



Separating and Merging Cash Flows: Investigating Five-element Cash Flows Statement

Hojatollah Atashi Golestani^{1*}, Seyyed Mohammad Hosseini², Ehsan Mehrjoo³

¹Department of Accounting, Sabzevar Branch, Islamic Azad University, Sabzevar, Iran, ²PhD Student, Department of Accounting, Babolsar University, Babolsar, Iran, ³Department of Accounting, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

*Email: golestani@iaus.ac.ir

ABSTRACT

In Iranian accounting standard, cash flows statement includes five elements. This is justifiable considering all discussions that exist in International Accounting Standard No.7 (IAS 7). This new representation method has raised many debates on its usefulness. In this study, cash flows from operations (CFO) were separated into different elements and the predictability of future earnings was examined by them as the most important criterion which would facilitate the evaluation of the performance along with net earnings. Using data of listed companies in Tehran stock exchange, results of testing research hypotheses showed that when a model including the elements of accruals and net CFO based on the IAS was used for predicting net earnings, separating CFO elements, disclosed by the direct method of representing cash flow statement and replacing these elements in the model did not increase the predictability of the model significantly. Also, the method of separating CFO into its gross sums based on IAS 7 had more predictability compared to the method of separating the items of cash flows into three (operating activities, return on investment and paid earnings for financing, and tax) elements according to Iranian Accounting Standard. Our results are applicable for the standard-makers and users of financial statements, developing disclosure literature in the financial statements.

Keywords: Operating Cash Flows, Accruals, Predictive Ability, Accounting Standards

JEL Classifications: M41, G17

1. INTRODUCTION

One goal of financial reporting is providing necessary information for interpreting the status and evaluating profitability of economic units. Among different information of financial reporting, net earnings has always been interesting for the investors. The experimental revealed that investors relied heavily on previous earnings (Habbe, 2017). As the guide of paying dividend, measurement scale for management efficacy, and prediction and assessment tool for decision-makings, earnings is used by the investors, managers, and analysts. Although the usefulness of accruals accounting can't be denied, accrual-based earnings can be easily influenced by the behavior of the managers (Dastgir et al., 2014). Regarding raised questions about the method of calculation and application of net income to assess the performance of economic enterprises, researchers attempts have focused on evaluating the interpretability of other accounting information. Earnings has two elements of cash and accruals; there are different approaches to analyze these elements. The first approach used by Healy (1985) and Sloan

(1996) was based on the supposition that earnings is separated into cash flows from operations (CFO) and current accruals. Separating earnings into cash and accruals increased the earnings predictability significantly, confirming the Statement of Financial Accounting Standards, implying that information about earnings elements is important for predicting future earnings (Sloan, 1996). There are some methods of proper merging and separation of the elements of cash flows statements. Iranian Accounting Standards Board tries to comply with IAS. But, it has required a five element format for cash flows statement. This study compared different regression models of net CFO, the recommended direct method, and the used method of Iranian Accounting Standards and suggested a proper method of separating CFO for predicting future earnings.

2. THEORETICAL BACKGROUND

Net earnings is of important accounting information for interpreting the performance of an economic enterprise. Statement of Financial

Accounting Concepts No. 1 states that investors and creditors are interested in assessing the prospect of net cash flows of business units and use obtained earnings mainly to predict future earnings and profitability (Financial Accounting Standards Board, 1978). The issue is how to predict future earnings to get closer to the real earnings. CFO information can be used along with the existing information about the accruals for predicting and assessing future earnings (Sloan, 1996). Searching for the best model of predicting earnings, some studies have separated accrual elements of the earnings. In recent decades, the importance of disclosure of cash flows has increased and accounting standards have required representing cash flow statements. Since stability, risk, and predictability of input and output CFO are different, a separate disclosure will help the users of financial statements in making decisions about the reliance on the results of financial performance of previous periods and assessing potential results of CFO elements in the future periods. Therefore, as the most important criterion along with accruals in predicting earnings, operating cash flow is separated into different elements in this study.

