

# Studying the Effect of Corporation's Disclosure Quality Rank on Income-Smoothing and Informativeness of Tehran Stock Exchange's Listed Companies

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## Abstract

*The study is to review the disclosure quality rank on income-smoothing and informativeness by means of four hypotheses. The timescale is between 2010 and 2016, and 149 TSE's listed companies are studied. The first hypothesis examines the effect of higher disclosure quality rank on income informativeness. The result confirms that higher rank of disclosure quality improves income informativeness. The second hypothesis reviews the relationship between disclosure quality rank and income smoothing. The findings of this hypothesis indicate lower disclosure quality will increase income smoothing behavior. In the third hypothesis, the effect of income smoothing on informativeness is examined, which results in a statistical view that income smoothing has a sensible positive effect on informativeness. Finally, the effect of higher rank of disclosure quality on the informativeness of the smoothing listed companies in the fourth hypothesis. The findings indicate that income smoothing has a meaningful effect in strong disclosure quality companies.*

Keywords: income informativeness, income smoothing, disclosure quality

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## **Introduction**

Financial reporting aims at informing all external stakeholders effectively. Directors use the company's business activities information as an instrument to inform such stakeholders. They, however, can exercise their authorities in accounting decision for financial reporting in order to smooth the company's income. There are two motivations in managing income smoothing: 1- directors use it as an information distortion and self-interest; 2- income-smoothing helps reporting and transferring confidential information regarding the future profits (Ronen & Sadan, 1981). Directors preferred standpoint and their desired objectives of income smoothing is a significant subject, apt to be surveyed.

## **Income smoothing objectives, dimensions and instruments**

Barnea et. Al (1976) claim that directors' motivation for income smoothing is dependent on the expectations for disclosure, and describe three dimensions of income smoothing as below: 1) events occurrence and/or recognition: directors schedule real transactions in order to control reporting profits, 2) allocation over time: directors exercise their authorities in order to determine financial periods of expenses recognition, and 3) classificatory smoothing: directors use classifications in profit and loss statement sectors in order to replace profits or losses.

Bens et al. (2002) observed that corporate shares are repurchased by their directors in order to avoid EPS loss due to lowering R&D charges. Murphy (2000) reviews operational standards in remuneration contracts and perceived a relationship between parameters based on accounting figures in these contracts and income smoothing. He believes that "most of the studies on income smoothing in accounting context are focused on discretionary accrual items, which indicates directors accounting decisions may transfer reported profits from one period to another one." Sadidi et al. (2011) evaluate the level of conservativeness on profit quality and return rate in order to help investors and other users in decision-making process and showed that profit quality introduced based on conservativeness index can determine a part of the current year's return rate difference for operational assets and equity return rate with the next year's.

### **Informative income smoothing**

The conceptual framework of Financial Accounting Standards Board (FASB) indicates that accounting information should be effective for financial statement users (generally investors and creditors) to make logical, credit and other decisions (Statement of Financial Accounting Concepts, article 34). Smoothing makes a relationship between income and future cash flows. Specifically, this relationship is made by informative income smoothing, which is explained in the relationship between incomes and operational cash flows of the coming year. A stronger relationship between income smoothing and future operational cash flow represents a more informative income smoothing. In some studies, including those accomplished by Barth et al. (2001), Dechow and Dichev (2002), and Kim and Kross (2005) this concept is also known as income quality. The question is whether the smoothing company is looking for an informative smoothing or a deceptive one?

Tucker and Zarowin (2006) review the relationship between income smoothing and equity prices. They introduced income smoothing in the form of negative correlation changes in the company's discretionary accrual items with non-managed income. Found out that more negative correlation between discretionary accrual items changes and those of non-managed income indicates higher income smoothing.

Goel and Thakor (2003) provide a model to describe why directors smooth incomes. They claim income volatilities mount directors in a more favorable position, since they have an access to the inside information.

