

INTELLECTUAL CAPITAL DISCLOSURE AND THE UNDERPRICING OF INDONESIAN INITIAL PUBLIC OFFERINGS

ELOK SRI UTAMI (eloksutami@mail.com)

NURUL ILLIYYIN (nurilin99@gmail.com)

TATANG ARY GUMANTI (tatangag@unej.ac.id)

Department of Management, Faculty Economics and Business, Universitas Jember, Indonesia

ABSTRACT

Studies examining the relationship between the level of intellectual capital and firm values of public companies have been mounting. Yet, very view is devoted on those that are making initial public offering (IPO). For already publicly companies, intellectual capital disclosure can be seen in the annual report. For IPO, the information is embedded in the prospectuses. This study is aimed to analyze the influence of intellectual capital disclosure index (ICDI) and other variables including the prestige of underwriter, financial leverage, return on assets (ROA), and firm size on the extent of underpricing of companies making IPO from 2013 to 2017. The population consist of 125 companies. A total of 79 IPOs satisfied the sample selection criteria. Results using multiple linear regression analysis show ICDI, the prestige of underwriter, and company size have negative and significant effect on the level of underpricing. Whilst, financial leverage and profitability (ROA) are not the explanatory variables for the variation of underpricing.

Keywords: *intellectual capital disclosure index, underwriter, firm size, underpricing, IPOs.*

Penelitian yang menguji hubungan antara tingkat modal intelektual dan nilai-nilai perusahaan-perusahaan publik telah meningkat. Namun demikian, jumlah penelitian yang ada masih sangat dikhususkan untuk menguji perusahaan yang melakukan penawaran umum perdana (*initial public offerings* = IPO). Untuk perusahaan yang sudah terbuka, pengungkapan modal intelektual dapat dilihat dalam laporan tahunan. Untuk IPO, informasi tersebut tersedia di dalam prospektus. Penelitian ini bertujuan untuk menganalisis pengaruh indeks pengungkapan modal intelektual (ICDI) dan variabel-variabel lain termasuk *underwriter prestige*, *financial leverage*, *return on assets*, dan ukuran perusahaan terhadap tingkat *underpricing* perusahaan yang melakukan IPO dari 2013 hingga 2017. Populasi penelitian terdiri atas 125 perusahaan. Sebanyak 79 IPO memenuhi kriteria pemilihan sampel. Hasil analisis menggunakan regresi linier berganda menunjukkan ICDI, *underwriter prestige*, dan ukuran perusahaan berpengaruh negatif dan signifikan terhadap tingkat *underpricing*. Sementara, *financial leverage*, dan profitabilitas (ROA) bukan variabel penjelas untuk variasi *underpricing*.

Kata kunci: indeks pengungkapan modal intelektual, penjamin emisi, ukuran perusahaan, *underpricing*, IPO.

INTRODUCTION

Initial public offering (IPO) is the offer of the company's shares to the public for first time. IPO is conducted with multiple objectives, for example generating funds for expanding the business, paying the debt or improve the company's image. To value an IPO, investors must use various information either internal or external to the company. One of them is non-financial information in the form of intellectual capital (IC). IC becomes an important factor apart

of physical assets in assessing company performance and determining the success of the company.

In Indonesia, IC phenomenon began to emerge since issuance of Statement of Financial Accounting Standard No. 19 (revised 2000) on intangible assets used to produce products, leased to other parties or for administrative purposes (Widarjo, 2011). In line with this issue, a company wishing to go public is getting interested to disclose IC information available in the is-

sued prospectus. IC information relates to financial and non-financial information of the company, such as the value of shares to be offered to the public, underwriters, financial leverage, probability, and size of the company.

Intellectual capital (IC) is an intangible asset that plays a role in improving the competitiveness of enterprises and effective to increase corporate profits. The IC is disclosed by the company to comply with the provisions imposed by stock market governing body. Intellectual capital disclosure (ICD) is available in the prospectus issued by the company. For companies that will conduct an IPO, the information available in the prospectus is still limited. This can lead to information asymmetry between firms and investors, thus making it difficult for investors to assess the issuing company. Thus, the price determination of an IPO is more difficult for most of investors compared to the publicly already companies. Previous studies have shown that many factors are found to be the determinants of ICD in the case of IPO, such as company age (Rimmel, Nielsen and Yosano, 2009) in Japan, underwriter (Rashid, Ibrahim, Othman and See, 2012); Widarjo, Rahmawati, Bandi and Widagdo, 2017) in Malaysia and Indonesia, respectively, ownership retention (Singh and Van der Zahn, 2013) in Singapore, firm size (Alcaniz, Gomez-Bezares and Ugarte, 2015), in Spain, audit committee (Ghorbel and Hela, 2016), in Canada, or firm value (Widarjo, 2011) in Indonesia.

