

PERFORMANCE OF PHILIPPINE INITIAL PUBLIC OFFERINGS: CRITIQUE OF CURRENT STUDIES AND UPDATE

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This paper investigates the short- and long-run performance of Philippine Initial Public Offerings (IPOs) from 1987 to 1997. We compare our results to those in papers published in Philippine journals and discuss the shortcomings of these previous studies. Based on our results, we find that past researchers may have inadequately studied market price reactions to IPOs, and that IPOs earn, on average, returns of 22.69 percent on the initial trading day. Over a three-year aftermarket period, returns total 48.33 percent or 5.44 percent less than a matched set of publicly-traded firms. This suggests that although investors in Philippine IPOs make significant returns on the initial trading day, if they hold stock of IPOs for a long period, they earn slightly lower average returns than if they had held other comparable stocks. We think that our estimates are derived in a manner consistent with international financial market studies and that these results may be a more accurate depiction of actual performance of Philippine IPOs.

1. Introduction

There has been an abundance of research in recent years documenting the returns earned by shareholders investing in initial public offerings (IPOs) of various countries. However, there has been little research investigating IPOs in the Philippines and no research published in international academic journals. The purpose of this paper is twofold. First, we offer our critique of current studies of Philippine IPOs. We do this as a means of advancing the study of this and similar issues and to highlight

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the importance of conducting a carefully designed scientific study. In this vein, we hope our criticisms are taken as constructive, and we recognize that the authors of these previous studies have made important contributions. Second, we will present the results of our study of the short- and long-run performance of Philippine IPOs. We use methodology that has been standardized in international journals, not because we believe there is only one "best" methodology, but instead to provide results that are comparable to those found for IPOs in other countries.

We found that during the 11-year period, 1987 to 1997, first day initial returns for 104 IPOs averaged 22.69 percent.¹ Other authors reported initial returns ranging from 29.09 percent to 42.10 percent (see Ybañez, 1993; Mangaran and Ranit, 1995; Perez and Velasco, 1995; and Velasco and Perez, 1996). Our findings differ because of several possible reasons. The variation may be due, in part, to the time period analyzed or to minor differences in sample construction. However, a portion of the difference may be traced to methodological shortcomings present in some of these studies.

For the 65 IPOs having the necessary data, we computed three-year returns averaging 48.33 percent. When this performance is compared to that of a matched set of publicly-traded firms, we find that our sample of IPO firms underperformed in the aftermarket, yielding returns that are on average 5.44 percent less than the returns of this matched set of firms. Among the previous studies, only Ybañez (1993) measured long-run performance of IPOs, finding an average one-year return of 38.30 percent. We used a three-year aftermarket performance measure since three years is the standard time period used in the literature (see, for example, Ibbotson, 1975; Ritter, 1991; Ibbotson, Sindelar, and Ritter, 1994; and Loughran, Ritter, and Rydqvist, 1994).

We conclude from our review of other studies that a critique may be helpful in assisting researchers of this topic and of similar areas. In our opinion, shortcomings in methodology and sample design of previous Philippine IPO studies produced biased results in varying degrees. Therefore

¹ Initial returns are calculated as the stock's return from the offer price to the closing price of the first day it publicly trades.

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we do not feel the results of these previous works can be relied upon with a necessary degree of certainty. We do feel that the estimates of the short- and long-run IPO performance reported in this paper have been derived in a manner consistent with international financial market studies and that these results can be relied upon as an accurate depiction of actual IPO performance in the Philippines.

Limitations of our research design that may have an impact on results center on the calculation of common stock returns and the formulation of a matched set of companies. There are three inherent difficulties in calculating common stock returns. First, when calculating returns of thinly traded stocks there is diminished certainty that the stock price is an economic equilibrium clearing price. Thin markets become especially problematic when the stock analyzed does not trade on the date specified for analysis. Second, by using closing stock prices, there is no way to ascertain whether the return calculation is based on a bid or ask price (in other words, was the last trade originated by sell or buy order?). Third, we do not consider the effects of transactions costs. Another limitation of our study is our formulation of a matched set of firms, which we used to compare long-run stock return performance. Due to a limited set of publicly traded firms, a formation of a matched set of firms will have approximately similar characteristics at best.

In section 2, we critique the previous research that report on IPO returns in the Philippines. Section 3 presents our sample, and discusses how we formulated this sample, collected data, and conducted our analysis. Section 4 presents our results for Philippine IPOs and discusses how these results compare to other studies. Section 5 concludes the paper.

