

The Association between Various Earnings and Cash Flow Measures of Firm Performance and Stock Returns: some Iranian evidence

Ali Mazloom

Supreme Audit Curt of Birjand, Iran

Alireza Azarberahman (Corresponding author)

Dept. of Accounting, Islamic Azad University-Mashhad, Iran

Tel: +98-915-119-1929 E-mail: a_berahman@yahoo.com

Jalal Azarberahman

Supreme Audit Curt of Mashhad, Iran

Received: January 03, 2013 Accepted: February 05, 2013 DOI: 10.5296/ijaf.v3i1.2994

Abstract

The main purpose of this research is the study of association between various measures of firm performance based on earnings and cash flows and stock returns. This research is an applied research, and its design is semi-empirical, which is done by the method of post-event (past information). The statistical population of the research includes all companies listed in Tehran Stock Exchange (TSE), and its period is nine consecutive years, from 2003 to 2011. Simple and multiple regressions are applied in order to test the hypotheses. Results of the research represent that earning based measures are more related to stock returns than cash flow based measures. Furthermore, earning based measures depict the company performance better than cash flow measures in some companies with higher accruals. But in companies with lower accruals, the company performance cannot be depicted properly neither by earning based nor cash flow based measures.

Keywords: Earning based measures, Cash flow based measures, Earning, Cash flows, accruals, and Stock return.

1. Introduction

Applying the historical cash flow data in order to predict the future stock dividend is a complicated process, but predicting the cash flows that are gathered according to cash flow data is more reliable than predicting via mere former earning data considerably. Relying on cash flow data is not correct by itself, especially when some important transactions take place without transferring any cash.

Investors pay a lot of attention to the accounting earning as a predicting device. The current value of corporation (stock prices) is related to the expected earnings stream, and investors usually make their decisions about keeping or selling the stocks according to their expectations of future earning (Jahankhani, et al, 1993). However the usefulness of accrual accounting is undeniable in presenting the financial position and the reporting of performance results, necessity of data existence in cash input and output cannot be ignored, too (Alivar, 1994).

Evaluating the performance of business units has been part of the literature of financial management, financial affairs and accounting in the world since many years age. This point that which measure in "evaluating the companies' performance" is more validated has been the most focused part of theoretical passages in this field.

According to the investors' viewpoint, earnings are a measure of evaluating the management performance. But manipulate and smoothing of earnings by the management has led to some other factors in order to prevent the manipulate and possible misusing, and this is a reason for focusing on the reporting of cash flows as a complimentary statement with main financial statements. Cash money plays an important role in making financial decisions, and ignoring it causes some problems in executing the mentioned decisions or failure in made decisions. Traditional measures like accounting rate of return were replaced by cash flow based measures in evaluating the economical performance and measuring the economic rate of return, because financial researches have presented that in measuring the performance of business units, cash data possess less ambiguity comparing with reported data on the basis of accrual accounting (Nikomaram, et al., 2002).

Accounting earning is the basis of many legal and conventional connections in the society. According to this viewpoint, accounting earning contains financial behavior effects. Therefore accounting earning is important to investors and their decision makings according to the company earning. Actual earnings will be ascertained in the end of the year, so investors may rely on expressed predictions by company's managements (Miar, 1995).

Since the data references of many people, who needs more evaluation and finally make sound decisions, is the annual financial statements of the company, Tehran stock exchange (TSE) has been chosen as the subject of the research for associating between various earnings and cash flow measures of firm performance and stock returns.

According to accounting theory, earnings are considered as a measurement in order to evaluate the performance. Cash flow data can offer a meaningful evaluation of performance in a given period of time. But cash flows might be aberrant, if they consider as a performance

index only. However the same events and information are utilized to measure the earning and net cash flows, they cannot be replaced by each other. Thus the association between various income statement measures and cash flow measures of firm performance and stock returns is studied in this research to answer this question: which one of mentioned measurements performs better for evaluating the company performance? And: Do accruals influence the relation among them or not?

