SIGNIFICANCE OF BOARD OF LISTING AND TYPE OF ISSUE ON THE UNDER-PRICING AND AFTER-MARKET PERFORMANCE OF MALAYSIAN IPOs

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ABSTRACT

This paper presents the short-term and long-term performances of all new issues listed on both the Main Board and the Second Board of the Kuala Lumpur Stock Exchange (KLSE) from 1991 to 1995. In general, this study finds an average initial return and an average over-subscription ratio which are substantially lower than the ones reported by the previous studies. Furthermore, we find that correlation coefficients between initial returns and over-subscription ratios are significant, especially for new issue of type 2, offer for sale. We also find that initial returns are significantly greater than their respective longer-term returns, and there is no significant difference in the initial returns among the types of issue compared. Finally, in general, we find that the mean initial return has no significant relationship with the average annual return over the longer-term periods.

INTRODUCTION

Under-pricing for new issues of stocks or initial public offerings (IPOs) is a well-known phenomenon both in the advanced markets of the Western countries and also in the developing markets, such as Malaysia. There are three common explanations to this phenomenon. The first explanation suggests that the under-pricing is the result of a winner's curse to uninformed investors caused by asymmetric information between groups of informed and uninformed investors. The second explanation suggests that asymmetric information cause quality firms to signal their quality by under-pricing, and in doing so, they expect to raise capital under better terms in the future. The third explanation suggests that under-pricing results because the issuing firms want to avoid lawsuits. It is argued

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that lawsuits by unhappy investors are less likely when new issues are under-priced. In the Malaysian context, Dawson (1994) suggests that under-pricing in the Malaysian IPOs is due to the pricing restraints applied by the then Capital Issues Committee (its function has been replaced by the Securities Commission since March 1993).

This paper has three major objectives. First, to document the general level of under-pricing for all new issues or IPOs listed on both the Main Board and the Second Board of the Kuala Lumpur Stock Exchange (KLSE) over a more recent period than those documented in prior studies. Prior studies usually focus only on the Main Board because the Second Board was only established in November 1988, or these studies simply do not differentiate between the two boards. Second, this study focuses both on the short-term and the long-term performances of the new issues. Finally, unlike other previous studies on the KLSE, this study further classifies the performance of new issues according to the types of issue and the board they are listed on. Officially, there are three types of new issue, namely: (1) public issue; (2) offer for sale; and (3) *hybrid* of public issue and offer for sale.

The remainder of this paper is organized as follows. Section 2 presents the review of past studies. Section 3 discusses the data and methodology used. Section 4 presents the findings. Finally, Section 5 summarizes and concludes the paper.

REVIEW OF PREVIOUS STUDIES

A comprehensive review of under-pricing of IPOs can be found in Ibbotson and Ritter (1993). Earlier studies are those by Reilly and Hatfield (1969), Neuberger and Hammond (1974), Bear and Curley (1975), Ibbotson (1975), Reilly (1977), Block and Stanley (1980), Baron (1982), Rock (1986), Chalk and Peavy (1987), Miller and Reilly (1987), Allen and Faulhaber (1989), Grinblatt and Hwang (1989), Welch (1989), and Chemmanur (1993). A more recent studies in the US are those by Barry and Jennings (1993), Hanley and Wilhelm (1994), Booth and Chua (1996), Dunbar (1997), and Chaney and Lewis (1998).

There are three common explanations to this under-pricing phenomenon. Baron (1982), Rock (1986), Beatty and Ritter (1986), Beatty (1989) and Levis (1990) suggest that the under-pricing is the result of a winner's curse to uninformed investors caused by asymmetric information between groups of informed and uninformed investors. The informed investors are assumed to have access to information regarding the true value of new issues, and so they will only subscribe

a new issue if the after-market price exceeds the offering price. On the other hand, the uninformed investors are assumed to subscribe to all new issues indiscriminately, and so they will end up purchasing the overpriced offerings as well. This is referred to as the winner's curse or the Rock's (1986) Winner's Curse model. Therefore, realizing that they will be receiving the overpriced offerings, the uninformed investors will stay out of the new issue market. In order to ensure that the offering is fully subscribed, the new issue has to be under-priced to entice the uninformed investors into the market. The second explanation is put forth by Allen and Faulhaber (1989), Grinblatt and Hwang (1989), Welch (1989) and Chemmanur (1993). They argue that asymmetric information causes quality firms to signal their quality by under-pricing, and in doing so, they expect to raise capital under better terms in the future. Finally, the third explanation is offered by Ibbotson (1975) and Tinic (1988). They argue that under-pricing results because the issuing firms want to avoid lawsuits because lawsuits by unhappy investors are less likely when new issues are under-priced. In the case of the Malaysian IPOs, Dawson (1994) suggests that under-pricing phenomenon is the result of the pricing restraints applied by the then Capital Issues Committee (CIC) on all new issues listed on the KLSE. It should be noted here that since March 1993 CIC's functions were officially taken over by the Securities Commission.

Loughran and Ritter (1995) find that companies issuing stock during 1970 to 1990, whether an initial public offering or a seasoned equity offering, have been poor long-run investments for investors. During the five years after the issue, investors have received average returns of only 5 percent per year for companies going public and only 7 percent per year for companies conducting a seasoned equity offer.

Booth and Chua (1996) develop an explanation for new issue under-pricing in which the issuer's demand for ownership dispersion creates an incentive to under-price. Promoting over-subscription allows broad initial ownership, which in turn increases secondary-market liquidity. Increased liquidity reduces the required return to investors. Broad initial ownership, however, requires an increase in investor-borne information costs. These information costs are offset through initial under-pricing. Results of this study are consistent with initial under-pricing reflecting the level of ownership dispersion.

Chaney and Lewis (1998) investigates how firms that made initial public offerings of equity between 1975 and 1984 report earnings. For a sample of 489 firms, they find a positive association between a proxy for income smoothing and firm performance. That is, firms that perform well tend to report

earnings with less variability relative to cash from operations compared to other firms.

In Australia, Lee, Taylor and Walter (1996) analyze both initial under-pricing and post-listing returns for Australian new issues. Their results are consistent with the view that unique institutional characteristics may have overwhelmed previous Australian tests of equilibrium models of new issue under-pricing. The results also show that Australian new issues significantly under-perform market movements in the three-year period subsequent to listing. The evidence suggests a curvilinear relationship between initial and subsequent returns, although the economic significance of the relationship is low.

In Japan, Pettway and Kaneko (1996) investigate whether public policies that changed the new issue pricing regimes can reduce the level of initial returns. They find the changes that removed price limits and introduced public auctions reduced the level of initial returns significantly. Thus, public policy can reduce, but not eliminate under-pricing. They propose that the developing capital markets with significantly higher levels of under-pricing, should consider introducing auctions to reduce initial returns.

Cai and Wei (1997) study the long-run stock returns and the operating performance of 180 initial public offerings (IPOs) listed on the Tokyo Stock Exchange during the 1971-92 period. The after-market downward drift is not only confirmed but also found to be large in magnitude relative to a number of benchmarks. In contrast to evidence from the US, the post-issue deterioration in operating performance cannot be attributed to the reduced managerial ownership.

