CAN ACCOUNTING BETA ACT AS A PROXY FOR EX ANTE UNCERTAINTY IN INITIAL PUBLIC OFFERINGS: EMPIRICAL EVIDENCE AT THE JAKARTA STOCK EXCHANGE

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Abstract

A number of studies have shown an association between market and accounting betas. However, most of the studies are performed using a sample of large established firms for which both accounting and market betas can be computed. In case of IPO firms, market betas cannot be computed due to the data limitations associated with private firms. Due to limited information available prior to IPO dates, in particular financial reports, one has to use a proxy to measure risk in an IPO. Gumanti (2003) shows that there are a number of accounting variables that can be used as a proxy for ex ante uncertainty in IPO.

This study examines whether accounting beta can act as a proxy for ex ante uncertainty in IPO setting. Using a sample of 90 IPOs that went public during 1991-1997 at the Jakarta Stock Exchange, this study finds a positive but insignificant association between accounting beta and initial returns of IPO. Therefore, accounting betas can be used as an ex ante measure for the riskiness of firms entering into the IPO market.

Keywords: Initial public offerings (IPO), accounting beta, ex ante uncertainty, initial returns.

1. Introduction

A significant movement on the analysis of the association between market and accounting betas started with seminal paper of Ball and Brown (1969). Ball and Brown, evaluating the ability of accounting numbers to convey information about the risk of the firm to market participants, concluded that 35 to 40 percent of the cross-sectional variability in systematic risk can be explained by the co-movement in the accounting income of firms. Since Ball and Brown’s study, researchers continue to validate this linkage (See for example Beaver et al., 1970, Foster, 1986; Lev, 1989; Berstein and Wild, 1998; Noland and Pavlik, 1998). Although subsequent studies differ with regard to the degree of association between accounting and market betas, they all agree that such an association does exist.

Kulkarni et al. (1991) advocate a technique for establishing a linkage of accounting betas and the divisional hurdle rate of a multi-product firm by using accounting betas as proxies for market betas when market data is unattainable. This initial starting point is advanced by Almisher and Kish (2000) who examine the relationship between accounting beta, as a measure for risk, and the level of initial returns in an IPO setting. The central question of Almisher and Kish is that can market (systematic) risk within the field of initial public offerings (IPOs) be proxied with accounting data that reflects only the historical performance of the firm?

Almisher and Kish could be the first to examine whether the accounting beta is useful for assessing the risk of firms going public for the first time (i.e., when evaluating initial public offerings). One of the shortcomings of this line of IPO research is that the absence of a market beta for privately held firms. Thus, it is impossible to directly test the association between market and accounting beta for the privately held firms. To overcome this, a test must be established in order to examine whether accounting beta conveys any ex ante information about the risk of IPO firms.
This study documents positive association between two measures of accounting beta and IPOs’ initial return. This indicates that the higher the accounting beta of firms making an IPO, the higher will be the firm’s initial returns. This positive relationship is not sensitive whether the raw or adjusted initial return is used. However, this positive relationship is insignificant. Nevertheless, three important issues were worth noting. First, a positive association between accounting beta and initial returns could be justified as evidence of the possibility that accounting beta can act as ex ante uncertainty in IPO setting. Second, the number of firms examined in this study is relatively small compared to the population of all IPOs in Indonesia, leading to next examination using a larger sample firms. Third, this study used only IPO accounting performance as the surrogate for market accounting returns. The use of IPO’s accounting returns may lack of representative ness of market sensitivity.

This paper is organized as follows. The literature review presented in the next section provides an overview of the results of previous studies that examine the association between market and accounting betas. A brief discussion of the controversy surrounding using beta as a measure of risk is also presented. In addition, an overview of IPOs underpricing and its relation with systematic risk is documented. Section three presents the methodology of the study. It consists of selection criteria of the sample and the method of analysis used in the study. Section Five provides the results of the study accompanied with the discussion. Final Section concludes the paper.

