



ANALYSIS OF IPO UNDERPRICING FLUCTUATION: EMPIRICAL STUDY IN INDONESIA STOCK EXCHANGE

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Abstract

This study attempts to analyze fluctuation of IPO underpricing in Indonesia market from 1990-2010. This research test three proposed hypotheses: changing risk composition, changing incentives alignment, and changing issuers' objective function. The researcher also add other variables as potential explanation for underpricing fluctuation: introduction of book building mechanism in year 2000. industry (finance and non-finance), market return, and privatization (IPO of state owned companies and non-state owned companies). The analysis shows that market return and the introduction of book building mechanism have positive impact on underpricing. However, when both variables in regression equation are included, the effect of market return disappears, while the effect of book building mechanism persists. This finding seems to support Book Building advantage arguments and changing issuers' objective functions hypothesis, in the sense that the introduction of book building mechanism changes objective function of parties involved. Final result is a change in IPO under pricing.

ANALISIS FLUKTUASI IPO UNDERPRICING: STUDI EMPIRIS DI BURSA EFEK INDONESIA

Abstrak

Artikel ini menganalisis fluktuasi underpricing dari IPO (initial public offering atau penawaran saham baru) di Bursa Efek Indonesia, dari tahun 1990-2010. Artikel ini menguji tiga hipotesis: perubahan komposisi risiko (changing risk composition), perubahan penyatuan insentif (changing incentives alignment), dan perubahan fungsi tujuan emiten (changing issuers' objective function). Peneliti juga menambahkan variabel bebas lain yang mungkin bisa menjelaskan fluktuasi underpricing dari IPO: penggunaan metode book building pada tahun 2000. industry (keuangan dan non-keuangan), return pasar, dan privatisasi (IPO BUMN, Badan Usaha Milik Negara, dan perusahaan swasta). Analisis menunjukkan bahwa return pasar dan metode book building mempunyai pengaruh positif pada underpricing dari IPO. Tetapi, ketika peneliti memasukkan kedua variabel tersebut ke dalam persamaan regresi, pengaruh return pasar menghilang, sementara pengaruh metode book building bertahan. Temuan ini mendukung argument keunggulan metode book building untuk IPO dan hipotesis perubahan fungsi tujuan emiten, dalam arti, penggunaan metode book building merubah fungsi tujuan pihak-pihak yang terlibat dalam proses IPO. Hasil akhir adalah perubahan underpricing dari IPO.

JEL Classification: G3, G32

INTRODUCTION

Initial public offering (IPO) is an important means of financing for companies around the world. In Indonesia market, IPO market has been growing especially since year 1989. In 1990, Jakarta Stock Exchange had around 60 listed companies. Currently, as of year 2013, the number of listed companies in Indonesia Stock Exchange grows to 485 companies. Market capitalization of Indonesia Stock Market as of the end of year 2013 is around Rp4,000 trillion. With the exchange rate of around Rp11,000/\$, the market capitalization number is translated into around \$427 billion. Compared to other markets, ratio of market capitalization to GDP for Indonesia Stock Market is still relatively low. The ratio for Indonesia Stock Market is around 50%, which is still lower compared to the number from other markets (Singapore around 300%, Malaysia around 170%, Thailand around 70%). Thus Indonesia Stock Market still offers potential for companies that need financing and investors as well.

Despite its potential, Indonesia Stock Market 'suffers' IPO underpricing, a common phenomenon practically found in stock markets around the world. IPO underpricing a phenomenon in which IPO prices in the aftermarket (generally in day one) is higher than IPO offer price. The IPO underpricing is generally considered 'a loss' for issuing companies, since the companies forego opportunities to obtain larger amount of fund. Husnan et al. (2014) report IPO underpricing of around 23% in Indonesia Stock Exchange. Ljungqvist (2007) reports IPO underpricing in Europe markets that vary from 5% in Luxembourg to around 60% in Poland market. He also reports IPO underpricing in all Asia-Pacific and Latin America markets, with the largest one is from Malaysia (underpricing of around 90%).

