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# PESO AVERAGING: A FORMULA PLANNING APPROACH TO STOCK INVESTMENTS

By

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Investors normally seek the best compromise possible between low-risk and high-risk on their capital. Savings accounts, bonds and commercial papers may guarantee the capital and rate of return but there are few opportunities for appreciable profits and no protection against a decline in the value of the peso. Consequently, a growing number of investors have turned to the stock market where there are opportunities for substantial profits although neither the original capital nor the rate of return is assured.

The basic questions commonly asked by investors concern stock selection and timing (when to buy and sell). Those who place major emphasis on stock selection assume that the right stock when held long enough will assure a profit. However, this buy-and-hold strategy ignores the timing problem.

On the other hand, those who concern themselves with the timing problem work on the theory that future prices can be predicted based on a detailed analysis of past price movements (14). Such individuals are called technicians or chartists. The precursor of almost all technical work is the Dow theory[1]. Its important

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**Author's note: The paper is not an attempt to establish meaningful or conclusive relationships in the stock market. It is intended primarily to inform the average investor who may be searching for a formula. Thus the emphasis is on the mechanics and basic ingredients of peso averaging.

[1]The Dow theory was named after Charles A. Dow although the theory as it is known today is the invention of William P. Hamilton and Robert Rhea. According to the Dow theory, the market at any given time is the composite resultant of three movements: a major trend up or down; an intermediate movement toward or away from this trend; and a patternless day-to-day fluctuation. It is basically with reference to major swings that the Dow theory makes any positive claims.

contribution to technical analysis[2] is the recognition that the law of inertia is applicable to securities markets and that a trend, once established, tends to remain in force. A major deficiency, however, of the Dow theory is the fact that while the stock market movements occur in broad waves or cycles, it makes no effort to discover a consistent pattern in these cycles (19).

Opposed to technical analysis are the proponents of the random walk theory. This theory asserts that the current market price of a given stock is independent of and unrelated to previous market-price patterns (20). Statistical testing of price series over time by Fama (10) indicates that stock price changes are independently distributed random variables thereby providing support for the random walk theory. Smidt (18) concurs with Fama's observation when he points out that the probability distributions of price changes which can occur under three distinct sets of circumstances are consistent with the random walk hypothesis. These circumstances are:

1. The information that becomes available to market participants is itself random in its effects on prices.

2. All participants are thoroughly informed about new information as soon as it is publicly available.

3. Well informed participants anticipate how lags in information available to less well informed participants will affect the latter's trading.

The random walk theory, however, does not preclude any correct forecast on price changes. To quote Cootner (7):

> "When statisticians hypothesize that the course of stock prices describes a random walk or Brownian motion, they do not imply that a skilled student of the subject cannot forecast price changes. They merely imply that one cannot forecast the future based on past history alone."

The difficulty of predicting the course of stock prices as aggravated by the market crash of 1929 in the US has accelerated the search for mechanical trading techniques which would insure sizable

[2] In its purest form, technical analysis relies on the relationship of the present market of a stock to its price history in deducing the probably future trend.

appreciation and preserve the investor's capital. In the confusion that followed the crash, formula plans came into being but not without its critics. Pinches (16) and Black (5) claimed that mechanical trading rules did not indicate that profits could be generated by these rules. An alternative proposed by Wallich (22) was for the investor to choose the degree of risk he wanted to assume then put his portfolio together and hold. The basic principle behind the buy-and-hold method was that common stocks in general would exhibit an upward trend over the long run. Active investors however preferred shooting for profits over a short period of time rather than adhere to the buy-and-hold theory because of the resulting inactivity.

For many who have tried it, the formula plan is a better method of investing more than buying and holding a given list of securities, because there is no stock price forecasting involved (8). There is only a basic assumption that prices will continue to fluctuate (23). Once a plan is selected, success can be assured if the investor sticks to it no matter how bleak the short run outlook may be.

Through the years, a number of formula plans[3] have evolved under different names. In general, all these plans have been found useful for investment purposes (9). The formula plan considered the simplest and the most suited to the average investor is peso averaging. Due to its success and simplicity, this plan has been called the investment "magic formula".

The purpose of this paper is to examine a number of decision rules that will result in higher profitability of peso averaging in case the investor decides to sell his stocks before the program is completed. Because we had only two years of data, the full impact of peso averaging cannot be ascertained. Thus, any comparison with the buy-and-hold strategy is intended to point out the disadvantage of starting a peso averaging program without completing a full market cycle[4].

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[3] The term formula plan as applied in the past 20 years or so refers to automatic techniques that tell the investor what to do at all times without attempting a precise prediction of market prices. Most of the original work in developing formula plans were made by colleges, insurance companies, trust companies, and investment companies in the US.

[4] For purposes of peso averaging, there is a simple rule for determining the cycles of individual stocks. Starting from any price, and assuming a sharp move either up or down, a full cycle for an individual stock can be considered over when the price returns to its initial level.

## The Essence of Peso Averaging

Peso averaging is a method of purchasing the same peso amount of stocks at regular intervals — monthly, quarterly, or annually. It is thus a mechanical objective plan which is intended to substitute for a subjective determination of when to buy (4). Since the investor over a long period of time will purchase shares at different times at various prices, the result is that more shares are bought at low points and fewer at high points. By purchasing more shares when prices are low and cutting down as prices rise, the average cost per share will always be lower than the average price per share (see Appendix Tables 1-9). This assumes, of course, that the stock(s) will fluctuate and will not merely continue an indefinite decline with no noticeable recovery. The plan may be modified to provide for taking profits when the market price of the stock held shows a predetermined capital gain above average cost.

The program can be initiated at any point in the market as long as stock purchases are made over a full market cycle. As a rule of thumb, the plan is deemed to work best if continued over a ten or fifteen-year period encompassing several market cycles[5]. Success, however, will take longer if the plan is begun just before a rapid rise in stock prices because average cost will rise rapidly. Any decline in stock prices occurring later on when the amount invested is larger will reduce average cost less rapidly.

At some points in time, the market value of the stock held may decline below its cost but the longer the plan is followed, the less likely that this will happen. The true adherent of the plan should consider declines below cost temporary unless he logically believes the selection of the stocks is poor. The bad effects of unfortunate selection might be overcome through diversification (3). Or better still, a careful selection of stocks before the plan is initiated should improve results.

In the selection of stocks the following criteria may be considered: the stock is actively traded, of good quality, subject to at least average fluctuations, and the company owning the stock will be in business for some years to come.

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[5] The ten to fifteen-year period is not a full market cycle but the length of time an averaging program is deemed to work best. Within this period, a stock may have several market cycles. The minimum requirement is to continue the program over a full market cycle which takes 3 or more years.

It should be noted that the resulting portfolio is what is referred to as a naively diversified portfolio in contrast with the Merkowitz efficiently diversified portfolio.

