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# A COMPARISON OF UNDERWRITER REPUTATION MEASUREMENT METHODS IN EXPLAINING IPO STOCK PERFORMANCE

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**ABSTRAK**

Penelitian ini ditujukan untuk membandingkan metode pengukuran reputasi *underwriter* dalam menjelaskan kinerja saham perdana (IPO atau *Initial Public Offering*). Reputasi diukur berdasarkan frekuensi dan nilai IPO dari *underwriter*. Reputasi *underwriter* selanjutnya dibuat peringkatnya dan dibagi menjadi kuartil. Pengaruh reputasi *underwriter* pada kinerja saham perdana dilakukan dengan menggunakan metode regresi *cross-section*. Variabel terikat adalah kinerja saham IPO. Variabel bebas adalah empat kategori reputasi *underwriter* yang diwakili oleh tiga tingkat variabel *dummy*. Kami menemukan kinerja saham IPO hanya dapat dijelaskan oleh metode pengukuran reputasi *underwriter* berdasarkan frekuensi. Temuan ini menunjukkan frekuensi IPO yang lebih tinggi membantu *underwriter* untuk memahami kondisi pasar dengan lebih baik sehingga dapat memberikan valuasi IPO yang lebih baik. Perusahaan yang ingin menurunkan biaya IPO *underpricing* sebaiknya memilih *underwriter* dengan frekuensi IPO yang tinggi.

Kata Kunci: *Initial Public Offering* (IPO), kinerja IPO, reputasi *underwriter*, metode pengukuran reputasi *underwriter*.

**ABSTRACT**

*This study objective compares the underwriter reputation, measured by a different method, in explaining Initial Public Offering (IPO) performance. The reputation is measured based on underwriter IPO frequency and deal value. The underwriter's reputation is then ranked and categorized into quartiles. We use cross-section regression methods to test the effect of different underwriter reputation measurement methods on IPO performance. The dependent variable is short-term and long-term IPO performance. The independent variable is four underwriter reputation categories represented by three-level dummy variables. We found that only underwriter reputation measured by IPO frequency can explain IPO performance. The findings suggest IPO frequency help underwriter understand the market condition and value IPO more accurately. Firms that want to reduce the cost of IPO underpricing should choose underwriters with a higher IPO frequency.*

*Keywords: Initial Public Offering (IPO), IPO performance, underwriter reputation, underwriter reputation measurement methods.*

## 1. Introduction

Interest in finding variables that explain the source of the IPO stock performance remains strong (Ibbotson, 1975; Banerjee, Dai, and Shrestha, 2011). IPO stock performance can be divided into short-term performance, i.e., first days, five days, thirty days, and long-term performance, i.e., one year and three years. Research shows that IPO stock provided a short-term positive abnormal return. Research on the magnitude of IPO stock performance in Asian countries is relatively different from the United States and European countries. IPO stock performance in Asian countries provides a higher positive abnormal return. Loughran, Ritter, and Rydqvist (1994) found Asian countries' IPO provide short-term positive abnormal returns from 17.6% to 80.3%. Ritter (2003) found Asian countries; IPO provides more significant short-term positive abnormal returns from 15.1% to 256.9%.

IPO's short-term positive abnormal return is attributable to the country's investor legal protection, firm efforts, investor limitations, and underwriter strategy. Countries with lower investor legal protection have higher IPO short-term performance in the magnitude of 10% (Engelen & Essen, 2010). The firm provides a sizeable return to induce a positive investor perception of the firm's future performance (Allen and Faulhaber, 1989). Investors have limitations, such as cognitive and information access. The limitations increase the investor's investment risk. IPO stock should be priced lower than their fair value to reduce investor investment risks (Rock, 1986). Underwriters have different relations with IPO firms and investors. Underwriters and firms may only deal once in the IPO. However, the underwriter is consistently dealing with the investors. Hence the underwriter must provide good investment returns for the investors. A good investment return contributes to a higher underwriter reputation from the investor perspective (Krigman & Jeffus, 2016).

There are notable findings on IPO long-term negative, positive, and insignificant abnormal returns. The IPO short-term positive abnormal return contributes to the IPO long-term abnormal return. Short-term investor euphoria contributes to stock overvaluation (Aggarwal & Rivoli, 1990). The negative abnormal return is documented in the occident developed markets such as the U.S. (Loughran & Ritter, 1995), Australia (Lee, Taylor, & Walter, 1996), and French (Chahine & Filatotchev, 2008). The positive abnormal return is documented for the occident developed market stock exchange IPO (Antwi & Mohsni, 2013) and the orient developed market, i.e., Malaysia (Jelic, Saadouni, & Briston, 2001). The insignificant long-term abnormal return is documented in developed markets such as Hongkong, Singapore, and Malaysia (Dawson, 1987) and Japan (Kunimura & Severn, 1990).

