Revaluation of Fixed Assets and Reported Earnings in Selected Philippine Firms

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The authors estimated the impact on Earnings Per Share of revaluations of fixed assets in three listed Philippine corporations. The authors conclude that the Statement of Financial Accounting Standards (SFAS) No. 12 governing such revaluations may be inadequate in providing important information for the investing public. The authors also note apparent violations of SFAS No. 12 procedures and disclosure requirements and recommend greater vigilance on the part of regulatory bodies.

Published company information on earnings and financial position fill an important need in capital markets. Under certain conditions, however, the reliability of such information for use by outside investors is open to question. This is so when the accounting conventions used to generate such reports utilize methods of valuations based on historical costs in a period of high inflation as had been the case in the Philippines in the past decades.

This paper examines the impact of a change in the basis of valuation of fixed assets of large Philippine companies on their reported earnings. The companies included in this study were selected from among Philippine companies with annual reports available in the U.P. College of Business Administration Annual Reports series. In this series, five companies were selected for study because their annual reports indicated a revaluation of their fixed assets following the Statement of Financial Accounting Standards (SFAS) No. 12.* Before going into SFAS No. 12, research findings on the importance of accounting numbers on the valuation of a company's stock in the stock market are reviewed in the next section.

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ACCOUNTING INFORMATION AND STOCK PRICES

Three studies on the Philippine stock market have shown a relationship between accounting numbers and stock prices. The Tan study[1] (1981) investigated the relationship between profit rates (Income to Equity ratio) and market yields of 24 securities listed in the two stock exchanges. The study applied linear regression on four-year data (1976 to 1979) and found that profit rates persistently influenced market yields positively. Except for 1978, the coefficient of profit rate was greater than unity which means that a one percentage point increase in profit rate increased the yield by over one percentage point.

The Echanis study[2] (1985) indicated a significant correlation between accounting rates of return and stock re-

*SFAS constitutes generally accepted accounting principles in the Philippines. These statements are issued by the Accounting Standards Council composed of eight members, four of whom, including the chairman, come from the Philippine Institute of Certified Public Accountants (PICPA), and a representative from each of the following: Securities and Exchange Commission (SEC); Central Bank of the Philippines (CB); the Professional Regulation Commission (PRC) through the Board of Accountancy; and the Financial Executives Institute of the Philippines (FINEX).

Before a statement is issued, an exposure draft is prepared subject to comments and suggestions from various users and interested parties. A final draft is then prepared which integrates comments and suggestions. Upon approval by the Council, the draft becomes a Statement of Financial Accounting Standards which becomes operative after approval by PRC.

Table 1. Summary of Accounting Rate of Return/Stock Return Models

Stock	Model	Adjusted R^2	F-Ratio
PDCP	R_{it} = 1.66 + 5.63 ROA	.19	5.02**
PLDT	R_{it} = -22.15 + 6.5 ROA	.29	7.75**
	R_{it} = -39.96 + 3.45 ROE	.33	9.30*
SMC	R_{it} = 7.04 + 13.99 ROA	.30	8.23**
	R_{it} = 2.02 + 4.10 ROE	.13	3.48***
Atlas	R_{it} = -23.41 + 2.97 ROA	.41	12.56*
	R_{it} = 16.84 + 1.64 ROE	.30	8.42*
Lepanto	R_{it} = 18.90 + 1.63 ROA	.38	11.69*
	R_{it} = 18.37 + 1.08 ROE	.33	9.24**
Philex	R_{it} = -55.37 + 2.80 ROA	.18	4.82**
	R = -56.64 + 2.06 ROE	.22	5.98**

* Significant at 10% using F-test.
** Significant at 5% using F-test.
*** Significant at 1% using F-test.

Source: "Accounting Rates of Return and Stock Returns", Accountants Journal (First Semester 1985).

turns. Return on Asset (ROA) ratios and Return on Equity (ROE) ratios of nine stocks for the 18-year period 1966 to 1983 were regressed against market yields. Results of the study indicated that the accounting rates of return of six stocks are correlated with stock returns. Table 1 shows that the extent of influence of the accounting rate of return (ARR) on market yield for each of the six stocks is within the range of 13 per cent and 41 per cent (see Adjusted R^2 column).