Kim, Krinsky and Lee (1995) investigate Korean initial public offerings (IPOs) to provide one case of the international evidence on the long-run performance of IPOs. Their sample consists of 169 firms listed on the Korea Stock Exchange during the period 1985 -1989. Unlike previous international evidence, their results reveal that the Korean IPOs outperform seasoned firms with similar characteristics. Much of the over-performance, however, takes place during the first month of seasoning and the long-run performance of Korean IPOs exclusive the first month of seasoning is not statistically different from that of seasoned firms. They also find that the deregulation of June 1988 had a mixed impact on the after-market performance of Korean IPOs. It reduced the degree of initial under-pricing but had no impact on IPOs' long-run performance.

Chowdhry and Sherman (1996) state that an interesting feature of the allocation of initial public offerings (IPOs) is that issuers in many countries tend to favor small over large investors. This occurs in the U.K., Hong Kong, Singapore, Malaysia, Indonesia, India, Thailand and Bangladesh, among other places. For example in Hong Kong between 1986 and 1992, around 85% of IPOs were allocated in a way that strictly favored smaller orders. The reason for favoring small investors over large investors is often thought to be some notion of `fairness'. They develop a model to show that such a policy may, in fact, be consistent with revenue maximization by the issuing firm because it reduces the adverse selection or the `winner's curse' problem pointed out by Rock (1986). The intuition is that informed investors tend to place larger orders than do uninformed investors even when they have the same wealth level; this tendency is obviously stronger if informed investors tend to be wealthier than the uninformed. They derive other empirical implications of the model and relate them to the stylized facts about IPOs in various countries.

Sauer, Mohan and Chong (1994) investigate the initial under-pricing and direct underwriting costs associated with global initial public offerings. These offerings are larger, less volatile, and experience less initial under-pricing than domestic offerings. Furthermore, the direct offering costs expressed as a percentage of gross proceeds are also less. Cross-sectional analysis suggests that differences in initial under-pricing may be attributable to differences in risk. Their results on under-pricing are consistent with reduced risk to the underwriter and a capital availability argument: (1) large public offerings are easier to sell when shares are sold in multiple markets and (2) shares may be moved to those markets most receptive to the offering.

In Malaysia, an early study by Dawson (1987), from 1978 to 1983, using 21 new issues, reports a positive average initial return (first day closing price compared to offer price) of 166.7 percent for the Malaysian stocks, while Yong (1991) documents an average initial return of 167.4 percent. Both Dawson (1987) and Yong (1991) document an average over-subscription ratio of about 46 times. Ismail *et al.* (1993), using 63 new issues from 1980 to 1989, report an average initial excess return (initial return adjusted for market movement) of 114.6 percent. Loughran *et al.* (1994) report an average initial return of 80.3 percent for 132 Malaysian IPOs for the period 1980-91.

Wu (1993) examines the long-term performance of all 70 newly issued Malaysian incorporated companies listed on the Main Board of the KLSE from January 1974 to December 1989. This study

finds that in a long-term, new issues with low initial returns performed better than those with high initial returns. In addition, small sized firms tend to outperform the big sized firms, in both short-term and long-term. This firm size effect is more apparent in the long-run than in the short-run. Isa and Ahmad (1996) investigates the short-term performance of 126 Malaysian IPOs from 1980 to 1991. They find the overall initial returns of 76.8% which is higher than that of other markets. In a more recent study, using a sample of 224 IPOs listed on the Malaysian stock market from January 1990 to December 1994, Yong (1997) documents an average initial (offer-to-open) return of 72.8 percent (72.6 percent adjusted return), with the recomputed average initial (offer-to-close) return of 75 percent (adjusted initial return of 74.5 percent). These averages are substantially lower than those found in earlier studies on the Malaysian stock market. The average over-subscription ratio of 32.3 times is also lower than those found in earlier studies. Overall, both mean returns and adjusted mean returns indicate that benefits of under-pricing do not accrue to the secondary market traders, either on the first day or seven days later. In fact, even-though not significant enough, in some cases, the evidence suggests a decline in return accruing to secondary market traders after the opening price of the first day of trading. The results imply that only the subscribers of securities in the IPO itself (as opposed to buyers in the after-market) benefit from the under-pricing of IPOs in Malaysia. Furthermore, this study does not find any significant relationship between size of firms and initial returns. This study also documents a significant relationship between the over-subscription ratio and the initial return, i.e., the larger the over-subscription ratio, the larger is the initial return.

Finally, Paudyal, Saadouni and Briston (1998), address four major issues related to privatization initial public offers (PIPOs) and other initial public offers (IPOs) in Malaysia. First, an analysis of initial excess returns suggests that, on average, Malaysian IPOs are under-priced and PIPOs offer significantly higher initial returns than other IPOs. Second, regression based analysis reveals that over-subscription, market volatility, proportion of shares sold, underwriters reputation, and ex ante risk together explain over three-quarters of the variation in the excess returns offered by Malaysian PIPOs. However, this model can only explain 10% and 36% of other IPOs and the whole sample respectively. Third, the analysis of secondary market performance suggests that neither PIPOs nor other IPOs significantly outperform/under-perform the market over three years. Further analysis reveals that the IPOs with higher initial return under-perform the market while those with low initial return outperform. Finally, the paper confirms that IPOs underwritten by reputed underwriters are significantly better long-term

investments as compared to the IPOs underwritten by less reputed underwriters.

DATA AND METHODOLOGY

The sample used in this study comprises of all new issues listed on both the Second Board and the Main Board of the Kuala Lumpur Stock Exchange (KLSE) from January 1991 to December 1995. There are 93 new issues listed on the Main Board and 134 new issues on the Second Board. Data of new issues were compiled from various January issues of *Investors' Digest*, a publication of the KLSE. Prices at the end of each trading period were obtained from the MetastocksTM. Essentially, there are three types of new issues in Malaysia, namely: (1) public issue; (2) offer for sale; and (3) *hybrid* of offer for sale and public issue. With the first type, the new shares are offered for subscription to the public for the first time, and as such it will result in an increase in the paid-up capital of the company. The second type refers to shares that have already been issued to original stockholders, who in turn offer their shares for sale to the public. As such, it does not change the company's paid-up capital and therefore the money received from the sale of the stock does not go to the company. The purpose of this type of offer is to restructure the company's ownership distribution in order to meet the rules and regulations as set up by the authority.

For each new issue, raw return for time period t is calculated as:

$$r_t = [(P_t - P_{t-1})/ P_{t-1}]x100\%$$

where P_t = price at time t, and P_{t-1}= price at time t-1.

More precisely, raw return can be:

(1) Initial return, which refers to the percentage change in price from the offering date to the closing of the first day of trading.

(2) First six months return, which refers to the percentage change in price from the closing of the first day of trading to the closing on the 182nd day of trading.

(3) Second six months return, which refers to the percentage change in price from the closing on the 182nd day of trading to the closing on the 365th day of trading.