In the direct method of CFO separation, recommended by standard makers, gross operating receives and payments are offered based on their developing and using resources. Financial statements providers have found the cost of providing this information higher than its advantages. Therefore, although academic research has generally found direct method cash flow information useful to be decision (Hales and Orpurt, 2013), firms don't offer CFO information by direct way all the time. However, with the development of information systems and the use of accounting software, the claim of costliness of information provision by direct method is not simply accepted. In addition, Bahnsen et al. (1996) stated that providing CFO information by the indirect method is more complicated than it seems. Thus, providing information by the direct method is not necessarily more expensive than the indirect method. It should be noted that the results of all studies do not confirm the superiority of the direct method. For example, Ding et al. (2005) showed that the indirect method has more efficiency especially in the instable financial markets (such as China). Some studies divided CFO into key and non-key groups instead of separating it into gross input and output CFO (direct method) and examined and compared their predictability (Arthur et al., 2010; Modares and Mohamadi, 2009). Such studies combined similar cases for facilitating analyses. In the theoretical concepts of financial reporting of Iran, it has been stated that proper merging level depends on how useful it is to the users to disclose more information details. If the information is merged properly, financial statements will include the information that most users can't get even by having detailed information such as descriptions of all contracts and other events (Center for Professional Accounting and Auditing Studies, 2011). Accordingly, this study considers No.2 Accounting Standard of Iran as a new representation method instead of key and non-key cash flows or separating all important items (direct method), entering CFO, investment return, and dividend for financing and tax in the statistical models; next, predictability of this method was examined.

2.1. Cash Flows Statement Based on Iranian Accounting Standard

Article 23 of Iranian Accounting Standard No.2 states that the main advantage of the direct method is that it shows operating cash

receives and payments. Information about definite resources of cash receives and targets of cash payments in the past periods can be useful in estimating future cash flows. However, in some cases, advantages of information provision to the users by this method don't exceed its provision costs by the business unit. This standard doesn't consider the use of direct method as essential. But, in the Iranian standard, cash flow statement has 5 elements (including operating activities, investment return, dividend for financing, tax, investment activities, and financial provision activities). In fact, tax is a separate section and cash flows from investment returns, paid dividend and interests are grouped separately. The rationale behind this standard is as follows: Representing net cash flows resulting from operating activities shouldn't be affected by the capital structure of the business unit. In this way, payments related to the earnings and financing commission should be represented separately. Also, the method of representing cash flows statement should comply with other basic financial statements such as profit and loss statement. Accordingly, all earnings, payments in relation to stock return, investment income, earnings, and financing commissions are classified separately in a chapter called "investment return and dividend for financing." Based on this standard, operating activities refer to main income-producing activities of a business enterprise. These activities guaranty producing and selling goods, offering services, and the costs and incomes related to it in determining operating profit or loss in profit or loss statement. On this basis, in case of compliance, instead of disclosing items which lead to the difference of net earnings with CFO, operating earnings is adopted to CFO (Center for Professional Accounting and Auditing Studies, 2008).

3. LITERATURE

Some studies show that using the elements of CFO has higher ability in predicting CFO compared to the general model of CFO (Krishnan and Largay, 2000; Cheng and Hollie, 2008).

Habib (2006) investigated the predictability of earnings elements for predicting future earnings in stock exchange of Japan. He concluded that separating earnings into its elements leads to increasing the predictability of future earnings. Cheng and Hollie (2008) separated the elements of cash flows, entering these elements separately in prediction models of future cash flows. They concluded that main CFO increases predictability of the model. Also, separating cash flows into their elements improves these models. These researchers showed that stability of different elements of CFO are different. But, the elements in relation to the sales, finished sale cost, operating costs, and interest have higher stability compared to other elements in predicting future cash flows. They argued that along with accruals, both direct and indirect methods of reporting CFO can be useful for evaluating future cash flows.

Arthur et al. (2010) found that separating CFO (direct method) increases explanatory power of future earnings and decreases earnings predictability errors. They also separated CFO into key and non-key groups. They observed that explanatory power and predictability of key cash flows sum is similar to the explanatory power of the related gross receives and payments. They stated

that using direct method is obligatory in Australia, China, New Zealand, and South Africa. Thus, their data of Australian companies doesn't have the problem of computation by the researcher and their inaccuracy.

Lev et al. (2010) showed that for predicting future cash flows, CFO is better than earnings and dividing accrual earnings into working capital, changes in inventory, depreciation, and other estimates doesn't improve the predictability of future cash flows. Study of Mari et al. (2013) showed that the accrual elements of earnings increase predictability of future cash flows significantly.