**Studies on Mechanical Trading Rules**

Alexander (1) devised a mechanical trading rule employing a filter technique. He defined the x per cent filter as follows: if the daily closing price of a particular security moves up at least x per cent, buy and hold the security until its price moves down at least x per cent from a previous high, at which time simultaneously sell and go short. The short position is maintained until the daily closing price rises at least x per cent above a subsequent low at which time one covers and buys. Moves less than x per cent in either direction are ignored. In effect, the x per cent is conceived of as a filter for small unimportant price changes. Results of this study showed considerable profits in excess of a buy-and-hold strategy. Critics however noted an upward bias in the results because no allowance was made for commissions and stock indices were used instead of actual stocks. In a subsequent paper (2), Alexander revised his earlier study to take into account the upward bias. He found the profitability of the filter greatly reduced but still produced returns slightly higher than a buy-and-hold policy.

Cootner (6) employed a mechanical rule which compared the current price with a moving average of the price in the preceding 40 weeks. His rule is: buy the stock if the current price is higher than the moving average; sell short if the current price is less than the moving average. All short positions should be covered if the current price rises above the moving average. Long positions are eliminated if the price falls below the moving average. This procedure was employed with a 5% threshold above or below the moving average. After allowing for commissions he obtained greater profits than with a buy-and-hold strategy.

Fama and Blume (11) employed a filter that was expressed as a percentage change from previous peak or trough. A long position is taken when a stock's closing price exceeded a reference trough by the size of the filter. The long position is held until the closing price is less than the reference peak by the amount of the filter. At this point the position is switched from long to short. Short or long positions are continued until a signal to change them is reached. The reference peak (trough) is the highest (lowest) preceding closing price

from the day the position is opened. They concluded that this mechanical trading rule cannot outperform the market.

Levy (13) used a number of "reversed variable ratio models" whereby the portfolio would be composed of both stocks and bonds and the stock portion would be increased (decreased) as the market becomes stronger (weaker). After allowing for commissions, he found that the returns from his trading rules were higher in general than the returns which could have been earned on a random selection policy. Based on his results, Levy concluded that the random walk hypothesis has been refuted. Jensen (12), however, claims that Levy's results are not sufficient to refute the random walk hypothesis pending replications and tests on other data. In another study, Levy (15) analyzed the predictive significance of five-point chart patterns[6]. After taking into account trading costs, none of the 32 patterns showed any evidence of profitable forecasting ability in either bullish or bearish direction.

Van Horne and Parker (20) used moving averages of 30 stocks calculated for 100, 150, and 200 days prior to each day's closing price. The trading rule formulated is as follows; a buy order is placed if the daily closing price exceeds the moving average of past prices by x per cent for two consecutive days. A sell order is issued if the closing price is below the moving average two consecutive days by x per cent. They used five different thresholds and three moving averages for a total of 30 variations. None proved profitable when compared with a buy-and-hold strategy. In a modification of this study, Van Horne and Parker (21) employed a weighted moving average where more emphasis was placed on recent prices. The profits in 32 variations were less than in the first study.

Renshaw and Renshaw (17) suggested three different strategies for trying to beat the market: (1) Buy those 6 stocks which appreciated the most in the preceding year. This strategy did not work well because the average return for these stocks in 1967-68 was about 8.7 per cent compared to 9.8 per cent for the Dow Jones Industrial Average (DJIA)[7]. (2) Invest equal amounts of money in those 6 stocks with the highest average returns for the entire DJIA in

[6] A five-point chart pattern may have two highs and three lows or two lows and three highs.

[7] The DJIA is a simple arithmetic average of closing prices each day of 30 representative industrial stocks.

the period 1947-65. Average performance of these 6 stocks in 1967-68 was 12.5 per cent or 2.5 per cent better than the DJIA. (3) Invest equal amounts of money in those 6 stocks considered the riskiest. Their average appreciation in 1967-68 was 12.2 per cent which was almost 2.5 per cent better than the DJIA.

## Sample and Data

The decision rules formulated were tested on 9 "blue chip" stocks selected in consultation with the Research Department of Anselmo Trinidad & Co., Inc. The sample period was from January 1, 1973 to December 31, 1974, a period of two calendar years. Unadjusted monthly closing prices were recorded for each stock. These prices were then adjusted for stock splits and stock dividends.

## Methodology

It was assumed that P24,000 was available for investment with P1,000 to be invested monthly for 24 months. Neither commissions nor dividends were included in the calculations and investments of the P1,000 in full and fractional shares were also assumed. Finally, a 7 per cent interest per annum compounded monthly was assumed to be the earnings of the uninvested funds. The total market value of the stocks therefore includes interest income.

Four decision rules were tested. These are:

1. Investments in only one stock for the entire 24 month period.

2. Investments in random samples of the nine "blue-chip" stocks. Each month, a stock would be drawn using a table of random numbers. With this procedure three sets of random samples were generated.

3. Investments in a particular stock for a given month based on the highest marginal percentage increase in price on the assumption that an initial increase in price has a prelude to further price increases.

4. Investments in a particular stock for a given month based on the lowest marginal percentage decrease in price.

This decision rule will enable the investor to purchase more stocks at lower prices. In cases where two or more stocks will have the same percentage change in price in a given month, the choice of the stock will be based on its marginal contribution to profits.

To determine the efficiency of peso averaging in the short run vis-a-vis a buy-and-hold strategy, the profitability of the two methods were compared for each of the nine stocks. Comparisons in profitability were made at the end of 24 months and also at points in time where each of the nine stocks produced the highest profits.

Comparison in profitability was also made between the average profit of the nine stocks against the average profit of the three random samples. The date chosen was April 1974 when all of the random samples incurred the highest profits. A t-test was conducted to determine significant differences between means.

And finally, ranks were given to the four decision rules based on their performances in terms of profits and losses. Analysis of variance and t-tests were used to determine significant differences in ranks.

**Results**

*Decision Rule 1 (DR 1): Investments in only one stock.*

Table 1 shows the closing balances for each of the nine stocks at the end of 24 months. As of December 1974, all the nine stocks suffered a loss ranging from P22.70 for Marinduque to P12,228.03 for Atlas. Had the investor chosen Atlas for his peso averaging program he would have incurred the greatest paper loss after 24 months. Of course, it is still too early to evaluate the performance of the various stocks. But an investor who may want to minimize his losses in the short run should note that losses for the various stocks are quite variable.

The superiority of the buy-and-hold strategy over peso averaging in the short run can also be seen in Table 1. Only two stocks — Atlas and Lepanto — resulted in losses under the buy-and-hold strategy. In terms of highest profit, Marinduque registered P50,089.54 over a P24,000 investment.