Various theories have been advanced to explain IPO underpricing. Ljungqvist (2007) summarizes various theories into three main theories: asymmetric model, institutional theory, ownership and control, and behavior finance. None of the theories that have been advanced

can provide full explanation for the IPO underpricing. Empirical works seems to document evidence of asymmetric information in IPO markets (Ljungqvist, 2007; Wijayanto, 2010; Safitri, 2013), such as the bulk of underpricing related gains go to informed investors, uncertainty on firm's valuation increases underpricing, informed investors influence investment banks decision on IPO offer prices. However, these works could not explain time-series variation in IPO underpricing. Butler et al. (2014) argues that inconsistencies of findings on IPO underpricing may be caused by different control variables used in the IPO research. They then develop a set of 'standard' control variables that should be used as a benchmark in IPO research.

IPO underpricing tends to fluctuate significantly. For example, in US market, underpricing averages around 21% in the 960s, 12 % in the 1970s, 16% in the 1980s, 21% in the 1990s, and 40% in early 2000s (Ljungqvist, 2007 & Gao et al., 2013). Internet bubble period in second part of 1990s and early 2000s particularly provides extreme fluctuation in IPO underpricing. IPO underpricing could go up to around 70% in this period. This number is more than double or even triple than that in previous periods (Loughran & Ritter, 2004).

In Indonesia market, IPO underpricing tends to also fluctuate significantly. While several papers attempt to explain underpricing fluctuation in US market, to the best of my knowledge, there has been no paper that attempts to explain time-series IPO underpricing in Indonesia market. This paper attempts to fill this void. We analyze IPO underpricing in Indonesia market from year 1990 to 2010. Although this period is relatively short compared to that in developed market, this period practically captures complete period in Indonesia market until fairly recent episode.

Thus, we believe that the period we use covers a relatively complete cycle of Indonesia market. The spirit of this paper is probably close to Chambers and Dimson (2009) that study IPO in the long run for UK market (practically very long run, from 1917-1986).

Using framework of analysis developed by Loughran and Ritter (2004), this analysis does not support for alignment of incentive hypothesis (Ljungqvist & Wilhelm, 2003), changing risk profile (Ritter, 1984), changing of objective function of issuers. However, I find that change in regulation affects degree of IPO underpricing. More specifically, underpricing is higher in the period where book building mechanism is used. This finding seems to support Benveniste and Spindt (1989), and partially support that of by Loughran and Ritter (2004). Loughran and Ritter (2004), argue that changes in IPO mechanism and practices affect IPO underpricing.

This paper contributes to extensive literature on IPO by providing evidence on emerging market, using fairly long period that covers relatively a complete cycle of IPO. While the more recent IPO episode in USA is driven by technology stocks, the Indonesia experience seems to have different underlying factors. I do not see technology trend in more recent period in Indonesia's IPO history. Thus, this paper attempts to investigate the validity of IPO findings in emerging markets.

We find that IPO pricing methods (book building versus fixed price methods) are the strongest variable in explaining IPO fluctuation overtime in Indonesia market. Market return and underwriters' reputation are second strongest variables in explaining IPO underpricing. This finding does not seem to support asymmetric information, changing of risk composition, and realignment of incentive hypotheses. Rather, this finding seems to support changing of issuers' objective function. The change of IPO pricing method results in changing of relationship among parties involved in IPO (issuers, underwriters, and investors). The changes of relationship are reflected in the changes of IPO underpricing.

Hypothesis Development

Following Loughran and Ritter (2004), I attempt to test three non-mutually exclusive competing hypotheses to explain fluctuation of IPO underpricing in Indonesia market: the changing risk composition hypothesis, the

realignment of incentives hypothesis, and the changing issuer objective function hypothesis. Changing risk composition argues that riskier IPO should be compensated by larger underpricing than less risky IPO.

