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Pricing of New Securities: Is it Accounting or Finance that Matters?

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A large theoretical and empirical literature has been established to explain the reasons for under-pricing but, in the Malaysian context, minimal research has been undertaken with regard to the impact of accounting variables on under-pricing of new securities. Thus, this study plans to bridge the gap by making a comparison on the significance of accounting and finance variables on the extent of under-pricing of new securities. The empirical results suggest that P/E ratio and NTA have significant impact on under-pricing of new issues, whilst for the finance variables, only volatility of returns seem to be significant.

Field of Research: under-pricing, finance variables & accounting variables

1.0 Introduction

Researchers have produced a large theoretical and empirical literature to explain why firms are floated at a low price. If new securities are improperly priced, investor will get an inferior return and consequently might reject the offering. Thus, the pricing of new issues need to be seriously considered from both the finance and accounting perspective. This paper will empirically examine the significance of both accounting and finance data in pricing new securities. Pricing mechanism in the Malaysian securities market is regulated by the Securities Commission rather than being market driven. Once a firm has agreed to the pricing of the issue with its lead underwriter, an application has to be lodged for approval with the Ministry of International Trade and Industry (MITI), the Foreign Investment Committee (FIC), and the Capital Issues Committee (prior to March 1993), now the Securities Commission (SC). Until 1995, the offer price used to be controlled by SC with a price-earnings ratio in between 3.5 to 8.0 times of the forecasted earnings per share of the new security.

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Though the limit on the offer price levels was withdrawn in 1996, SC still retains the final authority to approve an offer price. Underwriters/issuers can only make a recommendation on the offer price in their proposal, unlike in the US, where the lead underwriter and the issuer decide on the new securities offer prices. Subsequent to the approval of the SC, and before the signing of the underwriting agreement and the announcement of the offer price, the board of directors and its lead underwriter are required to furnish a detailed prospectus to the SC and Bursa Malaysia.

Following the closing of applications for each public issue, company board members and representatives from both the Malaysian Industrial Development Finance Consultancy and Corporate Services (MIDFCCS) and the SC meet to agree the basis for allotting the shares. In general, oversubscription is a very common phenomenon in the Malaysian market for new securities and rationing is thus necessary. In this pre-balloting meeting, the number of successful applicants for each group as well as the number of shares to be allocated to each applicant is determined. Since application forms are not opened before the balloting takes place, a reserve list is required for both the Bumiputera and the public portion. The rationale of the reserve list is that if a number of applicants have been rejected following balloting, the shares which have been allocated to them will be allocated to other investors who were not successful in the first balloting.

The major feature of the balloting process is that it is carried out in public and in two different stages, in the presence of representatives from the Anti-Corruption Agency, MIDFCCS, MITI, FIC, SC and members of the board of directors. In the first stage, the Bumiputera investors are balloted and members of the board of directors are invited to draw a pre-determined number of envelopes from each group. This is followed by a mini-balloting from the reserve list of the Bumiputera portion. In the second stage, all unsuccessful Bumiputera application forms are added to the public portion for the second balloting. The Bumiputera investors' probability of success is thus much higher than that of other investors. A common practice in the allocation process in the Malaysian new securities market is that small investors are allocated a high proportion of the shares on offer (an average of 70%).

In Malaysia, market for new securities play an important role in the economy, enabling companies to raise capital through the issuance and sales of shares. Extensive research on pricing new issues had been undertaken all over the world, and it has been widely documented that under-pricing exist at different levels and is said to be a compensation for post-IPO uncertainty.

Even in the Malaysian context, a considerable amount of research had been undertaken on pricing of new securities. The main issues considered thus far,

among others, revolves around the degree of under-pricing (Dawson,1987; Sufar, 1993; Mohamed et al. 1994), aftermarket performance (Yong, 1997; Yong, 2001; Jelic et al., 2001) and issues such as share lock-up (Wan Husin, 2005), and under-pricing for government-linked companies (Mohamed et al. 1994; Paudyal, 1998).
Despite the growing number of studies in the area of under-pricing and after-market performance, minimal research has been undertaken with regard to the significance of accounting data on the extent of under-pricing of new securities. Thus, this study intends to further contribute to the existing literature by undertaking an empirical analysis on the significance of both accounting and finance data on the pricing of new issues.

The objectives of this study are:
1. To analyze the significance of selective accounting information in the under-pricing of new securities in the Malaysian stock market between 2001–2005.
2. To analyze the significance of selective finance information in the under-pricing of new securities in the Malaysian stock market between 2001–2005.