2. Literature Review
2.1 Accounting and Market Betas

Since the introduction of Capital Assets Pricing Model (CAPM), a growing and significant body of research has been established and directed to test the positive relationship between various risk measures and returns. Researchers have been amazed by the effort of finding out the best proxy for risk related to the sensitivity of market movement. Since that date there seems to be a consensus stating that systematic risk or beta is an appropriate risk measure for various securities, in particular stock. Most of the existing literature asserts that the data required for calculating systematic risk is market-related. Thus, a stock beta coefficient based on market information is called a market beta. This assertion is advanced in order to differentiate it from an accounting beta which is based entirely on accounting data, primarily financial statements. Beaver et al. (1970) could be assigned as the first who examine the possibility use of accounting beta as proxy for risk despite the use of market base risk.

Theoretical and empirical evidence has indicated that certain accounting measures can be used as proxies for total firm risk, that is, they could determine the riskiness of a corporation (Lev, 1974; Bowman, 1979; DeAngelo, 1990, among others). The literature also suggests that accounting information is relevant in determining the value and thus the riskiness of a corporation through the use of accounting analysis (Brealy and Myers, 1996; Benninga and Sarig, 1997; White et al., 1998, among others). Since most of the information available in the prospectus is accounting information, it is arguable that this information represents a potential source for assessing the quality of the issuing firm.

In addition, some scholars have also advocated the possibility of using accounting information in assessing the value of firm making an IPO (Beaver et al., 1970; Foster, 1986; Lev, 1989; Berstein and Wild, 1998; Noland and Pavlik, 1998). Moreover, Ryan (1997), based on his survey relating accounting numbers and company risk, notes the possibility of incorporating accounting information for measuring the risk of a firm making an IPO in the absence of ex post risk measures prior to the offering. Thus, the focus of the current study is to examine whether accounting measures of total firm risk are associated with the uncertainty surrounding an IPO.

Thus, it seems clear that in the absence of publicly available accounting
information, i.e., financial performance, prior to the offering, accounting variables become the most reliable source of information in judging the riskiness of an IPO apart from other non-accounting information. The utilization of accounting information for risk measure in the IPO setting is theoretically acceptable. However, potential investor could not only rely solely to accounting variables as the information is not free from possible accounting discretion (see Aharony et al., 1993; Friedland, 1994; Theo et al. 1998).

2.2 Previous Studies

Many of the earlier studies have examined the relationship between market betas and several accounting variables including debt to equity ratio, dividends, and growth. Ball and Brown (1969), amongst others, evaluate the ability of accounting measures of risk (operating income, net income, and earnings per share) to convey information about the risk of the firm to the market. Their regression analysis concludes that approximately 35 to 40 percent of the cross-sectional variability in the systematic risk can be explained by the co-movement in the accounting income of firms.

Beaver et al. (1970) test whether accounting variables (payout ratio, growth, leverage, liquidity, size, earning variability, and accounting beta) can be viewed as surrogates for the total variability of market return. Using a sample of 307 firms for two periods 1947-56 and 1957-65, they find that the degree of association between accounting and market betas is 44 and 23 percent within the two periods respectively. Additional findings reveal that increase association was found when analysis was based on a portfolio basis (i.e., the association increases to 68 and 46 percent respectively).

Beaver and Manegold (1975) examine the degree of association between the market and accounting betas under three different specifications (accounting earnings are divided by the market value of common stock, earnings as a percentage of total assets, and accounting earnings deflated by the book value of common equity). They point out that at the single security level, only 20 percent of the variation in market beta is explained by the variation in accounting beta. In addition, the correlation between accounting beta and market beta varies according to the factors used to deflate the accounting return. Other findings reveal that accounting betas based on returns calculated by the net income to the market value of the firm exhibit a higher correlation with the market betas than do accounting betas based on net income to book value of common equity or net income to total assets.

A study by Ismail and Kim (1989) tests the relationship between market and accounting betas using four definitions of income (income available to common equity, income available to common plus depreciation, income available to common plus depreciation and deferred taxes, and cash flows generated from continuous operation) deflated by market value of the common equity. They find a significant relationship between market beta and accounting beta using all four-income definitions. The association is stronger at the portfolio level than it is at the individual level, which is consistent with prior studies.

Almisher and Kish (2000) examine the association between accounting beta and initial return of IPOs. Using a sample of 701 IPOs that went public in two different markets, namely NASDAC and OTC and a combination of both markets, they find that a positive association was found between accounting beta and IPOs’ initial returns. They come to a conclusion that accounting beta can be used as proxy for ex ante uncertainty in IPO setting. Thus, in the case of IPO setting, accounting beta seems to be a reliable measure of risk that could be of significant value in determining the riskiness of firm making an IPO.