Bao and Bao (2004) evaluate income smoothing effect and income quality over information effectiveness. In accounting surveys, the information effectiveness is indicated based on the relationship between accounting figures (e.g. income) and capital market valuation [Barth et al. (2001)]. The stronger this relationship is the higher accounting figures effectiveness will be.

### **Rating issuers based on disclosure and information quality**

Strauss and Chlapaty (2019) reviewed the state of corporate disclosure on well-being in 2018. They identified critical disclosure gaps for the well-being of all stakeholder groups.

Qi Chen et al (2018) examined how mandatory disclosure rules affect disclosure effectiveness when it is costly for investors to process information and their understanding of disclosed information is affected by whether the information is presented in an accessible way. They showed that when firms' private information about their project quality cannot be directly revealed by mandatory disclosure, more accurate and less complex disclosures do not necessarily improve disclosure effectiveness.

Hua Cheng and et al (2018) they found that transient institutions, characterized by diversified portfolios with high turnover, are attracted by the larger liquidity and increase their holdings in firms with higher **quality** of financial statements and thus boost these stock prices during market downturns.

Inna Abramova et al (2017) studied how short-term changes in a proxy for passive institutional owner attention affect managers' short-term **disclosure** choices. Overall, their evidence suggested that management responds to temporary institutional investor attention by making disclosures that have little effect on information **quality** or liquidity.

Karen H. Wruck and YiLin Wu (2017) provided evidence that CEO equity incentives, especially stock options, influence stock liquidity risk via information **disclosure quality**. They documented a negative association between CEO options and the **quality** of future managerial disclosure policy.

Market participants always search for quality financial information, as this lowers information asymmetry among the company's management and external stakeholders. Based on Francis et al. (2005), extensive disclosure policy is a mechanism to reduce information asymmetry between directors and investors. Glosten and Milgrom (1985) provided a model indicating the relationship between corporate disclosure and information asymmetry. Their model shows that information asymmetry wanes proportionally by increasing corporate disclosure level. Welcher (1995) demonstrated that information asymmetry and market liquidity respectively lowers and rises by a proportionate increase in the level of disclosure. Lang and Lundholm (1996) documented that the companies with informative disclosure policy enjoy further analysts, more appropriate expected profit, fewer dispersed forecasts and less fluctuations in their prospects, which are a sign of reducing information asymmetry by implementing informative disclosure policy.

Securities and Exchange Organization (SEO) has established a ranking procedure for issuers regarding disclosure and information quality since 2004 based on punctuality and reliability features. In this ranking, issuers are graded by means of these two aspects, and finally a qualitative score is announced for the ranking. At the year-end (end of financial period) the score is released on *Codal* system for informing the market's participants. The aspects calculations are as follows:

### **Relevance**

Eleven samples from the latest announcements of the issuers are considered for evaluation and scoring companies. Each of the announcements are given a value of 100 by default, and regarding their significance, for each day of delays, a negative score is deducted from 100, and the final score for each announcement is calculated to reach the average number. Due to some announcements' higher significance, delay in their release bears more negative score. Such announcements include initial EPS forecast, and mid-term information and financial statements.

### **Reliability**

Standard deviation of the difference between estimated EPS and the real EPS in quarterly and annual (audited and unaudited) statements are calculated. Then the SD's average value is deducted from 100 to calculate the reliability score. In order to determine the ranking of information and disclosure quality, the weighted average of punctuality with double coefficient and of reliability with single coefficient are calculated to finalize the ranking. This ranking measures disclosure quality of the issuers.

Noravesh and Hosseini (2009) examine the relationship between corporate disclosure and earnings management based on the above ranking. Their main hypothesis estimates a negative relationship between improved disclosure quality and earnings management. Two aspects of punctuality and reliability are applied to measure disclosure quality. Their findings indicate that there is a sensible negative relationship between corporate disclosure quality and

earnings management and a same relationship between corporate disclosure punctuality and earnings management.