The contradictory findings on IPO long-term performance relate to the firm's ability to increase its competitive advantage and performance measurement methods and benchmarks. Gao and Jain (2011) find that a founder CEO who operates in a high technology industry successfully increases the firm's competitive advantage. Chintya, Theodora, Evelyn, and Teja (2019) find that firms fail to utilize new IPO funding to have a permanent competitive advantage. There may be issues with the performance measurement methods and benchmarks, i.e., market-based and customized benchmarks (Moshirian, Ng, & Wu, 2010; Butler, Keefe, & Kieschnick, 2014).

There is an underwriters' reputation rank in the U.S. market. Carter and Manaster (1990) introduced underwriter reputation based on the frequency, the value of the deals, and the market share. The underwriter's reputation has ten categories, nine as the most prestigious and zero as the least prestigious underwriter. Megginson and Weiss (1991) and Su and Bangassa (2011) introduced a more straightforward method to measure the underwriter's reputation that is simpler than Carter and Manaster's (1990) methods. Megginson and Weiss (1991) rank underwriter reputation based on accumulated IPO value. Su and Bangassa (2011) rank underwriter reputation based on accumulated IPO frequency.

Indonesia does not have an underwriter reputation rank that follows measurements methods from reputable journals, i.e., Carter and Manaster (1990), Megginson and Weiss (1991), and Su and Bangassa (2011). Different underwriter reputation measurement methods have different abilities to explain IPO performance. Indonesian researcher creates their underwriter reputation measurement method. For instance, Widarjo, Rahmawati, Bandi, and Widagdo (2017) assume brokerage performance, i.e., trading volume, trading value, and trading frequency, equal to underwriter reputation. In our view, the underwriter's reputation should be developed from the underwriting business, not from the other business.

To the best of our knowledge, research that measures the underwriter's reputation and compares the underwriter reputation measurement method from reputable journals on IPO performance in Indonesia has not yet been performed. This study is motivated to (1) add literature on the effects of different underwriter reputation measurement methods in explaining IPO stock performance and (2) help firms to choose underwriters to reduce the cost of IPO underpricing. The paper has several contributions. First, the paper contributes to the literature on underwriter reputation and IPO performance to choose methods that explain IPO performance, especially in countries without underwriter reputation ranking. Second, the underwriter's reputation measurement is built on a relatively long period. Third, the findings are used as additional criteria for a firm to select underwriters. Fourth, we present the underwriter reputation ranks based on the IPO market share and frequency.

This study was closely related to Megginson and Weiss (1991) and Su and Bangassa (2011) IPO research that discussed underwriter reputation measurement methods. Moshirian, Ng, and Wu (2010) also discussed the importance of IPO performance measurement methods. This research question is, "Does underwriter reputation measurement methods have different explanatory power for IPO performance?" It hypothesized that these methods have a different explanatory power. We test the hypothesis using the cross-section regression model. The dependent variable is short and long-term stock performance without adjustment to the market performance (Chua, 2014). The independent variable is underwriter reputation based on IPO frequency and deal value. Each method results in a different underwriter ranking. We rank the underwriter's reputation from the highest, i.e., highest accumulated IPO frequency or highest accumulated IPO deal value, and then categorize the underwriter into quartiles. The highest and lowest reputation underwriter is represented by one and four. Conforming to the statistical methods on dummy variable, we only consider three-level dummy variable, i.e., one is the highest and three is the third-lowest reputation underwriter. We find that

underwriter's reputation based on accumulated IPO frequency (Su and Bangassa, 2011) is statistically significant in explaining IPO performance in the short and long-term period. The underwriter's reputation based on accumulated IPO deal value (Megginson and Weiss, 1991) is statistically insignificant in explaining IPO performance in the short and long term.

## 2. Literature Review and Hypothesis Development

Underwriter reputation has a different meaning to the IPO firm and the investor in IPO stock (Horner, 2002). The IPO firm choose underwriter based on their abilities to reduce existing shareholder stock dilution. Investors in IPO stock choose underwriters based on their abilities to provide good investment returns. The underwriter that is more consistent in meeting the firm and investor expectations tends to have a higher reputation.

