# The Impact of Earnings Quality and Income Smoothing on the Performance of Companies Listed in Tehran Stock Exchange

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## Abstract

*This study investigated the effects of income smoothing and earnings quality on evaluating the performance of companies listed on the Tehran Stock Exchange. To do this research, we studied 96 companies among those listed within the years from 1999 to 2003. The data related to the performance mean of companies during the five-year period were aggregately and yearly studied, collected, and tested. The results of the study indicated that their performance is not influenced by income smoothing or earnings quality. In other words, no significant difference was found between the performance mean of smoother and no smoother companies and between those having high earnings quality and those having low earnings quality.*

**Keywords:** Earnings Quality, Income Smoothing, Performance**,** Tehran Stock Exchange.

## *1. Introduction*

Nowadays, income smoothing and earnings quality can be regarded as two of the attractive and challenging issues in studies related to accounting. Because investors pay attention to amount of income as an important factor in decision making, these researches are considered important from behavioral points of view. Research has indicated that low fluctuation and income stability can guarantee earnings quality. Therefore investors are more interested in buying the shares of companies whose incomes are more stable. Moreover, investors believe that companies reporting high levels of fluctuation take more risks in comparison to those reporting smooth earnings. Considering this issue, managers are inclined to level the earnings of their companies in order to visualize them with high levels of stability in earnings, leading to promotion within a flexible framework of the Generally Accepted Accounting Principles. Smoothing, they believe, results in a company's better performance.

The possibility of selecting an accounting procedure provides an opportunity for the manager to decide on the time of recognition and on estimating the earnings and expenses. Thus managers are motivated to implement a nonconservative accounting procedure to stabilize a company's income growth. This research tries to investigate whether the performance of the companies listed on the Tehran Stock Exchange can be influenced by income smoothing and a high earnings quality.

## 2. Theoretical Backgrounds

### 2.1. Income smoothing

Income smoothing has different definitions. It is a technique used by a company manager to reduce the change in the reported amount of income by means of artificial or real earnings management so that it can reach a desired income level (Vakilifard and allame haeri, 2001). In general, it includes the exertion of a company manager in the transposition of recording the earnings and expenses or transferring them to the next year, thus enabling a profit without major changes within the continuous years (Norani, 2002).

In previous researches, there have been some motivations for the companies as far as income smoothing are concerned, including the following.
1. Evaluation of a manager's performance: The manager will increase performance by income smoothing.
2. A stability of share-market value: Companies that are interested in satisfying their financial needs by selling shares will engage in smoothing, because the income fluctuation leading to fluctuation in share prices will discourage investors to buy shares.
3. Tax motivations: By income smoothing, a company might pay less taxes.

According to Joo (1991) there have been some motivations for the phenomenon of income smoothing, such as:
1. Increasing shareholders' welfare
2. Facilitating the capability of predicting income
3. Enhancing the manager's welfare

### 2.2. Earnings quality

The term "earnings quality" has also been defined in different ways.
1. Based on earnings stability: The more sustainable the earnings, the higher the quality of earnings (Tapia and Fernández, 2007).
2. Based on the level of accruals: We can define the earnings quality based on the degree of the closeness of a company's earnings to the amount of cash flow. In other words, the less the level of accruals, the more the quality of earnings (Bao and Bao, 2004).
3. Based on information content: Kirschenheiter and Melumad (2004) recognized an earnings quality as earnings that are closer to the value of a company over a long-term period and that include more information. The focus of this research is on the second definition.
4. By considering all these definitions, we should expect to have various approachesregarding earnings quality resulting in different assessments (Abdelghany, 1995).

### 2.3. Performance

Different methods and criteria are available to measure the performance of a company and to determine its value. In this study, the proportion of earnings per share to price of each share (P/E) is used as the criteria for performance.

## 3. Previous Research

Michelson *et al.* (2000) researched a study of the relationship between income smoothing and return of companies by considering a sample of 358 companies during the years 1980-1991. They concluded that "smoother" companies report more abnormal return mean in comparison to "nonsmoother" ones. Norani (2002) studied the effect of income smoothing on the return of the companies listed on the Tehran Stock Exchange. The data selected for this study included 100 companies during the years 1991 to 2000. He concluded that the income smoothing had no significant effect on the return of the selected companies, though these companies had income smoothing. Furthermore, the kind of industry and the size of the company can play no role in acquiring abnormal return.

Bao and Bao (2004) did a study in which they investigated the effect of income smoothing and earnings quality on the evaluation of the performance of companies selected for the purpose of this study. The data collected were from among 12,651 companies from 1992 to 2000. Smoothing versus nonsmoothing and high earnings quality versus low earnings quality were considered to be the two independent variables in this study. Analyzing the data, Bao and Bao (2004) concluded the following.