The Pineda study[3] (1986) tested the relationship between earnings per share (EPS) and stock prices for the same stocks or securities used in the Echanis study using 14-year data (1964-1977.) The study showed that the EPS positively influenced stock prices (see Table 2). The extent of influence of EPS is within the range of 49 per cent and 84 per cent as indicated in the R^2 column of Table 2 for the following stocks: BPI, PLDT, Lepanto, Philex, Marinduque, and PDCP.

COST PRINCIPLE, DEPRECIATION AND OVERSTATEMENT OF EARNINGS

Property, plant, and equipment are generally reported in the Balance Sheet at acquisition cost (less allowance for depreciation) following generally accepted accounting principles. However, given the continued depreciation of the Philippine currency and high inflation rates prevailing in the last decades, adherence to the cost principle in the accounting of fixed assets may result in inadequate accounting information for decision-making particularly in industry sectors that are dependent heavily on imported machineries.

Table 2. Summary of Regression Results

Stock Price and EPS

Stock	Regression Equation	R^2	F-Value	T-Stat	Remarks[1]
BPI	-183.190 + 9.407 EPS	.535	13.832	3.719	S
PLDT	26.313 + 1.94 EPS	.606	18.499	4.301	S
Lepanto	.183 + 6.280 EPS	.539	15.217	3.900	S
Philex	-0.042 + 10.528 EPS	.545	14.404	3.795	S
Marinduque	20.618 + 3.692 EPS	.486	10.441	3.231	S
PDCP	7.244 + 3.539 EPS	.838	62.163	7.884	S

[1] Tested at 0.01 level of significance
[2] Significant at 0.05 level of significance
The Durbir-Watson test shows no auto-correlation

Source: "The Relationship of Earnings per share and Stock Prices," Accountants Journal (First Semester, 1986).

For example, the cost of machineries in the printing industry had increased five times by 1990 relative to 1980 due to the depreciation of the Philippine currency.[4] Thus, if the depreciation charges on the machineries are based on 1980 cost levels, a firm's reported earnings in later years will be overstated since cost levels of the machineries are lower compared to 1990. Higher reported earnings could pressure management to pay higher bonuses to managers and employees, and dividends to stockholders. In turn, the payment of more dividends and bonuses resulting from the use of historical costs could make it more difficult to finance future replacement of assets from internally generated funds.

SFAS No. 12 provides an alternative to the cost principle in accounting for fixed assets by allowing the revaluation of property, plant, and equipment. This is provided the revaluation is made by recognized independent specialists. SFAS No. 12 provides two alternatives in presenting appraisal values resulting from such revaluation, (See Appendix A for the specific accounting procedures) as follows:

1. *Appraisal Values Recorded in the Books*
   a) The **appraisal increase** (Appraisal Value less Historical Cost) is added to the original cost of the asset. The accumulated depreciation account is also correspondingly adjusted based on appraisal values. b) The difference between the appraisal increase and the additional depreciation for the appraisal increase is referred to as **Revaluation Increment** (RI). This RI is presented as part of the stockholder's equity in the company's balance sheet.
   c) Annual depreciation charged to operations will be based on appraisal values.

2. *Appraisal Values Not Recorded in the Books*

Companies may have their plant, property, and equipment appraised but the adjustment is not recorded in the books. Instead, the appraisal values and the adjustments in plant, property, and equipment, accumulated depreciation, stockholders equity, and net income are merely disclosed in the notes to the financial statements.

Some firms listed in the Philippine stock exchanges have revalued their fixed assets using SFAS No. 12. An analysis of the changes in the Earnings Per Share (EPS) resulting from asset revaluations for some of these firms is shown below.

A. Paper Industries Corporation of the Philippines (PICOP)

PICOP revalued its fixed assets in 1985. However, the effects of depreciation on revaluation increment were reflected in the income statement only starting in 1988. Table 3-A shows the effects of the revaluation increment on the EPS of PICOP.

Column A of Table 3-A shows the reported EPS of the PICOP for the period 1985-1989. Since the depreciation due to appraisal was taken up in the books only for the years 1988 and 1989, column B presents recomputed EPS for the years 1985-1989 without the additional depreciation due to appraisal. Column C presents the additional depreciation per share attributable to Revaluation Increment. Column E shows the relative magnitude of the changes in EPS.

As is readily seen, the magnitudes of the changes in EPS brought about by the additional depreciation are substantial and range from 26 per cent to 126 per cent.