2.3 Theoretical Explanation of Systematic Risk and IPO’s Underpricing

Many researchers have presented evidence of underpricing of initial public offerings (IPOs). The underpricing, measured by the first day return of the new stocks, on
average, exceeds 15 percent (See Gumanti, 2002 for a comparison of the level of initial returns among various countries), even in some emerging markets, the figures reach more than 100 percent. This percentage represents a one day return generated from participating in the IPOs (assuming that investors purchase stocks in every IPO). This underpricing is a widespread phenomenon and called as an anomaly. Several theoretical models have been presented in the literature to explain why on average IPO is underpriced. One prominent model is Rock (1986) and its extension by Beatty and Ritter (1986). The theory suggest that the degree of IPOs underpricing is associated with the ex ante uncertainty (risk) of the IPOs after market clearing price. Since the ex ante uncertainty is not observable, proxies for it must be employed. Several variables in the literature are used as proxies for ex ante uncertainty. Gumanti (2003) has shown that there are at least five potential proxies of accounting information for ex ante uncertainty of IPO firms, namely financial leverage, operating leverage, profitability, firm growth, and firm size.

Previous studies used a number of proxies for ex ante uncertainty, on of them is the standard deviation of the IPO’s daily return in the after market. Ritter (1984) found a significant relationship between the standard deviation of the IPOs’ daily return, which is a total risk measure, and the IPOs’ underpricing. The standard deviation of the daily return is an ex post factor, which is available only after the new firms are public. Although Ritter (1984) used the standard deviation of the daily return of the IPOs as a proxy for ex ante uncertainty, he preferred the use of individual risk over the standard deviation. But the difficulty of computing the individual risk of IPOs, and the high correlation between individual and total measure of risk prompt him to employ the standard deviation of the daily return.

Beaver et al. (1970) report that a positive correlation between systematic risk and the individual risk components of the firm, i.e., firms having great systematic risk are characterized by a large variance in their individual risk. In line with Beaver et al., Clarkson and Thompson (1990) argue that whenever there is little information regarding certain firms, those firms are perceived by investors as being riskier because of the lack of certainty concerning the exact parameters of their return distributions. Using a sample of 198 IPO firms from 1976 to 1985, Clarkson and Thompson find that the systematic risk (beta) for their sample decreased in several periods subsequent to the date of offering. The arrival of new information reduces the uncertainty about the newly traded firms and their systematic risk. This shows how the systematic risk is correlated with the uncertainty about firms. The larger the systematic risk is of a certain IPO the higher the ex ante uncertainty regarding its market clearing price then the higher the underpricing for that IPO.

Unlike previously traded firms, in the case of IPO, systematic risk is unobservable, so it can not be directly used as a proxy for the ex ante uncertainty. Therefore, researcher should look for an ex ante observable proxy for systematic risk. Since observable information in IPO setting limited, except accounting or financial information reflected in the issue prospectus, the accounting beta could potentially serve for risk measure. That is why, in order to show the correlation between accounting and market betas, researcher must show that there is positive association between accounting beta and underpricing.

Unlike previous studies, which were able to show the degree of association between market and accounting betas, in IPO study it cannot be done because market beta for the private firms cannot be computed.

2.3 Hypothesis Formulation

It has been clear that in the absence of relevant information prior to the offering, potential investors who want to buy newly issued stock, i.e., initial public offerings, must utilize various measures that reflect the riskiness of the issue. A firm wishing to go public
must provide prospectus which present various types information. A large part of information available in the issue prospectus is accounting information, i.e., financial statement. An explanation of theoretical relationship between accounting information and ex ante uncertainty in IPO setting shows that accounting information is of potential proxy for risk measure in IPO setting.