There are two methods of underwriting services. First, the best effort, underwriter only perform marketing function. The IPO firm absorbs the risk that their stock issued is not fully absorbed and their funding objective is not met. Second, the full commitment, underwriter absorb all IPO stock and resell the stock to investors. Underwriters reduce IPO firm funding risk (Carter and Manaster, 1990).

Investors have limited knowledge of the IPO firm's performance. The underwriter has a more extended history in the underwriting business. Hence the information on underwriter performance is widely available. Underwriter reputation performs a certification function for the IPO investor (Ong et al., 2020). An underwriter with a good reputation for IPO firms and IPO stock investors has more success in the IPO business. A highly reputable underwriter lowers IPO risk, lowers IPO underpricing, and reduces existing shareholder stock dilution (Logue et al., 2002). Hence, reputation is valuable for the underwriter because it helps generate more IPO deals and higher underwriting fees (Ji, 2020). Underwriter reputation is also valuable in bond IPO. Fang (2005) finds that highly reputable underwriters reduce funding risk and lower bond yield.

There are several methods to increase underwriter reputation. First, choose a mature company that has relatively stable growth and earnings. In doing so, the underwriter can reduce forecasting error and increase the valuation accuracy (Carter & Manaster, 1990). Second, reduce insider moral hazard. Since the insider information set is larger than the underwriter, the risk of a full commitment agreement puts the underwriter at risk. The underwriter imposes lockup periods for the insider, preventing them from selling the stock at an inflated price (Brav & Gompers, 2003). Rashid, Abdul-Rahim, and Yong (2014) state that the insider moral hazard is a function of the lockup period. More extended lockup period, lower insider moral hazard.

Third, create underwriting syndicates to reduce valuation bias and increase the pool of investors. Corwin and Schultz (2005) state that underwriting syndicates have a larger pool of information, and analysts' lower valuation bias and error. Jeon et al. (2015) suggest that each underwriter has its unique pool of investors. Underwriter syndicate increases the IPO visibility and the success probability of IPO. More accurate IPO valuation reduces IPO stock underpricing (Vong and Trigueiros, 2010). Underwriter syndicates also contribute to higher IPO stock long-term performance (Dong, Michel, & Pandes, 2011). Fourth, price stabilization. There is a time lag between the underwriter setting the IPO

prices and the IPO. Investors appreciate the underwriter's price support if the market condition is unfavorable during the IPO (Hao, 2007). The price support in the market reduces the probability of an underwriter to set IPO price too high (Aggarwal, 2000). Extreme IPO stock performance harms underwriter reputation (Dunbar, 2000). Carter, Dark, and Singh (1998) find that IPOs managed by prestigious underwriters tend to have lower IPO underperformance in the short and long term.

Fifth, reduce stock to be distributed to the investor. This strategy effectively creates investor excess demand for the IPO stock (Reber & Vencappa, 2016). The excess demand provides price support in the IPO date. Sixth, underwriters compensate investors with a good investment return. Chua (2014) finds that prestigious underwriters reduce IPO risk through higher IPO stock underpricing. Krigman and Jeffus (2016) found that underwriters compensate previous IPO investors' losses through higher subsequent IPO returns.

The above discussion suggests that underwriter reputation is important. Since reputation is an abstract concept, we need the proxy to represent reputation. IPO literature has three primary reputation measurement methods. Carter and Manaster (1990) consider the underwriter's reputation based on the accumulated underwriter's position in each IPO deal, accumulated IPO deal value, and accumulated IPO frequency. Carter and Manaster provide ten levels of underwriter reputation from nine the highest reputation to zero the lowest reputation. The significant drawback of Carter and Manaster (1990) underwriter reputation measurement method is that the method is very complex, needs much adjustment, the number of underwriter and IPO deals should be significant, and the period under consideration is relatively long.

Carter and Manaster (1990) may not be suitable for measuring underwriters' reputations in the emerging market. Hence, we turn our attention to the underwriter measurement method from Megginson and Weiss (1991) and Su and Bangassa (2011). Megginson and Weiss measure the underwriter's reputation based on the accumulated IPO deal value within a specific period. In the full-commitment agreement, the underwriter should absorb all the IPO stocks. Hence, the value of IPO deals is commensurate with underwriter capital. More significant IPO deals value need underwriter with more significant capital. Underwriters with larger capital can hire expensive investment bankers with a high reputation and competence. Hence, an underwriter with more significant capital can value the IPO more accurately.

Su and Bangassa (2011) argue that underwriter share of mind will translate to higher IPO frequency. The underwriter with the highest accumulated IPO frequency is the most prestigious. An underwriter that has high IPO frequency will have higher interaction with the market. The IPO provides access for the underwriter to understand investment trends. The hypotheses proposed are:

$H_1$: Underwriter reputation based on frequency and market share have a different ability to explain IPO short-term performance.