B. Philippine Long Distance and Telephone Company (PLDT)

Table 3-A. PAPER INDUSTRIES CORPORATION OF THE PHILIPPINES (PICOP)
Effect of Depreciation on Revaluation Increment on Earnings Per Share

Year	A Reported EPS	B EPS without Effect of Depreciation on RI	C Depreciation on RI per Share	D (B-C) EPS with the Effect of Depreciation on RI	E (C/B) Without Change in EPS due to Depreciation on RI
1989	₱0.25	₱1.07	₱ 0.82	₱ 0.25	77%
1988	0.10	1.05	0.95	0.10	90
1987	(3.74)	(3.74)	4.73	(8.47)	126
1986	(8.58)	(8.58)	4.73	(13.31)	55
1985	(10.82)	(10.82)	2.79	(13.61)	26

Table 3-B. PHILIPPINE LONG DISTANCE AND TELEPHONE COMPANY (PLDT)
Effect of Depreciation on Revaluation
Increment on Earnings Per Share

Year	A Reported EPS	B EPS without Effect of Depreciation on RI	C Depreciation on RI per Share	D (B-C) EPS with the Effect of Depreciation on RI	E (C/B) % Change in EPS due to Depreciation on RI
1991	₱98.90	₱98.90	₱26.75	₱72.15	27%
1990	64.56	64.56	—	—	—
1989	42.05	42.05	17.44	24.61	41
1988	46.16	46.16	18.50	27.66	40
1987	26.27	26.27	14.33	11.94	55

PLDT's fixed assets were revalued twice, i.e., in 1983 and in 1989. The appraisal amounts and the additional depreciation arising from the revaluation, however, were not entered in the accounting records but merely disclosed in the notes to the financial statements. Based on the last appraisal, the book value of the company's assets should have increased by ₱17 billion, net of depreciation, had the revaluation been recorded in the books.

Table 3-B shows the impact of the additional depreciation from appraisal on PLDT's EPS had the revaluation been taken up in the books. Since the amounts for the incremental depreciation were not disclosed in the notes to PLDT's financial statements, the values were estimated by taking the difference between the revaluation increment amount in one period and the revaluation increment amount of the preceding period (assuming none of the assets appraised were retired). The differences were divided by the corresponding number of shares used in computing the primary EPS, except for 1990.*

Table 3-B shows that for the period 1987-1991, EPS should have been reduced by a range of 27 per cent to 55 per cent. In peso amounts, such effects range from ₱14 to ₱30 per share.

C. San Miguel Corporation (SMC)

SMC had its fixed assets appraised by independent firms in 1979 for the parent company, and at different dates for its subsidiaries and affiliates.

Table 3-C illustrates the effects of the additional depreciation from appraisal on the EPS. The percentage change in EPS brought about by the revaluation ranges from one per cent to five per cent for the period 1987-1991. In peso amounts, the changes range from ₱0.04 to ₱0.16 per share. One possible reason for the insignificant effect on EPS of the

*Amounts can not be estimated because fixed assets are revalued for the second time in 1989. Therefore, the procedure followed in estimating the depreciation on revaluation increment can not be applied.

Table 3-C. SAN MIGUEL CORPORATION (SMC)
Effect of Depreciation on Revaluation
Increment on Earnings Per Share

Year	A Reported EPS	B EPS without Effect of Depreciation on RI	C Depreciation on RI per Share	D (B-C) EPS with the Effect of Depreciation on RI	E (C/B) % Change in EPS due to Depreciation on RI
1991	₱5.20	₱5.25	₱0.05	₱5.20	1%
1990	3.33	3.37	0.04	3.33	1
1989	4.51	4.55	0.04	4.51	1
1988	3.85	3.96	0.11	3.85	3
1987	3.30	3.46	0.16	3.30	5

incremental depreciation is that the appraisal was undertaken 12 years previously and therefore no longer reflect current prices. Between 1979 and 1991, inflation and the depreciation of the peso should have significantly altered the values of the company's plant, property, and equipment. While the fixed assets of some of SMC's subsidiaries were appraised subsequent to 1979, the magnitude of the amounts involved were insignificant relative to those of the parent company.

SOME APPARENT REPORTING VIOLATIONS RELATED TO SFAS NO. 12

The basic rationale for the formulation of SFAS No. 12 is to allow the financial position and progress of a company to be presented more realistically in its financial reports. To achieve this end, adequate disclosures in the financial statements of changes resulting from asset revaluations are required. Among others, paragraph 18 of the statement requires the following disclosures:

- the revaluation increment, the portion accumulated as additional depreciation charges, the amount transferred to retained earnings, if any, and the portion of revaluation increment absorbed through depreciation which is declared as cash dividends during the year.

