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Mohammad Reza Dalvi, Ebrahim Baghi

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## Survey of Profit Smoothing through the Sale of Corporate Assets

Mohammad Reza Dalvi<sup>1</sup>, Ebrahim Baghi<sup>2</sup>

<sup>1</sup>Management Department, Islamic Azad University Dehaghan Branches, Iran, <sup>2</sup>Melli Bank of Iran Expert

Email: m\_dalvi53@yahoo.com (Corresponding author)

### Abstract

Operating profit level is selected for tests of smoothing. Testing was performed using multiple linear regressions for companies listed on the stock exchange during the period 1381 to 1385. The results confirm the smoothing, so that benefit of asset sales is paved temporary changes to the benefit. Also smoothing effect in firms with decrease of operating income most of the companies that have experienced an increase in operating income.

**Keywords:** Smoothing, Income Manipulation, Asset Sales, Operating Income

### Introduction

Net profit as a final amount of the income statement is one of the most important measures of company performance that always special attention is placed on the users of financial statements such as investors, financial analysts and shareholders. Investors believe that stable income compared to fluctuation income, which will guarantee the payment of higher dividends. Moreover, the volatility of earnings as the important measure of overall risk is considered and firms with smoother earnings have less risk.

Hence the companies that have earnings smoothness, investors are most interested; for them such companies identified are better places to invest. Profit as a final accounting process practices are influenced by the selected by management. Choice of accounting procedures gives an opportunity to management to decide about in time the recognition and measurement of costs and revenues. Management has motivating with using various means to pay income smoothing.

One of these tools is an asset sale. Since the managers can often choose courses of sale assets and on the other hand, the original cost, changes in the market value of assets between the date of acquisition and sell are reported in terms of sales, this creates the opportunity for managers to manipulate earnings through the timing of asset sales with relatively low cost. This paper examines income smoothing with the sale of investments and fixed assets in listed companies at Iran stock exchange during the years 1381 to 1385. In continue is expressed research literature and hypotheses. Then the research methodology is discussed. After the findings, conclusions and recommendations are presented.

### Literature Review

Smoothing is a conscious attempt that managers do it to reduce periodic earnings volatility within principles and common accounting methods. Smoothing has a specific goal and it is stable flow of earnings growth. In general, the smooth flow of profits that can be divided into two groups: the normal smoothing and intention smoothing. The natural smoothing stream implies to the process that generating profits produces inherently smooth revenue stream and is not the result of a management action. Intention smoothing as a result of management actions that it is divided into two categories: real smoothing and artificial smoothing. Actual earnings smoothing is indicative management measures for controlling and impact on economic events. The real smoothing affect in cash flow against the artificial smoothing.

For example, the company to select capital projects based on the covariance of the expected profit. The decision show real control economic events that affect directly on future profits and so, as it is called real smooth. Artificial smoothing indicates manipulation of accounts by management in order to smooth earnings. This manipulation was not the result of economic events and don't influence in the cash flow but will move income or expenses from one period to another period. This study examined the actual earnings smoothing. For smoothing is needed to smoothing tools. Smoothing tools is means that managers use in an effort to pave the specific numbers of accounting. Managers use a variety of tools for smoothing, tools that have been tested by researchers including: discretionary accruals, dividend income, expenditures research and development, extraordinary items, classified accounting items, sales of assets, changes in depreciation methods and loan loss reserve. This paper examines income smoothing with using the sale of company assets. The first study was carried out on the income smoothing through the timing of asset sales by Barreto.

He examined this topic with the hypothesis test of income smoothing and debt ratio. The results showed that managers using timing of asset sales make smooth temporary changes to the benefit and reduce the limitations of accounting in debt contracts. Black and colleagues have tested a sample consisting of British, New Zealand, and Australian. They found the companies that are able to revaluation of assets; do not use the timing of asset sales to smooth earnings. Puytraz and colleagues conducted a study with this topic in Singapore.

