

# **Analysis of Determinants of Artificial Income Smoothing Among Manufacturing Companies for the Period 2018-2020**

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## **ABSTRACT**

The purpose of my study is to empirically examine the impact of firm size and liquidity on artificial income smoothing practices and to test the capability of institutional ownership in moderating the impact of firm size and liquidity on artificial income smoothing practices. The population used in this study are manufacturing companies listed on the Indonesia Stock Exchange for the period 2018 – 2020. This study used a purposive sampling technique based on criteria and obtained a sample of 72 observational data with a total of 216 data for three years. The data used are secondary data in the form of financial statements and processed using econometrics views (E-Views) software versi 12. The results showed that firm size had a significant negative impact on income smoothing. Meanwhile, liquidity does not have a significant impact on income smoothing. Institutional ownership cannot moderate the relationship between firm size and liquidity on artificial income smoothing.

**Keywords:** *Artificial Income Smoothing, Firm Size, Liquidity, Institutional Ownership*

## **1. INTRODUCTION**

A corporate is not enough just to develop new innovations for the products it produces, but the corporate also needs a flow of funds in order to run its business properly and smoothly, resulting in good performance. One way to get these funds is to attract investors to add capital to the corporate. Before making a decision, investors need to analyze the corporate's financial performance in order to determine the feasibility of the corporate to which the funds will be given. The results of the corporate's performance can be illustrated in the financial statements. Profit is one of the most important information for internal and external parties. The amount of profit can attract the attention of potential investors, which causes corporate management to try to generate good profits with earnings management strategies.

One pattern of earnings management that is often used by managers to overcome earnings variability is income smoothing. If reported earnings are too high, managers will reduce these earnings. Conversely, if reported earnings are too low, managers will increase these earnings. This is done so that the profit presented in the financial statements looks stable, so that investors who see this condition will not worry about getting a profit. Various factors can influence the occurrence of artificial income smoothing practices, such as firm size, liquidity, and institutional ownership.

### **1.1. Related Work**

**Agency Theory.** According to Eisenhardt in Mahawyahrti & I Gusti [1], there are several assumptions that underlie agency theory, one of which explains human nature. Assumptions that assert that humans have self-interest, bounded rationality and risk averse. This assumption underlies the agency problem, which is a problem that can arise when the principal (shareholder) and agent

(manager) have different goals, where managers tend to pursue personal interests. Agency problems can also occur due to information asymmetry, a condition when the manager is the party who knows more about the corporate's internal information. With this information, it is easier for managers to manipulate financial statements to generate high profits in the short term. Based on agency theory, a control procedure is needed in balancing the interests of managers and shareholders, so that they can overcome agency problems.

**Signalling theory** requires two parties to overcome the problem of information asymmetry [2]. The corporate's internal party as the sender who knows more about corporate information gives a signal to outsiders. The signal can be in the form of information that presents an overview of the corporate's condition that can help investors as recipients in making decisions. Signaling can help investors in seeing the prospects of a corporate, so they can assess the quality of the corporate's performance. Maulina asserts in signaling theory that the corporate's financial statements presented can be used as consideration in investing [3].

**Artificial artificial income smoothing** is a reduction in earnings that is not stable from year to year by moving revenue from periods of high profit to periods of less profit. This is done so that the profit generated looks stable for the corporate and has a low risk, so that it can provide a good corporate image to external parties. In addition, artificial income smoothing can provide information in predicting future earnings.

**Firm size** or corporate size is a comparison of the size of a corporate According to Riyanto in Nugroho, et al [4], corporate size can be known from several indicators, such as total sales value, total equity, and total assets. Machfoedz in Febriana [5] explains that corporate size is divided into three groups. The first group is a large corporate (large firm), where a corporate has a large total assets, at least Rp. 200,000,000,000. The second group is medium size companies, where a corporate has total assets between IDR 2,000,000,000 to IDR 200,000,000,000. While the third group is a small corporate (small firm), where a corporate has assets of less than Rp. 2,000,000,000.

**Liquidity** or liquidity according to Jessica & Sofia [6] is basically part of the financial ratio, which shows the capacity of a corporate to meet its short-term obligations. This ratio can be used to analyze the corporate's current financial condition. The level of liquidity can influence the decisions of various parties. With high liquidity, investors and shareholders will assess the corporate as having good financial performance and not having bad risks. In addition, liquidity can also be a means to anticipate the need for funds that are urgently needed for the corporate The level of liquidity can be indicated by the quick ratio, current ratio, and cash ratio.

