

Investigation of income smoothing using extraordinary items in firms accepted in Tehran's stock exchangeMehdi Arabi¹, Shahrokh Bozorgmehrian², Fatemeh Yademellat³¹. Department of Accounting. Mahshahr Branch, Islamic Azad University, Mahshahr, Iran². Department of Accounting. Masjed Soleyman Branch, Islamic Azad University, Masjed Soleyman, Iran³. Msc. Student (Persian Gulf International Education unit), Khorramshahr, Iransharokh2076@yahoo.com

Abstract: The purpose of this research is to investigate the informational content of extraordinary items and its effect on income smoothing for firms accepted in Tehran's stock exchange. Income smoothing is defined as management basic interfering in reducing the income's periodic fluctuations. The research data have analyzed using a sample including 96 firms accepted in Tehran's stock exchange for a 7 years period (2003-2009). Ordinary least square regression (OLS), scattering coefficient and determine coefficient models were used for hypothesizes testing. The obtained results suggested that the income smoothing using extraordinary items exists in the under study firms. Also the results revealed that the extraordinary items don't increase the income's informational content.

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1. Introduction and literature

Information play a critical role in economical decision makings and therefore investors cant detect the investing opportunities and risks sufficiently without enough information. The firms' reported incomes are always considered as one the basic criteria for financial decision makings, and the financial analyzers consider income as a basic factor for their investigations and evaluations. Therefore, managers are high motivated to represent a suitable view of their firms and reducing the investment risks and consequently smooth their incomes (Noorvash, et.al 2004) the income smoothing can effects the investors decisions and results in important outcomes specially in inefficient capital markets (Samaee et al. , 2007). The research is organized as follows: first the subject, purposes, and theoretical issues as well as previous related literatures are presented and then the research methodology , hypothesizes , statistical methods and data analyzing , and finally conclusions and recommendation are presented.

1.1. Description and research goal

The accounting international standards regulating board have tried to prevent the presentation of income and expenditure items as extraordinary items in explanatory notes and profit and loss lists. This subject is presented clearly in the articles 14-18 of accounting international standards concluding fundamentals (2008). The board believes that the items considered as extraordinary ones are originated for the business ordinary risks and doesn't need to consider separately in profit and loss lists. The board also believe that all events are originated from the

ordinary activities of enterprises and so classify it as continuous operations. Therefore, the ordinary-unmoral classification is not suitable. Moreover, making distinction between the extraordinary and ordinary items need suitable judgment (Barnea, Ronen, and Sadan,2001).

Although it seems that the new procedure of international board is better due to the low importance of extraordinary items value, but the Britain and American boards have different ideas regarding this issue. Maybe one of the reasons for separately disclosure of extraordinary items is that the presented incomes have more predicting power. Also the extraordinary items can aware investors for the potential risks of their enterprises (Khodadadi, 1996). In accordance with the Iranian standard, the separation of extraordinary items from ordinary ones is due to its reasonable base for investors' decisions and judges. The importance issue is their schedule for income smoothing. Management misuses the extraordinary items due to different reasons such as reducing the agents costs, following the legal requirements like the loans Receiving or other contracts requirements, and marinating the firms profitability process during challengeable periods (Modares 2006, Arabi 2010).

Considering the above motioned notes, it is valuable to investigate the possibility of income smoothing in Iranian firms.. Another important note is their accurate position in profit and loss lists, informational content, and importance in analyzing and predicting the future incomes which are all studied in this research.

The main purpose of this research is to investigate the informational content of extraordinary items and its effect on income smoothing for firms accepted in Tehran's stock exchange. The other purposes are to present the applicable results for income smoothing to the real and potential investors and credit makers for assisting them in financial decision makings.

1.2. Background

Researchers have studied the role of extraordinary items in income smoothing and informational content in several researches. Some obtained results are as follows:

In a research, (Barnea, Ronen, and Sadan,2001) have studied the items suitable for being classified into non continuous (extraordinary) and unordinary groups in USA and evaluated that whether these items can be applied for initial income smoothing before the extraordinary items. The research has performed in a 20 years period for different American industries. The obtained results revealed that managers use extraordinary items classification changes for income smoothing.