Suppose the investor using peso averaging wants to unload when profits are generated. Will he get more than from a buy-and-hold

TABLE 1

**Profitability of Peso Averaging vs. a Buy-and-Hold Strategy at the End of 24 months**

| Stock | Profit (Loss) | | % Profit (Loss) | |
|---|---|---|---|---|
| | PA | B&H | PA | B&H |
| Meralco | (P4,531.64) | P 5,280.00 | (18.9) | 22.0 |
| SMC | ( 3,085.84) | 10,567.96 | (12.9) | 44.0 |
| PLDT | ( 3,900.68) | 5,705.44 | (16.2) | 23.8 |
| Atlas | (12,228.03) | (5,610.29) | (51.0) | (23.4) |
| Inco | ( 1,375.03) | 23,056.82 | ( 5.7) | 96.1 |
| Lepanto | ( 9,546.43) | (6,310.76) | (39.8) | (26.3) |
| Marcopper | ( 717.20) | 13,744.80 | ( 3.0) | 57.3 |
| Marinduque | ( 22.70) | 50,089.54 | ( 0.1) | 208.7 |
| Philex | ( 5,634.52) | 3,096.77 | (23.7) | 12.9 |
| Average | ( 4,560.23) | 11,068.92 | (19.0) | 46.1 |

Legend: PA — Peso Averaging
B&H— Buy-and-Hold

strategy? To answer this question, the maximum profits for each of the nine stocks were determined. For the same period, profits from a buy-and-hold strategy were computed. As shown in Table 2, maximum profits for each of the nine stocks occur at various dates. Assuming that the investor using peso averaging will unload at these maximum profits, he would have been better off had he decided on a buy-and-hold strategy at the outset. Under peso averaging, the highest profit was P23,140.46 for Marinduque compared to P104,552.53 for a buy-and-hold strategy. If the investor selected Lepanto for his peso averaging program, the maximum profit would have been only P2,418.08.

TABLE 2

**Highest Profitability of Peso Averaging Compared to a Buy-and-Hold Strategy for the Same Period**

| Date | Stock | Profit | | % Profit | |
|---|---|---|---|---|---|
| | | PA | B&H | PA | B&H |
| Sept. 1973 | Meralco | P11,659.04 | P20,250.00 | 129.5 | 225.0 |
| April 1974 | SMC | 6,369.26 | 23,917.70 | 39.8 | 149.5 |
| Oct. 1973 | PLDT | 6,662.31 | 14,290.76 | 66.6 | 142.9 |
| April 1974 | Atlas | 7,273.94 | 34,701.30 | 45.5 | 216.9 |
| March 1974 | Inco | 16,713.39 | 63,431.37 | 111.4 | 396.4 |
| April 1973 | Lepanto | 2,418.08 | 6,565.74 | 60.4 | 164.1 |
| April 1974 | Marcopper | 11,415.01 | 28,629.08 | 71.3 | 178.9 |
| April 1974 | Marinduque | 23,140.46 | 104,552.53 | 144.6 | 653.4 |
| Aug. 1973 | Philex | 5,522.86 | 16,559.14 | 69.0 | 207.0 |

Legend: PA — Peso Averaging
B&H— Buy-and-Hold

*Decision Rule 2 (DR 2): Investments in a random sample of stocks.*

The average profitability of the nine stocks was compared with the average profitability of the three random samples. As mentioned earlier, April 1974 was chosen for comparison purposes because the highest profits for the random samples occurred on this date. Five of the nine stocks also had the highest profits on April 1974. The average profit for the nine stocks was P7,601.25 which was slightly lower than the profit for the random samples amounting to P7,866.49 (Table 3). A t-test indicated insignificant difference between the means. This implied that no advantage could be gained in a random selection of stocks.

*Decision Rule 3 (DR 3): Investments in a stock for a given month based on the highest percentage increase in price.*

Under this method, the highest profit was realized also on April 1974 just like the random samples and five of the individual stocks. As presented in Table 4, the highest profit was P9,439.93. This amount is higher than the profits of the random samples. In the case of the individual stocks only Marinduque and Marcopper exceeded this amount (see Table 3). This would indicate that this method may be better than investments in single stocks or random samples.

**TABLE 3**

**Profitability of Individual Stocks Compared With Random Samples for April 1974**

| Stock | Total Market Value | Profit | % Profit |
|---|---|---|---|
| Meralco | P 22,258.50 | P 6,258.50 | 39.1 |
| SMC | 22,369.26 | 6,369.26 | 39.8 |
| PLDT | 22,418.25 | 6,418.25 | 40.1 |
| Atlas | 23,273.94 | 7,273.94 | 45.5 |
| Inco | 18,068.41 | 2,068.41 | 12.9 |
| Lepanto | 17,587.64 | 1,587.64 | 9.9 |
| Marcopper | 27,415.01 | 11,415.01 | 71.3 |
| Marinduque | 39,140.46 | 23,140.46 | 144.6 |
| Philex | 19,879.78 | 3,879.78 | 24.2 |
| Random Sample A | 24,264.51 | 8,264.51 | 51.6 |
| Random Sample B | 22,273.31 | 6,273.31 | 39.2 |
| Random Sample C | 25,061.66 | 9,061.66 | 56.6 |
| Average (9 stocks) | 23,601.25 | 7,601.25 | 47.5 |
| Average (random samples) | 23,866.49 | 7,866.49 | 49.2 |

*Decision Rule 4 (DR 4): Investments in a stock for a given month based on the lowest percentage increase in price.*

Again, the highest profit was registered in April 1974 with P9,642.43 (Table 5). This amount, however, was only slightly larger than the highest profit under DR 3. This would appear that based on the highest profit, DR 4 had no significant advantage over DR 3.

**TABLE 4**

**Stock Selection Using Highest Marginal Percentage Increase in Price**

| Date | Stock | Total Inv. | Total Market Value | Profit (Loss) | %Profit (Loss) |
|---|---|---|---|---|---|
| 1973 | | | | | |
| Jan. | Marinduque | P 1,000 | P 1,133.40 | P 133.40 | 13.3 |
| Feb. | Lepanto | 2,000 | 2,509.68 | 509.68 | 25.5 |
| March | Lepanto | 3,000 | 4,869.42 | 1,869.42 | 62.3 |
| April | Lepanto | 4,000 | 6,477.95 | 2,477.95 | 61.9 |
| May | PLDT | 5,000 | 6,824.20 | 1,824.20 | 36.5 |
| June | Atlas | 6,000 | 8,325.45 | 2,325.45 | 38.8 |
| July | Marinduque | 7,000 | 10,016.49 | 3,016.49 | 43.1 |
| Aug. | Meralco | 8,000 | 12,282.41 | 4,282.41 | 53.3 |
| Sept. | Meralco | 9,000 | 15,512.04 | 6,512.04 | 72.4 |
| Oct. | SMC | 10,000 | 16,314.27 | 6,314.27 | 63.1 |
| Nov. | Inco | 11,000 | 12,923.04 | 1,923.04 | 17.5 |
| Dec. | Philex | 12,000 | 13,995.15 | 1,995.15 | 16.6 |
| 1974 | | | | | |
| Jan. | Marinduque | 13,000 | 16,801.68 | 3,801.68 | 29.2 |
| Feb. | Marinduque | 14,000 | 18,804.58 | 4,804.58 | 34.3 |
| March | Inco | 15,000 | 22,497.27 | 7,497.27 | 50.0 |
| April | Marcopper | 16,000 | 25,439.93 | 9,439.93 | 59.0 |
| May | PLDT | 17,000 | 23,339.59 | 6,339.59 | 37.3 |
| June | SMC | 18,000 | 21,186.37 | 3,186.37 | 17.7 |
| July | Atlas | 19,000 | 22,528.37 | 3,528.37 | 18.6 |
| Aug. | Marinduque | 20,000 | 16,970.39 | (3,029.61) | (15.1) |
| Sept. | Inco | 21,000 | 15,675.26 | (5,324.74) | (25.4) |
| Oct. | Inco | 22,000 | 17,368.59 | (4,631.41) | (21.0) |
| Nov. | Inco | 23,000 | 19.333.19 | (3,666.81) | (15.9) |
| Dec. | Inco | 24,000 | 19,967.18 | (4,032.82) | (16.8) |