Regarding the new method of representing cash flows in Iran, different studies have been conducted using the data of listed firms in Tehran stock exchange (TSE) about its usefulness. Anvari and Tariverdi (2009) examined the attitudes of professors and students of accounting Ph.D members of certified accounting board and professional investors of Iran about the best representation method for cash flows statements. Results of non-parametric tests of received questionnaires show that the five-element model of cash flows statement (based on Accounting Standard No.2 of Iran) is better than 4- element model (suggested in this study) and 3- element model (based on International Accounting Standards (IAS) No.7 and No.95 of America). On the other hand, Etemadi and Zandi (2014) showed that merging the elements of cash flows statement based on the Statement 95 of Financial Accounting Standards Board is effective in predicting the financial crisis; but, merging the elements of cash flows statement according to the Iranian Accounting Standard No. 2 is not effective for predicting the financial crisis.

Saei and Sari (2013) investigated the method of the presenting tax on income in the cash flows statement. In terms of explanatory power of stock return and predictability of cash flows for the next period, the results showed the superiority of IAS compared to Iranian Accounting Standard No.2. While, Khaksari (2014) didn't observe a significant correlation between the main elements of cash flows statement according to IAS 7, Iranian Accounting Standard and stock returns. Some scholars also investigated the predictability of cash flows statement with different methods. Results of Pourheidari et al. (2009) and Kordestani et al. (2011) showed that providing CFO information by direct method has greater ability to predict future CFO compared to the indirect method. Pourheidari et al. (2009) investigated other models. They found that the data of gross receives and payments have higher predictability than net cash flows in predicting cash flows. Gorbani (2012) showed that direct method can be a better predictor of future CFO. Although, indirect method in the firms with lower liabilities has higher predictability. On the other hand, in the firms with complex organizational structures, high asset return and debit, information content of direct and indirect regression models is not significantly different. Saghafi and Hashemi (2004) designed three models for predicting CFO with the variables of (1) accounting earnings, (2) cash element, and accruals, (3) cash elements and accrual elements of accounting earnings. They found that there is a significant correlation between CFO, accounting earnings, and its elements. Results of all coefficients of used variables are significant in three models. In conclusion, findings of this study

agree with the theory of ability of accounting earnings and its elements in predicting CFO and the theory of superiority of the earnings in predicting cash flows compared to cash flows.

Modares and Mohamadi (2009) examined the effect of CFO separation into key and non-key elements on the predictability of future cash flows. Their results indicated that the predictability of the model increases by the elements separation. Barzegar (1999) showed that cash and accrual elements of operating earnings are not individually useful for predicting future operating earnings. But, they are useful combining together. Results showed that two accrual and cash elements of operating earnings together don't have increasing information content compared to operating earnings by itself. Also, the effect of accrual and cash elements of earnings was the same in predicting future earnings. While, the results of Modares and Abbaszade (2008) showed that past earnings can predict future earnings with minimum error. Also, entrance of an earnings element (cash or accrual) into the models improves their predictability. This study showed that earnings performance has a positive and significant correlation with the predictability of the earnings elements and their continuances. It was also found that the effect of the cash elements is higher than accrual elements in prediction models. Hashemi et al. (2010) indicated the strength of cash flows and total accruals in corporate valuation and earnings prediction. Also, accrual elements have the ability of predicting abnormal earnings. Their results showed that separating accruals increases determination coefficient of the model. Bolo et al. (2012) showed that earnings elements are better determinants of future earnings compared to total earnings. This issue is considered in the decision-makings of the managers and investors.

4. QUESTIONS AND HYPOTHESES

According to the literature, the raised questions are as follows: Does separating CFO based into the items of gross receives and payments on IAS 7 increases predictability of future earnings? Is there any significant difference between predictability of separation into gross CFO based on IAS 7 (direct method) and separation or merging these items based on Iranian Accounting Standard No.2 into net cash flows with three elements of operating activities, investment return and dividend for financing, and tax regarding the proper extent of separation or merging items in financial statements?

To answer these questions, the following hypotheses were stated:

- H₁: Separation model of CFO (direct method) compared to the merging model of CFO (net CFO based on IAS 7) has better predictability of future earnings.
- H₂: Net cash flows including operating activities, investment return and dividend for financing, and tax (cash flows statement based on Iranian Standard) has better predictability of future earnings compared to the merging model of CFO (based on IAS 7).
- H₃: There is a significant difference between predictability of CFO in separation model (direct method based on IAS 7) and the model including net CFO, investment return and dividend for financing, and tax (based on Iranian Accounting Standard No.2).