A number of empirical studies have shown that accounting information is indeed value relevant in the pricing of IPO. In particular, a study by Almisher and Kish (2000) significantly finds a positive and significant association between accounting beta and initial returns. These all lead to the following hypothesis:

\[ H_a: \text{There is positive and significant relationship between accounting beta and IPOs’ initial return.} \]

3. Methodology

3.1 Sample Selection

From January 1991 through December 1997, 166 companies conducted initial public offerings at the Jakarta Stock Exchange, representing the population of this study. The sample of this study is drawn from the above population of IPOs based on the following criteria:

a. All IPO firms that went public during 1991 and 1997. This restriction is performed to eliminate the effect of financial crisis for firms that went public after 1997. The starting year of 1991 is advanced to restrict IPO firms with financial reports of less than three years available in the prospectus. Prior to 1991, it was not uncommon that IPO firms went public with only two years of financial statement reported in the prospectus.

b. A copy of the prospectus is available. This requirement is important since IPO firms’ prospectus the main source for data used for the analysis.

c. IPO firms in banking and financial sectors including insurance and real estate were excluded as they financial reports in many respects are different in terms of format and presentation. This difference could potentially affect the generalizability of the finding.

3.2 Method of Analysis

The accounting beta is computed in a way that is analogous to the computation of the market beta (i.e., historical accounting earnings for each IPO are regressed against the accounting earnings for the market). The model is as follows:

\[ R_{i,t} = \alpha_i + \beta_t R_{m,t} + \mu_i \]

The coefficient of the above regression, $\beta$ is the accounting beta for the $i$th IPO. Both the accounting returns for the firm ($R_{i,t}$) and the accounting return for the market ($R_{m,t}$) are proxied by two definitions of income, namely net income deflated by total assets (i.e., Return On Assets (ROA) = Net Income / Total Assets) and net income divided by net sales (i.e., Net Profit Margin (NPM) = Net Income / Net Sales).

Despite the two definitions of return, it is necessary to define the market in order to calculate the accounting beta. Market accounting return is measured as the average ROA or NPM for firms making IPO in each consecutive year. For example, if PT. X went public in year 1992, the market accounting return, both ROA and NPM, is the value-weighted of all IPO firms during year 1992. A similar method in calculating accounting beta for other IPOs was performed.

One potential problem with using accounting beta as a proxy for the market beta and thereby systematic risk is that some of the firms undergoing IPOs have relatively limited financial/accounting information and therefore few earning observations are available for the regression analysis. Therefore, as reported within the selection
requirements, this study limits the sample to firms with their latest three years of operations summarized within the prospectus.

4. Results and Discussions
4.1 Results

Following the criteria for sample selection described in previous section, the following table presents the procedure for selecting the sample firms used in this study. As can be seen from Table 1, the final sample consists of 90 IPO firms from a total of 166 IPO firms that went public during the period of analysis.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Number of IPO firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IPO firms 1991-1997</td>
<td>166</td>
</tr>
<tr>
<td>2</td>
<td>Minus firms with financial report consisting of less than three financial years in the prospectus</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Firms financial report consisting of three financial years in the prospectus</td>
<td>151</td>
</tr>
<tr>
<td>4</td>
<td>Minus firms where unavailable prospectus</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Firms with available prospectus</td>
<td>138</td>
</tr>
<tr>
<td>6</td>
<td>Minus firms in Banking and Financial Services industry</td>
<td>48</td>
</tr>
<tr>
<td>7</td>
<td><strong>Final sample</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

Table 2 presents the description of sample firms in terms of industrial classification and year of offering. As shown in Panel A of Table 2, IPO firms from basic and chemical industry represent the largest numbers in terms of percentage from the total sample. From 25 firms in basic and chemical industry that went public during the period of analysis, there were 23 firms or 92.00% satisfying the sample criteria. Second largest industrial group is the consumers good industry for which there are 21 firms or 23.33% of the total sample, while the smallest group is represented by agriculture industry, off which there are only two firms satisfying the sample selection.

Examination based on the year of offering reveals that the largest year of offering is 1994 for which there were 47 firms making an IPO during that year and the number of firm satisfying the sample selection is 26 firms or 28.89%. The smallest number of firm making IPO is year 1996, but the number of sample firms satisfying selection criteria is year 1991 for which there were only six firms representing the total of 18 firms that went public during that year.

Accounting betas are calculated for the firms using two measures of return and one market proxies. As mentioned earlier, the return for each firm is regressed against the return for the market proxy to calculate the accounting betas.