**Performance Evaluation of the Four Decision Rules.**

To gain an insight into the overall performance of each decision rule, relative to one another, the monthly profits and losses were compared. DR 1 is represented by monthly average profits (losses) of the individual stocks. DR 2 is represented by the monthly average profits (losses) of the random samples. The averages are given in Table 6 together with the monthly profits (losses) of DR 3 and DR 4. A simple procedure was followed to evaluate the effectiveness of each rule: in each month, profits from highest to lowest and losses from lowest to highest are given the corresponding ranks of 1 to 4. For each decision rule, the ranks were averaged over the entire period. Based on this procedure, the overall ranks are as follows: DR 4 — first, DR 3 — second, DR 2 — third, and DR 1 — fourth. An analysis of variance test indicated no significant differences in ranks among the four decision rules. However, t-tests conducted between paired ranks showed that the rank of DR 4 was significantly different from the ranks of the other decision rules while the ranks of DR 1, 2, and 3 were not significantly different.

TABLE 5

**Stock Selection Using Lowest Marginal Percentage Decrease in Price**

| Date | Stock | Total Inv. | Total Market Value | Profit (Loss) | % Profit (Loss) |
|---|---|---|---|---|---|
| 1973 | | | | | |
| Jan. | Marinduque | P 1,000 | P1,133.40 | P 133.40 | 13.3 |
| Feb. | PLDT | 2,000 | 2,914.24 | 914.24 | 45.7 |
| March | Meralco | 3,000 | 4,726.78 | 1,726.78 | 57.6 |
| April | Philex | 4,000 | 5,985.61 | 1,985.61 | 49.6 |
| May | Marinduque | 5,000 | 6,675.22 | 1,675.22 | 33.5 |
| June | SMC | 6,000 | 8,424.05 | 2,424.05 | 40.4 |
| July | Lepanto | 7,000 | 10,524.19 | 3,524.19 | 50.3 |
| Aug. | Marinduque | 8,000 | 11,957.39 | 3,957.39 | 49.5 |
| Sept. | Philex | 9,000 | 14,969.20 | 5,969.20 | 66.3 |
| Oct. | Philex | 10,000 | 15,862.36 | 5,862.36 | 58.6 |
| Nov. | Meralco | 11,000 | 13,679.84 | 2,679.84 | 24.4 |
| Dec. | Inco | 12,000 | 14,155.07 | 2,155.07 | 15.2 |
| 1974 | | | | | |
| Jan. | Philex | 13,000 | 16,844.07 | 3,844.07 | 29.6 |
| Feb. | Inco | 14,000 | 18,441.74 | 4,441.74 | 31.7 |
| March | Marcopper | 15,000 | 23,344.74 | 8,344.74 | 55.6 |
| April | Inco | 16,000 | 25,642.43 | 9,642.43 | 60.3 |
| May | Lepanto | 17,000 | 24,498.03 | 7,498.03 | 44.1 |
| June | Meralco | 18,000 | 22,287.35 | 4,287.35 | 23.8 |
| July | SMC | 19,000 | 23,077.32 | 4,077.32 | 21.5 |
| Aug. | Inco | 20,000 | 17,591.04 | (2,408.96) | (12.0) |
| Sept. | Lepanto | 21,000 | 17,172.92 | (3,827.08) | (18.2) |
| Oct. | Marcopper | 22,000 | 19,091.05 | (2,908.95) | (13.2) |
| Nov. | PLDT | 23,000 | 21,697.05 | (1,302.95) | ( 5.7) |
| Dec. | Marcopper | 24,000 | 21,692.07 | (2,307.93) | ( 9.6) |

## TABLE 6

### Comparative Monthly Profitability of the Four Decision Rules

| Date | Average of 9 Stocks | Ave. of Random Samples | Highest % Price Inc. | Lowest % Price Dec. |
|---|---|---|---|---|
| 1973 | | | | |
| Jan. | P 133.40 | P 133.40 | P 133.40 | P 133.40 |
| Feb. | 661.36 | 560.21 | 509.68 | 914.24 |
| March | 1,038.25 | 909.94 | 1,869.42 | 1,726.78 |
| April | 1,401.08 | 1,116.70 | 2,477.95 | 1,985.61 |
| May | 1,146.31 | 948.35 | 1,824.20 | 1,675.22 |
| June | 1,685.65 | 1,345.12 | 2,325.45 | 2,424.05 |
| July | 2,154.45 | 1,816.98 | 3,016.49 | 3,524.19 |
| Aug. | 4,451.15 | 4,375.19 | 4,282.41 | 3,957.39 |
| Sept. | 5,349.25 | 4,574.60 | 6,512.04 | 5,969.20 |
| Oct. | 5,589.26 | 5,237.97 | 6,314.27 | 5,862.36 |
| Nov. | 2,803.46 | 2,915.95 | 1,923.04 | 2,679.84 |
| Dec. | 2,054.84 | 2,505.84 | 1,995.15 | 2,155.07 |
| 1974 | | | | |
| Jan. | 3,309.89 | 3,309.92 | 3,801.68 | 3,844.07 |
| Feb. | 3,512.86 | 3,463.21 | 4,804.58 | 4,441.74 |
| March | 6,420.31 | 5,500.04 | 7,497.27 | 8,344.74 |
| April | 7,601.25 | 7,866.49 | 9,439.93 | 9,642.43 |
| May | 5,718.93 | 5,219.42 | 6,339.59 | 7,498.03 |
| June | 2,900.91 | 3,153.15 | 3,186.37 | 4,287.35 |
| July | 2,367.94 | 2,807.38 | 3,528.37 | 4,077.32 |
| Aug. | (3,051.38) | (2,360.05) | (3,029.61) | (2,408.96) |
| Sept. | (4,752.04) | (3,846.60) | (5,324.74) | (3,827.08) |
| Oct. | (4,340.54) | (3,579.63) | (4,631.41) | (2,908.95) |
| Nov. | (3,245.08) | (2,090.69) | (3,666.81) | (1,302.95) |
| Dec. | (4,560.17) | (4,019.94) | (4.032.82) | (2,307.93) |

The highest rank obtained by DR 4 can be explained by the fact that more stocks were purchased when prices were low which is the essence of peso averaging. In nine out of 19 months (January 1973 – July 1974) DR 4 exhibited the highest profits. For the period when

losses were incurred (August — December 1974), DR 4 had the lowest losses in 4 out of 5 months.