**Institutional ownership** (kepemilikan institutional) is the number of corporate shares owned by institutional companies such as insurance companies and investment companies. The existence of institutional ownership has a role as a party that supervises the corporate, in order to limit the corporate's management in carrying out inappropriate actions or practices. Jensen & Meckling [7] in agency theory argues that institutional ownership can reduce agency conflict between managers (agents) and shareholders (principals). Thus, the corporate does not need to pay for agency costs, such as audit fees, which can reduce the dividends distributed. With supervision, the welfare of shareholders will be more guaranteed. Therefore, if there is no institutional ownership, the level of corporate supervision could be reduced.

**Institutional Ownership as Moderating Variable in Firm Size Relationship with artificial income smoothing** could be explained that the size of the corporate can be said to be large if the total assets owned are also large. In addition to total assets, the amount of total sales can also be used as a benchmark in describing the size of a corporate The higher the total sales, the higher the income or profit generated. The condition where some of the corporate's shares are owned by institutions or commonly referred to as institutional ownership, can increase the level of supervision within the corporate This can provide restrictions on the behavior of the corporate's management, so as not to engage in out-of-bounds behavior or practices, such as income smoothing. Based on the statement above, the presence or absence of institutional ownership can have an influence on the practice of income smoothing.

**Institutional Ownership as a Moderating Variable in the Relationship between Liquidity and artificial income smoothing** It can be explained that potential investors usually use liquidity as a

benchmark in assessing the corporate's performance. Positive liquidity indicates the corporate is able to meet its debts. Conversely, negative liquidity indicates that the corporate is difficult to pay off its debts and has the opportunity to fail to pay it off on time. This condition can cause the corporate's operational activities to be hampered, such as the sales generated cannot provide a profit because the corporate still has an obligation to pay off its debts. The sale of shares in the capital market can provide opportunities for institutional ownership in the corporate. In addition to being able to provide assistance in paying off debt, institutional ownership can oversee the corporate's management, so that managers do not act according to their own wishes. Therefore, the existence of institutional ownership can reduce the practice of income smoothing.

### **Hypothesis**

The framework of this research will be described as follows:

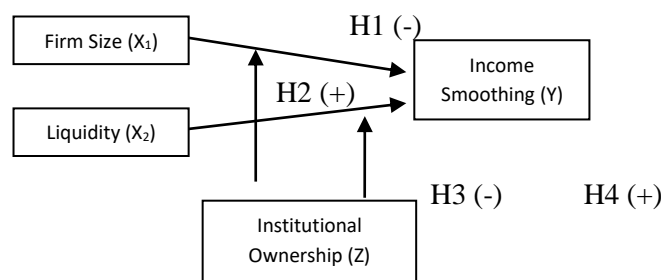


Figure 1. Research Framework

Based on the model above, the following is the formulation of the hypothesis in this study:

H1: Firm size has a negative and significant impact on artificial income smoothing.

H2: Liquidity has a positive and significant impact on artificial income smoothing.

H3: Institutional ownership has a negative impact on the relationship between firm size and artificial income smoothing.

H4: Institutional ownership has a positive impact on the relationship between liquidity and artificial income smoothing by the corporate

### **1.2. Our Contribution**

The purpose of this study is to empirically examine the impact of firm size and liquidity on artificial income smoothing practices and to examine the capability of institutional ownership in moderating the impact of firm size and liquidity on artificial income smoothing practices. The population used are manufacturing companies listed on the Indonesia Stock Exchange for the period 2018 – 2020. The results show that corporate size has a significant negative impact on income smoothing. Meanwhile, liquidity does not have a significant impact on artificial income smoothing. Institutional ownership cannot moderate the relationship between firm size and liquidity on artificial income smoothing.

### **1.3. Paper Structure**

This study uses descriptive research methods and quantitative research methods using secondary data. The research variables, namely artificial income smoothing (Y), firm size (X<sub>1</sub>) and liquidity (X<sub>2</sub>), and institutional ownership were used as moderating variables. The subjects used in this study were all manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2018-2020. The sample selection technique used is purposive sampling, which is based on consideration of certain criteria summarized by the researcher.

Some of the criteria used for sampling are as follows: (1) manufacturing corporates listed on the Indonesia Stock Exchange for the period 2018-2020; (2) manufacturing corporates that present

financial statements using Rupiah; (3) manufacturing companies that did not suffer losses during the 2018-2020 period; (4) manufacturing companies that did not experience an initial public offering (IPO) and delisting for the 2018-2020 period; (4) manufacturing corporates that use the financial year ending on December 31. Based on these criteria, 72 corporates were obtained with a total of 216 samples.