2. Research Literature

Results of a research by Sasan Miar (1995) revealed that existing information in cash flows statement ratios leads to a substantial increase in correlation among the ratios of income statement and balance sheet with stock returns. But there is a weaker correlation among the cash flows ratios comparing with ratios of income statement and balance sheet in stock returns. Another research which was accomplished via the statistical linear regression method per year and mean of 5 years by Shadi Farshadfar (1999) deduced that there is not any meaningful linear relationship between operating cash flows, operating accruals earning with stock returns. Results of a research by Masood Shahmoradi (2002) showed that there is a meaningful relationship among net profit, operating earning with stock return. According to the results of another research by Rezvan Hejazi and Seddiqeh Doostian, there is a relationship only between net profit and stock returns of listed companies in the stock market, i.e., 1.6 % of stock return changes can be explained by the variable of net profit. Results of a research which was accomplished to test the hypotheses via Pearson correlation and simple linear regression method by Amir Rahim Ashtiani (2005) demonstrated that there is a meaningful relationship among the growing of operating earning, growing of net profit, operating cash flows, investing cash flows with stock return; but there is no meaningful relationship among the growing of trade sale, financing cash flows, and stock return. Results of another research which was accomplished to test the hypotheses by Reza Khoshdel Nezami (2006) present that there is a positive meaningful relationship among the net profit, stock returns, return on equity, and return on assets; there is also a positive meaningful relationship between operating earning with return on equity, return on assets, and growing of net market value in operating assets. But there is no meaningful relationship among free cash flows, stock return, return on equity, and return on assets. And there is only an opposite and meaningful relationship by growing of net market value in operating assets. Therefore operating earning and net profit are influential as accruals earning measurements on the value of share holders and company value. In contrast, free cash flows are irrelevant for evaluating the share holder's equity, and there is no relationship between it and the company values.

The results of Rayburn Judi's (1986) research revealed this point that there is a relationship between operating cash flows and total of accruals with abnormal stock returns. Regarding to correlation between the components of accruals adjustments with abnormal returns and changing of working capital, there was a high correlation, and low correlation with depreciations and changing in taxes delinquent.

Results of the last mentioned research showed that there is a harmony between stock returns and operating cash flows. This harmony exists between the stock returns and total accruals as

well. He concluded in his research that operating cash flows are a combination of current relevant and adaptable accruals items with a set of information about stock valuation.

Biddel et al., (1997) tried to evaluate the informational content of EVA, residual profit, and two common measures of performance evaluation i.e., operational profit and cash flow, and comparing the relation between EVA and accrual earnings with the company stock return in their research. They deduced that annual earning of accounting has a power two times bigger than EVA in explaining the annual return changes.

3. Research Methodology

3.1 Performance Evaluation Measures

Performance evaluation measures can be classified into two main general groups: *financial* and *non-financial* (Bacidore, et al., 1997). Non-financial class consists of producing, marketing, official, and social measures. Financial ratios are techniques which are suggested as financial measures. Some financial analysts have suggested that combined indices (financial and non-financial) should be utilized together.

Any way, it is not easy to use such indices, because determining the type of indices, finding the correlation between them, and determining their value and weight as well is a difficult task (Watson, Judi, 2005). It is crucial to know the aspect and goal of the performance evaluation. Different people and groups try to evaluate the companies' performance and use its outcome in their decision makings, e.g. shareholders, managements, lenders, creditors, employees, labor unions, government, public and governmental organizations and so on. Considered measurements of a specific party may not be in concordance with other parties. For instance, profitability is one of the most important factors for survival of companies. But in the condition that political or social factors are considered more, profitability may fade a little away. Thus a company, whose performance is acceptable according to managements and share holders' opinion, may not be acceptable in social aspect. Main focus in this research is on investors' view point and their evaluation of the company performance. Table 1 depicts the applied variables and their definitions.

Table 1. A summary of the research variables and their definitions

Variables	Symbol	Variable definition	
Stock returns	R	$R_{it} = \frac{(P_{it} - P_{it-1}) + DPS - (C - 1000)}{P_{it-1}}$	Dependent
Operating profit ratio	EBIT	$\frac{EBIT_{it}}{P_{it-1}}$	Independent
Operating profit plus depreciation ratio	EBITDA	$\frac{EBIT_{it} + DA_{it}}{P_{it-1}}$	Independent
Net profit after tax ratio	NPAT	$\frac{NPAT_{it}}{P_{it-1}}$	Independent
Net cash flows from operating activities ratio	OPCF	$\frac{OPCF_{it}}{P_{it-1}}$	Independent
Net cash flows from investing activities ratio	INVCF	$\frac{INVCF_{it}}{P_{it-1}}$	Independent
Net cash flows from financing activities ratio	FINCF	$\frac{FINCF_{it}}{P_{it-1}}$	Independent
Net increase (decrease) on cash ratio	NCF	$\frac{NCF_{it}}{P_{it-1}}$	Independent
Net cash flows from operating activities minus depreciation ratio	OPCFDA	$OPCFDA_{it} = \frac{(OPCF - DA)_{it}}{P_{it-1}}$	Independent
Free cash flows ratio	FCF	$FCF_{it} = \frac{(OPCF - I)_{it}}{P_{it-1}}$	Independent
Accruals	ACC	$ACC = \frac{(EBIT - OPCF)_{it}}{P_{it-1}}$	Control

First three independent variables evaluate the earning performance and next six measures are dealing with evaluating the cash flow performance.