## Conclusions

The evidence presented in this paper indicates the following:

1. Peso averaging is not as profitable as a buy-and-hold strategy in the short run. (It should be recalled that brokerage fees and other transactional costs are not accounted for in the peso averaging alternative.) Not one of the nine stocks exceeded the profits or had lower losses than a buy-and-hold strategy at the end of 24 months. A buy-and-hold strategy also exceeded the maximum profits of each of the individual stocks. This would tend to confirm the findings of a number of studies in the United States that for the program to be successful, it must be carried at least over a full market cycle.

2. A random selection of stocks or switching is probably a useless exercise because the highest average profits of the individual stocks did not differ significantly from the highest average profit of the random samples. If one were given a choice, it would be better for him to choose a stock and implement the program.

3. Among the decision rules tested, the most promising is investments on stocks based on the lowest marginal percentage increase in the price. It offers the advantage of purchasing a greater number of shares at lower prices.

## APPENDIX I

### Meralco: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P 5.00 | 200.00 | P 1,000 | P 1,133.40 | P5.00 | P5.00 |
| Feb. | 6.60 | 351.52 | 2,000 | 2,448.40 | 5.80 | 5.69 |
| March | 6.20 | 512.81 | 3,000 | 3,302.74 | 5.93 | 5.85 |
| April | 6.50 | 666.66 | 4,000 | 4,451.52 | 6.08 | 6.00 |
| May | 6.40 | 822.91 | 5,000 | 5,379.74 | 6.14 | 6.08 |
| June | 6.80 | 969.97 | 6,000 | 6,703.80 | 6.25 | 6.19 |
| July | 7.20 | 1,108.86 | 7,000 | 8,086.62 | 6.39 | 6.31 |
| Aug. | 10.50 | 1,204.10 | 8,000 | 12,740.68 | 6.90 | 6.64 |
| Sept. | 16.25 | 1,265.64 | 9,000 | 20,659.04 | 7.94 | 7.11 |
| Oct. | 16.00 | 1,328.14 | 10,000 | 21,337.37 | 8.74 | 7.53 |
| Nov. | 11.50 | 1,415.10 | 11,000 | 16,355.48 | 9.00 | 7.77 |
| Dec. | 11.00 | 1,506.01 | 12,000 | 16,642.62 | 9.16 | 7.97 |
| 1974 | | | | | | |
| Jan. | 11.50 | 1,592.97 | 13,000 | 18,390.31 | 9.34 | 8.16 |
| Feb. | 11.25 | 1,681.86 | 14,000 | 18,986.69 | 9.48 | 8.32 |
| March | 11.75 | 1,766.97 | 15,000 | 20,822.25 | 9.63 | 8.49 |
| April | 12.00 | 1,850.30 | 16,000 | 22,258.50 | 9.78 | 8.65 |
| May | 12.00 | 1,933.63 | 17,000 | 23,252.98 | 9.91 | 8.79 |
| June | 10.00 | 2,033.63 | 18,000 | 20,380.20 | 9.91 | 8.75 |
| July | 9.10 | 2,143.52 | 19,000 | 19,544.39 | 9.87 | 8.86 |
| Aug. | 7.00 | 2,286.38 | 20,000 | 16,037.44 | 9.73 | 8.75 |
| Sept. | 6.30 | 2,445.11 | 21,000 | 15,431.36 | 9.56 | 8.59 |
| Oct. | 6.80 | 2,592.17 | 22,000 | 17,648.29 | 9.44 | 8.49 |
| Nov. | 6.80 | 2,739.23 | 23,000 | 18,642.61 | 9.32 | 8.40 |
| Dec. | 6.10 | 2,903.16 | 24,000 | 19,468.36 | 9.19 | 8.27 |

## APPENDIX II

### SMC: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P19.44 | 51.44 | P 1,000 | P 1,133.40 | P19.44 | P19.44 |
| Feb. | 26.39 | 89.33 | 2,000 | 2,485.79 | 22.92 | 22.39 |
| March | 31.25 | 121.33 | 3,000 | 3,914.88 | 25.69 | 24.73 |
| April | 35.83 | 149.24 | 4,000 | 5,465.55 | 28.23 | 26.80 |
| May | 33.33 | 179.24 | 5,000 | 6,087.19 | 29.25 | 29.70 |
| June | 32.08 | 210.41 | 6,000 | 6,857.95 | 29.72 | 28.52 |
| July | 33.75 | 240.04 | 7,000 | 8,204.18 | 30.30 | 29.16 |
| Aug. | 38.33 | 266.13 | 8,000 | 10,298.39 | 31.30 | 30.06 |
| Sept. | 37.92 | 292.50 | 9,000 | 11,183.99 | 32.04 | 30.77 |
| Oct. | 45.00 | 314.72 | 10,000 | 14,249.53 | 33.33 | 31.77 |
| Nov. | 38.33 | 340.81 | 11,000 | 13,145.08 | 33.79 | 32.28 |
| Dec. | 36.67 | 368.08 | 12,000 | 13,574.00 | 34.03 | 32.60 |
| 1974 | | | | | | |
| Jan. | 38.70 | 393.92 | 13,000 | 15,315.85 | 34.39 | 33.00 |
| Feb. | 41.60 | 417.96 | 14,000 | 17,452.91 | 34.90 | 33.50 |
| March | 46.50 | 439.47 | 15,000 | 20,495.71 | 35.67 | 34.13 |
| April | 48.50 | 460.09 | 16,000 | 22,369.26 | 36.48 | 34.78 |
| May | 48.00 | 480.92 | 17,000 | 23,133.58 | 39.48 | 35.35 |
| June | 45.50 | 502.90 | 18,000 | 22,925.85 | 37.62 | 35.79 |
| July | 41.50 | 527.00 | 19,000 | 21,908.86 | 37.82 | 36.05 |
| Aug. | 34.50 | 555.99 | 20,000 | 19,214.44 | 37.66 | 35.97 |
| Sept. | 34.00 | 585.40 | 21,000 | 19,930.77 | 37.48 | 35.87 |
| Oct. | 32.00 | 616.65 | 22,000 | 19,754.33 | 37.23 | 35.68 |
| Nov. | 31.50 | 648.40 | 23,000 | 20,440.45 | 38.66 | 35.47 |
| Dec. | 28.00 | 684.11 | 24,000 | 20,914.16 | 36.61 | 35.08 |

*Adjusted for 20% stock divided on March 27, 1973 and 20% stock dividend on March 25, 1974.