## 2. METHODS

The following table provides a summary of the operationalization of variables in this study:

**Table 1. Variable Operationalization Summary**

Variable	Measurement	Scale
<i>Artificial Income Smoothing (Y)</i>	$IS = \frac{CV \Delta I}{CV \Delta S}$	Nominal
<i>Firm Size (X1)</i>	$FS = \ln \text{Total Asset}$	Ratio
<i>Liquidity (X2)</i>	$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	Ratio
<i>Institutional Ownership (Z)</i>	$IO = \frac{\text{Total Shares Held By Institution}}{\text{Total Outstanding Shares}}$	Ratio

## 3. FINDINGS AND DISCUSSIONS

The following is a table of descriptive statistical test results:

**Table 2. Descriptive Statistical Analysis Results**

	Y	X1	X2	Z
Mean	0.680556	28.75271	5.422892	0.707229
Median	1.000000	28.54083	2.195135	0.783534
Maximum	1.000000	33.49453	303.2813	0.997112
Minimum	0.000000	25.95468	0.652900	0.000485
Std. Dev.	0.467344	1.550485	24.85310	0.234648
Skewness	-0.774482	0.758351	10.56600	-1.346432
Kurtosis	1.599823	3.343037	117.2130	4.588160
Jarque-Bera	39.23808	21.76255	121420.6	87.96388
Probability	0.000000	0.000019	0.000000	0.000000
Sum	147.0000	6210.586	1171.345	152.7614
Sum Sq. Dev.	46.95833	516.8610	132800.4	11.83779
Observations	216	216	216	216

The dependent variable in this study, namely artificial income smoothing (Y) has a maximum value of 1.0000000, a minimum value of 0.000000, a mean value of 0.680556 and a standard deviation value of 0,467344. Firm size (X1) has a maximum value of 33.49453, a minimum value of 25.95468, a mean value of 28.75271 and a standard deviation of 1.50485. Liquidity (X2) has a maximum value of 303.2813, a minimum value of 0.652900, a value of *mean* of 5.422892 and the standard deviation of 24.85310. Institutional ownership (Z) has a maximum value of 0.997112, a minimum value of 0.000485, a mean value of 0.707229 and a standard deviation of 0.234648.

The partial test was conducted to determine the impact of the independent variable on the dependent variable individually or not simultaneously. If the probability value is > 0.05, then the independent variable used cannot affect the dependent variable individually, so the null hypothesis

(H0) is accepted. On the other hand, if the probability value is  $< 0.05$ , then the independent variable used can affect the dependent variable individually, so the null hypothesis (H0) is rejected.

**Table 3. Partial Test Results Before Moderation**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	7.797397	3.000345	2.598834	0.0094
FIRM SIZE	-0.288097	0.101430	-2.840364	0.0045
LIQUIDITY	0.023994	0.052560	0.456504	0.6480
INSTITUTIONAL OWNERSHIP	1.710858	0.639295	2.676165	0.0074

The test results for the firm size variable have a probability value of 0.0045 which is smaller than 5% or 0.05 (Probability  $<$  significant level ( $=0.05$ )). it can be concluded that the first hypothesis (H1) is accepted, where there is an influence between the first independent variable, namely firm size on the dependent variable, namely income smoothing. The results of this test are in line with previous research conducted by Jessica and Sofia Prima Dewi [6] and Flourien Nurul Ch [8] where firm size has a negative and significant impact on artificial income smoothing practices. However, the results of this test are not in line with or contradict the previous research conducted by Yuniar Aemanah and Deannes Isyнуwardhana [9] where firm size has no impact on artificial income smoothing practices.

Firm size is a scale to describe how big or small the corporate is. From the results of the study, it can be concluded that the first hypothesis (H1) is accepted, which means that firm size has an influence on the artificial income smoothing practice of the corporate. This can happen because large companies will get more attention from outsiders, such as investors or the public. This condition makes companies need to be careful in taking actions both in terms of non-financial and financial aspects such as in presenting their financial statements. Companies will be encouraged to improve their management systems, so that corporate managers do not take inappropriate actions, such as artificial income smoothing practices. By tightening the system, investors will have more confidence in the corporate because they are considered to have presented data according to the facts, so that the corporate will also avoid a bad image. Therefore, the larger the size of the corporate, the smaller the opportunity for the corporate to practice income smoothing. On the other hand, the smaller the size of the corporate, the greater the opportunity for the corporate to practice income smoothing.

The test results for the liquidity variable have a probability value of 0.6480 greater than 5% or 0.05 (Probability  $>$  significant level ( $= 0.05$ )). it can be concluded that the second hypothesis (H2) is rejected, where there is no influence between the second independent variable, namely liquidity on the dependent variable, namely income smoothing. The results of this test are in line with previous research conducted by Endarwati [11], where liquidity does not have a positive and significant impact on the practice of income smoothing. However, the results of this test are not in line with or contradict the previous research conducted by Ridwan and Fransiska [10] where liquidity has an influence on the practice of income smoothing.