$H_2$: Underwriter reputation based on frequency and market share have a different ability to explain IPO long-term performance.

## 3. Research Method

We obtained the data from Bloomberg terminal from January 2001 to December 2012. The distribution of IPOs by year of listing, number of IPO firms, and gross proceeds are presented in Table 1.

Table 1. Data on IPO in Indonesia

| Year | IPO Firms | Gross Proceeds (Rp. Millions) |
|---|---|---|
| 2001 | 24 | 935,746 |
| 2002 | 18 | 1,095,513 |
| 2003 | 5 | 9,083,500 |
| 2004 | 11 | 1,393,837 |
| 2005 | 8 | 3,545,025 |
| 2006 | 11 | 2,960,428 |
| 2007 | 20 | 17,970,008 |
| 2008 | 15 | 23,072,646 |
| 2009 | 8 | 1,627,875 |
| 2010 | 23 | 30,554,483 |
| 2011 | 22 | 19,222,571 |
| 2012 | 20 | 8,343,038 |
| Total | 185 | 119,804,670 |

Source: Bloomberg, processed.

The paper aims to compare the underwriter reputation measurement methods to explain IPO stock performance. The discussion sequence is IPO stock performance, underwriter reputations measurement, and cross-section regression analysis. The IPO performance is measured without adjustment to benchmark return (Chua, 2014). The benefit of IPO performance without adjustment is that it can capture real investors' investment return experience who own the stock. The time under consideration for IPO stock performance is one-day, three years, and periods between one to three years. The stock return for three years and the periods between one day and three years do not consider dividend yield.

The underwriter's reputation is measured based on accumulated IPO frequency and deal value. The Megginson and Weiss (1991) methods sum up each underwriter's IPO deal value within a specific period. The accumulation of IPO value then ranked from highest to lowest and divided into quartiles. The underwriter with the highest accumulated IPO deal value belongs to the first quartile, and the lowest belongs to the fourth quartile. If an underwriting syndicate is handling the IPO, the deal value is evenly divided by the number of the underwriter, i.e., lead underwriter and co-lead underwriter.

The Su and Bangassa (2011) methods sum up each underwriter's IPO frequency and disregard the IPO deal value. The accumulation of IPO frequency then ranked from highest to lowest and divided into quartiles. The underwriter with the highest accumulated IPO frequency belongs to the first quartile, and the lowest belongs to the fourth quartile.

Suppose the IPO is handled by an underwriting syndicate that consists of three underwriters, i.e., one lead underwriter and two co-lead underwriters; there will be three independent underwriting activities.

The different abilities of underwriter reputation methods in explaining IPO stock performance are tested using cross-section regression. The dependent variable is IPO performance in the short-term and the long-term. The independent variable is the underwriter's reputation that is categorized into quartile. The statistics suggest a three-level dummy variable. The control variables: (1) percentage of shares offered in IPO; (2) funds raised from IPO; (3) IPO firm market capitalization; (4) dummy of IPO firm identity; and (5) dummy of the underwriter. The cross-section regression empirical model is as follows:

$$BHAR1D = \alpha + \beta_1 UWRepF_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$BHAR3Y = \alpha + \beta_1 UWRepF_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$BHAR1D3Y = \alpha + \beta_1 UWRepF_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$BHAR1D = \alpha + \beta_1 UWRepM_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (4)$$

$$BHAR3Y = \alpha + \beta_1 UWRepM_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (5)$$

$$BHAR1D3Y = \alpha + \beta_1 UWRepM_{i,t} + \beta_2 \%IPO_{i,t} + \beta_3 lnIPO_{i,t} + \beta_4 lnMktCap_{i,t} + \beta_5 dIPO_{i,t} + \beta_6 dUW_{i,t} + \varepsilon_{i,t} \quad (6)$$

We provide description, formula, abbreviation, variable definition on the dependent variable, independent variable, and control variable in table 2 below.