5. METHODOLOGY

This study is quasi-experimental. Statistical population included all accepted firms in TSE. Systematic random sampling was used in this study and the companies with the following features were selected as the sample and the others were excluded:

1. Their fiscal year ended in the last month of winter each year.
2. Their fiscal year did not change during the study period.
3. During the study period, they were active in the TSE.
4. Required information to calculate variables was available in them.
5. The company was not an investment or financial intermediary.

Data was obtained using Rahavardnovin software. Under these conditions and combining total data, 859 firm-year were selected as the sample from 2008 to 2013.

5.1. Research Models and Variables

Like Arthur et al. (2010), this study started from the model of earnings consistency; then it separated earnings into operating accruals and CFO. Then, their elements were replaced in the regression equations instead of these items and their results were compared. Thus, the following regression models were used:

Model 1: Earnings consistency model

$$\text{Earnings}_{t+1} = \alpha_0 + \alpha_1 \text{Earnings}_t + e_t$$

Where,

- Earnings_{t+1} : Net earnings of the next year.
 Earnings_t : Net earnings of the current year.

Model 2:

$$\text{Earnings}_{t+1} = \alpha_0 + \alpha_1 \text{AccO}_t + \alpha_2 \text{CFO}_t + \alpha_3 \text{Other}_t + e_t$$

Where,

- AccO_t : Sum of operating accruals of the current year which is the difference between operating earnings and net CFO.
 CFO_t : Net CFO of the next year based on a 3- element cash flows statement (IAS 7).
 Other_t : Other net earnings information except for operating accruals and net CFO which equal the net earnings minus operating earnings.

Regarding the items that are disclosed by the indirect method of cash flows statement, the sum of operating accruals was divided into the following elements:

- $\Delta \text{RECEIVABLES}_t$: Changes in receivables (at the end of current year minus the end of last year).
 $\Delta \text{PAYABLES}_t$: Changes in payables.
 ΔPPI_t : Changes in prepaid income.
 ΔINV_t : Changes in inventory.
 DEP_t : Depreciation cost of corporate assets.
 OtherAccO_t : Other net operating accruals except for above items.

Replacing the elements of operating accruals instead of their sum, the following model was obtained that indicated the power of the elements of operating accruals and net CFO for predicting future earnings.

Model 3:

$$\text{Earnings}_{t+1} = \alpha_0 + [\beta_1 \Delta \text{RECEIVABLES}_t + \beta_2 \Delta \text{PAYABLES}_t + \beta_3 \Delta \text{PPI}_t + \beta_4 \Delta \text{INV}_t + \beta_5 \text{DEP}_t + \beta_6 \text{OtherAccO}_t] + \alpha_1 \text{CFO}_t + \alpha_2 \text{Other}_t + e_t$$

Where,

- β_i : Correlation coefficient of the variables of operating accruals elements.

Then, net CFO by direct method (based on three-element cash flows statement) was separated into the following 7 elements and was added to Model 3:

- CORE RECEIPTS_t : Cash receipts from customers.
 CORE PAYMENTS_t : Cash paid to suppliers and employees.
 TAX_t : Paid cash for tax on income of the company.
 DIVREC_t : Dividends received.
 INTREC_t : Interest received.
 INTPIAD_t : Interest paid.
 OtherCFO_t : Other net CFOs by direct method except for above items.

Model 4:

$$\text{Earnings}_{t+1} = \alpha_0 + [\beta_1 \Delta \text{RECEIVABLES}_t + \beta_2 \Delta \text{PAYABLES}_t + \beta_3 \Delta \text{PPI}_t + \beta_4 \Delta \text{INV}_t + \beta_5 \text{DEP}_t + \beta_6 \text{OtherAccO}_t] + [\lambda_1 \text{CORE RECEIPTS}_t + \lambda_2 \text{CORE PAYMENTS}_t + \lambda_3 \text{TAX}_t + \lambda_4 \text{DIVREC}_t + \lambda_5 \text{INTREC}_t + \lambda_6 \text{INTPIAD}_t + \lambda_7 \text{OtherCFO}_t] + \alpha_1 \text{Other}_t + e_t$$

Where,

- λ_i : Correlation coefficient of the variables of CFO's elements.