Summary statistics for various variables of these 90 firms are reported in Table 3. As shown in the table, the mean (median; standard deviation) for accounting beta when net profit margin is used is 0.574 (0.455; 0.961), while if the return on assets is used the mean (median; standard deviation) of accounting beta is 0.687 (0.429; 1.309). The correlation of the two measures of accounting beta, not reported in the table, is 13.9% (p=0.193). This correlation indicates that the two measures of accounting beta are independent from each other. The mean (median; standard deviation) raw underpricing of the sample firms is 8.2% (5.3%; 14.9%), whilst for adjusted underpricing the mean (median; standard deviation) is 8.1% (5.6%; 14.8%). The correlation, not reported in the table, between these two measures of underpricing is 99.5% (p=0.000). This correlation indicates that the two measures of underpricing are highly correlated and it implies that
the use of either the raw or adjusted initial return does not qualitatively change the results of analysis.

Table 2
Description of Sample Firms based on Industrial Classification and the Year of Offering (n=90)

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of firm</th>
<th>Percentage</th>
<th>IPO Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A: Industry Classification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Agriculture</td>
<td>2</td>
<td>2.22%</td>
<td>3</td>
<td>66.67%</td>
</tr>
<tr>
<td>2 Mining</td>
<td>5</td>
<td>5.56%</td>
<td>5</td>
<td>100.00%</td>
</tr>
<tr>
<td>3 Basic and Chemical</td>
<td>23</td>
<td>25.56%</td>
<td>25</td>
<td>92.00%</td>
</tr>
<tr>
<td>4 Consumers Good</td>
<td>21</td>
<td>23.33%</td>
<td>25</td>
<td>84.00%</td>
</tr>
<tr>
<td>5 Miscellaneous</td>
<td>15</td>
<td>16.67%</td>
<td>22</td>
<td>68.18%</td>
</tr>
<tr>
<td>7 Infrastructure and Utilities</td>
<td>5</td>
<td>5.56%</td>
<td>9</td>
<td>55.56%</td>
</tr>
<tr>
<td>9 Trade and Services</td>
<td>19</td>
<td>21.11%</td>
<td>29</td>
<td>65.52%</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100.00%</td>
<td>118*</td>
<td></td>
</tr>
<tr>
<td>Panel B: Year of Offering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>6</td>
<td>6.67%</td>
<td>18</td>
<td>33.33%</td>
</tr>
<tr>
<td>1992</td>
<td>7</td>
<td>7.78%</td>
<td>15</td>
<td>46.67%</td>
</tr>
<tr>
<td>1993</td>
<td>17</td>
<td>18.89%</td>
<td>20</td>
<td>85.00%</td>
</tr>
<tr>
<td>1994</td>
<td>26</td>
<td>28.89%</td>
<td>47</td>
<td>55.32%</td>
</tr>
<tr>
<td>1995</td>
<td>15</td>
<td>16.67%</td>
<td>21</td>
<td>71.43%</td>
</tr>
<tr>
<td>1996</td>
<td>11</td>
<td>12.22%</td>
<td>15</td>
<td>73.33%</td>
</tr>
<tr>
<td>1997</td>
<td>8</td>
<td>8.89%</td>
<td>30</td>
<td>26.67%</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100.00%</td>
<td>166*</td>
<td></td>
</tr>
</tbody>
</table>

Note:
* the total number of IPO population is different due to two industrial codes were excluded, those are Code 6 which consists of 19 IPO firms and Code 8 which consists of 29 IPO firms.

The level of underpricing reported in Table 3 is lower to a number of studies in various emerging countries as shown in Gumanti (2003). It also lower than average initial returns reported in Gumanti (2000) or Nasirwan (2001). Nevertheless, this study confirms the widely phenomenon in IPO setting that on average the newly issued stock market is underpriced (Ritter, 1991). The average (media) level of ownership retention is 74.4% (74.4%) with a minimum of 50.0% and a maximum of 96.5%. This finding indicates that former issuers of IPO firms do not widely diversify their ownership of which there is about 25% of share portion being sold in the offering. This finding also indicates that former issuer still retain control of the firm after the IPO.

The offer price of IPO firms ranges from the lowest of Rp 650 to the highest of Rp7,800 with an average of Rp 3,276 and a standard deviation of Rp 1,793. This finding indicates that there is a great variation of the offer price. The sample firms have average year of operation of 16.667 years. The standard deviation of year of operation is 8.120 years.