Table 2. Summary of variables

| No | Description | Abbreviation | Variable Formula |
|---|---|---|---|
| | **Dependent Variable** | | |
| 1 | Buy and Hold Return (BHAR) First-Day | BHAR1D | $BHAR1D = \frac{P_{i,1D} - P_{i,0}}{P_{i,1}}$ |
| 2 | Buy and Hold Return (BHAR) Three-Year | BHAR3Y | $BHAR3Y = \frac{P_{i,3Y} - P_{i,0}}{P_{i,1}}$ |
| 3 | Buy and Hold Return (BHAR) First-Day to Three-Year | BHAR1D3Y | $BHAR1D - 3Y = \frac{P_{i,3Y} - P_{i,1D}}{P_{i,1D}}$ |
| | Independent Variable | | |
| 4 | Underwriter Reputation based on accumulated IPO Frequency | UWRepF | Highest reputation equal to one and third-lowest reputation equal to three. |
| 5 | Underwriter Reputation based on accumulated IPO Deal Value | UWRepM | Highest reputation equal to one and third-lowest reputation equal to three. |

| No | Description<br>Dependent Variable | Abbreviation | Variable Formula |
|---|---|---|---|
| | Control Variable | | |
| 6 | Percentage of shares offered in IPO | %IPO | $\%shares = \frac{IPO\ shares}{Total\ outstanding\ shares}$ |
| 7 | IPO funds raised | lnIPO | IPO deal value in natural logarithm |
| 8 | IPO firm market capitalization | lnMktCap | IPO firm market capitalization in natural logarithm. |
| 9 | Dummy of IPO firm | dIPO | Non-state-owned enterprise (Non-SOE) equal to 0 and SOE otherwise. |
| 10 | Dummy of the Underwriter | dUW | Non-state-owned enterprise (Non-SOE) equal to 0 and SOE underwriter otherwise. |
| 11 | Price | P | |
| 12 | Firm | i | |
| 13 | error | ε | |

## 4. Results and Discussion

The IPO performance is presented in table 3. The short-term IPO performance is very large relative to long-term performance.

Table 3. IPO Performance.

| Variable | Mean | Standard Deviation |
|---|---|---|
| BHAR1D | 0.55 | 3.06 |
| BHAR3Y | 0.62 | 3.55 |
| BHAR1D3Y | 0.07 | 4.67 |

We report the distribution of underwriter reputation based on IPO accumulated frequency and deal value in table 4. The underwriter's reputation based on accumulated IPO deal value is evenly distributed because IPO deal value is continuous. The underwriter's reputation based on accumulated IPO frequency is not evenly distributed. There are many cases of an underwriter that underwrite IPO only once within the 2001-2012 period.

Table 4. Underwriter reputations based on accumulated IPO frequency and deal value

| Description | IPO Frequency<br>Su and Bangassa (2011) | IPO Deal Value<br>Megginson and Weiss (1991) |
|---|---|---|
| Underwriter reputation 1 | 15 | 21 |
| Underwriter reputation 2 | 14 | 21 |
| Underwriter reputation 3 | 23 | 21 |
| Underwriter reputation 4 | 31 | 20 |
| Total Number of Underwriter | 83 | 83 |

The identity of the underwriter with the highest and the lowest reputation is relatively the same for both methods, i.e., accumulated IPO deal value and frequency. However, the identity of the underwriter with the second and third rank is significantly different. The underwriter's reputation and rank are presented in table 5.