Determination of the price of shares offered to the public at the time of IPO is not easy both for the issuing company and the underwriters. On one side, the company demands the shares to be sold at a high price in order to obtain larger funds with lower proportion of shares. On the other side, underwriters concern with preference of selling the shares at a cheaper price to minimize the risk of unsold shares being offered, since underwriters are in charge of securing the sale and payment of shares, in the case of a full commitment agreement. Selling price at a lower price than the fair price can be the trigger of underpricing. Underpricing phenomenon occurs when

the stock price offered at the IPO, on average, is lower than the price in the secondary market, usually measured in the date of IPO or some days after the IPO date.

Information asymmetry coupled with the ex-ante uncertainty about the issue is often a factor affecting the underpricing level. Prospectus helps investors obtain financial and non-financial information of companies that will assist in making investment decisions and so to reduce information asymmetry. Signaling theory explains how to reduce the asymmetry of information that occurs between firms and external parties, i.e., by reporting ICD (Zulhawati, 2014). ICD of a company can be measured using ICDI, where the measurement aims to find out the extent of ICs information to be disclosed by the company.

This study examines the factors that influence the level of underpricing. The main focus of it is on the intellectual capital variable. Zulhawati (2014) and Prasanti and Putra (2015) find ICDs negatively related to the level of underpricing. That is, the more extensive IC disclosure, the less the degree of information asymmetry, thereby reducing the risk of new issue and as consequence lowering the level of underpricing.

This study is motivated by limited research examining the importance of intellectual capital disclosure in an IPO setting using Indonesian companies. Pricing the IPO is associated with greater uncertainty as the information on the company is limited. Previous studies largely focus on already public companies, Widarjo and Bandi (2018) is the exception. So, this study fills this gap by attempting to provide the evidence in the IPO setting. In addition, this study employs more recent data hoping that the findings could the literature with latest event.

The remainder of the paper is organized as follows. Next section reviews the related literature and develops the hypotheses. Section three presents the research methods. Section four provides the analysis and discussion. Final section concludes the paper.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Review of Related Literature

Intellectual capital (IC) is an intangible asset in the form of knowledge that functions to increase competitiveness and the company value. IC information on company reports that carry out IPOs is still limited so that it will cause information asymmetry. IC is often a way to signal resources to investors (Sari, 2012). Signal is an action taken by the management to inform about the company is doing (Brigham and Houston, 2013). IC information could be used as the signal to reduce the uncertainty and information asymmetry of the company.

Signaling theory suggests that the companies should signal to the external parties, such as the underwriters, investors, creditors, or other users. The signal must show how companies reduce information inequality with outsiders (Gumanti, 2017:250). In the case of IPO, the signal can be in the form of disclosure of the financial statements condition, the underwriter, the price of the stock offer or other information relating to the IC. The signal shall be positive and enable the company to show its advantages.

Previous studies show that the wider the IC disclosure, the lower is the information asymmetry and the lower is the level of underpricing (Welker, 1995; Jog and McConomy, 2003; Guo, Baruch, Nan, 2004; Prasanti and Putra, 2015; Yosano, Christian and Gunnar, 2015). Announcement of changes in stock prices can be a good or bad signal (Zulhawati, 2014). The announcement can be made by revealing an IC containing information related to the stock prices. Thus, greater information about the condition of stock prices has diminished information asymmetry and it is a good signal for the investors. If the signal is good for investors, then there is an increase in stock prices. Thus, IC disclosure gives a positive signal to the external parties about the company.

Intellectual capital disclosure consists of information about IC presented in a prospectus when the company makes

an IPO. The disclosed IC is in the form of information, such as, human resources used by companies, related customers, information systems and technology used, future business prospects, financial statements, risks, and business strategies. The company provides this disclosure to help investors reduce uncertainty and it is useful to assessing the company. These disclosures are proxied using intellectual capital disclosure index (Singh and Van der Zahn, 2007; Zulhawati, 2014; Prasanti and Putra, 2015; Satriawan, 2016).

The signaling theory can explain the condition of underpricing phenomena when a company conducts an IPO because often underpricing occurs due to the presence of information asymmetry. This situation happens because companies have better information than the external parties. So, the signaling theory predicts that the stronger the management intention to reveal the company's IC conditions, the less will be the information asymmetry and the lower is the level of underpricing.