Compensation for risk is necessary to induce investors to participate in IPO market. If proportion of risky IPO increases, then IPO underpricing in that period should also increase (Ritter, 1984). Sources of risk may come from business side or valuation side. The realignment of incentives hypothesis argues that if decision makers of issuing firms do not have interest to increase offer price, then underpricing will be larger (Ljungqvist & Wilhelm, 2003). The decision makers will bargain for higher offer price if they have enough stakes in the IPO. For example, if CEO ownership is larger, then the CEO may want to reduce IPO underpricing.

The third hypothesis, which is the changing issuers' objective function, is introduced by Loughran and Ritter (2004). According to this hypothesis, larger underpricing in late 1990s and early 2000s results from changes in issuers' objectives. Several factors cause the changes. First, changes in perceived importance of analyst coverage may increase IPO underpricing. Issuing firms in need of analyst coverage may be willing to accept higher IPO underpricing. Since larger underwriters, and better reputation, have more resources to produce larger analyst coverage, then we can predict that there is a positive relationship between underwriters' reputation and IPO underpricing. Krigman et al. (2001) show that influential analyst coverage is an important reason to choose underwriters.

Second, corruption hypothesis may also change issuers' objective function. Under this explanation, decision makers of issuing firms are willing to accept IPO underpricing, since they can also profit from IPO underpricing. Thus, if the decision makers hold shares of issuing firms or will be given the shares, then the decision makers can profit from buying at lower prices and selling at higher prices. In this situation, issuing firms tend to choose underwriters who can give large underpricing to the decision makers.

We extend existing literature by showing that change in IPO regulation affects underpricing. Specifically, we compare underpricing in the after and before book building mechanism introduced in Indonesia Stock Exchange. On October 2000, Jakarta Stock Exchange introduces book building method for IPO process. We find that underpricing is significantly higher in the period of book building method. Our finding seems to provide direct support for Benveniste and Spindt (1989), and takes spirit of Loughran and Ritter (2004). Thus, changes in the regulation may affect objective functions of parties related to IPO; not only issuers' objective function which gets affected by changes in the regulation.

METHOD

We collect 246 IPOs in Indonesia market from year 1990-2010. We delete IPOs with incomplete data. While modern Indonesia Stock Market started in 1977, practically the market started to pick up in the end of 1980s when Indonesia government introduced financial de-

regulation. The deregulation consists of three important policies: (1) simplify IPO procedure, (2) impose tax on interest income, making profit from stock market becomes more attractive relative to interest income, and (3) allow foreign investors to buy public companies up to 49% of outstanding shares. Year 1990 is practically a starting year for modern Indonesia Stock Market. Table 1 reports definitions of variables used in this research.

Table 2 reports distribution of yearly initial return, money left on the Table and number of IPOs from year 1990-2010. Although there is a positive initial return on average, the Table shows that IPO underpricing fluctuates from year to year. Even in some years, there is several negative underpricing (or overpricing). Underpricing seems to increase in the second part of my sample. Recall that Jakarta Stock Exchange started to apply book building method on October 2000.

Column (3) of the Table presents money left on the Table in current prices, while column (4) presents money left on the Table using 1990 prices. In column (4), I deflate the

Table 1. Definition of Variables

Variables	Definition
Initial Return	$(\text{Closing price in day one} - \text{Offer Price}) / \text{Offer Price}$
Market return	Return of Jakarta Stock Composite Index at the month of IPO
IPO percentage	Percentage of shares sold in the IPO (total shares offered to public divided by total outstanding shares).
Age	Age is duration from their establishment to the year of going public. Age is in year.
Underwriter reputation	Underwriter reputation is calculated as follows. First we collect total values of IPO underwritten by each underwriter. Then we calculate mean of total IPO values. Underwriters with total IPO values higher during our observation than the mean is assigned a dummy of 1, other underwriters are assigned the value of 0.
Industry	Industry has a value of 1 for finance companies (bank, insurance, and other finance companies), and 0 otherwise
Ln Total Asser Privatization	Ln total asset is natural logarithm of total assets as. Privatization has a value of 1 for State owned Enterprises IPO and 0 otherwise.
Book Building	Book Building is a dummy variable. It has a value of 1 for IPO at the book building period (after October 27, 2000), and 0 otherwise.