Table 5. Underwriter Reputation

| Underwriter | Frequency | Rank | Underwriter | Deal Value | Rank |
|---|---|---|---|---|---|
| Danareksa Sekuritas PT | 27 | 1 | Danatama Makmur PT | 15.43% | 1 |
| Mandiri Sekuritas PT | 25 | 1 | Mandiri Sekuritas PT | 10.05% | 1 |
| Bahana Securities | 15 | 1 | Danareksa Sekuritas PT | 9.27% | 1 |
| Ciptadana Sekuritas | 14 | 1 | Bahana Securities | 6.50% | 1 |
| Danatama Makmur PT | 13 | 1 | Credit Suisse | 3.73% | 1 |
| Indo Premier Securities | 12 | 1 | CIMB Niaga Securities | 3.38% | 1 |
| Makita Securities P.T. | 11 | 1 | Indo Premier Securities | 3.09% | 1 |
| Dinamika Usahajaya PT | 9 | 1 | Sinarmas Securities PT | 2.79% | 1 |
| Sinarmas Securities PT | 9 | 1 | Trimegah Securities | 2.69% | 1 |
| Trimegah Securities | 8 | 1 | Morgan Stanley | 2.52% | 1 |
| Andalah Artha Advisindo Sekuritas PT | 7 | 1 | JP Morgan | 2.35% | 1 |
| CLSA Ltd | 7 | 1 | Deutsche Securities Indonesia | 2.28% | 1 |
| JP Morgan | 7 | 1 | Kim Eng Securities PT | 2.28% | 1 |
| OSK Nusadana Securities Indonesia PT | 7 | 1 | Ciptadana Sekuritas | 2.12% | 1 |
| UBS AG | 7 | 1 | Merrill Lynch Far East Asia | 2.02% | 1 |
| CIMB Niaga Securities | 5 | 2 | UBS AG | 1.62% | 1 |
| Credit Suisse | 5 | 2 | Andalah Artha Advisindo Sekuritas PT | 1.59% | 1 |
| DBS Vickers Securities Indonesia PT | 5 | 2 | ABN Amro Rothschild | 1.43% | 1 |
| Investindo Nusantara Sekuritas PT | 5 | 2 | Credit Suisse First Boston | 1.43% | 1 |
| Asia Kapitalindo Securities PT | 4 | 2 | Citi | 1.31% | 1 |
| Danasakti Securities PT | 4 | 2 | OSK Nusadana Securities Indonesia PT | 1.28% | 1 |
| HD Capital Tbk PT | 4 | 2 | GK Goh Indonesia PT | 1.24% | 2 |
| Kresna Graha Sekurindo PT | 4 | 2 | CLSA Ltd | 1.21% | 2 |
| Lautandhana Securindo PT | 4 | 2 | Deutsche Bank AG/Hong Kong | 1.13% | 2 |
| Sucorinvest Central Gani | 4 | 2 | Deutsche Bank AG | 1.06% | 2 |
| Evergreen Capital PT | 3 | 2 | Credit Suisse (HK) Ltd | 1.03% | 2 |
| Morgan Stanley | 3 | 2 | Citigroup Global Markets Inc | 0.96% | 2 |
| Panca Global Securities Tbk PT | 3 | 2 | Dinamika Usahajaya PT | 0.70% | 2 |
| Victoria Sekuritas PT | 3 | 2 | Bhakti Securities PT | 0.67% | 2 |
| ABN Amro Rothschild | 2 | 3 | Macquarie Capital Securities Ltd | 0.63% | 2 |
| Artha Securities Prima PT | 2 | 3 | Lehman Brothers Asia (Hk) | 0.62% | 2 |
| Bhakti Securities PT | 2 | 3 | Goldman Sachs | 0.59% | 2 |
| BNI Securities/Indonesia | 2 | 3 | DBS Vickers Securities Indonesia PT | 0.55% | 2 |

| Underwriter | Frequency | Rank | Underwriter | Deal Value | Rank |
|---|---|---|---|---|---|
| Buana Capital PT | 2 | 3 | CIMB-GK Securities Indonesia PT | 0.53% | 2 |
| CIMB-GK Securities Indonesia PT | 2 | 3 | Buana Capital PT | 0.48% | 2 |
| Citi | 2 | 3 | MNC Securities Tbk PT | 0.45% | 2 |
| Citigroup Global Markets Inc | 2 | 3 | Nomura Indonesia | 0.44% | 2 |
| Credit Suisse (HK) Ltd | 2 | 3 | Makinta Securities PT | 0.42% | 2 |
| Credit Suisse First Boston | 2 | 3 | H.D. Capital Tbk PT | 0.35% | 2 |
| Danpac Sekuritas PT | 2 | 3 | BNI Securities/Indonesia | 0.33% | 2 |
| Deutsche Bank AG | 2 | 3 | Henan Putihrai PT | 0.30% | 2 |
| Deutsche Bank AG/Hong Kong | 2 | 3 | Recapital Securities PT | 0.28% | 2 |
| Deutsche Securities Indonesia | 2 | 3 | BNP Paribas Securities/Indonesia | 0.28% | 3 |
| Dhanawibawa Artha Cemerlang PT | 2 | 3 | Nusadana Capital Indonesia PT | 0.25% | 3 |
| Equator Securities PT | 2 | 3 | BNP Paribas | 0.21% | 3 |
| GK Goh Indonesia P.T. | 2 | 3 | Standard Chartered Bank | 0.21% | 3 |
| Harita Kencana Securities | 2 | 3 | Lautandhana Securindo PT | 0.21% | 3 |
| Kim Eng Securities PT | 2 | 3 | Kresna Graha Sekurindo PT | 0.20% | 3 |
| Millennium Atlantic Securities P.T. | 2 | 3 | Nikko Securities PT | 0.19% | 3 |
| Nusadana Capital Indonesia PT | 2 | 3 | Equator Securities PT | 0.18% | 3 |
| Valbury Asia Securities/Indonesia | 2 | 3 | Semesta Indovest PT | 0.14% | 3 |
| Victoria Kapitalindo International PT | 2 | 3 | Investindo Nusantara Sekuritas PT | 0.12% | 3 |
| Agung Securities Indonesia | 1 | 4 | Danasakti Securities PT | 0.11% | 3 |
| Asjaya Indosurya Securities | 1 | 4 | Morgan Stanley Asia | 0.08% | 3 |
| Bhakti Capital Indonesia Tbk PT | 1 | 4 | Valbury Asia Securities/Indonesia | 0.08% | 3 |
| BNP Paribas | 1 | 4 | Sucorinvest Central Gani | 0.08% | 3 |
| BNP Paribas Securities/Indonesia | 1 | 4 | Asjaya Indosurya Securities | 0.07% | 3 |
| Erdhika Elit Sekuritas PT | 1 | 4 | Panca Global Securities Tbk PT | 0.05% | 3 |
| Goldman Sachs | 1 | 4 | Optima Karya Capital Securities PT | 0.05% | 3 |
| Henan Putihrai PT | 1 | 4 | Victoria Sekuritas PT | 0.05% | 3 |
| Inovasi Utama Sekurindo PT | 1 | 4 | Asia Kapitalindo Securities PT | 0.05% | 3 |
| Jakarta Artha Visi Abadi Securities PT | 1 | 4 | Evergreen Capital PT | 0.05% | 3 |
| Kapita Sekurindo | 1 | 4 | Danpac Sekuritas PT | 0.04% | 3 |
| Lehman Brothers Asia (Hk) | 1 | 4 | Victoria Kapitalindo International PT | 0.03% | 4 |
| Macquarie Capital Securities Ltd | 1 | 4 | Rifan Financindo Advisori | 0.03% | 4 |
| Mahanusa Kapital PT | 1 | 4 | Millennium Atlantic Securities PT | 0.03% | 4 |