Underpricing is one of the anomalies in the IPO market (Ritter, 1991). Ibbotson and Ritter (1995) state that there are three anomalies related to IPO, namely underpricing, cycles in the level of underpricing, and long-term underperformance. The current study focuses on explaining the factors that determine the level of underpricing.

This study uses the ICD index developed by Bukh, Christian, Peter and Jan (2005). The index consists of 78 items and is classified into six categories, namely employees (27 items), customers (14 items), information technology (5 items), processes (8 items), research and development (9 items), and strategic statements (15 items). A score of 1 is given if the item in each ICD category is found in the prospectus.

Apart from the ICD, this study examine four other variables. These include underwriter prestige, financial leverage, profitability, and size of the company.

Hypotheses Development

Intellectual Capital Disclosure Index and Underpricing Level

Signaling theory explains how to reduce information asymmetry that occurs between the companies and the external parties. One of the signal is the reports on the ICD (Zulhawati, 2014). A company's ICD can be measured using an ICDI, where the measurement aims to find out how much IC the company has dared to disclose.

Previous studies have examined the effect of ICD on various factors. For example, Welker (1995), Jog and McConomy (2003), Guo et al. (2004), and Yosano et al. (2015) find that ICD had a negative effect on the bid-ask spread that reduce the level of underpricing. Zulhawati (2014) and Prasanti and Putra (2015) find that ICD had a negative effect on the level of underpricing. That is, the wider the IC disclosure, the less is the degree of information asymmetry, thereby reducing the risk of underpricing of the company.

Thus, it is clear that the wider the company's IC disclosure, the lower is the potential level of underpricing that occurs during an IPO. Based on this argument, the research hypothesis can be stated as follows:

H1: Intellectual capital disclosure index has a negative effect on the level of underpricing.

Underwriters Prestige and Underpricing Level

Underwriters are the entity that underwrite a company wishing to go public in the capital market. Underwriters with longer experience is assumed to have higher prestige than the younger ones. Thus, higher the reputation of the underwriter will reduce the risk of uncertainty to investors related to stock offering price. This can be used as a signal that highly reputed underwriters will not guarantee low-quality companies (Beatty, 1989; Kristiantari, 2013; Zulhawati, 2014). In other words, highly reputed underwriter prefer to guarantee a highly reputable company.

There are numerous empirical studies supporting the contention that

underwriter quality is negatively related to the level of underpricing. For example, Beatty (1989), Carter and Manaster (1990), Kim, Krinsky and Lee (1993), How, Izan and Monroe (1995), Kusuma (2001), Bowen, Xia and Qiang (2008), Kristiantari (2013), and Zulhawati (2014) support the signaling theory regarding the higher reputation of the underwriter, the lower the risk of underpricing at the time of the IPO, where the underwriter's reputation negatively affects the level of underpricing.

Based on the aforementioned fact, it is clear that the higher the reputation of the underwriter, the lower is the potential level of underpricing of the company during the IPO. Thus, the research hypothesis can be stated as follows:

H2: Underwriters negatively affect the level of underpricing.

Financial Leverage and Underpricing Level

Financial leverage indicates the portion of debt used as a source of funding in the company balance sheet. Higher portion of debt is associated with higher financial risk. Thus, the greater the financial leverage, the greater is the risk of the company. It makes the uncertainty intensifies. Consequently, higher leverage will cause underpricing to increase as a way of compensating the risk borne by the investors (Wijayanto, 2010). This implies that the greater financial leverage will be associated with bad signal for the company and vice versa.

Many empirical findings support the positive effect of leverage on the level of underpricing. For example, Kim et al. (1993), Wijayanto (2010), and Susilowati and Turyanto (2011) report that financial leverage had a positive effect on the level of underpricing of the IPOs. This proves that increasing corporate debt will increase the level of underpricing. This situation is presumed to be a bad signal (bad news) for the investors and the investors shall be compensated for the risk they are facing when buying the IPO.

Based on these findings, it is clear that the greater the financial leverage, the greater is the level of underpricing of the

company during the IPO. Thus, the research hypothesis can be stated as follows:

H3: Financial leverage has a positive effect on the level of underpricing.