Kordestani and Hosseini (2009) also reviewed the relationship between disclosure (including reliability and punctuality) and accounting earning content, and resulted that there is a positive relationship between disclosure quality and accounting earning content. In the previous studies, the relationship between disclosure quality and income smoothing and informativeness has not been examined. Also, none has ever separated income smoothing ones by means of informativeness and misleadingness. This is an important issue, as income smoothing behavior may lose its continuity over time. Then four aspects are more concerned in the current study: 1- This will be examined based on issuers disclosure quality ranking if higher score of disclosure announced by SEO turns into increasing informativeness of income (the relationship between the current year's income and next year's operational cash flow; 2- The effect of higher disclosure quality on income smoothing is reviewed; 3- Effects of the income smoothing on income informativeness is another significant issue in the study; 4- Finally, the relationship between disclosure quality ranking and higher informativeness of income smoothing companies is examined.

### **Research hypotheses**

H1: Does higher ranking of disclosure quality bring more income informativeness?

H2: Does higher ranking of disclosure quality affect income smoothing?

H3: Is income smoothing effective on income informativeness?

H4: Does higher ranking of disclosure quality affect income informativeness of smoothing companies?

### **Sampling and estimating size of community method**

The corporate data have been extracted from databases such as Rahavard Novin and TSE listed companies' financial statement. The research covers listed companies between 2010 and 2016. For sampling, following limitations are implemented:

1- The companies with 6 consecutive years' accessible financial statement are selected for sampling and others are excluded.

- 2- Financial entities are excluded due to their different accounting.
- 3- The study does not include the companies with incomplete financial years.

Disclosure quality ranking is extracted from *Codal* website. Companies with unavailable (quality or quantity) data are excluded.

### **Research methodology**

Research timescale is extended from 2010 to 2016. Thus, in each year of the period, corporate disclosure quality ranking and income smoothing are calculated and based on the score, and other extracted data, hypotheses 1 to 4 are examined.

**Disclosure rank:** Each year, companies are ranked based on disclosure quality and SEO's information.

**Income informativeness:** In this study, it is explained as the relationship between current year's earning and future operational cash flow (Faello, 2012)

**Income smoothing ranking:** For this ranking, three criteria are applied. One is by Luez et al. (2002) and two others from Albrecht and Richardson (1990). Finally, in each year, the rank of corporate income smoothing is calculated based on the average perceived ranks from each criterion.

To examine H1, companies categorized into three groups of strong, moderate and weak based on their ranking for disclosure quality. Then, the moderate group of disclosure quality was excluded. Then a relationship between the current year's earning and future operational cash flow (income informativeness) was examined for each group of strong and weak disclosure quality.

For H2, the effect of disclosure quality on income smoothing ranking was surveyed.

In H3, considering income smoothing ranking of companies in each year, the relationship between current earnings and future operational cash flow (income informativeness) was reviewed.

Regarding H4, initially corporate grouping was handled based on disclosure quality ranking as in H1 examination. Later, for each group of strong and weak disclosure quality, the effect of income smoothing on the relationship between current earnings and future operational cash flow was studied.

### **Determining income smoothing companies**

Two methods of Albrecht and Richardson (1990), and the criterion by Luez et al. (2002) are used to determine corporate income smoothing behavior.

The former applies the relationship between sales income and income volatilities to determine income smoothing (e.g. correlation coefficient). Their income smoothing equation is as below:

1)

$$\frac{CV\Delta I}{CV\Delta S}$$

Where

I indicates changes of income in a period.

S indicates changes of sale in a period.

CV describes changes coefficient and equals standard deviation divided by estimated and expected value.

If the ratio is less than 1, income smoothing is accomplished, as income volatilities are less than sales volatilities. Albrecht-Richardson criterion applies two scales:

- 1- operational profit
- 2- net profit

In this study, companies with the lowest fraction have the highest ranking of income smoothing for any of the income criteria.