3.2 Model and the research hypotheses

The research Model is as follows:

$$R_{it} = \alpha_0 + \alpha_1 X_{it} + \epsilon_{it} \dots$$

This model is used for all research hypotheses. Where, X_{it} is replaced by each of the performance evaluation measures (independent variables) separately.

Following hypotheses are tested in this research:

H1: The correlation between performance measures on the basis of income statement with stock return is more than performance measures on the basis of cash flows with stock return.

H2: Increasing the accrual items causes strengthening the correlation between performance measures on the basis of income statement with stock return, in comparison with performance measures on the basis of cash flows with stock return.

3.3 Time period of research, Statistical population and Sampling method

The tested period is considered 9 consecutive years, since 2003 to 2011. Accepted companies in Tehran Stock Exchange are considered as statistical society. Eliminating method is used for sampling, i.e. those companies that possess following features will be chosen and the rest of them will be eliminated:

- 1- They should have existed in stock exchange since 2003; their presence should be consecutive until 2011.
- 2- Banks and investing companies were excluded due to their special characteristics.
- 3- Those companies whose stocks are transacted without any interval during the research period.

Considering mentioned filtering the number of chosen companies in each year is depicted in table 2.

Table 2. Statistical sample in each year

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
No. of companies	202	211	216	218	218	218	218	218	218

3.4 Research method

Pearson correlation coefficient (confidence level of 0.95) is used to test of dependent and independent variables. Kolmogorov-Smirnov test is used to evaluate the normality; and statistical Durbin-Watson test and Runs test are used to evaluate the independency of the residuals.

Using algorithm is a common technique in order to make homogeneity of returns, and the same method is used in this research as well. Regarding this fact that returns of some companies is negative and negative algorithm cannot be defined, a certain amount is added to total amounts in order to become positive, finally the algorithm will be calculated. Here, the result is a variable that plays the role of a dependent variable in models. Therefore, since the returns mean is used in the hypothesis 1 and the least amount of returns mean during tested

years have equaled -0.5, this number (0.5) is added to the returns mean and it is possible to have the algorithm of all. In hypothesis 2, the least amount of returns has approached -1.1, so this number (1.1) is added to the annual returns of understudy companies.

Nine performance evaluation measurements are checked with stock returns in this research separately, it means X_{it} is replaced by a different performance evaluation measurement separately every time.

When it is deduced that test of each model is meaningful, modified determination coefficient can be used in order to clear the amount of a group correlation to stock returns.

4. Research Findings

4.1 Test of the first hypothesis

In this hypothesis, regression model is as follow:

$$\ln(R_{it} + 0.5) = \beta_0 + \beta_1 X_{it} + \epsilon_{it}$$

Table 3. The results of hypothesis 1

Independent variables	coefficient/probability	(β_0)	(β_1)	correlation coefficient	modified coefficient of determination	result
EBITDA	coefficient	-.282	.635	.456	.205	confirmed
	probability	.000	.000	.000		
EBIT	coefficient	-.308	.849	.493	.240	confirmed
	probability	.000	.000	.000		
NPAT	coefficient	-.307	1.032	.564	.315	confirmed
	probability	.000	.000	.000		
OPCFDA	coefficient	-.218	.909	.434	.185	confirmed
	probability	.000	.000	.000		
OPCF	coefficient	-.266	.902	.441	.191	confirmed
	probability	.000	.000	.000		
INVCF	coefficient	-.182	-.573	-.254	.060	confirmed

	probability	.000	.000	.000		
FINCF	coefficient	-.048	-.275	-.130	.012	confirmed
	probability	.204	.048	.048		
NCF	coefficient	-.145	3.215	.248	.057	confirmed
	probability	.000	.000	.000		
FCF	coefficient	-.099	.243	.108	.007	rejected
	probability	.001	.116	.116		

According to the consequences of table 3 P-values for all above variables are less than 0.05, except for FCF which equals 0.116. Therefore existence of a meaningful relation, with 95% confidence level, among all above independent variables and stock returns is proved – except for FCF. Negative correlation coefficients among independent variables INVCF and FINCF with stock return reveals an opposite relation and positive correlation coefficients among other variables with stock return reveals a direct relation with dependant variables.