2. Review of Previous Research: Findings and Shortcomings

We identified four recently published articles that report on the performance of Philippine IPOs. These are Ybañez (1993), Mangaran and Ranit (1995), Perez and Velasco (1995), and Velasco and Perez (1996). Following is a review of the findings of each, and a critique of their methodology and sample design. Our purpose is not to call attention to any

flaws in these works, but instead, to highlight the importance of a careful, well-thought out research and to promote an exchange of ideas as a means of enhancing future research.

Ybañez (1993)

In the most carefully constructed and rigorous of these previous studies, Ybañez (1993) reported initial returns of 42.1 percent for 32 IPOs over the period 1989 to 1993.² He concluded that these high initial returns are due to underpricing and to a liquidity premium, rather than merely a premium for risk. Total one-year excess returns were reported to be a statistically insignificant 38.3 percent for a sample of 18 IPOs. This paper, in particular, was carefully designed, and provided conclusions supported by evidence. However, based on a careful review of the paper and investigation of the data, we believe the following comments are relevant, and we present them here as a means of advancing future research on this and related topics.

Ybañez (1993) documented information for 43 IPOs in his Annex 1. Our calculation of initial day return for all 43 IPOs is 31.05 percent based on our price data and is comparable to the 31.00 percent calculated based on the data given in the paper.³ However, Ybañez reported average returns of 42.1 percent calculated on a subsample of 32 IPOs. The reason for this difference is that Ybañez eliminated 11 firms based on a liquidity constraint, which requires that a stock trades in at least 70 percent of the first 22 trading days and of the first 12 months. We feel this liquidity constraint is unnecessary for the calculation of initial returns, since initial returns depend on only a single public trade on the first day of listing and because, a priori, we cannot assume the market will know that a stock will be thinly traded in the future. In fact, since initial returns increased from 31.0 percent to 42.1 percent when the liquidity constrain

² Ybañez (1993) reports a total of 44 IPOs during the period or 33 with necessary data. However, United Paragon Mining Corporation, while included in Ybañez' list, was not included as an IPO in Philippine Stock Exchange (PSE) records.

³ For individual companies' IPO returns, we calculated different initial returns in 22 out of 43 cases. However, in all cases, these differences are small and may be due to our sources of price data. Ybañez (1993) collected price data from the business publications *Business Day* and *Business World*, while we collected ours from the Philippine Stock Exchange (PSE) archives.

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was applied, this constraint evidently eliminated lower return IPOs. These eliminated illiquid firms produced lower, not higher, initial returns. This evidence is contrary to the expected conclusion that high IPO returns are related to a liquidity premium.

Ybañez (1993) reported excess returns, defined as the IPO return less the return on the PSE Composite Index, for both the initial return and for the monthly returns that accumulated over the subsequent 12 months. We have questions about both this technique and how it was applied. First, the inherent assumption of comparing IPO returns to those of a market index is that both samples have similar risk characteristics. Lack of a prior trading history, incomplete financial information about IPO firms, and differences in firm size, industry groupings and the length of time the firm has been in operation, lead us to believe these samples may have very different risk characteristics. Second, the author reported a raw IPO initial return of 42.1 percent and an excess initial return of 40.0 percent. This means the market index returned 2.1 percent over these randomly selected 32 single trading days that correspond to the 32 IPOs, which appears inordinately high for a one-day return.⁴ It is also important to note that in IPO studies for 10 other countries, long-run excess returns are found to be negative in 7 cases and only marginally positive in the other three (Ibbotson, Sindelar, and Ritter, 1994). However, Ybañez (1993) reported excess returns over one-year to be 38.3 percent.

Mangaran and Ranit (1995)

Mangaran and Ranit (1995) analyzed 70 IPOs from January 1987 to March 1994. They reported average initial returns of 36.73 percent, which are earned almost entirely over the period covering the offer price to the first day's opening price. However, questions arise regarding their sample selection. From January 1987 to March 1994, there were a total of only 53 IPOs, not the 87 reported by Mangaran and Ranit (1995). This

⁴ For example, the PSE index increased at an average rate of 16.27 percent per year over the nine year period from January 1, 1988 to December 31, 1996. Using this average annual return, the average daily return, based on a 250 day trading year is 0.06 percent. This is calculated using the formula for interest compounded at some average rate: $(1 + k)^{250} - 1 = 16.27$ percent, where k is solved to equal 0.06 percent.

difference is partly due to the authors' counting an IPO of both Class A and B shares from a single company as two IPOs, which increased the initial sample size to 73.⁵ The remainder may be due to confusion stemming from misinterpretation of PSE records or the reliance on inaccurate sources that can only be cleared by careful examination of the PSE list of IPOs.⁶ In addition, they retained one IPO for which they cannot find an offer price, evidently using some point-estimate technique to estimate the IPO offer price from the remaining sample. This technique is based on an erroneous assumption that this IPO provides a return that is the exact average of the remaining sample.