Return on Assets and Underpricing Level

Profitability level can be expressed in a number of ways. One of the proxy for profitability is the return on assets (ROA). It measures a company's ability to earn profits from the use of its assets. According to Kim and Ritter (1999), to overcome low valuation of stock prices, companies must signal that they have good performance. Purnanandam and Swaminathan (2002) assert that the more overpricing at the time of the IPO, the worse is the company's performance. This means that companies that are able to provide high profits will have a high risk and it attracts more potential investors, so the level of underpricing is also high.

Previous studies confirm the prediction of positive association between (ROA) and underpricing level. For example, Setianingrum (2005) and Ambrose, Bond and Ooi (2010) find that ROA is positively related to the level of underpricing of companies at the time of the IPO. This means that the high ROA is associated with high risk. as the high increases, the level of underpricing also increases.

Based on these findings, it is clear that the higher the profitability level, measured as ROA, the higher is the potential level of underpricing of the company during the IPO. Thus, the research hypothesis can be stated as follows:

H4: ROA has a positive effect on the level of underpricing.

Firm Size and Underpricing Level

The size of the company, usually measured as the asset value, reflects the ability of the company in surviving from the competition. Larger assets size is associated with larger size of the company. It is usually related to longer existence in the business. Thus, the greater the total assets of the company, the greater is the size of the company. Investors will prefer

to invest their capital in large companies because there is more information about them than about smaller ones. Larger assets size is related to stability in the business and lower risk. thus, a negative association between assets size and the level of risk and thus the level of underpricing.

Many studies have shown that indeed IPO size is negative related to the level of underpricing. For example, Bowen et al. (2008) and Kristiantari (2013) show that firm size negatively affects the level of underpricing of IPOs. These results prove that the larger the size of the company, the lower is the level of undepricing.

Based on these findings, it is clear that the larger the size of the company, the lower is the potential level of undepricing at the time of the IPO. Thus, the research hypothesis can be stated as follows:

H5: Company size has a negative effect on the level of underpricing.

RESEARCH METHODS

The population in this study are all companies making IPOs at Indonesian Stock Exchange over the period of 2013-2017 of which there are 125 companies. Determination of sample is based on purposive sampling method. The sample must meet two criteria, namely company must experience underpricing when making IPO and the company's prospectus can be accessed online.

The study uses multiple linear regression analysis. To test the prediction of each of the independent variable, the following model is employed.

$$UPS_i = b_0 + b_1ICDI_i + b_2UW_i + b_3LEV_i + b_4ROA_i + b_5SIZE_i + e_i$$

where UPS_i is the underpricing level of company i ; b_0 is a constant; b_1 to b_5 are the values of the regression coefficients of independent variables; $ICDI_i$ is intellectual capital disclosure of company i ; UW_i is the underwriter prestige of the company i ; LEV_i is a financial leverage of company i ; ROA_i is return on assets of company i ; $SIZE_i$ is the size of the company i ; e_i is the error term of company i .

The measurements of the variables are explained as follows:

1. The level of underpricing is measured as follows:

$$UPS = [(Closing\ Price\ of\ Shares - Offering\ Price) / Offering\ Price] \times 100\%$$

2. Intellectual capital disclosure index is measured using measurement developed by Bukh et al. (2005) where there are 78 items and it can be expressed as follows:

$$Score = \left(\sum_{i=1}^m d_i / M \right) \times 100\%$$

where d_i is an item. A score of 1 is given if the item is disclosed in the prospectus, and zero otherwise. "M" represents the maximum items (78 items) of disclosure available in the prospectus.

3. Underwriter prestige (UW) is measured by underwriters' rank of under 50 most active IDX members in total trading frequency from 2013-2017. Scale 3 is given to an underwriter consistently ranked 1-25, scale 2 for ranked 26-50, and scale 1 for non-50 most active.
4. Financial leverage is measured as the ratio of total debt over total equity.
5. Return on assets is measured as the ratio of net income after tax over total assets. Size is measured as the natural logarithm of total assets.

ANALYSIS AND DISCUSSION

Table 1 shows that from a total of 125 companies that went public from 2013 to 2107, 79 companies met the sample selection criteria.

As required that the company must experience underpricing when making IPO, the study examines the level of underpricing based on year of offering and its corresponding industrial membership. Table 2 shows the results. Overall, the average level

Table 1.
Sample Selection Process

No	Description	Number of Companies
1	Companies that conduct an IPO in 2013-2017	125
2	Companies that are not underpriced at the IPO date	(27)
3	Company prospectus cannot be accessed online	(19)
	Companies meeting the selection criteria	79

of underpricing is 32.9%. Based on the IPO year, the highest average underpricing rate was 55.0% of year 2017 and the lowest average of 25.7% of year 2013. Looking on the industrial based classification, the highest average underpricing rate was 53.6% found in the mining sector and the lowest average of 2.9% occurred in the agricultural sector. The level of underpricing during the study period is dominated by companies engaged in the mining sector.