Table 2. Yearly Distribution of Initial Return, Money Left on the Table, and Number of IPO (1990-2010)

Year	Initial Return	Money Left On the Table (Rp)	Money Left on the Table (Rp, 1990 constant)	Number of IPO
1990	0.11942	707,121,837,500	707,121,837,500	44
1991	-0.02594	-71,986,250.000	-65,728,862,308	11
1992	0.06143	21,865,000.000	19,024,576,011	10
1993	0.20233	347,205,000.000	275,212,282,057	8
1994	0.05501	171,665,593,750	124,561,379,492	14
1995	-0.02228	14,941,600.000	9,979,470.488	13
1996	0.09618	485,415,300.000	304,506,522,244	11
1997	0.15454	290.332,600.000	164,006,242,520	17
1998	-0.08977	-12,625,000.000	-4,014,945,426	3
1999	0.67143	84,250.000.000	26,264,880.043	2
2000	-0.05	-2,500.000.000	-712,732,780	1
2001	0.8672	391,685,000.000	99,215,189,328	21
2002	0.2992	122,642,500.000	28,233,915,279	17
2003	0.07188	1,027,116,300.000	225,067,267,009	6
2004	0.28382	341,165,880.000	70.261,380.545	11
2005	0.14684	462,700.000.000	81,368,555,553	7
2006	0.39072	725,372,965,000	119,663,380.491	9
2007	0.4346	960.120.840.000	148,596,758,750	10
2008	0.31102	8,054,362,333,500	1,122,423,972,921	16
2009	0.06255	120.824,730.000	16,382,228,943	10
2010	0.16962	1,312,514,010.000	166,379,460.302	5

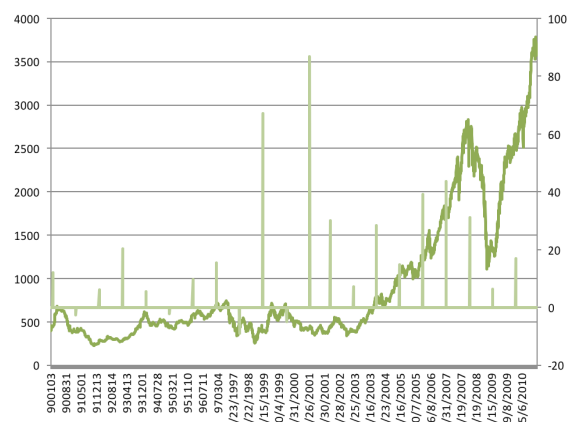
amount in column (3) using inflation rates from 1990-2010. Annual inflation rate during this period averages around 11%. Last column reports number of IPOs every year from 1990-2010 in my sample.

The Table above reports annual distribution of initial return, money left on the Table, and number of IPO from year 1990-2010. Money left on the Table is calculated as (closing price at day one – offer price) * number of shares in the IPO. Money left on the Table 2 is in Rupiah (Indonesia currency).

RESULT AND DISCUSSION

What variables explain time-series fluctuation of IPO underpricing in Indonesia market? To gain insight to the answers of that question, this study attempts to relate the level of market index to IPO activities: yearly IPO initial return,

yearly amount of fund raised from IPO, and yearly number of IPO. This research used Jakarta Composite Stock Index as a measure of market level. Figures 1, 2, and 3 show these relationships.