Other statistical techniques are also called into question. The computation of the standard deviation based on the Parkinson (1980) technique appears inappropriate because one must assume that the logarithm of price follows a random walk. This is not the case with first day prices of IPOs, since we expect that, in most cases, prices will substantially increase from offer to the first day, not a pure random event as assumed. In addition, their Table 2 reports a standard deviation of the mean standard deviation. This statistic is meaningless.

The authors also regress the offer-to-open return on the offer-to-close return, presumably to find out how much of offer-to-close returns are explained by offer-to-open returns. This regression is an exercise of regressing a part of the whole, and since the part is a significant portion of the whole, the authors are essentially regressing something on itself. The high R^2 of 91.72 percent is, therefore, not unexpected and, in fact, a tautology.

⁵ Shares can be issued as Class A and Class B by a company as a means of monitoring foreign ownership to assure statutory limits are not violated. Class A shares can only be purchased by domestic investors, while Class B shares can be purchased by both domestic and foreign investors. However, the issue of varying classes is not mandatory and a company can instead opt to issue only one class and limit the amount of shares a foreign investor can purchase. It is also important to note that Class A and B shares do not give the holder differential rights to voting or dividends. With this in mind, when averaging initial day returns across a sample of IPOs, inclusion of both a company's Class A and B share returns as separate data points is essentially double counting and will bias results. In this case, the authors should have either excluded one class of a firm's shares or averaged the return for Class A and B shares and used this average as one data point.

⁶ Many IPO lists include new share listings that are not issued to the public or the issue of financial instruments other than common stock.

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The relevance of many of the authors' tests must also be questioned. The importance of reporting offer-to-open and offer-to-close IPO returns for the initial trading day is logical. However, the remaining return calculations are either redundant or irrelevant. Their equation (3) which calculates the open-to-close return is simply the difference between the offer-to-close and offer-to-open returns, and since it is negligible, it need not be reported. In addition, since there are no theoretical or empirical reasons to report and dissect returns for day two, these results should be excluded. Moreover, descriptive statistics listing mean and median offer prices, and the analysis comparing median returns from their two-day time periods do not add important information to the analysis.

Mangaran and Ranit's (1995) Table 5 reports results of IPO returns over the two days, segmenting the sample between those IPOs with positive and those with negative offer-to-open returns. However, the authors only have results for 4 negative return IPOs, which is certainly too small a sample size on which to perform a test of differences or from which to draw any inferences.⁷ Again, these results should be excluded. In addition, if we trust that Table 5 reports all positive ($n=50$) and negative ($n=4$) IPO returns, we can assume that of the total 70 firms for which the authors report returns in Table 2, 16 must have zero returns. If this is the case, we calculate mean returns of 39.26 percent for the 70 IPOs, which does not correspond to the mean return reported in their Table 2 of 36.72 percent.

Results of Mangaran and Ranit's (1995) Table 6 are puzzling and the inferences they draw from these results are illogical. They claim to find that offer-to-open and offer-to-close returns are highly correlated with the returns on the Philippine Stock Exchange Index (PHISIX), while intraday returns are not. This is puzzling, since we expect PHISIX returns to vary around zero percent for any particular day with perhaps a slight positive bias. IPO offer-to-open and offer-to-close returns have been shown to be highly significant, both on average and in the majority of cases. Logically, we therefore expect little correlation between PHISIX returns and initial IPO returns. Since the authors show that IPO underpricing is realized almost entirely by the opening price, it can be logically assumed

⁷ Note that the body of the paper states there are five but Table 5 reports only four IPOs with negative offer-to-open returns.

that intra-day returns should vary only according to market conditions and news specific to the company. Therefore, when comparing PHISIX returns to intra-day IPO returns, we expect a high degree of correlation.

We also disagree with some of the authors' conclusions. They stated that their finding of significant IPO returns is indicative of market inefficiency and of the presence of a speculative bubble. We believe that these statements are unfounded. Most international studies attribute first-day IPO returns to intentional underpricing by the company or investment banker. This underpricing is due to asymmetric information and is done so that the company and investment banker can successfully return to the market in the future to raise funds. Also, we believe the authors misinterpreted the meaning of a speculative bubble. Speculative bubbles are asset price rises based on overspeculation that eventually burst once the market realizes the overvaluation. The authors did not show any evidence of IPO stock prices suddenly declining in the future.

Perez and Velasco (1995)

Perez and Velasco (1995) reported results of their analysis of returns and risk for a sample of 68 IPOs from 1986 to an unknown date (presumably 1993 or 1994). They found first month average returns of 30.71 percent, and presented the following as their primary conclusions. IPO returns are greater than those found for the Philippine stock market index and this higher return is compensation for higher risk. In addition, they found evidence of risk diminishing in subsequent months and related this to decreasing returns.