The criterion introduced by Luez et al. (2002) maintains that insiders (financial statements providers) are able to manipulate corporate economic operations by means of real operational decisions and financial reporting decisions. Their applied scale is a fraction of corporate operational income standard deviation divided by operational cash flow standard deviation. The lower amount of this scale, with other conditions unchanged, indicates higher accrual usage by insiders for income smoothing. This ratio can be interpreted



in the form of income smoothing effect by means of accruals usage: Luez et al. scale is as follows:

$$2) \frac{\sigma(Earnings)}{\sigma(CFO)}$$

Where

$\sigma(Earnings)$  indicates current earnings standard deviation.

$\sigma(CFO)$  shows current year's cash flow standard derivation.

In the research, due to the smoothing presentation as a spectrum, the smaller the above ratio is, the higher income smoothing ranking will be.

When income smoothing criteria of each company are calculated based on the two mentioned scales (three methods), the average ranking of income smoothing will be calculated, and this figure will be used to examine questions.

### **Hypotheses testing**

#### **Hypotheses 1**

H1 is based on data from 2010 to 2016 and examines if disclosure quality ranking improves income informativeness. In each group of weak and strong disclosure quality ranking, there are 50 companies. 49 companies with moderate quality ranking are excluded from the research.

H1 methodology is as below:

3)

$$CF_{it} = a + (\beta_1 EARN_{i,t-1}) + \sum (\beta_j CONTROLVAR_{j,t-1}) + \varepsilon_{it}$$

Where

$CF_{it}$  is the dependent variable indicating current period's operational cash flow

$EARN_{i,t-1}$  indicates corporate's earning in year t-1

$NTROLVAR_{ij,t-1}$  indicates controlling variables as follows

$\varepsilon_{it}$  Error value

Controlling variables are as below

**SIZE** total assets of a company to control size effect  
(Bao and Bao, 2004; Tucker and Zarowin, 2006)

**GROWTH** ratio of market capitalization to book value in the form of share market price divided to equity book value (Tucker and Zarowin, 2006).

**LEVERAGE** debt to asset ratio (Bao and Bao, 2004)

Results from the above model are given in the following table (1).

**Table (1): Model estimates of H1**

Variable	Strong Disclosure Quality				Weak Disclosure Quality			
	Coefficient	Standard Deviation	Variable	Coefficient	Standard Deviation	Variable	Coefficient	Standard Deviation
Y-intercept	.9 1/178	.2 2/00	.8 0/99	.36 0/9	.5 1/16	.866 1/	.8 0/12	... /
EARN (-1)	. 0/28	. 0/16	. 1/27	.8 0/5	. 0/3	... /	.9 3/36	.49 /
SIZE	-. /0.2	. 0/00	-. /0.87	.2 0/8	. 0/00	... /	. 1/52	.86 /
GROWTH	-. /281	. 3/64	-. /669	.9 0/6	-. /7.4	.87 5/	-. /871	.62 /
LEVERAGE	. 4/19	. 4/97	. 1/05	.31 0/6	-. /890	.551 8/	-. /338	.736 /

Group	Strong Disclosure Quality				Weak Disclosure Quality			
					2		.	
Coefficient of Determination	0.201				0.174			
F statistic	3.104				3.301			
F statistic Probability	0.040				0.039			
Durbin - Watson	1.823				2.262			

In table (1), due to the fact that F statistic Probability is statistically sensible at the level of 5% for both groups, the estimated regression is generally meaningful by statistics. In companies with strong disclosure quality, around 20.1% of operational cash flow is defined and estimated by the model. This estimation for companies with weak disclosure quality is 17.4%. Based on the probability level of estimated coefficients in two models, the LEVERAGE variable is not sensible statically, and other variables at the level of 5 and 10 percent are statistically meaningful and effective on the current year's operational cash flow. Since the coefficient of EARN variable is larger in the group of strong disclosure ranking than in the group of weak disclosure ranking, this can be stated that disclosure ranking leads to higher income informativeness. As a result H1 is confirmed.