Table 3
Summary Statistics of Research Variables (n=90)

BNPM is accounting beta based on net profit margin measured as the slope from the regression between net profit margin of the IPO firm and the market’s net profit margin. Net profit margin is the ratio between net income and net sales or net income; BROA is accounting beta based on
return on assets measured as the slope from the regression between return on assets of the IPO firm and the market’s return on assets. ROA is measured as the ratio between net income and total assets, OWN is ownership retention, UP is the level of underpricing or initial returns measured as the difference between the first day market price and the offering price divided by offering price, ADJUP is adjusted underpricing measured the initial return adjusted with market return, AVNPM is the average of net profit margin for the most recent three years prior of IPO, AVROA is the average of return on assets for the most recent three years prior to IPO, OFPRIC is the offering price, AGE is the age of IPO firms measured as the difference between the establishment date and the year when the offering took place.

<table>
<thead>
<tr>
<th>Description</th>
<th>BNPM</th>
<th>BROA</th>
<th>OWN</th>
<th>UP</th>
<th>ADJUP</th>
<th>AVNPM</th>
<th>AVROA</th>
<th>OFPRIC</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.574</td>
<td>0.687</td>
<td>0.744</td>
<td>0.082</td>
<td>0.081</td>
<td>0.087</td>
<td>0.058</td>
<td>3.276</td>
<td>16.667</td>
</tr>
<tr>
<td>Median</td>
<td>0.455</td>
<td>0.429</td>
<td>0.744</td>
<td>0.053</td>
<td>0.056</td>
<td>0.063</td>
<td>0.047</td>
<td>3.000</td>
<td>17.000</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.961</td>
<td>1.309</td>
<td>0.084</td>
<td>0.149</td>
<td>0.148</td>
<td>0.084</td>
<td>0.043</td>
<td>1.793</td>
<td>8.120</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.431</td>
<td>1.073</td>
<td>0.485</td>
<td>2.245</td>
<td>2.100</td>
<td>17.029</td>
<td>22.752</td>
<td>-0.147</td>
<td>2.049</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.036</td>
<td>0.188</td>
<td>0.295</td>
<td>0.599</td>
<td>0.532</td>
<td>3.463</td>
<td>3.795</td>
<td>0</td>
<td>0.997</td>
</tr>
<tr>
<td>Minimum</td>
<td>-2.077</td>
<td>-3.197</td>
<td>0.500</td>
<td>-0.276</td>
<td>-0.281</td>
<td>0.005</td>
<td>0.004</td>
<td>650</td>
<td>4.000</td>
</tr>
<tr>
<td>Maximum</td>
<td>2.780</td>
<td>4.391</td>
<td>0.962</td>
<td>0.567</td>
<td>0.567</td>
<td>0.609</td>
<td>0.351</td>
<td>7,800</td>
<td>46.000</td>
</tr>
</tbody>
</table>

**Note:**
Each variable is presented in terms of ratio except OFPRIC (in Indonesia Rupiah) and AGE (in years)

The average (median; standard deviation) net profit margin for all IPO firms over their most recent three years financial report available in the prospectuses is 8.7% (6.3%; 8.4%), while the figure for ROA is 5.8% (4.7%; 4.3%), respectively. There is no single IPO firm that reported negative NPM or ROA. The lowest (highest) NPM and ROA for sample firms are 0.5% (60.9%) and 0.4% (35.1%), respectively.

After computing the accounting betas, we test the association of the accounting betas with the initial returns of the IPOs which are measured as the difference between the offering price and the closing bid price at the end of the offering date. A positive and significant relationship implies that ex ante accounting betas are good proxies for the systematic risk of the represented firms. In order to test whether or not there is a direct relationship between the initial return and the accounting beta, Ordinary Least Square (OLS) regression is utilized. The firm’s initial return is the dependent variable and systematic risk represented by accounting beta is the explanatory variable as shown in following equation.

\[ IR_i = a_0 + a_1 AB_i + u_i \]

where, \( IR_i \) is Initial Return, measured as the ratio of Closing price at the end of the offering day over the Offering price, \( AB_i \) is accounting beta for the \( i^{th} \) IPO.