**Figure 1.** Jakarta Stock Composite Index level and IPO Underpricing (1990-2010)

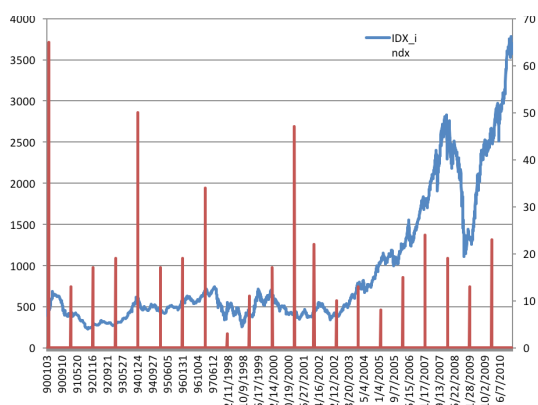


Figure 2. Jakarta Stock Composite Index level and Yearly Number of IPOs (1990-2010)

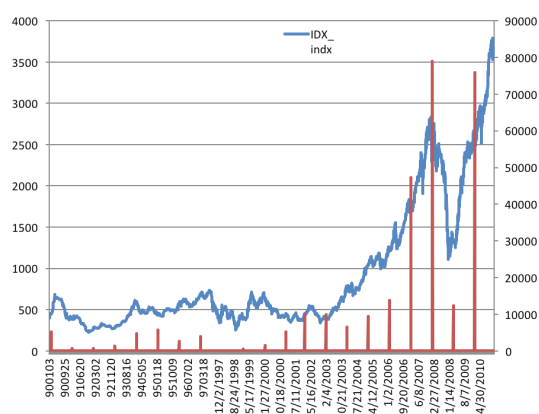


Figure 3. Jakarta Stock Composite Index level and Yearly Number of IPOs (1990-2010)

JSCI increases significantly from year 1990 to 2010. In year 1990, index level is at around 400, and increases almost 7 times in year 2010, to become about 3,500. The index has its up and down. For example, before financial crisis hits Indonesia in 1997, the index stands at around 3,750. When the crisis hits Indonesia, the index drops to almost half at around 1,200. Then the index moves up and keeps an uptrend until year 2010. Visual inspection does not seem to detect any relationship between index level and underpricing level.

In Figure 2, we attempt to evaluate whether there is a hot and cold IPO phenomenon in Indonesia; whether IPO issuance concentrates in certain periods (good markets). There seems a positive relationship between number of IPO

issuance and the index level, although this study does not test formally this proposition. Figure 3 has similar spirit to Figure 2 by showing relationship between index level and the amount of fund raised from IPO every year from year 1990-2010. In recent years, the amount of fund raised from IPO seems to explode. As of the end of year 2014, market capitalization for stock market is around Rp 4.700 trillion, which is close to total outstanding loan provided by Indonesia banks. Total amount of bank loan is around Rp 4.900 trillion.

This research attempts to investigate more formally various hypotheses in this section. As explained before, this study attempts to test three main hypotheses: changing risk composition, alignment of incentives, and changing issuers' objective function. We add specifically one variable, which is book building mechanism for IPO. This study specifies the following regression equation to investigate this issue:

$$\text{Initial return}_{(i)} = \beta_0 + \beta_1 \text{Market Return}_{(i)} + \beta_2 \text{IPO percentage}_{(i)} + \beta_3 \text{Age}_{(i)} + \beta_4 \text{Underwriter Reputation}_{(i)} + \beta_5 \text{Industry}_{(i)} + \beta_6 \text{Ln of Total Asset}_{(i)} + \beta_7 \text{Book Building}_{(i)} + e_{(i)} \dots (1)$$

This study estimates equation above using Ordinary Least Square (OLS). Although the data cover a long period of estimation, the data are actually cross-sectional ones. Each observation reflects different company. Instead of time-series estimation, we believe that OLS estimation is appropriate in this case.

This research utilizes age and total assets as proxies for changing risk composition hypothesis. The basic argument for this hypothesis is that riskier IPO will be compensated by larger underpricing. We can expect that larger and older companies to have lower risk. Hence, we can expect negative relationship between age and underpricing, and negative relationship between total asset and underpricing as well. This study uses percentage of shares offered from IPO to total outstanding shares as proxy for alignment of incentives hypothesis. On average, Indonesia public companies sell around

30% of total outstanding shares. We can expect that larger percentage drives higher alignment; hence we can expect to have a negative relationship between IPO percentage and underpricing. We use underwriters' reputation as a proxy for changing issuers' objective function. One source that changes issuers' objective function is analyst coverage. The need for larger and better analyst coverage leads the issuers to 'give up' underpricing. Since larger underwriters are more capable of producing larger analyst coverage, we can expect to have a positive relationship between underwriters' reputation and underpricing. However we do not test second source of changing issuers' objective function which is corruption hypothesis. We do not have enough data to test this hypothesis.