1. No significant difference was found between earnings per share and share price among smoother and nonsmoother companies.

2. A high relationship was noted between earnings per share and share price in companies having a high earnings quality in comparison to those having low earnings quality.
3. A low relationship was found between earnings per share and share price in the smoother companies having high earnings quality in comparison to the nonsmoother ones having high earnings quality.
4. A high relationship was noted between earnings per share and share price in the smoother companies having low earnings quality in comparison to the nonsmoother ones having low earnings quality (Bao and Bao, 2004).

## 4. Research Hypotheses

Referring to the primary objectives of the study, we tested the following hypotheses.

1. There is a significant difference between the yearly P/Es of smoother and nonsmoother companies.
2. There is a significant difference between the five-year P/Es of smoother and nonsmoother companies.
3. There is a significant difference between the yearly P/Es of companies having high earnings quality and those having low earnings quality.
4. There is a significant difference between the five-year P/Es of companies having high earnings quality and those having low earnings quality.

## 5. Research Method

### 5.1. Sample

Our sample includes the collected data from 96 nonfinancial companies listed on the Tehran Stock Exchange from 1999 to 2003. Each company had to meet specific criteria to be included in the sample:

1. They must close their fiscal year in mid-March (end of Persian calendar year).
2. They must have full financial data for the whole period of investigation.
3. They must list on the Tehran Stock Exchange before 1998.
4. They should not have interruption of transaction more than one month.

### 5.2. Data Collection Method

The data needed for analysis are gathered from audited financial statements and decisions taken in annual general meetings. This enables the main part of the data to be collected from the database that belongs to the Islamic Research Management Center of the Tehran Exchange Market, and the remaining data are gathered from the second version of Tadbir Pardaz software.

### 5.3. Variables

### 5.3.1 Income smoothing

This variable is measured by the Eckel (1981) index. According to this index, the companies are divided into two groups, including smoother and nonsmoother. The Eckel index is calculated by this formula:

$$\text{Eckel Index} = \frac{CV\Delta I}{CV\Delta S}$$

$CV\Delta I$ : Earnings Change Coefficient of Variation

$CV\Delta S$ : Sales Change Coefficient of Variation

When the amount of Eckel index is less than 1, the income smoothing has been done. Otherwise, it has not been done.

### 5.3.2. Earnings Quality

The Sloan (1996) approach is used to measure this variable. According to this approach, when the amount of cash from operating activities (CFO) is more than the accruals amount, the company has high earnings quality. Otherwise, it has low earnings quality.

### 5.3.3. Performance

In this study, the P/E ratio is used to evaluate the performance of the companies.

## 6. Analysis of Findings

By taking the four research hypotheses into consideration, we obtained the following results.

Table 1. The results of analysis of hypothesis 1

| P/E | Mean | | Standard Deviation | | t | df | *p*-value |
|---|---|---|---|---|---|---|---|
| | Smoother | Non-smoother | Smoother | Non-smoother | | | |
| 1999 | 0.168 | 0.431 | 0.340 | 0.851 | 1.523 | 95 | 0.06 |
| 2000 | 0.264 | 0.344 | 0.706 | 0.327 | 0.367 | 96 | 0.666 |
| 2001 | 0.496 | 0.251 | 1.185 | 0.186 | -0.46 | 94 | 0.366 |
| 2002 | 0.591 | 0.561 | 1.484 | 1.036 | -0.06 | 96 | 0.909 |
| 2003 | 0.680 | 1.160 | 4.520 | 1.756 | 0.332 | 95 | 0.897 |

Table 1 indicates that the P/E mean of nonsmoother companies in 1999 was more than the P/E mean of smoother companies. There is no significant difference in P/E between smoother and nonsmoother companies ($t = 1.523$; *p*-value= 0.060). In 2000, the P/E mean of nonsmoother companies is more than the P/E mean of smoother ones. A *t*-test indicates that there is no significant difference in P/E between smoother and nonsmoother companies ($t = 0.367$; *p*-value= 0.666). Regarding P/E mean in 2001, smoother companies have a higher performance mean in comparison to nonsmoother ones. A *t*-test revealed a nonsignificant difference between P/E in smoother and nonsmoother companies, where the *t* value was -0.460 and the *p*-value was 0.366.

As far as P/E mean in 2002 is concerned, smoother companies have higher performance mean in comparison to nonsmoother ones. According to a *t*-test, there is no significant difference between P/Es in smoother and nonsmoother companies ($t = -0.60$; *p*-value= 0.909). Lastly, the P/E mean in nonsmoother companies in 2003 is more than the mean in smoother ones. A *t*-test revealed a nonsignificant difference between P/Es in smoother and nonsmoother companies, where $t=0.332$ and the *p*-value=0.897.