To test H_1 , absolute percentage error of predicted earnings and real earnings of Models 3 and 4 are compared. If mean absolute percentage error (MAPE) of Model 4 is smaller than Model 3, H_1 is confirmed; otherwise, it is rejected (Arthur et al., 2010).

To test H_2 , the following variables were added to Model 3 and then then Model 5 was measured. Then, the MAPE was used for comparing Models 3 and 5.

- CFO Iran_t : Net CFO based on Iranian Accounting Standard No.2 in year t.
 CF Ret\&Int_t : Net cash flows resulting from investments return and paid earnings for financing in year t.
 CF Tax_t : Net cash flows for tax on income.

Model 5:

$$\text{Earnings}_{t+1} = \alpha_0 + [\beta_1 \Delta \text{RECEIVABLES}_t + \beta_2 \Delta \text{PAYABLES}_t + \beta_3 \Delta \text{PPI}_t + \beta_4 \Delta \text{INV}_t + \beta_5 \text{DEP}_t + \beta_6 \text{OtherAccO}_t] + [\theta_1 \text{CFOIran}_t + \theta_2 \text{CF Ret\&Int}_t + \theta_3 \text{CF Tax}_t] + \alpha_1 \text{Other}_t + e_t$$

Where,

- θ_i : Correlation coefficient of the variables of CFO based on Iranian Accounting Standard No.2.

To test H_3 , the MAPE by regression Models 4 and 5 were compared. To calculate research variables, Excel software and to measure regression and other statistical tests, Eviews software were used.

6. RESULTS

Before data analysis, consistency of research variables was investigated. For this purpose, testing methods of Im et al. (2003) and Levin et al. (2002) were used whose results are represented in Table 1. Results showed that significance level of all variables was lower than 5%. Thus, all variables were consistent at this level. Results of Chow test for research models are represented in Table 2. According to Table 2, significance level of F-test of Chow is lower than 5%. For testing Models 1 and 2, Hausman test was conducted. Results for Model 1 showed using the model of random effects; and results of Model 2 represented using fixed effects. About the Models 3-5, since the number of existing variables in the model is higher than the number of research years, Hausman test was not used and instead, considering the results of Chow test, the model of fixed effects was used for model estimation.

6.1. Results of Model 1 Test

Table 3 represents the results of Model 1 test. In Model 1, next year earnings predictability was investigated by the earnings of the current year. It should be mentioned that asset sum was used for balancing the variables scales. This separation, turned earnings into asset return rate. F statistics confirms model fitness. Also, determination coefficient of the model shows that 56% of the dependent variables behavior is explained. In other words, current earnings of the companies is a proper measure for predicting next year earnings.

6.2. Results of Model 2 Test

Results of Model 2 test are represented in Table 4. F statistics confirms the model's fitness. Also, determination coefficient of the model shows that 58% of the dependent variables behavior is explained by the variables of the model.

6.3. Results of Model 3 Test

In Table 5, results of Model 3 test were represented in which accruals were separated into their elements. In Model 3, predictability of the next year earnings was investigated by the earnings of the current year. It should be mentioned that asset sum was used for balancing variables scales. This separation, turned earnings into asset return rate. Determination coefficient of the model represented that 59% of the behavior of dependent

variable is explained by the variables in the model. Results showed a positive and significant correlation between the variables of the model and future earnings.

6.4. Results of Model 4 Test

In Table 6, results of Model 4 test were represented in which accruals and CFO are separated into their elements. As seen in Table 6, determination coefficient of the model represents that 61% of the behavior of dependent variable is explained by the variables in the model. F statistics confirms model fitness. Also, determination coefficient of the model shows a positive and significant correlation between the variables of the model and future earnings of the company. In other words, by separating accruals and CFO into their elements, the predictability of the model increased compared to other models. Significance of the difference in determination coefficient was identified in the next tests.

6.5. Results of Model 5 Test

In Model 5, data of CFO based on Iranian Standard entered regression model. As seen in Table 7, determination coefficient of the model decreased (54%). Results showed a positive and significant correlation between research variables and future earnings except for the cash flows from investment return and dividend for financing and paid cash for tax. Calculated coefficients of these variables were not significant.

7. CONCLUSION

As explained before, earnings was separated into cash and accrual elements. After regression estimation it was found that explanatory power of the model increased by separating earnings into two elements (determination coefficient of 56% vs. 58%). Then, each element was separated into other sub-scales to see if explanatory power of the model increased. First, accrual items were separated for which the regression determination coefficient of 59% was obtained (Model 3). This increase of determination coefficient agrees with Hashemi et al. (2010) and Mari et al. (2013) but disagrees with Lev et al. (2010). In this study, besides separating accrual items, CFO were also separated and research hypotheses were tested based on these models. Table 8 represents a summary of testing hypotheses.