## Hypotheses 2

The next step in the study is to examine the effect of disclosure quality ranking on income smoothing. The annual ranking is calculated in deciles for 149 companies between 2011 and 2016, and for the companies in decile 1 (highest disclosure quality ranking), number 10 is corresponded, and for the companies in decile 10 (lowest disclosure quality ranking), number 1 is

applied. The basis for testing H2 was Carlson and Bathala<sup>4</sup> (1997) multivariate regression model.

4)

$$IS_{it} = a + \sum DIS_{jit} + \sum (\beta_k CONTROLVAR_{kit}) + \varepsilon_{it}$$

Where

$IS_{it}$  is dependent variable, equal to company; average income smoothing ranking

DIS is descriptive variable, an alternative for disclosure quality and substituted based on disclosure quality ranking

$\varepsilon_{it}$  is error phrase

**Table 2: Model estimates of H2**

variable	coefficient	Standard Deviation	t statistic	Probability Level
Y-intercept	1/163	0/151	7/713	0/000
DIS	1/135	0/523	2/171	0/030
SIZE	-2/752	1/010	-2/724	0/007
GROWTH	-0/001	0/015	-0/045	0/964
LEVERAGE	-12/992	3/938	-3/299	0/001
Coefficient of Determination	0/228	Durbin-Watson		1/927
F statistic	6/302	F statistic Probability Level		0/000

Table (2) is estimated based on 149 companies' data collected between 2010 and 2016. Based on F statistic, the estimated model is meaningful at the portability level of 1%; then the estimated regression is generally meaningful by statistics. The estimated model describes about 22.8% of income smoothing behavior. In the model, all coefficients, except GROWTH are fully meaningful

<sup>4</sup> 1- They used a logit model with dependent variables as an indicator (smoothing=1; non-smoothing=0). Disclosure quality ranking and controlling variables are descriptive variables.

at the probability levels of 1 and 5 percent. Since variable coefficient of DIS is statistically meaningful at the probability level of 1% in this model, it can be inferred that disclosure quality is meaningfully effective on income smoothing behavior, and lower quality of disclosure may lead to a stronger behavior of income smoothing.

### Hypotheses 3

The following phase in the study was to examine the effect of income smoothing on income informativeness. The income smoothing average ranking was included in the following regression equation (Carlson and Bathala, 1997):

$$5) \\ CF_{it} = a + (\beta_1 EARN_{i,t-1}) + \sum (\beta_j ISRank_{i,t-1}) + (\beta_3 EARN_{i,t-1} * ISRank_{i,t-1}) \\ + \sum (\beta_j CONTROLVAR_{ji,t-1}) + \varepsilon_{it}$$

Where

$CF_{it}$  is depended variable indicating operational cash flow

$EARN_{i,t-1}$  is corporate's earning in year t-1

$ISRank_{i,t-1}$  is corporate's average income smoothing ranking; rank 1 equals highest income and n indicates lowest income smoothing in year t-1

$\varepsilon_{it}$  is Error amount

Belsky et al. (1998) showed that during the period under study once two factors or independent variables interact, differential effects examination can be applied in order to insert their interaction into regression model.

Table (3) is estimated based on 149 companies' data between 2010 and 2016. In this table, F statistic is meaningful at the probability level of 1%. Thus, the estimated model defines about 29.3% of corporates' operational cash flow. In the estimated model, all variables except GROWTH, are fully meaningful at the probability levels of 1 and 10 percent. Since the variable coefficient EARN\*IS is positive and statistically meaningful in the estimated model, it can be inferred that income smoothing, although slightly, has a sensible positive effect on income informativeness.