This study showed companies that the changes of earnings per share is negative (except asset sales), there is a negative relationship between profits from the sale of assets and earnings per share (except the sale of assets) and this relationship is positive in companies that the change in earnings per share is positive (except asset sales). This means that companies have little incentive to smooth income. Singapore companies are also allowed to revaluation assets and can reduce debt ratio with this. Thus, our results do not support the hypothesis of debt ratio.

Herman and colleagues conducted the research as earnings management through asset sales in Japan. In this study, aim of earnings management was minimizing the error in prediction benefit of current and future periods. According to this hypothesis, the companies that have a current performance negative (positive), expected to paving profits to the high/low with more/less amount of sales of company assets. In relation to future performance, the companies that have a future performance of positive (negative), most likely these companies are identified (are maintained) unrealized profits of assets. The results showed that the hypothesis was confirmed, so that Japanese managers were considering future performance and current works in recognition of revenue from sales of assets. Kochaki

examines income smoothing through the timing of asset sales. Results from experimental tests are not compatible with the timing of asset sales by management; this means that profits from these sales are not smooth temporary changes in earnings. Contrary require smoothing hypothesis, results showed amount of profits from the sale of assets in the companies that have reduction in annual profits (excluding the sale of assets), generally not more than companies with revenue increasing.

It is noteworthy that this study was conducted in 1373 when there are no national standards of accounting in Iran and companies are benefited from different procedures for presenting the financial statements. Ebrahimi Krdler and Zakeri examined the earnings management with the sale of company assets. In this study, motivation for manage earnings was deduction of earnings forecast error in current and future periods. Test hypotheses were performed using multiple regression and statistical tests for companies listed on the stock exchange during the years 1380 to 1385. The results showed that the hypothesis was confirmed, so that the companies that have a current practice of negative (positive) and future practice of negative (positive), have managed to make a profit using the profit (loss) from sale of assets.

### **Expression of Research Hypothesis**

According to the hypothesis of income smoothing, managers manipulate earnings to reduce of fluctuations the surface of the company. To test the smoothing should be determine the level of participation. We assume the company's goal is previous year's profit. This selection is done for two reasons: first, the relatively simple and second, it is more realistic than the other definitions that are require calculating annual growth rate. In previous research have been tested two levels of benefits which are included net profit and operating profit. In this study has been selected the operating profit level to test the income smoothing. This is because the profit and loss on sale of assets are presented as non-operating items in the income statement and are considered as operating income before smoothing. Thus, the following hypotheses are presented: "there is a negative relationship between changes in operating income and profits from the sale of assets."

### **Control Variables**

To test the hypothesis control variables are chosen as follows:

*Size:* Aino and Thomas showed that large companies more likely use accelerated depreciation. Since the corporate at the time of application assets benefit from a conservative procedure, we may sell the property at a profit.

*Growth:* companies with high growth and expanding less likely identify the asset sales profit. Herman and colleagues used from the controlled variable growth to test smoothing.

*Lever:* companies use debt contracts to finance. Barreto confirmed that companies with high debt ratio attempt to increase sales of assets to avoid violating debt contracts.

### **Society and Statistical Sample**

The statistical society of research is companies listed on the Iran stock exchange. Firms are selected as the statistical sample because of the uniformity that has the following conditions:

1. The financial year of them finish in March.
2. Activity or fiscal year not changed during the 80 to 85 and take action continuously in stock.

3. Investment companies and banks have been removed due to the activity specific nature.
4. Have be profitable and assets sale during the study period.
5. Information of company is available for the purposes of this study.
6. The company is trading at 90 days of first year.

Thus, with the above conditions have been chosen 50 companies (250 views). By removing outlier data, the number of observations reached to 227. Due to this issue to test this hypothesis it is necessary to calculate the change in the year "t" to the year "t-1", period of study is a five-year period based on 1381 to 1385.