We add other variables as potential explanation for IPO underpricing: industry, privatization, and book building mechanism. For industry, we use a dummy variable with the value of 1 for financial IPO and 0 otherwise. Finance industry is heavily regulated compared to other industry. Heavy regulation can be expected to reduce asymmetry. Asymmetric model of IPO suggests negative relationship between level of asymmetric information and IPO underpricing; hence we can expect that IPO of finance companies have lower underpricing. Lowry et al. (2010) find that information asymmetry explains time-series fluctuation of IPO underpricing. Privatization takes a value of 1 for IPOs of state owned companies (SEO), and 0 otherwise.

We can expect that state owned companies have lower information asymmetry; hence we can expect that IPOs of SEOs have lower underpricing.

On October 2000. Jakarta Stock Exchange introduces book building mechanism for the IPOs. Benveniste and Spindt (1989) argue that underpricing is a necessary compensation for informed investors. In book building method, underwriters attempt to gauge demand function for the IPOs. They ask informed investors to reveal their preferences for IPO. Underwriters compensate this service by providing IPO underpricing. We can expect to have higher underpricing in book building period.

Table 3 provides descriptive statistics of variables of interest. Initial return in our sample averages around 22%. Percentage of shares offered in IPO is around 24%, which is 30% of the average of shares sold to public investors. Mean of company age is around 16 years. Around 63% of IPOs in our sample is underwritten by reputable underwriters. Number of IPO of finance companies is around 17%. IPO form book building period is about 45% of my total sample.

Table 3 presents descriptive statistics of variables used in this paper. Initial Return is calculated as (Closing price in day one – Offer Price) / Offer Price. Market return is monthly return of Jakarta Stock Composite Index at the month of IPO. IPO percentage is the percentage of shares sold in the IPO (total shares offered to public divided by total outstanding shares).

Table 3. Descriptive Statistics of Variables of Interest

Variable	Mean	Median	Standard Deviation	Minimum	Maximum	N
Initial Return	0.2219	0.0769	0.4030	-0.7414	2.7083	246
Market Return	1.7618	1.8386	8.2415	-31.5152	20.9679	246
IPO percentage	0.2414	0.2321	0.1008	0.0100	0.7339	246
Age (year)	16.0610	13.0000	12.7791	1.0000	108.0000	246
Underwriter Reputation	0.6301	1.0000	0.4838	0.0000	1.0000	246
Industry	0.1707	0.0000	0.3770	0.0000	1.0000	246
Ln of Total Asset	25.9967	25.7270	1.8564	22.0262	33.1658	246
Book Building	0.4553	0.0000	0.4990	0.0000	1.0000	246

Age is the age of IPO companies, calculated from their establishment. Underwriter reputation is calculated as follows. First we collect total values of IPO underwritten by each underwriter. Then we calculate mean of total IPO values. Underwriters with total IPO values higher than the mean is assigned a dummy of 1, other underwriters are assigned the value of 0. Industry has a value of 1 for finance companies (bank, insurance, and other finance companies), and 0 otherwise. Ln total asset is natural logarithm of total assets. Book Building has a value of 1 for IPO at the book building period (after October 27, 2000), and 0 otherwise.

Table 4 reports regression results. In column (2) to (9), this study runs regression using single explanatory variable. In last column, we include all variables of interest in the equation. In column (2), market return positively affects initial return. In column (6), we find that IPOs with higher underwriters' reputation have less underpricing. In column (8), IPOs in book building period have higher underpricing. All other variables do not have significant impact on IPO underpricing. In last column, it includes all variables in the equation to investigate which are the strongest explanatory variables. Column

(9) shows that IPO methods (book building versus fixed price methods) are strongest explanatory variable in explaining fluctuation of IPO underpricing. Book building has a positive and significant coefficient. This finding is consistent with Hanafi (2016). Book building stands strongly against all other hypothesized variables. The significance of market return and underwriters' reputation variables disappear when book building variable presents.