However, a careful reading of this article brings these conclusions to question. First, reported results of tests that IPO returns are greater than the market returns were incorrectly interpreted (in their Table 1). The authors mistakenly reported the p -value as the t -statistic, and stated "(a) 5 percent level of significance analysis shows a t -statistic of 0.1628, which concludes that IPO returns are higher than market return 95 percent of the time." In fact, the t -statistic is 1.0254, which is significant only at the 16.28 percent level. In other words, statistically, we can say with only 83.72 percent reliability that IPO returns are found to be greater than market returns. It is more appropriate to say that IPO returns are, on average, statistically insignificant at conventional levels of significance.

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These results are not surprising since the authors compared IPO returns to the market index over the first year, while only the offer month's IPO returns are vastly different than the market index.

Moreover, when testing for differing risks, the authors again misreported the p -value as the t -statistic, although the authors correctly stated that the standard deviation for the IPO sample is significantly greater than that for the market index (in their Table 3). Another problem with the authors' analysis is the inherent bias in using standard deviation as the risk measure for the IPO sample. Obviously, high initial month returns for IPOs creates higher variability in returns when comparing this initial month to subsequent months.

Another flaw is the authors' interpretation of their test of diminishing risk (in their Table 5). Here they present a t -statistic of -0.650 and p -value of 52.91 percent on the coefficient of time, meaning one can assign a probability of diminishing risk only at a 47.09 percent level. Certainly, we cannot reject the null hypothesis that risk is the same over time. In addition, perhaps a more appropriate technique for testing whether risk is time-varying is the Autoregressive Conditional Heteroscedasticity (ARCH) method and its variants (see Engle, 1982; and Bollerslev, 1986 for a description of these techniques). None of the three primary conclusions of the authors were supported by the evidence they present.

Velasco and Perez (1996)

Velasco and Perez (1996) reported IPO initial day returns of 29.09 percent for a sample of 84 IPOs covering the period 1987 to 1994. They concluded that IPOs provide abnormally high first-day returns, that this return is accompanied by high risk, and that this correspondingly higher risk supports the Capital Asset Pricing Model (CAPM).

However, some methodological problems caused us to question the reported results. Upon inspection of IPO initial returns listed in their Table 1, we uncovered eleven errors. Returns for ABS-CBN Broadcasting Corporation (reported at 80.56 percent; actual is 55.00 percent) and Kuok Philippines Properties, Inc. (B) (reported at 33.33 percent; actual is 28.00 percent) appear to be typographical errors. Returns for Unioil Exploration

and Mineral Development Company, Inc. (A) (reported at 190.00 percent; actual is 100.00 percent), Keppel Philippines Shipyard, Inc. (B) (reported at 56.00 percent; actual is 32.00 percent), Metro Drug, Inc. (A) (reported at -10.29 percent; actual is -11.42 percent), JG Summit Holdings, Inc. (B) (reported at 47.73 percent; actual is 36.36 percent), and Steniel Manufacturing Corporation (reported at 151.62 percent; actual is 156.67 percent) were either incorrectly calculated or were the results of inaccurate price information. Summit Minerals, Inc. (B) was reported to have earned 10 percent first day returns when the stock did not trade the first day. Shangri-La Properties, Inc. was reported to have not traded on the first day, while it did and earned 0.00 percent initial day returns. Lastly, two IPOs for the period were missing. SazteC Philippines, Inc. listed on 9 July 1991, earned initial returns of -10.68 percent and Metro Drug, Inc. (B), listed on 30 May 1990, earned initial returns of -13.26 percent. In summary, over this sample period, there were actually 86 IPOs earning initial returns of 26.64 percent.

Note that the two missing IPOs may explain how the authors counted 89 total IPOs reported in their Table 2 for the 1987 to 1994 period, while they reported only 87 in their Table 1. The authors' Table 3 corroborates this view since the missing IPOs must be counted to make the reported figures correct. The authors also neglected to report return and standard deviation statistics for the 22 IPOs in 1994 in their Table 3. In addition, we uncovered a methodological flaw in their sample composition. Similar to Mangaran and Ranit (1995), the authors incorrectly counted the offer of Class A and B shares of a single IPO as two sample observations. Taking the average of Class A and B shares as one data point and using the authors data gave average initial returns of 30.36 percent for a sample of 69 IPOs.

Another methodological problem is the authors' analysis of risk. They compared the initial day returns and standard deviation of their IPO sample to the yearly return on the Philippine Treasury Bill, which they referred to as the risk-free asset. The United States Treasury Bill is often referred to as the risk-free asset since the full faith and credit of the United States Government backed by the world's largest economy make this instrument the closest approximation of a risk-free asset available. The Philippine Treasury Bill does not have these same characteristics due to the higher political and economic risk present in the Philippines.