### Methodology of Research

Current research regarding the method of data collection is a descriptive study and regarding the purpose is a applied research. To test the smoothing has been examined at two levels of profit, included in operating income and net income in previous studies. This study will test the operating profit level. Research hypothesis is tested using the following model:

$$ASSIN_{it} = a_0 + a_1 \Delta OIP_{sit} + a_2 SIZE_{it} + a_3 GROWTH_{it} + a_4 LEV_{it} + \epsilon_{it} \quad (1)$$

In this model:

ASSIN<sub>it</sub>: earnings per share from sale of fixed assets and investments in the "i" company in the year "t" according to the share price at the beginning of the year "t"

ΔOIP<sub>sit</sub>: change in operating earnings per share in the "i" company in the year "t" compared to "t-1" proportional to the stock price at the beginning of the year "t"

SIZE<sub>it</sub>: natural logarithm of total sales of the "i" company at the end of the year "t" as a control variable in size

GROWTH<sub>it</sub>: percentage change in sales in a "i" company at the end of the year "t" as a control variable.

LEV<sub>it</sub>: the long-term debt divided by equity in a "i" company at the beginning of the year "t" as a control variable leverage

ε<sub>it</sub>: disruption part

Multiple regression models were tested to a cross-sectional for each of the years 1381 to 1385 and the five-year to a cumulative. In addition, testing regression models were tested for companies by reduces and increases in operating income separately. Cross-sectional testing was performed to reflect prevailing economic certain possible conditions during the year.

### Research Findings

Needed information of corporations were collected from novin rahavard software, tadbir pardaz, financial statements of sample firms and the site of the securities and exchange and then were analyzed data using excel software ready. The final analysis was performed by the software spss.

### Assumptions Survey of Linear Regression

Using linear regression method is possible when the following conditions exist:

1. Fitted regression model generally is meaningful and there is a linear relationship between the independent and dependent variables. Statistics "F" show the picture of the numbers 3, 4 and 5 that the fitted regression models are meaningful.
2. There is no correlation between the model errors. This issue is done using the camera - watson. If this statistic is in the range of 1.5 to 2.5, null hypothesis is accepted that indicate a lack of correlation between the errors. According to picture of the numbers 3, 4 and 5, can be concluded the error components are independent of the fitted regression model.
3. The distribution of errors should be normal with mean zero. To investigate this issue, should be drawn a graph of data distribution and chart of normal for them and then the comparison is done between two graphs. In picture (1) is shown the curve of error components for all observations and indicates that the distribution is almost normal. The average values presented on the right of graph is very small (close to zero) and standard deviation is close to one.