Table 4 presents results of regression analysis of various variables that affect initial return. Initial Return is calculated as (Closing price in day one – Offer Price) / Offer Price. Market return is monthly return of Jakarta Stock Composite Index at the month of IPO. IPO percentage is the percentage of shares sold in the IPO (total shares offered to public divided by total outstanding shares). Age is the age of IPO companies, calculated from their establishment. Underwriter reputation is calculated as follows. First we collect total values of IPO underwritten by each underwriter. Then we calculate mean of total IPO values. Underwriters with total IPO values higher than the mean is assigned a dummy of 1, other underwriters are assigned the value of 0. Industry has a value of 1 for finance companies (bank,

Table 4. Ordinary Least Square Regression Results of Various Variables on Initial Return

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept		0.2110 (<0.0001)	0.1476 (0.0271)	0.2322 (<0.0001)	0.5733 (0.1126)	0.2759 (<0.0001)	0.2154 (<0.0001)	0.2170 (<0.0001)	0.0877 (0.0078)	1.0437 (0.0162)
Market Return		0.0062 (0.0481)	0.0059 (0.0572)	0.0063 (0.0450)	0.0060 (0.0542)	0.0066 (0.0342)	0.0062 (0.0482)	0.0060 (0.0553)	0.0046 (0.1218)	0.0039 (0.1880)
IPO percentage			0.2642 (0.3002)							-0.0499 (0.8393)
Age (year)				-0.0013 (0.5091)						-0.0004 (0.8047)
Ln of Total Asset					-0.0139 (0.3140)					-0.0363 (0.0334)
Underwriter Reputation						-0.1041 (0.0494)				-0.0040 (0.9434)
Industry							-0.0261 (0.7024)			-0.0718 (0.2820)
Privatization								-0.0876 (0.3996)		-0.0238 (0.8268)
Book Building									0.2770 (<0.0001)	0.3316 (<0.0001)
Adj R-sqr		0.0119	0.0122	0.0177	0.0120	0.0315	0.0084	0.0188	0.1253	0.1409
F-value		3.95 (0.0481)	2.51 (0.0831)	2.19 (0.1144)	2.48 (0.012)	3.95 (0.0206)	2.04 (0.1322)	2.33 (0.0997)	18.55 (<0.0001)	6.02 (<0.0001)
N		246	246	246	246	246	246	246	246	246

insurance, and other finance companies), and 0 otherwise. Ln total asset is natural logarithm of total assets. Privatization has a value of 1 for State owned Enterprises IPO and 0 otherwise. Book Building has a value of 1 for IPO at the book building period (after October 27, 2000), and 0 otherwise.

Result of this paper does not seem to support information asymmetry hypothesis (Lowry et al., 2010), alignment of incentive hypothesis (Ljungqvist & Wilhelm, 2003), changing risk profile (Ritter, 1984). Instead, the finding in this paper provides stronger support hypothesis of changing of objective function of issuers (Loughran & Ritter, 2004). The change of IPO pricing methods (from fixed price to book building) affects complex relationship among issuers, underwriters, and investors. For example, Sherman (2005) argues that in book building method, underpricing is a compensation for informed investors to reveal information on IPO. In book building, underwriters solicit information from informed information. Underwriters then provide underpricing to informed investors to compensate for informed investors for their efforts. This kind of relationship does not exist in fixed price method. Clearly, changes in pricing methods result in IPO pricing changes.