## APPENDIX III

### PLDT: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Share Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P25.45 | 39.29 | P 1,000 | P 1,133.40 | P 25.45 | P 25.45 |
| Feb. | 30.91 | 71.64 | 2,000 | 2,342.76 | 28.18 | 27.92 |
| March | 32.72 | 102.20 | 3,000 | 3,467.30 | 29.69 | 29.35 |
| April | 34.55 | 131.14 | 4,000 | 4,649.12 | 30.91 | 30.50 |
| May | 35.45 | 159.35 | 5,000 | 5,762.08 | 31.82 | 31.38 |
| June | 35.45 | 187.56 | 6,000 | 6,757.00 | 32.42 | 31.99 |
| July | 38.64 | 213.44 | 7,000 | 8,350.15 | 33.31 | 32.80 |
| Aug. | 48.18 | 234.20 | 8,000 | 11,381.39 | 35.17 | 34.16 |
| Sept. | 56.36 | 251.94 | 9,000 | 14,291.73 | 37.52 | 35.72 |
| Oct. | 61.82 | 268.12 | 10,000 | 16,662.31 | 39.95 | 37.30 |
| Nov. | 51.82 | 287.42 | 11,000 | 14,975.93 | 41.03 | 38.27 |
| Dec. | 50.00 | 307.42 | 12,000 | 15,447.51 | 41.78 | 39.03 |
| 1974 | | | | | | |
| Jan. | 50.00 | 327.42 | 13,000 | 16,442.15 | 42.41 | 39.70 |
| Feb. | 50.00 | 347.42 | 14,000 | 17,436.77 | 42.95 | 40.40 |
| March | 50.90 | 367.07 | 15,000 | 18,744.21 | 43.48 | 40.86 |
| April | 58.20 | 384.25 | 16,000 | 22,418.25 | 44.40 | 41.64 |
| May | 52.70 | 403.23 | 17,000 | 21,299.64 | 44.89 | 42.16 |
| June | 46.00 | 424.97 | 18,000 | 19,592.52 | 44.95 | 42.36 |
| July | 44.00 | 447.70 | 19,000 | 19,737.16 | 47.40 | 42.44 |
| Aug. | 38.50 | 473.67 | 20,000 | 18,269.08 | 44.58 | 42.22 |
| Sept. | 37.00 | 500.70 | 21,000 | 18,553.07 | 44.22 | 41.94 |
| Oct. | 42.00 | 524.51 | 22,000 | 22,041.95 | 44.12 | 41.94 |
| Nov. | 38.50 | 550.48 | 23,000 | 21,209.33 | 43.88 | 41.78 |
| Dec. | 31.50 | 582.23 | 24,000 | 20,099.32 | 43.36 | 42.69 |

*Adjusted for 10% stock dividend on June 7, 1974.

## APPENDIX IV

### Atlas: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P 38.50 | 25.97 | P 1,000 | P 1,133.40 | P38.50 | P38.50 |
| Feb. | 57.00 | 43.51 | 2,000 | 2,608.44 | 47.75 | 45.97 |
| March | 66.50 | 58.55 | 3,000 | 4,016.90 | 54.00 | 51.24 |
| April | 74.00 | 72.06 | 4,000 | 5,450.67 | 59.00 | 55.51 |
| May | 68.50 | 86.66 | 5,000 | 6,049.33 | 60.90 | 57.70 |
| June | 87.00 | 98.15 | 6,000 | 8,647.05 | 65.25 | 61.13 |
| July | 96.50 | 108.51 | 7,000 | 10,574.05 | 69.71 | 64.51 |
| Aug. | 124.00 | 116.57 | 8,000 | 14,552.31 | 76.50 | 68.63 |
| Sept. | 120.00 | 124.90 | 9,000 | 15,080.39 | 81.33 | 72.06 |
| Oct. | 119.50 | 133.27 | 10,000 | 16,012.90 | 85.15 | 75.04 |
| Nov. | 97.00 | 143.58 | 11,000 | 14,009.09 | 86.23 | 76.61 |
| Dec. | 93.00 | 154.33 | 12,000 | 14,429.20 | 86.79 | 77.76 |
| 1974 | | | | | | |
| Jan. | 106.00 | 163.76 | 13,000 | 17,429.71 | 88.27 | 79.38 |
| Feb. | 106.00 | 173.19 | 14,000 | 18,423.91 | 89.54 | 80.84 |
| March | 112.00 | 182.12 | 15,000 | 20,457.79 | 91.03 | 82.36 |
| April | 122.00 | 190.32 | 16,000 | 23,273.94 | 92.97 | 84.07 |
| May | 105.00 | 199.84 | 17,000 | 21,032.62 | 93.68 | 85.07 |
| June | 95.00 | 210.37 | 18,000 | 20,029.05 | 93.75 | 85.56 |
| July | 93.00 | 221.12 | 19,000 | 20,602.52 | 93.71 | 85.93 |
| Aug. | 63.00 | 236.99 | 20,000 | 14,963.15 | 92.18 | 84.39 |
| Sept. | 46.00 | 258.73 | 21,000 | 11,928.75 | 89.98 | 81.17 |
| Oct. | 43.00 | 281.99 | 22,000 | 12,147.10 | 87.84 | 78.02 |
| Nov. | 42.50 | 305.52 | 23,000 | 13,000.45 | 85.87 | 75.28 |
| Dec. | 29,50 | 339.42 | 24,000 | 11,771.97 | 83.52 | 70.71 |

*Adjusted for 2-for-1 stock split in December 10, 1973.