2.0 Literature Review

Under-pricing is a robust phenomena that extends across equity market in several countries. This is largely supported by the outcome of the research in different markets all over the world (Ibbotson & Ritter,1995; Jenkinson, 1990; Hamao, 2000) etc. In the local front, a very detailed study by Ariff, Shamser and Annuar (1994) suggested that the average excess return on the first trading day was 135%. This average declined slightly on the first week but gradually increased over several months until the 15th month. The long run returns declined gradually from the 16th month. This suggests that the IPOs are inefficiently priced in Malaysia. This was further supported by Ritter (2003), who suggested that the first day return for Malaysian IPOs were 104%.

Othman Yong had done extensive research on the status of ASEAN IPOs, with specific focus on short-term under-pricing and long-term performance of these IPOs. His study revealed that the average initial returns of Malaysian IPOs for the period 1990 – 1994 was 75% (Yong, 1997). Further research by Yong (2001), using Malaysian IPOs on Main and Second Boards between 1991–1995 found that the average initial returns had no relation with average annual return over the long-term period.

Dawson (1987), researched on three Asian Market (Hong Kong, Singapore and Malaysia) and suggested that market adjusted rapidly to new information and by first day of trading, excess returns were no longer available to purchasers in Hong Kong and Singapore secondary market. Nevertheless, the new issues in the Malaysian market produced a very large return on the first day, 167%, and over the following year, the uptrend continued, but at a reduced rate of increase.

Thus, from the above evidences, it can be postulated that under-pricing is a common phenomena in Malaysia.

Chen and Kao investigated the benefit of excluding institutional investors in fixed price offerings and concluded that excluding institutional investors can effectively alleviate the winner's curse in IPOs. IPO under-pricing was reduced by at least 4 percent due to alleviating the winner's curse. In a slightly different context, Binay, A.Gatchev & Pirinsky (2001) worked on Winner's Curse arising from the relationship between institutional investors and lead underwriters. Given that the average IPO was significantly under priced, this result suggested that institutional investors benefited more than retail investors from participating in IPOs.

Keloharaju (1993) confirmed on the presence of winner's curse in the Finnish market and the IPO firms substantially underperformed in the long-run. Coakley, Instefjord and Zhe Shen (2007) found strong evidence of adverse selection, i.e. inverse relationship between initial return and allocation. Greater underpricing is associated with smaller allocation, thus suggesting the presence of Winner's Curse. Similar study by Beierlein and Kato (2003) found that underpricing and bidder sensitivity of winner's curse appear to be the highest, after auctions were introduced and after the maximum price requirement was eliminated. Chowdhry and Sherman (1996) conjectured that many countries favor small investors to large investors. The reason is to reduce adverse selection or the winner's curse problem.

Yu and Tse (2005) examined empirically under-pricing in the Chinese A-market and their findings include the presence of winner's curse, uncertainty and signaling hypothesis as determinants of under-pricing. Uncertainty was proxied by variance of after-market return, age of firm, offer size and underwriters reputation.
Chaturvedi et al. (2005) attempted to identify the causal variables behind high initial returns for Indian IPOs. His study was based on several variables (market index, number of shares, deal size, growth rate, number of lead managers, retention, over-subscription etc) but the MLR revealed that under-pricing is significantly affected by only one of the variables, and that is , over-subscription.

Chan et al. (2004) suggested that the IPO shares are significantly undervalued, compared with the whole market based on *P*/*E* ratios and *B*/*M* ratios and that the initial returns on the first trading day just reflect this pricing discrepancy. This suggests that investors are not overconfident in bidding up the stock prices on the first day of trading. They also argued that their results are inconsistent with asymmetric information models of IPO pricing and provide support for behavioral theories based on investor overconfidence.

Beatty et al. (2000) examined the relationship between IPO stock values and available financial statement accounting information. They found that accounting book value, earnings and revenue, in conjunction with several other firm and

market characteristics, seem to explain a large portion of IPO offer prices, i.e. R^2 near 80%.

This study will empirically test the following hypothesis:

H_1 : Net Tangible Assets (NTA) is positively related to under-pricing of new securities.
H_2 : Price-Earnings ratio is inversely related to under-pricing of new securities.
H_3 : Earnings per share is inversely related to pricing of new securities.
H_4 : Time lag between offer date and listing date is positively related to pricing of new issues.
H_5 : Size of ownership is positively related to pricing of new securities.
H_6 : The firm size and age of the firm is inversely related to pricing of new securities.
H_7 : The volatility of returns is positively related to pricing of new securities.