(4) Year one *or* first year return, which is defined as the percentage change in price from the closing of the first day of trading to the closing on the 365th day of trading.

(5) Second year return, which refers to the percentage change in price from the closing on the 365th day of trading to the closing on the 730th day of trading.

(6) Year two return, which is defined as the percentage change in price from the closing of the first day of trading to the closing on the 730th day of trading.

(7) Third year return, which refers to the percentage change in price from the closing on the 730th day of trading to the closing on the 1095th day of trading.

(8) Year three return, which is defined as the percentage change in price from the closing of the first day of trading to the closing on the 1095th day of trading.

Adjusted return is calculated as:

Raw return - $[((I_t - I_{t-1})/ I_{t-1})x100\%]$,

where I_t refers to the KLSE Composite Index (for the new issues listed on the Main Board) or the KLSE Second Board Index (for the new issues listed on the Second Board) at time t, and I_{t-1} refers to the respective index at time t-1.

In addition, average annual return over two-year period and average annual return over three-year period, and their respective adjusted returns are also calculated. Average annual return over two-year period is defined as the year two return divided by two. Adjusted average annual return over two year period refers to the year two adjusted return divided by two. Average annual return over three-year period is defined as the year three return divided by three. Adjusted average annual return over three year period refers to the year three adjusted return divided by three.

In cases where there is no trading on the specified date (i.e., 182nd day, 365th day, 730th day, or the 1095th day), or the specified date is a non-market day, the closest available day (either next available day or previous available day) is taken as the specified date.

The initial returns are compared among themselves according to: (1) year of issues, (2) listing board, and (3) types of issue. Initial returns are also compared with the longer-term returns. Essentially, the following four null hypotheses are tested:

1. $H_0:\mu_i = 0$, that is, mean initial return equals zero *or* average annual longer-term return equals zero *or* mean return for the period is zero.
2. $H_0:\mu_i = \mu_j$, that is, mean initial return between two groups (according to types of new issue) are equal *or* mean initial return equals average annual longer-term return.
3. $H_0:\mu_i = \mu_j \ldots = \mu_k$, that is, all mean initial returns among groups (according to types of new issue) are equal.
4. $H_0:\rho = 0$, that is, there is no correlation between initial return and over-subscription ratio *or* there is no correlation coefficient between initial return and average annual longer-term return.

In testing the first null hypothesis, a one-sample t-test is used. In testing the second null hypothesis, an independent t-test is used when comparing two groups with different numbers of observation, and a paired-samples t-test is used when the numbers of observation are equal. An F-test is used to test the third null hypothesis, i.e., in comparing returns among more than two groups.

Correlation coefficients are also computed in order to find out whether there is a significant relationship between initial returns (or adjusted initial returns) and over-subscription ratios. Both the parametric Pearson's correlation coefficient and the non-parametric Spearman's rank correlation coefficient are computed. A parametric test assumes that the distribution of the data under study is normal, whereas a non-parametric test makes no assumption regarding the distribution of the data under study. As such, a non-parametric test is more robust against the violation of assumption regarding the distribution of data. Pearson's correlation coefficients are also computed in order to find out whether there is a significant relationship between initial returns (or adjusted initial returns) and average annual longer-term returns (or adjusted longer-term returns).

FINDINGS

Table 1 reports the characteristics of both the initial return and the adjusted initial return for all new issues listed on the Kuala Lumpur Stock Exchange (KLSE), by year. It also presents the over-subscription ratios for all these new issues for each year of issue and for the entire period of study. Mean initial returns for new issues listed on the KLSE range from the low 39.52 percent in 1991 to the high 112.89 percent in 1994, with the overall mean of 81.60 percent for the entire period 1991-1995. The minimum initial return of -8.4 percent is registered in 1992 by a company called Trenergy (Malaysia) Berhad, which is listed on the Second Board on August 19, 1992. The subscription price for this company is 2.50 ringgit and its first-day closing price is 2.29 ringgit. The maximum initial return of 316.67 percent is recorded in 1993 by a company named Southern Steel Berhad which is listed on the Main Board on December 17, 1993. The subscription or offer price for this company is 1.50 ringgit and its closing price on first-day trading is 6.25 ringgit. Overall, as indicated by the t-values and the p-values, all mean initial returns, for all years, are significantly different from zero.

Mean adjusted initial returns range from the low 39.97 percent in 1991 to the high 115.43 percent in 1994, with the overall mean of 81.03 percent for the entire period 1991-1995. Minimum adjusted initial return of -5.17 percent is registered in 1992 and the maximum initial return of 301.26 percent is recorded in 1993.

Table 1

Characteristics of initial return, adjusted initial return and over-subscription ratio for all new issues listed on the Kuala Lumpur Stock Exchange, by year.

Year	n	Mean	t-test on mean initial return		Std. Dev.	Min.	Max.
			t-value	p-value			
Panel A: Initial Return (%)							
1991	34	39.52	6.242	0.000	36.92	-3.85	132.00
1992	41	45.32	6.571	0.002	44.17	-8.40	178.20
1993	39	99.17	10.785	0.000	57.42	40.59	316.67
1994	65	112.89	16.014	0.000	56.83	33.64	300.00
1995	48	85.75	16.240	0.000	36.58	20.00	163.46
1991-1995	227	81.60	21.957	0.000	55.99	-8.40	316.67
Panel B: Adjusted Initial Return (%)							
1991	34	39.97	6.715	0.000	34.71	-1.66	135.92
1992	41	44.26	6.576	0.000	43.10	-5.17	177.60
1993	39	93.68	10.740	0.000	54.47	38.06	301.26
1994	65	115.43	17.159	0.000	54.24	40.57	289.09
1995	48	84.65	17.288	0.000	33.92	32.75	152.88
1991-1995	227	81.03	22.494	0.000	54.27	-5.17	301.26
Panel C: Over-subscription ratio (times)							
1991	34	29.63			18.53	1.45	69.73
1992	41	14.63			11.66	0.04	47.62
1993	39	37.56			20.74	10.48	112.67
1994	65	42.21			31.81	10.39	223.98
1995	48	56.94			28.76	7.46	143.71
1991-1995	227	37.66			28.21	0.04	223.98

Note: 1) As indicated by the p-values, all mean initial returns are significantly different from zero at the 1 percent level.

Mean initial return of 81.60 percent for the overall period 1991-1995 is substantially lower than the figure 166.7 percent reported by Dawson (1987), the figure 167.4 percent reported by Yong (1991), the figure 114.6 percent documented by) Ismail *et al.* (1993), but slightly higher than the figure 80.3 percent documented by Loughran *et al.* (1994), and also higher than the figure reported by Yong (1997) who documents an average initial (offer-to-open) return of 72.849 percent.

Mean over-subscription ratios range from a low of 14.63 times in 1992 to a high of 56.94 times in 1995, with an overall ratio of 37.66 times for the overall period 1991-1995. This overall ratio is slightly less than the figure 46 times discovered by Dawson (1987) and Yong (1991). However,

is slightly higher than the figure 32.3 times reported by Yong (1997). Minimum over-subscription ratio of 0.04 time is registered in 1992 by a company named Zalik Berhad which was listed on the Main Board of the KLSE on 30 January 1992. It should be noted here that Zalik Berhad is listed on the Main Board of the KLSE under the finance sector. The maximum over-subscription ratio is 223.98 times, which is recorded in 1994 by a company named Emico Holdings Berhad which was listed on the Second Board of the KLSE on April 6th, 1994.