The statistical description describes the data characteristics. Table 3 shows the descriptive statistics of the variables examined in the current study.

As shown in Table 3, the average un-

Table 2.
The Level of Underpricing Based on year of IPO and the Industry Sector

	Total IPO	Number of sample	% of Total	Average Underpricing (%)
Panel A - Distribution based on year of IPO				
2013	31	22	71.0	25.4
2014	24	20	83.3	27.7
2015	18	16	88.9	29.2
2016	15	14	93.3	27.2
2017	37	33	89.2	55.0
Total	125	105	84.0	32.9
Panel B - Distribution based on Sector				
1	5	3	60.0	02.9
2	7	6	85.7	53.6
3	12	9	75.0	23.4
4	5	4	80.0	30.7
5	10	10	100.0	25.3
6	16	16	100.0	34.8
7	20	12	60.0	33.6
8	22	19	86.4	39.5
9	28	26	92.9	33.5
Total	125	105	84.0	32.9

Note:

1 (Agricultural), 2 (Mining), 3 (Basic and Chemical Industry), 4 (Miscellaneous Industry), 5 (Consumer Goods Industry), 6 (Property, Real Estate and Building Construction), 7 (Infrastructure, Utilities and Transportation), 8 (Finance), 9 (Trade, Service and Investment).

derpricing rate is 32.9%. The level of underpricing found in the current study is greater than in Singh and Van der Zahn (2007) of 27.1% and smaller than in Kristiantari (2013) and Zulhawati (2014) with an average of 35.4% and 29.7%, respectively. The average of ICDI variable is 41.1%. The finding reported here is greater than that of Singh and Van der Zahn (2007) and Zulhawati (2014) of 22.3% and 34.1%, respectively. The average IC disclosure is less than 50%. This means that the disclosure of IC is still low but it gets improving compared to some previous studies. The average financial leverage is 131.1%. This means on average the total debt of the issuing companies is 1.3 larger than their equity. The finding is smaller than those of Kusuma (2001) and Kristiantari (2013) of 566.1% and 263.9%,

respectively. The average return on assets is 7.4%, which is greater than Kristiantari (2013) of 5.7%. The average asset of the sample is almost IDR877 billion.

Multiple linear regression analysis is used to test the predicted effect of the independent variables on the dependent variable. The results of multiple linear regression analysis are shown in Table 4.

As can be seen in Table 4, ICDI has negative and significant influence on the level of underpricing. This means that the larger the ICDI, the lower the potential level of underpricing. This indicates that ICDI provides good signal for the company because the more extensive the IC disclosures related to the condition of the issuing company, the less is the information asymmetry between the company and the investors. It will, in turn, decrease the extent of underpricing. Extensive disclosure of ICs shows that companies dare to provide information associated with it as it has good quality. In addition, we might argue that good quality companies have less uncertainty resulting in low level of underpricing. The result of this study is consistent with Zulhawati (2014) and Prasanti and Putra (2015) that ICDI is negatively related to the level of underpricing. Yet, it contradicts with Singh and Van der Zahn (2007) who report ICDI has significant positive effect on the level of underpricing.

The quality of underwriter has a negative and significant influence on the level of underpricing. This finding is in line with the prediction. This means that the higher

Table 3.
Descriptive Statistics of Variables

Var	Mean	Max	Min	Std. Dev
UPS (%)	32.9	70.0	0.4	25.1
ICDI (%)	41.1	62.8	18	12.2
UW	1.9	3.0	1.0	0.9
LEV (%)	131.1	1,028.7	-7,585.3	939.4
ROA (%)	7.4	32.0	-27.8	8.9
Ln SIZE	27.5	30.3	23.2	1.4

Note: UPS is the level of underpricing, ICDI is Intellectual Capital Disclosure Index, UW is Underwriter quality, LEV is Financial Leverage, ROA is Return on Assets, SIZE is Company Size.