Lynn and Guinness (2002) have studied the informational content ability for predicting the income and difference of items number in small and large firms in Hong Kong during a five year period. The obtained results suggested that there is no relation between smoothing and informational content of extraordinary items and the items is more for large firms than small ones . But there wasn't a significant relation between the items numbers and firms size.

Bettie et al (2006) have performed a research on items classification motivation and extraordinary items for income smoothing in 163 Britain firms and concluded that there is a direct relation between the smoothing motivations and importance of classification choice for expected income.

Samadi (2008) has performed a research on effects of smoothing on informational content and concluded that income smoothing increase the abilities of current and past incomes for predicting the operational cash currencies and incomes, while there is no increase for predicting the future promised items through income smoothing.

Khodadadi (1996) have studied the existence, nature, and effects of extraordinary , unordinary , and non-continuous items on income. This research was performed on firms accepted in Tehran's stock exchange during 1991-94. In accordance with his hypothesizes, the following results were obtained: these items have not informational content for predicting firms' future income. These items don't results in income smoothing. There is no direct relationship between

these items and firm size . These are more important in small firms than big ones. There is weak relation between the number of these items and firm size.

1.3. Theoretical fundamentals

Since the industrial revolution and decreasing the final price of goods and services , the investors and owners who were distanced from managers have paid a part of their salary as award(often depends on a percent of shares interest) to motivate them to work better and more responsible. Therefore, managers were working more optimized to gain better awards. After some years, mangers understood that they can use the weak points of different methods and principals of accounting to manipulate different years' income in order to obtain their desired income to present in financial reports . this was the origin of income management or smoothing (Kashipour and Yaghoubi 2006).

This manipulation is possible if the accounting income contains informational content. In other words, investors consider income as an effective factor for decision making.. Ball and Brown (1968) were the establishers of research related to informational content of accounting income, they develop the proving theory. Their research showed that the accounting income changes have a relation with the share price.

The smoothing philosophy is to utilizing form the standards methods flexibility and accounting accepted principals. Of course , different explanations of accounting execution standards is another reason for smoothing. Research showed that managers manipulate the reported incomes deliberately using specific accounting policies , making changes in accounting estimations and promised items to reach their goals (Noorvash, Sepasi, and Nikbakht ,2005). Ranen and Saden , ImHAV, ackel and many other researchers reveal that Hepworth was the first one to introduce smoothing (Defond T and Jiambalvo, 2006). Income smoothing is the goal oriented interference of extra organizational management in financial reporting (Schipper,1989).

1.4. Research hypothesizes

Considering the theoretical fundamentals and background sections presented earlier, two hypothesizes were considered:

hypothesizes 1: extraordinary items is used for income smoothing

hypothesize 2: extraordinary items increase income informational content

2. Methodology

Considering that this research is aimed at investigating the informational content of extraordinary items and how to apply them for income smoothing in firms accepted in Tehran's stock

exchange, so this is an applicable-descriptive research. The research has performed as semi empirical using previous information.

2.1. Data gathering tools

Library ,stock exchange website, and Tadbir Pardaz software were used for data gathering and processing. Therefore, the data have gathered using field study method.

2.2. Statistical population and sampling

The statistical population includes all firms accepted in Tehran's stock exchange during 2003-9, sampling was performed as goal oriented. In every stage, firms which haven't conditioned with the following criteria have been eliminated and finally the remained ones selected as samples:

1. Firms have to be active continuously during the financial year.
2. Firms shouldn't be as agency, investing, lazing, or insurance.
3. The firms' financial year should be terminated by February for ease of comparison
4. The firms accounting should be completed
5. The required data of firms should be available.

Considering these limitations, 96 firms have been qualified for the statistical population. All the qualified firms were considered as the statistical population.