Table 2 presents the mean initial returns (and the adjusted mean initial returns) for the Main Board and the Second Board, according to types of issue and year of issue. Panel A exhibits the mean initial returns (and the adjusted mean initial returns) for type 1, public issue. Panel B shows the mean initial returns (and the adjusted mean initial returns) for type 2, offer for sale. Finally, Panel C reports the mean initial returns (and the adjusted mean initial returns) for type 3, the *hybrid* of public issue and offer for sale.

For the Main Board, in the case of type 1, the lowest mean initial return of 27.82 percent (mean adjusted initial return of 28.02 percent) is reported in 1991 and the highest figure of 212.22 percent (212.78 percent for the adjusted return) occurs in 1994. For the overall period, the mean initial return is 87.28 percent (86.79 percent for the adjusted return). For type 2, mean initial returns range from the low 40.78 percent (adjusted return of 43.73 percent) in 1991 to the high 158.83 percent (adjusted return of 157.13 percent) in 1994. The overall mean initial return of 93.34 percent (adjusted return of 93.21 percent) is registered for the entire period 1991-1995. For type 3, mean initial returns range from the low 8.42 percent (adjusted return of 11.44 percent) in 1991 to the high 106.93 percent (adjusted return of 113.66 percent) in 1994. The overall mean initial return of 64.28 percent (adjusted return of 63.67 percent) is registered for the entire period 1991-1995.

In the case of Second Board, the issuance of public issue was started only in 1994. For 1994 the mean initial return for public issues is 81.02 percent (mean adjusted initial return of 82.27 percent) and for 1995 the figure is 52.49 percent (53.23 percent for the adjusted return). For the overall period, the mean initial return is 71.51 percent (72.59 percent for the adjusted return). For type 2, mean initial returns range from the low 44.19 percent (adjusted return of 41.79 percent) in 1991 to the high 97.15 percent(adjusted return of 99.41 percent) in 1994. The overall mean initial return of 79.21 percent (adjusted return of 78.05 percent) is registered for the entire period 1991-1995. For type 3, mean initial returns range from the low 47.62 percent in 1991 to the high 73.88 percent in 1993. For the adjusted initial returns, the low value of 46.96 percent is registered in 1991 and

Table 2

Characteristics of mean initial return* (in percent) for Second Board and Main Board, according to type of issue and year of issue

Year	Main Board		Second Board	
	n	Mean	n	Mean
Panel A: Type 1, Public Issue				
1991@	5	27.82 (28.02)	n.a.	n.a. n.a.
1992@	6	35.63 (35.08)	n.a.	n.a. n.a.
1993@	2	191.04 (184.82)	n.a.	n.a. n.a.
1994	3	212.22 (212.78)	4	81.02 (82.27)
1995	3	95.55 (96.84)	2	52.49 (53.23)
1991-1995	19	87.28 (86.79)	6	71.51 (72.59)
Panel B: Type 2, Offer for Sale				
1991	14	40.78 (43.73)	12	44.19 (41.79)
1992	12	37.42 (37.09)	14	45.55 (44.38)
1993	9	123.15 (116.96)	24	88.03 (81.85)
1994	14	158.83 (157.13)	39	97.15 (99.41)
1995	11	118.60 (116.64)	24	78.36 (77.30)
1991-1995	60	93.34 (93.21)	113	79.21 (78.05)
Panel C: Type 3, hybrid of Public Issue and Offer for Sale				
1991	1	8.42 (11.44)	2	47.62 (46.96)
1992	7	63.99 (61.00)	2	55.00 (55.49)
1993	1	42.73 (38.48)	3	73.88 (76.11)
1994	2	106.93 (113.66)	3	68.85 (77.25)
1995	3	63.34 (96.84)	5	70.42 (68.12)
1991-1995	14	64.28 (63.67)	15	65.70 (67.04)

Notes: (1) * Adjusted initial returns are shown in the parentheses. (2) @ There is no public issue in years 1991, 1992, and 1993 for new issues listed on the Second Board of the KLSE. (3) All mean initial returns are significantly different from zero at the 1 percent level. (4) n.a indicates not available.

the high value of 77.25 percent is registered in 1994. The overall mean initial return of 65.70 percent (adjusted return of 67.04 percent) is registered for the entire period 1991-1995.

Table 3
Results (t-statistics) of independent t-test for the difference in mean initial returns, for the overall period of study, between types of new issue

Types@ of new issue compared	Main Board		Second Board	
	t-value	p-value	t-value	p-value
Panel A: Initial Return				
Type 1 *versus* Type 2	-0.313	0.755	-0.415	0.679
Type 1 *versus* Type 3	0.804	0.428	0.402	0.692
Type 2 *versus* Type 3	1.585	0.117	1.129	0.261
	F-value = 0.963; p-value = 0.386		F-value = 0.710; p-value = 0.493	
Panel B: Adjusted Initial Return				
Type 1 *versus* Type 2	0.342	0.733	-0.305	0.761
Type 1 *versus* Type 3	0.837	0.409	0.383	0.706
Type 2 *versus* Type 3	1.654	0.102	0.955	0.341
	F-value = 1.060; p-value = 0.351		F-value = 0.493; p-value = 0.612	

Notes: (1) As indicated by the p-values, none of the types of issues compared exhibit significant difference in mean initial returns. (2) F-value and the corresponding p-value refer to the F-test which tests the overall difference in mean initial returns (and also the overall difference in adjusted mean initial returns) among groups. As indicated by the F-values, there is no significant difference in mean initial returns (or adjusted mean initial returns) among the groups compared, either in the case of Main Board or in the case of Second Board. (3) @ Type 1 refers to public issue, type 2 refers to offer for sale and type 3 refers to hybrid of public issue & offer for sale.

Table 3 shows the results of independent t-test for the difference in mean initial returns, between types of new issue. Panel A reports the results for raw initial return, while Panel B shows the results for adjusted initial return. It is clear from the F-values and their corresponding p-values that the difference in mean initial returns (or adjusted mean initial returns) among the types of new issue are not significant, either in the case of the Main Board or in the case of the Second Board. The t-test also confirms the F-test, where none of the two groups compared shows significant difference in their mean initial returns.

From mere observation of the initial mean returns shown in Table 2, it seems that overall mean returns for public issue and offer for sale for new issues listed on the Main Board are markedly higher than

their counterparts on the Second Board. Further analysis of initial returns of the same type but of different board of listing is made in order to confirm or dismiss this notion, and its results is shown in Table 4. As indicated by the t-values and their corresponding p-values, none of the same type of issue from the different type of board compared shows significant difference, at even the 5 percent level, in their initial returns.