**Table (3): Model estimates of H3**

variable	coefficient	Standard	variable	coefficient
Y-intercept	•/•459	•/238	1/933	•/•54
Earn (-1)	•/•86	•/•27	3/120	•/•02
IS (-1)	7/126	2/730	2/610	•/•09
Earn (-1)* IS (-1)	•/•01	•/•00	1/949	•/•52
LOG (SIZE)	6/220	1/671	3/723	•/•00
GROWTH	5/816	54/230	•/107	•/915
LEVERAGE	6/169	1/896	3/254	•/•01
Coefficient of Determination	•/293	Durbin-Watson		2/412
F statistic	3/987	F statistic Probability Level		•/•00

**Hypotheses 4**

H4 examines the effect of disclosure quality besides income smoothing on income informativeness based on data collected on 2010 to 2016. In each two groups with strong and weak disclosure quality, initially the relationship between current year earning and future operational cash flow is reviewed, and then the income smoothing ranking is applied as an independent variable. In this way, income smoothing descriptive potential can be determined by examining income smoothing variable coefficients' significance and comparing regression models adjusted R<sup>2</sup> (Aczel, 2002).

H4 related equation is as below:

6)

$$CF_{it} = a + (\beta_1 EARN_{i,t-1}) + \sum (\beta_j CONTROLVAR_{ji,t-1}) + \varepsilon_{it}$$

7)

$$CF_{it} = a + (\beta_1 EARN_{i,t-1}) + (\beta_2 ISRank_{i,t-1}) + (\beta_3 EARN_{i,t-1} * ISRank_{i,t-1}) + \sum (\beta_j CONTROLVAR_{ji,t-1}) + \varepsilon_{it}$$

Where

$CF_{it}$  is dependent variable indicating current period's operational cash flow

$ISRank_{i,t-1}$  is corporate's income smoothing average ranking; 1 equals highest income smoothing and n shows lowest income smoothing in year (t-1)

$EARN_{i,t-1}$  is the corporate's income in the year (t-1)

$[\varepsilon_{it}]$  is error amount

**Table (4): Model estimates of H4**

Variable	Strong Disclosure Ranking				Weak Disclosure Ranking			
	Coefficient	Standard deviation	t statistic	P value	Coefficient	Standard deviation	t statistic	P
Y-intercept	-۴/۵۴۹	۵/۸۴۴	-۰/۷۷۸	۴۳	۲۱/۳۴۲	۲/۷۷۴	۱/۶۹۳	۰۰
EARN (-1)	۰/۲۲۵	۰/۰۹۴	۱/۴۰۵	۰/۱	۰/۰۱۰	۰/۰۳۰	۱/۳۳۲	۷۴
IS Rank (-1)	۱/۰۳۳	۰/۳۵۱	۱/۹۴۶	۰۰	-۰/۷۳۱	۰/۲۲۱	-۳/۳۰۴	۰/۱
IS Rank (-1)* EARN (-1)	-۰/۰۰۲	۰/۰۰۱	-۳/۰۵۱	۰۰	۰/۰۰۰	۰/۰۰۰	۱/۲۳۲	۸۱
SIZE	-۰/۰۰۵	۰/۰۰۳	-۱/۵۵۵	۱۲	-۰/۰۰۳	۰/۰۰۲	-۱/۶۶۰	۰/۹
GROWTH	-۳/۲۴۸	۰/۸۹۹	-۳/۶۱۴	۰۰	-۷/۳۲۰	۷/۵۲۷	-۰/۹۷۳	۳۳
LEVERAGE	۱/۹۷۳	۷/۷۹۴	۱/۵۳۱	۰/۱	۱/۵۳۳	۱/۴۱۲	۱/۰۹	۹۱
Coefficient of Determination	۰/۳۴۲				۰/۳۲۲			
F statistic	۲/۳۱۳				۰/۴۶۱			
F statistic	۰/۰۳۴				۰/۸۳۷			
Durbin-Watson	۲/۱۳۱				۱/۸۶۸			
Testing	Meaningful difference of				Meaningful difference of			