2.3. Data analyzing techniques and research variables

Different tests such as scattering coefficient, regression test, and determination factor R2 were used for performing the research. Software such as Excel and Eviews were used for data processing. Scattering coefficient is one of the statistical indexes which is used for determining the scattering rate from average. It is also called relative criteria or relative scattering. The index is computed as follows:

$$cv = \left(\frac{S}{M} \right) \quad (1)$$

Where, Cv is scattering coefficient, S is standard deviation, and M is mean.

For testing the first hypothesizes and studying the income smoothing by extraordinary items, the scattering coefficient before and after extraordinary items deduction is computed and compared with above equation (Layn and Guinness,2001). For this purpose, first the mean and standard deviation of income before extraordinary items and then the scattering coefficient of income before extraordinary items are computed. Then the mean and standard deviation and scattering coefficient after extraordinary items will be computed. In case of smoothing, it should be expected that the income scattering coefficient become lower after extraordinary items.

For testing the second hypothesizes and studying the informational content of net income before and after extraordinary items , regression models were used as follows:

$$P_{it} = \alpha_0 + \alpha_1 \text{EarnBX}_{it} + \alpha_2 \text{FSize}_{it} + \alpha_3 \text{CFO}_{it} + \alpha_4 \text{MBValue}_{it} + e_{it} \quad (2)$$

$$P_{it} = \beta_0 + \beta_1 \text{EarnAX}_{it} + \beta_2 \text{FSize}_{it} + \beta_3 \text{CFO}_{it} + \beta_4 \text{MBValue}_{it} + e_{it} \quad (3)$$

The left term P in equations 2 and 3 represents the share price(dependent variable).EarnAX and EarnBX are net income before and after extraordinary items(independent variable), respectively. P_{it} represents the share price at the end of first quarter after the termination of financial year, because this date is the last opportunity of firms to present their financial lists and accounting reports and the information of per share, book value of per share, and operational cash flow in this date can be appeared in shares price (Habib , 2004).

The firms' share price is presented daily in stock exchange. Also the FSize, CFO, and MBValue presents firm size, operational cash flow, and firms' total value or market value ratio to share book value (control variables), respectively.

In the second hypothesizes, first the income informational content before and after extraordinary items is computed for testing the informational content of extraordinary items. For this purpose, the amount of relation and effectiveness of mentioned incomes is compared with the daily price of under study firms. The more the relation between the income and share price, the more the informational content. Then, the informational content before and after extraordinary items will be compared. Three control variables also were used for achieving reliable results from the reasonable relation between the net income before and after extraordinary items and share price. The control variables include firm size, cash flow of operation , and sales growth . these control variable also were used in research of Ronen and Sadan (1981) and Habib (2004). The used variable and their abbreviations are presented in table 1.

Table 1: used variable and their abbreviations

Row	Symbol	Variable and its type
1	EarnAX	Income before extraordinary items deduction
2	EarnBX	Income after extraordinary items deduction
3	P	Share price
4	FSize	Firm size
5	CFO	Cash flow of operation
6	MBValue	Ratio of market value to share book value (firm's value)

3. Findings

3.1. Descriptive statistics

Data are described before analyzing to make better sense for under study population and research variables. Data statistical description is a step toward determining the governing pattern of data and relation between research variables (Hafeznia, 2010). Statistical description of research is presented in table 2.

Table 2: results of statistical description during 2004-10

Variable	mean	Median	Standard deviation	max	Min	Observations number
EarnAX	182/34	216/55	88/01	354/29	12/22	672
EarnBX	180/63	218/39	72/12	329/33	11/41	672
P	8232	10345	6572	28615	1207	672
FSize	5/5678	5/89845	0/4125	6/9044	4/4116	672
CFO	0/183	0/171	0/161	0/649	-0/271	672
MBValue	15/52	8/06	3/14	32/21	0/89	672

3.2. Results of hypotheses tests

The data of 96 understudy firms during 2004-10 were combined and tests have performed on 672 year-firm for hypotheses testing. The results of hypotheses tests for each hypotheses are presented as follows:

3.2.1. First hypotheses test

The first hypothesis tries to determine whether the under study firms use extraordinary items for income smoothing. Scattering coefficient index was used for testing this hypotheses. The related computations are presented for 2004-10 period in table 3.