## APPENDIX V

### Inco: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P0.0153 | 65,397.48 | P 1,000 | P 1,133.40 | P0.0153 | P0.0153 |
| Feb. | 0.0273 | 102,027.52 | 2,000 | 2,913.72 | 0.0213 | 0.0196 |
| March | 0.0313 | 133,976.40 | 3,000 | 4,316.78 | 0.0246 | 0.0224 |
| April | 0.0373 | 160,786.05 | 4,000 | 6,115.55 | 0.0278 | 0.0249 |
| May | 0.0373 | 187,595.70 | 5,000 | 7,110.44 | 0.0297 | 0.0267 |
| June | 0.0417 | 211,576.52 | 6,000 | 8,930.74 | 0.0317 | 0.0284 |
| July | 0.0433 | 234,671.24 | 7,000 | 10,264.09 | 0.0334 | 0.0298 |
| Aug. | 0.0500 | 254,671.21 | 8,000 | 12,831.19 | 0.0354 | 0.0314 |
| Sept. | 0.0567 | 272,307.89 | 9,000 | 15,532.25 | 0.0378 | 0.0330 |
| Oct. | 0.0617 | 288,515.35 | 10,000 | 17,888.53 | 0.0402 | 0.0347 |
| Nov. | 0.0500 | 308,515.35 | 11,000 | 15,507.60 | 0.0411 | 0.0357 |
| Dec. | 0.0383 | 334,625.01 | 12,000 | 12,892.65 | 0.0408 | 0.0359 |
| 1974 | | | | | | |
| Jan. | 0.0450 | 356,847.23 | 13,000 | 16,129.27 | 0.0412 | 0.0364 |
| Feb. | 0.0380 | 383,163.02 | 14,000 | 14,625.96 | 0.0409 | 0.0365 |
| March | 0.0800 | 395,663.02 | 15,000 | 31,713.39 | 0.0435 | 0.0379 |
| April | 0.0430 | 418,918.83 | 16,000 | 18,068.41 | 0.0435 | 0.0382 |
| May | 0.0450 | 441,141.05 | 17,000 | 19,900.77 | 0.0436 | 0.0385 |
| June | 0.0380 | 467,456.84 | 18,000 | 17,807.26 | 0.0433 | 0.0385 |
| July | 0.0370 | 494,483.87 | 19,000 | 18,334.26 | 0.0430 | 0.0384 |
| Aug. | 0.0200 | 544,483.87 | 20,000 | 10,922.46 | 0.0418 | 0.0367 |
| Sept. | 0.0220 | 589,938.41 | 21,000 | 13,005.81 | 0.0409 | 0.0356 |
| Oct. | 0.0250 | 629,938.41 | 22,000 | 15,769.99 | 0.0401 | 0.0349 |
| Nov. | 0.0310 | 662,196.47 | 23,000 | 20,543.94 | 0.0397 | 0.0347 |
| Dec. | 0.0300 | 695,529.80 | 24,000 | 22,624.97 | 0.0393 | 0.0345 |

*Adjusted for 33% stock dividend in June 11, 1973 and 50% stock dividend in May 9, 1974.

## APPENDIX VI

### Lepanto: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P0.251 | 3,984.06 | P 1,000 | P 1,133.40 | P0.251 | P0.251 |
| Feb. | 0.457 | 6,172.24 | 2,000 | 2,949.08 | 0.354 | 0.324 |
| March | 0.549 | 7,993.73 | 3,000 | 4,511.88 | 0.419 | 0.375 |
| April | 0.663 | 9,502.03 | 4,000 | 6,418.08 | 0.480 | 0.421 |
| May | 0.594 | 11,185.53 | 5,000 | 6,757.32 | 0.503 | 0.447 |
| June | 0.617 | 12,806.28 | 6,000 | 8.009.47 | 0.522 | 0.469 |
| July | 0.606 | 14,456.44 | 7,000 | 8.863.43 | 0.534 | 0.484 |
| Aug. | 0.531 | 16,339.68 | 8,000 | 8,774.00 | 0.534 | 0.490 |
| Sept. | 0.520 | 18,262.76 | 9,000 | 9,589.03 | 0.532 | 0.493 |
| Oct. | 0.497 | 20,274.83 | 10,000 | 10,163.72 | 0.528 | 0.493 |
| Nov. | 0.405 | 22,743.97 | 11,000 | 9,293.14 | 0.517 | 0.484 |
| Dec. | 0.388 | 25,321.29 | 12,000 | 9,901.17 | 0.506 | 0.474 |
| 1974 | | | | | | |
| Jan. | 0.410 | 27,760.31 | 13,000 | 11,452.88 | 0.499 | 0.468 |
| Feb. | 0.415 | 30,169.95 | 14,000 | 12,586.30 | 0.493 | 0.464 |
| March | 0.445 | 32,417.14 | 15,000 | 14,485.98 | 0.490 | 0.463 |
| April | 0.510 | 34,377.92 | 16,000 | 17,587.64 | 0.491 | 0.465 |
| May | 0.415 | 36,787.56 | 17,000 | 15,316.26 | 0.487 | 0.462 |
| June | 0.365 | 39,527.29 | 18,000 | 14,471.36 | 0.480 | 0.455 |
| July | 0.335 | 42,412.36 | 19,000 | 14,280.00 | 0.472 | 0.447 |
| Aug. | 0.250 | 46,512.36 | 20,000 | 11,660.87 | 0.461 | 0.430 |
| Sept. | 0.170 | 52,394.71 | 21,000 | 8,934.27 | 0.447 | 0.401 |
| Oct. | 0.180 | 57,950.27 | 22,000 | 10,452.58 | 0.435 | 0.380 |
| Nov. | 0.190 | 63,213.43 | 23,000 | 11,394.27 | 0.424 | 0.364 |
| Dec. | 0.185 | 68.618.84 | 24,000 | 14,453.57 | 0.414 | 0.350 |

*Adjusted for 25% stock dividend in May 24, 1973 and 75% stock dividend in November 30, 1973.

## APPENDIX VII

### Marcopper: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P3.37 | 296.74 | P 1,000 | P 1,133.40 | P3.37 | P3.37 |
| Feb. | 4.17 | 536.55 | 2,000 | 2,365.78 | 3.77 | 3.73 |
| March | 4.57 | 755.37 | 3,000 | 3,575.36 | 4.04 | 3.97 |
| April | 4.57 | 974.19 | 4,000 | 4,570.28 | 4.17 | 4.11 |
| May | 4.57 | 1,193.01 | 5,000 | 5,565.18 | 4.25 | 4.19 |
| June | 4.69 | 1,406.23 | 6,000 | 6,703.22 | 5.19 | 4.27 |
| July | 4.97 | 1,607.44 | 7,000 | 8,091.81 | 4.42 | 4.35 |
| Aug. | 7.14 | 1,747.50 | 8,000 | 12,574.78 | 4.76 | 4.58 |
| Sept. | 6.57 | 1,899.71 | 9,000 | 12,573.48 | 4.96 | 4.74 |
| Oct. | 6.43 | 2,055.23 | 10,000 | 13,302.26 | 5.10 | 4.87 |
| Nov. | 6.43 | 2,210.75 | 11,000 | 14,296.95 | 5.22 | 4.98 |
| Dec. | 6.71 | 2,359.78 | 12,000 | 15,910.63 | 5.35 | 5.09 |
| 1974 | | | | | | |
| Jan. | 6.70 | 2,509.03 | 13,000 | 16,881.65 | 5.45 | 5.18 |
| Feb. | 6.85 | 2,655.02 | 14,000 | 18,252.66 | 5.55 | 5.27 |
| March | 6.70 | 2,804.27 | 15,000 | 18,848.96 | 5.63 | 5.35 |
| April | 9.40 | 2,910.65 | 16,000 | 27,415.01 | 5.86 | 5.50 |
| May | 9.15 | 3,019.94 | 17,000 | 27,681.87 | 6.06 | 5.63 |
| June | 7.85 | 3,147.33 | 18,000 | 24,750.44 | 6.16 | 5.72 |
| July | 7.70 | 3,277.20 | 19,000 | 25,272.80 | 6.24 | 5.80 |
| Aug. | 6.85 | 3,423.19 | 20,000 | 23,481.63 | 6.27 | 5.84 |
| Sept. | 6.55 | 3,575.86 | 21,000 | 23,449.05 | 6.28 | 5.87 |
| Oct. | 6.00 | 3,742.53 | 22,000 | 22,476.71 | 6.27 | 5.88 |
| Nov. | 7.70 | 3,872.40 | 23,000 | 29,833.33 | 6.33 | 5.94 |
| Dec. | 5.30 | 4,061.08 | 24,000 | 23,282.80 | 6.29 | 5.91 |

*Adjusted for 75% stock dividend in December 20, 1974.

