz University of social sciences and humanities*. Twenty-second year, No. 2, S.146-132.
- [13] Modares, Ahmad and Dianati Deylami, Zahra. (2003). Evaluate the application of multivariate time series models in forecasting operating cash flows: comparing theory with empirical evidence, *analysis of accounting and auditing*, the tenth year, the 34, p. 110-77.
- [14] Ohlson J.A. (1995). Earning, Book Value, and Dividends in Equity Valuation, *Contemporary Accounting Research*, Vol.11, No.2, pp. 661-787.
- [15] Purheydi and Omid and Azami, Zainab (2010). Identify the type of audit opinion using artificial neural networks. *Accounting knowledge*, the first year, No. 3, p. 97-77.
- [16] Sabzali Poor, F. (2012). The effect of combining the standard convergence with international standards on the usefulness of the consolidated data. *Knowledge of accounting*, the third year, No. 11, p. 201-181.
- [17] Saidi Ali. Qadri, E. (2007). Assess the relevance of accounting earnings, book value and operating cash flows and investment valuation models based on prices, *Reviews of accounting and auditing*, the fourteenth year, No. 50, p. 64-47.
- [18] Saghafi, Ali and Ibrahimi, Ibrahim (2009). Accounting standards related to the quality of accounting information. *Studies, accounting, auditing*, year XVI, no. 57, p. 50-33.