According to the consequences of table 3, there is a meaningful relation between dependent and independent variables; and modified coefficient of determinations for EBITDA, EBIT, and NPAT variables equal 0.205, 0.240, and 0.315 respectively; and modified coefficient of determinations for OPCFDA, OPCF, INVCF, FINCF, and NCF variables equal 0.185, 0.191, 0.060, 0.012, and 0.057 respectively. Thus it can be deduced that the correlation among performance measures on the basis of earning with stock return is more than performance measures on the basis of cash flows with stock return because of higher coefficient of determination earning measures (first three variables) and lower coefficient of determination cash flows measures (second six variables).

4.2 Summary of testing the fundamental hypotheses in hypothesis 1

Possibility of Smirnov Kolmogorov test for the variables in hypothesis 1 is depicted in table 4. As it can be seen all P-values are bigger than 0.05, so normality of residuals is confirmed with 95% level of confidence. The amounts of statistics Durbin-Watson test in hypothesis 1 is depicted in table 4 as well; regarding their amounts that are close to 2, independence of residuals can be proved. The amounts of Runs test is depicted in following table, too.

Regarding their value that is bigger than 5%, independence of residuals is confirmed with 95% level of confidence as well. Minimum and maximum output amounts of residuals is between -3 and 3 in residuals statistics, therefore the problem of existing the wild values cannot be seen in this model.

Table 4. Summary of testing the fundamental hypotheses in hypothesis 1

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.959	.051	.200	confirm of homogeneity	accept
EBIT	1.854	.058	.200	confirm of homogeneity	accept
NPAT	1.690	.083	.051	confirm of homogeneity	accept
OPCFDA	1.869	.052	.200	confirm of homogeneity	accept
OPCF	1.959	.051	.200	confirm of homogeneity	accept
INVCF	1.951	.051	.200	confirm of homogeneity	accept
FINCF	1.860	.054	.200	confirm of homogeneity	accept
NCF	1.954	.057	.200	confirm of homogeneity	accept
FCF	1.958	.059	.200	confirm of homogeneity	accept

4.3 Test of the second hypothesis

In this hypothesis, regression model is as follow:

$$\ln(R_{it} + 1.1) = \beta_0 + \beta_1 X_{it} + \epsilon_{it}$$

According to the volume of accrual items, companies can be classified in five different classes in order to examine the influence of it on the correlation between performance measures on the basis of income statement and cash flows with stock return. Due to existence of positive and negative accrual items in a business unit life, the use of average method cause to neutralize the effect of positive and negative points on each other. Therefore we consider the data of each year as an independent sample in the company and sort the companies according to the accrual items, and finally categorize them in five equal classes as follow:

those companies that possess the least volume of accrual items are put in the first class (first quantile) and those companies that possess the most volume of accrual items are put in the fifth class (fifth quantile). Table 5 represents the number of samples in each class.

Table 5. The frequency of samples in each class for testing hypothesis 2

class	frequency	Frequency percentage of each class
1 st quantile	387	20%
2 nd quantile	387	20%
3 rd quantile	389	20%
4 th quantile	387	20%
5 th quantile	387	20%
total	1937	100%

According to tables 4 and 5 P-values for all mentioned variables is smaller than 0.05, except for NCF in first class, FINCF in second class, NCF, FINCF, and INVCF in third class, and NCF and INVCF in fourth and fifth classes. Thus existence of a meaningful relation can be confirmed with 95% level of confidence between all independent variables, except for mentioned ones, with stock return. As it was predicted in table 4, there is not a big difference between modified coefficient of determination for performance measures on the basis of earnings and performance measures on the basis of cash flows in first class which possesses the least volume of accrual items. Increasing the volume of accrual items leads to this point that modified coefficient of determination for performance measures on the basis of earnings (first three variables) is increased in comparison with performance measures on the basis of cash flows (second six variables); it can be seen vividly in fifth class, that possesses the most volume of accrual items, all the coefficient of determinations of performance measures on the basis of earnings is bigger than 11.1% and all performance measures on the basis of cash flows are smaller than 2.2%. Consequently, hypothesis 2 can be accepted on the basis of this fact that increasing the accrual items causes strengthening the correlation between performance measures on the basis of income statement with stock return, in comparison with performance measures on the basis of cash flows with stock return.