H_1 was rejected. Thus, the 2% increase in determination coefficient of Model 4 is not significant compared to Model 3. Accordingly, Model 4 doesn't decrease prediction error of future earnings. It can be concluded that for predicting future earnings, when the model including the elements of accruals and net CFO (Model 3) is used, separating CFO elements and adding these elements to

Table 1: Results of unit root test results

Test	Test result	Likelihood
Im, Pesaran, Shin	-98.899	0
Levin, Lin and Chu	-73.34	0

Resource: Research findings

Table 2: Results of Chow and Hausman test for research variables

Models	F statistics	Likelihood level	Chi-square statistics	Likelihood level	Used method
Model 1	5.86	0	0.78	0.37	Random effects
Model 2	6.16	0	13.07	0	Fixed effects
Model 3	4.41	0			Fixed effects
Model 4	5.65	0			Fixed effects
Model 5	3.19	0			Fixed effects

Resource: Research findings

Table 3: Results of Model 1 test

Variable	Coefficient	t-statistic	P
C	0.02	3.72	0.000
NI	0.80	33.32	0.000
F-statistic	1110.00	Durbin-Watson stat	2.06
P (F-statistic)	0.000	R-squared	0.56

Resource: Research findings

Table 4: Results of Model 2 test

Variable	Coefficient	t-statistic	P
C	0.020	4.49	0.000
ACC	0.700	22.44	0.000
CFO	0.850	32.26	0.000
Other	0.600	9.14	0.000
F-statistic	140.690	Durbin-Watson stat	1.85
P (F-statistic)	0.000	R-squared	0.58

Resource: Research findings

Table 5: Results of Model 3 test

Variable	Coefficient	t-statistic	P
C	0.020	4.49	0.000
DELREC	0.71	1.93	0.50
DELPAY	0.72	15.86	0.000
DELPPI	0.84	6.40	0.000
DELINV	0.85	12.43	0.000
DEP	1.00	6.92	0.000
OtherAcc	0.73	18.72	0.000
CFO	0.84	26.58	0.000
Other	0.65	8.31	0.000
F-statistic	65.36	Durbin-Watson stat	1.97
P (F-statistic)	0.000	R-squared	0.59

Resource: Research findings

the model (Model 4) doesn't increase the explanatory power of the model. This result disagrees with Arthur et al. (2010). But, it agrees with Pourheidari et al. (2009) who investigated predicting future cash flows and Kordestani et al. (2011) who investigated the relationship between the earnings' elements and CFO with returns. Also, H_2 test result showed that despite the information of accruals elements, using net CFO information, investment return, and dividend for financing paid tax based on Iranian Standard (Model 5) instead of net CFO based on IAS (Model 3) doesn't increase the predictability of the model. Results of H_3 test showed that separating CFO into its elements based on a three-element cash flows statement (IAS 7) leads to its higher predictability compared to the method of separating cash flow items into three operating activities, investment return, and tax elements based on Iranian Standard. This result disagrees with Anvari and Tariverdi (2009) who found that a five-element cash flows statement is better than a three-element statement. While, Khaksari (2014) who examined the relationship of three-element and five-element classifications with returns didn't find any difference in representation ability of these two methods. Gorbani (2012) concluded that superiority of direct and indirect methods is different regarding the features of companies. In this study, just two standards were not compared and the goal was investigating if the merging and separation of the items, required in Iranian Standard, can help investors predict future earnings without additional computations (related to the direct method which

Table 6: Results of Model 4 test

Variable	Coefficient	t-statistic	P
C	0.030	2.400	0.02
DELREC	0.667	13.160	0.000
DELPAY	0.667	12.950	0.000
DELPPI	0.830	6.220	0.000
DELINV	0.820	11.500	0.000
DEP	0.930	6.000	0.000
OtherAcc	0.700	15.460	0.000
CORRECIP	0.780	20.700	0.000
COREPAY	0.740	11.530	0.000
TAX	0.750	3.150	0.000
DIVREC	1.510	3.760	0.000
INTREC	1.850	3.320	0.000
INTPAY	1.050	7.170	0.000
OtherCFO	0.770	17.840	0.000
Other	0.420	4.300	0.000
F-statistic	45.41	Durbin-Watson stat	2.02
P (F-statistic)	0.000	R-squared	0.61