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Therefore, the authors' assumption that all risk of their IPO sample is excess over the risk-free rate is erroneous. The analysis was also incomplete since the authors compared one-day returns to yearly returns.

3. Sample

Our sample of IPOs cover the 11-year period, 1987-1997. We started with 1987 since this was the first full calendar year following the end of the Marcos regime, and consequently, the beginning of a more open economy and improved investment climate. We used the following criteria in determining the IPOs to be included in our final sample: (1) necessary data on offer price and market prices for calculation of initial returns and long-run returns are available (we allow a window of up to five trading days for prices); (2) the issue was only for common stock; and (3) the issuing firm used an investment banker. We collected our price data directly from PSE archives to ensure accuracy. In addition, we scanned IPO prospectuses or the PSE IPO list to validate each observation, since some sources listing IPOs included companies that listed their stock but did not make any public offering. We did not include these non-public offers in our analysis. Moreover, company IPOs of both Class A and B shares were considered as one IPO in our analysis.⁸

We use the standard methodology in the literature and calculated the initial return for the common stock of an IPO as the period encompassing the first day the stock trade on the public exchange. Specifically, the return was calculated as percentage return from the offer price to the closing price at the end of the first trading day (see Ritter, 1984; and Ibbotson, Sindelar, and Ritter, 1994). We calculated the long-run performance of an IPO as the holding period return over the three years starting with the first day's closing price (see Ritter, 1991). To adjust for normal market returns, we calculated three-year adjusted aftermarket re-

⁸In computing average returns for companies where both Class A and B shares were listed, we only considered price data on Class A shares. This technique will not seriously bias results since in the 17 cases where companies issued both Class A and B shares, we find average initial returns of 17.81 percent for Class A and 20.86 percent for Class B shares.

turns as the difference between the IPOs' three-year return and the return on a matched set of similar firms that also traded on the PSE.⁹ The three-year holding period returns for both IPO and matched firms were adjusted for the effects of cash and stock dividends, stock splits, and stock rights declaration that occurred during the period. (Refer to Appendix 1 for a listing of the matched set of firms.)

Table 1 shows the number of IPOs and the gross proceeds raised by the 104 IPOs for each year from 1987 to 1997. As seen, the number of IPOs generally rose during this period, peaking in 1994 when 21 firms issued stocks to the public for the first time. Gross proceeds by year confirms this trend and demonstrates an increasing interest in the Philippine IPO market. Over the period, more than P133 billion of equity capital was raised through IPOs. This amount peaked in 1994 when over P37 billion were raised through IPOs. Overall, this trend confirmed the rising popularity of the Philippine stock market and the strengthening of the Philippine economy. Although the number of IPOs and the amount of proceeds raised continued at unusually high levels the next two years, a collapse of the IPO market occurred in mid-1997. No IPOs occurred in 1997 after May and only one has occurred in the first nine months of 1998. This drop in IPO activity corresponds to the severe contraction in the equity markets that began in mid-1997 in sympathy to problems in other Asian equity markets.

⁹This technique is the current norm in international literature (see Ritter, 1991; and Loughran and Ritter, 1994), and using this technique our results can be directly compared to those found for other countries. Our criteria for identifying a matching firm is based on the following firm characteristics given in order of priority: (1) industry; (2) size, measured by total assets; (3) age, measured as years since incorporation; and (4) publicly-traded for at least three years. When there are no other publicly traded firms available to match within a particular industry or if the IPO firm is diversified across industries we match by a broader industry classification. In addition, simply using the market index is an unattractive option because many of the new IPOs during our period of study were quickly added to the index. The three-year holding period returns for both IPO and matched firms were adjusted for the effects of cash and stock dividends, stock splits, and stock rights declaration that occurred during the period.

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**Table 1 - Number of Philippines IPOs by Year
for the Period 1987 to 1997^a**

Year	Number of IPOs (N) ^a	Gross Proceeds (in pesos) ^b
1987	2	156,500,000
1988	3	952,265,892
1989	6	3,702,241,172
1990	9	4,076,292,224
1991	9	4,878,348,204
1992	8	5,444,631,579
1993	11	8,713,873,500
1994	21	37,415,026,196
1995	16	31,016,281,308
1996	13	27,049,473,204
1997	6	10,073,614,806
Total	104	133,478,548,085

^a Represents the number of firms that issued IPOs. Issues with "A"/"B" share classification are counted only as one IPO.

^b Gross Proceeds are computed as Offer Price x Number of Shares Offered to the Public. Based on the data that includes both "A" and "B" shares.