A high (low) accounting beta is a proxy for a high (low) risk firm as perceived by potential investors. Since risk and return are highly correlated, a higher beta should be associated with higher underpricing of the initial public offering and therefore a higher return to the investor as compensation for the risk undertaken.

Table 4 presents the results of regression analysis between accounting beta and initial returns. As can be seen from the table, the two model of regression analysis produce qualitatively similar results. Both regressions produce similar coefficients, positive but insignificant. However, it is evidenced that the use of ROA results in better value than NPM.

The correlation coefficient between accounting beta ROA (BROA) and raw initial returns is 18.6 (p=0.080), whilst the correlation coefficient between accounting beta NPM (BNPM) and raw initial return is 10.5 (p=0.324). Qualitatively similar results were obtained when the initial return is the market adjusted return, that is a coefficient of 18.9 (p=0.074) for BROA and a coefficient of 10.2 (p=0.340) for BNPM. This finding
implicitly asserts that accounting beta has positive association with initial return. However, no significant relationship has made it difficult to confirm previous findings reported by Almisher and Kish (2000) for US IPO market.

Table 4
Results of Regression Analysis

Dependent variable is initial returns, measured as the ratio between first day market price and the offering price. Beta NPM is accounting beta based on net profit margin measured as the slope from the regression between net profit margin of the IPO firm and the market’s net profit margin. Net profit margin (NPM) is the ratio between net income and net sales or net income; Beta ROA is accounting beta based on return on assets measured as the slope from the regression between return on assets of the IPO firm and the market’s return on assets. ROA is measured as the ratio between net income and total assets.

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-value</th>
<th>R² (adj. R²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Beta ROA</td>
<td>0.017</td>
<td>0.149</td>
<td>1.484 (0.141)</td>
<td>2.44 (1.33)</td>
</tr>
<tr>
<td>Accounting Beta NPM</td>
<td>0.019</td>
<td>0.150</td>
<td>0.994 (0.323)</td>
<td>1.11 (-0.01)</td>
</tr>
</tbody>
</table>

As predicted, this study finds a positive relationship between accounting beta and initial return of IPO in Indonesian capital market. However, it is unable to reject the null hypothesis of no relationship between accounting beta and initial returns. Thus, the study does not support previous findings reported by Almisher and Kish (2000) who examine US IPO firms.

4.2 Discussions and Implications

A number of explanations merit further discussion. First, a positive association between accounting beta and initial returns could be justified as evidence of the possibility that accounting beta can act as ex ante uncertainty in IPO setting. However, the lack of significant relationship makes it difficult to assert that accounting beta is empirically similar to market beta. As this study represents a first examination between accounting beta in IPO markets and initial returns, further study my look at other accounting variables, such as gross profit margin, operating profit margin, or the ratio between income before extraordinary items and net sales as examined in Almisher and Kish (2000).

Second, the number of firms examined in this study is relatively small compared to the population of all IPOs in Indonesia. This could be the factor that leads to inability to reject the null hypothesis of no significant relationship between accounting beta and initial return. Further study may extend the number of IPO firms and making comparison between one industry and another to seek for further evidence of the possibility of difference characteristics of IPO firms.

Third, this study used only IPO accounting performance as the surrogate for market accounting returns. The use of IPO’s accounting returns may lack of representativeness of market sensitivity. In other words, this study uses sector-base accounting returns not market returns as a whole. Further study may use all accounting returns of the existing firms listed in the market.

6. Conclusion

This study attempts to examine the relationship between accounting bets and initial return of IPO firms. A sample of 90 IPO firms that went public between 1991 and 1997 at the Jakarta Stock Exchange is examined. From the analysis, it can be concluded that there is a direct relationship between accounting beta and the initial return of the
IPOs. Nevertheless, this positive relationship is statistically insignificant, either when accounting beta is based on return on assets or net profit margin.

Previous studies have demonstrated that accounting betas can be used as an ex ante measure of the riskiness of public firms. However, limited effort has been directed to test the efficacy using IPO market. This study represents early study to examine such association. As we mentioned earlier, we cannot find the degree of association between accounting beta and market beta for the IPOs because market betas cannot be computed for private firms. Further study may extend the measures of accounting returns that capture the specific characteristics of IPO markets.

REFERENCES