| Underwriter | Frequency | Rank | Underwriter | Deal Value | Rank |
|---|---|---|---|---|---|
| Makindo | 1 | 4 | Harita Kencana Securities | 0.03% | 4 |
| Merrill Lynch Far East Asia | 1 | 4 | PDFCI Securities | 0.03% | 4 |
| MNC Securities Tbk PT | 1 | 4 | Erdhika Elit Sekuritas PT | 0.03% | 4 |
| Morgan Stanley Asia | 1 | 4 | Mahanusa Kapital PT | 0.03% | 4 |
| Nikko Securities P.T. | 1 | 4 | Overseas Securities PT | 0.03% | 4 |
| Nomura Indonesia | 1 | 4 | Dhanawibawa Artha Cemerlang PT | 0.03% | 4 |
| Optima Karya Capital Securities P.T. | 1 | 4 | Artha Securities Prima Pt | 0.02% | 4 |
| Overseas Securities PT | 1 | 4 | Pridana Futura Centra Investa | 0.02% | 4 |
| PDFCI Securities | 1 | 4 | Reliance Securities | 0.02% | 4 |
| Pridana Futura Centra Investa | 1 | 4 | Transpacific Sekuritas PT | 0.02% | 4 |
| Recapital Securities PT | 1 | 4 | Inovasi Utama Sekurindo PT | 0.01% | 4 |
| Reliance Securities | 1 | 4 | Jakarta Artha Visi Abadi Securities PT | 0.01% | 4 |
| Rifan Financindo Advisori | 1 | 4 | Bhakti Capital Indonesia Tbk PT | 0.01% | 4 |
| Semesta Indovest PT | 1 | 4 | Kapita Sekurindo | 0.01% | 4 |
| Standard Chartered Bank | 1 | 4 | Yulie Sekurindo PT | 0.01% | 4 |
| Transpacific Sekuritas PT | 1 | 4 | Agung Securities Indonesia | 0.01% | 4 |
| Yulie Sekurindo PT | 1 | 4 | Makindo | 0.01% | 4 |

Su and Bangassa (2011) underwriter reputation measurement methods based on accumulated underwriter IPO frequency can explain short-term IPO performance, i.e., first-day return, and the long-term IPO performance, i.e., first to three-year return. While Megginson and Weiss (1991) underwriter reputation methods based on accumulated underwriter IPO deals value is statistically insignificant for all the periods under consideration.

The control variable is only significant in the long-term, i.e., the percentage of IPO shares (%shares), the fund raised from IPO (lnProceed), and IPO firm market capitalization (lnMCap). The insignificant control variables are the identity of IPO firms, i.e., private firm or State-Owned Enterprise (SOE), and the identity of the underwriter, i.e., private Underwriter or State-Owned Enterprise (SOE).