Table 4

Results (t-statistics) of independent t-test for the difference in mean initial returns, for the overall period of study, between the same type of new issue but of different board of listing

Comparison	t-value	p-value
Panel A: Initial Return		
Type 1 of Main Board *versus* Type 1 of Second Board	0.626	0.537
Type 2 of Main Board *versus* Type 2 of Second Board	1.519	0.132
Type 3 of Main Board *versus* Type 3 of Second Board	-0.093	0.927
Panel B: Adjusted Initial Return		
Type 1 of Main Board *versus* Type 1 of Second Board	0.567	0.576
Type 2 of Main Board *versus* Type 2 of Second Board	1.678	0.097
Type 3 of Main Board *versus* Type 3 of Second Board	-0.225	0.824

Notes: (1) As indicated by the p-values, none of the types of issue compared exhibit significant difference in mean initial returns. (2) t-values are based on the type of independent t-test where equal variances are *not* assumed. (3) Type 1 refers to public issue, type 2 refers to offer for sale and type 3 refers to *hybrid* of public issue & offer for sale.

Correlation coefficients between initial returns and over-subscription ratios are shown in Table 5. Both parametric and non-parametric correlation coefficients are computed. The parametric correlation coefficient is the commonly referred to Pearson's correlation and the non-parametric correlation is the Spearman's rank correlation. The correlation coefficients are computed according to types of issue. Panel A shows the correlation coefficients and their respective *p*-values for the Main Board while Panel B shows the correlation coefficients and their respective *p*-values for the Second Board.

For the new issues listed on the Main Board, either in the case of raw initial return or the adjusted initial return, in general, both the results of Pearson's correlation and Spearman's rank correlation confirm each other. The only exception is in the case of type 1, where the Spearman's rank correlation coefficient is significant at the 5 percent level but the Pearson's correlation coefficient is not significant even at that 5 percent level. For type 3, either in the case of raw initial return or in the case of

adjusted initial return, both Pearson's correlation coefficient and Spearman's rank correlation coefficient are not significant even at the 5 percent level.

Overall, the correlation coefficients for both raw and adjusted initial returns are significant at the 1 percent level, with a value of 0.382 for Pearson's correlation coefficient of the raw initial return (0.391 for adjusted initial return) and a value of 0.500 for Spearman's rank correlation coefficient of the raw initial return (0.517 for adjusted initial return). The positive correlation coefficient indicates that the higher the over-subscription ratio, the higher is the initial return. It should be noted here that the significant correlation for the overall result is heavily influenced by the correlation coefficient of type 2, which represents 60 of the total 93 new issues listed on the Main Board.

In the case of new issues listed on the Second Board, in general, both Pearson's correlation and Spearman's rank correlation give similar results. The only exception is in the case of adjusted initial return, where for type 2, the Pearson's correlation coefficient is significant at the 1 percent level whereas the Spearman's rank correlation coefficient is significant at the 5 percent level. For initial return, only type 2 exhibits a significant correlation coefficient between initial return and over-subscription ratio at the 5 percent level, with a value of 0.234 for Pearson's correlation coefficient and a value of 0.202 for Spearman's rank correlation coefficient.

Overall, the correlation coefficient is significant at the 5 percent level, with a value of 0.192 for Pearson's correlation coefficient of the raw initial return (0.217 for adjusted initial return) and a value of 0.179 for Spearman's rank correlation coefficient of the raw initial return (0.194 for adjusted initial return). As in the case of Main Board, the positive correlation coefficient indicates that the higher the over-subscription ratio, the higher is the initial return. It should be noted here that the significant correlation for the overall result is heavily influenced by the correlation coefficient of type 2, which represents 113 of the total 134 new issues listed on the Second Board, even-though the other types of new issue do not exhibit significant correlation coefficients.

In general we can see that the correlation coefficients between initial returns and over-subscription ratios are stronger for new issues listed on the Main Board compared to the ones listed on the Second Board. It should be noted here that the significant correlation for the overall result, either in the case of Main Board or in the case of the Second Board, is heavily influenced by the correlation coefficient of type 2, which represents the majority of the new issues listed on both boards. It is also interesting

to note that, either in the case of Main Board or in the case of Second Board, new issues of type 3 do not exhibit significant correlation coefficients between raw (or adjusted) initial returns and over-subscription ratios for both Pearson's and Spearman's rank correlation coefficients.

Table 5

Correlation coefficient between initial return and over-subscription ratio, according to types of issue.

Both parametric and non-parametric correlation coefficients are computed, i.e., the parametric Pearson's correlation and the non-parametric Spearman's rank correlation. Panel A shows the correlation for the Main Board and Panel B shows the correlation for the Second Board. Correlation coefficients and their respective *p*-values for the adjusted initial returns are shown in the parentheses.

Type of new issue	n	Pearson's correlation		Spearman's rank correlation	
		Correlation	p-value	Correlation	p-value
Panel A: Main Board					
Type 1	19	0.310	0.196	0.507*	0.027
		(0.334)	(0.163)	(0.558)*	(0.013)
Type 2	60	0.442**	0.000	0.512**	0.000
		(0.442)**	(0.000)	(0.524)**	(0.000)
Type 3	14	0.127	0.666	0.266	0.358
		(0.148)	(0.613)	(0.235)	(0.418)
Overall	93	0.382**	0.000	0.500**	0.000
		(0.391)**	(0.000)	(0.517)**	(0.000)
Panel B: Second Board					
Type 1	6	-0.614	0.195	-0.600	0.208
		(-0.498)	(0.315)	(0.086)	(0.872)
Type 2	113	0.234*	0.013	0.202*	0.032
		(0.245)**	(0.009)	(0.218)*	(0.020)
Type 3	15	0.237	0.395	0.136	0.630
		(0.347)	(0.205)	(0.011)	(0.970)
Overall	134	0.192*	0.026	0.179*	0.038
		(0.217)*	(0.012)	(0.194)*	0.024

Notes: 1) Results corresponding to *adjusted* initial returns are shown in the parentheses.
2) * Significant at the 5 percent level.
3)** Significant at the 1 percent level.
4) Type 1 refers to public issue, type 2 refers to offer for sale, and type 3 refers to *hybrid* of public issue & offer for sale.

Table 6

Mean returns during the three years after issuing, according to types@ of issue and board of listing.

The null hypothesis that mean return equals zero is tested using the one-sample t-test.