4. Results

As presented in Table 2, we found initial returns for 104 IPOs issued in the Philippines between 1987 and 1997 to average 22.69 percent. Initial returns varied somewhat by year, but in general these initial returns and the relatively large number of IPOs, support the presence of a "hot issues" market for IPO issuance. "Hot issues" markets for IPOs are defined as a time period when general investor sentiment runs high resulting in extraordinarily high IPO initial returns, as well as an increase in IPO activity. Ritter (1984) confirmed the "hot issues" market in the US that was first conjectured by Ibbotson and Jaffe (1975). Our data is consis-

tent with the presence of a "hot issues" market in Philippine IPOs during the period June 1993 to December 1994. During this one and one-half year period, 30 of the 104 IPOs occurred, earning average initial returns of 44.63 percent.

Table 2 - Initial Returns and Three-Year Aftermarket Performance of Philippines IPOs for the Period 1987 to 1997^a

	N	Initial Return (%)	N	After Market Performance ^b (%)	
				Raw	Adjusted
Overall Average	104	22.69	65	48.33	-5.44
<i>t</i> -statistic ^c		5.82		2.53	
<i>p</i> -value ^d		0.0000		0.0137	0.8214

^a Based on IPO data of Unclassified Shares, "A" shares, and strictly "B" shares.

^b After market performance is measured as (1) average three-year raw return for IPOs and (2) average three-year return adjusted by the return on a set of matched firms. Following Loughran, Ritter and Rydqvist (1994), we calculate the overall average adjusted aftermarket performance as

$$100 \times \left[\frac{\sum (1 + r_{T,I})}{\sum (1 + r_{T,M})} - 1 \right]$$

where $r_{T,I}$ is the three-year holding period return beginning the closing price at the end of the first day of trading for the IPO and $r_{T,M}$ is the three-year holding period return for the corresponding matched firm over the same period.

^c *t*-statistic on a test of the null hypothesis that the mean return is zero.

^d *p*-value on a Student's *t*-test of the difference in the means of raw IPO aftermarket returns and the returns on a set of matched firms, assuming unequal variances.

In the aftermarket, our sample of IPOs averaged returns of 48.33 percent over the three years subsequent to the offer date. These three-year returns appeared quite strong, yielding a compound rate of 14.05 percent per year. However, after we adjusted these aftermarket returns by the

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returns for a matched set of publicly-traded firms, we found that our sample of IPO firms earned adjusted, average aftermarket three-year returns of -5.44 percent. This adjusted return is not significantly different from zero.

Loughran, Ritter, and Rydqvist (1994) showed average initial returns ranging from 4.2 percent to 80.3 percent across 25 different countries. However, when compared directly to other Asian countries, initial Philippine IPO returns may be considered low. Of the more mature markets, average initial returns were shown to be 32.5 percent in Japan, 17.6 percent in Hong Kong, 45.0 percent in Taiwan, and 27.0 percent in Singapore. Of the emerging economies, average initial returns were 78.1 percent in Korea, 80.3 percent in Malaysia, and 58.1 percent in Thailand. Possible explanations of why the initial IPO returns in the Philippines are found to be lower than those of Korea, Malaysia, and Thailand include differences in: (1) time period analyzed; (2) rules and regulations governing the new issue market; (3) the respective economies; (4) domestic and foreign interest in equity markets; and (5) differences in the type of firms that raise capital through IPOs.¹⁰

Loughran, Ritter, and Rydqvist (1994) also reported results for aftermarket performance of IPOs in nine countries over a subsequent three year period. In six of nine cases, adjusted IPO aftermarket performance was negative. In each of the nine studies, the comparison sample outperforms the IPO sample. These results are consistent with our findings of negative adjusted aftermarket returns averaging 5.44 percent.

5. Conclusions

When undertaking any research project, it is important for researchers to accurately define their hypothesis, relate their work to previous relevant studies, carefully construct their tests, and explain their results in the context of accepted theory. With these elements, research of a particular topic can advance, and understanding of the topic will improve. Without these elements, the research is ineffectual, or worse, may lead to

¹⁰ Note that while our sample period began in 1987 and ended in 1997, studies of these other countries began as early as 1970 and ended at the latest in 1991.

erroneous inferences. We endeavored in this paper to demonstrate shortcomings of previous research, not to criticize others, but instead present an example of how to improve future research and advance the understanding of Philippine financial markets.

As presented in Section 2, results of previous research may be questioned due to some inherent weaknesses in research design, data gathering, and statistical analysis. We provided an alternative example of academic research in Sections 3 and 4. Our results show that IPOs in the Philippines earn, on average, returns of 22.69 percent on the initial trading day. Over a three-year aftermarket period, returns total 48.33 percent, or 5.44 percent less than a matched set of publicly-traded firms. This data suggests that although investors in Philippine IPOs make significant returns on the initial trading day, if these investors hold stock of IPOs for a long period, they earn slightly lower average returns than if they had held other comparable stocks.