**Table 2. The results of analysis of hypothesis 2**

| P/E | Mean | | Standard Deviation | | t | df | *p*-value |
|---|---|---|---|---|---|---|---|
| | Smoother | Non-smoother | Smoother | Non-smoother | | | |
| 5-years | 1.884 | 2.682 | 2.451 | 9.066 | 0.532 | 94 | 0.071 |

It is evident from Table 2 that the P/E mean in nonsmoother companies is more than the one in smoother companies. However, a *t*-test indicated that there is no significant difference in P/Es between smoother and nonsmoother companies. By considering all the above-mentioned results obtained from the test in hypotheses 1 and 2, we can conclude that the income smoothing cannot be regarded as an effective factor on P/E.

**Table 3. The results of analysis of hypothesis 3**

| P/E | Mean | | Standard Deviation | | t | df | *p*-value |
|---|---|---|---|---|---|---|---|
| | Low Quality | High Quality | Low Quality | High Quality | | | |
| 1999 | 0.257 | 0.168 | 0.525 | 0.326 | 1.003 | 96 | 0.18 |
| 2000 | 0.182 | 0.317 | 0.529 | 0.733 | -0.933 | 96 | 0.321 |
| 2001 | 0.524 | 0.473 | 1.054 | 1.203 | 0.203 | 96 | 0.763 |
| 2002 | 0.282 | 0.687 | 0.288 | 1.640 | -1.197 | 96 | 0.071 |
| 2003 | 0.966 | 0.568 | 6.736 | 1.334 | 0.445 | 96 | 0.019 |

As Table 3 indicates, in 1999 the mean performance of companies having low earnings quality is reported to be more than the mean performance of those having high earnings quality. The *t*-test shows no significant difference between the companies having high earnings quality and those having low earnings quality as far as their performance is concerned ($t = 1.003$;        *p*-value= 0.180). A mean performance comparison in 2000 shows that companies including high earnings quality have  higher mean performance in comparison to companies having low earnings quality. However, a *t*-test revealed a no significant difference in performance between companies having high earnings quality and those having low earnings quality, where $t = -0.933$ and *p*-value = 0.321. As far as mean performance in 2001 is concerned, companies including low earnings quality reported having higher mean performance in comparison to those having high earnings quality. According to a *t*-test, there is no significant difference between the reported performance in low and high earnings quality companies ($t = 0.203$; *p*-value= 0.763). Regarding mean performance in 2002, companies with high earnings quality have highermean performance in comparison to those including low earnings quality. A *t*-test revealed a nonsignificant difference between companies with low and high earnings quality with regard to their performance, where $t = -1.197$ and *p*-value= 0.071.

Lastly, a mean performance comparison in 2003 allows us to conclude that companies with low earnings quality had better mean performance than those with high earnings quality. However, a *t*-test indicated no significant difference between companies with high and low earnings quality (*t* = 0.445; *p*-value= 0.019).

**Table 4. The results of analysis of hypothesis 4**

| P/E | Mean | | Standard Deviation | | t | df | *p*-value |
|---|---|---|---|---|---|---|---|
| | Low Quality | High Quality | Low Quality | High Quality | | | |
| 5-years | -0.022 | 2.850 | 4.854 | 7.194 | -1.686 | 96 | 0.795 |

As Table 4 shows, the five-year P/E mean of companies including high earnings quality is reported to be more than that of those with low earnings quality. On the other hand, a *t*-test indicates that the difference between the five-year P/E mean of companies with high and low earnings quality is insignificant (*t* = -1.686; *p*-value= 0.795). Therefore with regard to the above-mentioned results from hypotheses 3 and 4, we can draw this conclusion: The earnings quality cannot have any positive influence on P/E.

## 7. Discussion and Conclusion

In this study, the effect of smoothing and earnings quality on the performance of companies listed on the Tehran Stock Exchange was investigated.

In hypothesis 1, the effects of earnings smoothing on the annual P/E of the companies selected for this research were taken into account. They showed that there is no significant difference between the P/E of smoother and nonsmoother companies during all the years of this study.

The effects of earnings smoothing on 5-years of P/Es of the selected companies were examined in hypothesis 2. The results indicated a nonsignificant difference between the P/Es of smoother and nonsmoother companies.

In hypothesis 3, the effects of earnings quality on annual P/Es of the selected companies were taken into consideration. According to the results, no significant difference was observed in the P/Es of companies having high earnings quality and those having low earnings quality. In other words, the earnings quality cannot have any effect on P/E.

The impact of earnings quality on the 5-year P/Es was considered in hypothesis 4. The results of this study showed that there is a nonsignificant difference in the 5-year P/E of the selected companies including high earnings quality and those including low earnings quality. After considering all of the above-mentioned results, we can conclude that income smoothing and earnings quality cannot play any role in company performances.

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