Mean Returns	First 6 Months	Second 6 Months	First Year	Second Year	Average Annual Return Over 2-Year Period	Third Year	Average Annual Return Over 3-Year Period
Panel A: Main Board							
Mean return for Type 1 (%)	-2.60	10.58	9.96	48.58	26.20	28.71	16.77*
	(-12.50)	(2.49)	(-8.23)	(33.14)	(9.24)	(25.21)	(3.85)
t-statistic	-0.310	1.353	0.729	1.743	1.704	1.386	2.141
	(-1.931)	(0.380)	(-0.672)	(1.414)	(-0.459)	(1.660)	(0.726)
p-value	0.760	0.193	0.475	0.098	0.105	0.183	0.046
	(0.069)	(0.708)	(0.510)	(0.174)	(0.651)	(0.114)	(0.477)
Mean return for Type 2 (%)	-4.89	11.31*	5.58	68.78**	30.59**	-0.72	13.52*
	(-13.15)**	(5.39)	(-9.32)	(50.15)**	(13.19)	(4.69)	(3.71)
t-statistic	-0.998	2.573	0.800	3.584	3.262	-0.082	2.327
	(-3.141)	(1.397)	(-1.539)	(2.942)	(1.591)	(0.879)	(0.772)
p-value	0.323	0.013	0.427	0.001	0.002	0.935	0.023
	(0.003)	(0.168)	(0.129)	(0.005)	(0.117)	(0.383)	(0.443)
Mean return for Type 3 (%)	0.70	19.40	18.89	38.37	23.15**	-22.65*	5.49
	(-10.34)	(11.22)	(-0.61)	(29.50)	(8.72)	(-78.71)	(-4.08)
t-statistic	0.073	2.039	1.343	1.915	2.926	-2.622	0.710
	(-1.205)	(1.528)	(-0.047)	(1.406)	(0.871)	(-1.131)	(-0.634)
p-value	0.943	0.062	0.202	0.078	0.012	0.021	0.491
	(0.250)	(0.151)	(0.963)	(0.183)	(0.399)	(0.279)	(0.537)
Mean return for Overall (%)	-3.68	12.38**	8.48	60.07**	26.20**	1.99	12.98**
	(-12.59)**	(5.63)	(-7.78)	(43.57)**	(9.24)	(-3.67)	(2.56)
t-statistic	-0.931	3.507	1.498	4.318	4.086	0.274	3.073
	(-3.886)	(1.881)	(-1.560)	(3.529)	(1.618)	(-0.315)	(0.753)
p-value	0.354	0.001	0.137	0.000	0.000	0.785	0.003
	(0.000)	(0.063)	(0.122)	(0.001)	(0.109)	(0.753)	(0.454)
Panel B:Second Board							
Mean return for Type 1 (%)	0.72	40.50	34.99	132.76*	80.95*	-46.31	26.54
	(-10.53)	(16.51)	(-2.76)	(66.85)	(30.57)	(-11.47)	(17.07)
t-statistic	0.032	2.426	1.330	2.813	3.228	-2.338	0.880
	(-1.021)	(1.951)	(-0.235)	(2.034)	(1.105)	(-2.415)	(0.877)
p-value	0.976	0.060	0.241	0.037	0.023	0.067	0.419
	(0.354)	(0.109)	(0.823)	(0.098)	(0.319)	(0.061)	(0.421)

Table 6 continued

Mean return for Type 2 (%)	11.29	23.26**	31.19**	73.16**	47.84**	30.05	23.81**
	(0.51)	(7.16)	(4.07)	(6.39)	(5.15)	(26.10)	(2.01)
t-statistic	1.723	4.818	3.804	7.085	6.667	1.754	4.248
	(0.102)	(1.649)	(0.578)	(0.554)	(0.801)	(1.949)	(0.416)
p-value	0.088	0.000	0.000	0.000	0.000	0.082	0.000
	(0.919)	(0.102)	(0.564)	(0.580)	(0.425)	(0.054)	(0.678)
Mean return for Type 3 (%)	15.33	27.16*	50.43	26.44	23.96	16.93	13.98
	(-17.36)	(6.92)	(-4.80)	(6.20)	(-6.83)	(7.72)	(-9.68)
t-statistic	1.005	2.412	2.115	1.302	1.970	0.866	1.568
	(-1.327)	(0.835)	(-0.297)	(0.439)	(-0.530)	(0.688)	(-1.322)
p-value	0.332	0.030	0.053	0.214	0.069	0.401	0.139
	(0.206)	(0.418)	(0.771)	(0.667)	(0.604)	(0.502)	(0.207)
Mean return for Overall (%)	11.27	24.47**	33.51**	70.60**	46.65**	25.16	22.83**
	(-1.99)	(7.55)*	(2.77)	(9.08)	(4.95)	(22.36)	(1.38)
t-statistic	1.928	5.671	4.483	7.555	7.357	1.714	4.580
	(-0.444)	(1.994)	(0.446)	(0.909)	(0.862)	(1.965)	(0.324)
p-value	0.056	0.000	0.000	0.000	0.000	0.089	0.000
	(0.658)	(0.048)	(0.656)	(0.365)	(0.390)	(0.052)	(0.746)
Panel C: Both Main and Second Board Combined							
Mean return for Type 1 (%)	-1.80	17.76*	15.46	68.78	30.50**	10.71	19.12*
	(-12.02)*	(5.86)	(-6.92)	(41.23)*	(5.15)	(16.41)	(7.02)
t-statistic	-0.223	2.382	1.323	2.789	2.954	0.611	2.122
	(-2.225)	(1.076)	(-0.719)	(2.127)	(0.619)	(1.373)	(1.166)
p-value	0.826	0.025	0.198	0.010	0.007	0.547	0.044
	(0.036)	(0.293)	(0.479)	(0.044)	(0.542)	(0.183)	(0.255)
Mean return for Type 2 (%)	5.68	19.11**	22.31**	71.64**	41.86**	19.38	20.24**
	(-4.23)	(6.55)*	(-0.57)	(21.57)*	(7.94)	(18.67)*	(2.60)
t-statistic	1.225	5.428	3.758	7.585	7.314	1.667	4.836
	(-1.180)	(2.092)	(-0.113)	(2.229)	(1.562)	(2.085)	(0.730)
p-value	0.222	0.000	0.000	0.000	0.000	0.097	0.000
	(0.239)	(0.038)	(0.910)	(0.027)	(0.120)	(0.039)	(0.466)
Mean return for Type 3 (%)	8.27	23.42**	35.20	32.20*	23.57**	-2.18	9.88
	(-13.97)	(8.99)	(-2.78)	(17.45)	(0.68)	(-34.00)	(-6.98)
t-statistic	0.909	3.198	2.488	2.289	3.260	-0.191	1.680
	(-1.786)	(1.642)	(-0.270)	(1.402)	(0.082)	(-0.988)	(-1.442)
p-value	0.371	0.003	0.019	0.030	0.003	0.850	0.104
	(0.085)	(0.112)	(0.789)	(0.172)	(0.935)	(0.332)	(0.160)
Mean return for Overall (%)	5.19	19.51**	23.26**	66.29**	38.27**	15.67	18.79**
	(-6.33)*	(6.78)**	(-1.55)	(23.21)**	(6.70)	(11.69)	(1.86)
t-statistic	1.359	6.616	4.612	8.369	8.298	1.707	5.492
	(-2.133)	(2.660)	(-0.369)	(2.963)	(1.631)	(1.415)	(0.650)
p-value	0.176	0.000	0.000	0.000	0.000	0.089	0.000
	(0.034)	(0.008)	(0.712)	(0.003)	(0.104)	(0.159)	(0.516)

Notes: 1) Values corresponding to the adjusted returns are shown in the parentheses.
2) @ Type 1 refers to public issue, type 2 refers to offer for sale and type 3 refers to *hybrid* of public issue & offer for sale.
3) * Significant at the 5 percent level. 4) ** Significant at the 1 percent level.