Liquidity is a ratio that describes the corporate's ability to pay off its obligations. From the research results, it can be concluded that the second hypothesis (H2) is rejected, which means that liquidity has no impact on the corporate's artificial income smoothing practices. This can happen because the corporate has a high level of liquidity, meaning the corporate is able to pay off its obligations on time. This condition shows the corporate has a healthy financial performance, so that the profits generated by the corporate will not be used up to pay off the corporate's obligations that are still pending or have matured. If the value of the resulting profit is stable, then investors do not pay too much attention to the level of corporate liquidity. Therefore, corporate managers do not need to practice income smoothing.

The results of this test are in line with previous research conducted by Endarwati [11] where liquidity does not have a positive and significant impact on the practice of income smoothing. However, the results of this test are not in line with or contradict the previous research conducted by Ridwan and Fransiska [10] where liquidity has an influence on the practice of artificial income smoothing.

**Table 4. Partial Test Results After Moderation**

Variable	Coefficient	Std. Error	z-Statistics	Prob.
C	7.083625	2.936189	2.412524	0.0158
FIRM SIZE	-0.264317	0.101161	-2.612825	0.0090
LIQUIDITY	0.001507	0.022340	0.067470	0.9462
INSTITUTIONAL_	1.822326	0.643382	2.832416	0.0046
OWNERSHIP				
MODERATE_	-0.094135	0.071315	-1.319994	0.1868
FIRM_SIZE				
MODERATE_	1.039452	0.806851	1.288282	0.1976
LIQUIDTY				

The results showed that the partial test value after using moderation on the first independent variable, namely firm size, was 0.1868. (Probability > significant level (= 0.05)). Based on the test results, it can be concluded that the third hypothesis (H3) is rejected, where institutional ownership as a moderating variable is not able to influence the relationship between the first independent variable, namely firm size and the dependent variable, namely artificial income smoothing. Firm size is the size of a corporate, while institutional ownership is the number of shares owned by institutional companies. From the results of the study, it can be concluded that the third hypothesis (H3) is rejected, which means that institutional ownership has no impact on the relationship between firm size and the corporate's artificial income smoothing practice. This could happen because the corporate does not pay too much attention to the high or low institutional ownership, but the corporate pays more attention to the profits generated. Unstable profits can give a negative signal to external parties. This condition provides an opportunity for corporate managers to practice income smoothing. The results of this test are based on previous research conducted by Dudi Pratomo, et al. [12] and Yuniar Aemanah and Deannes Isyнуwardhana [9] which stated that institutional ownership and firm size had no impact on artificial income smoothing. The results of this test are in line with previous research conducted by E. Suhaeni, et al. [13] where institutional ownership cannot moderate the relationship between firm size and income smoothing.

The results showed that the partial test value after using moderation on the second independent variable, namely liquidity, was 0.1976. (Probability > significant level (= 0.05)). it can be concluded that the fourth hypothesis (H4) is rejected, where institutional ownership as a moderating variable is not able to influence the relationship between the second independent variable, namely, liquidity and the dependent variable, namely income smoothing. Liquidity is the corporate's ability to pay off debt, while institutional ownership is the number of shares owned by institutional companies. From the results of the study, it can be concluded that the fourth hypothesis (H4) is rejected, which means that institutional ownership has no impact on the relationship between liquidity and the corporate's artificial income smoothing practice. This can happen because the corporate does not pay too much attention to high or low levels of liquidity. Investors pay more attention to the profits generated by the corporate in assessing financial performance. Profit fluctuations can be a source of concern for investors. Thus, companies are more careful in presenting the resulting profits, which can encourage corporate managers to practice artificial income smoothing. The results of this test are based on previous research conducted by Ridwan and Fransiska [10] which states that liquidity and institutional ownership have an influence on income smoothing. Meanwhile, previous research conducted by Endarwati [11] and Dudi Pratomo, et al. [12] which states that liquidity and institutional ownership have no impact on artificial income smoothing.

#### 4. CONCLUSION

This study aims to examine the impact of firm size and liquidity on artificial income smoothing moderated by institutional ownership in manufacturing companies listed on the Indonesia Stock

Exchange in 2018-2020. The results of this study are firm size has a negative and significant impact on artificial income smoothing, while liquidity has no impact on artificial income smoothing. Institutional ownership cannot moderate the relationship between firm size and liquidity on artificial income smoothing. In this study there are several limitations. First, the research only uses manufacturing companies as research subjects, so the research cannot explain in general terms. Therefore, it is hoped that further research can conduct tests on companies with different sectors such as the property sector, banking, and so on. Second, the period used in the study is relatively short, which is only three years from 2018-2020. Therefore, it is hoped that future research can expand the period used, so that the results obtained can be more accurate. Third, in testing the factors that affect income smoothing, the study only uses two independent variables, namely firm size and liquidity and one moderating variable, namely institutional ownership. The next research can add other independent and moderating variables.

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