As it can be seen from table 3, the scattering coefficient (standard deviation to mean ratio) before and after extraordinary items deduction are 0.482 and 0.399, respectively. Considering that the scattering coefficient is much lower after extraordinary items deduction, therefore it can be concluded that these items results in scattering reduction around mean value. In other words, the under study firms have used extraordinary items for income smoothing. Therefore, the first hypotheses is accepted.

Table 3: computations and results of first hypotheses test

Description	Results
Period	1382 -1388
Observations	672
μ_{EarnBX}	182/34
μ_{EarnAX}	180/63
σ_{EarnBX}	88/01
σ_{EarnAX}	72/12
CV_{EarnBX}	0/482
CV_{EarnAX}	0/399
Test's result	Accepted

3.2.2. Second hypotheses test

The second hypotheses tries to determine whether the extraordinary items increase the income informational content and can predict future incomes. Regression method was used for testing this hypotheses. The results of regression models estimation 2 and 3 for studying the informational content before and after extraordinary items during 2004-10 are presented in table 4.

Table 4: computations and results of second hypotheses test

Description	Model 2 test	Model 3 test
Period	1382 -1388	1382 -1388
t-statistics (p-value)	10/43 (0/028)	9/21 (0/041)
Coefficient	0/44	0/38
Observations number	672	672
Modified R ²	0/582	0/393
Relation type	Direct	Direct

Considering the results of models 2 and 3 inserted in table 4, t-statistic of model 2 was significant in error level 0.05 and this means that income had informational content even after extraordinary items deduction. The determination factor R² was 0.582 and 0.393 for testing models 2 and 3, respectively. The more the amount of this factor, the more the relation between the model's dependent and independent variables and consequently the informational content. Comparing the results of two models reveals that the incomes before extraordinary deduction have more informational content than after it. In other words, extraordinary items doesn't increase the income informational content and therefore the second hypotheses is rejected.

4. Conclusions and recommendations

The role of extraordinary items on income smoothing and increasing the informational content of net income has studied in this research. This research includes two hypotheses for answering the mentioned questions.

As it was mentioned in first hypotheses test, the income scattering coefficient before and after extraordinary items deduction were 0.482 and 0.399, respectively. Considering that the income scattering coefficient was much lower after extraordinary items deduction, so it can be concluded that the under study managers have used these items to reduce scattering around mean value. So the first hypotheses is accepted. The obtained results for the first hypotheses are consistent with Barnea et al 2001)

and Bettie et al. 2006, while it is different from Lynn and Guinness (2002) and Khodadadi (1997).

Considering the results of second hypothesizes, the modified determination factor R^2 for models 2 and 3 were 0.582 and 0.393. Comparing the results obtained from these two tests suggest that income before extraordinary items have more informational content. In other words, extraordinary items don't increase the informational content. Therefore, the second hypothesizes is rejected. The obtained results for the second hypothesizes are consistent with Barnea et al 2001) and Bettie et al. 2006, while it is different from Lynn and Guinness (2002) and Khodadadi (1997).

There were some limitations for this research. One of these limitations is that some factors effective on research results such as economical factors, political conditions, global economy mode, and regulations were out of the control of the author. The Other limitation is that non modification of financial lists can affect the research results through inflation. Considering the research theoretical fundamentals and results, it is recommended that stock exchange and accounting organization make some regulations and standards for optimized control of managers' behaviors for selection among several accounting methods.

4.3. Recommendations

After studying the test results of research hypothesizes, the following subjects can be considered in future research:

- a) studying the informational content of other accounting data except extraordinary items such as income per share, cash flow of operation, unspecific income and
- b) Studying income smoothing in firms accepted in Teheran stock exchange using other common methods such as estimations, accounting methods change, transactions scheduling and etc.
- c) Studying the effect of other items of loss and profit list such as exceptional items, stooped operational income,... on informational content of net income.
- d) making comparison between informational content of net income and comprehensive income and their prediction power.

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