## APPENDIX VIII

### Marinduque: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P 4.778 | 209.29 | P 1,000 | P 1,133.40 | P4.778 | P4.778 |
| Feb. | 8.533 | 326.48 | 2,000 | 2,914.22 | 6.656 | 6.126 |
| March | 12.160 | 408.72 | 3,000 | 5,093.36 | 8.490 | 7.340 |
| April | 12.907 | 486.20 | 4,000 | 6,393.61 | 9.594 | 8.227 |
| May | 11.627 | 572.21 | 5,000 | 6,766.21 | 10.001 | 8.738 |
| June | 13.440 | 646.61 | 6,000 | 8,798.44 | 10.574 | 9.279 |
| July | 16.107 | 708.69 | 7,000 | 11,517.70 | 11.364 | 9.877 |
| Aug. | 20.160 | 758.29 | 8,000 | 15,384.76 | 12.464 | 10.550 |
| Sept. | 25.920 | 796.87 | 9,000 | 20,747.26 | 13.959 | 11.294 |
| Oct. | 25.280 | 836.43 | 10,000 | 21,232.08 | 15.091 | 11.956 |
| Nov. | 19.200 | 888.51 | 11,000 | 17,141.22 | 15.465 | 12.380 |
| Dec. | 18.400 | 942.86 | 12,000 | 17,425.13 | 15.709 | 12.727 |
| 1974 | | | | | | |
| Jan. | 22.800 | 986.72 | 13,000 | 22,568.37 | 16.255 | 13.175 |
| Feb. | 26.400 | 1,024.60 | 14,000 | 27,115.21 | 16.979 | 13.175 |
| March | 30.000 | 1,057.93 | 15,000 | 31,798.25 | 17.847 | 14.179 |
| April | 36.000 | 1,085.71 | 16,000 | 39,140.46 | 18.982 | 14.737 |
| May | 30.000 | 1,119.04 | 17,000 | 33,620.62 | 19.630 | 15.192 |
| June | 25.500 | 1,158.26 | 18,000 | 29,579.53 | 19.956 | 15.540 |
| July | 28.500 | 1,193.35 | 19,000 | 34,048.84 | 20.406 | 15.922 |
| Aug. | 18.000 | 1,248.91 | 20,000 | 22,513.16 | 20.286 | 16.014 |
| Sept. | 15.250 | 1,314.48 | 21,000 | 20,072.99 | 20.046 | 15,976 |
| Oct. | 16.000 | 1,376.98 | 22,000 | 22,053.21 | 19.862 | 15.977 |
| Nov. | 16.250 | 1,438.52 | 23,000 | 23,391.80 | 19.705 | 15.989 |
| Dec. | 14.750 | 1,506.32 | 24,000 | 23,977.30 | 19.498 | 15.933 |

*Adjusted for 25% stock dividend in February 9, 1973; 6-for-1 stock split in August 10, 1975; 25% stock dividend in November 9, 1973; and 5% stock dividend in March 11, 1974.

## APPENDIX IX

### Philex: Peso Averaging, P1,000 Periodic Investment, 1973-74

| Month | Price* | Total Shares Bought | Total Inv. | Total Market Value | Ave. of Prices Paid | Average Cost per Share |
|---|---|---|---|---|---|---|
| 1973 | | | | | | |
| Jan. | P0.186 | 5,376.34 | P 1,000 | P 1,133.40 | P0.186 | P0.186 |
| Feb. | 0.334 | 8,370.35 | 2,000 | 2,924.07 | 0.260 | 0.239 |
| March | 0.361 | 11,140.43 | 3,000 | 4,145.02 | 0.294 | 0.269 |
| April | 0.357 | 13,941.55 | 4,000 | 5,095.36 | 0.310 | 0.287 |
| May | 0.339 | 16,891.40 | 5,000 | 5,839.30 | 0.315 | 0.296 |
| June | 0.394 | 19,429.47 | 6,000 | 7,763.21 | 0.328 | 0.309 |
| July | 0.429 | 21,760.47 | 7,000 | 9,438.07 | 0.343 | 0.322 |
| Aug. | 0.571 | 23,511.78 | 8,000 | 13,522.86 | 0.371 | 0.340 |
| Sept. | 0.357 | 26,312.90 | 9,000 | 9,486.10 | 0.370 | 0.342 |
| Oct. | 0.318 | 29,457.55 | 10,000 | 9,454.63 | 0.365 | 0.339 |
| Nov. | 0.286 | 32,954.05 | 11,000 | 9,506.69 | 0.357 | 0.334 |
| Dec. | 0.279 | 36,538.28 | 12,000 | 10,270.69 | 0.351 | 0.328 |
| 1974 | | | | | | |
| Jan. | 0.304 | 39,827.75 | 13,000 | 12,178.79 | 0.347 | 0.326 |
| Feb. | 0.293 | 43,240.72 | 14,000 | 12,735.30 | 0.343 | 0.324 |
| March | 0.332 | 46,252.77 | 15,000 | 15,416.27 | 0.343 | 0.324 |
| April | 0.407 | 48,709.77 | 16,000 | 19,879.78 | 0.347 | 0.328 |
| May | 0.371 | 51,705.19 | 17,000 | 19,232.04 | 0.348 | 0.329 |
| June | 0.339 | 54,655.04 | 18,000 | 18,571.96 | 0.348 | 0.329 |
| July | 0.321 | 57,770.30 | 19,000 | 18,582.63 | 0.346 | 0.329 |
| Aug. | 0.250 | 61,770.30 | 20,000 | 15,475.36 | 0.341 | 0.324 |
| Sept. | 0.225 | 66,214.74 | 21,000 | 14,925.49 | 0.336 | 0.336 |
| Oct. | 0.235 | 70,470.06 | 22,000 | 16,581.99 | 0.331 | 0.312 |
| Nov. | 0.260 | 74,316.21 | 23,000 | 19,338.06 | 0.328 | 0.309 |
| Dec. | 0.210 | 79,078.11 | 24,000 | 18,365.48 | 0.323 | 0.303 |

*Adjusted for 25% stock dividend in February 2, 1973; 25% stock dividend in June 13, 1973; 25% stock dividend in September 11, 1973; and 40% stock dividend in October 4, 1974.

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