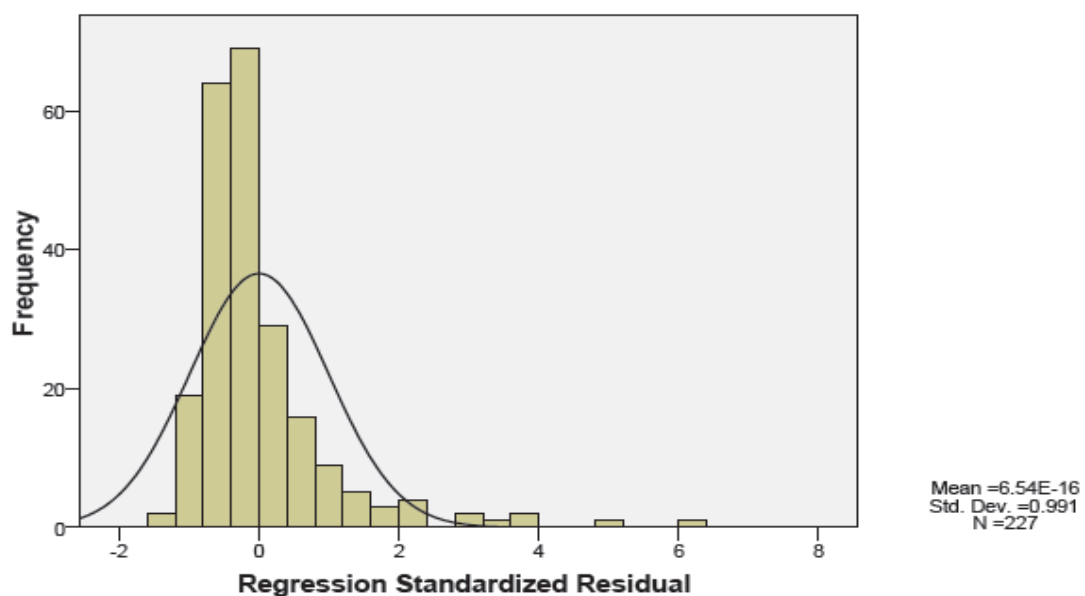


Figure 1.

There is no correlation between the independent variables. In figure(1) are presented the linearity test results. There was also a linear probability when Eigen values are close to zero and the status indicator is greater than 30.

Table 1.

Title	81	82	83	84	85
Eigen values	3.033	1.306	0.949	0.654	1.039
Status indicators	1.000	1/562	1/841	2/004	1/729

### Descriptive Statistics

Descriptive statistics variables of research are presented in figure (2). The important point in this figure, is the negative mean and median changes in operating income variable. Also according to standard deviations of variables can be said that distribution of variables is high.



Table 2.

Variable	Number	Minimum	Maximum	Average	Middle	Standard deviation
ASSIN	227	0.00	0.13	0.010	0.002	0.020
ΔOIPS	227	-0.62	0.39	-0.012	-0.008	0.101
SIZE	227	10.55	18.12	12.908	12.691	1.371
GROWTH	227	-0.93	8.90	0.300	0.227	0.679
LEV	227	0.00	3.87	0.389	0.216	0.519

### Analytical Statistics

In figure (3) are presented the results of the test model based on cumulative data.

Table 3.

Variable	The coefficient of Variable	Statistics F	Meaningful
Fixed amount	-0.010	-0/813	0/417
ΔOIPS	-0/077	-5/890	0/000
SIZE	0/002	1/630	0/104
GROWTH	0/001	0/417	0/677
LEV	-0/003	-1/211	0/227
D.W :2/228		"R2"modified: 0/12	Statistics "F":8.996

Statistics "F" represents a overall significance of fitted regression model at the 99% confidence level. Amount "R2" modified is equal to 0.12. Also Watson camera statistic is representing an independent confirmation of the error components in fitted regression model. According to the research hypothesis is expected coefficient of variation of operating income is negative. The value of this coefficient is equal to 0.077 and the value of statistics "t" is equal to -5.890 that is significant at the 99 percent confidence level. This shows the negative relationship and significant between operating income changes with profits from the sale of assets. Therefore, the research hypothesis is confirmed by the cumulative data. The results of the model depicted in figure (4) are due to the decrease and increase in operating income. In the first, examined firms by increased operating income:

Statistics "F" represents a overall significance of fitted regression model at the 99% confidence level and confirm the linear relationship between the independent variables and the dependent variable. Amount „R2" modified is equal to 0.14 and Watson camera statistic show that error components are independent in fitted regression model. Consistent with the prediction of variable coefficient, changes in operating income is negative and is equal to -0.033 and this variable inversely have a significant relationship with profits from the sale of assets at the 95% confidence level. Therefore, it is confirmed smoothing in the companies that are faced with increasing operating income.

Table 4.

Sample	with negative $\Delta$ OIPS (n = 123)			with positive $\Delta$ OIPS (n = 104)		
	Meaningful	Statistics "t"	Coefficient	Meaningful	Statistics "t"	Coefficient
Constant	0/552	0/597	0/014	0/001	-3/379	-0.029
$\Delta$ OIPS	0/000	-3/624	-0/104	0/044	-2/042	-0/033
SIZE	0/790	-0/266	0/000	0/000	4/185	0/003
GROWTH	0/364	0/912	0/005	0/438	-0/779	-0/001
LEV	0/259	-1/133	-0/004	0/434	-0/785	-0/002
Statistics "F"	3/514			5/188		
"R2" modified	0.08			0.14		
Camera Watson	2.217			1.893		