Table 6 reports the raw and adjusted mean returns during the three years after issuing, according to types of issue and board of listing. Mean returns during this three-year period are further divided into mean returns during the first six months, the second six months, the first year, the second year and the third year, *plus* the average annual return over two-year period and average annual return over three-year period.

For all new issues of type 1 listed on the Main Board, both raw and adjusted mean returns for all sub-periods during the three years after issuing, with the exception of the average annual raw return over three-year period, are not significantly different from zero, even at the 5 percent level. Average annual mean return over three-year period of 16.77 percent is significant at the 5 percent level. In the case of new issues of type 2, mean raw returns are significant at the 5 percent level for the second six months and for average annual return over three-year period. Mean raw returns for type 2 are significant at the 1 percent level for the second year and for average annual return over two-year period and average annual return over three-year period. Mean adjusted returns for type 2 are significantly different from zero at the 1 percent level for the first six months after issuing and for the second year after issuing.

For new issues of type 3 listed on the Main Board, all adjusted mean returns, for all sub-periods, are not significantly different from zero, even at the 5 percent level. However, in the case of raw mean returns, the returns are significant at the 5 percent level for the third year and significant at the 1 percent level for the average annual return over two-year period.

Overall, mean raw returns for the Main Board are significant at the 1 percent level for sub-periods six months after issuing and first year after issuing, and for average annual return over two-year period and average annual return over three-year period. Mean adjusted return for the first six month is significantly negative at the 1 percent level. However mean adjusted return is significantly positive at the 1 percent level, during the second year after issuing.

All adjusted mean returns of type 1 listed on the Second Board, for all sub-periods during the three years after issuing, are not significantly different from zero, even at the 5 percent level. Mean raw returns for average annual return over two-year period and for the second year after issuing are significant at the 5 percent level. In the case of new issues of type 2, all mean raw returns, except for sub-periods first six months and third year, are significant at the 1 percent level. For new issues of type 3, *only* mean raw return during the second six months after issuing is significant at the 5 percent level. The other means, either raw or adjusted mean, are not significant, even at the 5 percent

level. Overall, mean raw returns for the Second Board are significant at the 1 percent level for all sub-periods, with the exception of the first six months after issuing and the third year after issuing. In the case of mean adjusted return, *only* the mean adjusted return for the second six month after issuing is significant at the 5 percent level. The rest are not significant, even at the 5 percent level.

The overall results, when both new issues listed on the Main Board and the ones listed on the Second Board are combined, are shown in Panel C of Table 6. For new issues of type 1, the raw mean returns are significant at the 1 percent level for the second year after issuing and for the average annual return over two-year period. For the second six months after issuing and the average annual return over three-year period, the mean returns are significant at the 5 percent level. The adjusted mean returns are significantly negative at the 5 percent level for the first six months after issuing, and significantly positive at the 5 percent level for the second year after issuing. In the case of new issues of type 2, all mean raw returns, with the exception of mean returns during the first six months after issuing and during the third year after issuing, are significant at the 1 percent level. Mean adjusted returns for type 2 are significantly different from zero at the 5 percent level for the second six months after issuing, the second year after issuing and for the third year after issuing.

For new issues of type 3, all adjusted mean returns, for all sub-periods, are not significantly different from zero, even at the 5 percent level. However, in the case of raw mean returns, the returns are significant at the 5 percent level for the second year and significant at the 1 percent level for the second six months after issuing and for the average annual return over two-year period.

Overall, mean raw returns, for the both boards combined, are significant at the 1 percent level for all sub-periods, with the exception of the first six months after issuing and the third year after issuing, and for average annual return over two-year period and average annual return over three-year period. Mean adjusted return for the first six month is significantly negative at the 5 percent level. However mean adjusted return is significantly positive at the 1 percent level, during the second six months after issuing and during the second year after issuing.

Table 7 shows the correlation coefficients between initial returns and longer-term returns. It also shows the results of paired-samples t-test for the difference between the mean initial returns and the mean longer-term returns. For the new issues listed on the Main Board, initial returns *only* have significant negative correlation with the average annual return over the three-year period. The significance level is at the 5 percent for the raw returns and the 1 percent for the adjusted returns. This finding is somewhat consistent with the finding of Wu (1993) who finds that the Malaysian incorporated companies, listed

on the Main Board of the KLSE from January 1974 to December 1989, with low initial returns, in a long term, perform better than those with high initial returns.

In the case of new issues listed on the Second Board, none of the correlation coefficient figures indicates that the mean initial return has a significant relationship with any of the longer-term return, either for the raw or adjusted return, even at the 5 percent level. For the case of both boards combined, initial returns *only* have significant (and negative) correlation with the average annual return over the three-year period at the 1 percent level. This significant correlation is true *only* in the case of raw returns.

Table 7

Correlation coefficients between initial returns and average annual longer-term returns, and the results of paired-samples t-test for the difference between the mean initial returns and the mean average annual longer-term returns.

The null hypothesis for this comparison is mean initial return equals mean average annual longer-term return. Due to the basis of our comparison, a positive t-value indicates that mean initial return is greater than the mean average annual longer-term return compared.

Types of return compared	Correlation coefficient between the returns compared		Paired-samples t-test	
	Correlation	p-value	t-value	p-value
Panel A: Main Board				
Initial return *versus* average annual return over 1 year period	-0.117	0.265	8.124**	0.000
	(0.063)	(0.549)	(11.317)**	(0.000)
Initial return *versus* average annual return over 2 year period	-0.261*	0.012	5.639**	0.000
	(-0.100)	(0.339)	(8.196)**	(0.000)
Initial return *versus* average annual return over 3 year period	-0.456**	0.000	7.495**	0.000
	(-0.211)*	(0.042)	(9.987)**	(0.000)
Panel B: Second Board				
Initial return *versus* average annual return over 1 yearperiod	-0.165	0.056	4.939**	0.000
	(0.008)	(0.931)	(10.329)**	(0.000)
Initial return *versus* average annual return over 2 year period	-0.109	0.210	3.995**	0.000
	(0.007)	(0.934)	(10.625)**	(0.000)
Initial return *versus* average annual return over 3 year period	-0.022	0.800	8.871**	0.000
	(0.102)	(0.239)	(14.281)**	(0.000)
Panel C: Main Board and Second Board Combined				
Initial return *versus* average annual return over 1 year period	-0.143*	0.032	8.738**	0.000
	(0.020)	(0.761)	(15.068)**	(0.000)
Initial return *versus* average annual return over 2 year period	-0.184**	0.005	6.735**	0.000
	(-0.039)	(0.560)	(13.345)**	(0.000)
Initial return *versus* average annual return over 3 year period	-0.182**	0.006	11.439**	0.000
	(-0.029)	(0.664)	(16.963)**	(0.000)

Notes: 1) Results corresponding to adjusted returns are shown in the parentheses.
2) * Significant at the 5 percent level.
3)** Significant at the 1 percent level.