Table 4.
Results of Regression Analysis (n=78)

Variable	Predicted Sign	Unstandardized	Standardized	t-Stat	F (p-value); Adj. R ²
Constant		0.004		0.107	6.720
ICDI	Negative	-1.052	-0.348	-3.380***	(0.000);
UW	Negative	-0.069	-0.278	-2.692***	27.1%
LEV	Positive	0.003	0.125	1.259	
ROA	Positive	-0.228	-0.079	-0.751	
SIZE	Negative	-0.041	-0.200	-1.889**	

Note: ICDI is Intellectual Capital Disclosure Index, UW is Underwriter quality, LEV is Financial Leverage, ROA is Return on Assets, SIZE is Company Size. The hypothesis test is based on one-tailed test. ***, **, and * mean coefficients are significant at 1%, 5%, and 10% levels, respectively.

the reputation of underwriters, the lower is the level of underpricing. It ascertains that underwriter quality is a good sign of the company as investors believe that highly reputable underwriters would underwrite only quality companies, thereby reducing the risk of uncertainty about public bidding and resulting in a low level of underpricing. The result of this study supports Beatty (1989), Carter and Manaster (1990), Kim et al. (1993), How et al. (1995), Kusuma (2001), Bowen et al. (2008), Kristiantari (2013), and Zulhawati (2014) that the higher reputation of underwriters will minimize the risk of the IPO and thus the level of underpricing.

The study shows that financial leverage has positive but not significant effect on underpricing level. This means that the amount of debt owned by the company does not affect the level of underpricing. Financial leverage is unable to explain that the company ability to pay its debt cannot reflect the risk of the company so it does not relate to the level of underpricing. The result of this study is in line with Singh and Van der Zahn (2007) and Kristiantari (2013). However, it contradicts with Kim et al. (1993), Kusuma (2001), Wijayanto (2010), and Susilowati and Turyanto (2011) who find significant positive effect. To make sure whether the level of financial leverage matters in giving effect on the level of underpricing, we run regressions by dividing the sample into two groups based on median value of financial leverage. However, the finding is qualitatively unchanged. This supports the initial finding that financial leverage is not the determinant for the level of underpricing of the IPOs examined in this study.

Return on assets (ROA) has a negative but insignificant effect on the underpricing level. This means that the size of the profits obtained by the company does not reflect the riskiness of an IPO, so it does not relate to the underpricing level. In other words, profitability is not a signal for the quality of the company making IPO. The result of this study is similar to Susilowati and Turyanto (2011) and Kristiantari (2013). Interestingly, Ambrose et al. (2010) find that ROA has significant positive ef-

fect on underpricing level. In contrast, Kim et al. (1993) and Wijayanto (2010) report significant negative effect. The sensitivity analysis suggests that the level of underpricing is not sensitive to the larger or lower profitability. We divide the sample into two groups based on the median value of ROA and run the regression analysis. However, the results of two regressions are not qualitatively different.

Consistent with predictions, company size is found to have a negative and significant impact on underpricing level. This means the larger the size of the company, the lower is the underpricing level. Based on this, company size can be a good signal for the company because large company will be indicative that it has been able to survive in the competitive world of business so to make investors more interested to invest. The result of this study is consistent with Bowen et al. (2008) and Kristiantari (2013). Not reported here, the result is qualitatively similar when either the gross proceeds from the issue or the end year sales is used as the proxy for firm size.

CONCLUSION

This study aims to examine the factors that affect the level of underpricing of companies making IPO from 2013 to 2017 at Indonesian Stock Exchange. It finds that Intellectual Capital Disclosure Index (ICDI) has a significant negative effect on the level of underpricing. The quality of underwriter has a significant negative effect. Financial leverage has positive and but insignificant effect on underpricing level. ROA has negative but insignificant effect on level of underpricing. Company size has negative and significant effect on the level of underpricing. Overall, the study finds that three independent variables have significant effect on the level of underpricing, the ICDI, the quality of underwriter, and the size of the company.

LIMITATIONS AND SUGGESTIONS.

This study has several limitations that can be used as a reference for further research development. Firstly, this research focuses only on groups of companies experiencing

underpricing, so it can only know the influence of ICDI, underwriter, financial leverage, ROA, and firm size on the level of underpricing of IPOs. Subsequent research is expected to not only examine on companies that experience underpricing, but also on companies that experience overpricing. Second, the study period is relatively short so that the sample studied is not too much. The results can be different and can be analyzed better if the study period is longer. Further research is expected to extend the period of study so that later the number of sample members also increases so that more represent the level of underpricing at the time of IPO. Third, this study is conducted on all IPO firms and does not examine underpricing level analysis on each sector, so this study does not specifically analyze the level of underpricing in more detail. Subsequent research can also focus more on a group of companies with few ICD criteria, uses high reputable underwriters, has small financial leverage portions, and exhibits small firm size in accordance with the results of sensitivity analysis reported this study.

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