Now we analyze the results of the research model about the company with operating income decreased:

Statistics "F" represents a significant overall regression model was fitted at the 95% confidence level. The "R2" modified is equal to 0.08. Also the cameras Watson statistic indicates approval independence of the error components in the fitted regression model. According to predictions the amount of variation coefficient of operating income is negative and is equal to -0.0104 and statistics "t" is equal to -3.624 that is significant at the 99 percent confidence level. This confirms the existence of a negative and significant relationship between the changes in operating income with the profits from the sale of assets. Therefore, income smoothing is confirmed in the company has reduced operating income. Thus, these results show two things:

First, companies that have a increase or decrease in operating income, attempt to smoothing using asset sales.

Second, the coefficient of variation of operating income in the firms that have low profits more than companies that increase profit. This shows that the effect of smoothing is more than firms with low profits.



In figure (5) is presented cross-sectional model test results.

Table 5.

Variable	81	82	83	84	85
<b>Constant</b>	0/006 (0.321)	0/013 (0/270)	-0/007 (-0/176)	-0/028 (-0/927)	-0/007 (-0/551)
<b>ΔOIPS</b>	-0/052* (-3/300)	-0/087** (-2/095)	0/007 (0/122)	-0/105** (-2/563)	-0/039** (-2/629)
<b>SIZE</b>	0/000 (-0/151)	0/000 (0/057)	0/002 (0/489)	0/003 (1/391)	0/001 (1/256)
<b>GROWTH</b>	0/014* (4/740)	-0/014 (-0/786)	0/004 (0/349)	-0/001 (-0/358)	-0/008 (-1/200)
<b>LEV</b>	-0/001 (-0/179)	-0/004 (-0/262)	-0/004 (-0/531)	-0/003 (-0/562)	-0/002 (-0/882)
<b>Statistics "F"</b>	10.210	3/251	0/182	2/679	3/709
<b>"R2"modified</b>	0/46	0/16	-0/08	0/13	0/20
<b>Camera Watson</b>	1.968	2/200	1/826	1/648	1/931
The number in parentheses Indicate the Amount of Statistics "t"					
* And ** respectively indicate significance levels of 99 percent and 95 percent.					

Based on this figure, this hypothesis is confirmed in all the years of during the test except in 1383 and provides strong evidence of income smoothing. This hypothesis cannot be confirmed in 1383 due to economic conditions and the stock market. In the second half of 1383 was a drop in stock prices and subsequent decline in the stock index. Hence the managers were not able to identify profit from stock price increases by selling assets at the end of the year.

### Conclusions

In this study, income smoothing hypothesis tested the level of operating income to investigate the smoothing through the sale of fixed assets and investments. In general, the results provide evidence in connection with the hypothesis of confirm smoothing that indicates the timing of asset sales by management; so that profit of asset sales paved temporary changes to the dividend. This hypothesis was confirmed in connection with companies that have increased and decrease in operating income. The results also show that the coefficient of variation of the operating profits in the companies with reduced operating income is more than the companies with increased operating income. This shows that smoothing effect in the companies with reducing operating income significantly is more than the companies that are experience increasing profits. These results are consistent with Barreto findings.

In addition, the results indicated that the smoothing hypothesis is confirmed by cross-sectional in all years tested except in 1383. Thus, the results provide strong evidence in connection with smoothing by using the sale of assets. This result is consistent with the findings of Barreto and Herman and colleagues.

### Suggestions

According to the results are presented in the following suggestions:

1. It is recommended to the users of financial statements in the using of financial statements, smoothing should consider using asset sales and they use the amount of operating income for correct judgment about the performance of company.
2. In this study investigated the asset sales tool. It is recommended in future research be examined the other means of smoothing income such as dividends and currency exchange gains and losses.
3. it is recommended that research be conducted independently in each of the industries.
4. It is recommended that in future research be controlled the other variables such as cash proceeds from the sale of assets.

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