3.0 Data and Methodology

Data for this study will be obtained from various sources, including DataStream, Bursa Malaysia website (www.bursamalaysia.com.my) and Company records at Bursa Library. This study will make a comparison between accounting and finance data and its significance on under-pricing of new security pricing. The data will include all companies that went Public between 2001–2005. For each company in the analysis, information on daily share prices, offer price, insider holding, incorporation date, submission date, listing date, listing sought, earnings per share, price-earnings ratio and net tangible assets will be collected.
Two regression models are used in this study, i.e the first one to analyze the significance of certain accounting variable on the under-pricing of new issues, whilst the second one will look into the finance variables and its significance on under-pricing of new issues. The hypotheses will be tested using a multiple linear regression analysis.

The models are as below:

To test the significance of accounting variables on the under-pricing of new issues:

$$\text{Initial return (IR)} = \beta_0 + \beta_1 PE + \beta_2 EPS + \beta_3 NTA \quad \text{......................... (1)}$$

To test the significance of finance variables on the under-pricing of new issues:

$$\text{Initial return (IR)} = \beta_0 + \beta_1 \ln AGE + \beta_2 \ln LAG + \beta_3 SD + \beta_4 OWNSHIP + \beta_5 \ln MKTCAP \quad \text{.. (2)}$$

The initial return (IR), will be computed by dividing the difference between closing price of the first trading day and the offer price by the offer price. This is to be taken as a proxy for initial return or the degree of under pricing.

[Closing Price $_{(day\ 1)}$ - Offer Price] / Offer Price

AGE represents the age of the company. It is obtained by taking the difference between the date of incorporation and the listing date.

LAG represents the difference between the prospectus date (lodged with the Securities Commission) and the listing date.

SD represents the volatility of the aftermarket return. This is calculated using the standard deviation of returns from t_0 to t_{100}. T_0 represents day 0 whilst t_{100} represents the 100^{th} day.

OWNSHIP represents the percentage of shares held by the owners of the company. This is obtained by taking the number of shares held by the owners of the company against total number of shares issued.

MKTCAP is obtained by taking the number of shares issued by the company times the Offer Price.

Price Earnings ratio (PE), Earnings per Share (EPS) and Net Tangible Assets (NTA) are obtained directly from the prospectus of the respective companies.

4.0 Findings and Discussion

A multiple linear regression (MLR) analysis was conducted to investigate the significance of both accounting and finance variable on the extent of under-pricing of new securities. Before the results of the analysis are discussed, the assumptions of MLR are investigated and the expected patterns for non-violation of the assumptions were found. The results of this investigation seem to support the use of MLR as an appropriate statistical analysis for this part of the study. Table 1 – 4 below provides the results of the MLR analysis.

Table 1: MLR Results for the significance of Price Earnings Ratio (PE), Earnings per Share (EPS) and Net Tangible Assets (NTA) on the pricing of new securities.

Model	Sum of Squares	df	Mean Square	F	P	R Square
1 Regression	1.173	3	.391	3.299	0.024	0.063
Residual	11.729	99	.118			
Total	12.902	102				

a. Predictors: (Constant), NTA, EPS, PE
b. Dependent Variable: Initial Return

Based on the results in Table 1, the overall model with the three accounting predictors, i.e. price earnings ratio (PE), earnings per share (EPS) and net tangible assets (NTA) do seem to explain very well the variation in pricing of new issues (F = 3.299; df = 3,99; p=0.024). From Table 2, net tangible asset (NTA) and Price earnings Ratio (P/E) is found to exert a significant positive influence on the under-pricing of new issues (Net Tangible Assets : t=3.074, p = 0.003, b = +0.3 ; price earnings ratio : t = -1.927, p = 0.051, b = -0.236). This is in line with studies by Chan et al (2004) and Beatty et al. (2000) whose studies found a significant relationship between accounting information and under-pricing. On the flipside, Earnings per Share (EPS) has no significant influence on the under-pricing of new securities (earnings per share: b = 0.040, t = 0.419, p = 0.676). Furthermore, the proportion of explained variance as measured by R Square for the above regression equation is 0.063. In other words, only 6.3% of the variation in the under-pricing of new securities is explained by net tangible assets, price earnings ratio and earnings per share.