Resource: Research findings

Table 7: Results of Model 5 test

Variable	Coefficient	t-statistic	P
C	-0.001	-0.176	0.860
DELREC	0.613	11.830	0.000
DELPAY	0.666	14.499	0.000
DELPPI	0.687	4.918	0.000
DELINV	0.790	10.342	0.000
DEP	0.973	6.372	0.000
OtherAcc	0.645	14.099	0.000
CFOIRAN	0.768	15.706	0.000
CFORETIRAN	-0.0004	-0.006	0.995
TAX	-0.046	-0.192	0.848
Other	0.913	10.729	0.000
F-statistic	47.04	Durbin-Watson stat	1.85
P (F-statistic)	0.000	R-squared	0.54

Resource: Research findings

companies don't practice) using a simpler model. Since the results (of comparing Models 4 and 5) didn't confirm this issue, this study considered the sum of each of these three categories as key cash flows based on Iranian Standard, entering the model. Results of H_3 test disagreed with Arthur et al. (2010) who separated CFO into key (the sum of receives from the customers and payments to the suppliers and employees) and non-key (the sum of other items of CFO) elements. They observed that the predictability of the sum of key cash flows is similar to the predictability of the corresponding gross receives and payments.

One limitation of this study was that the information of CFO elements is not disclosed by the companies in direct method. Thus, the researchers computed these items using the information of financial statements based on accounting methods. Thus, calculated numbers by this method may differ with the estimated figures of the companies. Extant in most studies related to CFO items, Arthur et al. (2010) call this issue "self-selection bias." However, this issue has the same effect on the sample companies; however, the users of the results should consider the bias that may exist in the results. Regarding the results that show that the five-element model doesn't have higher predictability than the three-element model, it is suggested that

Table 8: Summary of testing hypotheses

Hypothesis	Determination coefficient of model	Determination coefficient of model	Predicting research hypothesis	Result of hypothesis test*
H ₁	Model 3-59%	Model 4-61%	Increasing predictability	Rejected
H ₂	Model 3-59%	Model 5-54%	Increasing predictability	Rejected
H ₃	Model 4-61%	Model 5-54%	No difference of two models	Rejected

*Comparing models with statistical t-test, Resource: Research findings

this standard is used for separating cash flows statement in compliance with IAS in Iran. To get a wider interpretation of research findings, more evidences are required. Thus, further studies are suggested with the following considerations. It is suggested that the hypotheses of this study are tested with other research methodologies like representing different financial statements to capital market analysts and analyzing evaluations and their prediction errors. It is also suggested that standard setters evaluate selecting direct or indirect disclosure methods in further research.

8. ACKNOWLEDGMENT

This research has been done in the form of a research project entitled Operating cash flow disaggregation and the prediction of future earnings and is supported by sabzevar branch, Islamic Azad University.