It appears that the market for Philippine IPOs behaves in much the same manner as IPO markets around the world. Differences that do exist may be due to a variety of reasons. Some reasons for differences are obvious, such as, differences in the stage of economic development and market liquidity. There are also other possible reasons like those mentioned in section 4.

Many questions remain in the investigation of IPOs in the Philippines. For example, why are IPO initial returns in the Philippines low relative to comparable countries, especially when considering the high perceived economic and political risk present during the period studied? Why does the aftermarket for Philippine IPOs fare poorly? What characteristics in the Philippine market affect IPO returns? Alternatively, one can address basic issues regarding the mechanism for bringing a stock to market, such as, does the choice of underwriter affect the degree of underpricing? Are disclosure regulations adequate in ensuring that market participants receive necessary information? How available are new shares to general market participants? The goal of future researchers may be to answer some of these questions.

PERFORMANCE OF PHILIPPINE INITIAL PUBLIC OFFERINGS

Appendix 1.

List of Philippine IPOs and Matched Firms for the Period 1987 to 1997*

IPO	Listing Date	Matched Firm
Keppel Philippine Shipyard, Inc.	26-Aug-87	Republic Glass Holding
Dizon Copper-Silver Mines, Inc.	10-Feb-88	Manila Mining Corp.
Balabac Oil Explo. & Drilling Co., Inc.	25-Jul-88	ATN Holdings, Inc.
Alcorn Petroleum & Minerals Corp.	26-Sep-88	Interport Resources
Philippine National Bank	21-Jun-89	Bank of Philippines Islands
Robinson's Land Corporation "B"	16-Oct-89	Basic Consolidated, Inc.
Phil. Telegraph & Tel. Corp.	10-Jan-90	First Philippine Holdings
Petrofields Explo. & Dev't. Corp.	24-Jan-90	Sime Darby Pilipinas
Kuok Phil. Properties, Inc.	14-Feb-90	SM Development Corp.
Phil. Orion Properties, Inc.	28-Feb-90	Jardine Davies
Sanitary Wares Manufacturing Corp.	13-Mar-90	Oriental Petroleum
Manila Bulletin Publishing Corp.	18-Apr-90	The Philodril Corp.
Metro Drug, Inc.	30-May-90	Cebu Shipyard
Summit Minerals, Inc.	03-Oct-90	United Paragon Mining
Mabuhay Holdings Corp.	22-Oct-90	Liberty Flour Mills
Interphil Laboratories	02-Apr-91	Atlas Fertilizer
Shangri-la Properties, Inc.	13-Jun-91	Benguet Corp.

Appendix 1 (cont.)

IPO	Listing Date	Matched Firm
Ayala Land, Inc. "B"	05-Jul-91	Apex Mining Corp.
SazteC Philippines, Inc.	09-Jul-91	Lepanto Consolidated Mining
Pryce Properties Corp.	29-Oct-91	Philex Mining Corp.
Far East Bank & Trust Co.	14-Nov-91	China Banking Corp.
Manila Electric Company	08-Jan-92	The Philippine Banking Corp.
Cebu Prop. ventures & Dev't. Corp.	03-Mar-92	Atlas Consltd. Min. & Dev't. Corp.
Int'l Container Terminal Serv., Inc.	23-Mar-92	Urban Bank, Inc.
EasyCall Comm. Phils., Inc.	05-May-92	Phil. Long Distance Telephone
Union Bank of the Philippines	29-Jun-92	PCI Bank
ABS-CBN Broadcasting Corp.	08-Jul-92	Globe Telecom
Citytrust Banking Corp.	16-Dec-92	Solidbank Corp.
Palawan Oil & Gas Explo., Inc.	30-Mar-93	Vulcan Industrial & Mining Corp.
Terra Grande Res. & Explo. & Dev. Corp.	12-Apr-93	Anglo-Philippine Holdings
Bacnotan Cement Corp.	24-Jun-93	EEl Corp.
Jollibee Foods Corp.	14-Jul-93	Rizal Commercial Banking Corp.
JG Summit Holdings, Inc.	09-Aug-93	Dharmala Phils.
Filinvest Land, Inc.	25-Oct-93	Philippine Realty and Holding
Kepphil Shipyard, Inc.	04-Nov-93	House of Investments
Victorias Milling Corp.	15-Nov-93	Matsushita Electric Phil.

PERFORMANCE OF PHILIPPINE INITIAL PUBLIC OFFERINGS

Appendix 1 (cont.)