- depreciation charges during the period based on cost and on appraised values.

- manner of accounting for the portion of revaluation increment absorbed through depreciation.

In the set of five companies included in this study, a number failed, in different ways, to comply with the above disclosures. For instance, some companies do not disclose the amount of incremental depreciation arising from appraisal. This leaves the users of the financial statements of these companies unaware of the possible impact of the revaluations on the operations of these companies. Others fail to disclose the manner of accounting for the portion of revaluation increment absorbed through depreciation. SFAS No. 12 provides three alternative methods for treating the revaluation increment in the books. The first method treats the revaluation increment as a permanent account. In this case, the additional accumulated depreciation arising from appraisal is disclosed through a parenthetical notation or in a note in the financial statements. The other two methods reduce the revaluation increment account to the extent of additional depreciation recognized. Amounts deducted from the revaluation increment are transferred either to appropriated or unappropriated retained earnings. In some of these companies, which of these methods were used to account for the depreciation absorbed, are not disclosed, as required.

IMPROPER ACCOUNTING TREATMENT OF THE APPRAISAL INCREASE

Paragraph 15 of SFAS No. 12 also requires that if property, plant, and equipment are recorded at appraised values, operations should be charged with depreciation based on the appraisal values. The practice of charging the depreciation on the appraisal increment directly to the revaluation increment account and adding it to the retained earnings account does not comply with SFAS No. 12 (see Appendix A). Yet a number of the companies have the additional depreciation charged directly to the revaluation increment. This accounting practice understates the operating expenses and hence, overstates income. To compound matters, these companies report plant, property, and equipment at appraisal values. They are thus able to report both higher income and higher assets!

CONCLUSIONS

Previous studies have shown that accounting numbers, particularly accounting earnings, influence stock prices. However, financial data as presented in the financial statements may have more information value if companies adjust some of the data to reflect the effects of inflation. The application of SFAS No. 12 in the accounting for plant, property, and equipment can result in more realistic earnings data for investment decision-making. However, SFAS No. 12 appears to be still weak in that the statement allows companies not to incorporate in the accounting records appraised values of fixed assets. Mere disclosures of the effect of the revaluation in a note or in a supplementary schedule accompanying the statements would suffice.

Such provisions of SFAS No. 12 makes possible the manipulation of reported financial information to meet different objectives. For instance, a large company which had its fixed assets appraised uses revalued amounts in financial statements submitted to regulatory bodies, but uses historical costs for financial reporting purposes. The financial statements submitted to the regulatory agencies may justify price increases while the financial statements reported to the public may have a favorable effect on its stock prices.

The improper accounting for the portion of the revaluation increment absorbed through depreciation noted previ-

ously suggests a need to monitor proper compliance with SFAS No. 12. We suggest that the Securities and Exchange Commission (SEC) perform this function in order to protect investors who use published financial data for investment decisions. ■

Appendix A
Illustrative Accounting Entries*

Assume that all the property, plant and equipment of Company A were appraised on January 1, 19x2 as follows:

• Appraised values	₱10,000,000
Accumulated depreciation per appraiser's report	1,100,000
Sound value per appraisal	₱8,900,000
• Historical cost	₱6,100,000
Accumulated depreciation on cost	600,000
Net book value	₱5,500,000
• Appraisal increase (appraised values less historical cost)	₱3,900,000
• Revaluation increment (sound value per appraisal less net book value)	₱3,400,000

The annual depreciation charge based on appraised values is ₱600,000 (of which P 200,000 is the depreciation on cost). [To simplify the illustration, it is assumed that there are no other transactions (additions, disposals) affecting the property, plant and equipment account].

The entries to record the above transactions are shown below:

1.1.19x2	Property, plant and equipment - appraisal increase	3,900,000	
	Accumulated depreciation-appraisal increase (₱1,100,000-600,000)		500,000
	Revaluation increment in property		3,400,000
	To record the appraisal.		
1.1.19x2	Depreciation and Accumulated depreciation -	600,000	
1.1.19x3	Cost	200,000	
	Accumulated depreciation - appraisal increase	400,000	
	To record annual depreciation.		

*Source: Compilation of SFAS Nos. 1-18, Accounting Standards Council.

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