4.4 Summary of testing the fundamental hypotheses in hypothesis 2

P-values of Smirnov Kolmogorov test for the variables in hypothesis 2 represent that all P-values are bigger than 0.05, so normality of residuals is confirmed with 95% level of confidence. The statistic of Durbin-Watson test in hypothesis 2 that are close to 2, independence of residuals can be proved. The values of Runs test is depicted in following table, too. Regarding their values that are bigger than 5%, independence of residuals is

confirmed with 95% level of confidence as well.

Minimum and maximum output of residuals is between -3 and 3 in residual statistics, therefore the problem of existing the wild values cannot be seen in this model.

Table 6. Evaluating the fundamental hypotheses in hypothesis 2 for 1st quantile

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.893	.055	.068	confirm of homogeneity	accept
EBIT	1.971	.087	.200	confirm of homogeneity	accept
NPAT	1.874	.055	.052	confirm of homogeneity	accept
OPCFDA	1.866	.070	.065	confirm of homogeneity	accept
OPCF	1.967	.050	.065	confirm of homogeneity	accept
INVCF	1.702	.053	.077	confirm of homogeneity	accept
FINCF	1.732	.054	.077	confirm of homogeneity	accept
NCF	1.972	.060	.054	confirm of homogeneity	accept
FCF	1.867	.091	.065	confirm of homogeneity	accept

Table 7. Evaluating the fundamental hypotheses in hypothesis 2 for 2st quantile

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.884	.065	.200	confirm of homogeneity	accept
EBIT	1.850	.056	.200	confirm of homogeneity	accept
NPAT	1.938	.077	.071	confirm of homogeneity	accept
OPCFDA	1.916	.057	.200	confirm of homogeneity	accept
OPCF	1.858	.065	.200	confirm of homogeneity	accept
INVCF	1.766	.069	.053	confirm of homogeneity	accept
FINCF	1.825	.054	.052	confirm of homogeneity	accept
NCF	1.882	.077	.200	confirm of homogeneity	accept
FCF	1.832	.053	.053	confirm of homogeneity	accept

Table 8. Evaluating the fundamental hypotheses in hypothesis 2 for 3st quantile

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.957	.053	.200	confirm of homogeneity	accept
EBIT	1.895	.091	.066	confirm of homogeneity	accept
NPAT	1.861	.050	.200	confirm of homogeneity	accept
OPCFDA	1.956	.055	.200	confirm of homogeneity	accept
OPCF	1.825	.056	.084	confirm of homogeneity	accept
INVCF	1.979	.052	.053	confirm of homogeneity	accept
FINCF	1.857	.051	.200	confirm of homogeneity	accept
NCF	1.856	.065	.054	confirm of homogeneity	accept
FCF	1.804	.054	.200	confirm of homogeneity	accept

Table 9. Evaluating the fundamental hypotheses in hypothesis 2 for 4st quantile

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.934	.050	.200	confirm of homogeneity	accept
EBIT	1.963	.056	.200	confirm of homogeneity	accept
NPAT	1.943	.050	.200	confirm of homogeneity	accept
OPCFDA	1.876	.055	.200	confirm of homogeneity	accept
OPCF	1.962	.052	.095	confirm of homogeneity	accept
INVCF	1.857	.058	.200	confirm of homogeneity	accept
FINCF	1.845	.065	.200	confirm of homogeneity	accept
NCF	1.954	.050	.200	confirm of homogeneity	accept
FCF	1.857	.054	.053	confirm of homogeneity	accept

Table 10. Evaluating the fundamental hypotheses in hypothesis 2 for 5st quantile

Independent variables	Durbin-Watson statistic	P-value of periods test	P-values of normality	Variance homogeneity	Hypothesis result
EBITDA	1.962	.061	.062	confirm of homogeneity	accept
EBIT	1.963	.054	.193	confirm of homogeneity	accept
NPAT	1.963	.050	.055	confirm of homogeneity	accept
OPCFDA	1.729	.087	.054	confirm of homogeneity	accept
OPCF	1.957	.054	.051	confirm of homogeneity	accept
INVCF	1.961	.056	.065	confirm of homogeneity	accept
FINCF	1.973	.075	.723	confirm of homogeneity	accept
NCF	1.861	.075	.059	confirm of homogeneity	accept
FCF	1.873	.056	.073	confirm of homogeneity	accept

5. Conclusion

As it can be seen in table 11, there is not any meaningful difference in the coefficient of determinations of performance measures in first quantile that possesses the least volume of accrual items of chosen samples. But increasing the volume of accrual items (fifth quantile) leads to this point that the coefficient of determinations of performance measures for earning is meaningfully more than coefficient of determinations of performance measures for cash flows.