Table 6. Regression Results

| Description | 1st day | 3rd year | 1st day-3rd year |
|---|---|---|---|
| **Su and Bangassa (2011) Underwriter Reputation Based On Accumulated IPO Frequency** | | | |
| UWRep | 0.80*** | -0.27 | -1.08** |
| %IPO | 2.32 | 69.94*** | 67.60*** |
| lnIPO | -0.21 | -14.24*** | -14.03*** |
| lnMktCap | 0.42 | 14.44*** | 14.02*** |
| dIPO | -0.68 | 0.73 | 1.42 |
| dUW | 0.29 | -0.61 | -0.91 |
| Constant | -4.39 | -40.10*** | -35.71*** |
| $R^2$ | 4.44% | 33.99% | 21.84% |

| Description | 1st day | 3rd year | 1st day-3rd year |
|---|---|---|---|
| **Megginson and Weiss (1991) Underwriter Reputation Based On Accumulated IPO Deal Value** | | | |
| UWRep | 0.288 | -0.32 | -0.61 |
| %IPO | 0.71 | 69.96*** | 69.20*** |
| lnIPO | 0.26 | -14.28*** | -14.54*** |
| lnMktCap | -0.13 | 14.42*** | 14.55*** |
| dIPO | -0.583 | 0.75 | 1.33 |
| dUW | 0.162 | -0.65 | -0.81 |
| Constant | -1.60 | -39.19*** | -37.59*** |
| $R^2$ | 1.09% | 34.21% | 19.95% |

Note: ***, **, * equal to significant 1%, 5%, and 10%.

The reputation measurement methods have different abilities to explain IPO stock performance. Underwriter reputation measurement methods based on accumulated IPO frequency can explain IPO performance. While the underwriter measurement method based on underwriter accumulated IPO deal value cannot. The finding suggests that while it is essential to have high competencies investment bankers, frequent interaction with the market is more valuable. Hence, the better indicator of underwriter reputation is Su and Bangassa (2011) methods relative to Megginson and Weiss (1991) methods. Since the pool of small firms is significantly larger than a large firm, IPO from small firms will be significantly more frequent. Su and Bangassa's (2011) methods have a strong bias toward small-capitalization underwriters.

The self-regulated organization (SRO) requires a minimum capital for each IPO deal. A large underwriter can hire highly reputable investment bankers and rent office space in a prestigious location. The accumulated IPO deal value represents the underwriter's market share in the IPO market. The highest reputable underwriter will have the largest IPO market share. Fernando et al. (2015) find that a highly reputable underwriter has high underwriting revenue. Megginson and Weiss (1991) methods have a strong bias to a big capitalization underwriter.

Two forces change the stock underwriting business. First, the financial authority and Self Regulatory Organization (SRO) require the underwriter to reduce IPO fundraising risk through higher underwriter capital or work together as a syndicate. The underwriting syndicate may consist of the lead-underwriter, co-lead underwriter, and underwriter. The lead-underwriter and co-lead-underwriter usually may not have an equal share of fundraising risk. The lead underwriter usually absorbs the most significant fundraising risk, followed by the co-lead underwriter and the underwriter. This fact suggests that underwriters will become lead-underwriter or co-lead underwriters based on their market understanding. Hence, we believe it is essential to give different weighting of IPO frequency for the lead underwriter and co-lead underwriter. Our paper has not used the different weights for lead-underwriter and co-lead underwriter. Carter and Manaster (1990) suggest that the underwriter's reputation should be a decile. However, the number of IPO deals in Indonesia is relatively low that does not warrant a decile. The best that we can do is categorize the underwriter reputation category into quartiles. However, as the number of IPO firms in Indonesia is getting more significant, the decile's underwriter reputation is becoming more feasible.

## 5. Conclusions, Implications, and Limitations

The underwriter reputation method has different abilities to explain Initial Public Offering (IPO) stock performance for the short and the long-term period. Underwriter reputation based on accumulated IPO frequency has better abilities than accumulated IPO deal value to explain IPO performance. The underwriter's reputations based on accumulated IPO frequency strongly bias small IPO deal value. Based on accumulated IPO deal value, the underwriter has a strong bias to large IPO deal value. The findings suggest that underwriters with a more extensive capital base do not necessarily have a consistent competitive advantage relative to underwriters with a lower capital base. Higher interaction with the market is more critical than high-salary investment bankers with higher reputations and competencies. The findings implication is that firm may use the underwriter's reputation based on IPO frequency as an additional criterion to select underwriters for firm fundraising through IPO. The investor will also have a good investment return when buying stock from an underwriter that consistently interacts with the market. Future studies can be examining different weighting of IPO frequency for the lead underwriter and co-lead underwriter.

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