Table 2: Estimated Standardized Regression Coefficients

Model	Standardized Coefficients	t	Sig.
	Beta		
1 (Constant)		1.148	0.254
Price Earnings Ratio (P/E)	-0.236	-1.907	0.051
Earnings Per Share (EPS)	0.040	0.419	0.676
Net Tangible Assets (NTA)	0.381	3.074	0.003

a. Dependent Variable: Initial Return

The beta values given in Table 2 seem to indicate that Net Tangible Asset (beta=0.381) is the most important predictor with regard to the extent of under-pricing in new securities, followed by Price Earnings ratio. Price earnings ratio has a negative but significant relationship at 5% confidence level. Theoretically, P/E ratio conveys an investors' perception of the future prospects of a company and the negative beta in this study suggest that the higher the P/E of a company, the lower is the under-pricing. Thus, an inverse relationship is explainable because a company that has been perceived by investors as a good investment may not need large under-pricing.

Table 3: MLR Results for the significance of Age, Lag, Ownership, Standard Deviation and Size on the pricing of new securities.

Model	Sum of Squares	df	Mean Square	F	p	R Square
1 Regression	3.035	5	0.607	2.358	0.043	0.042
Residual	38.866	151	0.257			
Total	41.901	156				

a. Predictors: (Constant), Lag, Ownership, Standard Deviation and Size
b. Dependent Variable: Initial Return

Based on the results in Table 3, the empirical output suggest that the overall model with the finance predictors, i.e. age of the company, lag, retention of shares by owners of the business, volatility of returns and company size do seem to be significant in terms of explaining the variation in pricing of new issues ($F = 1.404$; $df = 5,159$; $p=0.043$). Nevertheless, when each of the variable is analysed individually (while the rest held constant), only volatility of returns seem to be significant at 5% confidence level. From Table 4, it is also noted that none of the other finance variables used in this study has an impact on the under-pricing of new securities. Age, ownership and size have very weak inverse relationship, whilst lag and volatility have weak positive relationship. This is in tandem with the empirical results obtained by Chaturvedi et al. The proportion of explained variance as measured by R Square for the above regression equation is 0.042, which means, only 4.2% of the variation in the under-pricing of new securities is explained by age, lag, size, volatility and ownership.

Table 4: Estimated Standardized Regression Coefficients

Model	Standardized Coefficients	t	Sig.
	Beta		
1 (Constant)		0.206	0.837
Age	-0.129	-1.593	0.113
Lag	0.048	0.594	0.553
Ownership	-0.126	-1.584	0.115
Volatility of returns	0.170	2.081	0.039
Size	-0.063	-0.768	0.444

a. Dependent Variable: Initial Return

The beta values given in Table 4 seem to indicate that volatility of return (beta = 0.17) is the best predictor for the under-pricing of new securities and is significant at 5% confidence level. The more volatile the expected return of a company, the higher the extent of under-pricing and this is mainly due to the uncertainty hypothesis, which states that new issues need to be under-priced to induce

investors because of the uncertainty in the aftermarket. This result is in line with the study by Yu and Tse (2005), which suggest that age and volatility of returns are positively and significantly related to under-pricing. The rest of the variables are not significant at the said confidence level. The negative beta for age, ownership and size conjectures that the higher the age, the ownership and size of the company, the lower the extent of under-pricing.. As for time lag, there is a positive relationship but not significant. The result contradicts with similar study conducted by Kim, Rui and Xu (2005) and Chen et al., who found significant and positive relationship between time lag and under-pricing.

5.0 Conclusion and Implication

Based on the empirical results above, it is conjectured that price earnings ratio and net tangible assets do have an impact on the extent of under-pricing in the Malaysian Stock market. These findings are definitely a valuable extension to the existing literature on factors affecting under-pricing of new securities. Nevertheless, for the selected finance variables, it is noted that lag, age, size and ownership has no significant effect on the under-pricing of new shares. The only variable that has a significant influence on under-pricing is volatility of returns. Thus, the conclusion is that the finance variables mentioned above are in the weak form and may only act as an indicative measure. It would be interesting to further research on other factors such as Share Moratorium, Underwriters Reputation, Policy Risk, composition of retail/institutional investors and the recent trend of investors psychology/behavioral finance. It is thus suggested for further research to be considered on these areas. Last but not least, under-pricing in the Malaysian context has been widely documented but the factors affecting the extent of under-pricing seem to be rapidly changing over time. It is postulated that both accounting and finance factors have differing degree of influence on under-pricing and it is strongly suggested for potential investors to consider both these factors in their investment decisions.

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