Table 11. The summary of research hypotheses testing

Research hypotheses		Coefficient of determination				
		1 st quantile	2 nd quantile	3 rd quantile	4 th quantile	5 th quantile
Performance measures on the basis of earnings	EBITDA	.264	.258	.225	.084	.111
	EBIT	.265	.273	.259	.148	.115
	NPAT	.267	.244	.144	.204	.120
Performance measures on the basis of cash flows	OPCFDA	.253	.244	.213	.072	.019
	OPCF	.255	.260	.246	.127	.022
	INVCE	.257	.031	.007 [©]	.001 [©]	.002 [©]
	FINCF	.124	.003 [©]	.005 [©]	.028	.010
	NCF	.000 [©]	.056	.008 [©]	.005 [©]	.000 [©]
	FCF	.234	.078	.054	.046	.014

© significant at 95% confidence level

As it can see in the above table, increasing the accrual items causes strengthening the correlation between performance measures on the basis of income statement with stock return, in comparison with performance measures on the basis of cash flows with stock return.

As it can be seen in the results of hypothesis 1, the correlation of performance measures on the basis of income statement with stock return is more than performance measures on the basis of cash flows and investors can pay more attention to performance measures on the basis of earnings in order to evaluate the companies' performance.

On the other hand, according to the results of hypothesis 2, however increasing the volume of accrual items reduces the correlation of performing measures with stock return, it leads to this point that correlation in performance measures on the basis of earnings with stock return will be more than correlation in performance measures on the basis of cash flows with stock return. Therefore the volume of accrual items should be considered in choosing a proper measure to evaluate the companies' performance.

References

- Alivar, Aziz. (1994). Cash flow statement. Center of researches of accounting and auditing, Iran.
- Arab Mazar Yazdi, M., (1995). Incremental information content of cash flows and accruals. University of Tehran. Iran. 61.
- Ashtiani, Amir Rahim,. (2005). The study of relationship between accounting ratios and operating cash flows, Investments, financing and stock returns in TSE. Islamic Azad University of Mashhad, Iran.
- Bacidore, J.M., Boquist, J.A., Milbourn, T.T and A.V. Thakor. (1997). The search for the best financial performance measure. *Financial Analysts Journal*. May/June. 11-20.
- Banaei, Mikaeil. (1996). The study of causes of preparation of cash flow statement in Iran and preparation of software to help it. University of Tehran. Iran.
- Biddle, G.C., Bowen, R.M and J.S. Wallace. (1997). Does EVA Beat Earnings? Evidence on association with stock returns and firm value. *Journal of Accounting and Economics*, (24), 3, 301-36.
- Farshadfar, Shadi,. (1999). The association of accrual earnings and operating cash flows with stock returns. Azad Islamic University of Mashhad, Iran.
- Hejazi, Rezvan, and Doostian, Seddiqhe. The study of association between net profit changes and operating cash flow with stock returns in TSE. *Accounting Knowledge and Researches*. (2), 7.
- Jahankhani, Ali and Abdollah Azad, Farhad. (1993). The study of quality of stocks in Tehran Stock Exchange. *Financial Review*. (1). 76-77
- Khoshdel Nezami, Amin Reza,. (2006). The study of relationship between free cash flows and operating earnings with stock returns and growth of net market value of operating assets in TSE. Islamic Azad University of Mashhad, Iran.
- Miar, Sasan. (1995). The study of information content of cash flows financial ratios in companies listed in TSE. *Financial Review*. 69-84.
- Nikomaram, Hashem,. Rahnemaye Rodposhti, Feridon and Hibati, Farshad. (2002). Fundamentals of financial Management. Vol.2. Terme Publisher. PP- 47.
- Rayburn, Judi. (1986). The association of operating cash flow and accruals with security returns. *Journal of Accounting Research*, 24, 112-33.
- Robert, Clip. (1996). The information contained in the components of earning. *Journal of Accounting Research*, 24.
- Shahmoradi, Masood,. (2002). The association between accounting earnings and stock returns in firms listed in TSE. University of Shahid Beheshti.

Spigelman, J., (1994). What basis for superior performance? *Financial Analysts Journal*. 32.

Watson, Judi and Wells, Peter. (2005). The association various earnings and cash flow measures of firm performance and stock returns. School of Accounting, University of Technology, Sydney.