IPO	Listing Date	Matched Firm
Steniel Manufacturing Corp.	22-Nov-93	Omico Mining
Benpres Holdings Corp.	25-Nov-93	Phil. National Construction Co.
Universal Petroleum Explo., Inc.	29-Nov-93	Republic Cement
South China Petroleum & Explo., Inc.	05-Jan-94	San Jose Oil Co.
A Brown Company, Inc.	08-Feb-94	Abra Mining & Ind'l. Corp.
Cebu Holdings, Inc.	14-Feb-94	Gotesco Land, Inc.
Asian Petroleum Corp.	08-Mar-94	Unioil Resources and Holding
Universal Robina Corp.	25-Mar-94	A Soriano Corp.
Megaworld Prop. and Holdings, Inc.	12-Jun-94	Cityland Development
Negros Navigation Company, Inc.	21-Jun-94	Marcopper Mining Corp.
Selecta Dairy Products, Inc.	23-Jun-94	RFM Corp.
SM Prime Holdings, Inc.	05-Jul-94	Ayala Corp.
Davao Union Cement Corp.	26-Jul-94	Philippine Racing Club, Inc.
Pacific Rim Oil and Resources Corp.	16-Aug-94	Bacotan Consolidated
Petron Corp.	07-Sep-94	Acoje Holdings
Mondragon Internation Phils., Inc.	13-Sep-94	Belle Corp.
Philippine Savings Bank	10-Oct-94	Metropolitan Bank & Trust
Liberty Telecoms Holdings, Inc.	17-Oct-94	Abacus Consolidated Resources
Swift Foods, Inc.	15-Nov-94	San Miguel Corp.

Appendix 1 (cont.)

IPO	Listing Date	Matched Firm
Aboitiz Equity Ventures, Inc.	16-Nov-94	PDCP Development Bank
7-Seas Oil Exploration & Resources	17-Nov-94	Trans-Asia Oil & Min. Dev. Corp.
Cosmos Bottling Corp.	13-Dec-94	Greater Asia Resources Corp.
Southeast Asia Cement Holdings	14-Dec-94	Baguio Gold Holdings
Cophil Exploration Corp.	19-Dec-94	Asian Pacific Equity
Alaska Milk Corp.	17-Jan-95	Manila Jockey Club, Inc.
Vitarich Corp.	08-Feb-95	Asia Amalgamated Holdings
Waterfront Philippines, Inc.	17-Mar-95	Seafont Resources
Bankard, Inc.	21-Mar-95	Phil. Bank of Communications
La Tondeña Distillers, Inc.	18-Apr-95	Polar Mines & Dev't Corp.

*Includes only IPO firms with three-year return data. IPO firms and listing date are from the Philippine Stock Exchange Research Department.

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References

- Bollerslev, T. (1986), "Generalized Autoregressive Conditional Heteroscedasticity," *Journal of Econometrics*, 31: 307-327.
- Engle, R. (1982), "Autoregressive Conditional Heteroscedasticity with Estimates of the Variance of U.K. Inflation," *Econometrica*, 50: 987-1008.
- Ibbotson, R. (1975), "Price Performance of Common Stock New Issues," *Journal of Financial Economics*, 3: 235-272.
- Ibbotson, R. and J. Jaffe (1975), "'Hot Issue' Markets," *Journal of Finance*, 30: 1027-42.
- Ibbotson, R., J. Sindelar, and J. Ritter (1994), "The Market's Problems with the Pricing of Initial Public Offerings," *Journal of Applied Corporate Finance*, 7: 66-74.
- Loughran, T., J. Ritter, and K. Rydqvist (1994), "Initial Public Offerings: International Insights," *Pacific-Basin Finance Journal*, 2: 165-199.
- Loughran, T. and J. Ritter, (1995), "The New Issue Puzzle," *Journal of Finance*, 50: 23-51.
- Mangaran, P.F., and O.L. Ranit (1995), "The Opening Price Performance of Initial Public Offerings of Common Stock: The Philippine Experience," *Business and Economics Journal*, 7(2): 1-11.
- Perez, E. and A. Velasco (1995), "How Risky are Philippine IPOs?" *The Asian Manager*, 8(Oct./Nov.): 31-33.
- Ritter, J. (1984), "The 'Hot Issue' Market of 1980," *Journal of Business*, 57(2): 215-240.
- Ritter, J.R. (1991), "The Long-Run Performance of Initial Public Offerings," *Journal of Finance*, 46: 3-27.
- Velasco, A.L. and E.B. Perez (1996), "The Initial Market Performance of Philippine IPOs," *The Asian Manager*, 9(April/May): 42-44.
- Ybañez, R. (1993), "Initial Public Offerings in the Philippines," *Philippine Management Review*, 4(1): 11-19.