Group	Strong Disclosure Ranking			Weak Disclosure Ranking		
	determination coefficient with corresponding model in H1			determination coefficient with corresponding model in H1		
Restricted Testing Regression	F statistic	Degrees of freedom	F Meaningful level	F statistic	Degrees of freedom	F Meaningful level
	7/1451	(2,293)	0.009	5/4707	(2,293)	0.046

For testing H4, two groups of companies mentioned in H1 are applied. In table (4), due to the statistical meaningfulness of F statistic at P-Value of 1%, both groups estimated regression is generally meaningful by statistics. In companies with strong disclosure quality, about 34.2% of operational cash flow can be explained by the estimated model. For companies with weak disclosure quality, this figure is about 32.2%. Based on estimated P-Value in the group model companies with high disclosure quality, all variables are statistically meaningful between 1 and 5 percent, except for SIZE. That is while in the group of companies with weak disclosure quality, only two variables of IS Rank and SIZE are meaningful at P-Value of 1 and 10 percent, respectively; other variables are, however, not statistically meaningful. Comparing size and coefficient meaningfulness related to variables IS and IS Rank\*EARN in two models show that disclosure quality besides income smoothing affect income informativeness in the group with high disclosure quality, but this relationship is not proved in the group with low disclosure quality due to its lack of statistical meaningfulness. As a result, H4 is also confirmed. The important point is that both estimated models in table (2) have higher coefficient of determination that in table (1) and this difference is statistically fully meaningful based on F test related to restricted and non-restricted regression. In other words, models in H4 are more comprehensive and accurate than H1 templates.

## Discussion and conclusion

In this study the effect of disclosure quality ranking is surveyed on income smoothing and income informativeness by four hypotheses. The ranking of disclosure quality is determined by issuers ranking announcement regarding disclosure and information quality, including two parameters of punctuality and reliability. In the first hypothesis, it is examined if higher ranking of

disclosure quality leads to further informativeness. To test this assumption, corporates are categorized into strong, moderate and weak disclosure quality, and later, companies are studied in two groups of strong and weak disclosure quality. It is worth nothing that such classification is not available in the previous studies and the existing survey is the first kind of such surveys based on the dichotomy of strong and weak companies. Findings indicate that higher disclosure quality brings about further informativeness. In the second hypothesis, the relationship between disclosure quality ranking and income informativeness is reviewed, and to do this, corporate's smoothing ranking was calculated by two methods of Luez et al. and Albrecht and Richardson. None of the previous studies have identified income smoothing; however, the existing one considers them as a spectrum. Once income smoothing parameters are calculated for each company by two scales (three methods), corporate's income smoothing in the study is considered as smoothing ranking. Research findings indicate that disclosure quality affects income smoothing and lower disclosure quality leads to increased income smoothing behavior. In hypothesis three, income smoothing relationship on informativeness is reviewed. Based on the study results, income smoothing statistically has a sensible positive effect on informativeness, though this is a slight effect.

In the fourth hypothesis, higher disclosure ranking effect on income informativeness is surveyed. In this section like the first hypothesis, companies are classified based on disclosure quality ranking. Findings imply that income smoothing in the companies with strong disclosure quality is meaningfully effective on informativeness, however this effect in the companies with weak disclosure quality is not statistically meaningful.

Regarding the fact that coefficient of determination in statistical models for hypotheses 1 to 4 defines 34.2% of the dependent variable at the most, it can be concluded that disclosure quality ranking cannot determine changes of the dependent variable considerably. Among the background reasons, it can be stated that such ranking uses several complicated calculations, and in fact has been unable to reach the ultimate goal, which is disclosure quality ranking. It is suggested to the market's regulator (Securities and Exchange Organization) to review this index.

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