CONCLUSION AND RECOMMENDATION

This paper attempts to analyze underpricing fluctuation in Indonesia market. This study uses three hypotheses that may explain underpricing fluctuation: changing risk composition, changing alignment of incentives, and changing issuers' objective function. We add other variables: market return, industry, privatization, and book building mechanism. The analysis shows that market return affects positively underpricing. Thus, underpricing increases when market return is higher. When we include book building mechanism, the effect of market return disappears. Book building mechanism has significant positive effect on IPO underpricing. This influence is robust even when we include all hypothesized variables.

This finding seems to support Benveniste and Spindt (1989) model. The model basically argues that underpricing is necessary to induce informed investors to reveal their preference for the IPO. This result also supports Loughran and Ritter (2004) in the sense that changes in regulation (introduction of book building mechanism, in this case) affects objective function of the parties involved in the IPO market. Thus, not only issuers' objective function that has been affected, but also other parties' objective function (for example underwriters in this case) is affected. The final result is a change in IPO underpricing. Next research could examine closely the effect of book building method on the underpricing.

From policy point of view, the finding of the effect of IPO pricing methods on IPO underpricing is probably the most interesting. The choice of IPO methods is still controversial. While some authors argue that book building is superior to other methods (for example see Sherman, 2004), and Indonesia Stock Exchange adopts this method, disadvantages of book building still presents. For example, in book building method, retail or individual investors tend to receive less allocation for good IPOs. Thus individual investors are put at disadvantage in book building method. My findings highlight the importance for designing optimal IPO pricing method. We leave this issue further.

REFERENCES

- Benveniste, L. M & Spindt, P. A. 1989. How Investment Bankers Determine the Offer Price and Allocation of New Issues. *Journal of Financial Economics*. 24: 343-361.
- Butler, A, W., Keefe, M. O & Kieschnick, R. 2014. Robust Determinants of IPO Underpricing and Their Implications for IPO Research. *Journal of Corporate Finance*. 27: 367-383.
- Chambers, D & Dimson, E. 2009. IPO Underpricing Over the Very Long. *Journal of Finance*. 64: 1407-1443.
- Gao, X., Ritter, J & Zhu, Z. 2013. Where Have All the IPOs Gone?. *Journal of Financial and Quantitative Analysis*. 48: 1663-1692.

- Hanafi, M. M. 2016. Fixed Price and Book Building Method under Exogenous Environment: Evidence from Indonesia Stock Market. *Working Paper*. Faculty of Economics and Business, Universitas Gadjah Mada.
- Husnan, S., Hanafi, M. M & Munandar, M. 2015. Price Stabilization and IPO Underpricing: Empirical Study in Indonesian Stock Exchange. *Journal of Indonesian Economy and Business*. 29: 129-141.
- Krigman, L., Shaw, W & Womack, K. 2001. Why do Firms Switch Underwriters?. *Journal of Financial Economics*. 60: 245-284.
- Ljungqvist, A. P. 2007. IPO Underpricing, in B.E. Eckbo, ed. *Handbook of Corporate Finance: Empirical Corporate Finance*. (Elsevier, Amsterdam).
- Ljungqvist, A. P & Wilhelm, J. 2003. IPO Pricing in the Dot-com Bubble. *Journal of Finance*. 58: 723-752.
- Loughran, T & Ritter, J. R. 2004. Why has IPO Underpricing Changed Over Time?. *Financial Management*. 33: 5-37.
- Lowry, M., Officer, M. S & Schwert, G. W. 2010. The Variability of IPO Initial Returns. *Journal of Finance*. 65: 425-465.
- Ritter, J. R. 1984. Signaling and the Valuation of Unseasoned New Issues: A Comment. *The Journal of Finance*. 39 (4): 1231-1237.
- Sherman, A. E. 2005. Global Trends in IPO Methods: Book Building vs. Auctions. *Journal of Financial Economics*. 78: 615-649.
- Safitri, T. A. 2013. Asimetri Informasi dan Underpricing. *Jurnal Dinamika Manajemen*. 4 (1): 1-9.
- Wijayanto, A. 2010. Analisis Pengaruh ROA, EPS, Financial Leverage, Proceed terhadap Initial Return. *Jurnal Dinamika Manajemen*. 1(1): 68-78.