The result of the paired-samples t-test for the difference between the mean initial returns and the mean longer-term returns indicate that, for both raw and adjusted returns, all mean initial returns are significantly different from the average annual returns, at the one percent level. Due to the basis of our comparison, a positive t-value indicates that initial return is greater than the longer-term return compared. Since all t-values are positive, this shows that all mean initial returns are greater than mean average annual return over longer-term periods.

The financial crisis which hit some of the South-East Asian Countries, starting in July 1997, has resulted in the downturn of the stock markets in this region, especially beginning in the third quarter of 1997. In Malaysia, most of its effect has been felt since early 1998 until the first half of 1999. Since our data, especially in the case of third year return for new issues listed in 1995, cover a portion of this period, we, therefore, are motivated to analyze the possible impact of this crisis on the long-term performance of the new issues. Third year returns and average annual returns over 3-year period are presented in the appendix Table A1. As we can see, third year returns are mostly negative for those new issues listed in 1995, for both Main Board and Second Board. After adjusting for market return, these third year returns are somewhat lessened, with some show positive returns. Positive adjusted returns imply that new issues perform better than the overall market.

SUMMARY, CONCLUSION AND IMPLICATION

Using a sample of all new issues listed on both the Main Board and the Second Board of the KLSE from January 1991 to December 1995, this study documents an average initial return of 81.6 percent, an average which is substantially lower than the figure 166.7 percent reported by Dawson (1987), the figure 167.4 percent reported by Yong (1991), the figure 114.6 percent documented by Ismail *et al.* (1993), but slightly higher than the figure 80.3 percent documented by Loughran *et al.* (1994), and also higher than the figure reported by Yong (1997) who documents an average initial (offer-to-open) return of 72.849 percent. The average over-subscription ratio of 37.66 times for the overall period 1991-1995 is slightly less than the figure 46 times discovered by Dawson (1987) and Yong (1991) but slightly higher than the figure 32.3 times reported by Yong (1997). Both initial returns and adjusted initial return indicate that investors who succeeded in getting the new issues are really *making it big*, considering the high returns they receive after a period of waiting between one to two months. This is based on the assumption that they dispose off their new issues at the closing of the first day of trading. However, based on the high over-subscription ratios, the probability of getting a new issue can be likened to the probability of winning a lottery.

For new issues of type 1, listed on the Main Board, the mean initial return is 87.28 percent (86.79 percent for the adjusted return) for the entire period 1991-1995. For type 2, the overall mean initial return is 93.34 percent (adjusted return of 93.21 percent). For type 3, the overall mean initial return is 64.28 percent (adjusted return of 63.67 percent).

For new issues listed on the Second Board, the mean initial return for type 1 is 71.51 percent (72.59 percent for the adjusted return) for the entire period 1991-1995. For type 2, the overall mean initial return is 79.21 percent (adjusted return of 78.05 percent). For type 3, the overall mean initial return is 65.70 percent (adjusted return of 67.04 percent).

From mere observation, it seems that the overall mean returns, for type 1 and type 2 of the new issues listed on the Main Board, are *markedly* higher than their counterparts on the Second Board. Further analysis of initial returns of the same type but of different board of listing, however, indicates that none of the same type of issue from the different type of board compared shows significant difference in their initial returns. In addition, within the same board, both the results of independent t-test and the F-test indicate that none of the types of new issue compared exhibits significant difference in their mean initial returns. This means that an investor will end up with more or less the same initial return, regardless of the types of new issue he holds.

In general, correlation coefficients between initial returns and over-subscription ratios are significant for both raw initial return and adjusted initial return. The significant correlation is mainly due to the correlation coefficient of type 2, which represents 173 of the total 227 new issues for the entire period of the study. The positive correlation coefficient for the overall result indicates that the higher the over-subscription ratio, the higher is the initial return. Also, in general, both initial returns and adjusted initial return are greater than their respective longer-term returns. This implies that an investor is *better off* disposing his new issue on the closing of the first day of trading rather than waiting to earn more return in the future.

Finally, in general, we find that none of the correlation coefficients indicates that the mean initial return has a significant relationship with any of the average annual return over longer-term periods. The only exception is the negatively significant correlation between initial returns and average annual returns over three-year period, for both raw and adjusted returns, which is *somewhat* consistent with the findings of Wu (1993). We also find that the downturn in the stock market in 1998, due to the

financial crisis which started in July 1997, has some impact on the long-term performance of the new issues. However, the impact is less than the overall market in general.

Appendix

Table A1

Mean returns (percent) in the third year after listing and the average annual return over the three-year period, according to the year of listing, types@ of issue and board of listing.

Year of Listing	Main Board		Second Board	
	Return (%) In Third Year	Average Annual Return Over 3-year Period	Return (%) In Third Year	Average Annual Return Over 3-year Period
Panel A: Type 1				
1991	129.11	57.54	n.a.	n.a.
	(80.59)	(25.29)		
1992	-11.50	10.18	n.a.	n.a.
	(-4.40)	(-10.32)		
1993	56.73	21.89	n.a.	n.a.
	(43.27)	(10.81)		
1994	0.41	-8.89	-27.19	51.07
	(15.98)	(-5.57)	(-12.71)	(28.40)
1995	-48.56	-15.74	-84.55	-22.51
	(-10.66)	(1.24)	(-9.01)	(-5.59)
1991-1995	28.71	16.77	-46.31	26.54
	(25.21)	(3.85)	(-11.47)	(17.07)
Panel B: Type 2				
1991	71.08	38.33	103.38	40.72
	(30.52)	(5.05)	(69.29)	(2.98)
1992	-13.37	45.80	-8.27	14.55
	(-2.15)	(24.43)	(0.93)	(-21.88)
1993	27.37	12.27	189.06	66.25
	(13.53)	(-3.68)	(91.28)	(18.11)
1994	-33.81	-9.31	-20.89	16.93
	(-8.68)	(-2.41)	(-6.42)	(-0.60)
1995	-59.16	-23.18	-60.52	-10.53
	(-10.94)	(-6.78)	(6.84)	(3.61)
1991-1995	-0.72	13.52	30.05	23.81
	(4.69)	(3.71)	(26.10)	(2.01)
Panel c: Type 3				
1991	-9.25	25.40	-1.05	19.38
	(-101.10)	(-24.13)	(-0.85)	(-19.25)
1992	-9.04	17.01	38.67	29.46
	(-141.45)	(-3.33)	(26.31)	(-11.19)
1993	9.58	5.52	116.50	25.90
	(3.92)	(-12.09)	(9.81)	(-33.22)
1994	-69.42	-21.40	2.76	27.94
	(-22.25)	(-8.69)	(5.61)	(-2.87)
1995	-38.44	-10.13	-35.82	-9.90
	(9.95)	(6.60)	(3.73)	(4.78)
1991-1995	-22.65	5.49	16.93	13.98
	(-78.71)	(-4.08)	(7.72)	(-9.68)

Notes: 1) Values corresponding to the adjusted returns are shown in the parentheses.
2) @ Type 1 refers to public issue, type 2 refers to offer for sale and type 3 refers to *hybrid* of public issue & offer for sale. 3) n.a. indicates not available.

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