REFERENCES

- Anvari, R.A., Tariverdi, Y. (2009), The Method of Better Representation of Cash Flows Statement from the View of Different Groups of Iran, *Accounting Research*, No. 7.
- Arthur, N., Cheng, M., Czernkowski, R. (2010), Cash flow disaggregation and the prediction of future earnings. *Accounting and Finance*, 50(1), 1-30.
- Bahnson, P., Miller, P., Budge, B. (1996), Nonarticulation in cash flow statements and implications for education, research, and practice. *Accounting Horizons*, 10(4), 1-15.
- Barzegar, G. (1999), Analytic Investigation of Cash and Accrual Elements of Operating Earnings in Predicting Future Earnings of Listed Firms in TSE, MA Thesis. Tehran, Iran: Beheshti University.
- Bolo, G., Babajani, J., Ebrahimi, M. (2012), Considering information content of earnings elements by the managers and investors in predicting earnings. *Research of Financial Accounting*, 11, 47-66.
- Center for Professional Accounting and Auditing Studies. (2008), *Accounting Standard of Iran No.2*. Tehran, Iran: Audit Organization Publication.
- Center for Professional Accounting and Auditing Studies. (2011), *Theoretical Concepts of Financial Reporting of Iran*. Tehran, Iran: Audit Organization Publication.
- Cheng, C.S.A., Hollie, D. (2008), Do core and non-core cash flows from operations persist differentially in predicting future cash flows? *Review of Quantitative Finance and Accounting*, 31, 29-53.
- Dastgir, M., Kianersi, A., Saedi, R. (2014), Investigating the relationship between the decrease in operating earnings, operating cash flows and stock returns regarding market noises. *Financial Accounting Knowledge*, 1(3), 7-26.
- Ding, Y., Zhang, H., Zhu, H. (2005), Accounting failures in Chinese listed firms: Origins and typology. *International of Disclosure and Governance*, 2(4), 395-412.
- Etemadi, H., Zandi, D.G.S. (2014), Using cash flows statement in predicting financial crisis. *Research of Financial Accounting and Auditing*, 6(21), 63-89.
- Financial Accounting Standards Board. (1978), *Statement of Financial Accounting Concepts No. 1: Objectives of Financial Reporting of Business Enterprises*. Stamford, CT: FASB.
- Gorbani, A. (2012), Investigating Information Content of Disclosure Methods of CFO, 10th National Gathering of Iranian Accounting. Tehran, Iran: Al-Zahra University.
- Habbe, A.H. (2017), Estimation error of earnings information: A test of representativeness and anchoring-adjustment heuristic. *International Journal of Economics and Financial Issues (IJEFI)*, 7(1), 224-233.
- Habib, A. (2006), Disaggregated earnings and prediction of future profitability: Evidence from industrial groups in Japan. *Review of Accounting and Finance*, 5(4), 355-369.
- Hales, J., Orpurt, S.F. (2013), A review of academic research on the reporting of cash flows from operations. *Accounting Horizons*, 27(3), 539-578.
- Hashemi, S.A., Samadi, S., Sorooshyar, A. (2010), Evaluating the ability of cash and accrual elements of earnings in predicting abnormal earnings and valuation of listed firms in Tehran stock exchange. *Financial Accounting Studies*, 3, 93-112.
- Healy, P. (1985), The effect of bonus schemes on accounting decision. *Journal of Accounting and Economics*, 7, 85-107.
- Im, K.S., Pesaran, M., Shin, Y. (2003), Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), 53-74.
- Khaksari, I. (2014), The relationship between major components of cash flow statement and stock returns; comparison of the three-section model and the five-section model: Evidence from IRAN. *International Journal of Current Life Sciences*, 4(10), 8035-8039.
- Kordestani, G., Kolivand, B., Zand, A. (2011), Investigating the ability of direct and indirect methods for predicting CFO and evaluating its efficiency for investors. *Management Accounting Journal*, 9, 1-10.
- Krishnan, G.V., Largay, J.A.IIIrd. (2000), The predictive ability of direct method cash flow information. *Journal of Business Finance and Accounting*, 27, 215-245.
- Lev, B., Li, S., Sougiannis, T. (2010), The usefulness of accounting estimates for predicting cash flows and earnings. *Review of Accounting Study*, 15(4), 779-807.
- Levin, A., Lin, C.F., James, C., Chia-Shang, J. (2002), Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics*, 108(1), 1-24.
- Mari, S., Sloan, R., Soliman, M. (2013), Information in Accruals about the Quality of Earnings, Working Paper, University of Michigan. Retrieved March, 14.
- Modares, A., Abaszade, M. (2008), Analytic investigation of the effect of predictability of accruals and cash flows on the quality of predicted earnings. *Knowledge and Development Journal*, 24, 205-238.
- Modares, A., Mohamadi, A. (2009), Separating cash flows and predicting future cash flows. *Quarterly of Tehran Stock Exchange*, 2(6), 117-136.
- Pourheidari, O., Nazemi, M., Mohamadi, A. (2009), Comparative investigation of predictability of cash flows statement by direct and indirect methods. *Accounting and Auditing Studies*, 7, 17-32.

Saei, M., Sari, M. (2013), Tax on Paid Income in Cash Flows Statement (Adoptive Study of National and International Patterns), Research Paper on Tax, 17. p57-79.

Saghafi, A., Hashemi, S.A. (2004), Analytic investigation of the relationship between operating cash flows and accruals of financial

statements: A model for predicting operating cash flows. Accounting and Auditing Studies, 11(4), 29-52.

Sloan, R.G. (1996), Do stock prices fully reflect information in accruals and cash flows about future earnings? The Accounting Review, 71(3), 289-315.

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.